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DRAFT
Environmental Impact Report
Baldwin Master Plan / Zacharias Master Plan Project
City of Patterson, Stanislaus County, California

State Clearinghouse No. 2018122052

Prepared for:
City of Patterson
1 Plaza, P.O. Box 667
Patterson, CA 95363
209.895.8020

Contact: Joel Andrews, City Planner

Prepared by:
FirstCarbon Solutions
1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597
925.357.2562

Contact: Jason Brandman, Project Director
Grant Gruber, Project Manager

Date: December 3, 2020

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Notice of Preparation / Comments

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A.1 - Notice of Preparation

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NOTICE OF PREPARATION

Date:	Friday, December 21, 2018
To:	State Clearinghouse Responsible Agencies Trustee Agencies Local and Public Agencies Interested Parties
From:	City of Patterson Contact: Joel Andrews, City Planner 1 Plaza Patterson, CA 95363
Subject:	Notice of Preparation of an Environmental Impact Report for the Zacharias Master Plan Project

The City of Patterson (City) will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the proposed Zacharias Master Plan Project ("proposed project") described herein. The City is interested in your agency's views as to the appropriate scope and content of the EIR pertaining to your agency's statutory responsibilities related to the proposed project. Your agency may need to use the EIR prepared by the City when considering permits or other approvals for project implementation actions. The City will need the name of a contact person for your agency. For interested individuals, the City would like to be informed of environmental topic(s) of interest to you regarding the proposed project.

PUBLIC SCOPING MEETING AND COMMENT SUBMITTAL

The City of Patterson welcomes public input during the Notice of Preparation (NOP) review period. The purpose of the scoping process is to solicit public comment regarding the scope and content of the EIR.

Pursuant to CEQA Guidelines section 15082(c), the City of Patterson will conduct a scoping meeting for the purpose of soliciting comments of adjacent cities, responsible agencies, trustee agencies, and interested parties requesting notice as to the appropriate scope and content of the EIR. The scoping meeting will include a presentation of the proposed project and a summary of the environmental issues that are anticipated to be analyzed in the EIR. Following the presentation, interested agencies, organizations, and members of the public will be encouraged to present views concerning what environmental issues should be included in the EIR. The oral and written comments provided during the scoping meeting will assist the City in scoping the EIR's environmental analysis of the project. The scoping meeting will be open to the public and held at the following location:

Date:	Thursday, January 17, 2019
Time:	4 p.m.
Location:	Patterson City Hall Council Chambers 1 Plaza Patterson, California 95363

Written comments on the scope of the proposed project and the associated EIR are welcome. Please submit comments by **5:00 PM Tuesday, January 22, 2019**. Written comments should be sent to Joel Andrews, City Planner, at 1 Plaza, Patterson, California 95363, or via email at jandrews@ci.patterson.ca.us.

Questions concerning the environmental review of the proposed project should be directed to Joel Andrews at (209) 895-8020 or Tricia Stevens at (916) 698-4592; however, please note that comments on the scope of the EIR cannot be accepted over the phone. To be considered during preparation of the EIR, comments must be received in writing by the deadline identified above or provided during the public scoping meeting on January 17, 2019.

Project Title: Zacharias Master Plan Project

Acreage: 1,295.60 (East of Baldwin Road – 628.60 acres; West of Baldwin Road – 598.30 acres; South of Baldwin Road – 68.70 acres)

Project Location: The project site is located just outside the Patterson city limits in unincorporated Stanislaus County, California; refer to Exhibit 1. The main portion of the project site encompasses approximately 1,226.9 acres and is bounded by Rogers Road (west), Zacharias Road (north), State Route 33 and Ward Avenue (east), and existing residential and business park uses (south); refer to Exhibit 2. A small, non-contiguous 68.7-acre portion of the project site is located at the southern terminus of Baldwin Road and is bounded by the Delta-Mendota Canal (west), the City of Patterson Corporation Yard (north), and agricultural uses (east and south).

Existing Conditions: The West of Baldwin Road and South of Baldwin Road planning areas contain agricultural land. The East of Baldwin Road planning area contains agricultural land west of the Patterson Irrigation District (PID) Canal and rural residential land on the east side. Irrigation canals are present within the East of Baldwin Road and West of Baldwin Road planning areas.

General Plan: The Stanislaus County General Plan designates the West of Baldwin Road and South of Baldwin Road planning areas as "Agriculture." The Stanislaus County General Plan designates the East of Baldwin Road planning area "Agriculture" west of the PID canal and "Urban Transition" east of the canal. The City of Patterson General Plan designates all three planning areas as "Low Density Residential," which is a non-binding designation.

Zoning: The Stanislaus County Zoning Ordinances zones the West of Baldwin Road and South of Baldwin Road planning areas as "General Agriculture (A-2)." The Stanislaus County Zoning Ordinances zones the East of Baldwin Road planning area "General Agriculture (A-2)" west of the PID canal and "Rural Residential (R-A)" east of the canal.

Project Description

The proposed project consists of the annexation of the project site into the City of Patterson and the development of residential, mixed use, commercial, industrial, school, parks, and open space uses guided by a Master Plan. The project site is broken down into three planning areas – East of Baldwin Road, West of Baldwin Road, and South of Baldwin Road – and the development potential for each one is summarized in Table 1.

Table 1: Zacharias Master Plan Summary

Planning Area	Gross Acres	End Uses	Characteristics
East of Baldwin Road	628.60	Residential, Mixed Use, School, Park, Open Space	3,666 dwelling units; 505,000 square feet mixed use; 14.74 acre school site; 27.09 acres park; 29.17 acres open space.
West of Baldwin Road	598.30	Residential, Commercial, Industrial, and Park	1,420 dwelling units; 350,000 square feet commercial; 6,910,000 square feet industrial; 18.15 acres parks
South of Baldwin Road	68.70	Residential and Park	395 dwelling units; 5.00 acres parks
Total	**1,295.60**	**–**	**5,481 dwelling units; 505,000 square feet mixed use; 350,000 square feet of commercial uses; 6,910,000 square feet of industrial uses; 14.74 acre school site; 50.24 acres parks; 29.17 acres open space**
Source: City of Patterson, 2018.			

East of Baldwin Road

The area east of Baldwin Road would support primarily residential uses and be organized around three "lakes." Residential uses would consist of 3,666 dwelling units at low, medium, and high densities. Mixed use would be designated around the western most-lake. The lakes would provide drainage, recharge and recreational opportunities. A 14.74-acre school site would be located in the center of this planning area. Exhibit 3a depicts the Master Plan for the area east of Baldwin Road.

The area east of the Patterson Irrigation District canal that supports existing rural residential uses is contemplated to support low density residential uses.

West of Baldwin Road

The area west of Baldwin Road would support a mix of residential, commercial, and industrial development. Residential uses consisting of 1,420 dwelling units at low and medium densities would be located in the eastern portion of the planning area along Baldwin Road. A 22.81-acre community commercial area is proposed at the southwest quadrant of the Zacharias Road / Baldwin Road intersection. Industrial uses would front Rogers Road, opposite the Arambel Business Park. Exhibit 3a depicts the Master Plan for the area west of Baldwin Road

South of Baldwin Road

The area south of Baldwin Road would support exclusively residential uses. A park would be located in the center of this planning area. Exhibit 3b depicts the Master Plan for the area south of Baldwin Road

Circulation

For the areas east and west of Baldwin Road, a network of internal roadways would connect to Rogers Road, Zacharias Road, and Baldwin Road. The circulation plan accommodates an alignment of the future South County Corridor along Zacharias Road and limits the number of connections along this roadway.

The circulation plan contemplates Ivy Avenue being extended west to connect to the internal roadway network in order to facilitate a through connection to Ward Avenue. The City of Patterson is also considering a second connection to Ward Avenue north of Ivy Avenue.

For the area south of Baldwin Road, the circulation plan anticipates this roadway being extended south to a future hypothetical extension of Elfers Road. Additionally, the road serving the City of Patterson Corporation Yard would be improved and extended west to provide access to the western portion of this planning area.

Infrastructure and Utilities

The proposed project would install a storm drainage system consisting of bioswales, inlets, and underground piping that would convey runoff to stormwater basins. For the area east of Baldwin Road, runoff would be impounded in the lakes. For the areas west and south of Baldwin Road, runoff would be impounded in stormwater basins.

The City of Patterson would provide potable water service and sewer service the proposed uses. Additionally, property owners would be required to use non-potable groundwater for irrigation purposes. A Water Supply Assessment will be prepared as part of the EIR to evaluate water supply impacts.

Turlock Irrigation District would provide electrical service to the proposed project. Pacific Gas and Electric Company would provide natural gas service to the proposed project.

Required Approvals: ***City of Patterson Discretionary Approvals.*** Implementation of the Zacharias Master Plan Project will require, but is not limited to, the following discretionary approvals by the City of Patterson:

- Certification of the Environmental Impact Report
- Master Plan Adoption
- General Plan Amendment
- Prezone
- Subdivision Maps; Parcel Maps
- Use Permit(s)
- Design Review
- Development Agreement(s)

Additionally, approval of the project would require the following discretionary approvals from Stanislaus County Local Agency Formation Commission:

- Modification of Sphere of Influence

- Annexation / Detachment
- Out of Boundary Service Agreement(s)

EIR Scope: The City of Patterson has determined that it will prepare an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA).

The following probable environmental effects of the project will be evaluated in the EIR:

- Aesthetics, Light, and Glare
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources / Tribal Cultural Resources
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation
- Utilities and Service Systems

Table 2 provides a breakdown for each ownership group.

Table 2: Zacharias Master Plan Breakdown

Name	Land Use	Gross Acreage	Density	Dwelling Units	Square Footage
Zacharias Ranch	Medium Density Residential	129.34	5.4	700	–
	Community Commercial	22.81	–	–	350,000
	Light Industrial	316.00	–	–	6,910,000
	Park	9.01	–	–	–
	Subtotal	*477.16*		*700*	*7,260,000*
TFP Development	Low Density Residential	80.00	5.0	400	–
	Medium Density Residential	32.00	10.0	320	–
	Park	9.14	–	–	–
	Subtotal	*121.14*	–	*720*	–
Lakeside Hills, Keystone Ranch, Ivy Rose Gardens	Low Density Residential	143.70	3.0	431	–
	Medium Density Residential	359.31	6.5	2,432	–
	High Density Residential	35.15	17.3	609	–
	Mixed Use	19.44	10.0	194	505,000
	Park	27.09	–	–	–
	Open Space	29.17	–	–	–
	School (K-6)	14.74	–	–	–
	Subtotal	*628.60*	–	*3,666*	–
Baldwin Ranch	Medium Density Residential	63.70	6.2	395	–
	Park	5.00	–	–	–
	Subtotal	*68.70*	–	*395*	–
All Development	Low Density Residential	223.70	–	831	–
	Medium Density Residential	584.35	–	3,847	–
	High Density Residential	35.15	–	609	–
	Mixed Use	19.44	–	–	505,000
	Community Commercial	22.81	–	–	350,000
	Light Industrial	316.00	–	–	6,910,000
	Park	29.17	–	–	–
	Open Space	50.24	–	–	–
	School (K-6)	14.74	–	–	–
	Total	**1,295.60**	**–**	**5,481**	**7,765,000**

Each Medium Density Residential zone driven by different ownership groups and the EIR will analyze different densities proposed by each applicant.

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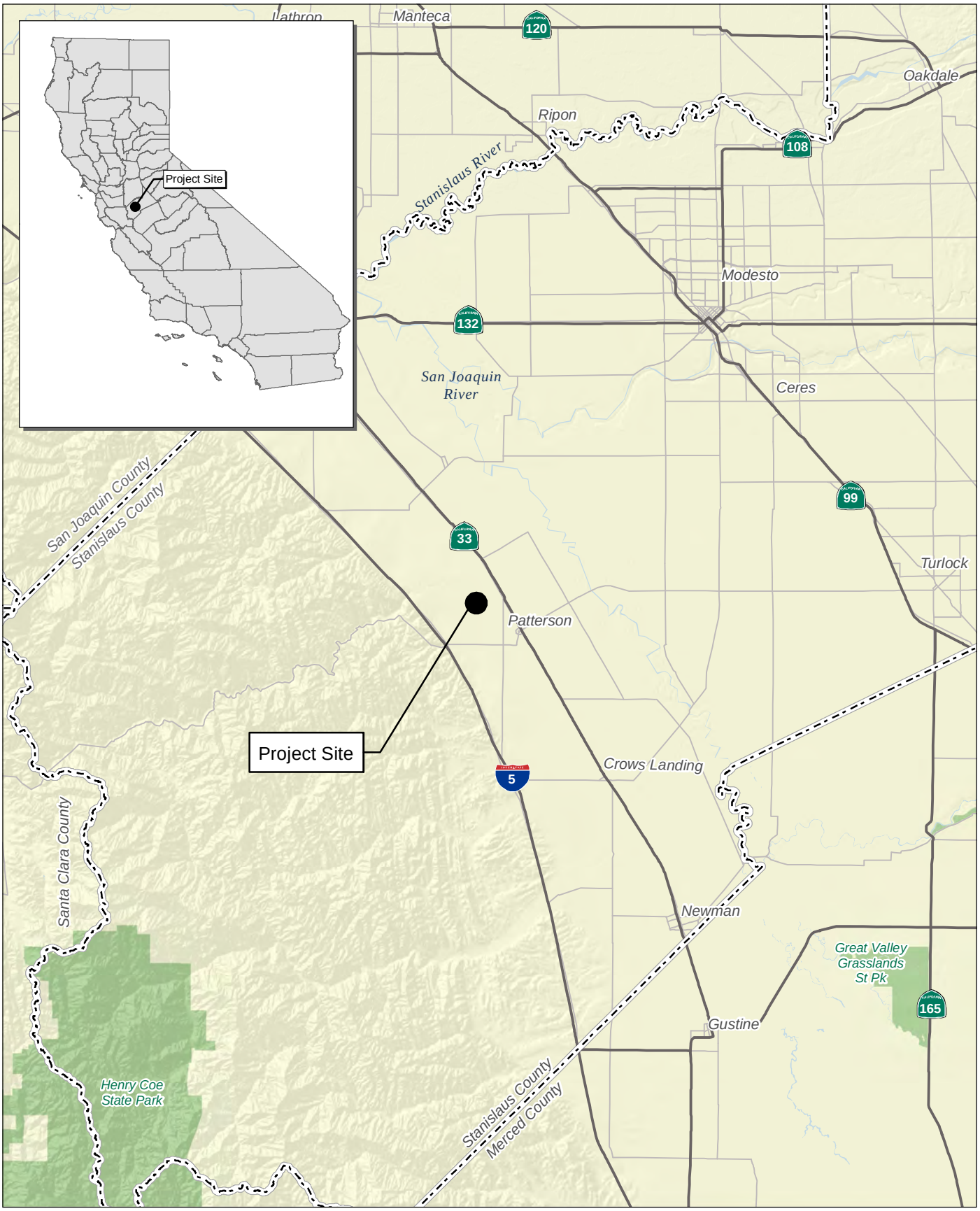

Source: Census 2000 Data, The CaSIL.

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Exhibit 1
Regional Location Map

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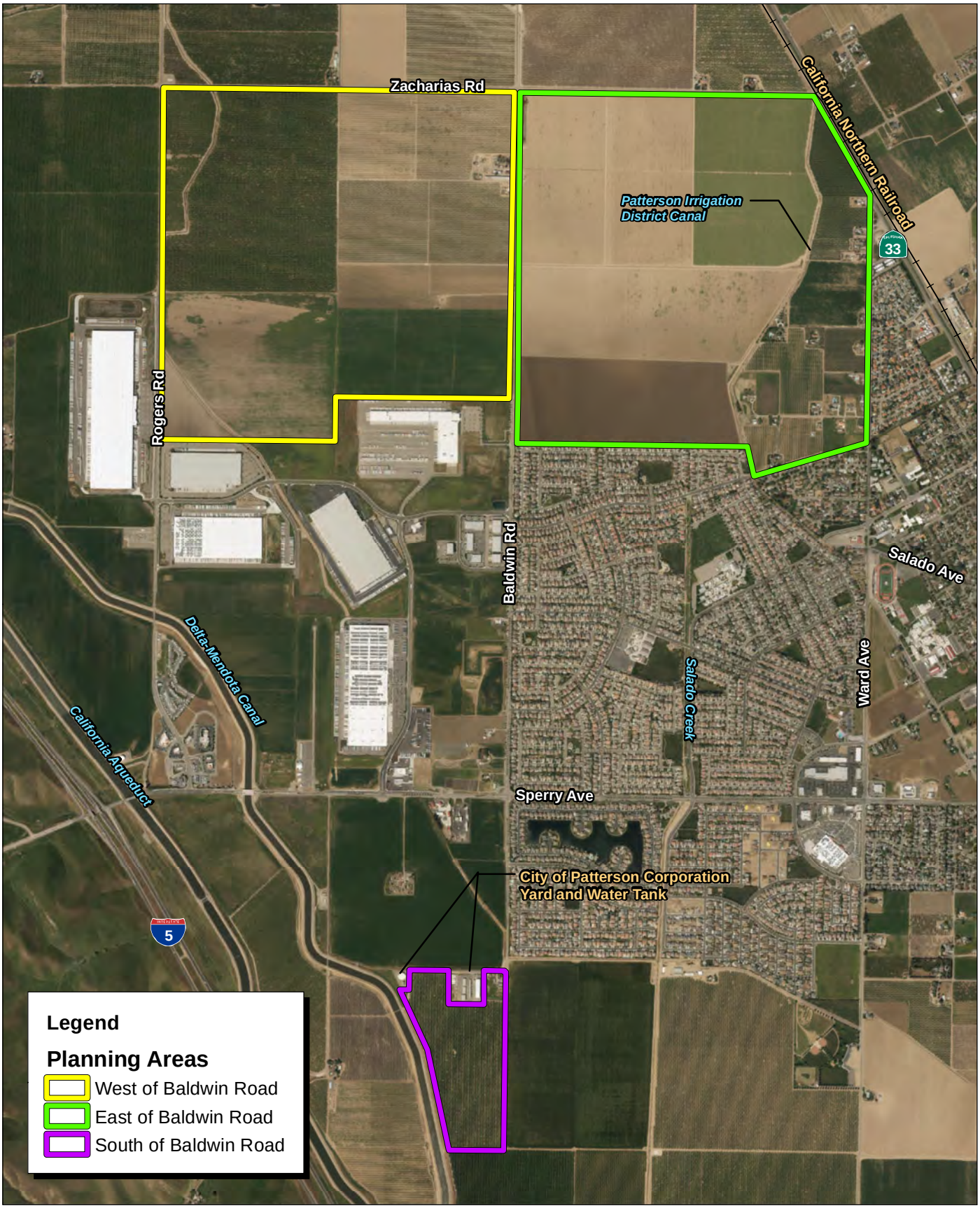

Source: ESRI Aerial Imagery.

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2,000 1,000 0 2,000 Feet

Exhibit 2
Local Vicinity Map
Aerial Base

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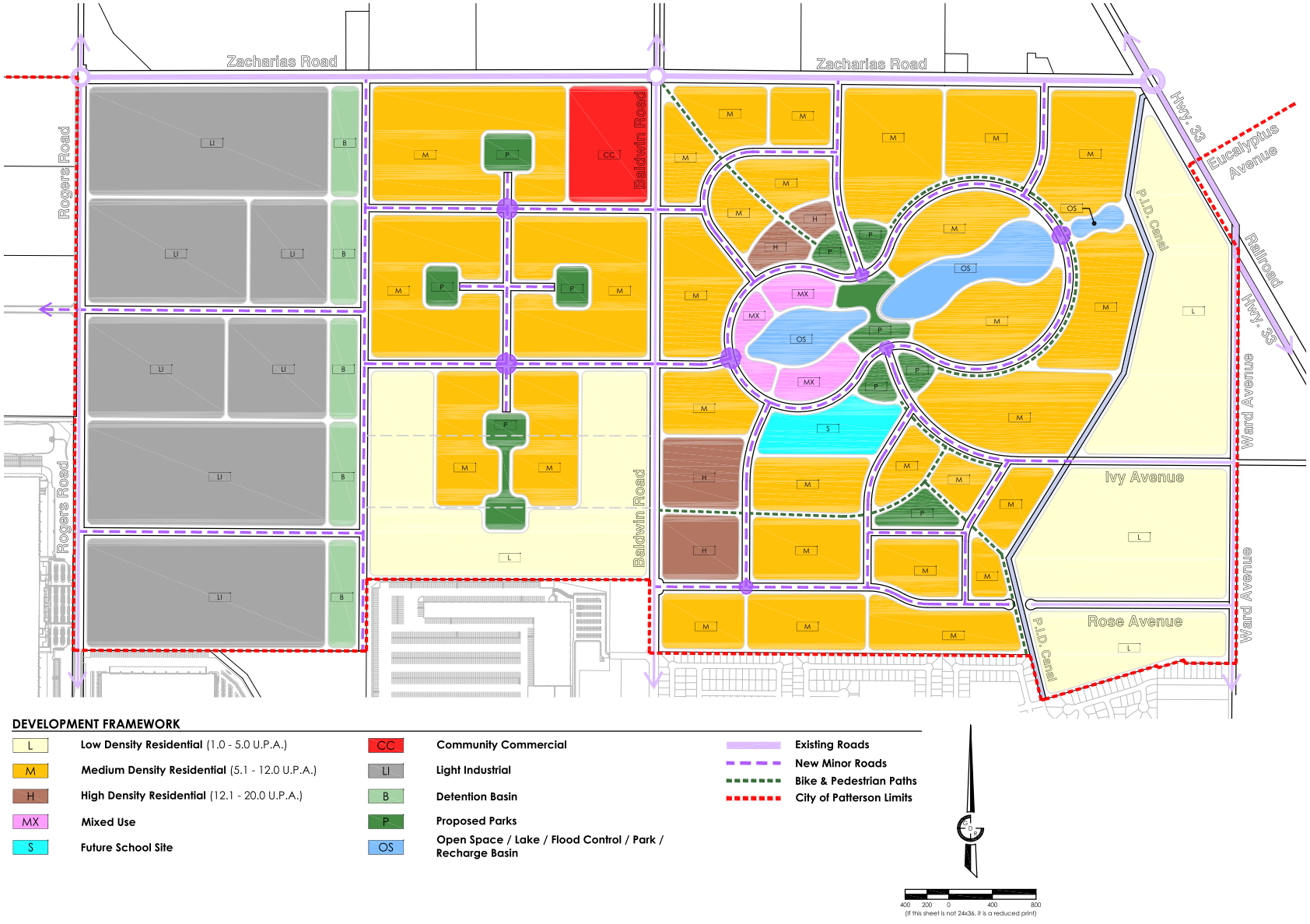

Source: GDR Engineering, Inc., December 7, 2018.

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Exhibit 3a
Master Plan – East and West of Baldwin

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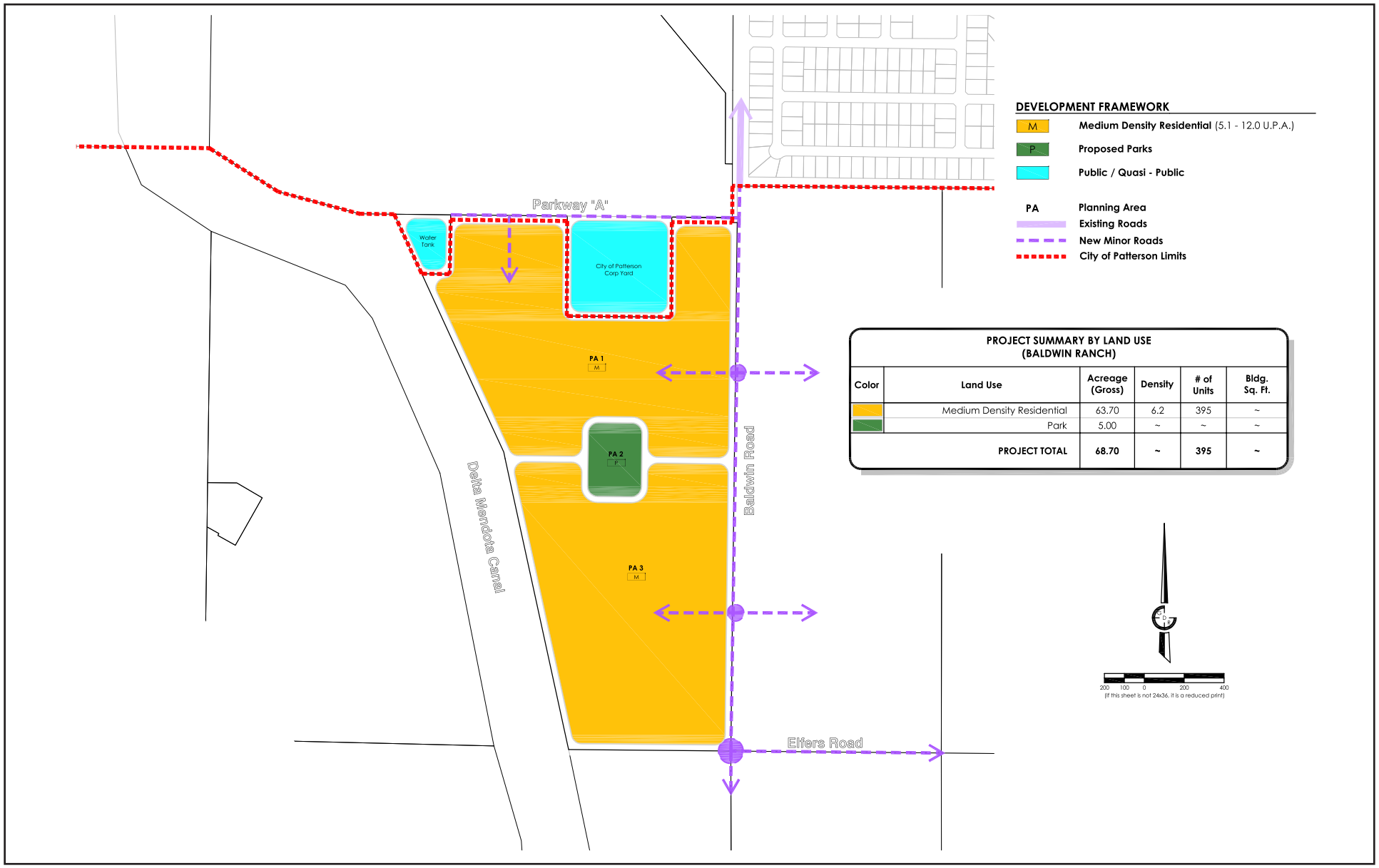

Source: GDR Engineering, Inc., December 7, 2018.

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Exhibit 3b
Master Plan – South of Baldwin Road

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A.2 - Notice of Preparation Responses

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Sign-in Sheet
Scoping Meeting
Jan. 17, 2019

Name	Organization	email / Phone
Kent Allen	adjac. Landowner	Kwallen24@yahoo.com 209 765-0855
PHIL SARASQUETA	SARASQUETA PROPERTIES	phil sarasqueta@yahoo 208-731-5362
Bobby Pierce	West Stan. Irrig. Dist.	bobby.pierce@weststanislausid.org 894-3091
Vince Lucchesi	Patterson ID	VLucchesi@Pattersonid.org (209) 892-6233
Josh Jantz	GDR Engineering	JoshJantz@GDRENGR.com 538-3300
Ron West	Planning Comm.	Ronwest.assocc@gmail.com
KEITH SCHNEIDER	KEYSTON CORP.	K-SCHNEIDER@KSDEVELOP.com 480-2573
DAVE ROMANO	NEWMAN-ROMANO	DAVE@NEWMAN-ROMANO.COM (209) 521-9521
Donald Hess		2097650448
Jill Gnesa	Landowner	209-535-1165
Hank Gnesa	landowner	hankgnesa@gmail.com 209505-9595
Monica DellaMaggiora	Public	monicadellamaggiora@gmail.com
DAVE APPLEGATE	PLANNING COR.	daveapplegate@ mail.com
James Fairfield	landowner	
Bob Martin	SLDMWA	bob.martin@sldmwa.org
KEITH FICHTNER	REP FOR PATTERSON FRUZEN FDS	KEITH.FICHTNER@KINGSMILL PROPERTIES.com
David Leamon	Stanislaus Co. PW	Dleamond@stancounty.com

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A.3 - Comments

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DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DISTRICT 10 DIRECTOR
P.O. BOX 2048, STOCKTON, CA 95201
(1976 E. DR. MARTIN LUTHER KING JR. BOULEVARD 95205)
PHONE (209) 948-7943
FAX (209) 948-3895
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

January 18, 2019

10-STA-33 PM 14.88
Zacharias Master Plan Project
Notice of Preparation
SCH# 2018122050

Mr. Joel Andrews
City Planner
City of Patterson
1 Plaza
Patterson, CA 95363

Dear Mr. Andrews:

Thank you for the opportunity to review the above-referenced document, the Zacharias Master Plan Project, State Clearinghouse No. 2018122050. The Department has the following comments:

This project may cause a significant impact to the State Highway System. A traffic impact study (TIS) is necessary to determine this proposed project's near-term and long-term impacts to State facilities – both existing and proposed – and to propose appropriate mitigation measures. The Department recommends that the study be prepared in accordance with the Caltrans Guide for the Preparation of Traffic Impact Studies. The Department is available to discuss assumptions, data requirements, study scenarios, and analysis methodologies prior to beginning the TIS. This will help ensure that a quality TIS is prepared. As part of the TIS submission to the Department, please provide, in an electronic format, the traffic microsimulation software files (both input and output) that will be used to develop the TIS. The Department requires this information to provide a complete review and further comment of the proposed project.

The TIS must include, but is not limited to, the following locations:

- All intersections between Zacharias Road and Sperry Avenue in the North/South direction along State Route 33 (SR33).
- Sperry Avenue interchange at Interstate 5 (I-5). On and offramps must be studied in both north- and southbound directions.
- All intersections along Sperry Avenue in the East/West direction from I-5 to SR33.

We suggest that the City continue to coordinate and consult with the Department to identify and address potential cumulative transportation impacts that may occur from developments near this geographical location. Please forward the final Conditions of Approval to the Caltrans District 10-Transportation Planning Division, Attention IGR Coordinator.

If you have any questions, please contact Steven Martinez at (209) 942-6092 (email: steven.r.martinez@dot.ca.gov) or me at (209) 941-1921. We look forward to continuing to work with you in a cooperative manner.

Sincerely,

FOR

TOM DUMAS, Chief
Office of Metropolitan Planning

California
Department of Conservation
Division of Land Resource Protection

Gavin Newsom, Governor
David Bunn, Director

January 18, 2019

VIA EMAIL: JANDREWS@CI.PATTERSON.CA.US
Mr. Joel Andrews, City Planner
City of Patterson
1 Plaza
Patterson, CA 95363

Dear Mr. Andrews:

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE ZACHARIAS MASTER PLAN PROJECT, SCH# 2018122052

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Notice of Preparation of an Environmental Impact Report for the Zacharias Master Plan (Project) submitted by the city of Patterson (City). The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the proposed project's potential impacts on agricultural land and resources.

Project Description

The proposed project consists of the annexation of the project site into the city of Patterson and the development of residential, mixed use, commercial, industrial, school, parks, and open space uses guided by a Master Plan. The project site is broken down into three planning areas: East of Baldwin Road, West of Baldwin Road, and South of Baldwin Road. The site contains areas under Williamson Act contract and is classified by the Department of Conservation's Farmland Mapping and Monitoring program as Prime, Statewide Important Farmland, and/or Unique Farmland.[1]

Department Comments

Although conversion of agricultural land is often an unavoidable impact under CEQA analysis, mitigation measures must be considered. In some cases, the argument is made that mitigation cannot reduce impacts to below the level of significance because agricultural land will still be converted by the project, and therefore, mitigation is not required. However, reduction to a level below significance is not a criterion for mitigation under CEQA. Rather, the criterion is feasible mitigation that lessens a project's impacts.

[1] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, California Important Farmland Finder, https://maps.conservation.ca.gov/DLRP/CIFF/, 2018

All mitigation measures that are potentially feasible should be considered. A measure brought to the attention of the lead agency should not be left out unless it is infeasible based on its elements. Agricultural conservation easements are an available mitigation tool that the City could consider. As such, the Department advises the use of permanent agricultural conservation easements on land of at least equal quality and size as partial compensation for the direct loss of agricultural land. Conservation easements will protect a portion of those remaining land resources and lessen project impacts in accordance with CEQA Guideline §15370. The Department highlights easements as a mitigation tool because of their acceptance and use by lead agencies as an appropriate mitigation measure under CEQA and because they follow an established rationale similar to that of wildlife habitat mitigation.

Mitigation via agricultural conservation easements can be implemented by at least two alternative approaches: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural conservation easements. The conversion of agricultural land should be deemed an impact of at least regional significance. Hence, the search for replacement lands should not be limited strictly to lands within the project's surrounding area.

Conclusion

The Department recommends the following discussion under the Agricultural Resources section of the Environmental Impact Report:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects.
- Compliance with LAFCO Agricultural Preservation Policy and City ordinance #743-Chapter 16.50 Agricultural Mitigation Policy
- Potential contract resolutions for land in an agricultural preserve and/or enrolled in a Williamson Act contract.
- Proposed mitigation measure for all impacted agricultural lands within the proposed project area.

The Department suggests that the applicant file for non-renewal of the current Williamson Act contracts, and wait until the contract's non-renewal status has ended and the contracts have expired before moving forward with the proposed development of the project. However, if the applicant wishes to proceed with the project before that time they may consider contract cancellation. Cancellation of the proposed project site would prevent the proposed use from conflicting with existing law. Please refer to our website for further information regarding contract non-renewal, cancellation, and other contract removal methods.[2]

[2] http://www.conservation.ca.gov/dlrp/wa/Pages/removing_contracts.aspx

Thank you for giving us the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the Zacharias Master Plan. Please provide this Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Environmental Planner at (916) 324-7347 or via email at Farl.Grundy@conservation.ca.gov.

Sincerely,

Monique Wilber
Conservation Program Support Supervisor

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CHIEF EXECUTIVE OFFICE

Jody L. Hayes
Chief Executive Officer

Patricia Hill Thomas
Chief Operations Officer/
Assistant Executive Officer

Keith D. Boggs
Assistant Executive Officer

Patrice M. Dietrich
Assistant Executive Officer

STANISLAUS COUNTY ENVIRONMENTAL REVIEW COMMITTEE

January 22, 2019

Joel Andrews, City Planner
City of Patterson
Community Development Department – Planning Division
1 Plaza
Patterson, CA 95363

SUBJECT: ENVIRONMENTAL REFERRAL – ENVIRONMENTAL REFERRAL – CITY OF PATTERSON – ZACHARIAS MASTER PLAN PROJECT – NOTICE OF PREPARATION

Mr. Andrews:

Thank you for the opportunity to review the Notice of Preparation of the above-referenced project.

The Stanislaus County Environmental Review Committee (ERC) has reviewed the subject project and provides the following comments:

Mandatory Findings of Significance

The environmental document should study the project's effects on the environment in connection with past projects, current projects, and potential future projects to gain a complete understanding of the cumulative effects.

Agricultural Resources

The project area is located adjacent to land with an existing zoning for agricultural use. Please include in the project's environmental document how the City plans to ensure the future development will not impact the existing agriculture use through the use of agricultural buffers or other methods. To minimize impacts to agricultural resources, the environmental document should reflect how schools serving the new development will be accommodated within the boundaries of the project area.

1010 10th Street, Ste. 6800, Modesto, CA 95354 Post Office Box 3404
Modesto, California 95353 Phone: 209.525.6333 Fax: 209.544.6226

Hydrology and Water Quality

Please include the location and construction characteristics (total depth, screened interval and pump capacity in gallons per minute) of any new proposed well to be used to serve the annexation, and their proposed water demand calculations (including the basis for those numbers).

Recreation

The project's environmental document should study the project's impacts on existing neighborhood and regional parks and recreational facilities.

Transportation/Traffic

As shared in the Public Scoping meeting, the locally calibrated 3-county StanCOG traffic model will be utilized for this project that was developed by the Sperry Road/I-5 Interchange project.

Please be aware that since development of this model, some land uses have changed:

- The Diablo Grande Project located west of I-5 has reduced the number of lots to be built out.
- Several of the Diablo Grande trips on the 2014 model were erroneously loaded onto Del Puerto Canyon links.
- The Crows Landing Industrial Business Park (CLIBP) is approximately 5 miles south of the proposed project. Due to the large area and variety of uses of the proposed project, State Route 33 (SR33) from Fink Road to the City of Patterson and the intersection of Crows Landing Road/Fink Road/SR33 should be included in the study and the project's impacts to these facilities should be evaluated.

Additionally, due to the size of the proposed project and the density of residential units, the intersection of Grayson Road at SR33 should be studied as well. Without sufficient job centers, many of the residential uses will commute for work and the most likely route to commute to the Modesto urbanized area would utilize Grayson Road via State Route 33.

It was also noted that a future connection via Elfers Road to the southern area in the proposal is assumed, but the County does not have any current plans to extend Elfers Road to Baldwin Road, leaving the southern proposed area with a single point of ingress/egress via Baldwin Road.

In summary, please include the following to the proposed study locations for the project:

Intersections:

1. State Route 33 at Crows Landing Road/Fink Road
2. State Route 33 at Marshall Road

3. Marshall Road at Ward Avenue
4. State Route 33 at Grayson Road

Segments:

1. State Route 33 from Marshall Road to Crows Landing Road/Fink Road
2. State Route 33 from Rogers Road to Grayson Road

These new uses, at build out, will significantly increase the traffic in the region. In order to provide and maintain a transportation system throughout the County for the movement of people and good that also meets land use and safety needs for all modes of transportation, Stanislaus County's Environmental Review Committee suggests a fair share fee to be collected for the development and construction of the Zacharias Interchange with I-5.

The ERC appreciates the opportunity to comment on this project.

Sincerely,

Patrick Cavanah
Sr. Management Consultant
Environmental Review Committee

PC:ss

cc: ERC Members

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STATE OF CALIFORNIA GAVIN NEWSOM, *Governor*

PUBLIC UTILITIES COMMISSION
320 WEST 4TH STREET, SUITE 500
LOS ANGELES, CA 90013

January 24, 2019

Joel Andrews
City of Patterson
1 Plaza
Patterson, CA 95363

Re: Zacharias Master Plan
SCH 2018122052 — *Notice of Preparation*

Dear Mr. Andrews:

The California Public Utilities Commission (Commission/CPUC) has jurisdiction over rail crossings (crossings) in California. CPUC ensures that crossings are safely designed, constructed, and maintained. The Commission's Rail Crossings Engineering Branch (RCEB) is in receipt of the *Notice of Preparation (NOP)* for the proposed Zacharias Master Plan Project (Project). City of Patterson (City) is the lead agency.

The City proposes annexation of the project site in the City of Patterson and development of the Project site guided by the Master Plan. Within the Project site, the planning areas known as East of Baldwin Road and West of Baldwin Road encompass approximately 1227 acres and are bounded by Zacharias Road to the north, Rogers Road to the west, State Route 33 and Ward Avenue to the east, and existing residential and business park uses to the south. These planning areas are proposed to include approximately 5,000 dwelling units; 505,000 square feet of mixed-use space; 350,000 square feet of commercial space; 6,910,000 square feet of industrial space; as well as approximately 62 acres of schools, parks, and open space.

The Project site is adjacent to the Zacharias Road crossing (CPUC No 108BA-105.20, DOT No. 752504B) at the northeast corner. The crossing is currently Stop sign controlled in the eastbound direction. It is equipped with Commission Standard 1-R (crossbuck sign on post) warning devices on both eastbound and westbound approaches. The crossing is located approximately 60 feet from the intersection of Zacharias Road and State Route 33. The California Northern Railroad Company is the primary operating railroad. There are approximately 20 train movements per week through the crossing.

The proposed Project would significantly impact traffic through the Zacharias Road crossing. The Commission recommends that the City conduct a traffic study with attention to the Zacharias Road crossing. Based on the traffic impact studies, the Commission may recommend improvements to the crossing and/or the adjacent intersection. Crossing improvements may include addition of active warning devices, such as Commission Standard 8 (flashing light signal assembly) or Commission Standard 9 (flashing light signal assembly with automatic gate arm) warning devices. If the City plans to signalize the intersection, the Commission would have design recommendations as well. In addition, the Commission recommends that the City examine traffic impact on the State 33 crossing (CPUC No. 108BA-105.70, DOT 752503U) due to the Project.

Construction or modification of public crossings requires authorization from the Commission. RCEB representatives are available to discuss any potential safety impacts or concerns at crossings.

Please continue to keep RCEB informed of the project's development. More information can be found at: http://www.cpuc.ca.gov/crossings.

If you have any questions, please contact Matt Cervantes at (213) 266-4716, or mci@cpuc.ca.gov.

Sincerely,

Matt Cervantes
Utilities Engineer
Rail Crossings Engineering Branch
Safety and Enforcement Division

CC: State Clearinghouse, state.clearinghouse@opr.ca.gov

January18,2019
City of patterson community development department

Scope and content the be included in EIR

1.The EIR should give careful consideration to the sensitive issues involved when homes are build by existing agricultural developments. The Zacharias Master Plan outlines a jogging biking path starting by Auroa Park and traveling north along PID Lateral M. This infringes on our ability to farm: specifically spraying, cultivating the orchard which will create dust,rodent control, and bird control,and harvest activities which by nature create dust. Placement of the jogging path at this location will create on ongoing risk of litigation to anyone engaged in agricultural activities. Further this location in a poor choice as there is a lot of crime, gang activity(tagging of neighbor's fences). Also this location appears to be historically a location of choice for minors to drink, smoke pot, etc. For all of these reasons the jogging path must be moved.

2. Careful consideration must be given to how the traffic created by 5500 new homes will move. Ward Ave is already heavily impacted and can handle no additional traffic. Six existing schools are already located near and traffic to and from them dump onto Ward Ave. Kids are crossing Ward on a routine basis where there are no crosswalks. The existing situation is horrible and could not have been planned any worse. To funnel more traffic onto Ward Ave via Rose Ave or Ivy would be insane. Traffic created by the Zacharias Plan needs to empty onto Highway 33 as much of it is already 4 lane and can handle more traffic.

4. Further thought needs to be given to the impacts of more deep wells from this project and their negative impact on the surrounding water aquifers. This concept was raised by Vince from the Patterson Irrigation District during the January 17,2019 public EIR meeting. His points are valid and merit careful consideration
5. While traffic impacts on Ward Ave are serious and require careful consideration and mitigation the traffic impacts of 5500 new homes and trucks from industrial areas of the project will have an equally serious impact on the Patterson I 5 interchange.

6. The city already has a huge problem and does not seem to know or care how to get control of ongoing illegal loud fireworks and gunfire occurring on almost a daily basis. During holidays the illegal firework situation leads to clouds of smoke and the effect is like being in a war zone in a third world country. We have written countless letters to city authorities and have made numerous complaints to police services with no results. No person of authority seems to care and seem to be annoyed that we even call to complain. Nothing is ever done. Why can't the planning process address this by imposing big fines and actually prosecuting offenders. I am certain that the fines generated would pay for the additional enforcement necessary. I am tired of living in the middle of "choas" and to build 5500 homes without addressing this issue is also insane.
7. This EIR needs to based on all of the points brought up here and those brought up during the meetings by the citizens of Patterson that have voiced their concern. Many of those who have raised their concerns are those who have supported this community for many decades. I would only pray that this EIR would consider every question raised so far. All raised concerns have been relevant and will affect the future of Patterson(although the thought was raised at the January 17 meeting by a Patterson Planner that we are all a bunch or "whiners"). These types of comments are sad and this type of thinking probably is one of the reasons that Patterson has been historically so horribly PLANNED! TO DO AN EIR BASED ON PARAMETERS NOT BASED ON ALL OF THE CONCERNS RAISED WILL ONLY CONCLUDE IN AN EIR FAVORING DEVELOPERS. THIS TYPE OF THOUGHT PROCESS IS FLAWED FROM INCEPTION AND IS NOT IN THE BEST INTERESTS OF THE COMMUNITY. WE WILL HAVE TO LIVE WITH THE PRODUCTS OF THE PLAN AND EIR AND I WOULD ONLY EXPECT TO HAVE AN EXCELLENT OUTCOME AND NOT THE TYPES OF OUTCOMES WE HAVE HISTORICALLY HAVE HAD.

8. submitted by Henry and Jill Gnesa

From:	Joel Andrews
To:	Grant Gruber (ggruber@fcs-intl.com); Scott Davidson (scottd@migcom.com); Tricia Stevens (tstevens@migcom.com)
Cc:	Denise Melo; Lisa Ochoa
Subject:	FW: Zacharias Master Plan
Date:	Tuesday, January 22, 2019 8:28:06 AM

Donald Hess comments

Joel Andrews
City Planner
City of Patterson
PO Box 667
Patterson, CA 95363
(209) 895-8024

From: Donald Hess [mailto:dghess52@comcast.net]
Sent: Thursday, January 17, 2019 6:05 PM
To: Joel Andrews
Subject: Zacharias Master Plan

Hi Mr. Andrews, I attended the meeting on the 17th of January. I was very impressed with the amount of work that went into this project. I have several concerns.

First, I have lived in Patterson for over thirty years. Back then Sperry Rd (like Zacharias Rd) was a two lane country road. Now where I live, east of the intersection of Las Palmas and Sperry, this East West road has become a major thoroughfare for truckers, that go to and from the warehouses, and or I-5 or 99. It is also a major commuter road that goes on 24 7. This two lane road was not designed for this purpose. Please do not repeat the mistake of Sperry Rd onto Zacharias Rd. The proposed plan needs to have roads like the Kiernan Rd in north Modesto for ease of traffic.

Second, Ward Avenue is and will become the North South road for access to the schools and the Zacharias build out. The city is planning on developing the vacant land west of the High School for various community services. This will further load up Ward. How is that going to affect the Master Plan on Zacharias.

Third, even though we are getting lots of rain in 2019, access to water year round is critical. This will affect this Plan. Conversely, the sewage generated by an additional 25000 people needs to be planned for.

Fourth, we never had a chance to discuss the community being built on South Baldwin by the City Yard. Was that a slight of hand or did time run out?

Thanks, Donald Hess
dghess52@comcast.net

Sent from Mail for Windows 10

Stanislaus
LAFCO
LOCAL AGENCY FORMATION COMMISSION

1010 TENTH STREET, 3RD FLOOR
MODESTO, CA 95354

PHONE: (209) 525-7660
FAX: (209) 525-7643
www.stanislauslafco.org

January 22, 2019

Joel Andrews, City Planner
City of Patterson Community Development Dept
PO Box 667
Patterson, CA 95363

SUBJECT: NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE ZACHARIAS MASTER PLAN

Dear Mr. Andrews:

Thank you for the opportunity to review the Notice of Preparation (NOP) for the City's preparation of a draft Environmental Impact Report (EIR) for the proposed Zacharias Master Plan project. The proposal includes a large-scale annexation of nearly 1,300 acres and a corresponding sphere of influence expansion of approximately 1,150 acres. As Lead Agency, the City of Patterson is responsible for considering the effects, both individual and collective, of all activities involved in the project (Public Resources Code §21102.1). LAFCO, as a Responsible Agency, will utilize the CEQA documents prepared by the City in reviewing the subject proposal.

Among the purposes of LAFCO are discouraging urban sprawl, preserving open space and agricultural lands, encouraging the efficient provision of services, and encouraging the orderly formation and development of local agencies based upon local conditions and circumstances (Government Code section 56301). The Commission has adopted local policies and findings related to these purposes. The following summarizes some of these policies, as well as information the Commission will need in order to make determinations related to the project:

1. Sphere of Influence Policies – A sphere of influence (SOI) is intended to be a plan for the long-term, orderly growth of an agency, as determined by the Commission. Stanislaus LAFCO's policies describe a sphere of influence as "the area around a local agency within which territory is eligible for annexation and the extension of urban services within a twenty year period." The policies further identify a "primary area of influence," representing a short-term growth area within a city's SOI. Lands within the primary area are eligible for annexation and extension of urban services within a zero to ten year period. The territory between an adopted primary area and sphere of influence is considered a transition area, anticipated to need services within ten to twenty years.

   The City should identify how the proposal relates to its long-term growth planning and the policies and timeframes for a sphere of influence. Proposed phasing strategies should also be identified.

2. City-County Meeting and Agreement – An expansion of the sphere of influence requires the City of Patterson to meet with the County to discuss the proposed sphere of influence and explore methods to reach agreement on its boundaries, development standards, and zoning requirements within the sphere. If an agreement is reached,

LAFCO will give great weight to the agreement during the consideration of any proposed sphere of influence. If no agreement is reached, an application may be submitted and the Commission shall consider a sphere of influence for the City consistent with the policies adopted by the Commission.

3. Agricultural Resources – The majority of the acreage in the 1,300-acre proposal is considered prime farmland. One of LAFCO's main charges, as set forth by the Legislature, is to protect and promote agriculture. The Commission's Agricultural Preservation Policy will require the City to prepare a Plan for Agricultural Preservation ("Plan"). The Plan must include information such as the proposal's direct and indirect impacts to agricultural resources, the availability of other lands in the City's existing boundaries, and relevant General Plan policies. The Plan must also specify the method or strategy proposed to minimize the loss of agricultural lands. The information provided in the Plan should be consistent with the environmental documentation prepared by the City.

4. Vacant Land Inventory – State law and Commission policies encourage the development of vacant or underutilized land within an agency's *existing* boundaries prior to annexation of additional land. As part of the City's Plan for Agricultural Preservation, the City must demonstrate that there is insufficient alternative land available within the existing sphere of influence or boundaries of the agency. LAFCO's policies state that sphere amendments will not be approved if there is sufficient alternative land available within the existing SOI. Likewise, annexations will not be approved unless development is shown to be imminent. Since 2005, the City has annexed nearly 3,000 acres for industrial, business park, and residential uses. A vacant land inventory and absorption study is requested in order to demonstrate the City's need for the current proposal.

5. Williamson Act Lands - The proposed Master Plan area includes lands with active Williamson Act Contracts. The Williamson Act is considered a mechanism to preserve agricultural land both in the short and long term. Government Code §56856.5 prohibits the Commission from approving an annexation that contains Williamson Act lands unless it makes specific findings. The EIR should discuss the location of these lands as it relates to general plan policies, development, and financing scenarios that would preserve the agricultural viability of this land for as long as possible.

   LAFCO's SOI policies state that territory not in need of urban services, including open space, agriculture, non-protested, or protested and not upheld Williamson Act contracted lands, shall not be assigned to an agency's sphere of influence, unless the area's exclusion would impede the planned orderly and efficient development of this area.

6. Public Services and Facilities – Pursuant to LAFCO policies, the proposal must show that the City has the necessary public services available to serve the development upon annexation. This analysis, also known as a "Plan for Services," is outlined in Government Code Section 56653 and must include detailed evidence of current service levels, sufficient sewer capacity, sufficient quantities and quality of water, adequate levels of fire and police protection, plans for associated infrastructure and roads improvements, as well as information on financing mechanisms for these services.

   The proposed Sphere of Influence expansion will also necessitate an update to the City's Municipal Service Review, a document discussing the City's ability to provide services to both its existing and proposed boundaries. Information contained in the

updated Municipal Service Review will rely heavily on the City's utilities master plans and General Plan for the area.

7. Groundwater Impacts – The City relies on groundwater as its sole source of drinking water. Documents prepared for the City's previous annexation cautioned that a sustainable or safe yield for groundwater had not been determined and that increased urbanization will have a negative impact on groundwater in the upper aquifer that is susceptible to long-term declines. The City's prior Water Supply Assessment also stated that the City was investigating other water supply options including non-potable/recycled water, ratification recharge and surface water recharge although it is unknown how and when these may be implemented. Environmental documentation for the current proposal should include updated information regarding the impacts to groundwater in the area, including the state of the upper and lower aquifers, water quality, sustainability, as well as compliance with Sustainable Groundwater Management Act (SGMA).

8. Logical Boundaries - Commission policy encourages creation of logical boundaries and proposals which do not create islands, corridors, or other distortion of existing boundaries. Annexation proposals shall show that a planned, orderly, and compact urban development pattern will result. The City's intent regarding the southerly annexation area (approximately 68+/- acres) should be clarified. The extension of the City's boundary in this area may be considered illogical and growth-inducing, as it would in a residential subdivision surrounded on three sides by unincorporated County area.

9. Impacts to Special Districts – The proposed territory is located within the boundaries of the Del Puerto Water District, West Stanislaus Irrigation District, Patterson Irrigation District and the West Stanislaus Fire Protection District. Commission policies recognize that city Spheres of Influence generally take precedence over these district spheres. The environmental analysis should identify whether or not the City intends to detach the territory from these districts and include a discussion of any impacts as a result. The area is also within the boundary of the Del Puerto Healthcare District and would remain in the District following annexation. Pursuant to LAFCO policy, the Commission will deny proposals that would result in significant unmitigable adverse effects upon other service recipients or other agencies servicing the affected area unless the approval is conditioned to avoid such impacts. The City is encouraged to consult with each of these Districts to resolve any identified concerns prior to application to LAFCO.

While the NOP is limited in its details about the project, LAFCO Staff has provided this response for the City's use in the development of an environmental impact report and other studies that will assist in LAFCO's review of the project. If you have any questions regarding these comments, please contact our office at (209) 525-7660.

Sincerely,

Sara Lytle-Pinhey

Sara Lytle-Pinhey
Executive Officer

cc: LAFCO Commissioners
Robert J. Taro, LAFCO Counsel

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STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

December 27, 2018

Joel Andrews
City of Patterson
1 Plaza
Patterson, CA 95363

RE: SCH# 2018122052 Zacharias Master Plan, Stanislaus County

Dear Mr. Andrews:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

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CDD / PLANNING DIVISION
BY:

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Sharaya.Souza@nahc.ca.gov.

Sincerely,

for

Sharaya Souza
Staff Services Analyst

cc: State Clearinghouse

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HERUM \ CRABTREE \ SUNTAG
ATTORNEYS

Jeanne M. Zolezzi
jzolezzi@herumcrabtree.com

January 21, 2019

VIA EMAIL

Mr. Joel Andrews
City Planner
City of Patterson
Community Development Department
Post Office Box 667
Patterson, CA 95363
jandrews@ci.patterson.ca.us

Re: Zacharias Master Plan – Notice of Preparation

Dear Mr. Andrews:

The Patterson Irrigation District (**District**) has reviewed the Notice of Preparation (**NOP**) of an Environmental Impact Report (**EIR**) for the Zacharias Master Plan (**Project**) and, on behalf of the District, I provide these comments to the NOP.

Groundwater

The Project site encompasses approximately 1,226.9 acres for the development of residential, mixed use, commercial, industrial, school, parks, and open space uses which would rely solely on groundwater drawn from the Delta-Mendota Subbasin. The State has identified the Delta-Mendota Subbasin (**Basin**) as a high-priority, critically-overdrafted Subbasin. Pursuant to the Sustainable Groundwater Management Act (**SGMA**), Groundwater Sustainability Agencies (**GSA**) with in the Subbasin must adopt Groundwater Sustainability Plans (**GSP**) no later than January 1, 2020, and the Subbasin must be determined to be sustainable by the State no later than 2040.

The City of Patterson (**City**) currently obtains all of its water from the Basin. Because the Basin is critically overdrafted, the City's current groundwater usage is not sustainable. The Project will impose additional demands on the Basin. The City should not be expanding development, such as that set forth in the Project, without obtaining sources of surface water supply. The Project area currently receives surface water supplies that provide a source of groundwater recharge. The Project would eliminate surface water use and recharge, and rely exclusively on groundwater with reduced opportunities for recharge. Accordingly, the EIR for the Project should address the following issues:

1. The EIR should include groundwater modeling prepared to evaluate potential impacts to groundwater levels and groundwater quality associated with the Project, and the EIR should compile, review, evaluate, and update where needed, the available information on present and projected ground water levels. Effects on the ground water basin due to climate change-related precipitation and runoff changes should also be addressed.

2. The EIR should evaluate the impact of increased groundwater pumping from the Project on subsidence.

3. What are the impacts to the surface-groundwater interactions for the Project area/site? Will the impacts be within the management criteria for SGMA?

4. Any existing CEQA documents prepared for any new wells that will serve the project should be re-evaluated in the EIR to evaluate regional impacts.

5. The EIR should address the Project's impacts on chronic Lowering of groundwater levels, the potential impact on surrounding private and public wells, as well as the economic impact on existing agricultural and private wells due to increased pumping cost associated lowering groundwater levels.

6. The EIR should address the Project's impacts on reduction in groundwater storage in the basin.

7. The EIR should address the Project's impacts on groundwater quality, and the relationship between increased groundwater use and decline in key water quality parameters (nitrates, salts, hexavalent, chromium, selenium, boron, arsenic, etc.).

8. The EIR should address the Project's impacts on the depletion of interconnected surface water, including the loss of interconnections with surface water impacting current water rights, and the impacts to groundwater dependent ecosystems (GDEs) due to declining groundwater levels.

Public Services

The District has irrigation service and drainage facilities within the Project area that must be properly identified and evaluated in the EIR. The EIR must determine and evaluate the impact of the project on any District facilities, the ability for these facilities to continue to properly function, and consideration of irrigation, drainage, and flooding issues that may be caused by the Project.

Agriculture

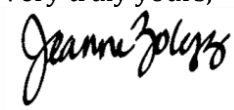
1. The Project proposes to remove 1,226.9 acres of farmland, which currently receives surface water that serves as a source of groundwater recharge, and convert the land use to residential development that will rely exclusively on groundwater with reduced ability to recharge resulting from development.

2. The Project area is currently dedicated to agricultural land uses. The EIR should discuss the overall impact of the Project on agricultural resources, as well as quantify the potential

temporary or permanent loss of designated farmland and Williamson Act contracts that could result from the Project.

We appreciate the opportunity to comment on the referenced NOP. Questions regarding this letter and further coordination on these issues should be directed to Vince Lucchesi, General Manager, at (209) 892-6233 or by email at vlucchesi@pattersonid.org.

Very truly yours,



JEANNE M. ZOLEZZI
Attorney-at-Law

cc: Mr. Vincent Lucchesi
Mr. Robert Pierce

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CALIFORNIA
Water Boards

GAVIN NEWSOM
GOVERNOR

JARED BLUMENFELD
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

RECEIVED
JAN 17 2019
CDD / PLANNING DIVISION
BY:

15 January 2019

Joel Andrews
City of Patterson
1 Plaza
Patterson, CA 95363

CERTIFIED MAIL
7018 1830 0001 0062 6689

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, ZACHARIAS MASTER PLAN PROJECT, SCH#2018122052, STANISLAUS COUNTY

Pursuant to the State Clearinghouse's 21 December 2018 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Zacharias Master Plan Project, located in Stanislaus County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources

Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

> *Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.*
>
> *This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.*

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan

(SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]
The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit
Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

Clean Water Act Section 404 Permit
If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

For more information on the Water Quality Certification, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Risk General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Risk Waiver) R5-2013-0145. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Risk General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Risk Waiver and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2013-0145_res.pdf

Regulatory Compliance for Commercially Irrigated Agriculture

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: https://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/regulatory_information/for_growers/coalition_groups/ or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.

2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100**. Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 11-100 acres are currently $1,277 + $8.53/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order.

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit.

For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4812 or Jordan.Hensley@waterboards.ca.gov.

Jordan Hensley
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

From:	Joel Andrews
To:	Grant Gruber (ggruber@fcs-intl.com); Scott Davidson (scottd@migcom.com); Tricia Stevens (tstevens@migcom.com)
Cc:	Lisa Ochoa
Subject:	FW: EIR Scoping Inputs
Date:	Tuesday, January 22, 2019 5:07:42 PM

Joel Andrews
City Planner
City of Patterson
PO Box 667
Patterson, CA 95363
(209) 895-8024

From: Phil Sarasqueta [mailto:philsarasqueta@yahoo.com]
Sent: Tuesday, January 22, 2019 4:27 PM
To: Joel Andrews; planning
Subject: EIR Scoping Inputs

Northwest Territories EIR Scoping Inputs

1-22-2019

Joel Andrews
Patterson City Planner

Joel,
Per the instructions given at the 1-17-2019 EIR Scoping meeting at Patterson City Hall, please find attached my inputs as to some of the issues brought up at the meeting plus others that have come up since.

As the Sarasqueta family owns property in the area that was originally designated as the Northwest Territories (East of P.I.D. Lateral M, North of Salado Creek, South of Zacharias Road and West of Ward Avenue and the railroad right of way), I'll concentrate most of my concerns to that area. I will refer to the area as the **Original Northwest Territories**, a name given to it in

early development Newspaper articles and early Patterson planning documents going back decades and prior to the inclusion of the areas West of P.I.D. Lateral M.

Well Water:
Please include the effect of the development on current domestic and agricultural wells serving not only the areas currently within the annexation area, but those served by the Patterson Irrigation District and West Stanislaus Irrigation District.
Will this annexation potentially degrade those resources?

Flooding:
P.I.D. Lateral M has acted as a defacto flood barrier and diversion channel for the areas East of P.I.D. Lateral M in the area bounded by Ward Avenue, Lateral M, Salado Creek, the elevated railroad bed and Zacharias Road since it was built in the early 1900's. Flood water diverted ends up in Del Puerto Creek. Since City planners and developers have suggested that Lateral M will likely be "under grounded", please include that possibility, impacts and mitigations in your report.

Right to Farm:
Many of the land parcels In the **Original Northwest Territories** are being farmed in almonds and other crops. Many of the owners of these parcels have expressed the view that annexation and development of the farmland West of Lateral M prior the development of the properties in the **Original Northwest Territories** will seriously damage farming opportunities East of Lateral M due to:

1. Potential loss of access to P.I.D. water and rights to that water.
2. Loss of the ability to make judicious and timely pesticide applications.
3. Restrictions on when potentially noisy or dusty normal

farming activities take place.

4. The proposed footpath along the likely "under grounded" without a fence greatly increases the likelihood of illegal trespass, theft of farm product, theft of farm equipment, vandalism and damage to the crops and soil (ruts) from unauthorized vehicle trespass, especially in the winter months and during Irrigation.
5. Increased farm equipment/traffic conflicts if Ivy, Rose or future streets are connected to the **Original Northwest Territories** as a means to access Ward Avenue or Hwy 33. This is a serious potential safety issue particularly since poor previous planning and siting resulted in so many schools impacting traffic on Ward Avenue just South of Rose avenue. Using Ivy or Ward to provide access for thousands of housing units to the 7 schools served directly or by Ward avenue
6. Increased litigation potential associated with items 2 through 5 above.

Please consider these issues and the others aired during the other meetings on the annexation in the EIR.

Phil Sarasqueta
Sarasqueta Properties Spokesman
philsarasqueta@yahoo.com
208-731-5362

Phil Sarasqueta
1205 Galena Dr.
Twin Falls, ID 83301
208-731-5362

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STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

Notice of Preparation

December 21, 2018

To: Reviewing Agencies

Re: Zacharias Master Plan
SCH# 2018122052

Attached for your review and comment is the Notice of Preparation (NOP) for the Zacharias Master Plan draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Joel Andrews
City of Patterson
1 Plaza
Patterson, CA 95363

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

RECEIVED
JAN 03 2019
CDD / PLANNING DIVISION
BY:

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
1-916-322-2318 FAX 1-916-558-3184 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2018122052
Project Title Zacharias Master Plan
Lead Agency Patterson, City of

Type NOP Notice of Preparation

Description The proposed project consists of the annexation of the project site into the City of Patterson and the development of residential, mixed use, commercial, industrial, school, parks, and open space uses guided by a Master Plan. The buildout potential of the Master Plan is 5,481 dwelling units, 505,000 square feet of mixed use, 350,000 square feet of commercial uses, 6,910,000 square foot of industrial uses, 50.24 acres of parks, 29.17 acres of open space, and a 14.74-acre school site.

Lead Agency Contact

Name Joel Andrews
Agency City of Patterson
Phone (209) 895-8020 **Fax**
email
Address 1 Plaza
City Patterson **State** CA **Zip** 95363

Project Location

County Stanislaus
City Patterson
Region
Cross Streets Baldwin Road and Zacharias Road
Lat / Long 37° 29' 0" N / 121° 9' 0" W
Parcel No.
Township 5S **Range** 7E **Section** 23,24 **Base** MDBM

Proximity to:

Highways 33
Airports
Railways CA Northern
Waterways Del Puerto Creek; Salado Creek
Schools Patterson Unified
Land Use Agriculture/"AG"/"AG"

Project Issues

Reviewing Agencies Resources Agency; Department of Conservation; Cal Fire; Central Valley Flood Protection Board; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 4; California Department of Education; Office of Emergency Services, California; Department of Housing and Community Development; Delta Protection Commission; Delta Stewardship Council; Native American Heritage Commission; Public Utilities Commission; California Highway Patrol; Caltrans, District 10; Air Resources Board; State Water Resources Control Board, Division of Drinking Water; Department of Toxic Substances Control; Regional Water Quality Control Bd., Region 5 (Sacramento)

Date Received 12/21/2018 **Start of Review** 12/21/2018 **End of Review** 01/22/2019

Note: Blanks in data fields result from insufficient information provided by lead agency.

Print Form

Appendix C

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #2018122052

Project Title: Zacharias Master Plan

Lead Agency: City of Patterson — Contact Person: Joel Andrews

Mailing Address: 1 Plaza — Phone: (209) 895-8020

City: Patterson — Zip: 95363 — County: Stanislaus

Project Location: County: Stanislaus — City/Nearest Community: Patterson

Cross Streets: Baldwin Road / Zacharias Road — Zip Code: 95363

Longitude/Latitude (degrees, minutes and seconds): 37 ° 29 ′ 0 ″ N / 121 ° 9 ′ 0 ″ W Total Acres: 1,295

Assessor's Parcel No.: — Section: 23, 24 Twp.: 5 S Range: 7 E Base: MDBM

Within 2 Miles: State Hwy #: 33 — Waterways: Del Puerto Creek; Salado Creek

Airports: — Railways: California Northern — Schools: Patterson Unified

Document Type:

CEQA: ☒ NOP ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec Other:

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other:

Governor's Office of Planning & Research

DEC 21 2018

STATE CLEARINGHOUSE

Local Action Type:

☐ General Plan Update ☒ General Plan Amendment ☐ General Plan Element ☐ Community Plan

☐ Specific Plan ☒ Master Plan ☐ Planned Unit Development ☒ Site Plan

☐ Rezone ☒ Prezone ☒ Use Permit ☒ Land Division (Subdivision, etc.)

☒ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other:

Development Type:

☒ Residential: Units 5481 Acres
☐ Office: Sq.ft. Acres Employees
☒ Commercial: Sq.ft. 350 K Acres Employees
☒ Industrial: Sq.ft. 6.9 M Acres Employees
☒ Educational: 14.74 acre school site
☒ Recreational: 50.24 acres parks; 29.17 acres open space
☐ Water Facilities: Type MGD

☐ Transportation: Type
☐ Mining: Mineral
☐ Power: Type MW
☐ Waste Treatment: Type MGD
☐ Hazardous Waste: Type
☒ Other: Mixed Use - 505K square feet

Project Issues Discussed in Document:

☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☒ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☒ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks
☒ Schools/Universities
☒ Septic Systems
☒ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Growth Inducement
☒ Land Use
☒ Cumulative Effects
☐ Other:

Present Land Use/Zoning/General Plan Designation:

Agriculture / "Agriculture" / "Agriculture"

Project Description: *(please use a separate page if necessary)*

The proposed project consists of the annexation of the project site into the City of Patterson and the development of residential, mixed use, commercial, industrial, school, parks, and open space uses guided by a Master Plan. The buildout potential of the Master Plan is 5,481 dwelling units, 505,000 square feet of mixed use, 350,000 square feet of commercial uses, 6,910,000 square feet of industrial uses, 50.24 acres of parks, 29.17 acres of open space, and a 14.74-acre school site.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Revised 2010

NOP Distribution List

County: Stanislaus

SCH# 2018122052

esources Agency

- [ ] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Denise Peterson
- [ ] **California Coastal Commission**
  Allyson Hitt
- [ ] **Colorado River Board**
  Elsa Contreras
- [ ] **Dept. of Conservation**
  Crina Chan
- [ ] **Cal Fire**
  Dan Foster
- [ ] **Central Valley Flood Protection Board**
  James Herota
- [ ] **Office of Historic Preservation**
  Ron Parsons

Dept of Parks & Recreation
Environmental Stewardship Section

- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve Goldbeck
- [ ] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Fish and Game

- [ ] **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Wildlife Region 1**
  Curt Babcock
- [ ] **Fish & Wildlife Region 1E**
  Laurie Harnsberger
- [ ] **Fish & Wildlife Region 2**
  Jeff Drongesen
- [ ] **Fish & Wildlife Region 3**
  Craig Weightman
- [ ] **Fish & Wildlife Region 4**
  Julie Vance
- [ ] **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6**
  Tiffany Ellis
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6 I/M**
  Heidi Calvert
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Wildlife M**
  William Paznokas
  Marine Region

Other Departments

- [ ] **California Department of Education**
  Lesley Taylor
- [ ] **OES (Office of Emergency Services)**
  Monique Wilber
- [ ] **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- [ ] **Dept. of General Services**
  Cathy Buck
  Environmental Services Section
- [ ] **Housing & Comm. Dev.**
  CEQA Coordinator
  Housing Policy Division

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  Erik Vink
- [ ] **Delta Stewardship Council**
  Anthony Navasero
- [ ] **California Energy Commission**
  Eric Knight
- [ ] **Native American Heritage Comm.**
  Debbie Treadway
- [ ] **Public Utilities Commission**
  Supervisor
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [ ] **State Lands Commission**
  Jennifer Deleong
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Cal State Transportation Agency CalSTA

- [ ] **Caltrans - Division of Aeronautics**
  Philip Crimmins
- [ ] **Caltrans – Planning HQ LD-IGR**
  Christian Bushong
- [ ] **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects

Dept. of Transportation

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- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Susan Zanchi
- [ ] **Caltrans, District 4**
  Patricia Maurice
- [ ] **Caltrans, District 5**
  Larry Newland
- [ ] **Caltrans, District 6**
  Michael Navarro
- [ ] **Caltrans, District 7**
  Dianna Watson
- [ ] **Caltrans, District 8**
  Mark Roberts
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Maureen El Harake

Cal EPA

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  - [ ] **Transportation Projects**
    Nesamani Kalandiyur
  - [ ] **Industrial/Energy Projects**
    Mike Tollstrup
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  Kevin Taylor/Jeff Esquivel
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Cindy Forbes – Asst Deputy
  Division of Drinking Water
- [ ] **State Water Resources Control Board**
  Div. Drinking Water #_____
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- [ ] **Dept. of Toxic Substances Control Reg. #_____**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

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  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
  - [ ] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** _____

_____

_____

- [ ] _____
  Conservancy

Last Updated 5/22/18

January 22, 2019

Mr. Joel Andrews
City Planner
City of Patterson
Community Development Department
1 Plaza
Patterson, CA 95363

Dear Mr. Joel Andrews:

This letter is in response to the Notice of Preparation of the Environmental Impact Report (EIR) for the Zacharias Master Plan Project (Project). The San Luis & Delta-Mendota Water Authority (SLDMWA) operates and maintains the Delta-Mendota Canal (DMC) under a transfer agreement with the United States Bureau of Reclamation (USBR). While the USBR owns the canal, it is the responsibility of the SLDMWA to ensure that any surrounding infrastructure improvements and/or development activities will not have a negative impact on our ability to operate and maintain the canal. Because a portion of this planned expansion project is located adjacent to one side of the Delta-Mendota Canal, we have comments to be considered. We are aware that this project is still in the preliminary phase, and would like the opportunity to provide comments to the EIR as well as all construction plans/phases. Below is a list of issues that may be of concern to us that we would like considered throughout the design process:

- No use of the DMC right-of-way will be allowed.
- All storm drainage shall be conveyed away from the DMC right-of-way.
- Right of way boundaries shall be designed to protect the DMC from trespassers and vandalism. Proper fencing to be installed and maintained by the new development.
- The impact of subsidence on the DMC as a result of your Projects dependence on groundwater as your water supply must be properly addressed in the EIR. The attached graph provides information on the amount of subsidence that has occurred on the DMC near the City of Patterson since 2014. The graph indicates that more than 6-inches (0.5 feet) of subsidence has occurred on the DMC between milepost 39.21 (Rogers Road) and milepost 43.24 (Marshall Road). This amount of

15990 KELSO ROAD
BYRON, CA
94514
209 832-6200
209 833-1034 FAX

- subsidence is significant and it is directly related to the amount of groundwater pumping that has occurred in the Patterson area.

The possibility of utilizing the DMC to receive surface water via a new turnout should be explored to reduce groundwater dependence. Requests for new turnouts are reviewed and approved through the USBR.

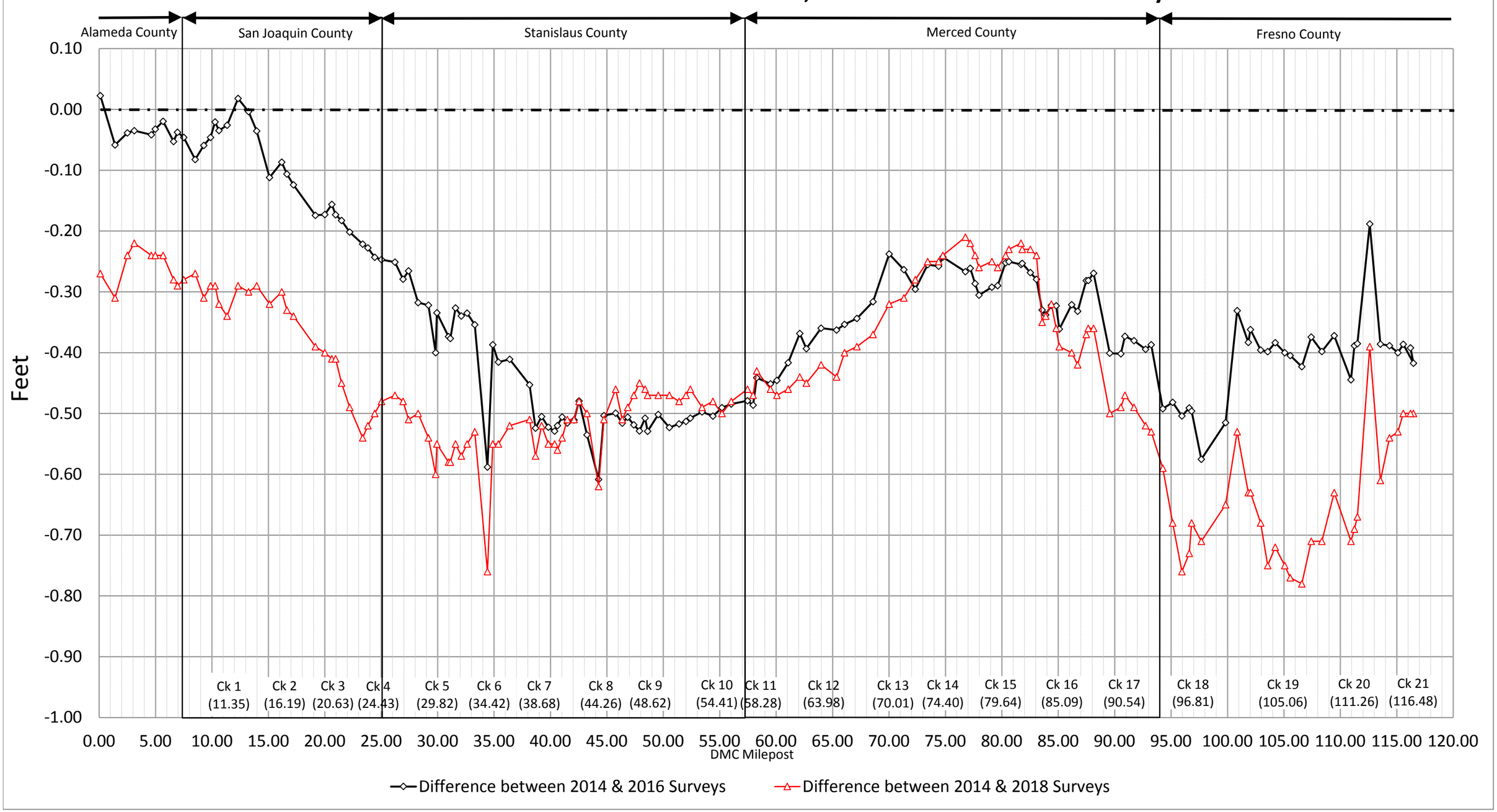
Any questions for the San Luis & Delta-Mendota Water Authority can be sent to the Planning & Engineering Department at 15990 Kelso Rd, Byron, CA 94514. If you should have any questions, please don't hesitate to contact Jaime McNeil of my staff at (209) 832-6221.

Sincerely,

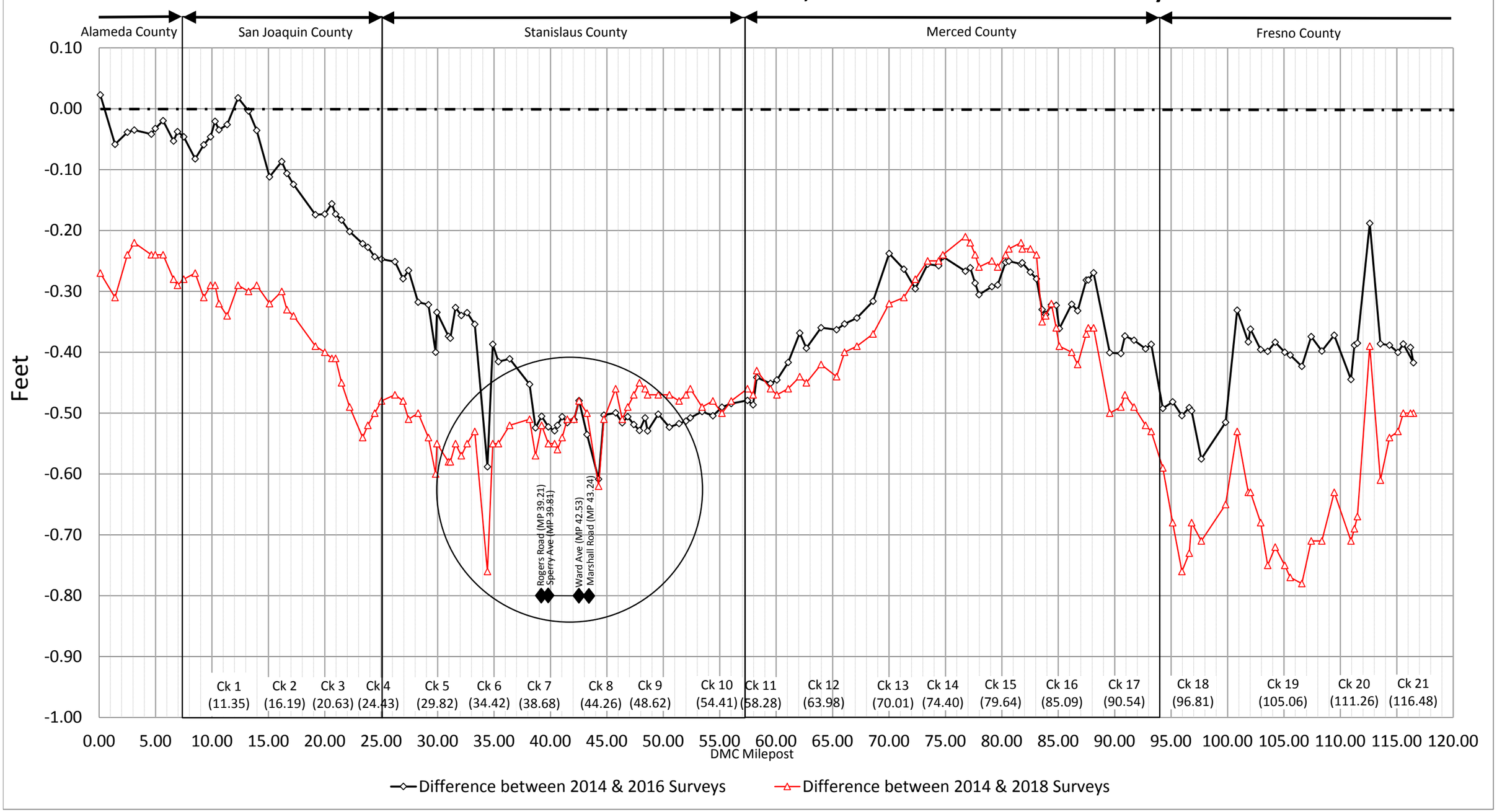
Frances Mizuno, PE
San Luis & Delta-Mendota Water Authority
Assistant Executive Director
15990 Kelso Road
Byron, CA 94514

Enclosure

Delta-Mendota Canal
Elevation Differences between 2014, 2016 & 2018 Subsidence Surveys



Delta-Mendota Canal
Elevation Differences between 2014, 2016 & 2018 Subsidence Surveys



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January 16, 2019

City of Patterson
Planning Division
Attn: Joel Andrews
1 Plaza
Patterson, CA 95363

RE: Notice of Preparation - Zacharias Master Plan

Dear Mr. Andrews:

The Turlock Irrigation District (District) acknowledges the opportunity to review and comment on the referenced project. District standards require development occurring within the District's boundary that impacts irrigation and electric facilities, to meet the District's requirements.

The District has nothing specific to add with respect to the CEQA process and preparation of the EIR. Furthermore, the District has no comments concerning irrigation facilities on the above referenced project, as it is not within the District's irrigation service area.

As noted in the NOP documentation, the District is the electric service provider for the master plan area. Ultimately, prior to development, the District shall review and approve each individual project within the master plan area to ensure compliance with District standards and electric service rules.

If you have any questions concerning irrigation system requirements, please contact me at (209) 883-8367. Questions regarding electric utility requirements should be directed to David Porath at (209) 883-8659.

Sincerely,

Todd Troglin
Supervising Engineering Technician, Civil
CF: 2019001

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BY:

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Barbara Vega
730 Rose Avenue
Patterson, CA 95363
(209) 607-3886

January 7, 2019

City of Patterson - Community Development Department
1 Plaza, P.O. Box 667
Patterson, CA 95363

Subject: Zacharias Master Plan

To Whom it May Concern,

I am strongly opposed to the City of Patterson annexing west of Ward Avenue to interstate 5 and north to Zacharias Road, otherwise known as Zacharias Master Plan. This project will provide a material impact to me and my property.

I purchased the property at 730 Rose Avenue in the 1970s because it was near town, but not too close to residential developments. I also purchased this home because it is in the country and on a dead-end road and I very much like my privacy.

There has already been one residential development built on the land on the other side of the Patterson Irrigation canal, which has brought more foot traffic down the canal that borders my property. There has been an increase in people who roam through my orchard and my land due to the proximity of this residential development. My neighbor had to put up a fence to keep people from coming through our land because they were damaging sprinkler and well lines. I anticipate that problems like this will escalate with another residential property and foot path directly behind my property across the canal.

In addition, should Rose Avenue be opened up and have a direct access into this residential area, a road would most likely go through my property, not only would I completely lose my privacy, but I would potentially lose a portion of my land. This could make my once private country property, no longer very private. No amount of money can compensate for the loss of privacy due to this residential development.

Lastly, Patterson is an agricultural community. Farmers are losing more and more land for residential developments, when the city has many homes that sit vacant. It makes no sense to build more homes.

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BY:

Thank you for your time,

Barbara Vega

Barbara Vega

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William D. Ross
Karin A. Briggs
David Schwarz

Kypros G. Hostetter
Of Counsel

Law Offices of
William D. Ross
400 Lambert Avenue
Palo Alto, California 94306
Telephone: (650) 843-8080
Facsimile: (650) 843-8093

Los Angeles Office:

11420 Santa Monica Blvd
#25532
Los Angeles, CA 90025

File No: 147/5.6

January 16, 2019

VIA ELECTRONIC TRANSMISSION
jandrews@ci.patterson.ca.us

Joel Andrews, City Planner
City of Patterson
1 Plaza
Patterson, CA 95363

Re: Comments by West Stanislaus Fire Protection District on Notice of Preparation of Environmental Impact Report for the Zacharias Master Plan Project

Dear Mr. Andrews:

This office serves as District Counsel to the West Stanislaus Fire Protection District ("District"). The District respectfully submits the following comments on the City of Patterson's ("City") issuance of a Notice of Preparation of an Environmental Impact Report for the Zacharias Master Plan Project ("Project") in advance of the Scoping Meeting to be held on January 17, 2019.

A significant issue that needs to be examined with respect to the Project's impact on public services, generally, is the several severe wildfires that have occurred throughout the State of California not only within the urban interface, but also within rural areas. The most recent example of this would be the Camp Fire in Paradise, California. Also, because the major utility provider in the affected area is PG&E, the issue of undergrounding of utilities and the adequacy of fire-flow should be analyzed in the environmental documents. This issue in of itself leads to an analysis of *how* fire services will be provided to the affected territory.

The most recent Municipal Service Review ("MSR") for the City was prepared by LAFCO on December 4, 2013. Because the MSR is over five years old, there are many potential changed circumstances relating to public services that will need to be formally addressed in any environmental review of the Project. This would include the impacts on fire protection and emergency response services.

Regarding the provision of fire services for areas anticipated for annexation by the City in 2013, Section 2.3.6 of the MSR provides:

> The West Stanislaus County Fire Protection District (Fire Protection District) provides fire protection and emergency medical services to areas outside the Patterson city limits, including the proposed SOI expansion area. The Fire Protection District would continue to provide fire protection and emergency medical services to the SOI expansion area after annexation.

Section 2.5.3 of the 2013 MSR notes that:

> The City intends to annex the proposed SOI expansion area into the City while keeping it within the West Stanislaus Fire Protection District for fire protection purposes. Because the both the Patterson Fire Department and West Stanislaus Fire Protection District currently share facilities, this arrangement would continue this practice.

As noted in the February 27, 2013 LAFCO Executive Officer's Agenda Report for the City's Sphere of Influence Modification for the Arambel-KDN Business Park Reorganization, the City and District have declared their intent to share duties and costs for providing fire services to that area upon annexation.

A condition precedent to completing any annexation is for the involved parties to negotiate a Property Tax Allocation Agreement. (Revenue & Taxation Code section 99(b)(6)). The purpose of such agreements is to allocate sufficient revenues to maintain necessary public services for proposed development without diminishing levels of service in existing communities.

As new and increased development places additional burdens on existing fire protection resources, the impact on fire and emergency responses must be addressed by the EIR, including whether there is an agreement in place that would confirm the allocation of property taxes to provide fire protection to the new development proposed by the Project. As stated above, any evaluation of fire services must involve the recent occurrences of severe wildfires in California. Therefore, the specific methods of providing fire services must be examined, including how the services will be shared and costs will be allocated in conjunction with the previous MSR.

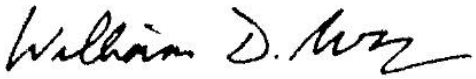
Moreover, the need for review evidencing the sufficiency of fire and life safety services is particularly important given changes to state law that have altered the approval of affordable housing from a discretionary to ministerial level. That is, fire protection should be evaluated in the context of the new "by right" authorization of affordable housing where only ministerial approval is required. Assuming costs and services would be shared, it should be analyzed how all fire and life safety approvals (e.g., plan checking, fire flow, etc.) will occur.

Thank you for the opportunity to provide these preliminary comments. The District reserves the right to submit further comments on the Project's environmental review consistent

with the California Environmental Quality Act.

Should you have any questions, please contact me.

Very truly yours,



William D. Ross

WDR:DPS

cc: Jeff Gregory, District Chief

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HERUM \ CRABTREE \ SUNTAG
ATTORNEYS

Jeanne M. Zolezzi
jzolezzi@herumcrabtree.com

January 22, 2019

VIA EMAIL

Mr. Joel Andrews
City Planner
City of Patterson
Community Development Department
Post Office Box 667
Patterson, CA 95363
jandrews@ci.patterson.ca.us

Re: Zacharias Master Plan – Notice of Preparation

Dear Mr. Andrews:

The West Stanislaus Irrigation District (**District**) has reviewed the Notice of Preparation (**NOP**) of an Environmental Impact Report (**EIR**) for the Zacharias Master Plan (**Project**) and, on behalf of the District, I provide these comments to the NOP.

Groundwater

The Project site encompasses approximately 1,226.9 acres for the development of residential, mixed use, commercial, industrial, school, parks, and open space uses which would rely solely on groundwater drawn from the Delta-Mendota Subbasin. The State has identified the Delta-Mendota Subbasin (**Basin**) as a high-priority, critically-overdrafted Subbasin. Pursuant to the Sustainable Groundwater Management Act (**SGMA**), Groundwater Sustainability Agencies (**GSA**) with in the Subbasin must adopt Groundwater Sustainability Plans (**GSP**) no later than January 1, 2020, and the Subbasin must be determined to be sustainable by the State no later than 2040.

The City of Patterson (**City**) currently obtains all of its water from the Basin. Because the Basin is critically overdrafted, the City's current groundwater usage is not sustainable. The Project will impose additional demands on the Basin. The City should not be expanding development, such as that set forth in the Project, without obtaining sources of surface water supply. The Project area currently receives surface water supplies that provide a source of groundwater recharge. The Project would eliminate surface water use and recharge, and rely exclusively on groundwater with reduced opportunities for recharge. Accordingly, the EIR for the Project should address the following issues:

1. The EIR should include groundwater modeling prepared to evaluate potential impacts to groundwater levels and groundwater quality associated with the Project, and the EIR should compile, review, evaluate, and update where needed, the available information on present and projected ground water levels. Effects on the ground water basin due to climate change-related precipitation and runoff changes should also be addressed.

2. The EIR should evaluate the impact of increased groundwater pumping for the Project on subsidence.

3. What are the impacts to the surface-groundwater interactions for the Project area/site? Will the impacts be within the management criteria for SGMA?

4. Any CEQA prepared for new wells that will serve the project should be re-evaluated in the EIR to evaluate regional impacts.

5. The EIR should address the Project's impacts on chronic Lowering of groundwater levels, the potential impact on surrounding private and public wells, as well as the economic impact on existing agricultural and private wells due to increased pumping cost associated lowering groundwater levels.

6. The EIR should address the Project's impacts on reduction in groundwater storage in the basin.

7. The EIR should address the Project's impacts on groundwater quality, and the relationship between increased groundwater use and decline in key water quality parameters (nitrates, salts, hexavalent, chromium, selenium, boron, arsenic, etc.).

8. The EIR should address the Project's impacts on the depletion of interconnected surface water, including the loss of interconnections with surface water impacting current water rights, and the impacts to groundwater dependent ecosystems (GDEs) due to declining groundwater levels.

Public Services

WSID has irrigation service and drainage facilities within the Project area. Currently, these WSID facilities are not marked on the Project drawings. The EIR must properly identify all WSID facilities, and evaluate the proper functionality of services, including, without limitation, consideration of irrigation, drainage, and flooding issues that may be caused by the Project. In the past, the WSID has experienced flooding caused by developments permitted by the City, and this issue must be adequately addressed.

Agriculture

1. The Project involves the removal of 1,226.9 acres of farmland, which currently receives surface water that serves as a source of groundwater recharge, and conversion to homes that will rely exclusively on groundwater with reduced ability to recharge resulting from development.

2. The Project area is currently dedicated to agricultural land uses. The EIR should discuss the overall impact of the Project on agricultural resources, as well as quantify the potential temporary or permanent loss of designated farmland and Williamson Act contracts which could result from the Project.

We appreciate the opportunity to comment on the referenced NOP. Questions regarding this letter and further coordination on these issues should be directed to Bobby Pierce, WSID General Manager, at (209)894-3091 or by email at bobby.pierce@weststanislausid.org.

Very truly yours,

JEANNE M. ZOLEZZI
Attorney-at-Law

cc: Mr. Robert Pierce
Mr. Vincent Lucchesi

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Appendix B:
Land Evaluation and Site Assessment Model

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B.1 - Baldwin LESA Model Worksheet

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Land Capability Classification (LCC) and Storie Index Scores

Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Vernalis Clay Loam	16.6	0.25	I		25.00	95	23.75
Zacharias Clay Loam	48.7	0.75	I		75.00	81	60.75
TOTAL	65.3	1		0	100.00	176	84.50

Total Acres

Total Class I	Total Class II	Total Class III	Total Class IV	Total Class V
65.3				

Project Size Score

	LCC Class I-II	LCC Class III	LCC Class IV-VIII
Total Acres	65.3	0	0
Project Size Scores	0	0	

Highest Project Size Score 65.3

Table 3-Proj. Size Scoring

LCC Class I-II		LCC Class III		LCC Class IV-VIII	
Acres	Score	Acres	Score	Acres	Score
80 +	100	160 +	100	320 +	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19.	30	40-59	60	40-99	20
fewer than 10	0	20-39	30	fewer than 40	0
		10-19.	10		
		fewer than 10	0		

Total Class I	Total Class II	Total Class III	Total Class IV	Total Class V
Total Acres	65.3			
Score	90	0		

TOTAL PROJECT SIZE RATING= 90

Project Portion		Water Source	Proportion	Water Availability Score		Weighted Availability Score (C x D)
	1	Irrigation District Water Only				0
	2	Groundwater only	1			0
	3	Both irrigation and ground			80	0
	4	Not irrigated at all				0
		Total	1	Total water resource score		0

Table 5. Water Resource Availability Scoring

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

in

Table 6: Surrounding Ag Land Rating

Percent of Project's Zone of Influence	Surround Ag Land Score
90-100%	100 points
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

Table 7: Surrounding Protected Resource Land Score

Percent of Project's Zone of Influence	Surround Ag Land Score
90-100%	100 points
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

Section III. Weighting of Factors and Final LESA Scoring

The California LESA Model is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors, and 50 percent from the Site Assessment factors. Individual factor weights are listed below, with the sum of the factor weights required to equal 100 percent.

Land Evaluation Factors

Land Capability Classification	25%
Storie Index Rating	25%
Land Evaluation Subtotal	**50%**

Site Assessment Factors

Project Size	15%
Water Resource Availability	15%
Surrounding Agricultural Lands	15%
Surrounding Protected Resource Lands	5%
Site Assessment Subtotal	**50%**
Total LESA Factor Weighting	**100%**

Each factor is measured separately (each on 100 point scale) and entered in the appropriate line in **Column B** of the **Final LESA Scoresheet** (Table 8). Each factor's score is then multiplied by its respective factor weight, resulting in a weighted factor score in **Column D** as indicated in Table 8. The weighted factor scores are summed, yielding a Total LESA Score (100 points maximum) for a given project, which is entered in **Line 7** of **Column D**.

Factor Name	Factor Rating (0-100 points)	X	Factor Weighting (Total=1.0)	=	Weighted Factor Rating
Land Evaluation					
1. Land Capability Classification	100		0.25		25.0
2. Storie Index Rating	84.5		0.25		21.1
	Subtotal		0.5		46.1
Site Assessment					
1. Project Size	90		0.15		13.5
2. Water Resource Availability	80		0.15		12.0
3. Surrounding Agricultural Lands	20		0.15		3.0
4. Protected Resource Lands	20		0.05		1.0
	Subtotal		0.5		29.5
				TOTAL	75.6

Table 9. California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant only if LE and SA subscores are each greater than or equal to 20 points
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points
80 to 100 Points	Considered Significant

B.2 - Zacharias LESA Model Worksheet

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Land Capability Classification (LCC) and Storie Index Scores

Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
100 Capay clay	261.9	0.22	IIs	80	17.60	35	7.70
102 Capay clay, loamy substratum	51.8	0.04	IIs	80	3.20	35	1.40
106 Capay clay, rarely flooded	84.6	0.07	IIs	80	5.6	35	2.45
126 Vernalis-Zacharias	95.3	0.08	I	100	8	81	5.67
127 Vernalis loam	293.4	0.24	I	100	24	85	20.4
128 Water	60.4	0.06		0	0	0	0
147 Zacharias gravelly clay loam	186.6	0.15	IIw	80	12	60	9
210 Cortina gravelly sandy loam	151.5	0.12	IIIs	60	7.2	48	5.76
271 Elsalado loam	27.2	0.02	I	100	2	85	1.7
TOTAL	1212.7				**79.60**		**54.08**
		1					

Total Acres

Total Class I	Total Class II	Total Class III	Total Class IV	Total Class V

Project Size Score

LCC Class I-II	LCC Class III	LCC Class IV-VIII
Total Acres	1000.8	151.5	0
Project Size Scores	100	90	

Highest Project Size Score 0

Table 3-Proj. Size Scoring

LCC Class I-II		LCC Class III		LCC Class IV-VIII	
Acres	Score	Acres	Score	Acres	Score
80 +	100	160 +	100	320 +	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19.	30	40-59	60	40-99	20
fewer than 10	0	20-39	30	fewer than 40	0
		10-19.	10		
		fewer than 10	0		

Total Class I	Total Class II	Total Class III	Total Class IV	Total Class V
Total Acres	1008	151.5		
Score	100	90		

TOTAL PROJECT SIZE RATING= 100

Project Portion		Water Source	Proportion	Water Availability Score		Weighted Availability Score (C x D)
	1	Irrigation District Water Only				0
	2	Groundwater only	1			0
	3	Both irrigation and ground			80	0
	4	Not irrigated at all				0
		Total	1	Total water resource score		0

Table 5. Water Resource Availability Scoring

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

in

Table 6: Surrounding Ag Land Rating

Percent of Project's Zone of Influence	Surround Ag Land Score
90-100%	100 points
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

Table 7: Surrounding Protected Resource Land Score

Percent of Project's Zone of Influence	Surround Ag Land Score
90-100%	100 points
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

Section III. Weighting of Factors and Final LESA Scoring

The California LESA Model is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors, and 50 percent from the Site Assessment factors. Individual factor weights are listed below, with the sum of the factor weights required to equal 100 percent.

Land Evaluation Factors

Land Capability Classification	25%
Storie Index Rating	25%
Land Evaluation Subtotal	**50%**

Site Assessment Factors

Project Size	15%
Water Resource Availability	15%
Surrounding Agricultural Lands	15%
Surrounding Protected Resource Lands	5%
Site Assessment Subtotal	**50%**
Total LESA Factor Weighting	**100%**

Each factor is measured separately (each on 100 point scale) and entered in the appropriate line in **Column B** of the **Final LESA Scoresheet** (Table 8). Each factor's score is then multiplied by its respective factor weight, resulting in a weighted factor score in **Column D** as indicated in Table 8. The weighted factor scores are summed, yielding a Total LESA Score (100 points maximum) for a given project, which is entered in **Line 7** of **Column D**.

Factor Name	Factor Rating (0-100 points)	X	Factor Weighting (Total=1.0)	=	Weighted Factor Rating
Land Evaluation					
1. Land Capability Classification	79.6		0.25		19.9
2. Storie Index Rating	54.1		0.25		13.5
	Subtotal		0.5		33.4
Site Assessment					
1. Project Size	100		0.15		15.0
2. Water Resource Availability	80		0.15		12.0
3. Surrounding Agricultural Lands	30		0.15		4.5
4. Protected Resource Lands	30		0.05		1.5
	Subtotal		0.5		33.0
				TOTAL	66.4

Table 9. California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant only if LE and SA subscores are each greater than or equal to 20 points
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points
80 to 100 Points	Considered Significant

Appendix C:
Air Quality/Energy/Greenhouse Gas Emissions Supporting Information

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Appendix C

Air Quality and Greenhouse Gas/Energy Analysis Modeling Assumptions and Results

Appendix C: Modeling Assumptions

Baldwin Zacharias Master Plan Modeling Information

Site Acreage	1227.1
Zacharias Acreage	1158.4
Baldwin Acreage	68.7

Buildout Time 20 Years

Total Project Statistics

	Gross Acreage	DU	Square Feet	Average Annual Units/SF	Avg Annual Acres
Low Density Residential	216.4	809		40.45	10.8
Medium Density Residential	536.9	3454		172.7	26.8
High Density Residential	30.5	538		26.9	1.5
				240.05	**39.2**
Mixed Use (Acres)	27.5	194	505,000	9.7	1.4
Mixed Use (SF)				25250	
General Commercial	22.2		350,000	17500	1.1
Light Industrial	317.5		6,910,000	345500	15.9
Warehouse					
Park/Trails	62.7				3.1
Open Space/Lake	13.4				0.7
Totals	**1227.1**	**4,995**	**7,765,000**		
Project Description Amounts		**5,086**			
Average Annual Development	61.4	254	388,250		
					329.7
					19.63
Baldwin Project Stats					158.63
	Gross Acreage	**DU**			151.44
Low Density Residential	65.9	305			

Includes 2.0 acres of parks, 2.0 acres for Park/basin, 1.0 acres for trails.

Distance to Downtown **2.5 Miles**

Project Description Land Use Summary

		Acres	Units	Average Acres/Year	Average DU/Year
Land Use Designation	MDR	125.3	700		
		30.9	342		
		294.4	2005		
		75.9	498		
		526.5	**3545**	26.3	177
	LDR	64.8	378		
		143.7	431		
		60.9	305		
		269.4	**1114**	13.5	56
	HDR	17.9	322		
		12.6	216		
		30.5	**538**	1.5	27
	Total All Designations	**826.4**	**5197**		
	Mixed Use Res		194		
			5391		

Turlock Irrigation District Baseline	**lbs/MWh**	**lbs/MWh**	**lbs/MWh**
2005	790	0.029	0.00667
33% RPS Mandate by 2020	519.59		
50% RPS by 2030	387.76		

						Trip Generation		
Traffic Study	**DU/kSF**		**Acres**	**Avg DU/Year**	**Avg Acres/Year**	**Weekday**	**Saturday**	**Sunday**
MDR ITE 220	343					7.32	8.14	6.28
	595							
	272							
	471							
	340							
	605							
	700							
	320							
	395							
Total	**4041**		**526.5**	**202.1**	**26.3**			
						Weekday	**Saturday**	**Sunday**
HDR ITE 221	147					5.44	4.91	4.09
	246							
	216							
Total	**609**		**30.5**	**30.5**	**1.5**			
						Weekday	**Saturday**	**Sunday**
LDR ITE 210	431					9.44	9.54	8.55
	400							
Total	**831**		**269.4**	**41.6**	**13.5**			
Total DU	**5481**		**826.4**	**274.1**	**41.3**			
			Acres			**Weekday**	**Saturday**	**Sunday**
Elem School ITE 520	500	Students		14		1.89		
Middle School ITE 522	900	Students		16		2.13		
Parks/Basin				62.7				
Open Space Lake				13.4				
						Weekday	**Saturday**	**Sunday**
Community Comm ITE 820	350	KSF		22.2		37.75	46.12	21.1
Mixed Use ITE 820	315	KSF						
Mixed Use ITE 820	190	KSF		27.5				
Total	**855**				**49.7**			

				Weekday	Saturday	Sunday
Light Industrial ITE 150 WH	2730	KSF	136.5	1.74	0.15	0.06
Light Industrial ITE 110	4181	KSF	209.05	4.96	1.99	5
Total	**6911**	KSF	345.55			
			846.9			
			826.4			
			1673.3			
			1227	317.5	19.63	
			446.3	49.7	95.98	
				367.2	62.67	
					178.28	
				188.92		

Appendix C: Construction Assumptions

Construction Schedule and Fleet Mix

Default Construction Schedule Residential

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysW	NumDays
1	Site Preparation	Site Preparation	2021/01/01	2021/02/11	5	30
2	Grading	Grading	2021/02/12	2021/05/27	5	75
3	Building Construction	Building Construction	2021/05/28	2024/03/28	5	740
4	Paving	Paving	2024/03/29	2024/06/13	5	55
5	Architectural Coating	Architectural Coating	2024/06/14	2024/08/29	5	55

Ajdusted Construction Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysW	NumDays
1	Site Preparation	Site Preparation	2021/01/01	2021/01/21	5	15
2	Grading	Grading	2021/01/22	2021/03/04	5	30
3	Building Construction	Building Construction	2021/03/05	2021/11/04	5	175
4	Paving	Paving	2021/11/05	2021/12/02	5	20
5	Architectural Coating	Architectural Coating	2021/12/03	2021/12/30	5	20

Ajdusted Equipment Usage

PhaseName	OffRoad Equipment Type	OffRoad Equipment Unit Amount	UsageHours	Days/Phase	Hours Per Phase	Adjusted Days	Adjusted Equip No.	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8	30	720	15	6	247	0.4
Site Preparation	Tractors/Loaders/Backh	4	8	30	960	15	8	97	0.37
Grading	Excavators	2	8	75	1200	30	5	158	0.38
Grading	Graders	1	8	75	600	30	3	187	0.41
Grading	Rubber Tired Dozers	1	8	75	600	30	3	247	0.4
Grading	Scrapers	2	8	75	1200	30	5	367	0.48
Grading	Tractors/Loaders/Backh	2	8	75	1200	30	5	97	0.37
Building Construc	Cranes	1	7	740	5180	175	4	231	0.29
Building Construc	Forklifts	3	8	740	17760	175	13	89	0.2
Building Construc	Generator Sets	1	8	740	5920	175	4	84	0.74
Building Construc	Tractors/Loaders/Backh	3	7	740	15540	175	13	97	0.37
Building Construc	Welders	1	8	740	5920	175	4	46	0.45
Paving	Pavers	2	8	55	880	20	6	130	0.42
Paving	Paving Equipment	2	8	55	880	20	6	132	0.36
Paving	Rollers	2	8	55	880	20	6	80	0.38
Architectural Coa	Air Compressors	1	6	55	330	20	3	78	0.48

Equipment numbers adjusted to account for shorter schedule while retaining default hours of operation.

Default Construction Schedule Industrial and Commercial

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysW	NumDays
1	Site Preparation	Site Preparation	2021/01/01	2021/01/14	5	10
2	Grading	Grading	2021/01/15	2021/02/25	5	30
3	Building Construction	Building Construction	2021/02/26	2022/04/21	5	300
4	Paving	Paving	2022/04/22	2022/05/19	5	20
5	Architectural Coating	Architectural Coating	2022/05/20	2022/06/16	5	20

Ajdusted Construction Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysW	NumDays
1	Site Preparation	Site Preparation	2021/01/01	2021/01/14	5	10
2	Grading	Grading	2021/01/15	2021/02/25	5	30
3	Building Construction	Building Construction	2021/02/26	2021/11/04	5	180
4	Paving	Paving	2021/11/05	2021/12/02	5	20
5	Architectural Coating	Architectural Coating	2021/12/03	2021/12/30	5	20

Ajdusted Equipment Usage

PhaseName	OffRoad Equipment Type	OffRoad Equipment Unit Amount	UsageHours	Days/Phase	Hours Per Phase	Adjusted Days	Adjusted Equip No.	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8	10	240	10	3	247	0.4
Site Preparation	Tractors/Loaders/Backh	4	8	10	320	10	4	97	0.37
Grading	Excavators	2	8	30	480	30	2	158	0.38
Grading	Graders	1	8	30	240	30	1	187	0.41
Grading	Rubber Tired Dozers	1	8	30	240	30	1	247	0.4
Grading	Scrapers	2	8	30	480	30	2	367	0.48
Grading	Tractors/Loaders/Backh	2	8	30	480	30	2	97	0.37
Building Construc	Cranes	1	7	300	2100	180	2	231	0.29
Building Construc	Forklifts	3	8	300	7200	180	5	89	0.2
Building Construc	Generator Sets	1	8	300	2400	180	2	84	0.74
Building Construc	Tractors/Loaders/Backh	3	7	300	6300	180	5	97	0.37
Building Construc	Welders	1	8	300	2400	180	2	46	0.45
Paving	Pavers	2	8	20	320	20	2	130	0.42
Paving	Paving Equipment	2	8	20	320	20	2	132	0.36
Paving	Rollers	2	8	20	320	20	2	80	0.38
Architectural Coa	Air Compressors	1	6	20	120	20	1	78	0.48
					23960				

Equipment numbers adjusted to account for shorter schedule while retaining default hours of operation.

Construction Energy Use

Residential

Ajdusted Construction Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays	
1	1	Site Preparation	Site Preparatio	2021/01/01	2021/01/21	5	15
2	2	Grading	Grading	2021/01/22	2021/03/04	5	30
3	3	Building Construction	Building Const	2021/03/05	2021/11/04	5	175
4	4	Paving	Paving	2021/11/05	2021/12/02	5	20
5	5	Architectural Coating	Architectural C	2021/12/03	2021/12/30	5	20

PhaseName	OffRoad Equipment Type	OffRoad Equipment Unit Amount	UsageHours	Days/Phase	Hours Per Phase	Horse Power	Load Factor	Fuel Use
Site Preparation	Rubber Tired Dc	3	8	15	360	247	0.4	4,446
Site Preparation	Tractors/Loader	4	8	15	480	97	0.37	2,328
Grading	Excavators	2	8	30	480	158	0.38	3,792
Grading	Graders	1	8	30	240	187	0.41	2,244
Grading	Rubber Tired Dc	1	8	30	240	247	0.4	2,964
Grading	Scrapers	2	8	30	480	367	0.48	8,808
Grading	Tractors/Loader	2	8	30	480	97	0.37	2,328
Building Construction	Cranes	1	7	175	1225	231	0.29	14,149
Building Construction	Forklifts	3	8	175	4200	89	0.2	18,690
Building Construction	Generator Sets	1	8	175	1400	84	0.74	5,880
Building Construction	Tractors/Loader	3	7	175	3675	97	0.37	17,824
Building Construction	Welders	1	8	175	1400	46	0.45	3,220
Paving	Pavers	2	8	20	320	130	0.42	2,080
Paving	Paving Equipme	2	8	20	320	132	0.36	2,112
Paving	Rollers	2	8	20	320	80	0.38	1,280
Architectural Coating	Air Compressor	1	6	20	120	78	0.48	468
								92,613
					15740			

.05 gallons/HP-hr from SCAQMD CEQA Guide

0.05 gal/hp-hr

Comm and Industrial

Ajdusted Construction Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparatior	Site Preparation	2021/01/01	2021/01/14	5	10
2	Grading	Grading	2021/01/15	2021/02/25	5	30
3	Building Constr	Building Construction	2021/02/26	2021/11/04	5	180
4	Paving	Paving	2021/11/05	2021/12/02	5	20
5	Architectural Cc	Architectural Coating	2021/12/03	2021/12/30	5	20

Comm and Industrial

PhaseName	OffRoad Equipment Type	OffRoad Equipment Unit Amount	UsageHours	Days/Phase	Hours Per Phase	Horse Power	Load Factor	Fuel Use
Site Preparation	Rubber Tired Dc	3	8	10	240	247	0.4	2,964
Site Preparation	Tractors/Loader	4	8	10	320	97	0.37	1,552
Grading	Excavators	2	8	30	480	158	0.38	3,792
Grading	Graders	1	8	30	240	187	0.41	2,244
Grading	Rubber Tired Dc	1	8	30	240	247	0.4	2,964
Grading	Scrapers	2	8	30	480	367	0.48	8,808
Grading	Tractors/Loader	2	8	30	480	97	0.37	2,328
Building Construction	Cranes	2	7	180	2520	231	0.29	29,106
Building Construction	Forklifts	5	8	180	7200	89	0.2	32,040
Building Construction	Generator Sets	2	8	180	2880	84	0.74	12,096
Building Construction	Tractors/Loader	5	7	180	6300	97	0.37	30,555
Building Construction	Welders	2	8	180	2880	46	0.45	6,624
Paving	Pavers	2	8	20	320	130	0.42	2,080
Paving	Paving Equipme	2	8	20	320	132	0.36	2,112
Paving	Rollers	2	8	20	320	80	0.38	1,280
Architectural Coating	Air Compressor	1	6	20	120	78	0.48	468
								141,013

Elementary School

Ajdusted Construction Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparatior	Site Preparation	2021/01/01	2020/12/31	5	10
2	Grading	Grading	2021/01/01	2021/02/11	5	30
3	Building Constr	Building Construction	2021/02/12	2022/04/07	5	300
4	Paving	Paving	2022/04/08	2022/05/05	5	20
5	Architectural Cc	Architectural Coating	2022/05/06	2022/06/02	5	20

Elementary School

PhaseName	OffRoad Equipment Type	OffRoad Equipment Unit Amount	UsageHours	Days/Phase	Hours Per Phase	Horse Power	Load Factor	Fuel Use
Site Preparation	Rubber Tired Dc	3	8	10	240	247	0.4	2,964
Site Preparation	Tractors/Loader	4	8	10	320	97	0.37	1,552
Grading	Excavators	2	8	30	480	158	0.38	3,792
Grading	Graders	1	8	30	240	187	0.41	2,244
Grading	Rubber Tired Dc	1	8	30	240	247	0.4	2,964
Grading	Scrapers	2	8	30	480	367	0.48	8,808
Grading	Tractors/Loader	2	8	30	480	97	0.37	2,328
Building Construction	Cranes	1	7	300	2100	231	0.29	24,255
Building Construction	Forklifts	3	8	300	7200	89	0.2	32,040
Building Construction	Generator Sets	1	8	300	2400	84	0.74	10,080
Building Construction	Tractors/Loader	3	7	300	6300	97	0.37	30,555
Building Construction	Welders	1	8	300	2400	46	0.45	5,520
Paving	Pavers	2	8	20	320	130	0.42	2,080
Paving	Paving Equipme	2	8	20	320	132	0.36	2,112
Paving	Rollers	2	8	20	320	80	0.38	1,280
Architectural Coating	Air Compressor	1	6	20	120	78	0.48	468
								133,042

Middle School

Ajdusted Construction Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparatior	Site Preparation	2023/01/01	2023/01/13	5	10
2	Grading	Grading	2023/01/14	2023/02/24	5	30
3	Building Constr	Building Construction	2023/02/25	2024/04/19	5	300
4	Paving	Paving	2024/04/20	2024/05/17	5	20
5	Architectural Cc	Architectural Coating	2024/05/18	2024/06/14	5	20

Middle School

PhaseName	OffRoad Equipment Type	OffRoad Equipment Unit Amount	UsageHours	Days/Phase	Hours Per Phase	Horse Power	Load Factor	Fuel Use
Site Preparation	Rubber Tired Dc	3	8	10	240	247	0.4	2,964
Site Preparation	Tractors/Loader	4	8	10	320	97	0.37	1,552
Grading	Excavators	2	8	30	480	158	0.38	3,792
Grading	Graders	1	8	30	240	187	0.41	2,244
Grading	Rubber Tired Dc	1	8	30	240	247	0.4	2,964
Grading	Scrapers	2	8	30	480	367	0.48	8,808
Grading	Tractors/Loader	2	8	30	480	97	0.37	2,328
Building Construction	Cranes	1	7	300	2100	231	0.29	24,255
Building Construction	Forklifts	3	8	300	7200	89	0.2	32,040
Building Construction	Generator Sets	1	8	300	2400	84	0.74	10,080
Building Construction	Tractors/Loader	3	7	300	6300	97	0.37	30,555
Building Construction	Welders	1	8	300	2400	46	0.45	5,520
Paving	Pavers	2	8	20	320	130	0.42	2,080
Paving	Paving Equipme	2	8	20	320	132	0.36	2,112
Paving	Rollers	2	8	20	320	80	0.38	1,280
Architectural Coating	Air Compressor	1	6	20	120	78	0.48	468
								133,042

Parks

Ajdusted Construction Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparatior	Site Preparation	2021/04/09	2021/05/06	5	20
2	Grading	Grading	2021/05/07	2021/06/17	5	30
3	Building Constr	Building Construction	2021/06/18	2021/07/29	5	30
4	Architectural Cc	Architectural Coating	2021/07/13	2021/07/14	5	2
5	Paving	Paving	2021/07/30	2021/08/12	5	10

Parks

PhaseName	OffRoad Equipment Type	OffRoad Equipment Unit Amount	UsageHours	Days/Phase	Hours Per Phase	Horse Power	Load Factor	Fuel Use
Site Preparation	Rubber Tired Dc	3	8	20	480	247	0.4	5,928
Site Preparation	Tractors/Loader	4	8	20	640	97	0.37	3,104
Grading	Excavators	2	8	30	480	158	0.38	3,792
Grading	Graders	1	8	30	240	187	0.41	2,244
Grading	Rubber Tired Dc	1	8	30	240	247	0.4	2,964
Grading	Scrapers	2	8	30	480	367	0.48	8,808
Grading	Tractors/Loader	2	8	30	480	97	0.37	2,328
Building Construction	Cranes	0	7	30	0	231	0.29	0
Building Construction	Forklifts	1	8	30	240	89	0.2	1,068
Building Construction	Generator Sets	1	8	30	240	84	0.74	1,008
Building Construction	Tractors/Loader	1	7	30	210	97	0.37	1,019
Building Construction	Welders	0	8	30	0	46	0.45	0
Architectural Coating	Air Compressor:	1	6	2	12	78	0.48	47
Paving	Pavers	2	8	10	160	130	0.42	1,040
Paving	Paving Equipme	2	8	10	160	132	0.36	1,056
Paving	Rollers	2	8	10	160	80	0.38	640
								35,045

Total Fuel Use (gallons) **534,755**

Construction VMT

Residential	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	15	18	270	0	0	0	0	10.8	7.3	20
Grading	30	20	300	0	0	0	0			
Building Construction	175	167	2505	28	420	0	0			
Architectural Coating	20	15	225	0	0	0	0			
Paving	20	33	495	0	0	0	0			
Totals		**253**	**3795**	**28**	**420**	**0**	**0**			
								Total		
VMT/Year			40,986		3,066		0	**44,052**		

Comm/Industrial	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	10	18	270	0	0	0	0	10.8	7.3	20
Grading	30	20	300	0	0	0	0			
Building Construction	180	332	4980	131	1965	0	0			
Architectural Coating	20	15	225	0	0	0	0			
Paving	20	66	990	0	0	0	0			
Totals		**451**	**6765**	**131**	**1965**	**0**	**0**			
								Total		
VMT/Year			73,062		14,345		0	**87,407**		

Elementary School	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	10	18	270	0	0	0	0	10.8	7.3	20
Grading	30	20	300	0	0	0	0			
Building Construction	300	256	3840	100	1500	0	0			
Architectural Coating	20	15	225	0	0	0	0			
Paving	20	51	765	0	0	0	0			
Totals		**360**	**5400**	**100**	**1500**	**0**	**0**			
								Total		
VMT/Year			58,320		10,950		0	**69,270**		

Middle School	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	10	18	270	0	0	0	0	10.8	7.3	20
Grading	30	20	300	0	0	0	0			
Building Construction	300	293	4395	114	1710	0	0			
Architectural Coating	20	15	225	0	0	0	0			
Paving	20	59	885	0	0	0	0			
Totals		**405**	**6075**	**114**	**1710**	**0**	**0**			
								Total		
VMT/Year			65,610		12,483		0	**78,093**		

Parks	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	20	18	270	0	0	0	0	10.8	7.3	20
Grading	30	20	300	0	0	0	0			
Building Construction	30	1143	17145	446	6690	0	0			
Architectural Coating	2	15	225	0	0	0	0			
Paving	10	229	3435	0	0	0	0			
Totals		**1425**	**21375**	**446**	**6690**	**0**	**0**			
								Total		
VMT/Year			230,850		48,837		0	**279,687**		

Construction VMT Summa	VMT/Year	VMT/Buildout
Residential	44,052	881,040
Comm/Industrial	87,407	1,748,130
Elementary School		69,270
Middle School		78,093
Parks		279,687
Total VMT at Buildout		**3,056,220**
Average MPG for Stanislaus		21.1
Fuel Use		144,845

Appendix C: References

Refererences used in Air Quality Section

Air Now. 2015. AQI Calculator: AQI to Concentration. Website: http://www.airnow.gov/index.cfm?action=resources.aqi_conc_calc. Accessed May 2, 2017.

California Air Resources Board (ARB). 1998. The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Website: www.arb.ca.gov/toxics /dieseltac/factsht1.pdf.

California Air Resources Board (ARB). 2009. California Air Resources Board. Vinyl Chloride. Website: https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health. Accessed December 30, 2019.

California Air Resources Board (ARB). 2009b. The California Almanac of Emissions and Air Quality—2009 Edition. Website: https://www.arb.ca.gov/aqd/almanac/almanac09/almanac2009 all.pdf.

California Air Resources Board (ARB). 2019. Area Designation Maps/State and National. October 24. Website: https://ww3.arb.ca.gov/desig/adm/adm.htm. Accessed February 25, 2020.

California Air Resources Board (ARB). 2020. Modesto-14th Street Station and Turlock-S Minaret Street Station. Website: https://www.arb.ca.gov/adam/trends/trends1.php. Accessed February 25, 2020.

California Department of Conservation, Division of Mine Reclamation. 2000. A General Location Guide for Ultramafic Rocks in California—Areas More likely to Contain Naturally Occurring Asbestos. August. Website: https://www.conservation.ca.gov/cgs/Pages/HazardousMinerals/asbestos2.aspx. Accessed December 2, 2019.

California Department of Public Health (CDPH). 2018. Epidemiologic Summary of Coccidiodomycosis in California in 2017. Last Updated August 18, 2018. Website: https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2018.pdf

California Environmental Protection Agency. 2002. Office of Environmental Health Hazard Assessment. Health Effects of Diesel Exhaust. Website: https://oehha.ca.gov/media/downloads/calenviroscreen/indicators/diesel4-

National Toxicology Program. 2011. Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. June 10. Benzene. Website: http://ntp.niehs.nih.gov/ntp/roc/twelfth/profiles/Benzene.pdf. Accessed December 31, 2019.

National Toxicology Program. 2016. Report on Carcinogens, Fourteenth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles. Website: https://ntp.niehs.nih.gov/ntp/roc/content/profiles/dieselexhaustparticulates.pdf. Accessed July 30, 2018.

San Joaquin Valley Air Pollution Control District. 2015a. Guide for Assessing and Mitigated Air Quality Impacts. March. Website: http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf. Accessed June 2, 2016 and

South Coast Air Quality Management District (SCAQMD). 2016. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin. February. Website http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-

South Coast Air Quality Management District (SCAQMD). 2007. Odor Detection, Mitigation and Control Technology Forum and Roundtable Discussion. October. Website: http://www.aqmd.gov/docs/default-source/technology-research/Technology-Forums/odorforumsummary.pdf. Accessed January 9, 2020.

Stanislaus Association of Governments. 2018. 2018 Regional Transportation Plan and Sustainable Communities Strategy. Website: http://www.stancog.org/rtp.shtm. Accessed March 30, 2020.

United States Environmental Protection Agency (EPA). 2003. Particle Pollution and your Health. EPA-452/F-03-001. September. Website: https://www3.epa.gov/airnow/particles-bw.pdf. Accessed December 30, 2019.

United States Environmental Protection Agency (EPA). 2009. Ozone and your Health EPA-456/F-09-001. February. Website: https://www3.epa.gov/airnow/ozone-c.pdf. Accessed December 30, 2019.

United States Environmental Protection Agency (EPA). 2009. Fact Sheet, Proposed Revisions to the National Ambient Air Quality Standards for Nitrogen Dioxide. July. Website: https://www.gpo.gov/fdsys/pkg/FR-2009-07-15/pdf/E9-15944.pdf. Accessed December 31, 2019.

United States Environmental Protection Agency (EPA). 2010. Technology Transfer Network, Air Toxics Website. Page updated December 21, 2018. Health Effects Notebook for Hazardous Air Pollutants. December. Website: https://www.epa.gov/haps/health-effects-notebook-hazardous-air-pollutants. Accessed December 31, 2019.

United States Environmental Protection Agency (EPA). 2017. Indoor Air Quality. Sources of Indoor Air Pollution—Organic Gases (Volatile Organic Compounds—VOCs). November. Website: www.epa.gov /iaq/voc.html.

United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017–2025 Cars and Light Trucks. August. Website: https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/fria_2017-2025.pdf. Accessed January 9, 2020.

References Used in the Greenhouse Gas/Energy Section

Advanced Mobility Group (AMG). 2020. Traffic Impact Study for Proposed Zacharias and Baldwin Master Plan.

CalAdapt. 2019. Local Climate Snapshots. Website: http://cal-adapt.org/tools/factsheet/. Accessed February 25,

California Building Standards Commission (CBSC) 2013. California Building Standards Code, California Code of Regulations Title 24, Part 11. Website: http://www.bsc.ca.gov/Home/CALGreen.aspx. Accessed February 5, 2020.

California Air Pollution Control Officers Association (CAPCOA). 2008. CEQA and Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. Website: http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White- Paper.pdf. Accessed December 18, 2011.

California Air Resources Board (ARB). 2007. Staff Report. California 1990 Greenhouse Gas Level and 2020 Emissions Limit. November 16, 2007. Website: www.arb.ca.gov/cc/inventory/pubs/reports/staff_report_1990_level.pdf. Accessed February 14, 2017.

California Air Resources Board (ARB). 2008 (includes edits made in 2009). Climate Change Scoping Plan, a framework for change. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

California Air Resources Board (ARB). 2011c. Status of Scoping Plan Recommended Measures. Website: www.arb.ca.gov/cc/scoping plan/sp_measures_implementation_timeline.pdf. Accessed February 14, 2017.

California Air Resources Board (ARB). 2013e. Facts About the Clean Cars Program. Website: http://www.arb.ca.gov/msprog/zevprog/ factsheets/advanced_clean_cars_eng.pdf. Accessed February 14, 2017.

California Air Resources Board (ARB). 2013d. Clean Car Standards—Pavley, Assembly Bill 1493. Website: http://www.arb.ca.gov/cc/ ccms/ccms.htm. Accessed February 14, 2017.

California Air Resources Board (ARB). 2015c. Short-Lived Climate Pollutant Reduction Strategy, Concept Paper. May. Website: http://www.arb.ca.gov/cc/shortlived/concept_paper.pdf. Accessed June 3, 2017.

California Air Resources Board (ARB). 2015. ARB Emissions Trading Program. Website: http://www.arb.ca.gov/cc/capandtrade/guid ance/cap_trade_overview.pdf. Accessed February 14, 2017.

California Air Resources Board (ARB). 2015e. Low Carbon Fuel Standard Regulation. Website: http://www.arb.ca.gov/regact/2015/lcfs2015/lcfs2015.htm. Accessed September 22, 2017.

California Air Resources Board (ARB). 2017. New Release: California and China Team Up to Push for Millions More Zero-emission Vehicles. Website: https://www.arb.ca.gov/newsreel/newsrelease.php?id=934. Accessed June 27,

California Air Resources Board (ARB). 2017c. The 2017 Climate Change Scoping Plan Update, the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target. January 17, 2017. Website: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf. Accessed February 5, 2020.

California Air Resources Board (ARB). 2010b. Pavley 1 + Low Carbon Fuel Standard Postprocessor Version 1.0 User's Guide. Website: https://www.arb.ca.gov/cc/sb375/tools/pavleylcfs-userguide.pdf. Accessed February 5, 2020.

California Air Resources Board (ARB). 2013f. Initial Statement of Reasons for Proposed Rulemaking, Proposed GHG Regulations for Medium and Heavy-Duty Engines and Vehicles. Website: https://www.arb.ca.gov/regact/2013/hdghg2013/hdghg2013isor.pdf. Accessed February 5, 2020.

California Climate Change Center. (CCCC). 2006. Our Changing Climate, Assessing the Risks to California: A Summary Report from the California Climate Change Center. July 2006. CEC-500-2006-077. Website: www.scc.ca.gov/webmaster/ftp/pdf/climate_change /assessing_risks.pdf. Accessed June 2, 2018.

California Climate Change Center (CCCC). 2009. Climate Change Scenarios and Sea Level Rise Estimates for the California 2009. Climate Change Scenarios Assessment. Final Paper. CEC-500-2009-014-F. Website: http://www.energy.ca.gov/2009publications/CEC-500-2009-014/CEC-500-2009-014-F.PDF. Accessed June 5, 2018.

California Department of Water Resources (CDWR). 2013. California Water Plan Update 2013, Chapter 3 Urban Water Use Efficiency. Website: https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates. A No

California Department of Water Resources (CDWR). 2018. California Water Plan Update 2018. Website: https://water.ca.gov/Programs/California-Water-Plan/Update-2018. Accessed February 5, 2020.

California Energy Commission (CEC). 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004. Draft Final Report. CEC-600-2006-013-D. Website: http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-D.PDF. Accessed June 5, 2018.

Risks from Climate Change in California. Website: http://www.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf. Accessed June 5, 2018.

California Energy Commission (CEC) 2013. Supply and Demand of Natural Gas in California. Website: https://www.energy.ca.gov/almanac/naturalgas_data/overview.html

California Energy Commission (CEC). 2016. California Gasoline, Data, Facts, and Statistics. Website: https://www.energy.ca.gov/almanac/transportation_data/gasoline/

Presentation. Website: http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/final_rulemaking_documents/31_2013_Adop tion_Hearing_Presentation_5-31.pdf. Accessed October 19, 2015.

California Energy Commission (CEC). 2016. 2016 Building Energy Efficiency Standards Frequently Asked Questions. Website: http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf. Accessed December 1, 2016.

California Energy Commission. 2016 Building Energy Efficiency Standards for Residential and Nonresidential Buildings. Website: https://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf

Will Cut Residential Energy Use by 25 Percent, Save Water, and Reduce Greenhouse Gas Emissions. No longer available on CEC website.

California Energy Commission (CEC). 2016. 2016 Building Energy Efficiency Standards Frequently Asked Questions. Website: http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf. Accessed February 5, 2020.

California Energy Commission (CEC). 2018b. 2019 Building Energy Efficiency Standards Frequently Asked Questions. Website: https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf. Accessed February 5, 2020.

Act of 2015. Website: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350. Accessed September 28, 2017

California Legislative Information (California Leginfo). 2018. Senate Bill 100 California Renewables Portfolio Standard Program. Website: https://leginfo.legislature.ca.gov/faces /billNavClient.xhtml?bill_id=201720180SB100.

California Natural Resources Agency (CNRA). 2009. 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008. Website: http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf. Accessed June 5, 2018.

Center for Climate and Energy Solutions (C2ES). 2015a. Multi-State Climate Initiatives. Website: http://www.c2es.org/us-states-regions/regional-climate-initiatives. Accessed July 12, 2018.

Center for Climate and Energy Solutions (C2ES). 2015b. Outcomes of the U.N. Climate Change Conference. Website: http://www.c2es.org/international/negotiations/cop21-paris/summary. Accessed April 19, 2016.

Centers for Disease Control and Prevention (CDC). 2010. Department of Health and Human Services, the National Institute for Occupational Safety and Health. Carbon Dioxide. Website: www.cdc.gov/niosh/npg/npgd0103.html.

City of Patterson. 2009. The City of Patterson Sustainability Plan. Website: https://pdfs.semanticscholar.org/2bf8/0829dd89f54544afc12f6876b19f38e04011.pdf. Accessed April 5, 2020.

City of Patterson. 2010. Air Resources and Climate Change. November 30. Website: https://www.ci.patterson.ca.us/DocumentCenter/View/149. Accessed February 25, 2020.

City of Patterson. 2002. City of Patterson Design Guidelines. Website: https://www.ci.patterson.ca.us/DocumentCenter/View/145/Community-Design-Guidelines-and-Downtown-Physical-Design-Plan-PDF?bidId=. Accessed April 3, 2020.

Intergovernmental Panel on Climate Change (IPCC). 2007a. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller [eds.]). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Website:

Intergovernmental Panel on Climate Change (IPCC). 2007b. Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Core Writing Team, Pachauri, R.K. and Reisinger, A. [eds.]). IPCC, Geneva, Switzerland. Website: www.ipcc.ch/publications_ and_data/ar4/syr/en/contents.html. Accessed June 5, 2018.

Intergovernmental Panel on Climate Change (IPCC). 2014. Frequently Asked Questions. Website: https://www.ipcc-nggip.iges.or.jp/faq/FAQ.pdf. Accessed March 13, 2019.

Institute of Transportation Engineers (ITE). 2017. Trip Generation Manual, 10th Edition

Moser et al. 2009. Moser, Susie, Guido Franco, Sarah Pittiglio, Wendy Chou, Dan Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2008-071. Website:

National Aeronautics and Space Administration (NASA). 2015. NASA—Global Climate Change, Vital Signs of a Planet. Website: http://climate.nasa.gov/causes/. Accessed August 21, 2016.

Occupational Safety and Health Administration (OSHA). 2003. United States Department of Labor. Safety and Health Topics: Methane. Website: www.osha.gov/dts/chemicalsampling/data/CH_250700.html. Accessed August

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2008. Climate Action Plan. Website: http://www.valleyair.org/programs/CCAP/CCAP_menu.htm. Accessed February 5, 2020.

Seinfeld, J.H. and Pandis, S.N. 2006. Atmospheric Chemistry and Physics: From Air Pollution to Climate Change, 2nd Edition. New York. John Wiley & Sons.

Stanislaus County. 2013. Stanislaus Countywide Regional Community Greenhouse Gas Inventory. July. Website: http://www.stancounty.com/planning/pl/StanRST-Docs/County/STANISLAUS%20COUNTY%20GHG%20REPORT.pdf. Accessed February 25, 2020.

United States Energy Information Administration (USEIA) 2017. California State Profile and Energy Estimates. Website: https://www.eia.gov/state/?sid=CA

United States Environmental Protection Agency (EPA). 2009a. Ozone and your Health. EPA-456/F-09-001. Website: http://www.epa.gov/airnow/ozone-c.pdf. Accessed August 21, 2016.

United States Environment Protection Agency. Summary of the Energy Independence and Security Act. Website: https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act

U.S. Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. Website: http://www.epa.gov/otaq/climate/documents/420f12051.pdf. Accessed August 21, 2016.

U.S. Environmental Protection Agency (EPA). 2016. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014. EPA 430-R-16-002. Website: https://www.epa.gov/sites/production/files/2017-04/documents/us-ghg-inventory-2016-main-text.pdf. Accessed June 2, 2018.

United Nations Environmental Program/GRID-Arendal (UNEP/GRID-Arendal). 2005. GRID-Arendal Annual Report. Website: https://cld.bz/bookdata/tRoONat/basic-html/page-1.html. Accessed June 2, 2018.

The White House. Statement by President Trump on the Paris Climate Accord. Website: https://www.whitehouse.gov/the-press-office/2017/06/01/statement-president-trump-paris-climate-accord.

Appendix C: Emission Summary

Baldwin Zacharias MP Emission Summary

				Tons per Year			
Construction Emissions Unmitigated Annual	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM10 (exh)**	**PM2.5**
Residential (Average Annual)	2.24	9.28	8.26	0.02	1.25	0.47	0.79
Commercial/Industrial (Average Annual)	1.85	5.32	4.56	0.01	0.76	0.21	0.39
Subtotal	**4.09**	**14.60**	**12.82**	**0.03**	**2.01**	**0.68**	**1.18**
Middle School (Highest Year)	0.38	3.35	3.27	0.01	0.67	0.11	0.30
Park	0.21	2.05	1.50	0.00	0.56	0.06	0.26
Subtotal	**0.59**	**5.40**	**4.77**	**0.01**	**1.23**	**0.17**	**0.56**
Combined Total for Max Year	**4.68**	**20.00**	**17.59**	**0.04**	**3.24**	**0.85**	**1.73**
Emissions after Compliance With Rule 9510 ISR	**4.68**	**16.00**	**17.59**	**0.04**	**2.77**	**0.47**	**1.73**
20% Nox Reduction and 45% PM10 Exh Reduction							

				Tons Per Year		
Operational Emissions (Unmitigated) Buildout	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Residential	50.14	36.40	259.23	0.90	70.25	37.75
Commercial/Industrial	41.38	116.37	78.83	0.63	48.87	13.53
Elementary School	0.30	0.45	0.83	0.00	0.56	0.15
Middle School	0.70	0.95	1.83	0.01	1.17	0.32
Parks	0.18	0.49	1.56	0.00	0.35	0.10
Total	**92.70**	**154.66**	**342.29**	**1.54**	**121.20**	**51.85**
Emissions after Compliance With Rule 9510 ISR	**92.70**	**103.01**	**342.29**	**1.54**	**60.60**	**51.85**
33% Nox Reduction and 50% PM10 Reduction						

				Tons Per Year		
Operational Emissions (Mitigated) Buildout	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Residential	33.13	32.94	102.54	0.37	42.21	11.95
Commercial/Industrial	41.17	114.55	74.86	0.59	45.53	12.62
Elementary School	0.44	0.74	2.19	0.01	0.53	0.15
Middle School	0.30	0.45	0.84	0.00	0.53	0.14
Parks	0.18	0.49	1.56	0.00	0.35	0.10
Total	**75.22**	**149.16**	**181.98**	**0.98**	**89.14**	**24.96**

Construction Emissions for Baldwin MP Only

		Tons per Year					
Construction Emissions Unmitigated Annual		**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
	2021	0.45	4.55	3.30	0.01	1.12	0.61
	2022	**0.29**	**2.52**	**2.58**	**0.01**	**0.25**	**0.14**
	2023	**0.26**	**2.26**	**2.52**	**0.01**	**0.23**	**0.13**
	2024	**0.25**	**2.14**	**2.50**	**0.01**	**0.23**	**0.12**
	2025	**0.21**	**1.85**	**2.36**	**0.01**	**0.19**	**0.10**
	2026	**2.26**	**0.18**	**0.31**	**0.00**	**0.02**	**0.01**
Highest Emissions in Any Year		**2.26**	**4.55**	**3.30**	**0.01**	**1.12**	**0.61**

Operations Baldwin MP Only 2021

	Tons per Year					
	ROG	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Unmitigated Operations	3.56	4.32	15.33	0.04	3.22	0.92
Mitigated Operations	3.53	4.14	14.63	0.04	3.00	0.86

Operations Baldwin MP Only 2040

	Tons per Year					
	ROG	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Unmitigated Operations	4.17	2.58	19.08	0.07	5.18	2.89
Total with ISR Reduction	**4.17**	**1.72**	**19.08**	**0.07**	**2.59**	**2.89**

Operations	Pounds per Day					
Maximum Daily Emissions (Max Daily Per Phase)	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
	14.06	3.07	26.40	0.02	0.36	0.36
	0.24	2.01	0.86	0.01	0.16	0.16
	0.38	1.41	5.51	0.01	1.25	0.34
	14.68	**6.50**	**32.77**	**0.05**	**1.78**	**0.87**
Fraction Onsite mobile within 0.5 Mi.		0.068				

Max Daily Construction Assumptions

	Acres	Units	Limiting Pollutant	Const Phase	Emissions lbs/day Unmitigated
Baldwin Residential	65.9	350 DU	Nox	Grading	46.46
Shopping Center	22.2	350 KSF	Nox	Grading	46.45
Industrial Warehouse	23	500 KSF	Nox	Grading	45.45
Middle School	16	900 Students	Nox	Grading	34.56

Individual projects could double the default work intensity and not exceed the SJVAPCD daily screening threshold for requiring dispersion modeling
For example, the phase schedule could be shortened by half which would double the amount of equipment needed to accomplish the same work.
Two adjacent projects could be grading at the default rates and not exceed the 100 pound per day threshold without mitigation.

ROG does not have a concentration based emission standard; therefore, no signficant impact would occur for this pollutant.
CO is the second highest pollutant at 33 lbs/day and could increase by 3 times without exceeding the screening threshold.

Max Daily Construction Emissions **Lbs/Day**

Baldwin Residential Default Sched.	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
2021	4.28	46.46	31.46	0.06	20.26	11.85
2022	2.25	19.38	19.88	0.04	1.95	1.08
2023	2.06	17.37	19.38	0.04	1.84	0.97
2024	1.93	16.38	19.07	0.04	1.75	0.89
2025	1.80	15.36	18.77	0.04	1.66	0.81
2026	59.78	8.61	14.86	0.02	0.54	0.42
Maximum Any Year	**59.78**	**46.46**	**31.46**	**0.06**	**20.26**	**11.85**

Shopping Center Default Sched 22 ac 350 KSF **Lbs/Day**

	ROG	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
2021	4.29	46.45	31.69	0.10	8.34	4.57
2022	118.67	32.81	30.21	0.10	4.19	1.21
Maximum Any Year	**118.67**	**46.45**	**31.69**	**0.10**	**8.34**	**4.57**

Industrial Warehouse Default Sched 23 ac 500 ksf **Lbs/Day**

	ROG	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
2021	4.37	45.45	33.58	0.11	8.34	4.57
2022	161.64	33.66	31.93	0.11	4.67	1.34
Maximum Any Year	**161.64**	**45.45**	**33.58**	**0.11**	**8.34**	**4.57**

Middle School Default Sched 16 ac 900 Student

		Lbs/Day					
		ROG	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
	2023	3.40	34.56	28.62	0.08	8.34	4.57
	2024	44.61	23.25	25.22	0.08	3.24	0.92
Maximum Any Year		**44.61**	**34.56**	**28.62**	**0.08**	**8.34**	**4.57**

Max Daily Operational Emissions

	Lbs/Day					
Baldwin Residential	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	14.06	3.07	26.40	0.02	0.36	0.36
Energy	0.24	2.01	0.86	0.01	0.16	0.16
Mobile	0.38	1.41	5.51	0.01	1.25	0.34
	14.68	**6.50**	**32.77**	**0.05**	**1.78**	**0.87**
Onsite mobile within 0.5 Mi.		0.068				

	Lbs/Day					
Shopping Center	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	9.11	0.00	0.04	0.00	0.00	0.00
Energy	0.11	1.01	0.85	0.01	0.08	0.08
Mobile	2.22	16.37	16.39	0.07	4.22	1.17
	11.44	**17.38**	**17.27**	**0.08**	**4.30**	**1.25**
Onsite mobile within 0.5 Mi.		0.068				

	Lbs/Day					
Industrial Warehouse	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	11.76	0.00	0.05	0.00	0.00	0.00
Energy	0.27	2.43	2.04	0.01	0.18	0.18
Mobile	0.14	1.08	1.39	0.01	0.38	0.38
	12.17	**3.51**	**3.48**	**0.02**	**0.56**	**0.56**
Onsite mobile within 0.5 Mi.		0.068				

	Lbs/Day					
Middle School	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	2.95	0.00	0.09	0.00	0.00	0.00
Energy	0.08	0.71	0.59	0.00	0.05	0.05
Mobile	0.24	0.57	2.12	0.01	0.63	0.17
	3.27	**1.28**	**2.80**	**0.01**	**0.68**	**0.22**
Onsite mobile within 0.5 Mi.		0.068				

ROG provided for information only. There is no concentration based health standard for ROG, so dispersion modeling is not required.

GHG Targets

State Target for 2020 (MMTCO2e)	431.00			
State Target for 2030 (MMTCO2e)	260.00			
State Population (2030 Scoping Plan projection)	44,085,600	**2040**	43,946,643	
Per Capita Emissions - all sources	5.90		4.58	

	MMTCO2e	**2030 Per Capita**
State 2030 Inventory with Ag, High GWP, Industrial, and 6 MMT from Transp. Removed	158.52	3.75

State Target for 2050 from 2017 Scoping Plan		**Percent Reduction 2020-2050**	**Avg Annual Reduction**	**Reductions needed by 2040**	**Reductions Needed (MMTCO2e)**	**2040 Statewide Inventory**	**2040 Dev Inventory**
2050 Per Capita	2.00					4.58	2.79
2050 Inventory (80% below 1990 levels)	86.20	**0.80**	**0.027**	**0.53**	229.87	**201.13**	122.63
2050 Pop Projection DOF Report P-1	44,856,461						
2040 Pop Projection DOF Report P-1	43,946,643						
2030 Pop Projection DOP Report P-1	42,263,654						
2050 Per Capita with Newest Projections	1.92						

Construction GHG Emissions

Land Use Category	**Average Annual (Tons/Year CO2e)**	**Cumulative Tons CO2e 20 years**	**Year 1**	**Year 2**	**Total**
Residential	1,313.58	26,271.64			
Commercial/Industrial	1,042.00	20,839.93			
Elementary School		1,130.04	870.95	259.09	1,130.04
Middle School		1,204.33	893.02	311.31	1,204.33
Parks		445.91			
Total		**49,891.85**			
Amortized over 30 years		**1,663.06**			

Operational GHG Mitigated	Residential MTCO2e/ year	Commercial /Industrial MTCO2e/ year	Elem School MTCO2e/ year	Middle School MTCO2e/ year	Parks MTCO2e/ year	All Land Uses MTCO2e/ year	Inventory Fraction
Area	2,456.58	0.15	0.01	0.02	0.00	2,456.76	0.02
Energy	10,890.79	25,223.25	111.41	273.73	0.00	36,499.17	0.32
Mobile	24,452.97	42,289.48	315.50	694.86	198.30	67,951.11	0.59
Waste	1,129.54	3,261.97	34.42	82.60	2.03	4,510.55	0.04
Water	773.65	3,100.15	3.79	8.53	36.85	3,922.96	0.03
Total	**39,703.52**	**73,875.00**	**465.12**	**1,059.74**	**237.18**	**115,340.55**	**1.00**
Amortized Construction Emissions						**1,663.06**	
Total with Construction						**117,003.61**	
Per Capita Res Only	**1.99**			**Project Per Capita**		**5.85**	
Population	19,988			**2040 Target**		**2.79**	
Employees	8,670						
Population and Employees	28,658			Reductions Required		55,775	MTCO2e
				Percent reduction needed		0.48	

	MTCO2e/ year	MTCO2e/ year	MTCO2e/ year	MTCO2e/ year	MTCO2e/ year	MTCO2e/ year
Mobile without LCFS	30,566.21	52,861.85	394.37	868.58	247.87	84,938.89
Mobile with 20% LCFS	24,452.97	42,289.48	315.50	694.86	198.30	67,951.11

Baldwin MP GHG Construction

	2021	601.41
	2022	514.08
	2023	507.68
	2024	507.16
	2025	462.88
	2026	47.09
Total		2,640.31
Amortized over 30 Years		88.01

Baldwin MP GHG Mitigated 2040

	MTCO2e/ year
Area	136.70
Energy	871.05
Mobile	1,721.50
Waste	118.40
Water	43.05
Total	**2,890.71**
Amortized Construction Emissions	**88.01**
	2,978.72
Per Capita	**3.42**
Population (CalEEMod)	**872.00**
Mobile without LCFS	2,151.88
Mobile with 20% LCFS	1,721.50

Energy Use at Buildout	**Electricity kWh/yr**	**Nat Gas kBTU/yr**
Residential SFR	2819010	20,422,400
Residential Condo/Townhouse	22,056,800	68,570,100
Resdiential Apts	2,819,010	8,165,180
Total Residential	**27,694,820**	**97,157,680**
Rate/Unit	5,053	17,726
Gen Light Industrial	35,996,400	86,546,700
Warehouse No Rail	67,867,800	404,040
Regional Shopping Center	6,771,600	9,071,550
Parking	2,866,250	0
Elementary School	283,833	1,040,030
Parking	30,492	0
Middle School	718,419	2,632,440
Parking	30,492	0
Total Nonresidential	**114,565,286**	**99,694,760**
Rate/SF	**14.75**	**12.84**
Total	**142,260,106**	**196,852,440**

VMT at Buildout	VMT	MPG	
Residential	110,113,270		
Commercial/Industrial	118,661,989		
Elementary School	1,385,639		
Middle School	2,866,009		
Parks	868,071		
	233,894,978	**21.1**	**11,085,070**

Water Consumption

Land Use	**Mgal/Yr Indoor**	**Mgal/Yr Outdoor**	**Mgal/Yr Total**
Apartments	31.74	20.01	
Condos/Townhomes	210.63	132.79	
Single Family Housing	43.31	27.31	
	285.69	**180.11**	
General Light Industrial	773.49	0.00	
Warehouse-no rail	505.05	0.00	
Regional Shopping Center	83.41	31.05	
	1,361.94	**31.05**	
Elmentary School	**0.97**	**2.49**	
Middle School	**1.75**	**4.49**	
Parks	0.00	**59.55**	
Total Water Use at Buildout	**1,650.35**	**277.69**	**1,928.03**

CalEEMod default energy use/Mgal

	Supply Water	**Treat Water**	**Distribute**	**Total**
Energy Use Rates (kW/Mgal)	2117	111	1272	3500
Energy Use for Water for Project				6,748,120

Wastewater Treatment Energy Use	**Treat Waste Water**
Energy Use Rate for Treatment (kW/Mgal	1911
Energy use for Project Water Treatment kWh/Year	3,153,813

Appendix C: CalEEMod Output

CalEEMod Output

Residential Construction 2021 (Average Annual)

Baldwin Zacharias Master Plan Residential Construction

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	27.00	Dwelling Unit	1.50	27,000.00	77
Single Family Housing	56.00	Dwelling Unit	13.50	100,800.00	160
Condo/Townhouse	177.00	Dwelling Unit	26.30	177,000.00	506

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2021
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	387.76	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Baldwin Zacharias Master Plan Residential Construction - Stanislaus County, Annual

Project Characteristics - TID Intensity Factors for 2030

Land Use - Average annual residential construction

Construction Phase - One year schedule based on average annual units completed.

Off-road Equipment - Increased equipment number to accommodate one year schedule while retaining default hours.

Off-road Equipment - Adjusted equipment numbers to accommodate one year schedule with default hours of use.

Off-road Equipment - Increased equipment to account for one year schedule while retaining default hours of use.

Off-road Equipment - Increased equipment numbers to accommodate one year schedule while retaining default hours of use.

Off-road Equipment - Increased equipment to match a one year schedule while retaining default hours.

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings compliance

Vehicle Trips - ITE 10th Edition from TIS

Construction Off-road Equipment Mitigation - Tier 4 Mitigation Measure

Mobile Land Use Mitigation -

Area Mitigation - SJVAPCD Rule 4601 Compliant coatings

Energy Mitigation - 2019 Title 24

Water Mitigation - CalGreen and MWELO compliance

Waste Mitigation - Achieve 75% statewide recycling mandate

Fleet Mix - SJVAPCD Residential Fleet Mix

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	65
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	75.00	30.00
tblConstructionPhase	NumDays	740.00	175.00
tblConstructionPhase	NumDays	55.00	20.00
tblConstructionPhase	NumDays	55.00	20.00

tblConstructionPhase	PhaseEndDate	2/11/2021	1/21/2021
tblConstructionPhase	PhaseEndDate	5/27/2021	3/4/2021
tblConstructionPhase	PhaseEndDate	3/28/2024	11/4/2021
tblConstructionPhase	PhaseEndDate	6/13/2024	12/2/2021
tblConstructionPhase	PhaseEndDate	8/29/2024	12/30/2021
tblConstructionPhase	PhaseStartDate	2/12/2021	1/22/2021
tblConstructionPhase	PhaseStartDate	5/28/2021	3/5/2021
tblConstructionPhase	PhaseStartDate	3/29/2024	11/5/2021
tblConstructionPhase	PhaseStartDate	6/14/2024	12/3/2021
tblFleetMix	HHD	0.09	0.02
tblFleetMix	HHD	0.09	0.02
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.51	0.54
tblFleetMix	LDA	0.51	0.54
tblFleetMix	LDA	0.51	0.54
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD2	5.6820e-003	9.0000e-004
tblFleetMix	LHD2	5.6820e-003	9.0000e-004
tblFleetMix	LHD2	5.6820e-003	9.0000e-004

tblFleetMix	MCY	4.7430e-003	2.6000e-003
tblFleetMix	MCY	4.7430e-003	2.6000e-003
tblFleetMix	MCY	4.7430e-003	2.6000e-003
tblFleetMix	MDV	0.13	0.05
tblFleetMix	MDV	0.13	0.05
tblFleetMix	MDV	0.13	0.05
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tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	1.8310e-003	0.00
tblFleetMix	OBUS	1.8310e-003	0.00
tblFleetMix	OBUS	1.8310e-003	0.00
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tblFleetMix	SBUS	8.5600e-004	9.0000e-004
tblFleetMix	SBUS	8.5600e-004	9.0000e-004
tblFleetMix	UBUS	1.1470e-003	4.4000e-003
tblFleetMix	UBUS	1.1470e-003	4.4000e-003
tblFleetMix	UBUS	1.1470e-003	4.4000e-003
tblGrading	AcresOfGrading	195.00	187.50
tblLandUse	LotAcreage	1.69	1.50
tblLandUse	LotAcreage	18.18	13.50
tblLandUse	LotAcreage	11.06	26.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	13.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	13.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	790	387.76
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	35.00	18.00
tblTripsAndVMT	WorkerTripNumber	53.00	20.00
tblVehicleTrips	HO_TTP	37.70	38.00
tblVehicleTrips	HO_TTP	37.70	38.00
tblVehicleTrips	HO_TTP	37.70	38.00
tblVehicleTrips	HS_TTP	13.90	14.00
tblVehicleTrips	HS_TTP	13.90	14.00
tblVehicleTrips	HS_TTP	13.90	14.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	7.16	4.91
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	ST_TR	5.67	8.14

tblVehicleTrips	SU_TR	6.07	4.09
tblVehicleTrips	SU_TR	8.62	4.09
tblVehicleTrips	SU_TR	4.84	6.28
tblVehicleTrips	WD_TR	6.59	5.44
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	5.81	7.32
tblWoodstoves	NumberCatalytic	13.50	37.60
tblWoodstoves	NumberCatalytic	26.30	0.00
tblWoodstoves	NumberNoncatalytic	13.50	37.60
tblWoodstoves	NumberNoncatalytic	26.30	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	2.2440	9.2825	8.2599	0.0150	0.7817	0.4713	1.2530	0.3463	0.4405	0.7868	0.0000	1,305.9105	1,305.9105	0.3069	0.0000	1,313.5836
Maximum	**2.2440**	**9.2825**	**8.2599**	**0.0150**	**0.7817**	**0.4713**	**1.2530**	**0.3463**	**0.4405**	**0.7868**	**0.0000**	**1,305.9105**	**1,305.9105**	**0.3069**	**0.0000**	**1,313.5836**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	2.0016	6.7025	8.4007	0.0150	0.4289	0.3295	0.7584	0.1766	0.3087	0.4853	0.0000	1,305.9091	1,305.9091	0.3069	0.0000	1,313.5823
Maximum	**2.0016**	**6.7025**	**8.4007**	**0.0150**	**0.4289**	**0.3295**	**0.7584**	**0.1766**	**0.3087**	**0.4853**	**0.0000**	**1,305.9091**	**1,305.9091**	**0.3069**	**0.0000**	**1,313.5823**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**10.80**	**27.79**	**-1.70**	**0.00**	**45.13**	**30.09**	**39.47**	**49.02**	**29.91**	**38.32**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	3.5227	2.3297
2	4-1-2021	6-30-2021	2.7567	2.1361
3	7-1-2021	9-30-2021	2.7870	2.1596
		Highest	3.5227	2.3297

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.3433	0.2376	9.2126	0.0243		1.1990	1.1990		1.1990	1.1990	158.0705	115.7874	273.8579	0.7442	2.0600e-003	293.0773
Energy	0.0271	0.2316	0.0985	1.4800e-003		0.0187	0.0187		0.0187	0.0187	0.0000	548.1705	548.1705	0.0210	8.5300e-003	551.2372
Mobile	0.7177	2.5671	8.6494	0.0239	2.1042	0.0251	2.1293	0.5635	0.0235	0.5870	0.0000	2,190.9154	2,190.9154	0.1245	0.0000	2,194.0285
Waste						0.0000	0.0000		0.0000	0.0000	30.7410	0.0000	30.7410	1.8167	0.0000	76.1594
Water						0.0000	0.0000		0.0000	0.0000	5.3743	22.6964	28.0707	0.5533	0.0133	45.8739
Total	**3.0881**	**3.0364**	**17.9606**	**0.0497**	**2.1042**	**1.2428**	**3.3470**	**0.5635**	**1.2412**	**1.8047**	**194.1857**	**2,877.5697**	**3,071.7554**	**3.2597**	**0.0239**	**3,160.3763**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3844	0.1196	1.9761	7.2000e-004		0.0185	0.0185		0.0185	0.0185	0.0000	115.7874	115.7874	5.2100e-003	2.0600e-003	116.5331
Energy	0.0256	0.2185	0.0930	1.3900e-003		0.0177	0.0177		0.0177	0.0177	0.0000	530.5439	530.5439	0.0206	8.2200e-003	533.5075
Mobile	0.7026	2.4589	8.1858	0.0224	1.9590	0.0235	1.9825	0.5246	0.0220	0.5466	0.0000	2,048.6714	2,048.6714	0.1186	0.0000	2,051.6350
Waste						0.0000	0.0000		0.0000	0.0000	23.0557	0.0000	23.0557	1.3626	0.0000	57.1196
Water						0.0000	0.0000		0.0000	0.0000	4.2994	18.1571	22.4566	0.4426	0.0107	36.6992
Total	**2.1125**	**2.7970**	**10.2548**	**0.0245**	**1.9590**	**0.0597**	**2.0187**	**0.5246**	**0.0582**	**0.5828**	**27.3552**	**2,713.1598**	**2,740.5149**	**1.9495**	**0.0209**	**2,795.4944**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**31.59**	**7.88**	**42.90**	**50.77**	**6.90**	**95.20**	**39.69**	**6.90**	**95.31**	**67.71**	**85.91**	**5.71**	**10.78**	**40.19**	**12.46**	**11.55**

3.0 Construction Detail

Construction Phase

Baldwin Zacharias Master Plan Residential Construction - Stanislaus County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/21/2021	5	15	
2	Grading	Grading	1/22/2021	3/4/2021	5	30	
3	Building Construction	Building Construction	3/5/2021	11/4/2021	5	175	
4	Paving	Paving	11/5/2021	12/2/2021	5	20	
5	Architectural Coating	Architectural Coating	12/3/2021	12/30/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 0

Residential Indoor: 617,220; Residential Outdoor: 205,740; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	6	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	8	8.00	97	0.37
Grading	Excavators	5	8.00	158	0.38
Grading	Graders	3	8.00	187	0.41
Grading	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	5	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	5	8.00	97	0.37
Building Construction	Cranes	4	7.00	231	0.29
Building Construction	Forklifts	13	8.00	89	0.20
Building Construction	Generator Sets	4	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	13	7.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	14	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	21	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	38	167.00	28.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	33.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0583	0.6075	0.3173	5.7000e-004		0.0307	0.0307		0.0282	0.0282	0.0000	50.1536	50.1536	0.0162	0.0000	50.5591
Total	**0.0583**	**0.6075**	**0.3173**	**5.7000e-004**	**0.2710**	**0.0307**	**0.3017**	**0.1490**	**0.0282**	**0.1772**	**0.0000**	**50.1536**	**50.1536**	**0.0162**	**0.0000**	**50.5591**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	3.7000e-004	3.9600e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.9612	0.9612	3.0000e-005	0.0000	0.9619
Total	**5.6000e-004**	**3.7000e-004**	**3.9600e-003**	**1.0000e-005**	**1.0800e-003**	**1.0000e-005**	**1.0900e-003**	**2.9000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.9612**	**0.9612**	**3.0000e-005**	**0.0000**	**0.9619**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1220	0.0000	0.1220	0.0670	0.0000	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0366	0.3639	0.3149	5.7000e-004		0.0182	0.0182		0.0168	0.0168	0.0000	50.1535	50.1535	0.0162	0.0000	50.5590
Total	**0.0366**	**0.3639**	**0.3149**	**5.7000e-004**	**0.1220**	**0.0182**	**0.1402**	**0.0670**	**0.0168**	**0.0838**	**0.0000**	**50.1535**	**50.1535**	**0.0162**	**0.0000**	**50.5590**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	3.7000e-004	3.9600e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.9612	0.9612	3.0000e-005	0.0000	0.9619
Total	**5.6000e-004**	**3.7000e-004**	**3.9600e-003**	**1.0000e-005**	**1.0800e-003**	**1.0000e-005**	**1.0900e-003**	**2.9000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.9612**	**0.9612**	**3.0000e-005**	**0.0000**	**0.9619**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3704	0.0000	0.3704	0.1597	0.0000	0.1597	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1684	1.8667	1.2015	2.4400e-003		0.0799	0.0799		0.0735	0.0735	0.0000	214.3513	214.3513	0.0693	0.0000	216.0845
Total	**0.1684**	**1.8667**	**1.2015**	**2.4400e-003**	**0.3704**	**0.0799**	**0.4503**	**0.1597**	**0.0735**	**0.2332**	**0.0000**	**214.3513**	**214.3513**	**0.0693**	**0.0000**	**216.0845**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	8.1000e-004	8.7900e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1359	2.1359	6.0000e-005	0.0000	2.1375
Total	**1.2400e-003**	**8.1000e-004**	**8.7900e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1359**	**2.1359**	**6.0000e-005**	**0.0000**	**2.1375**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1667	0.0000	0.1667	0.0719	0.0000	0.0719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1132	1.1784	1.2318	2.4400e-003		0.0496	0.0496		0.0458	0.0458	0.0000	214.3511	214.3511	0.0693	0.0000	216.0842
Total	**0.1132**	**1.1784**	**1.2318**	**2.4400e-003**	**0.1667**	**0.0496**	**0.2163**	**0.0719**	**0.0458**	**0.1176**	**0.0000**	**214.3511**	**214.3511**	**0.0693**	**0.0000**	**216.0842**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	8.1000e-004	8.7900e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1359	2.1359	6.0000e-005	0.0000	2.1375
Total	**1.2400e-003**	**8.1000e-004**	**8.7900e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1359**	**2.1359**	**6.0000e-005**	**0.0000**	**2.1375**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.6910	6.3496	6.0766	9.7900e-003		0.3514	0.3514		0.3301	0.3301	0.0000	843.3804	843.3804	0.2062	0.0000	848.5342
Total	**0.6910**	**6.3496**	**6.0766**	**9.7900e-003**		**0.3514**	**0.3514**		**0.3301**	**0.3301**	**0.0000**	**843.3804**	**843.3804**	**0.2062**	**0.0000**	**848.5342**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.4700e-003	0.2722	0.0447	6.8000e-004	0.0162	7.3000e-004	0.0169	4.6800e-003	7.0000e-004	5.3800e-003	0.0000	64.8981	64.8981	5.3600e-003	0.0000	65.0322
Worker	0.0605	0.0396	0.4283	1.1500e-003	0.1168	8.7000e-004	0.1176	0.0310	8.0000e-004	0.0318	0.0000	104.0359	104.0359	3.0200e-003	0.0000	104.1115
Total	**0.0680**	**0.3118**	**0.4730**	**1.8300e-003**	**0.1330**	**1.6000e-003**	**0.1346**	**0.0357**	**1.5000e-003**	**0.0372**	**0.0000**	**168.9340**	**168.9340**	**8.3800e-003**	**0.0000**	**169.1436**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.5372	4.8325	6.1629	9.7900e-003		0.2596	0.2596		0.2442	0.2442	0.0000	843.3794	843.3794	0.2062	0.0000	848.5332
Total	**0.5372**	**4.8325**	**6.1629**	**9.7900e-003**		**0.2596**	**0.2596**		**0.2442**	**0.2442**	**0.0000**	**843.3794**	**843.3794**	**0.2062**	**0.0000**	**848.5332**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.4700e-003	0.2722	0.0447	6.8000e-004	0.0162	7.3000e-004	0.0169	4.6800e-003	7.0000e-004	5.3800e-003	0.0000	64.8981	64.8981	5.3600e-003	0.0000	65.0322
Worker	0.0605	0.0396	0.4283	1.1500e-003	0.1168	8.7000e-004	0.1176	0.0310	8.0000e-004	0.0318	0.0000	104.0359	104.0359	3.0200e-003	0.0000	104.1115
Total	**0.0680**	**0.3118**	**0.4730**	**1.8300e-003**	**0.1330**	**1.6000e-003**	**0.1346**	**0.0357**	**1.5000e-003**	**0.0372**	**0.0000**	**168.9340**	**168.9340**	**8.3800e-003**	**0.0000**	**169.1436**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.1000e-004	4.4000e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0680	1.0680	3.0000e-005	0.0000	1.0687
Total	**6.2000e-004**	**4.1000e-004**	**4.4000e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0680**	**1.0680**	**3.0000e-005**	**0.0000**	**1.0687**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8000e-003	0.0122	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.8000e-003**	**0.0122**	**0.1730**	**2.3000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.1000e-004	4.4000e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0680	1.0680	3.0000e-005	0.0000	1.0687
Total	**6.2000e-004**	**4.1000e-004**	**4.4000e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0680**	**1.0680**	**3.0000e-005**	**0.0000**	**1.0687**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2397					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**1.2419**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3700e-003	8.9000e-004	9.6700e-003	3.0000e-005	2.6400e-003	2.0000e-005	2.6600e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.3495	2.3495	7.0000e-005	0.0000	2.3512
Total	**1.3700e-003**	**8.9000e-004**	**9.6700e-003**	**3.0000e-005**	**2.6400e-003**	**2.0000e-005**	**2.6600e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**2.3495**	**2.3495**	**7.0000e-005**	**0.0000**	**2.3512**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2397					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**1.2400**	**1.2900e-003**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3700e-003	8.9000e-004	9.6700e-003	3.0000e-005	2.6400e-003	2.0000e-005	2.6600e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.3495	2.3495	7.0000e-005	0.0000	2.3512
Total	**1.3700e-003**	**8.9000e-004**	**9.6700e-003**	**3.0000e-005**	**2.6400e-003**	**2.0000e-005**	**2.6600e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**2.3495**	**2.3495**	**7.0000e-005**	**0.0000**	**2.3512**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7026	2.4589	8.1858	0.0224	1.9590	0.0235	1.9825	0.5246	0.0220	0.5466	0.0000	2,048.6714	2,048.6714	0.1186	0.0000	2,051.6350
Unmitigated	0.7177	2.5671	8.6494	0.0239	2.1042	0.0251	2.1293	0.5635	0.0235	0.5870	0.0000	2,190.9154	2,190.9154	0.1245	0.0000	2,194.0285

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	146.88	132.57	110.43	408,642	380,445
Single Family Housing	528.64	534.24	229.04	1,424,217	1,325,946
Condo/Townhouse	1,295.64	1,440.78	1111.56	3,775,582	3,515,067
Total	1,971.16	2,107.59	1,451.03	5,608,440	5,221,458

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	48.00	14.00	38.00	86	11	3
Single Family Housing	10.80	7.30	7.50	48.00	14.00	38.00	86	11	3
Condo/Townhouse	10.80	7.30	7.50	48.00	14.00	38.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000900	0.001600
Single Family Housing	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000900	0.001600
Condo/Townhouse	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000900	0.001600

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	277.5096	277.5096	0.0157	3.5800e-003	278.9696
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	279.9787	279.9787	0.0159	3.6100e-003	281.4516
NaturalGas Mitigated	0.0256	0.2185	0.0930	1.3900e-003		0.0177	0.0177		0.0177	0.0177	0.0000	253.0343	253.0343	4.8500e-003	4.6400e-003	254.5379
NaturalGas Unmitigated	0.0271	0.2316	0.0985	1.4800e-003		0.0187	0.0187		0.0187	0.0187	0.0000	268.1919	268.1919	5.1400e-003	4.9200e-003	269.7856

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	381684	2.0600e-003	0.0176	7.4800e-003	1.1000e-004		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	20.3681	20.3681	3.9000e-004	3.7000e-004	20.4892
Condo/Townhouse	3.17991e+006	0.0172	0.1465	0.0624	9.4000e-004		0.0119	0.0119		0.0119	0.0119	0.0000	169.6920	169.6920	3.2500e-003	3.1100e-003	170.7004
Single Family Housing	1.46413e+006	7.8900e-003	0.0675	0.0287	4.3000e-004		5.4500e-003	5.4500e-003		5.4500e-003	5.4500e-003	0.0000	78.1317	78.1317	1.5000e-003	1.4300e-003	78.5960
Total		**0.0271**	**0.2316**	**0.0985**	**1.4800e-003**		**0.0187**	**0.0187**		**0.0187**	**0.0187**	**0.0000**	**268.1919**	**268.1919**	**5.1400e-003**	**4.9100e-003**	**269.7856**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	362003	1.9500e-003	0.0167	7.1000e-003	1.1000e-004		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	19.3179	19.3179	3.7000e-004	3.5000e-004	19.4327
Condo/Townhouse	3.00344e+006	0.0162	0.1384	0.0589	8.8000e-004		0.0112	0.0112		0.0112	0.0112	0.0000	160.2751	160.2751	3.0700e-003	2.9400e-003	161.2275
Single Family Housing	1.37624e+006	7.4200e-003	0.0634	0.0270	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4413	73.4413	1.4100e-003	1.3500e-003	73.8777
Total		**0.0256**	**0.2185**	**0.0930**	**1.3900e-003**		**0.0177**	**0.0177**		**0.0177**	**0.0177**	**0.0000**	**253.0343**	**253.0343**	**4.8500e-003**	**4.6400e-003**	**254.5379**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	126293	22.2131	1.2600e-003	2.9000e-004	22.3299
Condo/Townhouse	974934	171.4762	9.7300e-003	2.2100e-003	172.3783
Single Family Housing	490601	86.2894	4.9000e-003	1.1100e-003	86.7434
Total		**279.9787**	**0.0159**	**3.6100e-003**	**281.4516**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	124981	21.9822	1.2500e-003	2.8000e-004	22.0979
Condo/Townhouse	966112	169.9246	9.6400e-003	2.1900e-003	170.8186
Single Family Housing	486697	85.6028	4.8600e-003	1.1000e-003	86.0531
Total		**277.5096**	**0.0158**	**3.5700e-003**	**278.9696**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3844	0.1196	1.9761	7.2000e-004		0.0185	0.0185		0.0185	0.0185	0.0000	115.7874	115.7874	5.2100e-003	2.0600e-003	116.5331
Unmitigated	2.3433	0.2376	9.2126	0.0243		1.1990	1.1990		1.1990	1.1990	158.0705	115.7874	273.8579	0.7442	2.0600e-003	293.0773

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2861					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1904					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.8082	0.2153	7.2779	0.0242		1.1884	1.1884		1.1884	1.1884	158.0705	112.6339	270.7044	0.7411	2.0600e-003	289.8474
Landscaping	0.0586	0.0223	1.9347	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	3.1535	3.1535	3.0600e-003	0.0000	3.2299
Total	**2.3433**	**0.2376**	**9.2126**	**0.0243**		**1.1990**	**1.1990**		**1.1990**	**1.1990**	**158.0705**	**115.7874**	**273.8579**	**0.7442**	**2.0600e-003**	**293.0773**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1240					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1904					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0114	0.0973	0.0414	6.2000e-004		7.8600e-003	7.8600e-003		7.8600e-003	7.8600e-003	0.0000	112.6339	112.6339	2.1600e-003	2.0600e-003	113.3033
Landscaping	0.0586	0.0223	1.9347	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	3.1535	3.1535	3.0600e-003	0.0000	3.2299
Total	**1.3844**	**0.1196**	**1.9761**	**7.2000e-004**		**0.0185**	**0.0185**		**0.0185**	**0.0185**	**0.0000**	**115.7874**	**115.7874**	**5.2200e-003**	**2.0600e-003**	**116.5331**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	22.4566	0.4426	0.0107	36.6992
Unmitigated	28.0707	0.5533	0.0133	45.8739

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.75916 / 1.10903	2.9150	0.0575	1.3800e-003	4.7638
Condo/Townhouse	11.5323 / 7.27034	19.1097	0.3767	9.0700e-003	31.2296
Single Family Housing	3.64863 / 2.30022	6.0460	0.1192	2.8700e-003	9.8805
Total		**28.0707**	**0.5533**	**0.0133**	**45.8739**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.40733 / 0.887228	2.3320	0.0460	1.1100e-003	3.8111
Condo/Townhouse	9.22581 / 5.81627	15.2877	0.3013	7.2600e-003	24.9837
Single Family Housing	2.9189 / 1.84018	4.8368	0.0953	2.3000e-003	7.9044
Total		**22.4566**	**0.4426**	**0.0107**	**36.6992**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	23.0557	1.3626	0.0000	57.1196
Unmitigated	30.7410	1.8167	0.0000	76.1594

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	12.42	2.5212	0.1490	0.0000	6.2460
Condo/Townhouse	81.42	16.5275	0.9768	0.0000	40.9462
Single Family Housing	57.6	11.6923	0.6910	0.0000	28.9671
Total		**30.7410**	**1.8167**	**0.0000**	**76.1594**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	9.315	1.8909	0.1118	0.0000	4.6845
Condo/Townhouse	61.065	12.3956	0.7326	0.0000	30.7097
Single Family Housing	43.2	8.7692	0.5183	0.0000	21.7254
Total		**23.0557**	**1.3626**	**0.0000**	**57.1196**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Commercial and Industrial Construction 2021 (Average Annual)

Baldwin Zacharias Master Plan Comm & Ind Avg Year

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	136.50	1000sqft	3.13	136,500.00	0
Parking Lot	9.45	Acre	9.45	411,642.00	0
Regional Shopping Center	42.75	1000sqft	0.98	42,750.00	0
Unrefrigerated Warehouse-No Rail	209.05	1000sqft	4.80	209,050.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2021
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	387.76	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Baldwin Zacharias Master Plan Comm & Ind Avg Year - Stanislaus County, Annual

Project Characteristics - TID 2030 Intensity Rate

Land Use - Annual Average Retail/Comm Construction and Mixed Use and Industrial

Construction Phase - Adjusted schedule to one year.

Off-road Equipment - Adjusted equipment amount to reflect a one year schedule while retaining default hours.

Architectural Coating - Rule 4601 Architectural Coatings compliance

Construction Off-road Equipment Mitigation - Tier 4 equipment mitigation

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Architectural Coatings compliance

Energy Mitigation - 2019 Title 24 compliance

Water Mitigation -

Waste Mitigation -

Fleet Mix - SJVAPCD Residential Fleet Mix

Vehicle Trips - ITE 10th Ed Trip Gen Rates from TIS

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use - 2019 Title 24 Reduction

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	65
tblAreaCoating	Area_EF_Nonresidential_Interior	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	300.00	180.00
tblConstructionPhase	PhaseEndDate	4/21/2022	11/4/2021
tblConstructionPhase	PhaseEndDate	5/19/2022	12/2/2021
tblConstructionPhase	PhaseEndDate	6/16/2022	12/30/2021
tblConstructionPhase	PhaseStartDate	4/22/2022	11/5/2021
tblConstructionPhase	PhaseStartDate	5/20/2022	12/3/2021
tblEnergyUse	T24E	1.04	0.93

tblEnergyUse	T24E	1.96	1.75
tblEnergyUse	T24E	2.14	1.91
tblEnergyUse	T24NG	17.03	16.86
tblEnergyUse	T24NG	17.03	16.86
tblEnergyUse	T24NG	8.62	8.53
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	790	387.76
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	ST_TR	1.68	0.15
tblVehicleTrips	ST_TR	1.32	1.99
tblVehicleTrips	ST_TR	49.97	46.12
tblVehicleTrips	SU_TR	1.68	0.06
tblVehicleTrips	SU_TR	0.68	5.00
tblVehicleTrips	SU_TR	25.24	21.10
tblVehicleTrips	WD_TR	1.68	1.74
tblVehicleTrips	WD_TR	6.97	4.96
tblVehicleTrips	WD_TR	42.70	37.75

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.8457	5.3193	4.5603	0.0116	0.5468	0.2093	0.7561	0.1921	0.1963	0.3884	0.0000	1,037.9856	1,037.9856	0.1605	0.0000	1,041.9972
Maximum	**1.8457**	**5.3193**	**4.5603**	**0.0116**	**0.5468**	**0.2093**	**0.7561**	**0.1921**	**0.1963**	**0.3884**	**0.0000**	**1,037.9856**	**1,037.9856**	**0.1605**	**0.0000**	**1,041.9972**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.6129	2.8549	4.7029	0.0116	0.4255	0.0734	0.4990	0.1352	0.0699	0.2051	0.0000	1,037.9850	1,037.9850	0.1605	0.0000	1,041.9966
Maximum	**1.6129**	**2.8549**	**4.7029**	**0.0116**	**0.4255**	**0.0734**	**0.4990**	**0.1352**	**0.0699**	**0.2051**	**0.0000**	**1,037.9850**	**1,037.9850**	**0.1605**	**0.0000**	**1,041.9966**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**12.61**	**46.33**	**-3.13**	**0.00**	**22.17**	**64.92**	**34.01**	**29.66**	**64.37**	**47.20**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Baldwin Zacharias Master Plan Comm & Ind Avg Year - Stanislaus County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	1.6261	0.5119
2	4-1-2021	6-30-2021	1.7125	1.1113
3	7-1-2021	9-30-2021	1.7313	1.1235
		Highest	1.7313	1.1235

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6690	3.0000e-005	3.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.1100e-003	7.1100e-003	2.0000e-005	0.0000	7.5800e-003
Energy	0.0379	0.3443	0.2892	2.0700e-003		0.0262	0.0262		0.0262	0.0262	0.0000	1,007.5658	1,007.5658	0.0431	0.0150	1,013.1221
Mobile	0.8526	7.6271	8.3435	0.0334	2.0261	0.0322	2.0583	0.5450	0.0304	0.5754	0.0000	3,091.1093	3,091.1093	0.2291	0.0000	3,096.8369
Waste						0.0000	0.0000		0.0000	0.0000	83.3603	0.0000	83.3603	4.9265	0.0000	206.5215
Water						0.0000	0.0000		0.0000	0.0000	26.3559	80.2584	106.6143	2.7116	0.0650	193.7592
Total	**2.5595**	**7.9714**	**8.6363**	**0.0355**	**2.0261**	**0.0584**	**2.0845**	**0.5450**	**0.0566**	**0.6015**	**109.7162**	**4,178.9407**	**4,288.6568**	**7.9102**	**0.0800**	**4,510.2472**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6690	3.0000e-005	3.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.1100e-003	7.1100e-003	2.0000e-005	0.0000	7.5800e-003
Energy	0.0379	0.3443	0.2892	2.0700e-003		0.0262	0.0262		0.0262	0.0262	0.0000	1,007.5658	1,007.5658	0.0431	0.0150	1,013.1221
Mobile	0.8327	7.4043	7.9343	0.0315	1.8863	0.0303	1.9166	0.5074	0.0286	0.5360	0.0000	2,911.7715	2,911.7715	0.2246	0.0000	2,917.3859
Waste						0.0000	0.0000		0.0000	0.0000	66.6882	0.0000	66.6882	3.9412	0.0000	165.2172
Water						0.0000	0.0000		0.0000	0.0000	21.0847	64.2067	85.2914	2.1692	0.0520	155.0073
Total	**2.5396**	**7.7487**	**8.2271**	**0.0335**	**1.8863**	**0.0565**	**1.9428**	**0.5074**	**0.0548**	**0.5621**	**87.7729**	**3,983.5512**	**4,071.3241**	**6.3781**	**0.0670**	**4,250.7401**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.78**	**2.79**	**4.74**	**5.47**	**6.90**	**3.27**	**6.80**	**6.90**	**3.20**	**6.55**	**20.00**	**4.68**	**5.07**	**19.37**	**16.24**	**5.75**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/14/2021	5	10	
2	Grading	Grading	1/15/2021	2/25/2021	5	30	
3	Building Construction	Building Construction	2/26/2021	11/4/2021	5	180	
4	Paving	Paving	11/5/2021	12/2/2021	5	20	
5	Architectural Coating	Architectural Coating	12/3/2021	12/30/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 9.45

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 582,450; Non-Residential Outdoor: 194,150; Striped Parking Area: 24,699 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	5	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	5	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	16	332.00	131.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	66.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.4000e-004	2.6400e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6408	0.6408	2.0000e-005	0.0000	0.6412
Total	**3.7000e-004**	**2.4000e-004**	**2.6400e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6408**	**0.6408**	**2.0000e-005**	**0.0000**	**0.6412**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9000e-003	0.0167	0.1040	1.9000e-004		7.2000e-004	7.2000e-004		6.8000e-004	6.8000e-004	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**2.9000e-003**	**0.0167**	**0.1040**	**1.9000e-004**	**0.0407**	**7.2000e-004**	**0.0414**	**0.0223**	**6.8000e-004**	**0.0230**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.4000e-004	2.6400e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6408	0.6408	2.0000e-005	0.0000	0.6412
Total	**3.7000e-004**	**2.4000e-004**	**2.6400e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6408**	**0.6408**	**2.0000e-005**	**0.0000**	**0.6412**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.1301**	**0.0298**	**0.1599**	**0.0540**	**0.0274**	**0.0814**	**0.0000**	**81.7425**	**81.7425**	**0.0264**	**0.0000**	**82.4034**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	8.1000e-004	8.7900e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1359	2.1359	6.0000e-005	0.0000	2.1375
Total	**1.2400e-003**	**8.1000e-004**	**8.7900e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1359**	**2.1359**	**6.0000e-005**	**0.0000**	**2.1375**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0586	0.0000	0.0586	0.0243	0.0000	0.0243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0123	0.0594	0.4945	9.3000e-004		2.1300e-003	2.1300e-003		2.0800e-003	2.0800e-003	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033
Total	**0.0123**	**0.0594**	**0.4945**	**9.3000e-004**	**0.0586**	**2.1300e-003**	**0.0607**	**0.0243**	**2.0800e-003**	**0.0264**	**0.0000**	**81.7424**	**81.7424**	**0.0264**	**0.0000**	**82.4033**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	8.1000e-004	8.7900e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1359	2.1359	6.0000e-005	0.0000	2.1375
Total	**1.2400e-003**	**8.1000e-004**	**8.7900e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1359**	**2.1359**	**6.0000e-005**	**0.0000**	**2.1375**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3158	2.8824	2.7004	4.4600e-003		0.1562	0.1562		0.1472	0.1472	0.0000	383.3643	383.3643	0.0897	0.0000	385.6076
Total	**0.3158**	**2.8824**	**2.7004**	**4.4600e-003**		**0.1562**	**0.1562**		**0.1472**	**0.1472**	**0.0000**	**383.3643**	**383.3643**	**0.0897**	**0.0000**	**385.6076**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0360	1.3097	0.2151	3.2800e-003	0.0780	3.5300e-003	0.0815	0.0225	3.3700e-003	0.0259	0.0000	312.3054	312.3054	0.0258	0.0000	312.9507
Worker	0.1238	0.0810	0.8759	2.3500e-003	0.2387	1.7800e-003	0.2405	0.0635	1.6400e-003	0.0651	0.0000	212.7352	212.7352	6.1800e-003	0.0000	212.8897
Total	**0.1598**	**1.3908**	**1.0910**	**5.6300e-003**	**0.3167**	**5.3100e-003**	**0.3221**	**0.0860**	**5.0100e-003**	**0.0910**	**0.0000**	**525.0406**	**525.0406**	**0.0320**	**0.0000**	**525.8404**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1619	1.3714	2.7869	4.4600e-003		0.0648	0.0648		0.0617	0.0617	0.0000	383.3639	383.3639	0.0897	0.0000	385.6071
Total	**0.1619**	**1.3714**	**2.7869**	**4.4600e-003**		**0.0648**	**0.0648**		**0.0617**	**0.0617**	**0.0000**	**383.3639**	**383.3639**	**0.0897**	**0.0000**	**385.6071**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0360	1.3097	0.2151	3.2800e-003	0.0780	3.5300e-003	0.0815	0.0225	3.3700e-003	0.0259	0.0000	312.3054	312.3054	0.0258	0.0000	312.9507
Worker	0.1238	0.0810	0.8759	2.3500e-003	0.2387	1.7800e-003	0.2405	0.0635	1.6400e-003	0.0651	0.0000	212.7352	212.7352	6.1800e-003	0.0000	212.8897
Total	**0.1598**	**1.3908**	**1.0910**	**5.6300e-003**	**0.3167**	**5.3100e-003**	**0.3221**	**0.0860**	**5.0100e-003**	**0.0910**	**0.0000**	**525.0406**	**525.0406**	**0.0320**	**0.0000**	**525.8404**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0249**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.1000e-004	4.4000e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0680	1.0680	3.0000e-005	0.0000	1.0687
Total	**6.2000e-004**	**4.1000e-004**	**4.4000e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0680**	**1.0680**	**3.0000e-005**	**0.0000**	**1.0687**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8000e-003	0.0122	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0152**	**0.0122**	**0.1730**	**2.3000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.1000e-004	4.4000e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0680	1.0680	3.0000e-005	0.0000	1.0687
Total	**6.2000e-004**	**4.1000e-004**	**4.4000e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0680**	**1.0680**	**3.0000e-005**	**0.0000**	**1.0687**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**1.2579**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7300e-003	1.7900e-003	0.0194	5.0000e-005	5.2700e-003	4.0000e-005	5.3100e-003	1.4000e-003	4.0000e-005	1.4400e-003	0.0000	4.6990	4.6990	1.4000e-004	0.0000	4.7024
Total	**2.7300e-003**	**1.7900e-003**	**0.0194**	**5.0000e-005**	**5.2700e-003**	**4.0000e-005**	**5.3100e-003**	**1.4000e-003**	**4.0000e-005**	**1.4400e-003**	**0.0000**	**4.6990**	**4.6990**	**1.4000e-004**	**0.0000**	**4.7024**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**1.2560**	**1.2900e-003**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7300e-003	1.7900e-003	0.0194	5.0000e-005	5.2700e-003	4.0000e-005	5.3100e-003	1.4000e-003	4.0000e-005	1.4400e-003	0.0000	4.6990	4.6990	1.4000e-004	0.0000	4.7024
Total	**2.7300e-003**	**1.7900e-003**	**0.0194**	**5.0000e-005**	**5.2700e-003**	**4.0000e-005**	**5.3100e-003**	**1.4000e-003**	**4.0000e-005**	**1.4400e-003**	**0.0000**	**4.6990**	**4.6990**	**1.4000e-004**	**0.0000**	**4.7024**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8327	7.4043	7.9343	0.0315	1.8863	0.0303	1.9166	0.5074	0.0286	0.5360	0.0000	2,911.7715	2,911.7715	0.2246	0.0000	2,917.3859
Unmitigated	0.8526	7.6271	8.3435	0.0334	2.0261	0.0322	2.0583	0.5450	0.0304	0.5754	0.0000	3,091.1093	3,091.1093	0.2291	0.0000	3,096.8369

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	363.75	31.36	12.54	776,855	723,252
General Light Industry	677.04	271.64	682.50	1,809,820	1,684,942
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	1,613.81	1,971.63	902.03	2,740,846	2,551,727
Total	2,654.60	2,274.62	1,597.07	5,327,520	4,959,921

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Unrefrigerated Warehouse-No Rail	0.509246	0.034164	0.173036	0.129334	0.024846	0.005682	0.027468	0.086660	0.001831	0.001147	0.004743	0.000856	0.000987
General Light Industry	0.509246	0.034164	0.173036	0.129334	0.024846	0.005682	0.027468	0.086660	0.001831	0.001147	0.004743	0.000856	0.000987
Parking Lot	0.509246	0.034164	0.173036	0.129334	0.024846	0.005682	0.027468	0.086660	0.001831	0.001147	0.004743	0.000856	0.000987
Regional Shopping Center	0.509246	0.034164	0.173036	0.129334	0.024846	0.005682	0.027468	0.086660	0.001831	0.001147	0.004743	0.000856	0.000987

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	632.7804	632.7804	0.0359	8.1600e-003	636.1095
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	632.7804	632.7804	0.0359	8.1600e-003	636.1095
NaturalGas Mitigated	0.0379	0.3443	0.2892	2.0700e-003		0.0262	0.0262		0.0262	0.0262	0.0000	374.7854	374.7854	7.1800e-003	6.8700e-003	377.0126
NaturalGas Unmitigated	0.0379	0.3443	0.2892	2.0700e-003		0.0262	0.0262		0.0262	0.0262	0.0000	374.7854	374.7854	7.1800e-003	6.8700e-003	377.0126

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	2.82555e+006	0.0152	0.1385	0.1164	8.3000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	150.7821	150.7821	2.8900e-003	2.7600e-003	151.6781
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	453578	2.4500e-003	0.0222	0.0187	1.3000e-004		1.6900e-003	1.6900e-003		1.6900e-003	1.6900e-003	0.0000	24.2046	24.2046	4.6000e-004	4.4000e-004	24.3485
Unrefrigerated Warehouse-No Rail	3.74409e+006	0.0202	0.1835	0.1542	1.1000e-003		0.0140	0.0140		0.0140	0.0140	0.0000	199.7987	199.7987	3.8300e-003	3.6600e-003	200.9860
Total		**0.0379**	**0.3443**	**0.2892**	**2.0600e-003**		**0.0262**	**0.0262**		**0.0262**	**0.0262**	**0.0000**	**374.7854**	**374.7854**	**7.1800e-003**	**6.8600e-003**	**377.0126**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	2.82555e+006	0.0152	0.1385	0.1164	8.3000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	150.7821	150.7821	2.8900e-003	2.7600e-003	151.6781
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	453578	2.4500e-003	0.0222	0.0187	1.3000e-004		1.6900e-003	1.6900e-003		1.6900e-003	1.6900e-003	0.0000	24.2046	24.2046	4.6000e-004	4.4000e-004	24.3485
Unrefrigerated Warehouse-No Rail	3.74409e+006	0.0202	0.1835	0.1542	1.1000e-003		0.0140	0.0140		0.0140	0.0140	0.0000	199.7987	199.7987	3.8300e-003	3.6600e-003	200.9860
Total		**0.0379**	**0.3443**	**0.2892**	**2.0600e-003**		**0.0262**	**0.0262**		**0.0262**	**0.0262**	**0.0000**	**374.7854**	**374.7854**	**7.1800e-003**	**6.8600e-003**	**377.0126**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.17527e+006	206.7115	0.0117	2.6700e-003	207.7990
Parking Lot	144075	25.3406	1.4400e-003	3.3000e-004	25.4739
Regional Shopping Center	338580	59.5511	3.3800e-003	7.7000e-004	59.8644
Unrefrigerated Warehouse-No Rail	1.93977e+006	341.1773	0.0194	4.4000e-003	342.9722
Total		**632.7805**	**0.0359**	**8.1700e-003**	**636.1095**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.17527e+006	206.7115	0.0117	2.6700e-003	207.7990
Parking Lot	144075	25.3406	1.4400e-003	3.3000e-004	25.4739
Regional Shopping Center	338580	59.5511	3.3800e-003	7.7000e-004	59.8644
Unrefrigerated Warehouse-No Rail	1.93977e+006	341.1773	0.0194	4.4000e-003	342.9722
Total		**632.7805**	**0.0359**	**8.1700e-003**	**636.1095**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6690	3.0000e-005	3.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.1100e-003	7.1100e-003	2.0000e-005	0.0000	7.5800e-003
Unmitigated	1.6690	3.0000e-005	3.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.1100e-003	7.1100e-003	2.0000e-005	0.0000	7.5800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1256					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.5431					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.4000e-004	3.0000e-005	3.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.1100e-003	7.1100e-003	2.0000e-005	0.0000	7.5800e-003
Total	**1.6690**	**3.0000e-005**	**3.6700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.1100e-003**	**7.1100e-003**	**2.0000e-005**	**0.0000**	**7.5800e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1256					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.5431					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.4000e-004	3.0000e-005	3.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.1100e-003	7.1100e-003	2.0000e-005	0.0000	7.5800e-003
Total	**1.6690**	**3.0000e-005**	**3.6700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.1100e-003**	**7.1100e-003**	**2.0000e-005**	**0.0000**	**7.5800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	85.2914	2.1692	0.0520	155.0073
Unmitigated	106.6143	2.7116	0.0650	193.7592

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	31.5656 / 0	40.0558	1.0303	0.0247	73.1654
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3.1666 / 1.94082	5.2131	0.1034	2.4900e-003	8.5409
Unrefrigerated Warehouse-No Rail	48.3428 / 0	61.3455	1.5779	0.0378	112.0529
Total		**106.6143**	**2.7116**	**0.0650**	**193.7592**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	25.2525 / 0	32.0446	0.8242	0.0197	58.5323
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	2.53328 / 1.55266	4.1705	0.0827	1.9900e-003	6.8327
Unrefrigerated Warehouse-No Rail	38.6743 / 0	49.0764	1.2623	0.0302	89.6423
Total		**85.2914**	**2.1693**	**0.0520**	**155.0073**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	66.6882	3.9412	0.0000	165.2172
Unmitigated	83.3603	4.9265	0.0000	206.5215

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	169.26	34.3583	2.0305	0.0000	85.1211
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	44.89	9.1123	0.5385	0.0000	22.5753
Unrefrigerated Warehouse-No Rail	196.51	39.8898	2.3574	0.0000	98.8252
Total		**83.3603**	**4.9265**	**0.0000**	**206.5215**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	135.408	27.4866	1.6244	0.0000	68.0969
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	35.912	7.2898	0.4308	0.0000	18.0602
Unrefrigerated Warehouse-No Rail	157.208	31.9118	1.8859	0.0000	79.0601
Total		**66.6882**	**3.9412**	**0.0000**	**165.2172**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Elementary School Construction (2022)

Baldwin Zacharias MP Elementary School

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	500.00	Student	0.96	41,801.69	0
Parking Lot	2.00	Acre	2.00	87,120.00	0
Other Non-Asphalt Surfaces	11.04	Acre	11.04	480,902.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Intensity Factor for 2020

Land Use -

Construction Phase -

Architectural Coating - Rule 4601 Architectural Coatings compliance

Vehicle Trips - ITE 10th Edition Trip Gen.

Fleet Mix - SJVAPCD Residential Fleet Mix

Area Coating - Rule 4601 Architectural Coatings

Construction Off-road Equipment Mitigation - Tier 4 Equipment Mitigation

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Energy Use - 2019 Title 24 reduces non-residential energy use by 10.7% for electricity and 1% for NG

Water Mitigation - CalGreen and MWELO compliance

Waste Mitigation - Achieve 75% statewide recycling mandate

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	65
tblAreaCoating	Area_EF_Nonresidential_Interior	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	PhaseEndDate	12/31/2020	6/2/2022
tblConstructionPhase	PhaseEndDate	12/31/2020	4/7/2022
tblConstructionPhase	PhaseEndDate	12/31/2020	2/11/2021
tblConstructionPhase	PhaseEndDate	12/31/2020	5/5/2022
tblConstructionPhase	PhaseStartDate	1/1/2021	5/6/2022
tblConstructionPhase	PhaseStartDate	1/1/2021	2/12/2021
tblConstructionPhase	PhaseStartDate	1/1/2021	4/8/2022
tblEnergyUse	T24E	2.14	1.91

tblEnergyUse	T24NG	23.19	22.96
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.52	0.53
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.3000e-003
tblFleetMix	LHD2	5.3520e-003	9.0000e-004
tblFleetMix	MCY	4.6330e-003	2.5000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	9.1100e-004	1.8000e-003
tblFleetMix	MHD	0.03	8.6000e-003
tblFleetMix	OBUS	1.8370e-003	0.00
tblFleetMix	SBUS	8.4500e-004	7.0000e-004
tblFleetMix	UBUS	1.1190e-003	4.4000e-003
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	WD_TR	1.29	1.89

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4414	4.0735	3.4639	9.6100e-003	0.4452	0.1457	0.5909	0.1395	0.1364	0.2759	0.0000	867.8813	867.8813	0.1225	0.0000	870.9425
2022	0.3652	1.0511	1.0405	2.8600e-003	0.0987	0.0359	0.1345	0.0268	0.0337	0.0604	0.0000	258.2194	258.2194	0.0348	0.0000	259.0902
Maximum	**0.4414**	**4.0735**	**3.4639**	**9.6100e-003**	**0.4452**	**0.1457**	**0.5909**	**0.1395**	**0.1364**	**0.2759**	**0.0000**	**867.8813**	**867.8813**	**0.1225**	**0.0000**	**870.9425**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2083	1.6717	3.5979	9.6100e-003	0.3736	0.0115	0.3851	0.1098	0.0112	0.1210	0.0000	867.8809	867.8809	0.1225	0.0000	870.9421
2022	0.3077	0.4775	1.1056	2.8600e-003	0.0987	3.2600e-003	0.1019	0.0268	3.1800e-003	0.0299	0.0000	258.2193	258.2193	0.0348	0.0000	259.0901
Maximum	**0.3077**	**1.6717**	**3.5979**	**9.6100e-003**	**0.3736**	**0.0115**	**0.3851**	**0.1098**	**0.0112**	**0.1210**	**0.0000**	**867.8809**	**867.8809**	**0.1225**	**0.0000**	**870.9421**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**36.04**	**58.06**	**-4.42**	**0.00**	**13.16**	**91.89**	**32.86**	**17.85**	**91.56**	**55.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	1.3202	0.3348
2	4-1-2021	6-30-2021	1.0546	0.5095
3	7-1-2021	9-30-2021	1.0662	0.5151
4	10-1-2021	12-31-2021	1.0716	0.5206
5	1-1-2022	3-31-2022	0.9597	0.4853
6	4-1-2022	6-30-2022	0.4641	0.3053
		Highest	1.3202	0.5206

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2249	4.0000e-005	4.7200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7700e-003
Energy	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	96.8467	96.8467	4.2000e-003	1.7300e-003	97.4674
Mobile	0.2163	0.7128	2.2554	6.2700e-003	0.5581	6.4900e-003	0.5646	0.1494	6.0700e-003	0.1555	0.0000	574.7529	574.7529	0.0340	0.0000	575.6023
Waste						0.0000	0.0000		0.0000	0.0000	18.5229	0.0000	18.5229	1.0947	0.0000	45.8898
Water						0.0000	0.0000		0.0000	0.0000	0.3846	2.2978	2.6823	0.0397	9.7000e-004	3.9638
Total	**0.4467**	**0.7638**	**2.3030**	**6.5800e-003**	**0.5581**	**0.0104**	**0.5685**	**0.1494**	**9.9600e-003**	**0.1594**	**18.9075**	**673.9065**	**692.8140**	**1.1725**	**2.7000e-003**	**722.9330**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2249	4.0000e-005	4.7200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7700e-003
Energy	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	96.8467	96.8467	4.2000e-003	1.7300e-003	97.4674
Mobile	0.2126	0.6868	2.1423	5.8700e-003	0.5196	6.1000e-003	0.5257	0.1391	5.7000e-003	0.1448	0.0000	538.1889	538.1889	0.0325	0.0000	539.0015
Waste						0.0000	0.0000		0.0000	0.0000	13.8922	0.0000	13.8922	0.8210	0.0000	34.4173
Water						0.0000	0.0000		0.0000	0.0000	0.3076	1.8382	2.1458	0.0317	7.8000e-004	3.1711
Total	**0.4431**	**0.7379**	**2.1898**	**6.1800e-003**	**0.5196**	**9.9900e-003**	**0.5296**	**0.1391**	**9.5900e-003**	**0.1487**	**14.1998**	**636.8829**	**651.0828**	**0.8895**	**2.5100e-003**	**674.0670**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.82**	**3.39**	**4.91**	**6.08**	**6.90**	**3.76**	**6.84**	**6.90**	**3.71**	**6.70**	**24.90**	**5.49**	**6.02**	**24.14**	**7.04**	**6.76**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	12/31/2020	5	10	
2	Grading	Grading	1/1/2021	2/11/2021	5	30	
3	Building Construction	Building Construction	2/12/2021	4/7/2022	5	300	
4	Paving	Paving	4/8/2022	5/5/2022	5	20	
5	Architectural Coating	Architectural Coating	5/6/2022	6/2/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 13.04

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 62,703; Non-Residential Outdoor: 20,901; Striped Parking Area: 34,081 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	256.00	100.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	51.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.1301**	**0.0298**	**0.1599**	**0.0540**	**0.0274**	**0.0814**	**0.0000**	**81.7425**	**81.7425**	**0.0264**	**0.0000**	**82.4034**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	8.1000e-004	8.7900e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1359	2.1359	6.0000e-005	0.0000	2.1375
Total	**1.2400e-003**	**8.1000e-004**	**8.7900e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1359**	**2.1359**	**6.0000e-005**	**0.0000**	**2.1375**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0586	0.0000	0.0586	0.0243	0.0000	0.0243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.0495	0.4950	9.3000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033
Total	**0.0114**	**0.0495**	**0.4950**	**9.3000e-004**	**0.0586**	**1.5200e-003**	**0.0601**	**0.0243**	**1.5200e-003**	**0.0258**	**0.0000**	**81.7424**	**81.7424**	**0.0264**	**0.0000**	**82.4033**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	8.1000e-004	8.7900e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1359	2.1359	6.0000e-005	0.0000	2.1375
Total	**1.2400e-003**	**8.1000e-004**	**8.7900e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1359**	**2.1359**	**6.0000e-005**	**0.0000**	**2.1375**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5411	267.5411	0.0646	0.0000	269.1547
Total	**0.2196**	**2.0134**	**1.9144**	**3.1100e-003**		**0.1107**	**0.1107**		**0.1041**	**0.1041**	**0.0000**	**267.5411**	**267.5411**	**0.0646**	**0.0000**	**269.1547**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0352	1.2831	0.2108	3.2200e-003	0.0764	3.4600e-003	0.0799	0.0221	3.3100e-003	0.0254	0.0000	305.9480	305.9480	0.0253	0.0000	306.5802
Worker	0.1225	0.0802	0.8667	2.3300e-003	0.2362	1.7600e-003	0.2380	0.0628	1.6200e-003	0.0644	0.0000	210.5139	210.5139	6.1100e-003	0.0000	210.6667
Total	**0.1577**	**1.3633**	**1.0775**	**5.5500e-003**	**0.3127**	**5.2200e-003**	**0.3179**	**0.0849**	**4.9300e-003**	**0.0898**	**0.0000**	**516.4619**	**516.4619**	**0.0314**	**0.0000**	**517.2469**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0379	0.2581	2.0167	3.1100e-003		4.7100e-003	4.7100e-003		4.7100e-003	4.7100e-003	0.0000	267.5407	267.5407	0.0646	0.0000	269.1544
Total	**0.0379**	**0.2581**	**2.0167**	**3.1100e-003**		**4.7100e-003**	**4.7100e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**267.5407**	**267.5407**	**0.0646**	**0.0000**	**269.1544**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0352	1.2831	0.2108	3.2200e-003	0.0764	3.4600e-003	0.0799	0.0221	3.3100e-003	0.0254	0.0000	305.9480	305.9480	0.0253	0.0000	306.5802
Worker	0.1225	0.0802	0.8667	2.3300e-003	0.2362	1.7600e-003	0.2380	0.0628	1.6200e-003	0.0644	0.0000	210.5139	210.5139	6.1100e-003	0.0000	210.6667
Total	**0.1577**	**1.3633**	**1.0775**	**5.5500e-003**	**0.3127**	**5.2200e-003**	**0.3179**	**0.0849**	**4.9300e-003**	**0.0898**	**0.0000**	**516.4619**	**516.4619**	**0.0314**	**0.0000**	**517.2469**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0589	0.5387	0.5645	9.3000e-004		0.0279	0.0279		0.0263	0.0263	0.0000	79.9452	79.9452	0.0192	0.0000	80.4240
Total	**0.0589**	**0.5387**	**0.5645**	**9.3000e-004**		**0.0279**	**0.0279**		**0.0263**	**0.0263**	**0.0000**	**79.9452**	**79.9452**	**0.0192**	**0.0000**	**80.4240**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7900e-003	0.3640	0.0583	9.5000e-004	0.0228	9.0000e-004	0.0237	6.5900e-003	8.6000e-004	7.4500e-003	0.0000	90.5222	90.5222	7.2800e-003	0.0000	90.7043
Worker	0.0339	0.0214	0.2361	6.7000e-004	0.0706	5.1000e-004	0.0711	0.0188	4.7000e-004	0.0192	0.0000	60.6396	60.6396	1.6300e-003	0.0000	60.6805
Total	**0.0437**	**0.3854**	**0.2943**	**1.6200e-003**	**0.0934**	**1.4100e-003**	**0.0948**	**0.0254**	**1.3300e-003**	**0.0267**	**0.0000**	**151.1619**	**151.1619**	**8.9100e-003**	**0.0000**	**151.3848**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.0771	0.6024	9.3000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003	0.0000	79.9451	79.9451	0.0192	0.0000	80.4239
Total	**0.0113**	**0.0771**	**0.6024**	**9.3000e-004**		**1.4100e-003**	**1.4100e-003**		**1.4100e-003**	**1.4100e-003**	**0.0000**	**79.9451**	**79.9451**	**0.0192**	**0.0000**	**80.4239**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7900e-003	0.3640	0.0583	9.5000e-004	0.0228	9.0000e-004	0.0237	6.5900e-003	8.6000e-004	7.4500e-003	0.0000	90.5222	90.5222	7.2800e-003	0.0000	90.7043
Worker	0.0339	0.0214	0.2361	6.7000e-004	0.0706	5.1000e-004	0.0711	0.0188	4.7000e-004	0.0192	0.0000	60.6396	60.6396	1.6300e-003	0.0000	60.6805
Total	**0.0437**	**0.3854**	**0.2943**	**1.6200e-003**	**0.0934**	**1.4100e-003**	**0.0948**	**0.0254**	**1.3300e-003**	**0.0267**	**0.0000**	**151.1619**	**151.1619**	**8.9100e-003**	**0.0000**	**151.3848**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0137**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.6000e-004	4.0100e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0299	1.0299	3.0000e-005	0.0000	1.0306
Total	**5.8000e-004**	**3.6000e-004**	**4.0100e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0299**	**1.0299**	**3.0000e-005**	**0.0000**	**1.0306**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8000e-003	0.0122	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4200e-003**	**0.0122**	**0.1730**	**2.3000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.6000e-004	4.0100e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0299	1.0299	3.0000e-005	0.0000	1.0306
Total	**5.8000e-004**	**3.6000e-004**	**4.0100e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0299**	**1.0299**	**3.0000e-005**	**0.0000**	**1.0306**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2444					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.2465**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.2400e-003	0.0136	4.0000e-005	4.0700e-003	3.0000e-005	4.1000e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.5016	3.5016	9.0000e-005	0.0000	3.5040
Total	**1.9600e-003**	**1.2400e-003**	**0.0136**	**4.0000e-005**	**4.0700e-003**	**3.0000e-005**	**4.1000e-003**	**1.0800e-003**	**3.0000e-005**	**1.1100e-003**	**0.0000**	**3.5016**	**3.5016**	**9.0000e-005**	**0.0000**	**3.5040**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2444					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.2447**	**1.2900e-003**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.2400e-003	0.0136	4.0000e-005	4.0700e-003	3.0000e-005	4.1000e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.5016	3.5016	9.0000e-005	0.0000	3.5040
Total	**1.9600e-003**	**1.2400e-003**	**0.0136**	**4.0000e-005**	**4.0700e-003**	**3.0000e-005**	**4.1000e-003**	**1.0800e-003**	**3.0000e-005**	**1.1100e-003**	**0.0000**	**3.5016**	**3.5016**	**9.0000e-005**	**0.0000**	**3.5040**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2126	0.6868	2.1423	5.8700e-003	0.5196	6.1000e-003	0.5257	0.1391	5.7000e-003	0.1448	0.0000	538.1889	538.1889	0.0325	0.0000	539.0015
Unmitigated	0.2163	0.7128	2.2554	6.2700e-003	0.5581	6.4900e-003	0.5646	0.1494	6.0700e-003	0.1555	0.0000	574.7529	574.7529	0.0340	0.0000	575.6023

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	945.00	0.00	0.00	1,488,334	1,385,639
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	945.00	0.00	0.00	1,488,334	1,385,639

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.534300	0.203000	0.167300	0.054500	0.001300	0.000900	0.008600	0.020700	0.000000	0.004400	0.002500	0.000700	0.001800
Other Non-Asphalt Surfaces	0.516452	0.033212	0.173817	0.123150	0.022816	0.005352	0.027555	0.088301	0.001837	0.001119	0.004633	0.000845	0.000911
Parking Lot	0.516452	0.033212	0.173817	0.123150	0.022816	0.005352	0.027555	0.088301	0.001837	0.001119	0.004633	0.000845	0.000911

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	41.3469	41.3469	3.1400e-003	7.1000e-004	41.6378
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	41.3469	41.3469	3.1400e-003	7.1000e-004	41.6378
NaturalGas Mitigated	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	55.4998	55.4998	1.0600e-003	1.0200e-003	55.8296
NaturalGas Unmitigated	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	55.4998	55.4998	1.0600e-003	1.0200e-003	55.8296

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	1.04003e+006	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	55.4998	55.4998	1.0600e-003	1.0200e-003	55.8296
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.6100e-003**	**0.0510**	**0.0428**	**3.1000e-004**		**3.8700e-003**	**3.8700e-003**		**3.8700e-003**	**3.8700e-003**	**0.0000**	**55.4998**	**55.4998**	**1.0600e-003**	**1.0200e-003**	**55.8296**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	1.04003e+006	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	55.4998	55.4998	1.0600e-003	1.0200e-003	55.8296
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.6100e-003**	**0.0510**	**0.0428**	**3.1000e-004**		**3.8700e-003**	**3.8700e-003**		**3.8700e-003**	**3.8700e-003**	**0.0000**	**55.4998**	**55.4998**	**1.0600e-003**	**1.0200e-003**	**55.8296**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	283833	37.3360	2.8300e-003	6.4000e-004	37.5986
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	30492	4.0110	3.0000e-004	7.0000e-005	4.0392
Total		**41.3469**	**3.1300e-003**	**7.1000e-004**	**41.6378**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	283833	37.3360	2.8300e-003	6.4000e-004	37.5986
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	30492	4.0110	3.0000e-004	7.0000e-005	4.0392
Total		**41.3469**	**3.1300e-003**	**7.1000e-004**	**41.6378**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2249	4.0000e-005	4.7200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7700e-003
Unmitigated	0.2249	4.0000e-005	4.7200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0244					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.4000e-004	4.0000e-005	4.7200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7700e-003
Total	**0.2249**	**4.0000e-005**	**4.7200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.1700e-003**	**9.1700e-003**	**2.0000e-005**	**0.0000**	**9.7700e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0244					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.4000e-004	4.0000e-005	4.7200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7700e-003
Total	**0.2249**	**4.0000e-005**	**4.7200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.1700e-003**	**9.1700e-003**	**2.0000e-005**	**0.0000**	**9.7700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.1458	0.0317	7.8000e-004	3.1711
Unmitigated	2.6823	0.0397	9.7000e-004	3.9638

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	1.21212 / 3.11688	2.6823	0.0397	9.7000e-004	3.9638
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.6823**	**0.0397**	**9.7000e-004**	**3.9638**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.969696 / 2.4935	2.1458	0.0317	7.8000e-004	3.1711
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.1458**	**0.0317**	**7.8000e-004**	**3.1711**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.8922	0.8210	0.0000	34.4173
Unmitigated	18.5229	1.0947	0.0000	45.8898

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	91.25	18.5229	1.0947	0.0000	45.8898
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**18.5229**	**1.0947**	**0.0000**	**45.8898**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	68.4375	13.8922	0.8210	0.0000	34.4173
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**13.8922**	**0.8210**	**0.0000**	**34.4173**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Middle School Construction (2024)

Baldwin Zacharias MP Middle School

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	900.00	Student	2.43	105,805.52	0
Other Non-Asphalt Surfaces	11.57	Acre	11.57	503,989.20	0
Parking Lot	2.00	Acre	2.00	87,120.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Intensity Factor for 2020

Land Use - 16 acre site

Construction Phase -

Architectural Coating - Rule 4601 Architectural Coatings compliance

Vehicle Trips - ITE 10th Edition Trip Gen.

Area Coating - Rule 4601 Architectural Coatings

Energy Use - 2019 Title 24 reduces non-residential energy use by 10.7% for electricity and 1% for NG

Construction Off-road Equipment Mitigation - Tier 4 Equipment Mitigation

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Architectural Coatings Compliance

Energy Mitigation -

Water Mitigation - CalGreen and MWELO compliance

Waste Mitigation - Achieve 75% statewide recycling mandate

Fleet Mix - SJVAPCD Residential Fleet Mix 2024

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	65.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	65
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblEnergyUse	T24E	2.14	1.91
tblEnergyUse	T24NG	23.19	22.96
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.53	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	0.02	9.0000e-004
tblFleetMix	LHD2	4.7610e-003	9.0000e-004

tblFleetMix	MCY	4.4200e-003	2.5000e-003
tblFleetMix	MDV	0.11	5.6000e-003
tblFleetMix	MH	7.8100e-004	2.0000e-003
tblFleetMix	MHD	0.03	8.0000e-003
tblFleetMix	OBUS	1.8360e-003	0.00
tblFleetMix	SBUS	8.2200e-004	2.0000e-004
tblFleetMix	UBUS	1.0470e-003	4.3000e-003
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	WD_TR	1.62	2.13

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3771	3.3462	3.2678	9.8500e-003	0.5640	0.1075	0.6716	0.1968	0.1006	0.2974	0.0000	890.1053	890.1053	0.1166	0.0000	893.0211
2024	0.5654	1.0437	1.1508	3.4300e-003	0.1297	0.0309	0.1606	0.0352	0.0290	0.0642	0.0000	310.3783	310.3783	0.0373	0.0000	311.3096
Maximum	**0.5654**	**3.3462**	**3.2678**	**9.8500e-003**	**0.5640**	**0.1075**	**0.6716**	**0.1968**	**0.1006**	**0.2974**	**0.0000**	**890.1053**	**890.1053**	**0.1166**	**0.0000**	**893.0211**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1908	1.4139	3.4890	9.8500e-003	0.4428	9.1900e-003	0.4520	0.1399	9.0000e-003	0.1489	0.0000	890.1049	890.1049	0.1166	0.0000	893.0206
2024	0.5110	0.5014	1.2295	3.4300e-003	0.1297	3.1000e-003	0.1328	0.0352	3.0300e-003	0.0382	0.0000	310.3782	310.3782	0.0373	0.0000	311.3094
Maximum	**0.5110**	**1.4139**	**3.4890**	**9.8500e-003**	**0.4428**	**9.1900e-003**	**0.4520**	**0.1399**	**9.0000e-003**	**0.1489**	**0.0000**	**890.1049**	**890.1049**	**0.1166**	**0.0000**	**893.0206**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**25.54**	**56.37**	**-6.78**	**0.00**	**17.48**	**91.12**	**29.73**	**24.56**	**90.71**	**48.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	1.0526	0.2499
2	4-1-2023	6-30-2023	0.8873	0.4520
3	7-1-2023	9-30-2023	0.8970	0.4569
4	10-1-2023	12-31-2023	0.9003	0.4602
5	1-1-2024	3-31-2024	0.8492	0.4477
6	4-1-2024	6-30-2024	0.7446	0.5582
		Highest	1.0526	0.5582

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5381	8.0000e-005	8.3800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Energy	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	238.9903	238.9903	0.0102	4.2700e-003	240.5180
Mobile	0.3499	1.1176	3.6359	0.0112	1.1449	0.0107	1.1557	0.3053	9.9900e-003	0.3152	0.0000	1,033.3343	1,033.3343	0.0550	0.0000	1,034.7084
Waste						0.0000	0.0000		0.0000	0.0000	33.3413	0.0000	33.3413	1.9704	0.0000	82.6016
Water						0.0000	0.0000		0.0000	0.0000	0.6922	4.1360	4.8282	0.0714	1.7500e-003	7.1349
Total	**0.9022**	**1.2468**	**3.7527**	**0.0120**	**1.1449**	**0.0206**	**1.1655**	**0.3053**	**0.0198**	**0.3251**	**34.0335**	**1,276.4768**	**1,310.5102**	**2.1070**	**6.0200e-003**	**1,364.9802**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4964	8.0000e-005	8.3800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Energy	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	238.9903	238.9903	0.0102	4.2700e-003	240.5180
Mobile	0.3439	1.0806	3.4495	0.0105	1.0659	0.0101	1.0760	0.2842	9.3800e-003	0.2936	0.0000	967.8849	967.8849	0.0525	0.0000	969.1962
Waste						0.0000	0.0000		0.0000	0.0000	25.0060	0.0000	25.0060	1.4778	0.0000	61.9512
Water						0.0000	0.0000		0.0000	0.0000	0.5538	3.3088	3.8625	0.0571	1.4000e-003	5.7079
Total	**0.8545**	**1.2098**	**3.5663**	**0.0113**	**1.0659**	**0.0199**	**1.0859**	**0.2842**	**0.0192**	**0.3034**	**25.5597**	**1,210.2002**	**1,235.7599**	**1.5976**	**5.6700e-003**	**1,277.3906**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.28**	**2.97**	**4.97**	**5.91**	**6.90**	**3.16**	**6.83**	**6.90**	**3.08**	**6.66**	**24.90**	**5.19**	**5.70**	**24.18**	**5.81**	**6.42**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2023	1/13/2023	5	10	
2	Grading	Grading	1/14/2023	2/24/2023	5	30	
3	Building Construction	Building Construction	2/25/2023	4/19/2024	5	300	
4	Paving	Paving	4/20/2024	5/17/2024	5	20	
5	Architectural Coating	Architectural Coating	5/18/2024	6/14/2024	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 13.57

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 158,708; Non-Residential Outdoor: 52,903; Striped Parking Area: 35,467 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	293.00	114.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	59.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0903**	**6.3300e-003**	**0.0967**	**0.0497**	**5.8200e-003**	**0.0555**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.0000e-004	2.1900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5948	0.5948	1.0000e-005	0.0000	0.5952
Total	**3.2000e-004**	**2.0000e-004**	**2.1900e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5948**	**0.5948**	**1.0000e-005**	**0.0000**	**0.5952**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3300e-003	0.0101	0.1043	1.9000e-004		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**2.3300e-003**	**0.0101**	**0.1043**	**1.9000e-004**	**0.0407**	**3.1000e-004**	**0.0410**	**0.0223**	**3.1000e-004**	**0.0227**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.0000e-004	2.1900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5948	0.5948	1.0000e-005	0.0000	0.5952
Total	**3.2000e-004**	**2.0000e-004**	**2.1900e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5948**	**0.5948**	**1.0000e-005**	**0.0000**	**0.5952**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8028	81.8028	0.0265	0.0000	82.4642
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1301**	**0.0214**	**0.1515**	**0.0540**	**0.0197**	**0.0736**	**0.0000**	**81.8028**	**81.8028**	**0.0265**	**0.0000**	**82.4642**

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0700e-003	6.5000e-004	7.3100e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	1.9828	1.9828	5.0000e-005	0.0000	1.9840
Total	**1.0700e-003**	**6.5000e-004**	**7.3100e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**1.9828**	**1.9828**	**5.0000e-005**	**0.0000**	**1.9840**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0586	0.0000	0.0586	0.0243	0.0000	0.0243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.0495	0.4950	9.3000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	81.8027	81.8027	0.0265	0.0000	82.4641
Total	**0.0114**	**0.0495**	**0.4950**	**9.3000e-004**	**0.0586**	**1.5200e-003**	**0.0601**	**0.0243**	**1.5200e-003**	**0.0258**	**0.0000**	**81.8027**	**81.8027**	**0.0265**	**0.0000**	**82.4641**

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0700e-003	6.5000e-004	7.3100e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	1.9828	1.9828	5.0000e-005	0.0000	1.9840
Total	**1.0700e-003**	**6.5000e-004**	**7.3100e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**1.9828**	**1.9828**	**5.0000e-005**	**0.0000**	**1.9840**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1730	1.5823	1.7868	2.9600e-003		0.0770	0.0770		0.0724	0.0724	0.0000	254.9852	254.9852	0.0607	0.0000	256.5017
Total	**0.1730**	**1.5823**	**1.7868**	**2.9600e-003**		**0.0770**	**0.0770**		**0.0724**	**0.0724**	**0.0000**	**254.9852**	**254.9852**	**0.0607**	**0.0000**	**256.5017**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0247	1.0377	0.1737	3.3800e-003	0.0830	1.0300e-003	0.0840	0.0240	9.9000e-004	0.0250	0.0000	320.9992	320.9992	0.0187	0.0000	321.4672
Worker	0.1149	0.0699	0.7858	2.3600e-003	0.2575	1.8100e-003	0.2593	0.0685	1.6700e-003	0.0701	0.0000	213.0152	213.0152	5.3200e-003	0.0000	213.1482
Total	**0.1396**	**1.1076**	**0.9595**	**5.7400e-003**	**0.3405**	**2.8400e-003**	**0.3433**	**0.0924**	**2.6600e-003**	**0.0951**	**0.0000**	**534.0144**	**534.0144**	**0.0240**	**0.0000**	**534.6154**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0361	0.2458	1.9206	2.9600e-003		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	254.9849	254.9849	0.0607	0.0000	256.5013
Total	**0.0361**	**0.2458**	**1.9206**	**2.9600e-003**		**4.4900e-003**	**4.4900e-003**		**4.4900e-003**	**4.4900e-003**	**0.0000**	**254.9849**	**254.9849**	**0.0607**	**0.0000**	**256.5013**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0247	1.0377	0.1737	3.3800e-003	0.0830	1.0300e-003	0.0840	0.0240	9.9000e-004	0.0250	0.0000	320.9992	320.9992	0.0187	0.0000	321.4672
Worker	0.1149	0.0699	0.7858	2.3600e-003	0.2575	1.8100e-003	0.2593	0.0685	1.6700e-003	0.0701	0.0000	213.0152	213.0152	5.3200e-003	0.0000	213.1482
Total	**0.1396**	**1.1076**	**0.9595**	**5.7400e-003**	**0.3405**	**2.8400e-003**	**0.3433**	**0.0924**	**2.6600e-003**	**0.0951**	**0.0000**	**534.0144**	**534.0144**	**0.0240**	**0.0000**	**534.6154**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0589	0.5378	0.6467	1.0800e-003		0.0245	0.0245		0.0231	0.0231	0.0000	92.7396	92.7396	0.0219	0.0000	93.2879
Total	**0.0589**	**0.5378**	**0.6467**	**1.0800e-003**		**0.0245**	**0.0245**		**0.0231**	**0.0231**	**0.0000**	**92.7396**	**92.7396**	**0.0219**	**0.0000**	**93.2879**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.7100e-003	0.3743	0.0598	1.2200e-003	0.0302	3.7000e-004	0.0305	8.7100e-003	3.5000e-004	9.0700e-003	0.0000	115.8693	115.8693	6.8500e-003	0.0000	116.0405
Worker	0.0390	0.0228	0.2633	8.2000e-004	0.0936	6.4000e-004	0.0943	0.0249	5.9000e-004	0.0255	0.0000	74.4866	74.4866	1.7400e-003	0.0000	74.5301
Total	**0.0477**	**0.3971**	**0.3231**	**2.0400e-003**	**0.1238**	**1.0100e-003**	**0.1248**	**0.0336**	**9.4000e-004**	**0.0346**	**0.0000**	**190.3558**	**190.3558**	**8.5900e-003**	**0.0000**	**190.5705**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0131	0.0894	0.6984	1.0800e-003		1.6300e-003	1.6300e-003		1.6300e-003	1.6300e-003	0.0000	92.7395	92.7395	0.0219	0.0000	93.2878
Total	**0.0131**	**0.0894**	**0.6984**	**1.0800e-003**		**1.6300e-003**	**1.6300e-003**		**1.6300e-003**	**1.6300e-003**	**0.0000**	**92.7395**	**92.7395**	**0.0219**	**0.0000**	**93.2878**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.7100e-003	0.3743	0.0598	1.2200e-003	0.0302	3.7000e-004	0.0305	8.7100e-003	3.5000e-004	9.0700e-003	0.0000	115.8693	115.8693	6.8500e-003	0.0000	116.0405
Worker	0.0390	0.0228	0.2633	8.2000e-004	0.0936	6.4000e-004	0.0943	0.0249	5.9000e-004	0.0255	0.0000	74.4866	74.4866	1.7400e-003	0.0000	74.5301
Total	**0.0477**	**0.3971**	**0.3231**	**2.0400e-003**	**0.1238**	**1.0100e-003**	**0.1248**	**0.0336**	**9.4000e-004**	**0.0346**	**0.0000**	**190.3558**	**190.3558**	**8.5900e-003**	**0.0000**	**190.5705**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0125**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1885**

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	2.9000e-004	3.3700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9533	0.9533	2.0000e-005	0.0000	0.9539
Total	**5.0000e-004**	**2.9000e-004**	**3.3700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9533**	**0.9533**	**2.0000e-005**	**0.0000**	**0.9539**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8000e-003	0.0122	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4200e-003**	**0.0122**	**0.1730**	**2.3000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1884**

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	2.9000e-004	3.3700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9533	0.9533	2.0000e-005	0.0000	0.9539
Total	**5.0000e-004**	**2.9000e-004**	**3.3700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9533**	**0.9533**	**2.0000e-005**	**0.0000**	**0.9539**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4421					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**0.4439**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.1500e-003	0.0133	4.0000e-005	4.7100e-003	3.0000e-005	4.7500e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.7498	3.7498	9.0000e-005	0.0000	3.7519
Total	**1.9600e-003**	**1.1500e-003**	**0.0133**	**4.0000e-005**	**4.7100e-003**	**3.0000e-005**	**4.7500e-003**	**1.2500e-003**	**3.0000e-005**	**1.2800e-003**	**0.0000**	**3.7498**	**3.7498**	**9.0000e-005**	**0.0000**	**3.7519**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4421					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**0.4424**	**1.2900e-003**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.1500e-003	0.0133	4.0000e-005	4.7100e-003	3.0000e-005	4.7500e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.7498	3.7498	9.0000e-005	0.0000	3.7519
Total	**1.9600e-003**	**1.1500e-003**	**0.0133**	**4.0000e-005**	**4.7100e-003**	**3.0000e-005**	**4.7500e-003**	**1.2500e-003**	**3.0000e-005**	**1.2800e-003**	**0.0000**	**3.7498**	**3.7498**	**9.0000e-005**	**0.0000**	**3.7519**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3439	1.0806	3.4495	0.0105	1.0659	0.0101	1.0760	0.2842	9.3800e-003	0.2936	0.0000	967.8849	967.8849	0.0525	0.0000	969.1962
Unmitigated	0.3499	1.1176	3.6359	0.0112	1.1449	0.0107	1.1557	0.3053	9.9900e-003	0.3152	0.0000	1,033.3343	1,033.3343	0.0550	0.0000	1,034.7084

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior High School	1,917.00	0.00	0.00	3,078,420	2,866,009
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,917.00	0.00	0.00	3,078,420	2,866,009

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Junior High School	0.527700	0.209000	0.167500	0.005600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000
Other Non-Asphalt Surfaces	0.529564	0.031735	0.175601	0.112621	0.019191	0.004761	0.027424	0.090197	0.001836	0.001047	0.004420	0.000822	0.000781
Parking Lot	0.529564	0.031735	0.175601	0.112621	0.019191	0.004761	0.027424	0.090197	0.001836	0.001047	0.004420	0.000822	0.000781

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	98.5132	98.5132	7.4700e-003	1.7000e-003	99.2061
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	98.5132	98.5132	7.4700e-003	1.7000e-003	99.2061
NaturalGas Mitigated	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	140.4771	140.4771	2.6900e-003	2.5800e-003	141.3119
NaturalGas Unmitigated	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	140.4771	140.4771	2.6900e-003	2.5800e-003	141.3119

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior High School	2.63244e+006	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	140.4771	140.4771	2.6900e-003	2.5800e-003	141.3119
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0142**	**0.1290**	**0.1084**	**7.7000e-004**		**9.8100e-003**	**9.8100e-003**		**9.8100e-003**	**9.8100e-003**	**0.0000**	**140.4771**	**140.4771**	**2.6900e-003**	**2.5800e-003**	**141.3119**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior High School	2.63244e+006	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	140.4771	140.4771	2.6900e-003	2.5800e-003	141.3119
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0142**	**0.1290**	**0.1084**	**7.7000e-004**		**9.8100e-003**	**9.8100e-003**		**9.8100e-003**	**9.8100e-003**	**0.0000**	**140.4771**	**140.4771**	**2.6900e-003**	**2.5800e-003**	**141.3119**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior High School	718419	94.5022	7.1700e-003	1.6300e-003	95.1670
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	30492	4.0110	3.0000e-004	7.0000e-005	4.0392
Total		**98.5132**	**7.4700e-003**	**1.7000e-003**	**99.2062**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior High School	718419	94.5022	7.1700e-003	1.6300e-003	95.1670
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	30492	4.0110	3.0000e-004	7.0000e-005	4.0392
Total		**98.5132**	**7.4700e-003**	**1.7000e-003**	**99.2062**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4964	8.0000e-005	8.3800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Unmitigated	0.5381	8.0000e-005	8.3800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0859					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4514					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.7000e-004	8.0000e-005	8.3800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Total	**0.5381**	**8.0000e-005**	**8.3800e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0163**	**0.0163**	**4.0000e-005**	**0.0000**	**0.0174**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0442					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4514					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.7000e-004	8.0000e-005	8.3800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Total	**0.4964**	**8.0000e-005**	**8.3800e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0163**	**0.0163**	**4.0000e-005**	**0.0000**	**0.0174**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.8625	0.0571	1.4000e-003	5.7079
Unmitigated	4.8282	0.0714	1.7500e-003	7.1349

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior High School	2.18182 / 5.61038	4.8282	0.0714	1.7500e-003	7.1349
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**4.8282**	**0.0714**	**1.7500e-003**	**7.1349**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior High School	1.74545 / 4.48831	3.8625	0.0571	1.4000e-003	5.7079
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**3.8625**	**0.0571**	**1.4000e-003**	**5.7079**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	25.0060	1.4778	0.0000	61.9512
Unmitigated	33.3413	1.9704	0.0000	82.6016

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior High School	164.25	33.3413	1.9704	0.0000	82.6016
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**33.3413**	**1.9704**	**0.0000**	**82.6016**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior High School	123.188	25.0060	1.4778	0.0000	61.9512
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**25.0060**	**1.4778**	**0.0000**	**61.9512**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Parks Construction (2021)

Baldwin Zacharias MP Parks

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	62.47	Acre	62.47	2,721,193.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2021
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	387.76	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - TID Intensity Factor 2030

Land Use - 500 sf for restrooms

Construction Phase - Restroom Construction for parks. Limited site prep and grading required.

Off-road Equipment - Limited equipment required for restroom construction.

Grading -

Architectural Coating - Rule 4601 Architectural Coatings compliance.

Construction Off-road Equipment Mitigation - Tier 4 Mitigation Measure

Water Mitigation -

Waste Mitigation -

Fleet Mix - SJVAPCD Residential Fleet Mix

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	250.00	65.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	750.00	65.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	65.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	75.00	2.00
tblConstructionPhase	NumDays	1,110.00	30.00
tblConstructionPhase	NumDays	110.00	30.00
tblConstructionPhase	NumDays	75.00	10.00
tblConstructionPhase	NumDays	40.00	20.00
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.51	0.54
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD2	5.6820e-003	9.0000e-004
tblFleetMix	MCY	4.7430e-003	2.6000e-003

tblFleetMix	MDV	0.13	0.05
tblFleetMix	MH	9.8700e-004	1.6000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	1.8310e-003	0.00
tblFleetMix	SBUS	8.5600e-004	8.0000e-004
tblFleetMix	UBUS	1.1470e-003	4.4000e-003
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	790	387.76
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2129	2.0490	1.4999	4.8700e-003	0.4983	0.0620	0.5603	0.2041	0.0573	0.2615	0.0000	444.3802	444.3802	0.0611	0.0000	445.9078
Maximum	**0.2129**	**2.0490**	**1.4999**	**4.8700e-003**	**0.4983**	**0.0620**	**0.5603**	**0.2041**	**0.0573**	**0.2615**	**0.0000**	**444.3802**	**444.3802**	**0.0611**	**0.0000**	**445.9078**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1074	0.8021	1.5503	4.8700e-003	0.3274	7.2000e-004	0.3281	0.1198	9.6000e-004	0.1208	0.0000	444.3800	444.3800	0.0611	0.0000	445.9076
Maximum	**0.1074**	**0.8021**	**1.5503**	**4.8700e-003**	**0.3274**	**7.2000e-004**	**0.3281**	**0.1198**	**9.6000e-004**	**0.1208**	**0.0000**	**444.3800**	**444.3800**	**0.0611**	**0.0000**	**445.9076**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**49.57**	**60.85**	**-3.36**	**0.00**	**34.30**	**98.84**	**41.44**	**41.30**	**98.33**	**53.80**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	4-1-2021	6-30-2021	1.5087	0.3135
3	7-1-2021	9-30-2021	0.7488	0.5921
		Highest	1.5087	0.5921

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0279	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1500	0.4876	1.5565	4.0600e-003	0.3498	4.3200e-003	0.3541	0.0937	4.0400e-003	0.0977	0.0000	372.1054	372.1054	0.0230	0.0000	372.6809
Waste						0.0000	0.0000		0.0000	0.0000	1.0901	0.0000	1.0901	0.0644	0.0000	2.7006
Water						0.0000	0.0000		0.0000	0.0000	0.0000	45.8201	45.8201	2.6000e-003	5.9000e-004	46.0611
Total	**0.1780**	**0.4876**	**1.5571**	**4.0600e-003**	**0.3498**	**4.3200e-003**	**0.3541**	**0.0937**	**4.0400e-003**	**0.0977**	**1.0901**	**417.9265**	**419.0166**	**0.0900**	**5.9000e-004**	**421.4438**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0279	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1500	0.4876	1.5565	4.0600e-003	0.3498	4.3200e-003	0.3541	0.0937	4.0400e-003	0.0977	0.0000	372.1054	372.1054	0.0230	0.0000	372.6809
Waste						0.0000	0.0000		0.0000	0.0000	0.8176	0.0000	0.8176	0.0483	0.0000	2.0254
Water						0.0000	0.0000		0.0000	0.0000	0.0000	36.6560	36.6560	2.0800e-003	4.7000e-004	36.8489
Total	**0.1780**	**0.4876**	**1.5571**	**4.0600e-003**	**0.3498**	**4.3200e-003**	**0.3541**	**0.0937**	**4.0400e-003**	**0.0977**	**0.8176**	**408.7625**	**409.5801**	**0.0734**	**4.7000e-004**	**411.5564**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**25.00**	**2.19**	**2.25**	**18.46**	**20.34**	**2.35**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/9/2021	5/6/2021	5	20	
2	Grading	Grading	5/7/2021	6/17/2021	5	30	
3	Building Construction	Building Construction	6/18/2021	7/29/2021	5	30	
4	Architectural Coating	Architectural Coating	7/13/2021	7/14/2021	5	2	
5	Paving	Paving	7/30/2021	8/12/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 65; Non-Residential Outdoor: 65; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	3	1,143.00	446.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	229.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.5000e-004	4.9000e-004	5.2800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2815	1.2815	4.0000e-005	0.0000	1.2825
Total	**7.5000e-004**	**4.9000e-004**	**5.2800e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2815**	**1.2815**	**4.0000e-005**	**0.0000**	**1.2825**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9800e-003	7.9000e-004	0.2096	3.8000e-004		-0.0006	-0.0006		-0.0005	-0.0005	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**2.9800e-003**	**7.9000e-004**	**0.2096**	**3.8000e-004**	**0.0813**	**-0.0006**	**0.0807**	**0.0447**	**-0.0005**	**0.0442**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.5000e-004	4.9000e-004	5.2800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2815	1.2815	4.0000e-005	0.0000	1.2825
Total	**7.5000e-004**	**4.9000e-004**	**5.2800e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2815**	**1.2815**	**4.0000e-005**	**0.0000**	**1.2825**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.1301**	**0.0298**	**0.1599**	**0.0540**	**0.0274**	**0.0814**	**0.0000**	**81.7425**	**81.7425**	**0.0264**	**0.0000**	**82.4034**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	8.1000e-004	8.7900e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1359	2.1359	6.0000e-005	0.0000	2.1375
Total	**1.2400e-003**	**8.1000e-004**	**8.7900e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1359**	**2.1359**	**6.0000e-005**	**0.0000**	**2.1375**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0586	0.0000	0.0586	0.0243	0.0000	0.0243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.0350	0.4957	9.3000e-004		6.3000e-004	6.3000e-004		7.0000e-004	7.0000e-004	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033
Total	**0.0102**	**0.0350**	**0.4957**	**9.3000e-004**	**0.0586**	**6.3000e-004**	**0.0592**	**0.0243**	**7.0000e-004**	**0.0250**	**0.0000**	**81.7424**	**81.7424**	**0.0264**	**0.0000**	**82.4033**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	8.1000e-004	8.7900e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1359	2.1359	6.0000e-005	0.0000	2.1375
Total	**1.2400e-003**	**8.1000e-004**	**8.7900e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1359**	**2.1359**	**6.0000e-005**	**0.0000**	**2.1375**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.7600e-003	0.0901	0.1025	1.6000e-004		5.2400e-003	5.2400e-003		5.0200e-003	5.0200e-003	0.0000	14.0752	14.0752	2.2400e-003	0.0000	14.1313
Total	**9.7600e-003**	**0.0901**	**0.1025**	**1.6000e-004**		**5.2400e-003**	**5.2400e-003**		**5.0200e-003**	**5.0200e-003**	**0.0000**	**14.0752**	**14.0752**	**2.2400e-003**	**0.0000**	**14.1313**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0204	0.7432	0.1221	1.8600e-003	0.0443	2.0000e-003	0.0463	0.0128	1.9100e-003	0.0147	0.0000	177.2115	177.2115	0.0147	0.0000	177.5777
Worker	0.0710	0.0465	0.5026	1.3500e-003	0.1370	1.0200e-003	0.1380	0.0364	9.4000e-004	0.0374	0.0000	122.0664	122.0664	3.5400e-003	0.0000	122.1551
Total	**0.0914**	**0.7897**	**0.6246**	**3.2100e-003**	**0.1813**	**3.0200e-003**	**0.1843**	**0.0492**	**2.8500e-003**	**0.0521**	**0.0000**	**299.2779**	**299.2779**	**0.0182**	**0.0000**	**299.7327**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	-0.0021	-0.0316	0.1091	1.6000e-004		-0.0026	-0.0026		-0.0024	-0.0024	0.0000	14.0752	14.0752	2.2400e-003	0.0000	14.1313
Total	**-0.0021**	**-0.0316**	**0.1091**	**1.6000e-004**		**-0.0026**	**-0.0026**		**-0.0024**	**-0.0024**	**0.0000**	**14.0752**	**14.0752**	**2.2400e-003**	**0.0000**	**14.1313**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0204	0.7432	0.1221	1.8600e-003	0.0443	2.0000e-003	0.0463	0.0128	1.9100e-003	0.0147	0.0000	177.2115	177.2115	0.0147	0.0000	177.5777
Worker	0.0710	0.0465	0.5026	1.3500e-003	0.1370	1.0200e-003	0.1380	0.0364	9.4000e-004	0.0374	0.0000	122.0664	122.0664	3.5400e-003	0.0000	122.1551
Total	**0.0914**	**0.7897**	**0.6246**	**3.2100e-003**	**0.1813**	**3.0200e-003**	**0.1843**	**0.0492**	**2.8500e-003**	**0.0521**	**0.0000**	**299.2779**	**299.2779**	**0.0182**	**0.0000**	**299.7327**

3.5 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2000e-004	1.5300e-003	1.8200e-003	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2558
Total	**4.2000e-004**	**1.5300e-003**	**1.8200e-003**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2558**

3.5 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.5000e-004	6.2000e-004	6.7100e-003	2.0000e-005	1.8300e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6304	1.6304	5.0000e-005	0.0000	1.6316
Total	**9.5000e-004**	**6.2000e-004**	**6.7100e-003**	**2.0000e-005**	**1.8300e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.6304**	**1.6304**	**5.0000e-005**	**0.0000**	**1.6316**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-005	1.3000e-004	1.8300e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.2553	0.2553	2.0000e-005	0.0000	0.2558
Total	**2.3000e-004**	**1.3000e-004**	**1.8300e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.2553**	**0.2553**	**2.0000e-005**	**0.0000**	**0.2558**

3.5 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.5000e-004	6.2000e-004	6.7100e-003	2.0000e-005	1.8300e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6304	1.6304	5.0000e-005	0.0000	1.6316
Total	**9.5000e-004**	**6.2000e-004**	**6.7100e-003**	**2.0000e-005**	**1.8300e-003**	**1.0000e-005**	**1.8400e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.6304**	**1.6304**	**5.0000e-005**	**0.0000**	**1.6316**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2800e-003	0.0646	0.0733	1.1000e-004		3.3900e-003	3.3900e-003		3.1200e-003	3.1200e-003	0.0000	10.0117	10.0117	3.2400e-003	0.0000	10.0927
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2800e-003**	**0.0646**	**0.0733**	**1.1000e-004**		**3.3900e-003**	**3.3900e-003**		**3.1200e-003**	**3.1200e-003**	**0.0000**	**10.0117**	**10.0117**	**3.2400e-003**	**0.0000**	**10.0927**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.0000e-004	2.2000e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5340	0.5340	2.0000e-005	0.0000	0.5344
Total	**3.1000e-004**	**2.0000e-004**	**2.2000e-003**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5340**	**0.5340**	**2.0000e-005**	**0.0000**	**0.5344**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4000e-003	6.0800e-003	0.0865	1.1000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.0117	10.0117	3.2400e-003	0.0000	10.0927
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4000e-003**	**6.0800e-003**	**0.0865**	**1.1000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**10.0117**	**10.0117**	**3.2400e-003**	**0.0000**	**10.0927**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.0000e-004	2.2000e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5340	0.5340	2.0000e-005	0.0000	0.5344
Total	**3.1000e-004**	**2.0000e-004**	**2.2000e-003**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5340**	**0.5340**	**2.0000e-005**	**0.0000**	**0.5344**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1500	0.4876	1.5565	4.0600e-003	0.3498	4.3200e-003	0.3541	0.0937	4.0400e-003	0.0977	0.0000	372.1054	372.1054	0.0230	0.0000	372.6809
Unmitigated	0.1500	0.4876	1.5565	4.0600e-003	0.3498	4.3200e-003	0.3541	0.0937	4.0400e-003	0.0977	0.0000	372.1054	372.1054	0.0230	0.0000	372.6809

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	118.07	1,421.19	1045.75	932,407	932,407
Total	118.07	1,421.19	1,045.75	932,407	932,407

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000800	0.001600

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0279	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003
Unmitigated	0.0279	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0275					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003
Total	**0.0279**	**1.0000e-005**	**5.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1200e-003**	**1.1200e-003**	**0.0000**	**0.0000**	**1.1900e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0275					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003
Total	**0.0279**	**1.0000e-005**	**5.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1200e-003**	**1.1200e-003**	**0.0000**	**0.0000**	**1.1900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	36.6560	2.0800e-003	4.7000e-004	36.8489
Unmitigated	45.8201	2.6000e-003	5.9000e-004	46.0611

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 74.4318	45.8201	2.6000e-003	5.9000e-004	46.0611
Total		**45.8201**	**2.6000e-003**	**5.9000e-004**	**46.0611**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 59.5455	36.6560	2.0800e-003	4.7000e-004	36.8489
Total		**36.6560**	**2.0800e-003**	**4.7000e-004**	**36.8489**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.8176	0.0483	0.0000	2.0254
Unmitigated	1.0901	0.0644	0.0000	2.7006

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	5.37	1.0901	0.0644	0.0000	2.7006
Total		**1.0901**	**0.0644**	**0.0000**	**2.7006**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	4.0275	0.8176	0.0483	0.0000	2.0254
Total		**0.8176**	**0.0483**	**0.0000**	**2.0254**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Residential Operations 2040 (Annual)

Baldwin Zacharias Master Plan Residential Buildout

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	609.00	Dwelling Unit	30.50	609,000.00	1742
Condo/Townhouse	4,041.00	Dwelling Unit	526.50	4,041,000.00	11557
Single Family Housing	831.00	Dwelling Unit	269.40	1,495,800.00	2377

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2040
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	387.76	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Baldwin Zacharias Master Plan Residential Buildout - Stanislaus County, Annual

Project Characteristics - TID Intensity Factors

Land Use - Residential Only. Condo/Townhouse includes single family on small lots (MDR). Single Family is LDR.

Construction Phase - Ops only run

Off-road Equipment - Ops only run.

Vehicle Trips - ITE 10th Ed Rates from Project TIS

Area Coating - Rule 4601 Architectural Coatings

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Architectural Coatings Compliance

Energy Mitigation -

Water Mitigation -

Waste Mitigation - Achieve 75% statewide recycling mandate

Fleet Mix - SJVAPCD Fleet Mix for 2040

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	65
tblAreaCoating	Area_EF_Residential_Exterior	150	65
tblAreaCoating	Area_EF_Residential_Interior	150	65
tblFleetMix	HHD	0.09	0.02
tblFleetMix	HHD	0.09	0.02
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.56	0.48
tblFleetMix	LDA	0.56	0.48
tblFleetMix	LDA	0.56	0.48
tblFleetMix	LDT1	0.03	0.24
tblFleetMix	LDT1	0.03	0.24
tblFleetMix	LDT1	0.03	0.24
tblFleetMix	LDT2	0.18	0.17

tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	8.3940e-003	9.0000e-004
tblFleetMix	LHD1	8.3940e-003	9.0000e-004
tblFleetMix	LHD1	8.3940e-003	9.0000e-004
tblFleetMix	LHD2	3.3080e-003	1.0000e-003
tblFleetMix	LHD2	3.3080e-003	1.0000e-003
tblFleetMix	LHD2	3.3080e-003	1.0000e-003
tblFleetMix	MCY	3.7970e-003	3.3000e-003
tblFleetMix	MCY	3.7970e-003	3.3000e-003
tblFleetMix	MCY	3.7970e-003	3.3000e-003
tblFleetMix	MDV	0.09	0.06
tblFleetMix	MDV	0.09	0.06
tblFleetMix	MDV	0.09	0.06
tblFleetMix	MH	4.2700e-004	4.4000e-003
tblFleetMix	MH	4.2700e-004	4.4000e-003
tblFleetMix	MH	4.2700e-004	4.4000e-003
tblFleetMix	MHD	0.03	7.9000e-003
tblFleetMix	MHD	0.03	7.9000e-003
tblFleetMix	MHD	0.03	7.9000e-003
tblFleetMix	OBUS	1.8080e-003	0.00
tblFleetMix	OBUS	1.8080e-003	0.00
tblFleetMix	OBUS	1.8080e-003	0.00
tblFleetMix	SBUS	5.9300e-004	1.1000e-003
tblFleetMix	SBUS	5.9300e-004	1.1000e-003
tblFleetMix	SBUS	5.9300e-004	1.1000e-003
tblFleetMix	UBUS	8.7500e-004	4.3000e-003

tblFleetMix	UBUS	8.7500e-004	4.3000e-003
tblFleetMix	UBUS	8.7500e-004	4.3000e-003
tblLandUse	LotAcreage	38.06	30.50
tblLandUse	LotAcreage	252.56	526.50
tblLandUse	LotAcreage	269.81	269.40
tblOffRoadEquipment	UsageHours	6.00	0.10
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	790	387.76
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	ST_TR	7.16	4.91
tblVehicleTrips	ST_TR	5.67	8.14
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	6.07	4.09
tblVehicleTrips	SU_TR	4.84	6.28
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	6.59	5.44
tblVehicleTrips	WD_TR	5.81	7.32
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	15.6021	0.2613	2.7926	7.5000e-003	0.7601	5.8800e-003	0.7660	0.2020	5.4300e-003	0.2075	0.0000	677.8799	677.8799	0.0197	0.0000	678.3726
2022	15.5135	0.2327	2.5372	7.2100e-003	0.7572	5.6500e-003	0.7628	0.2013	5.2100e-003	0.2065	0.0000	651.2347	651.2347	0.0176	0.0000	651.6736
2023	15.4875	0.2084	2.3145	6.9400e-003	0.7572	5.4800e-003	0.7627	0.2013	5.0500e-003	0.2063	0.0000	626.9090	626.9090	0.0157	0.0000	627.3011
2024	12.4312	0.1506	1.7148	5.3600e-003	0.6087	4.2900e-003	0.6130	0.1618	3.9600e-003	0.1657	0.0000	484.6105	484.6105	0.0113	0.0000	484.8940
Maximum	**15.6021**	**0.2613**	**2.7926**	**7.5000e-003**	**0.7601**	**5.8800e-003**	**0.7660**	**0.2020**	**5.4300e-003**	**0.2075**	**0.0000**	**677.8799**	**677.8799**	**0.0197**	**0.0000**	**678.3726**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	15.6021	0.2613	2.7926	7.5000e-003	0.7601	5.8800e-003	0.7660	0.2020	5.4300e-003	0.2075	0.0000	677.8799	677.8799	0.0197	0.0000	678.3726
2022	15.5135	0.2327	2.5372	7.2100e-003	0.7572	5.6500e-003	0.7628	0.2013	5.2100e-003	0.2065	0.0000	651.2347	651.2347	0.0176	0.0000	651.6736
2023	15.4875	0.2084	2.3145	6.9400e-003	0.7572	5.4800e-003	0.7627	0.2013	5.0500e-003	0.2063	0.0000	626.9090	626.9090	0.0157	0.0000	627.3011
2024	12.4312	0.1506	1.7148	5.3600e-003	0.6087	4.2900e-003	0.6130	0.1618	3.9600e-003	0.1657	0.0000	484.6105	484.6105	0.0113	0.0000	484.8940
Maximum	**15.6021**	**0.2613**	**2.7926**	**7.5000e-003**	**0.7601**	**5.8800e-003**	**0.7660**	**0.2020**	**5.4300e-003**	**0.2075**	**0.0000**	**677.8799**	**677.8799**	**0.0197**	**0.0000**	**678.3726**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	3.9198	3.9198
2	**4-1-2021**	**6-30-2021**	3.9587	3.9587
3	**7-1-2021**	**9-30-2021**	4.0022	4.0022
4	**10-1-2021**	**12-31-2021**	4.0069	4.0069
5	**1-1-2022**	**3-31-2022**	3.9047	3.9047
6	**4-1-2022**	**6-30-2022**	3.9441	3.9441
7	**7-1-2022**	**9-30-2022**	3.9875	3.9875
8	**10-1-2022**	**12-31-2022**	3.9915	3.9915

9	**1-1-2023**	**3-31-2023**	3.8913	3.8913
10	**4-1-2023**	**6-30-2023**	3.9311	3.9311
11	**7-1-2023**	**9-30-2023**	3.9743	3.9743
12	**10-1-2023**	**12-31-2023**	3.9777	3.9777
13	**1-1-2024**	**3-31-2024**	3.9227	3.9227
14	**4-1-2024**	**6-30-2024**	3.9198	3.9198
15	**7-1-2024**	**9-30-2024**	3.9628	3.9628
		Highest	4.0069	4.0069

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	44.7955	5.0130	194.3383	0.5143		25.3421	25.3421		25.3421	25.3421	3,340.9062	2,440.8877	5,781.7939	15.7268	0.0435	6,187.9372
Energy	0.5550	4.7431	2.0183	0.0303		0.3835	0.3835		0.3835	0.3835	0.0000	11,189.3777	11,189.3777	0.4285	0.1742	11,251.9884
Mobile	4.7870	26.6440	62.8759	0.3523	44.3665	0.1562	44.5227	11.8787	0.1450	12.0237	0.0000	32,624.8068	32,624.8068	1.3050	0.0000	32,657.4305
Waste						0.0000	0.0000		0.0000	0.0000	607.9011	0.0000	607.9011	35.9259	0.0000	1,506.0492
Water						0.0000	0.0000		0.0000	0.0000	113.2943	478.4577	591.7519	11.6636	0.2809	967.0580
Total	**50.1376**	**36.4001**	**259.2325**	**0.8969**	**44.3665**	**25.8818**	**70.2483**	**11.8787**	**25.8706**	**37.7493**	**4,062.1016**	**46,733.5298**	**50,795.6314**	**65.0497**	**0.4986**	**52,570.4633**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	27.9538	2.5179	41.3907	0.0152		0.3915	0.3915		0.3915	0.3915	0.0000	2,440.8877	2,440.8877	0.1088	0.0435	2,456.5795
Energy	0.5239	4.4769	1.9051	0.0286		0.3620	0.3620		0.3620	0.3620	0.0000	10,830.2741	10,830.2741	0.4197	0.1679	10,890.7854
Mobile	4.6545	25.9471	59.2444	0.3297	41.3052	0.1467	41.4519	11.0591	0.1362	11.1953	0.0000	30,534.9569	30,534.9569	1.2502	0.0000	30,566.2108
Waste						0.0000	0.0000		0.0000	0.0000	455.9258	0.0000	455.9258	26.9444	0.0000	1,129.5369
Water						0.0000	0.0000		0.0000	0.0000	90.6354	382.7661	473.4016	9.3308	0.2247	773.6464
Total	**33.1322**	**32.9419**	**102.5402**	**0.3736**	**41.3052**	**0.9001**	**42.2053**	**11.0591**	**0.8896**	**11.9487**	**546.5612**	**44,188.8847**	**44,735.4459**	**38.0539**	**0.4361**	**45,816.7591**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**33.92**	**9.50**	**60.44**	**58.35**	**6.90**	**96.52**	**39.92**	**6.90**	**96.56**	**68.35**	**86.54**	**5.45**	**11.93**	**41.50**	**12.53**	**12.85**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	1/1/2021	10/17/2024	5	990	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 12,445,245; Residential Outdoor: 4,148,415; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	0.10	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	729.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	15.2075					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.3200e-003	3.9500e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.5553	0.5553	4.0000e-005	0.0000	0.5563
Total	**15.2080**	**3.3200e-003**	**3.9500e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.5553**	**0.5553**	**4.0000e-005**	**0.0000**	**0.5563**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3941	0.2580	2.7886	7.5000e-003	0.7601	5.6700e-003	0.7658	0.2020	5.2200e-003	0.2073	0.0000	677.3245	677.3245	0.0197	0.0000	677.8163
Total	**0.3941**	**0.2580**	**2.7886**	**7.5000e-003**	**0.7601**	**5.6700e-003**	**0.7658**	**0.2020**	**5.2200e-003**	**0.2073**	**0.0000**	**677.3245**	**677.3245**	**0.0197**	**0.0000**	**677.8163**

3.2 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	15.2075					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.3200e-003	3.9500e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.5553	0.5553	4.0000e-005	0.0000	0.5563
Total	**15.2080**	**3.3200e-003**	**3.9500e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.5553**	**0.5553**	**4.0000e-005**	**0.0000**	**0.5563**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3941	0.2580	2.7886	7.5000e-003	0.7601	5.6700e-003	0.7658	0.2020	5.2200e-003	0.2073	0.0000	677.3245	677.3245	0.0197	0.0000	677.8163
Total	**0.3941**	**0.2580**	**2.7886**	**7.5000e-003**	**0.7601**	**5.6700e-003**	**0.7658**	**0.2020**	**5.2200e-003**	**0.2073**	**0.0000**	**677.3245**	**677.3245**	**0.0197**	**0.0000**	**677.8163**

3.2 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	15.1493					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4000e-004	3.0500e-003	3.9300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.5532	0.5532	4.0000e-005	0.0000	0.5541
Total	**15.1497**	**3.0500e-003**	**3.9300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.5532**	**0.5532**	**4.0000e-005**	**0.0000**	**0.5541**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3638	0.2297	2.5332	7.2000e-003	0.7572	5.4700e-003	0.7627	0.2013	5.0400e-003	0.2063	0.0000	650.6815	650.6815	0.0175	0.0000	651.1195
Total	**0.3638**	**0.2297**	**2.5332**	**7.2000e-003**	**0.7572**	**5.4700e-003**	**0.7627**	**0.2013**	**5.0400e-003**	**0.2063**	**0.0000**	**650.6815**	**650.6815**	**0.0175**	**0.0000**	**651.1195**

3.2 Architectural Coating - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	15.1493					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4000e-004	3.0500e-003	3.9300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.5532	0.5532	4.0000e-005	0.0000	0.5541
Total	**15.1497**	**3.0500e-003**	**3.9300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.5532**	**0.5532**	**4.0000e-005**	**0.0000**	**0.5541**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3638	0.2297	2.5332	7.2000e-003	0.7572	5.4700e-003	0.7627	0.2013	5.0400e-003	0.2063	0.0000	650.6815	650.6815	0.0175	0.0000	651.1195
Total	**0.3638**	**0.2297**	**2.5332**	**7.2000e-003**	**0.7572**	**5.4700e-003**	**0.7627**	**0.2013**	**5.0400e-003**	**0.2063**	**0.0000**	**650.6815**	**650.6815**	**0.0175**	**0.0000**	**651.1195**

3.2 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	15.1493					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2000e-004	2.8200e-003	3.9200e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.5532	0.5532	3.0000e-005	0.0000	0.5540
Total	**15.1497**	**2.8200e-003**	**3.9200e-003**	**1.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**	**0.0000**	**0.5532**	**0.5532**	**3.0000e-005**	**0.0000**	**0.5540**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3378	0.2055	2.3106	6.9300e-003	0.7572	5.3200e-003	0.7625	0.2013	4.9000e-003	0.2062	0.0000	626.3558	626.3558	0.0157	0.0000	626.7471
Total	**0.3378**	**0.2055**	**2.3106**	**6.9300e-003**	**0.7572**	**5.3200e-003**	**0.7625**	**0.2013**	**4.9000e-003**	**0.2062**	**0.0000**	**626.3558**	**626.3558**	**0.0157**	**0.0000**	**626.7471**

3.2 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	15.1493					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2000e-004	2.8200e-003	3.9200e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.5532	0.5532	3.0000e-005	0.0000	0.5540
Total	**15.1497**	**2.8200e-003**	**3.9200e-003**	**1.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**	**0.0000**	**0.5532**	**0.5532**	**3.0000e-005**	**0.0000**	**0.5540**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3378	0.2055	2.3106	6.9300e-003	0.7572	5.3200e-003	0.7625	0.2013	4.9000e-003	0.2062	0.0000	626.3558	626.3558	0.0157	0.0000	626.7471
Total	**0.3378**	**0.2055**	**2.3106**	**6.9300e-003**	**0.7572**	**5.3200e-003**	**0.7625**	**0.2013**	**4.9000e-003**	**0.2062**	**0.0000**	**626.3558**	**626.3558**	**0.0157**	**0.0000**	**626.7471**

3.2 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	12.1777					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1000e-004	2.1200e-003	3.1500e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.4447	0.4447	3.0000e-005	0.0000	0.4453
Total	**12.1780**	**2.1200e-003**	**3.1500e-003**	**1.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.4447**	**0.4447**	**3.0000e-005**	**0.0000**	**0.4453**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2532	0.1485	1.7116	5.3500e-003	0.6087	4.1800e-003	0.6129	0.1618	3.8500e-003	0.1656	0.0000	484.1658	484.1658	0.0113	0.0000	484.4487
Total	**0.2532**	**0.1485**	**1.7116**	**5.3500e-003**	**0.6087**	**4.1800e-003**	**0.6129**	**0.1618**	**3.8500e-003**	**0.1656**	**0.0000**	**484.1658**	**484.1658**	**0.0113**	**0.0000**	**484.4487**

3.2 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	12.1777					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1000e-004	2.1200e-003	3.1500e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.4447	0.4447	3.0000e-005	0.0000	0.4453
Total	**12.1780**	**2.1200e-003**	**3.1500e-003**	**1.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.4447**	**0.4447**	**3.0000e-005**	**0.0000**	**0.4453**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2532	0.1485	1.7116	5.3500e-003	0.6087	4.1800e-003	0.6129	0.1618	3.8500e-003	0.1656	0.0000	484.1658	484.1658	0.0113	0.0000	484.4487
Total	**0.2532**	**0.1485**	**1.7116**	**5.3500e-003**	**0.6087**	**4.1800e-003**	**0.6129**	**0.1618**	**3.8500e-003**	**0.1656**	**0.0000**	**484.1658**	**484.1658**	**0.0113**	**0.0000**	**484.4487**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.6545	25.9471	59.2444	0.3297	41.3052	0.1467	41.4519	11.0591	0.1362	11.1953	0.0000	30,534.9569	30,534.9569	1.2502	0.0000	30,566.2108
Unmitigated	4.7870	26.6440	62.8759	0.3523	44.3665	0.1562	44.5227	11.8787	0.1450	12.0237	0.0000	32,624.8068	32,624.8068	1.3050	0.0000	32,657.4305

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	3,312.96	2,990.19	2490.81	9,230,771	8,593,848
Condo/Townhouse	29,580.12	32,893.74	25377.48	86,325,957	80,369,466
Single Family Housing	7,844.64	7,927.74	7105.05	22,717,461	21,149,956
Total	40,737.72	43,811.67	34,973.34	118,274,189	110,113,270

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	48.40	13.90	37.70	86	11	3
Condo/Townhouse	10.80	7.30	7.50	48.40	13.90	37.70	86	11	3
Single Family Housing	10.80	7.30	7.50	48.40	13.90	37.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.483400	0.236300	0.171600	0.062500	0.000900	0.001000	0.007900	0.023300	0.000000	0.004300	0.003300	0.001100	0.004400
Condo/Townhouse	0.483400	0.236300	0.171600	0.062500	0.000900	0.001000	0.007900	0.023300	0.000000	0.004300	0.003300	0.001100	0.004400
Single Family Housing	0.483400	0.236300	0.171600	0.062500	0.000900	0.001000	0.007900	0.023300	0.000000	0.004300	0.003300	0.001100	0.004400

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,645.5702	5,645.5702	0.3203	0.0728	5,675.2715
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,696.3897	5,696.3897	0.3232	0.0735	5,726.3583
NaturalGas Mitigated	0.5239	4.4769	1.9051	0.0286		0.3620	0.3620		0.3620	0.3620	0.0000	5,184.7039	5,184.7039	0.0994	0.0951	5,215.5140
NaturalGas Unmitigated	0.5550	4.7431	2.0183	0.0303		0.3835	0.3835		0.3835	0.3835	0.0000	5,492.9880	5,492.9880	0.1053	0.1007	5,525.6301

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	8.6091e+006	0.0464	0.3967	0.1688	2.5300e-003		0.0321	0.0321		0.0321	0.0321	0.0000	459.4146	459.4146	8.8100e-003	8.4200e-003	462.1447
Condo/Townhouse	7.25989e+007	0.3915	3.3452	1.4235	0.0214		0.2705	0.2705		0.2705	0.2705	0.0000	3,874.1543	3,874.1543	0.0743	0.0710	3,897.1764
Single Family Housing	2.17267e+007	0.1172	1.0011	0.4260	6.3900e-003		0.0809	0.0809		0.0809	0.0809	0.0000	1,159.4192	1,159.4192	0.0222	0.0213	1,166.3090
Total		**0.5550**	**4.7431**	**2.0183**	**0.0303**		**0.3835**	**0.3835**		**0.3835**	**0.3835**	**0.0000**	**5,492.9880**	**5,492.9880**	**0.1053**	**0.1007**	**5,525.6301**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	8.16518e+006	0.0440	0.3762	0.1601	2.4000e-003		0.0304	0.0304		0.0304	0.0304	0.0000	435.7250	435.7250	8.3500e-003	7.9900e-003	438.3143
Condo/Townhouse	6.85701e+007	0.3697	3.1596	1.3445	0.0202		0.2555	0.2555		0.2555	0.2555	0.0000	3,659.1622	3,659.1622	0.0701	0.0671	3,680.9068
Single Family Housing	2.04224e+007	0.1101	0.9410	0.4004	6.0100e-003		0.0761	0.0761		0.0761	0.0761	0.0000	1,089.8167	1,089.8167	0.0209	0.0200	1,096.2929
Total		**0.5239**	**4.4769**	**1.9051**	**0.0286**		**0.3620**	**0.3620**		**0.3620**	**0.3620**	**0.0000**	**5,184.7039**	**5,184.7039**	**0.0994**	**0.0951**	**5,215.5140**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	2.84861e+006	501.0277	0.0284	6.4600e-003	503.6636
Condo/Townhouse	2.22582e+007	3,914.8887	0.2221	0.0505	3,935.4848
Single Family Housing	7.28017e+006	1,280.4734	0.0727	0.0165	1,287.2100
Total		**5,696.3897**	**0.3232**	**0.0735**	**5,726.3583**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	2.81901e+006	495.8211	0.0281	6.3900e-003	498.4296
Condo/Townhouse	2.20568e+007	3,879.4653	0.2201	0.0500	3,899.8751
Single Family Housing	7.22224e+006	1,270.2838	0.0721	0.0164	1,276.9668
Total		**5,645.5702**	**0.3203**	**0.0728**	**5,675.2714**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	27.9538	2.5179	41.3907	0.0152		0.3915	0.3915		0.3915	0.3915	0.0000	2,440.8877	2,440.8877	0.1088	0.0435	2,456.5795
Unmitigated	44.7955	5.0130	194.3383	0.5143		25.3421	25.3421		25.3421	25.3421	3,340.9062	2,440.8877	5,781.7939	15.7268	0.0435	6,187.9372

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.4996					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	24.0024					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	17.0816	4.5453	153.8201	0.5121		25.1164	25.1164		25.1164	25.1164	3,340.9062	2,374.4097	5,715.3160	15.6636	0.0435	6,119.8773
Landscaping	1.2119	0.4677	40.5183	2.1500e-003		0.2257	0.2257		0.2257	0.2257	0.0000	66.4779	66.4779	0.0633	0.0000	68.0598
Total	**44.7955**	**5.0130**	**194.3383**	**0.5143**		**25.3421**	**25.3421**		**25.3421**	**25.3421**	**3,340.9062**	**2,440.8877**	**5,781.7939**	**15.7269**	**0.0435**	**6,187.9371**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.4996					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	24.0024					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.2399	2.0503	0.8725	0.0131		0.1658	0.1658		0.1658	0.1658	0.0000	2,374.4097	2,374.4097	0.0455	0.0435	2,388.5197
Landscaping	1.2119	0.4677	40.5183	2.1500e-003		0.2257	0.2257		0.2257	0.2257	0.0000	66.4779	66.4779	0.0633	0.0000	68.0598
Total	**27.9538**	**2.5179**	**41.3907**	**0.0152**		**0.3915**	**0.3915**		**0.3915**	**0.3915**	**0.0000**	**2,440.8877**	**2,440.8877**	**0.1088**	**0.0435**	**2,456.5795**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	473.4016	9.3308	0.2247	773.6464
Unmitigated	591.7519	11.6636	0.2809	967.0580

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	39.6788 / 25.0149	65.7502	1.2960	0.0312	107.4509
Condo/Townhouse	263.287 / 165.986	436.2834	8.5992	0.2071	712.9870
Single Family Housing	54.143 / 34.1336	89.7183	1.7684	0.0426	146.6202
Total		**591.7519**	**11.6636**	**0.2809**	**967.0580**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	31.743 / 20.0119	52.6002	1.0368	0.0250	85.9607
Condo/Townhouse	210.63 / 132.788	349.0268	6.8794	0.1657	570.3896
Single Family Housing	43.3144 / 27.3069	71.7746	1.4147	0.0341	117.2962
Total		**473.4016**	**9.3308**	**0.2247**	**773.6464**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	455.9258	26.9444	0.0000	1,129.5369
Unmitigated	607.9011	35.9259	0.0000	1,506.0492

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	280.14	56.8659	3.3607	0.0000	140.8828
Condo/Townhouse	1858.86	377.3318	22.2997	0.0000	934.8235
Single Family Housing	855.72	173.7034	10.2656	0.0000	430.3429
Total		**607.9011**	**35.9259**	**0.0000**	**1,506.0492**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	210.105	42.6494	2.5205	0.0000	105.6621
Condo/Townhouse	1394.15	282.9988	16.7248	0.0000	701.1176
Single Family Housing	641.79	130.2776	7.6992	0.0000	322.7572
Total		**455.9258**	**26.9444**	**0.0000**	**1,129.5369**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Commercial and Industrial Operations 2040 (Annual)

Baldwin Zacharias MP Commercial and Industrial

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Regional Shopping Center	855.00	1000sqft	19.63	855,000.00	0
General Light Industry	4,181.00	1000sqft	95.98	4,181,000.00	0
Refrigerated Warehouse-No Rail	2,730.00	1000sqft	62.67	2,730,000.00	0
Parking Lot	188.00	Acre	188.00	8,189,280.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2040
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	387.76	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - TID 2030 RPS Mandate

Land Use - Shopping Center ITE 820 for MU and GC. Light Industrial ITE 110, WH ITE 150 from Traffic Study.

Construction Phase -

Off-road Equipment - Operations ony run

Trips and VMT - Ops only

Vehicle Trips - ITE 10th Ed Trip Rates

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use - 2019 Title 24 reduction 10.7% for Elec and 1% for NG

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation - Achieve 75% statewide recycling mandate

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	65
tblAreaCoating	Area_EF_Nonresidential_Interior	150	65
tblEnergyUse	T24E	1.96	1.75
tblEnergyUse	T24E	0.47	0.42
tblEnergyUse	T24E	2.14	1.91
tblEnergyUse	T24NG	17.03	16.86
tblEnergyUse	T24NG	0.15	0.15
tblEnergyUse	T24NG	8.62	8.53
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	790	387.76
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblVehicleTrips	ST_TR	1.32	1.99
tblVehicleTrips	ST_TR	1.68	0.15
tblVehicleTrips	SU_TR	0.68	5.00
tblVehicleTrips	SU_TR	1.68	0.06
tblVehicleTrips	WD_TR	6.97	4.96
tblVehicleTrips	WD_TR	1.68	1.74

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3795	3.9781	1.4875	3.1200e-003	2.1680	0.1934	2.3613	1.1917	0.1779	1.3696	0.0000	274.2966	274.2966	0.0887	0.0000	276.5145
Maximum	**0.3795**	**3.9781**	**1.4875**	**3.1200e-003**	**2.1680**	**0.1934**	**2.3613**	**1.1917**	**0.1779**	**1.3696**	**0.0000**	**274.2966**	**274.2966**	**0.0887**	**0.0000**	**276.5145**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3795	3.9781	1.4875	3.1200e-003	2.1680	0.1934	2.3613	1.1917	0.1779	1.3696	0.0000	274.2963	274.2963	0.0887	0.0000	276.5141
Maximum	**0.3795**	**3.9781**	**1.4875**	**3.1200e-003**	**2.1680**	**0.1934**	**2.3613**	**1.1917**	**0.1779**	**1.3696**	**0.0000**	**274.2963**	**274.2963**	**0.0887**	**0.0000**	**276.5141**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	1.1672	1.1672
2	4-1-2021	6-30-2021	1.1802	1.1802
3	7-1-2021	9-30-2021	1.1932	1.1932
		Highest	1.1932	1.1932

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	33.3766	6.5000e-004	0.0726	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	0.1421	0.1421	3.7000e-004	0.0000	0.1513
Energy	0.5178	4.7070	3.9539	0.0282		0.3577	0.3577		0.3577	0.3577	0.0000	25,087.7738	25,087.7738	1.2309	0.3514	25,223.2523
Mobile	7.4866	111.6594	74.8035	0.5995	48.2964	0.2190	48.5153	12.9626	0.2051	13.1677	0.0000	55,914.2797	55,914.2797	3.3427	0.0000	55,997.8476
Waste						0.0000	0.0000		0.0000	0.0000	1,755.5450	0.0000	1,755.5450	103.7497	0.0000	4,349.2885
Water						0.0000	0.0000		0.0000	0.0000	527.1175	1,605.1682	2,132.2857	54.2311	1.2991	3,875.1834
Total	**41.3810**	**116.3670**	**78.8300**	**0.6277**	**48.2964**	**0.5770**	**48.8733**	**12.9626**	**0.5631**	**13.5257**	**2,282.6626**	**82,607.3637**	**84,890.0263**	**162.5548**	**1.6504**	**89,445.7231**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	33.3766	6.5000e-004	0.0726	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	0.1421	0.1421	3.7000e-004	0.0000	0.1513
Energy	0.5178	4.7070	3.9539	0.0282		0.3577	0.3577		0.3577	0.3577	0.0000	25,087.7738	25,087.7738	1.2309	0.3514	25,223.2523
Mobile	7.2722	109.8404	70.8344	0.5657	44.9639	0.2057	45.1696	12.0682	0.1927	12.2609	0.0000	52,779.3622	52,779.3622	3.2997	0.0000	52,861.8552
Waste						0.0000	0.0000		0.0000	0.0000	1,316.6588	0.0000	1,316.6588	77.8123	0.0000	3,261.9664
Water						0.0000	0.0000		0.0000	0.0000	421.6940	1,284.1345	1,705.8286	43.3849	1.0393	3,100.1467
Total	**41.1666**	**114.5480**	**74.8608**	**0.5940**	**44.9639**	**0.5637**	**45.5276**	**12.0682**	**0.5507**	**12.6188**	**1,738.3528**	**79,151.4126**	**80,889.7654**	**125.7281**	**1.3906**	**84,447.3719**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.52**	**1.56**	**5.04**	**5.37**	**6.90**	**2.30**	**6.85**	**6.90**	**2.21**	**6.70**	**23.85**	**4.18**	**4.71**	**22.65**	**15.74**	**5.59**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	12/2/2021	5	240	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 188

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1680	0.0000	2.1680	1.1917	0.0000	1.1917	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3795	3.9781	1.4875	3.1200e-003		0.1934	0.1934		0.1779	0.1779	0.0000	274.2966	274.2966	0.0887	0.0000	276.5145
Total	**0.3795**	**3.9781**	**1.4875**	**3.1200e-003**	**2.1680**	**0.1934**	**2.3613**	**1.1917**	**0.1779**	**1.3696**	**0.0000**	**274.2966**	**274.2966**	**0.0887**	**0.0000**	**276.5145**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1680	0.0000	2.1680	1.1917	0.0000	1.1917	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3795	3.9781	1.4875	3.1200e-003		0.1934	0.1934		0.1779	0.1779	0.0000	274.2963	274.2963	0.0887	0.0000	276.5141
Total	**0.3795**	**3.9781**	**1.4875**	**3.1200e-003**	**2.1680**	**0.1934**	**2.3613**	**1.1917**	**0.1779**	**1.3696**	**0.0000**	**274.2963**	**274.2963**	**0.0887**	**0.0000**	**276.5141**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	7.2722	109.8404	70.8344	0.5657	44.9639	0.2057	45.1696	12.0682	0.1927	12.2609	0.0000	52,779.3622	52,779.3622	3.2997	0.0000	52,861.8552
Unmitigated	7.4866	111.6594	74.8035	0.5995	48.2964	0.2190	48.5153	12.9626	0.2051	13.1677	0.0000	55,914.2797	55,914.2797	3.3427	0.0000	55,997.8476

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	20,737.76	8,320.19	20905.00	55,434,839	51,609,835
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	4,750.20	409.50	163.80	10,145,009	9,445,004
Regional Shopping Center	36,508.50	42,724.35	21580.20	61,828,303	57,562,150
Total	61,996.46	51,454.04	42,649.00	127,408,152	118,616,989

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.561935	0.028835	0.181775	0.088795	0.008394	0.003308	0.026073	0.093385	0.001808	0.000875	0.003797	0.000593	0.000427
Parking Lot	0.561935	0.028835	0.181775	0.088795	0.008394	0.003308	0.026073	0.093385	0.001808	0.000875	0.003797	0.000593	0.000427
Refrigerated Warehouse-No Rail	0.561935	0.028835	0.181775	0.088795	0.008394	0.003308	0.026073	0.093385	0.001808	0.000875	0.003797	0.000593	0.000427
Regional Shopping Center	0.561935	0.028835	0.181775	0.088795	0.008394	0.003308	0.026073	0.093385	0.001808	0.000875	0.003797	0.000593	0.000427

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	19,963.6587	19,963.6587	1.1327	0.2574	20,068.6872
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	19,963.6587	19,963.6587	1.1327	0.2574	20,068.6872
NaturalGas Mitigated	0.5178	4.7070	3.9539	0.0282		0.3577	0.3577		0.3577	0.3577	0.0000	5,124.1151	5,124.1151	0.0982	0.0939	5,154.5651
NaturalGas Unmitigated	0.5178	4.7070	3.9539	0.0282		0.3577	0.3577		0.3577	0.3577	0.0000	5,124.1151	5,124.1151	0.0982	0.0939	5,154.5651

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	8.65467e+007	0.4667	4.2425	3.5637	0.0255		0.3224	0.3224		0.3224	0.3224	0.0000	4,618.4615	4,618.4615	0.0885	0.0847	4,645.9067
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	404040	2.1800e-003	0.0198	0.0166	1.2000e-004		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	21.5611	21.5611	4.1000e-004	4.0000e-004	21.6892
Regional Shopping Center	9.07155e+006	0.0489	0.4447	0.3735	2.6700e-003		0.0338	0.0338		0.0338	0.0338	0.0000	484.0925	484.0925	9.2800e-003	8.8800e-003	486.9692
Total		**0.5178**	**4.7070**	**3.9539**	**0.0282**		**0.3577**	**0.3577**		**0.3577**	**0.3577**	**0.0000**	**5,124.1151**	**5,124.1151**	**0.0982**	**0.0940**	**5,154.5651**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	8.65467e+007	0.4667	4.2425	3.5637	0.0255		0.3224	0.3224		0.3224	0.3224	0.0000	4,618.4615	4,618.4615	0.0885	0.0847	4,645.9067
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	404040	2.1800e-003	0.0198	0.0166	1.2000e-004		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	21.5611	21.5611	4.1000e-004	4.0000e-004	21.6892
Regional Shopping Center	9.07155e+006	0.0489	0.4447	0.3735	2.6700e-003		0.0338	0.0338		0.0338	0.0338	0.0000	484.0925	484.0925	9.2800e-003	8.8800e-003	486.9692
Total		**0.5178**	**4.7070**	**3.9539**	**0.0282**		**0.3577**	**0.3577**		**0.3577**	**0.3577**	**0.0000**	**5,124.1151**	**5,124.1151**	**0.0982**	**0.0940**	**5,154.5651**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	3.59984e+007	6,331.5795	0.3592	0.0816	6,364.8899
Parking Lot	2.86625e+006	504.1300	0.0286	6.5000e-003	506.7822
Refrigerated Warehouse-No Rail	6.78678e+007	11,936.9265	0.6773	0.1539	11,999.7265
Regional Shopping Center	6.7716e+006	1,191.0227	0.0676	0.0154	1,197.2887
Total		**19,963.6587**	**1.1327**	**0.2574**	**20,068.6872**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	3.59984e+007	6,331.5795	0.3592	0.0816	6,364.8899
Parking Lot	2.86625e+006	504.1300	0.0286	6.5000e-003	506.7822
Refrigerated Warehouse-No Rail	6.78678e+007	11,936.9265	0.6773	0.1539	11,999.7265
Regional Shopping Center	6.7716e+006	1,191.0227	0.0676	0.0154	1,197.2887
Total		**19,963.6587**	**1.1327**	**0.2574**	**20,068.6872**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	33.3766	6.5000e-004	0.0726	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	0.1421	0.1421	3.7000e-004	0.0000	0.1513
Unmitigated	33.3766	6.5000e-004	0.0726	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	0.1421	0.1421	3.7000e-004	0.0000	0.1513

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.5105					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	30.8595					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.6500e-003	6.5000e-004	0.0726	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	0.1421	0.1421	3.7000e-004	0.0000	0.1513
Total	**33.3766**	**6.5000e-004**	**0.0726**	**1.0000e-005**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**	**0.0000**	**0.1421**	**0.1421**	**3.7000e-004**	**0.0000**	**0.1513**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.5105					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	30.8595					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.6500e-003	6.5000e-004	0.0726	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	0.1421	0.1421	3.7000e-004	0.0000	0.1513
Total	**33.3766**	**6.5000e-004**	**0.0726**	**1.0000e-005**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**	**0.0000**	**0.1421**	**0.1421**	**3.7000e-004**	**0.0000**	**0.1513**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1,705.8286	43.3849	1.0393	3,100.1467
Unmitigated	2,132.2857	54.2311	1.2991	3,875.1834

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	966.856 / 0	1,226.9091	31.5572	0.7558	2,241.0585
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	631.313 / 0	801.1150	20.6054	0.4935	1,463.3078
Regional Shopping Center	63.332 / 38.8164	104.2615	2.0685	0.0498	170.8171
Total		**2,132.2857**	**54.2311**	**1.2991**	**3,875.1834**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	773.485 / 0	981.5273	25.2458	0.6046	1,792.8468
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	505.05 / 0	640.8920	16.4843	0.3948	1,170.6462
Regional Shopping Center	50.6656 / 31.0531	83.4092	1.6548	0.0399	136.6537
Total		**1,705.8286**	**43.3849**	**1.0392**	**3,100.1467**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1,316.6588	77.8123	0.0000	3,261.9664
Unmitigated	1,755.5450	103.7497	0.0000	4,349.2885

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	5184.44	1,052.3945	62.1947	0.0000	2,607.2628
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	2566.2	520.9154	30.7852	0.0000	1,290.5459
Regional Shopping Center	897.75	182.2351	10.7698	0.0000	451.4798
Total		**1,755.5450**	**103.7497**	**0.0000**	**4,349.2885**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	3888.33	789.2959	46.6461	0.0000	1,955.4471
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	1924.65	390.6866	23.0889	0.0000	967.9094
Regional Shopping Center	673.313	136.6764	8.0773	0.0000	338.6099
Total		**1,316.6588**	**77.8123**	**0.0000**	**3,261.9664**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Elementary School Operations 2040 (Annual)

Baldwin Zacharias MP Elementary School

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	500.00	Student	0.96	41,801.69	0
Other Non-Asphalt Surfaces	11.04	Acre	11.04	480,902.40	0
Parking Lot	2.00	Acre	2.00	87,120.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2040
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	387.76	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - TID Intensity Factor for 2030

Land Use -

Construction Phase -

Architectural Coating - Rule 4601 Architectural Coatings compliance

Vehicle Trips - ITE 10th Edition Trip Gen.

Area Coating - Rule 4601 Architectural Coatings

Energy Use - 2019 Title 24 reduces non-residential energy use by 10.7% for electricity and 1% for NG

Construction Off-road Equipment Mitigation - Tier 4 Equipment Mitigation

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation - CalGreen and MWELO compliance

Waste Mitigation - Achieve 75% statewide recycling mandate

Fleet Mix - SJVAPCD Residential Fleet Mix 2040

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	65
tblAreaCoating	Area_EF_Nonresidential_Interior	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblEnergyUse	T24E	2.14	1.91
tblEnergyUse	T24NG	23.19	22.96
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.56	0.48
tblFleetMix	LDT1	0.03	0.24
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	8.3940e-003	9.0000e-004
tblFleetMix	LHD2	3.3080e-003	1.0000e-003

tblFleetMix	MCY	3.7970e-003	3.3000e-003
tblFleetMix	MDV	0.09	0.06
tblFleetMix	MH	4.2700e-004	4.4000e-003
tblFleetMix	MHD	0.03	7.9000e-003
tblFleetMix	OBUS	1.8080e-003	0.00
tblFleetMix	SBUS	5.9300e-004	1.1000e-003
tblFleetMix	UBUS	8.7500e-004	4.3000e-003
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	790	387.76
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	WD_TR	1.29	1.89

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4414	4.0735	3.4639	9.6100e-003	0.4452	0.1457	0.5909	0.1395	0.1364	0.2759	0.0000	867.8813	867.8813	0.1225	0.0000	870.9425
2022	0.3652	1.0511	1.0405	2.8600e-003	0.0987	0.0359	0.1345	0.0268	0.0337	0.0604	0.0000	258.2194	258.2194	0.0348	0.0000	259.0902
Maximum	**0.4414**	**4.0735**	**3.4639**	**9.6100e-003**	**0.4452**	**0.1457**	**0.5909**	**0.1395**	**0.1364**	**0.2759**	**0.0000**	**867.8813**	**867.8813**	**0.1225**	**0.0000**	**870.9425**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2083	1.6717	3.5979	9.6100e-003	0.3736	0.0115	0.3851	0.1098	0.0112	0.1210	0.0000	867.8809	867.8809	0.1225	0.0000	870.9421
2022	0.3077	0.4775	1.1056	2.8600e-003	0.0987	3.2600e-003	0.1019	0.0268	3.1800e-003	0.0299	0.0000	258.2193	258.2193	0.0348	0.0000	259.0901
Maximum	**0.3077**	**1.6717**	**3.5979**	**9.6100e-003**	**0.3736**	**0.0115**	**0.3851**	**0.1098**	**0.0112**	**0.1210**	**0.0000**	**867.8809**	**867.8809**	**0.1225**	**0.0000**	**870.9421**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**36.04**	**58.06**	**-4.42**	**0.00**	**13.16**	**91.89**	**32.86**	**17.85**	**91.56**	**55.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	1.3202	0.3348
2	4-1-2021	6-30-2021	1.0546	0.5095
3	7-1-2021	9-30-2021	1.0662	0.5151
4	10-1-2021	12-31-2021	1.0716	0.5206
5	1-1-2022	3-31-2022	0.9597	0.4853
6	4-1-2022	6-30-2022	0.4641	0.3053
		Highest	1.3202	0.5206

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2248	4.0000e-005	4.6800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7600e-003
Energy	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	110.7849	110.7849	4.2000e-003	1.7300e-003	111.4055
Mobile	0.0721	0.4038	0.8337	4.5400e-003	0.5583	2.0400e-003	0.5603	0.1495	1.9000e-003	0.1514	0.0000	420.2265	420.2265	0.0185	0.0000	420.6900
Waste						0.0000	0.0000		0.0000	0.0000	18.5229	0.0000	18.5229	1.0947	0.0000	45.8898
Water						0.0000	0.0000		0.0000	0.0000	0.3846	3.0723	3.4569	0.0397	9.7000e-004	4.7384
Total	**0.3026**	**0.4549**	**0.8812**	**4.8500e-003**	**0.5583**	**5.9300e-003**	**0.5642**	**0.1495**	**5.7900e-003**	**0.1553**	**18.9075**	**534.0929**	**553.0004**	**1.1571**	**2.7000e-003**	**582.7334**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2248	4.0000e-005	4.6800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7600e-003
Energy	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	110.7849	110.7849	4.2000e-003	1.7300e-003	111.4055
Mobile	0.0705	0.3951	0.7880	4.2500e-003	0.5198	1.9300e-003	0.5217	0.1392	1.7900e-003	0.1410	0.0000	393.9284	393.9284	0.0179	0.0000	394.3746
Waste						0.0000	0.0000		0.0000	0.0000	13.8922	0.0000	13.8922	0.8210	0.0000	34.4173
Water						0.0000	0.0000		0.0000	0.0000	0.3076	2.4579	2.7655	0.0317	7.8000e-004	3.7907
Total	**0.3009**	**0.4461**	**0.8355**	**4.5600e-003**	**0.5198**	**5.8200e-003**	**0.5256**	**0.1392**	**5.6800e-003**	**0.1448**	**14.1998**	**507.1803**	**521.3801**	**0.8748**	**2.5100e-003**	**543.9979**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.55**	**1.93**	**5.19**	**5.98**	**6.90**	**1.85**	**6.85**	**6.90**	**1.90**	**6.72**	**24.90**	**5.04**	**5.72**	**24.40**	**7.04**	**6.65**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	12/31/2020	5	10	
2	Grading	Grading	1/1/2021	2/11/2021	5	30	
3	Building Construction	Building Construction	2/12/2021	4/7/2022	5	300	
4	Paving	Paving	4/8/2022	5/5/2022	5	20	
5	Architectural Coating	Architectural Coating	5/6/2022	6/2/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 13.04

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 62,703; Non-Residential Outdoor: 20,901; Striped Parking Area: 34,081 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	256.00	100.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	51.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.1301**	**0.0298**	**0.1599**	**0.0540**	**0.0274**	**0.0814**	**0.0000**	**81.7425**	**81.7425**	**0.0264**	**0.0000**	**82.4034**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	8.1000e-004	8.7900e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1359	2.1359	6.0000e-005	0.0000	2.1375
Total	**1.2400e-003**	**8.1000e-004**	**8.7900e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1359**	**2.1359**	**6.0000e-005**	**0.0000**	**2.1375**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0586	0.0000	0.0586	0.0243	0.0000	0.0243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.0495	0.4950	9.3000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033
Total	**0.0114**	**0.0495**	**0.4950**	**9.3000e-004**	**0.0586**	**1.5200e-003**	**0.0601**	**0.0243**	**1.5200e-003**	**0.0258**	**0.0000**	**81.7424**	**81.7424**	**0.0264**	**0.0000**	**82.4033**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	8.1000e-004	8.7900e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1359	2.1359	6.0000e-005	0.0000	2.1375
Total	**1.2400e-003**	**8.1000e-004**	**8.7900e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1359**	**2.1359**	**6.0000e-005**	**0.0000**	**2.1375**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5411	267.5411	0.0646	0.0000	269.1547
Total	**0.2196**	**2.0134**	**1.9144**	**3.1100e-003**		**0.1107**	**0.1107**		**0.1041**	**0.1041**	**0.0000**	**267.5411**	**267.5411**	**0.0646**	**0.0000**	**269.1547**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0352	1.2831	0.2108	3.2200e-003	0.0764	3.4600e-003	0.0799	0.0221	3.3100e-003	0.0254	0.0000	305.9480	305.9480	0.0253	0.0000	306.5802
Worker	0.1225	0.0802	0.8667	2.3300e-003	0.2362	1.7600e-003	0.2380	0.0628	1.6200e-003	0.0644	0.0000	210.5139	210.5139	6.1100e-003	0.0000	210.6667
Total	**0.1577**	**1.3633**	**1.0775**	**5.5500e-003**	**0.3127**	**5.2200e-003**	**0.3179**	**0.0849**	**4.9300e-003**	**0.0898**	**0.0000**	**516.4619**	**516.4619**	**0.0314**	**0.0000**	**517.2469**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0379	0.2581	2.0167	3.1100e-003		4.7100e-003	4.7100e-003		4.7100e-003	4.7100e-003	0.0000	267.5407	267.5407	0.0646	0.0000	269.1544
Total	**0.0379**	**0.2581**	**2.0167**	**3.1100e-003**		**4.7100e-003**	**4.7100e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**267.5407**	**267.5407**	**0.0646**	**0.0000**	**269.1544**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0352	1.2831	0.2108	3.2200e-003	0.0764	3.4600e-003	0.0799	0.0221	3.3100e-003	0.0254	0.0000	305.9480	305.9480	0.0253	0.0000	306.5802
Worker	0.1225	0.0802	0.8667	2.3300e-003	0.2362	1.7600e-003	0.2380	0.0628	1.6200e-003	0.0644	0.0000	210.5139	210.5139	6.1100e-003	0.0000	210.6667
Total	**0.1577**	**1.3633**	**1.0775**	**5.5500e-003**	**0.3127**	**5.2200e-003**	**0.3179**	**0.0849**	**4.9300e-003**	**0.0898**	**0.0000**	**516.4619**	**516.4619**	**0.0314**	**0.0000**	**517.2469**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0589	0.5387	0.5645	9.3000e-004		0.0279	0.0279		0.0263	0.0263	0.0000	79.9452	79.9452	0.0192	0.0000	80.4240
Total	**0.0589**	**0.5387**	**0.5645**	**9.3000e-004**		**0.0279**	**0.0279**		**0.0263**	**0.0263**	**0.0000**	**79.9452**	**79.9452**	**0.0192**	**0.0000**	**80.4240**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7900e-003	0.3640	0.0583	9.5000e-004	0.0228	9.0000e-004	0.0237	6.5900e-003	8.6000e-004	7.4500e-003	0.0000	90.5222	90.5222	7.2800e-003	0.0000	90.7043
Worker	0.0339	0.0214	0.2361	6.7000e-004	0.0706	5.1000e-004	0.0711	0.0188	4.7000e-004	0.0192	0.0000	60.6396	60.6396	1.6300e-003	0.0000	60.6805
Total	**0.0437**	**0.3854**	**0.2943**	**1.6200e-003**	**0.0934**	**1.4100e-003**	**0.0948**	**0.0254**	**1.3300e-003**	**0.0267**	**0.0000**	**151.1619**	**151.1619**	**8.9100e-003**	**0.0000**	**151.3848**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.0771	0.6024	9.3000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003	0.0000	79.9451	79.9451	0.0192	0.0000	80.4239
Total	**0.0113**	**0.0771**	**0.6024**	**9.3000e-004**		**1.4100e-003**	**1.4100e-003**		**1.4100e-003**	**1.4100e-003**	**0.0000**	**79.9451**	**79.9451**	**0.0192**	**0.0000**	**80.4239**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7900e-003	0.3640	0.0583	9.5000e-004	0.0228	9.0000e-004	0.0237	6.5900e-003	8.6000e-004	7.4500e-003	0.0000	90.5222	90.5222	7.2800e-003	0.0000	90.7043
Worker	0.0339	0.0214	0.2361	6.7000e-004	0.0706	5.1000e-004	0.0711	0.0188	4.7000e-004	0.0192	0.0000	60.6396	60.6396	1.6300e-003	0.0000	60.6805
Total	**0.0437**	**0.3854**	**0.2943**	**1.6200e-003**	**0.0934**	**1.4100e-003**	**0.0948**	**0.0254**	**1.3300e-003**	**0.0267**	**0.0000**	**151.1619**	**151.1619**	**8.9100e-003**	**0.0000**	**151.3848**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0137**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.6000e-004	4.0100e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0299	1.0299	3.0000e-005	0.0000	1.0306
Total	**5.8000e-004**	**3.6000e-004**	**4.0100e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0299**	**1.0299**	**3.0000e-005**	**0.0000**	**1.0306**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8000e-003	0.0122	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4200e-003**	**0.0122**	**0.1730**	**2.3000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.6000e-004	4.0100e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0299	1.0299	3.0000e-005	0.0000	1.0306
Total	**5.8000e-004**	**3.6000e-004**	**4.0100e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0299**	**1.0299**	**3.0000e-005**	**0.0000**	**1.0306**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2444					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.2465**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.2400e-003	0.0136	4.0000e-005	4.0700e-003	3.0000e-005	4.1000e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.5016	3.5016	9.0000e-005	0.0000	3.5040
Total	**1.9600e-003**	**1.2400e-003**	**0.0136**	**4.0000e-005**	**4.0700e-003**	**3.0000e-005**	**4.1000e-003**	**1.0800e-003**	**3.0000e-005**	**1.1100e-003**	**0.0000**	**3.5016**	**3.5016**	**9.0000e-005**	**0.0000**	**3.5040**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2444					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.2447**	**1.2900e-003**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.2400e-003	0.0136	4.0000e-005	4.0700e-003	3.0000e-005	4.1000e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.5016	3.5016	9.0000e-005	0.0000	3.5040
Total	**1.9600e-003**	**1.2400e-003**	**0.0136**	**4.0000e-005**	**4.0700e-003**	**3.0000e-005**	**4.1000e-003**	**1.0800e-003**	**3.0000e-005**	**1.1100e-003**	**0.0000**	**3.5016**	**3.5016**	**9.0000e-005**	**0.0000**	**3.5040**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0705	0.3951	0.7880	4.2500e-003	0.5198	1.9300e-003	0.5217	0.1392	1.7900e-003	0.1410	0.0000	393.9284	393.9284	0.0179	0.0000	394.3746
Unmitigated	0.0721	0.4038	0.8337	4.5400e-003	0.5583	2.0400e-003	0.5603	0.1495	1.9000e-003	0.1514	0.0000	420.2265	420.2265	0.0185	0.0000	420.6900

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	945.00	0.00	0.00	1,488,334	1,385,639
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	945.00	0.00	0.00	1,488,334	1,385,639

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.483400	0.236300	0.171600	0.062500	0.000900	0.001000	0.007900	0.023300	0.000000	0.004300	0.003300	0.001100	0.004400
Other Non-Asphalt Surfaces	0.561935	0.028835	0.181775	0.088795	0.008394	0.003308	0.026073	0.093385	0.001808	0.000875	0.003797	0.000593	0.000427
Parking Lot	0.561935	0.028835	0.181775	0.088795	0.008394	0.003308	0.026073	0.093385	0.001808	0.000875	0.003797	0.000593	0.000427

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.2851	55.2851	3.1400e-003	7.1000e-004	55.5760
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.2851	55.2851	3.1400e-003	7.1000e-004	55.5760
NaturalGas Mitigated	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	55.4998	55.4998	1.0600e-003	1.0200e-003	55.8296
NaturalGas Unmitigated	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	55.4998	55.4998	1.0600e-003	1.0200e-003	55.8296

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	1.04003e+006	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	55.4998	55.4998	1.0600e-003	1.0200e-003	55.8296
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.6100e-003**	**0.0510**	**0.0428**	**3.1000e-004**		**3.8700e-003**	**3.8700e-003**		**3.8700e-003**	**3.8700e-003**	**0.0000**	**55.4998**	**55.4998**	**1.0600e-003**	**1.0200e-003**	**55.8296**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	1.04003e+006	5.6100e-003	0.0510	0.0428	3.1000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	55.4998	55.4998	1.0600e-003	1.0200e-003	55.8296
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.6100e-003**	**0.0510**	**0.0428**	**3.1000e-004**		**3.8700e-003**	**3.8700e-003**		**3.8700e-003**	**3.8700e-003**	**0.0000**	**55.4998**	**55.4998**	**1.0600e-003**	**1.0200e-003**	**55.8296**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	283833	49.9220	2.8300e-003	6.4000e-004	50.1847
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	30492	5.3631	3.0000e-004	7.0000e-005	5.3913
Total		**55.2851**	**3.1300e-003**	**7.1000e-004**	**55.5760**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	283833	49.9220	2.8300e-003	6.4000e-004	50.1847
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	30492	5.3631	3.0000e-004	7.0000e-005	5.3913
Total		**55.2851**	**3.1300e-003**	**7.1000e-004**	**55.5760**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2248	4.0000e-005	4.6800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7600e-003
Unmitigated	0.2248	4.0000e-005	4.6800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0244					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.3000e-004	4.0000e-005	4.6800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7600e-003
Total	**0.2248**	**4.0000e-005**	**4.6800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.1700e-003**	**9.1700e-003**	**2.0000e-005**	**0.0000**	**9.7600e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0244					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.3000e-004	4.0000e-005	4.6800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.1700e-003	9.1700e-003	2.0000e-005	0.0000	9.7600e-003
Total	**0.2248**	**4.0000e-005**	**4.6800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.1700e-003**	**9.1700e-003**	**2.0000e-005**	**0.0000**	**9.7600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.7655	0.0317	7.8000e-004	3.7907
Unmitigated	3.4569	0.0397	9.7000e-004	4.7384

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	1.21212 / 3.11688	3.4569	0.0397	9.7000e-004	4.7384
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**3.4569**	**0.0397**	**9.7000e-004**	**4.7384**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.969696 / 2.4935	2.7655	0.0317	7.8000e-004	3.7907
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.7655**	**0.0317**	**7.8000e-004**	**3.7907**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.8922	0.8210	0.0000	34.4173
Unmitigated	18.5229	1.0947	0.0000	45.8898

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	91.25	18.5229	1.0947	0.0000	45.8898
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**18.5229**	**1.0947**	**0.0000**	**45.8898**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	68.4375	13.8922	0.8210	0.0000	34.4173
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**13.8922**	**0.8210**	**0.0000**	**34.4173**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Middle School Operations 2040 (Annual)

Baldwin Zacharias MP Middle School

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	900.00	Student	2.43	105,805.52	0
Other Non-Asphalt Surfaces	11.57	Acre	11.57	503,989.20	0
Parking Lot	2.00	Acre	2.00	87,120.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2040
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	387.76	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - TID Intensity Factor for 2030

Land Use - 16 acre site

Construction Phase -

Architectural Coating - Rule 4601 Architectural Coatings compliance

Vehicle Trips - ITE 10th Edition Trip Gen.

Area Coating - Rule 4601 Architectural Coatings

Energy Use - 2019 Title 24 reduces non-residential energy use by 10.7% for electricity and 1% for NG

Construction Off-road Equipment Mitigation - Tier 4 Equipment Mitigation

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Architectural Coatings Compliance

Energy Mitigation -

Water Mitigation - CalGreen and MWELO compliance

Waste Mitigation - Achieve 75% statewide recycling mandate

Fleet Mix - SJVAPCD Residential Fleet Mix 2040

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	65.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	65
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblEnergyUse	T24E	2.14	1.91
tblEnergyUse	T24NG	23.19	22.96
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.56	0.48
tblFleetMix	LDT1	0.03	0.24
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	8.3940e-003	9.0000e-004
tblFleetMix	LHD2	3.3080e-003	1.0000e-003

tblFleetMix	MCY	3.7970e-003	3.3000e-003
tblFleetMix	MDV	0.09	0.06
tblFleetMix	MH	4.2700e-004	4.4000e-003
tblFleetMix	MHD	0.03	7.9000e-003
tblFleetMix	OBUS	1.8080e-003	0.00
tblFleetMix	SBUS	5.9300e-004	1.1000e-003
tblFleetMix	UBUS	8.7500e-004	4.3000e-003
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	790	387.76
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	WD_TR	1.62	2.13

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3771	3.3462	3.2678	9.8500e-003	0.5640	0.1075	0.6716	0.1968	0.1006	0.2974	0.0000	890.1053	890.1053	0.1166	0.0000	893.0211
2024	0.5654	1.0437	1.1508	3.4300e-003	0.1297	0.0309	0.1606	0.0352	0.0290	0.0642	0.0000	310.3783	310.3783	0.0373	0.0000	311.3096
Maximum	**0.5654**	**3.3462**	**3.2678**	**9.8500e-003**	**0.5640**	**0.1075**	**0.6716**	**0.1968**	**0.1006**	**0.2974**	**0.0000**	**890.1053**	**890.1053**	**0.1166**	**0.0000**	**893.0211**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1908	1.4139	3.4890	9.8500e-003	0.4428	9.1900e-003	0.4520	0.1399	9.0000e-003	0.1489	0.0000	890.1049	890.1049	0.1166	0.0000	893.0206
2024	0.5110	0.5014	1.2295	3.4300e-003	0.1297	3.1000e-003	0.1328	0.0352	3.0300e-003	0.0382	0.0000	310.3782	310.3782	0.0373	0.0000	311.3094
Maximum	**0.5110**	**1.4139**	**3.4890**	**9.8500e-003**	**0.4428**	**9.1900e-003**	**0.4520**	**0.1399**	**9.0000e-003**	**0.1489**	**0.0000**	**890.1049**	**890.1049**	**0.1166**	**0.0000**	**893.0206**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**25.54**	**56.37**	**-6.78**	**0.00**	**17.48**	**91.12**	**29.73**	**24.56**	**90.71**	**48.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	1.0526	0.2499
2	4-1-2023	6-30-2023	0.8873	0.4520
3	7-1-2023	9-30-2023	0.8970	0.4569
4	10-1-2023	12-31-2023	0.9003	0.4602
5	1-1-2024	3-31-2024	0.8492	0.4477
6	4-1-2024	6-30-2024	0.7446	0.5582
		Highest	1.0526	0.5582

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5381	7.0000e-005	8.3400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Energy	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	272.1994	272.1994	0.0102	4.2700e-003	273.7272
Mobile	0.1473	0.8243	1.7175	9.3700e-003	1.1548	4.2200e-003	1.1590	0.3092	3.9100e-003	0.3131	0.0000	867.6268	867.6268	0.0380	0.0000	868.5769
Waste						0.0000	0.0000		0.0000	0.0000	33.3413	0.0000	33.3413	1.9704	0.0000	82.6016
Water						0.0000	0.0000		0.0000	0.0000	0.6922	5.5302	6.2224	0.0714	1.7500e-003	8.5291
Total	**0.6995**	**0.9534**	**1.8342**	**0.0101**	**1.1548**	**0.0141**	**1.1688**	**0.3092**	**0.0138**	**0.3229**	**34.0335**	**1,145.3727**	**1,179.4062**	**2.0900**	**6.0200e-003**	**1,233.4521**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4964	7.0000e-005	8.3400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Energy	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	272.1994	272.1994	0.0102	4.2700e-003	273.7272
Mobile	0.1438	0.8061	1.6230	8.7800e-003	1.0751	3.9700e-003	1.0791	0.2878	3.6800e-003	0.2915	0.0000	813.2326	813.2326	0.0366	0.0000	814.1470
Waste						0.0000	0.0000		0.0000	0.0000	25.0060	0.0000	25.0060	1.4778	0.0000	61.9512
Water						0.0000	0.0000		0.0000	0.0000	0.5538	4.4242	4.9779	0.0571	1.4000e-003	6.8233
Total	**0.6544**	**0.9352**	**1.7397**	**9.5500e-003**	**1.0751**	**0.0138**	**1.0889**	**0.2878**	**0.0135**	**0.3014**	**25.5597**	**1,089.8724**	**1,115.4321**	**1.5817**	**5.6700e-003**	**1,156.6660**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**6.45**	**1.90**	**5.15**	**5.82**	**6.90**	**1.78**	**6.84**	**6.90**	**1.67**	**6.68**	**24.90**	**4.85**	**5.42**	**24.32**	**5.81**	**6.23**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2023	1/13/2023	5	10	
2	Grading	Grading	1/14/2023	2/24/2023	5	30	
3	Building Construction	Building Construction	2/25/2023	4/19/2024	5	300	
4	Paving	Paving	4/20/2024	5/17/2024	5	20	
5	Architectural Coating	Architectural Coating	5/18/2024	6/14/2024	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 13.57

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 158,708; Non-Residential Outdoor: 52,903; Striped Parking Area: 35,467 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	293.00	114.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	59.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0903**	**6.3300e-003**	**0.0967**	**0.0497**	**5.8200e-003**	**0.0555**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.0000e-004	2.1900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5948	0.5948	1.0000e-005	0.0000	0.5952
Total	**3.2000e-004**	**2.0000e-004**	**2.1900e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5948**	**0.5948**	**1.0000e-005**	**0.0000**	**0.5952**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3300e-003	0.0101	0.1043	1.9000e-004		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**2.3300e-003**	**0.0101**	**0.1043**	**1.9000e-004**	**0.0407**	**3.1000e-004**	**0.0410**	**0.0223**	**3.1000e-004**	**0.0227**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.0000e-004	2.1900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5948	0.5948	1.0000e-005	0.0000	0.5952
Total	**3.2000e-004**	**2.0000e-004**	**2.1900e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5948**	**0.5948**	**1.0000e-005**	**0.0000**	**0.5952**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8028	81.8028	0.0265	0.0000	82.4642
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1301**	**0.0214**	**0.1515**	**0.0540**	**0.0197**	**0.0736**	**0.0000**	**81.8028**	**81.8028**	**0.0265**	**0.0000**	**82.4642**

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0700e-003	6.5000e-004	7.3100e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	1.9828	1.9828	5.0000e-005	0.0000	1.9840
Total	**1.0700e-003**	**6.5000e-004**	**7.3100e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**1.9828**	**1.9828**	**5.0000e-005**	**0.0000**	**1.9840**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0586	0.0000	0.0586	0.0243	0.0000	0.0243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.0495	0.4950	9.3000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	81.8027	81.8027	0.0265	0.0000	82.4641
Total	**0.0114**	**0.0495**	**0.4950**	**9.3000e-004**	**0.0586**	**1.5200e-003**	**0.0601**	**0.0243**	**1.5200e-003**	**0.0258**	**0.0000**	**81.8027**	**81.8027**	**0.0265**	**0.0000**	**82.4641**

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0700e-003	6.5000e-004	7.3100e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	1.9828	1.9828	5.0000e-005	0.0000	1.9840
Total	**1.0700e-003**	**6.5000e-004**	**7.3100e-003**	**2.0000e-005**	**2.4000e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**1.9828**	**1.9828**	**5.0000e-005**	**0.0000**	**1.9840**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1730	1.5823	1.7868	2.9600e-003		0.0770	0.0770		0.0724	0.0724	0.0000	254.9852	254.9852	0.0607	0.0000	256.5017
Total	**0.1730**	**1.5823**	**1.7868**	**2.9600e-003**		**0.0770**	**0.0770**		**0.0724**	**0.0724**	**0.0000**	**254.9852**	**254.9852**	**0.0607**	**0.0000**	**256.5017**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0247	1.0377	0.1737	3.3800e-003	0.0830	1.0300e-003	0.0840	0.0240	9.9000e-004	0.0250	0.0000	320.9992	320.9992	0.0187	0.0000	321.4672
Worker	0.1149	0.0699	0.7858	2.3600e-003	0.2575	1.8100e-003	0.2593	0.0685	1.6700e-003	0.0701	0.0000	213.0152	213.0152	5.3200e-003	0.0000	213.1482
Total	**0.1396**	**1.1076**	**0.9595**	**5.7400e-003**	**0.3405**	**2.8400e-003**	**0.3433**	**0.0924**	**2.6600e-003**	**0.0951**	**0.0000**	**534.0144**	**534.0144**	**0.0240**	**0.0000**	**534.6154**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0361	0.2458	1.9206	2.9600e-003		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	254.9849	254.9849	0.0607	0.0000	256.5013
Total	**0.0361**	**0.2458**	**1.9206**	**2.9600e-003**		**4.4900e-003**	**4.4900e-003**		**4.4900e-003**	**4.4900e-003**	**0.0000**	**254.9849**	**254.9849**	**0.0607**	**0.0000**	**256.5013**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0247	1.0377	0.1737	3.3800e-003	0.0830	1.0300e-003	0.0840	0.0240	9.9000e-004	0.0250	0.0000	320.9992	320.9992	0.0187	0.0000	321.4672
Worker	0.1149	0.0699	0.7858	2.3600e-003	0.2575	1.8100e-003	0.2593	0.0685	1.6700e-003	0.0701	0.0000	213.0152	213.0152	5.3200e-003	0.0000	213.1482
Total	**0.1396**	**1.1076**	**0.9595**	**5.7400e-003**	**0.3405**	**2.8400e-003**	**0.3433**	**0.0924**	**2.6600e-003**	**0.0951**	**0.0000**	**534.0144**	**534.0144**	**0.0240**	**0.0000**	**534.6154**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0589	0.5378	0.6467	1.0800e-003		0.0245	0.0245		0.0231	0.0231	0.0000	92.7396	92.7396	0.0219	0.0000	93.2879
Total	**0.0589**	**0.5378**	**0.6467**	**1.0800e-003**		**0.0245**	**0.0245**		**0.0231**	**0.0231**	**0.0000**	**92.7396**	**92.7396**	**0.0219**	**0.0000**	**93.2879**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.7100e-003	0.3743	0.0598	1.2200e-003	0.0302	3.7000e-004	0.0305	8.7100e-003	3.5000e-004	9.0700e-003	0.0000	115.8693	115.8693	6.8500e-003	0.0000	116.0405
Worker	0.0390	0.0228	0.2633	8.2000e-004	0.0936	6.4000e-004	0.0943	0.0249	5.9000e-004	0.0255	0.0000	74.4866	74.4866	1.7400e-003	0.0000	74.5301
Total	**0.0477**	**0.3971**	**0.3231**	**2.0400e-003**	**0.1238**	**1.0100e-003**	**0.1248**	**0.0336**	**9.4000e-004**	**0.0346**	**0.0000**	**190.3558**	**190.3558**	**8.5900e-003**	**0.0000**	**190.5705**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0131	0.0894	0.6984	1.0800e-003		1.6300e-003	1.6300e-003		1.6300e-003	1.6300e-003	0.0000	92.7395	92.7395	0.0219	0.0000	93.2878
Total	**0.0131**	**0.0894**	**0.6984**	**1.0800e-003**		**1.6300e-003**	**1.6300e-003**		**1.6300e-003**	**1.6300e-003**	**0.0000**	**92.7395**	**92.7395**	**0.0219**	**0.0000**	**93.2878**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.7100e-003	0.3743	0.0598	1.2200e-003	0.0302	3.7000e-004	0.0305	8.7100e-003	3.5000e-004	9.0700e-003	0.0000	115.8693	115.8693	6.8500e-003	0.0000	116.0405
Worker	0.0390	0.0228	0.2633	8.2000e-004	0.0936	6.4000e-004	0.0943	0.0249	5.9000e-004	0.0255	0.0000	74.4866	74.4866	1.7400e-003	0.0000	74.5301
Total	**0.0477**	**0.3971**	**0.3231**	**2.0400e-003**	**0.1238**	**1.0100e-003**	**0.1248**	**0.0336**	**9.4000e-004**	**0.0346**	**0.0000**	**190.3558**	**190.3558**	**8.5900e-003**	**0.0000**	**190.5705**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0125**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1885**

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	2.9000e-004	3.3700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9533	0.9533	2.0000e-005	0.0000	0.9539
Total	**5.0000e-004**	**2.9000e-004**	**3.3700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9533**	**0.9533**	**2.0000e-005**	**0.0000**	**0.9539**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8000e-003	0.0122	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4200e-003**	**0.0122**	**0.1730**	**2.3000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1884**

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	2.9000e-004	3.3700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9533	0.9533	2.0000e-005	0.0000	0.9539
Total	**5.0000e-004**	**2.9000e-004**	**3.3700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9533**	**0.9533**	**2.0000e-005**	**0.0000**	**0.9539**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4421					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**0.4439**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.1500e-003	0.0133	4.0000e-005	4.7100e-003	3.0000e-005	4.7500e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.7498	3.7498	9.0000e-005	0.0000	3.7519
Total	**1.9600e-003**	**1.1500e-003**	**0.0133**	**4.0000e-005**	**4.7100e-003**	**3.0000e-005**	**4.7500e-003**	**1.2500e-003**	**3.0000e-005**	**1.2800e-003**	**0.0000**	**3.7498**	**3.7498**	**9.0000e-005**	**0.0000**	**3.7519**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4421					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**0.4424**	**1.2900e-003**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.1500e-003	0.0133	4.0000e-005	4.7100e-003	3.0000e-005	4.7500e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.7498	3.7498	9.0000e-005	0.0000	3.7519
Total	**1.9600e-003**	**1.1500e-003**	**0.0133**	**4.0000e-005**	**4.7100e-003**	**3.0000e-005**	**4.7500e-003**	**1.2500e-003**	**3.0000e-005**	**1.2800e-003**	**0.0000**	**3.7498**	**3.7498**	**9.0000e-005**	**0.0000**	**3.7519**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1438	0.8061	1.6230	8.7800e-003	1.0751	3.9700e-003	1.0791	0.2878	3.6800e-003	0.2915	0.0000	813.2326	813.2326	0.0366	0.0000	814.1470
Unmitigated	0.1473	0.8243	1.7175	9.3700e-003	1.1548	4.2200e-003	1.1590	0.3092	3.9100e-003	0.3131	0.0000	867.6268	867.6268	0.0380	0.0000	868.5769

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior High School	1,917.00	0.00	0.00	3,078,420	2,866,009
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,917.00	0.00	0.00	3,078,420	2,866,009

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Junior High School	0.483400	0.236300	0.171600	0.062500	0.000900	0.001000	0.007900	0.023300	0.000000	0.004300	0.003300	0.001100	0.004400
Other Non-Asphalt Surfaces	0.561935	0.028835	0.181775	0.088795	0.008394	0.003308	0.026073	0.093385	0.001808	0.000875	0.003797	0.000593	0.000427
Parking Lot	0.561935	0.028835	0.181775	0.088795	0.008394	0.003308	0.026073	0.093385	0.001808	0.000875	0.003797	0.000593	0.000427

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	131.7223	131.7223	7.4700e-003	1.7000e-003	132.4153
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	131.7223	131.7223	7.4700e-003	1.7000e-003	132.4153
NaturalGas Mitigated	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	140.4771	140.4771	2.6900e-003	2.5800e-003	141.3119
NaturalGas Unmitigated	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	140.4771	140.4771	2.6900e-003	2.5800e-003	141.3119

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior High School	2.63244e+006	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	140.4771	140.4771	2.6900e-003	2.5800e-003	141.3119
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0142**	**0.1290**	**0.1084**	**7.7000e-004**		**9.8100e-003**	**9.8100e-003**		**9.8100e-003**	**9.8100e-003**	**0.0000**	**140.4771**	**140.4771**	**2.6900e-003**	**2.5800e-003**	**141.3119**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior High School	2.63244e+006	0.0142	0.1290	0.1084	7.7000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	140.4771	140.4771	2.6900e-003	2.5800e-003	141.3119
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0142**	**0.1290**	**0.1084**	**7.7000e-004**		**9.8100e-003**	**9.8100e-003**		**9.8100e-003**	**9.8100e-003**	**0.0000**	**140.4771**	**140.4771**	**2.6900e-003**	**2.5800e-003**	**141.3119**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior High School	718419	126.3592	7.1700e-003	1.6300e-003	127.0240
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	30492	5.3631	3.0000e-004	7.0000e-005	5.3913
Total		**131.7223**	**7.4700e-003**	**1.7000e-003**	**132.4153**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior High School	718419	126.3592	7.1700e-003	1.6300e-003	127.0240
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	30492	5.3631	3.0000e-004	7.0000e-005	5.3913
Total		**131.7223**	**7.4700e-003**	**1.7000e-003**	**132.4153**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4964	7.0000e-005	8.3400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Unmitigated	0.5381	7.0000e-005	8.3400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0859					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4514					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.6000e-004	7.0000e-005	8.3400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Total	**0.5381**	**7.0000e-005**	**8.3400e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0163**	**0.0163**	**4.0000e-005**	**0.0000**	**0.0174**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0442					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4514					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.6000e-004	7.0000e-005	8.3400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Total	**0.4964**	**7.0000e-005**	**8.3400e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0163**	**0.0163**	**4.0000e-005**	**0.0000**	**0.0174**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.9779	0.0571	1.4000e-003	6.8233
Unmitigated	6.2224	0.0714	1.7500e-003	8.5291

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior High School	2.18182 / 5.61038	6.2224	0.0714	1.7500e-003	8.5291
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**6.2224**	**0.0714**	**1.7500e-003**	**8.5291**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior High School	1.74545 / 4.48831	4.9779	0.0571	1.4000e-003	6.8233
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**4.9779**	**0.0571**	**1.4000e-003**	**6.8233**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	25.0060	1.4778	0.0000	61.9512
Unmitigated	33.3413	1.9704	0.0000	82.6016

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior High School	164.25	33.3413	1.9704	0.0000	82.6016
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**33.3413**	**1.9704**	**0.0000**	**82.6016**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior High School	123.188	25.0060	1.4778	0.0000	61.9512
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**25.0060**	**1.4778**	**0.0000**	**61.9512**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Residential Project Construction and Operations 2021 (Summer Daily)

Baldwin Zacharias Master Plan Construction

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	213.00	Dwelling Unit	37.60	383,400.00	609
Apartments Low Rise	30.00	Dwelling Unit	1.50	30,000.00	86

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Baldwin Zacharias Master Plan Construction - Stanislaus County, Summer

Project Characteristics -

Land Use - Average annual residential construction

Construction Phase - One year schedule based on average annual units completed.

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings compliance

Vehicle Trips - ITE 10th Edition SFR

Fleet Mix - SJVAPCD Residential Fleet Mix

Construction Off-road Equipment Mitigation - Tier 4 Mitigation Measure

Mobile Land Use Mitigation -

Area Mitigation - SJVAPCD Rule 4601 Compliant coatings

Energy Mitigation - 2019 Title 24

Water Mitigation - CalGreen and MWELO compliance

Waste Mitigation - Achieve 75% statewide recycling mandate

Off-road Equipment - Increased equipment to match a one year schedule while retaining default hours.

Off-road Equipment - Increased equipment to account for one year schedule while retaining default hours of use.

Off-road Equipment - Adjusted equipment numbers to accommodate one year schedule with default hours of use.

Off-road Equipment - Increased equipment numbers to accommodate one year schedule while retaining default hours of use.

Off-road Equipment - Increased equipment number to accommodate one year schedule while retaining default hours.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	65
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	55.00	20.00
tblConstructionPhase	NumDays	740.00	175.00
tblConstructionPhase	NumDays	75.00	30.00
tblConstructionPhase	NumDays	55.00	20.00
tblConstructionPhase	NumDays	30.00	15.00

tblConstructionPhase	PhaseEndDate	8/29/2024	12/30/2021
tblConstructionPhase	PhaseEndDate	3/28/2024	11/4/2021
tblConstructionPhase	PhaseEndDate	5/27/2021	3/4/2021
tblConstructionPhase	PhaseEndDate	6/13/2024	12/2/2021
tblConstructionPhase	PhaseEndDate	2/11/2021	1/21/2021
tblConstructionPhase	PhaseStartDate	6/14/2024	12/3/2021
tblConstructionPhase	PhaseStartDate	5/28/2021	3/5/2021
tblConstructionPhase	PhaseStartDate	2/12/2021	1/22/2021
tblConstructionPhase	PhaseStartDate	3/29/2024	11/5/2021
tblFleetMix	HHD	0.09	0.02
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.52	0.54
tblFleetMix	LDA	0.52	0.54
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD2	5.3520e-003	9.0000e-004
tblFleetMix	LHD2	5.3520e-003	9.0000e-004
tblFleetMix	MCY	4.6330e-003	2.6000e-003
tblFleetMix	MCY	4.6330e-003	2.6000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	9.1100e-004	1.6000e-003
tblFleetMix	MH	9.1100e-004	1.6000e-003

tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	1.8370e-003	0.00
tblFleetMix	OBUS	1.8370e-003	0.00
tblFleetMix	SBUS	8.4500e-004	9.0000e-004
tblFleetMix	SBUS	8.4500e-004	9.0000e-004
tblFleetMix	UBUS	1.1190e-003	4.4000e-003
tblFleetMix	UBUS	1.1190e-003	4.4000e-003
tblGrading	AcresOfGrading	195.00	187.50
tblLandUse	LotAcreage	69.16	37.60
tblLandUse	LotAcreage	1.88	1.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	13.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	13.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00

tblTripsAndVMT	WorkerTripNumber	35.00	18.00
tblTripsAndVMT	WorkerTripNumber	53.00	20.00
tblTripsAndVMT	WorkerTripNumber	45.00	15.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	1.50	0.00
tblWoodstoves	NumberCatalytic	37.60	0.00
tblWoodstoves	NumberNoncatalytic	1.50	0.00
tblWoodstoves	NumberNoncatalytic	37.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	168.8892	124.4974	80.7766	0.1644	36.2804	5.3246	40.3704	19.9006	4.8986	23.6634	0.0000	15,924.0597	15,924.0597	5.0996	0.0000	16,051.5500
Maximum	**168.8892**	**124.4974**	**80.7766**	**0.1644**	**36.2804**	**5.3246**	**40.3704**	**19.9006**	**4.8986**	**23.6634**	**0.0000**	**15,924.0597**	**15,924.0597**	**5.0996**	**0.0000**	**16,051.5500**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	168.7019	78.6069	82.7953	0.1644	16.4075	3.3087	18.8384	8.9768	3.0523	11.2173	0.0000	15,924.0597	15,924.0597	5.0996	0.0000	16,051.5500
Maximum	**168.7019**	**78.6069**	**82.7953**	**0.1644**	**16.4075**	**3.3087**	**18.8384**	**8.9768**	**3.0523**	**11.2173**	**0.0000**	**15,924.0597**	**15,924.0597**	**5.0996**	**0.0000**	**16,051.5500**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.11**	**36.86**	**-2.50**	**0.00**	**54.78**	**37.86**	**53.34**	**54.89**	**37.69**	**52.60**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	11.8385	2.4485	21.0128	0.0152		0.2901	0.2901		0.2901	0.2901	0.0000	2,866.3335	2,866.3335	0.0891	0.0519	2,884.0228
Energy	0.1771	1.5132	0.6439	9.6600e-003		0.1223	0.1223		0.1223	0.1223		1,931.6777	1,931.6777	0.0370	0.0354	1,943.1567
Mobile	5.4745	14.8134	57.1795	0.1617	13.9506	0.1525	14.1031	3.7274	0.1425	3.8700		16,314.0227	16,314.0227	0.8491		16,335.2498
Total	**17.4900**	**18.7750**	**78.8361**	**0.1865**	**13.9506**	**0.5650**	**14.5156**	**3.7274**	**0.5550**	**4.2825**	**0.0000**	**21,112.0339**	**21,112.0339**	**0.9752**	**0.0873**	**21,162.4293**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.6337	2.4485	21.0128	0.0152		0.2901	0.2901		0.2901	0.2901	0.0000	2,866.3335	2,866.3335	0.0891	0.0519	2,884.0228
Energy	0.1666	1.4232	0.6056	9.0800e-003		0.1151	0.1151		0.1151	0.1151		1,816.8722	1,816.8722	0.0348	0.0333	1,827.6690
Mobile	5.3783	14.2203	53.8685	0.1511	12.9880	0.1430	13.1310	3.4702	0.1337	3.6039		15,253.0365	15,253.0365	0.8067		15,273.2041
Total	**16.1785**	**18.0920**	**75.4869**	**0.1754**	**12.9880**	**0.5482**	**13.5362**	**3.4702**	**0.5389**	**4.0091**	**0.0000**	**19,936.2422**	**19,936.2422**	**0.9306**	**0.0852**	**19,984.8959**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**7.50**	**3.64**	**4.25**	**5.95**	**6.90**	**2.97**	**6.75**	**6.90**	**2.91**	**6.38**	**0.00**	**5.57**	**5.57**	**4.57**	**2.41**	**5.56**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/21/2021	5	15	
2	Grading	Grading	1/22/2021	3/4/2021	5	30	
3	Building Construction	Building Construction	3/5/2021	11/4/2021	5	175	
4	Paving	Paving	11/5/2021	12/2/2021	5	20	
5	Architectural Coating	Architectural Coating	12/3/2021	12/30/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 0

Residential Indoor: 837,135; Residential Outdoor: 279,045; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Baldwin Zacharias Master Plan Construction - Stanislaus County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	3	6.00	78	0.48
Grading	Excavators	5	8.00	158	0.38
Building Construction	Cranes	4	7.00	231	0.29
Building Construction	Forklifts	13	8.00	89	0.20
Building Construction	Generator Sets	4	8.00	84	0.74
Paving	Pavers	6	8.00	130	0.42
Paving	Rollers	6	8.00	80	0.38
Grading	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	13	7.00	97	0.37
Grading	Graders	3	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	5	8.00	97	0.37
Paving	Paving Equipment	6	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	8	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	6	8.00	247	0.40
Grading	Scrapers	5	8.00	367	0.48
Building Construction	Welders	4	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	14	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	21	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	38	98.00	26.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	18	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					36.1325	0.0000	36.1325	19.8614	0.0000	19.8614			0.0000			0.0000
Off-Road	7.7764	80.9942	42.3085	0.0760		4.0889	4.0889		3.7618	3.7618		7,371.3138	7,371.3138	2.3840		7,430.9146
Total	**7.7764**	**80.9942**	**42.3085**	**0.0760**	**36.1325**	**4.0889**	**40.2214**	**19.8614**	**3.7618**	**23.6232**		**7,371.3138**	**7,371.3138**	**2.3840**		**7,430.9146**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0846	0.0449	0.6102	1.5500e-003	0.1479	1.0700e-003	0.1489	0.0392	9.9000e-004	0.0402		154.7397	154.7397	4.5500e-003		154.8534
Total	**0.0846**	**0.0449**	**0.6102**	**1.5500e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**9.9000e-004**	**0.0402**		**154.7397**	**154.7397**	**4.5500e-003**		**154.8534**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					16.2596	0.0000	16.2596	8.9376	0.0000	8.9376			0.0000			0.0000
Off-Road	4.8839	48.5171	41.9920	0.0760		2.4298	2.4298		2.2395	2.2395	0.0000	7,371.3138	7,371.3138	2.3840		7,430.9146
Total	**4.8839**	**48.5171**	**41.9920**	**0.0760**	**16.2596**	**2.4298**	**18.6894**	**8.9376**	**2.2395**	**11.1771**	**0.0000**	**7,371.3138**	**7,371.3138**	**2.3840**		**7,430.9146**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0846	0.0449	0.6102	1.5500e-003	0.1479	1.0700e-003	0.1489	0.0392	9.9000e-004	0.0402		154.7397	154.7397	4.5500e-003		154.8534
Total	**0.0846**	**0.0449**	**0.6102**	**1.5500e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**9.9000e-004**	**0.0402**		**154.7397**	**154.7397**	**4.5500e-003**		**154.8534**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.6944	0.0000	24.6944	10.6464	0.0000	10.6464			0.0000			0.0000
Off-Road	11.2276	124.4475	80.0986	0.1626		5.3234	5.3234		4.8975	4.8975		15,752.1268	15,752.1268	5.0946		15,879.4907
Total	**11.2276**	**124.4475**	**80.0986**	**0.1626**	**24.6944**	**5.3234**	**30.0178**	**10.6464**	**4.8975**	**15.5439**		**15,752.1268**	**15,752.1268**	**5.0946**		**15,879.4907**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0499	0.6780	1.7300e-003	0.1643	1.1900e-003	0.1655	0.0436	1.1000e-003	0.0447		171.9330	171.9330	5.0500e-003		172.0593
Total	**0.0940**	**0.0499**	**0.6780**	**1.7300e-003**	**0.1643**	**1.1900e-003**	**0.1655**	**0.0436**	**1.1000e-003**	**0.0447**		**171.9330**	**171.9330**	**5.0500e-003**		**172.0593**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					11.1125	0.0000	11.1125	4.7909	0.0000	4.7909			0.0000			0.0000
Off-Road	7.5451	78.5570	82.1173	0.1626		3.3075	3.3075		3.0512	3.0512	0.0000	15,752.1267	15,752.1267	5.0946		15,879.4907
Total	**7.5451**	**78.5570**	**82.1173**	**0.1626**	**11.1125**	**3.3075**	**14.4200**	**4.7909**	**3.0512**	**7.8421**	**0.0000**	**15,752.1267**	**15,752.1267**	**5.0946**		**15,879.4907**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0499	0.6780	1.7300e-003	0.1643	1.1900e-003	0.1655	0.0436	1.1000e-003	0.0447		171.9330	171.9330	5.0500e-003		172.0593
Total	**0.0940**	**0.0499**	**0.6780**	**1.7300e-003**	**0.1643**	**1.1900e-003**	**0.1655**	**0.0436**	**1.1000e-003**	**0.0447**		**171.9330**	**171.9330**	**5.0500e-003**		**172.0593**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.8969	72.5664	69.4463	0.1119		4.0160	4.0160		3.7721	3.7721		10,624.7740	10,624.7740	2.5971		10,689.7012
Total	**7.8969**	**72.5664**	**69.4463**	**0.1119**		**4.0160**	**4.0160**		**3.7721**	**3.7721**		**10,624.7740**	**10,624.7740**	**2.5971**		**10,689.7012**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0779	2.8535	0.4380	7.3400e-003	0.1760	7.6500e-003	0.1836	0.0507	7.3200e-003	0.0580		768.8932	768.8932	0.0594		770.3793
Worker	0.4605	0.2444	3.3220	8.4600e-003	0.8051	5.8400e-003	0.8109	0.2135	5.3800e-003	0.2189		842.4715	842.4715	0.0248		843.0906
Total	**0.5383**	**3.0979**	**3.7601**	**0.0158**	**0.9810**	**0.0135**	**0.9945**	**0.2642**	**0.0127**	**0.2769**		**1,611.3647**	**1,611.3647**	**0.0842**		**1,613.4699**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.1394	55.2289	70.4331	0.1119		2.9664	2.9664		2.7909	2.7909	0.0000	10,624.7740	10,624.7740	2.5971		10,689.7012
Total	**6.1394**	**55.2289**	**70.4331**	**0.1119**		**2.9664**	**2.9664**		**2.7909**	**2.7909**	**0.0000**	**10,624.7740**	**10,624.7740**	**2.5971**		**10,689.7012**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0779	2.8535	0.4380	7.3400e-003	0.1760	7.6500e-003	0.1836	0.0507	7.3200e-003	0.0580		768.8932	768.8932	0.0594		770.3793
Worker	0.4605	0.2444	3.3220	8.4600e-003	0.8051	5.8400e-003	0.8109	0.2135	5.3800e-003	0.2189		842.4715	842.4715	0.0248		843.0906
Total	**0.5383**	**3.0979**	**3.7601**	**0.0158**	**0.9810**	**0.0135**	**0.9945**	**0.2642**	**0.0127**	**0.2769**		**1,611.3647**	**1,611.3647**	**0.0842**		**1,613.4699**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.7667	38.7573	43.9597	0.0684		2.0332	2.0332		1.8705	1.8705		6,621.6326	6,621.6326	2.1416		6,675.1719
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.7667**	**38.7573**	**43.9597**	**0.0684**		**2.0332**	**2.0332**		**1.8705**	**1.8705**		**6,621.6326**	**6,621.6326**	**2.1416**		**6,675.1719**

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0705	0.0374	0.5085	1.3000e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		128.9497	128.9497	3.7900e-003		129.0445
Total	**0.0705**	**0.0374**	**0.5085**	**1.3000e-003**	**0.1232**	**8.9000e-004**	**0.1241**	**0.0327**	**8.2000e-004**	**0.0335**		**128.9497**	**128.9497**	**3.7900e-003**		**129.0445**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8013	27.1706	46.5757	0.0684		1.3993	1.3993		1.2903	1.2903	0.0000	6,621.6326	6,621.6326	2.1416		6,675.1719
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.8013**	**27.1706**	**46.5757**	**0.0684**		**1.3993**	**1.3993**		**1.2903**	**1.2903**	**0.0000**	**6,621.6326**	**6,621.6326**	**2.1416**		**6,675.1719**

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0705	0.0374	0.5085	1.3000e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		128.9497	128.9497	3.7900e-003		129.0445
Total	**0.0705**	**0.0374**	**0.5085**	**1.3000e-003**	**0.1232**	**8.9000e-004**	**0.1241**	**0.0327**	**8.2000e-004**	**0.0335**		**128.9497**	**128.9497**	**3.7900e-003**		**129.0445**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	168.1386					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6567	4.5805	5.4527	8.9100e-003		0.2823	0.2823		0.2823	0.2823		844.3442	844.3442	0.0579		845.7927
Total	**168.7953**	**4.5805**	**5.4527**	**8.9100e-003**		**0.2823**	**0.2823**		**0.2823**	**0.2823**		**844.3442**	**844.3442**	**0.0579**		**845.7927**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0499	0.6780	1.7300e-003	0.1643	1.1900e-003	0.1655	0.0436	1.1000e-003	0.0447		171.9330	171.9330	5.0500e-003		172.0593
Total	**0.0940**	**0.0499**	**0.6780**	**1.7300e-003**	**0.1643**	**1.1900e-003**	**0.1655**	**0.0436**	**1.1000e-003**	**0.0447**		**171.9330**	**171.9330**	**5.0500e-003**		**172.0593**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	168.1386					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4694	3.1964	5.4674	8.9100e-003		0.1931	0.1931		0.1931	0.1931	0.0000	844.3441	844.3441	0.0579		845.7927
Total	**168.6080**	**3.1964**	**5.4674**	**8.9100e-003**		**0.1931**	**0.1931**		**0.1931**	**0.1931**	**0.0000**	**844.3441**	**844.3441**	**0.0579**		**845.7927**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0499	0.6780	1.7300e-003	0.1643	1.1900e-003	0.1655	0.0436	1.1000e-003	0.0447		171.9330	171.9330	5.0500e-003		172.0593
Total	**0.0940**	**0.0499**	**0.6780**	**1.7300e-003**	**0.1643**	**1.1900e-003**	**0.1655**	**0.0436**	**1.1000e-003**	**0.0447**		**171.9330**	**171.9330**	**5.0500e-003**		**172.0593**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.3783	14.2203	53.8685	0.1511	12.9880	0.1430	13.1310	3.4702	0.1337	3.6039		15,253.0365	15,253.0365	0.8067		15,273.2041
Unmitigated	5.4745	14.8134	57.1795	0.1617	13.9506	0.1525	14.1031	3.7274	0.1425	3.8700		16,314.0227	16,314.0227	0.8491		16,335.2498

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	197.70	214.80	182.10	580,079	540,054
Single Family Housing	2,010.72	2,032.02	1821.15	5,822,887	5,421,108
Total	2,208.42	2,246.82	2,003.25	6,402,966	5,961,162

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	48.40	13.90	37.70	86	11	3
Single Family Housing	10.80	7.30	7.50	48.40	13.90	37.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000900	0.001600
Single Family Housing	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000900	0.001600

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1666	1.4232	0.6056	9.0800e-003		0.1151	0.1151		0.1151	0.1151		1,816.8722	1,816.8722	0.0348	0.0333	1,827.6690
NaturalGas Unmitigated	0.1771	1.5132	0.6439	9.6600e-003		0.1223	0.1223		0.1223	0.1223		1,931.6777	1,931.6777	0.0370	0.0354	1,943.1567

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1161.9	0.0125	0.1071	0.0456	6.8000e-004		8.6600e-003	8.6600e-003		8.6600e-003	8.6600e-003		136.6942	136.6942	2.6200e-003	2.5100e-003	137.5065
Single Family Housing	15257.4	0.1645	1.4061	0.5983	8.9700e-003		0.1137	0.1137		0.1137	0.1137		1,794.9834	1,794.9834	0.0344	0.0329	1,805.6501
Total		**0.1771**	**1.5132**	**0.6439**	**9.6500e-003**		**0.1223**	**0.1223**		**0.1223**	**0.1223**		**1,931.6777**	**1,931.6777**	**0.0370**	**0.0354**	**1,943.1567**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.10199	0.0119	0.1016	0.0432	6.5000e-004		8.2100e-003	8.2100e-003		8.2100e-003	8.2100e-003		129.6456	129.6456	2.4800e-003	2.3800e-003	130.4160
Single Family Housing	14.3414	0.1547	1.3217	0.5624	8.4400e-003		0.1069	0.1069		0.1069	0.1069		1,687.2266	1,687.2266	0.0323	0.0309	1,697.2529
Total		**0.1665**	**1.4232**	**0.6056**	**9.0900e-003**		**0.1151**	**0.1151**		**0.1151**	**0.1151**		**1,816.8722**	**1,816.8722**	**0.0348**	**0.0333**	**1,827.6690**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.6337	2.4485	21.0128	0.0152		0.2901	0.2901		0.2901	0.2901	0.0000	2,866.3335	2,866.3335	0.0891	0.0519	2,884.0228
Unmitigated	11.8385	2.4485	21.0128	0.0152		0.2901	0.2901		0.2901	0.2901	0.0000	2,866.3335	2,866.3335	0.0891	0.0519	2,884.0228

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1261					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.8468					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2594	2.2170	0.9434	0.0142		0.1793	0.1793		0.1793	0.1793	0.0000	2,830.2353	2,830.2353	0.0543	0.0519	2,847.0540
Landscaping	0.6062	0.2315	20.0694	1.0600e-003		0.1109	0.1109		0.1109	0.1109		36.0982	36.0982	0.0348		36.9689
Total	**11.8385**	**2.4485**	**21.0128**	**0.0152**		**0.2901**	**0.2901**		**0.2901**	**0.2901**	**0.0000**	**2,866.3335**	**2,866.3335**	**0.0891**	**0.0519**	**2,884.0228**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9213					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.8468					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2594	2.2170	0.9434	0.0142		0.1793	0.1793		0.1793	0.1793	0.0000	2,830.2353	2,830.2353	0.0543	0.0519	2,847.0540
Landscaping	0.6062	0.2315	20.0694	1.0600e-003		0.1109	0.1109		0.1109	0.1109		36.0982	36.0982	0.0348		36.9689
Total	**10.6337**	**2.4485**	**21.0128**	**0.0152**		**0.2901**	**0.2901**		**0.2901**	**0.2901**	**0.0000**	**2,866.3335**	**2,866.3335**	**0.0891**	**0.0519**	**2,884.0228**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Warehouse Project Construction and Operations 2021 (Summer Daily)

Baldwin Zacharias MP Industrial Warehouse

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	500.00	1000sqft	11.48	500,000.00	0
Parking Lot	11.48	Acre	11.48	500,068.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2022
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	790	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Baldwin Zacharias MP Industrial Warehouse - Stanislaus County, Summer

Project Characteristics -

Land Use - Common sized warehouse project

Construction Phase -

Architectural Coating - Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Ed code 150

Area Coating - Rule 4601 Architectural Coatings

Construction Off-road Equipment Mitigation - Tier 4 Mitigation Measure

Mobile Land Use Mitigation -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	65
tblAreaCoating	Area_EF_Nonresidential_Interior	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblVehicleTrips	ST_TR	1.68	0.15
tblVehicleTrips	SU_TR	1.68	0.06
tblVehicleTrips	WD_TR	1.68	1.74

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.3654	46.4497	33.5754	0.1095	18.2141	2.0455	20.2597	9.9699	1.8819	11.8518	0.0000	11,013.8979	11,013.8979	1.9479	0.0000	11,041.3253
2022	161.6379	33.6603	31.9262	0.1077	4.5601	0.8751	5.4352	1.2346	0.8235	2.0581	0.0000	10,840.4665	10,840.4665	1.0681	0.0000	10,867.1695
Maximum	**161.6379**	**46.4497**	**33.5754**	**0.1095**	**18.2141**	**2.0455**	**20.2597**	**9.9699**	**1.8819**	**11.8518**	**0.0000**	**11,013.8979**	**11,013.8979**	**1.9479**	**0.0000**	**11,041.3253**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.7923	21.2809	34.4604	0.1095	8.2777	0.1141	8.3408	4.5080	0.1100	4.5711	0.0000	11,013.8979	11,013.8979	1.9479	0.0000	11,041.3253
2022	161.4630	20.2794	33.0231	0.1077	4.5601	0.1068	4.6669	1.2346	0.1031	1.3377	0.0000	10,840.4665	10,840.4665	1.0681	0.0000	10,867.1695
Maximum	**161.4630**	**21.2809**	**34.4604**	**0.1095**	**8.2777**	**0.1141**	**8.3408**	**4.5080**	**0.1100**	**4.5711**	**0.0000**	**11,013.8979**	**11,013.8979**	**1.9479**	**0.0000**	**11,041.3253**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.05**	**48.12**	**-3.03**	**0.00**	**43.63**	**92.44**	**49.38**	**48.75**	**92.12**	**57.52**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	11.7646	4.8000e-004	0.0523	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1119	0.1119	3.0000e-004		0.1193
Energy	0.2671	2.4282	2.0397	0.0146		0.1845	0.1845		0.1845	0.1845		2,913.7792	2,913.7792	0.0559	0.0534	2,931.0943
Mobile	2.0366	15.7625	20.3067	0.0868	5.4519	0.0741	5.5260	1.4628	0.0698	1.5326		8,852.3787	8,852.3787	0.5103		8,865.1356
Total	**14.0683**	**18.1912**	**22.3987**	**0.1014**	**5.4519**	**0.2588**	**5.7108**	**1.4628**	**0.2546**	**1.7173**		**11,766.2698**	**11,766.2698**	**0.5664**	**0.0534**	**11,796.3493**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	11.7646	4.8000e-004	0.0523	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1119	0.1119	3.0000e-004		0.1193
Energy	0.2671	2.4282	2.0397	0.0146		0.1845	0.1845		0.1845	0.1845		2,913.7792	2,913.7792	0.0559	0.0534	2,931.0943
Mobile	1.9868	15.2653	19.1467	0.0816	5.0758	0.0695	5.1453	1.3619	0.0655	1.4274		8,318.6985	8,318.6985	0.4974		8,331.1331
Total	**14.0185**	**17.6939**	**21.2387**	**0.0962**	**5.0758**	**0.2542**	**5.3300**	**1.3619**	**0.2502**	**1.6121**		**11,232.5897**	**11,232.5897**	**0.5535**	**0.0534**	**11,262.3468**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.35**	**2.73**	**5.18**	**5.18**	**6.90**	**1.77**	**6.67**	**6.90**	**1.70**	**6.13**	**0.00**	**4.54**	**4.54**	**2.28**	**0.00**	**4.53**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/14/2021	5	10	
2	Grading	Grading	1/15/2021	3/4/2021	5	35	
3	Building Construction	Building Construction	3/5/2021	8/4/2022	5	370	
4	Paving	Paving	8/5/2022	9/1/2022	5	20	
5	Architectural Coating	Architectural Coating	9/2/2022	9/29/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 87.5

Acres of Paving: 11.48

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 750,000; Non-Residential Outdoor: 250,000; Striped Parking Area: 30,004 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	420.00	164.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	84.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0846	0.0449	0.6102	1.5500e-003	0.1479	1.0700e-003	0.1489	0.0392	9.9000e-004	0.0402		154.7397	154.7397	4.5500e-003		154.8534
Total	**0.0846**	**0.0449**	**0.6102**	**1.5500e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**9.9000e-004**	**0.0402**		**154.7397**	**154.7397**	**4.5500e-003**		**154.8534**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**0.4656**	**2.0175**	**20.8690**	**0.0380**	**8.1298**	**0.0621**	**8.1919**	**4.4688**	**0.0621**	**4.5309**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0846	0.0449	0.6102	1.5500e-003	0.1479	1.0700e-003	0.1489	0.0392	9.9000e-004	0.0402		154.7397	154.7397	4.5500e-003		154.8534
Total	**0.0846**	**0.0449**	**0.6102**	**1.5500e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**9.9000e-004**	**0.0402**		**154.7397**	**154.7397**	**4.5500e-003**		**154.8534**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0499	0.6780	1.7300e-003	0.1643	1.1900e-003	0.1655	0.0436	1.1000e-003	0.0447		171.9330	171.9330	5.0500e-003		172.0593
Total	**0.0940**	**0.0499**	**0.6780**	**1.7300e-003**	**0.1643**	**1.1900e-003**	**0.1655**	**0.0436**	**1.1000e-003**	**0.0447**		**171.9330**	**171.9330**	**5.0500e-003**		**172.0593**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0620		0.1015	0.1015		0.1015	0.1015	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**0.7616**	**3.3000**	**32.9991**	**0.0620**	**3.9030**	**0.1015**	**4.0045**	**1.6184**	**0.1015**	**1.7200**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0499	0.6780	1.7300e-003	0.1643	1.1900e-003	0.1655	0.0436	1.1000e-003	0.0447		171.9330	171.9330	5.0500e-003		172.0593
Total	**0.0940**	**0.0499**	**0.6780**	**1.7300e-003**	**0.1643**	**1.1900e-003**	**0.1655**	**0.0436**	**1.1000e-003**	**0.0447**		**171.9330**	**171.9330**	**5.0500e-003**		**172.0593**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4910	17.9989	2.7629	0.0463	1.1100	0.0483	1.1583	0.3195	0.0462	0.3657		4,849.9417	4,849.9417	0.3750		4,859.3156
Worker	1.9735	1.0472	14.2373	0.0363	3.4502	0.0250	3.4752	0.9152	0.0231	0.9382		3,610.5923	3,610.5923	0.1061		3,613.2454
Total	**2.4645**	**19.0462**	**17.0002**	**0.0825**	**4.5602**	**0.0733**	**4.6335**	**1.2347**	**0.0692**	**1.3039**		**8,460.5340**	**8,460.5340**	**0.4811**		**8,472.5610**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**0.3278**	**2.2347**	**17.4603**	**0.0269**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4910	17.9989	2.7629	0.0463	1.1100	0.0483	1.1583	0.3195	0.0462	0.3657		4,849.9417	4,849.9417	0.3750		4,859.3156
Worker	1.9735	1.0472	14.2373	0.0363	3.4502	0.0250	3.4752	0.9152	0.0231	0.9382		3,610.5923	3,610.5923	0.1061		3,613.2454
Total	**2.4645**	**19.0462**	**17.0002**	**0.0825**	**4.5602**	**0.0733**	**4.6335**	**1.2347**	**0.0692**	**1.3039**		**8,460.5340**	**8,460.5340**	**0.4811**		**8,472.5610**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4568	17.1085	2.5555	0.0458	1.1099	0.0418	1.1517	0.3195	0.0400	0.3594		4,804.3313	4,804.3313	0.3613		4,813.3627
Worker	1.8284	0.9361	13.0073	0.0350	3.4502	0.0243	3.4745	0.9152	0.0223	0.9375		3,481.8016	3,481.8016	0.0949		3,484.1746
Total	**2.2851**	**18.0446**	**15.5628**	**0.0808**	**4.5601**	**0.0660**	**4.6261**	**1.2346**	**0.0623**	**1.2969**		**8,286.1330**	**8,286.1330**	**0.4562**		**8,297.5373**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**0.3278**	**2.2347**	**17.4603**	**0.0269**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4568	17.1085	2.5555	0.0458	1.1099	0.0418	1.1517	0.3195	0.0400	0.3594		4,804.3313	4,804.3313	0.3613		4,813.3627
Worker	1.8284	0.9361	13.0073	0.0350	3.4502	0.0243	3.4745	0.9152	0.0223	0.9375		3,481.8016	3,481.8016	0.0949		3,484.1746
Total	**2.2851**	**18.0446**	**15.5628**	**0.0808**	**4.5601**	**0.0660**	**4.6261**	**1.2346**	**0.0623**	**1.2969**		**8,286.1330**	**8,286.1330**	**0.4562**		**8,297.5373**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	1.5039					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.6067**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0653	0.0334	0.4646	1.2500e-003	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		124.3501	124.3501	3.3900e-003		124.4348
Total	**0.0653**	**0.0334**	**0.4646**	**1.2500e-003**	**0.1232**	**8.7000e-004**	**0.1241**	**0.0327**	**8.0000e-004**	**0.0335**		**124.3501**	**124.3501**	**3.3900e-003**		**124.4348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	1.5039					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7844**	**1.2154**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0653	0.0334	0.4646	1.2500e-003	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		124.3501	124.3501	3.3900e-003		124.4348
Total	**0.0653**	**0.0334**	**0.4646**	**1.2500e-003**	**0.1232**	**8.7000e-004**	**0.1241**	**0.0327**	**8.0000e-004**	**0.0335**		**124.3501**	**124.3501**	**3.3900e-003**		**124.4348**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	161.0676					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**161.2722**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3657	0.1872	2.6015	6.9900e-003	0.6900	4.8500e-003	0.6949	0.1830	4.4700e-003	0.1875		696.3603	696.3603	0.0190		696.8349
Total	**0.3657**	**0.1872**	**2.6015**	**6.9900e-003**	**0.6900**	**4.8500e-003**	**0.6949**	**0.1830**	**4.4700e-003**	**0.1875**		**696.3603**	**696.3603**	**0.0190**		**696.8349**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	161.0676					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**161.0974**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3657	0.1872	2.6015	6.9900e-003	0.6900	4.8500e-003	0.6949	0.1830	4.4700e-003	0.1875		696.3603	696.3603	0.0190		696.8349
Total	**0.3657**	**0.1872**	**2.6015**	**6.9900e-003**	**0.6900**	**4.8500e-003**	**0.6949**	**0.1830**	**4.4700e-003**	**0.1875**		**696.3603**	**696.3603**	**0.0190**		**696.8349**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.9868	15.2653	19.1467	0.0816	5.0758	0.0695	5.1453	1.3619	0.0655	1.4274		8,318.6985	8,318.6985	0.4974		8,331.1331
Unmitigated	2.0366	15.7625	20.3067	0.0868	5.4519	0.0741	5.5260	1.4628	0.0698	1.5326		8,852.3787	8,852.3787	0.5103		8,865.1356

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	870.00	75.00	30.00	1,858,060	1,729,854
Total	870.00	75.00	30.00	1,858,060	1,729,854

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.516452	0.033212	0.173817	0.123150	0.022816	0.005352	0.027555	0.088301	0.001837	0.001119	0.004633	0.000845	0.000911
Unrefrigerated Warehouse-No Rail	0.516452	0.033212	0.173817	0.123150	0.022816	0.005352	0.027555	0.088301	0.001837	0.001119	0.004633	0.000845	0.000911

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2671	2.4282	2.0397	0.0146		0.1845	0.1845		0.1845	0.1845		2,913.7792	2,913.7792	0.0559	0.0534	2,931.0943
NaturalGas Unmitigated	0.2671	2.4282	2.0397	0.0146		0.1845	0.1845		0.1845	0.1845		2,913.7792	2,913.7792	0.0559	0.0534	2,931.0943

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	24767.1	0.2671	2.4282	2.0397	0.0146		0.1845	0.1845		0.1845	0.1845		2,913.7792	2,913.7792	0.0559	0.0534	2,931.0943
Total		**0.2671**	**2.4282**	**2.0397**	**0.0146**		**0.1845**	**0.1845**		**0.1845**	**0.1845**		**2,913.7792**	**2,913.7792**	**0.0559**	**0.0534**	**2,931.0943**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	24.7671	0.2671	2.4282	2.0397	0.0146		0.1845	0.1845		0.1845	0.1845		2,913.7792	2,913.7792	0.0559	0.0534	2,931.0943
Total		**0.2671**	**2.4282**	**2.0397**	**0.0146**		**0.1845**	**0.1845**		**0.1845**	**0.1845**		**2,913.7792**	**2,913.7792**	**0.0559**	**0.0534**	**2,931.0943**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.7646	4.8000e-004	0.0523	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1119	0.1119	3.0000e-004		0.1193
Unmitigated	11.7646	4.8000e-004	0.0523	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1119	0.1119	3.0000e-004		0.1193

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8826					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.8771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8600e-003	4.8000e-004	0.0523	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1119	0.1119	3.0000e-004		0.1193
Total	**11.7645**	**4.8000e-004**	**0.0523**	**0.0000**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**		**0.1119**	**0.1119**	**3.0000e-004**		**0.1193**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8826					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.8771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8600e-003	4.8000e-004	0.0523	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1119	0.1119	3.0000e-004		0.1193
Total	**11.7645**	**4.8000e-004**	**0.0523**	**0.0000**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**		**0.1119**	**0.1119**	**3.0000e-004**		**0.1193**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Commercial Center Construction and Operations 2021 (Summer Daily)

Baldwin Zacharias Community Commercial

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Regional Shopping Center	350.00	1000sqft	8.03	350,000.00	0
Parking Lot	13.97	Acre	13.97	608,533.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2022
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	790	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Description

Construction Phase -

Architectural Coating - Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Ed Trip Gen Rate

Construction Off-road Equipment Mitigation - Tier 4 Mitigation Measure

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Architectural Coatings

Baldwin Zacharias Community Commercial - Stanislaus County, Summer

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	65.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	65
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblVehicleTrips	ST_TR	49.97	46.12
tblVehicleTrips	SU_TR	25.24	21.10
tblVehicleTrips	WD_TR	42.70	37.75

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2852	46.4497	31.6948	0.1030	18.2141	2.0455	20.2597	9.9699	1.8819	11.8518	0.0000	10,359.8625	10,359.8625	1.9479	0.0000	10,386.5613
2022	118.6654	32.8141	30.2067	0.1014	4.0856	0.8703	4.9558	1.1077	0.8190	1.9267	0.0000	10,204.3234	10,204.3234	1.0410	0.0000	10,230.3471
Maximum	**118.6654**	**46.4497**	**31.6948**	**0.1030**	**18.2141**	**2.0455**	**20.2597**	**9.9699**	**1.8819**	**11.8518**	**0.0000**	**10,359.8625**	**10,359.8625**	**1.9479**	**0.0000**	**10,386.5613**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.5271	20.3830	33.6771	0.1030	8.2777	0.1089	8.3408	4.5080	0.1052	4.5711	0.0000	10,359.8625	10,359.8625	1.9479	0.0000	10,386.5613
2022	118.4906	19.4332	31.3036	0.1014	4.0856	0.1020	4.1876	1.1077	0.0986	1.2063	0.0000	10,204.3234	10,204.3234	1.0410	0.0000	10,230.3471
Maximum	**118.4906**	**20.3830**	**33.6771**	**0.1030**	**8.2777**	**0.1089**	**8.3408**	**4.5080**	**0.1052**	**4.5711**	**0.0000**	**10,359.8625**	**10,359.8625**	**1.9479**	**0.0000**	**10,386.5613**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.57**	**49.77**	**-4.97**	**0.00**	**44.56**	**92.76**	**50.31**	**49.31**	**92.45**	**58.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.1119	3.4000e-004	0.0372	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0797	0.0797	2.1000e-004		0.0849
Energy	0.1107	1.0059	0.8450	6.0400e-003		0.0765	0.0765		0.0765	0.0765		1,207.0911	1,207.0911	0.0231	0.0221	1,214.2642
Mobile	32.4379	239.0472	252.1740	1.0473	60.7486	0.8814	61.6299	16.2991	0.8303	17.1294		106,923.3961	106,923.3961	8.0827		107,125.4625
Total	**41.6605**	**240.0535**	**253.0562**	**1.0533**	**60.7486**	**0.9580**	**61.7065**	**16.2991**	**0.9069**	**17.2060**		**108,130.5668**	**108,130.5668**	**8.1060**	**0.0221**	**108,339.8116**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.3563	3.4000e-004	0.0372	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0797	0.0797	2.1000e-004		0.0849
Energy	0.1107	1.0059	0.8450	6.0400e-003		0.0765	0.0765		0.0765	0.0765		1,207.0911	1,207.0911	0.0231	0.0221	1,214.2642
Mobile	31.8830	233.5066	239.2488	0.9888	56.5569	0.8302	57.3871	15.1745	0.7821	15.9565		100,976.8277	100,976.8277	7.9390		101,175.3021
Total	**40.3500**	**234.5128**	**240.1310**	**0.9948**	**56.5569**	**0.9068**	**57.4637**	**15.1745**	**0.8586**	**16.0331**		**102,183.9985**	**102,183.9985**	**7.9623**	**0.0221**	**102,389.6512**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**3.15**	**2.31**	**5.11**	**5.55**	**6.90**	**5.34**	**6.88**	**6.90**	**5.32**	**6.82**	**0.00**	**5.50**	**5.50**	**1.77**	**0.00**	**5.49**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/14/2021	5	10	
2	Grading	Grading	1/15/2021	3/4/2021	5	35	
3	Building Construction	Building Construction	3/5/2021	8/4/2022	5	370	
4	Paving	Paving	8/5/2022	9/1/2022	5	20	
5	Architectural Coating	Architectural Coating	9/2/2022	9/29/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 87.5

Acres of Paving: 13.97

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 525,000; Non-Residential Outdoor: 175,000; Striped Parking Area: 36,512 (Architectural Coating – sqft)

OffRoad Equipment

Baldwin Zacharias Community Commercial - Stanislaus County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	368.00	157.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	74.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0846	0.0449	0.6102	1.5500e-003	0.1479	1.0700e-003	0.1489	0.0392	9.9000e-004	0.0402		154.7397	154.7397	4.5500e-003		154.8534
Total	**0.0846**	**0.0449**	**0.6102**	**1.5500e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**9.9000e-004**	**0.0402**		**154.7397**	**154.7397**	**4.5500e-003**		**154.8534**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**0.4656**	**2.0175**	**20.8690**	**0.0380**	**8.1298**	**0.0621**	**8.1919**	**4.4688**	**0.0621**	**4.5309**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0846	0.0449	0.6102	1.5500e-003	0.1479	1.0700e-003	0.1489	0.0392	9.9000e-004	0.0402		154.7397	154.7397	4.5500e-003		154.8534
Total	**0.0846**	**0.0449**	**0.6102**	**1.5500e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**9.9000e-004**	**0.0402**		**154.7397**	**154.7397**	**4.5500e-003**		**154.8534**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0499	0.6780	1.7300e-003	0.1643	1.1900e-003	0.1655	0.0436	1.1000e-003	0.0447		171.9330	171.9330	5.0500e-003		172.0593
Total	**0.0940**	**0.0499**	**0.6780**	**1.7300e-003**	**0.1643**	**1.1900e-003**	**0.1655**	**0.0436**	**1.1000e-003**	**0.0447**		**171.9330**	**171.9330**	**5.0500e-003**		**172.0593**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0620		0.1015	0.1015		0.1015	0.1015	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**0.7616**	**3.3000**	**32.9991**	**0.0620**	**3.9030**	**0.1015**	**4.0045**	**1.6184**	**0.1015**	**1.7200**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0499	0.6780	1.7300e-003	0.1643	1.1900e-003	0.1655	0.0436	1.1000e-003	0.0447		171.9330	171.9330	5.0500e-003		172.0593
Total	**0.0940**	**0.0499**	**0.6780**	**1.7300e-003**	**0.1643**	**1.1900e-003**	**0.1655**	**0.0436**	**1.1000e-003**	**0.0447**		**171.9330**	**171.9330**	**5.0500e-003**		**172.0593**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4701	17.2307	2.6450	0.0443	1.0626	0.0462	1.1088	0.3059	0.0442	0.3501		4,642.9320	4,642.9320	0.3590		4,651.9058
Worker	1.7292	0.9176	12.4745	0.0318	3.0230	0.0219	3.0450	0.8019	0.0202	0.8221		3,163.5666	3,163.5666	0.0930		3,165.8912
Total	**2.1992**	**18.1483**	**15.1196**	**0.0761**	**4.0856**	**0.0681**	**4.1538**	**1.1077**	**0.0644**	**1.1721**		**7,806.4986**	**7,806.4986**	**0.4519**		**7,817.7970**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**0.3278**	**2.2347**	**17.4603**	**0.0269**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4701	17.2307	2.6450	0.0443	1.0626	0.0462	1.1088	0.3059	0.0442	0.3501		4,642.9320	4,642.9320	0.3590		4,651.9058
Worker	1.7292	0.9176	12.4745	0.0318	3.0230	0.0219	3.0450	0.8019	0.0202	0.8221		3,163.5666	3,163.5666	0.0930		3,165.8912
Total	**2.1992**	**18.1483**	**15.1196**	**0.0761**	**4.0856**	**0.0681**	**4.1538**	**1.1077**	**0.0644**	**1.1721**		**7,806.4986**	**7,806.4986**	**0.4519**		**7,817.7970**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4373	16.3783	2.4465	0.0439	1.0625	0.0400	1.1025	0.3058	0.0383	0.3441		4,599.2684	4,599.2684	0.3458		4,607.9143
Worker	1.6020	0.8202	11.3969	0.0306	3.0230	0.0213	3.0443	0.8019	0.0196	0.8214		3,050.7214	3,050.7214	0.0832		3,052.8006
Total	**2.0393**	**17.1985**	**13.8433**	**0.0745**	**4.0856**	**0.0613**	**4.1468**	**1.1077**	**0.0578**	**1.1655**		**7,649.9898**	**7,649.9898**	**0.4290**		**7,660.7149**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**0.3278**	**2.2347**	**17.4603**	**0.0269**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4373	16.3783	2.4465	0.0439	1.0625	0.0400	1.1025	0.3058	0.0383	0.3441		4,599.2684	4,599.2684	0.3458		4,607.9143
Worker	1.6020	0.8202	11.3969	0.0306	3.0230	0.0213	3.0443	0.8019	0.0196	0.8214		3,050.7214	3,050.7214	0.0832		3,052.8006
Total	**2.0393**	**17.1985**	**13.8433**	**0.0745**	**4.0856**	**0.0613**	**4.1468**	**1.1077**	**0.0578**	**1.1655**		**7,649.9898**	**7,649.9898**	**0.4290**		**7,660.7149**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	1.8301					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.9329**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0653	0.0334	0.4646	1.2500e-003	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		124.3501	124.3501	3.3900e-003		124.4348
Total	**0.0653**	**0.0334**	**0.4646**	**1.2500e-003**	**0.1232**	**8.7000e-004**	**0.1241**	**0.0327**	**8.0000e-004**	**0.0335**		**124.3501**	**124.3501**	**3.3900e-003**		**124.4348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	1.8301					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1105**	**1.2154**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0653	0.0334	0.4646	1.2500e-003	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		124.3501	124.3501	3.3900e-003		124.4348
Total	**0.0653**	**0.0334**	**0.4646**	**1.2500e-003**	**0.1232**	**8.7000e-004**	**0.1241**	**0.0327**	**8.0000e-004**	**0.0335**		**124.3501**	**124.3501**	**3.3900e-003**		**124.4348**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	118.1387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**118.3433**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3221	0.1649	2.2918	6.1600e-003	0.6079	4.2700e-003	0.6122	0.1612	3.9300e-003	0.1652		613.4603	613.4603	0.0167		613.8784
Total	**0.3221**	**0.1649**	**2.2918**	**6.1600e-003**	**0.6079**	**4.2700e-003**	**0.6122**	**0.1612**	**3.9300e-003**	**0.1652**		**613.4603**	**613.4603**	**0.0167**		**613.8784**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	118.1387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**118.1684**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3221	0.1649	2.2918	6.1600e-003	0.6079	4.2700e-003	0.6122	0.1612	3.9300e-003	0.1652		613.4603	613.4603	0.0167		613.8784
Total	**0.3221**	**0.1649**	**2.2918**	**6.1600e-003**	**0.6079**	**4.2700e-003**	**0.6122**	**0.1612**	**3.9300e-003**	**0.1652**		**613.4603**	**613.4603**	**0.0167**		**613.8784**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.8830	233.5066	239.2488	0.9888	56.5569	0.8302	57.3871	15.1745	0.7821	15.9565		100,976.8277	100,976.8277	7.9390		101,175.3021
Unmitigated	32.4379	239.0472	252.1740	1.0473	60.7486	0.8814	61.6299	16.2991	0.8303	17.1294		106,923.3961	106,923.3961	8.0827		107,125.4625

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	13,212.50	16,142.00	7385.00	22,439,672	20,891,334
Total	13,212.50	16,142.00	7,385.00	22,439,672	20,891,334

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.516452	0.033212	0.173817	0.123150	0.022816	0.005352	0.027555	0.088301	0.001837	0.001119	0.004633	0.000845	0.000911
Regional Shopping Center	0.516452	0.033212	0.173817	0.123150	0.022816	0.005352	0.027555	0.088301	0.001837	0.001119	0.004633	0.000845	0.000911

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1107	1.0059	0.8450	6.0400e-003		0.0765	0.0765		0.0765	0.0765		1,207.0911	1,207.0911	0.0231	0.0221	1,214.2642
NaturalGas Unmitigated	0.1107	1.0059	0.8450	6.0400e-003		0.0765	0.0765		0.0765	0.0765		1,207.0911	1,207.0911	0.0231	0.0221	1,214.2642

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	10260.3	0.1107	1.0059	0.8450	6.0400e-003		0.0765	0.0765		0.0765	0.0765		1,207.0911	1,207.0911	0.0231	0.0221	1,214.2642
Total		**0.1107**	**1.0059**	**0.8450**	**6.0400e-003**		**0.0765**	**0.0765**		**0.0765**	**0.0765**		**1,207.0911**	**1,207.0911**	**0.0231**	**0.0221**	**1,214.2642**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	10.2603	0.1107	1.0059	0.8450	6.0400e-003		0.0765	0.0765		0.0765	0.0765		1,207.0911	1,207.0911	0.0231	0.0221	1,214.2642
Total		**0.1107**	**1.0059**	**0.8450**	**6.0400e-003**		**0.0765**	**0.0765**		**0.0765**	**0.0765**		**1,207.0911**	**1,207.0911**	**0.0231**	**0.0221**	**1,214.2642**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.3563	3.4000e-004	0.0372	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0797	0.0797	2.1000e-004		0.0849
Unmitigated	9.1119	3.4000e-004	0.0372	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0797	0.0797	2.1000e-004		0.0849

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.4029					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.7055					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.4600e-003	3.4000e-004	0.0372	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0797	0.0797	2.1000e-004		0.0849
Total	**9.1119**	**3.4000e-004**	**0.0372**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**		**0.0797**	**0.0797**	**2.1000e-004**		**0.0849**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.7055					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.4600e-003	3.4000e-004	0.0372	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0797	0.0797	2.1000e-004		0.0849
Total	**8.3563**	**3.4000e-004**	**0.0372**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**		**0.0797**	**0.0797**	**2.1000e-004**		**0.0849**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

School Project Construction and Operations 2021 (Summer Daily)

Baldwin Zacharias MP Middle School

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	900.00	Student	2.43	105,805.52	0
Other Non-Asphalt Surfaces	11.57	Acre	11.57	503,989.20	0
Parking Lot	2.00	Acre	2.00	87,120.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2024
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	387.76	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - TID Intensity Factor for 2030

Land Use - 16 acre site

Construction Phase -

Architectural Coating - Rule 4601 Architectural Coatings compliance

Vehicle Trips - ITE 10th Edition Trip Gen.

Area Coating - Rule 4601 Architectural Coatings

Energy Use - 2019 Title 24 reduces non-residential energy use by 10.7% for electricity and 1% for NG

Construction Off-road Equipment Mitigation - Tier 4 Equipment Mitigation

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Architectural Coatings Compliance

Energy Mitigation -

Water Mitigation - CalGreen and MWELO compliance

Waste Mitigation - Achieve 75% statewide recycling mandate

Fleet Mix - SJVAPCD Residential Fleet Mix 2024

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	65.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	65
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblEnergyUse	T24E	2.14	1.91
tblEnergyUse	T24NG	23.19	22.96
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.53	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	0.02	9.0000e-004
tblFleetMix	LHD2	4.7610e-003	9.0000e-004

tblFleetMix	MCY	4.4200e-003	2.5000e-003
tblFleetMix	MDV	0.11	5.6000e-003
tblFleetMix	MH	7.8100e-004	2.0000e-003
tblFleetMix	MHD	0.03	8.0000e-003
tblFleetMix	OBUS	1.8360e-003	0.00
tblFleetMix	SBUS	8.2200e-004	2.0000e-004
tblFleetMix	UBUS	1.0470e-003	4.3000e-003
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	790	387.76
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	WD_TR	1.62	2.13

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.4025	34.5555	28.6172	0.0815	18.2141	1.4256	19.4812	9.9699	1.3116	11.1356	0.0000	8,151.1040	8,151.1040	1.9483	0.0000	8,172.2185
2024	44.6087	23.2485	25.2167	0.0804	3.1784	0.6386	3.8169	0.8605	0.6005	1.4609	0.0000	8,037.2348	8,037.2348	0.8362	0.0000	8,058.1383
Maximum	**44.6087**	**34.5555**	**28.6172**	**0.0815**	**18.2141**	**1.4256**	**19.4812**	**9.9699**	**1.3116**	**11.1356**	**0.0000**	**8,151.1040**	**8,151.1040**	**1.9483**	**0.0000**	**8,172.2185**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	1.7320	12.1742	33.5652	0.0815	8.2777	0.1027	8.3408	4.5080	0.1026	4.5710	0.0000	8,151.1040	8,151.1040	1.9483	0.0000	8,172.2185
2024	44.4576	12.0395	26.5101	0.0804	3.1784	0.0660	3.2444	0.8605	0.0644	0.9248	0.0000	8,037.2348	8,037.2348	0.8362	0.0000	8,058.1383
Maximum	**44.4576**	**12.1742**	**33.5652**	**0.0815**	**8.2777**	**0.1027**	**8.3408**	**4.5080**	**0.1026**	**4.5710**	**0.0000**	**8,151.1040**	**8,151.1040**	**1.9483**	**0.0000**	**8,172.2185**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**3.79**	**58.11**	**-11.59**	**0.00**	**46.45**	**91.83**	**50.27**	**50.43**	**91.27**	**56.37**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9528	8.5000e-004	0.0931	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1999	0.1999	5.2000e-004		0.2130
Energy	0.0778	0.7071	0.5939	4.2400e-003		0.0537	0.0537		0.0537	0.0537		848.4904	848.4904	0.0163	0.0156	853.5325
Mobile	3.5389	8.3503	30.9011	0.0933	9.0538	0.0825	9.1364	2.4086	0.0768	2.4854		9,445.8224	9,445.8224	0.4740		9,457.6716
Total	**6.5695**	**9.0583**	**31.5882**	**0.0976**	**9.0538**	**0.1366**	**9.1904**	**2.4086**	**0.1309**	**2.5395**		**10,294.5127**	**10,294.5127**	**0.4908**	**0.0156**	**10,311.4171**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.7244	8.5000e-004	0.0931	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1999	0.1999	5.2000e-004		0.2130
Energy	0.0778	0.7071	0.5939	4.2400e-003		0.0537	0.0537		0.0537	0.0537		848.4904	848.4904	0.0163	0.0156	853.5325
Mobile	3.4898	8.0839	29.1756	0.0874	8.4291	0.0776	8.5067	2.2424	0.0722	2.3146		8,845.6872	8,845.6872	0.4512		8,856.9680
Total	**6.2921**	**8.7919**	**29.8627**	**0.0917**	**8.4291**	**0.1316**	**8.5608**	**2.2424**	**0.1263**	**2.3687**		**9,694.3775**	**9,694.3775**	**0.4680**	**0.0156**	**9,710.7135**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**4.22**	**2.94**	**5.46**	**6.08**	**6.90**	**3.64**	**6.85**	**6.90**	**3.54**	**6.73**	**0.00**	**5.83**	**5.83**	**4.63**	**0.00**	**5.83**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2023	1/13/2023	5	10	
2	Grading	Grading	1/14/2023	2/24/2023	5	30	
3	Building Construction	Building Construction	2/25/2023	4/19/2024	5	300	
4	Paving	Paving	4/20/2024	5/17/2024	5	20	
5	Architectural Coating	Architectural Coating	5/18/2024	6/14/2024	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 13.57

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 158,708; Non-Residential Outdoor: 52,903; Striped Parking Area: 35,467 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	293.00	114.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	59.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.0663**	**1.2660**	**19.3323**	**9.9307**	**1.1647**	**11.0954**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0727	0.0359	0.5094	1.4400e-003	0.1479	1.0100e-003	0.1489	0.0392	9.3000e-004	0.0402		143.6363	143.6363	3.6300e-003		143.7272
Total	**0.0727**	**0.0359**	**0.5094**	**1.4400e-003**	**0.1479**	**1.0100e-003**	**0.1489**	**0.0392**	**9.3000e-004**	**0.0402**		**143.6363**	**143.6363**	**3.6300e-003**		**143.7272**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0381		0.0621	0.0621		0.0621	0.0621	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**0.4656**	**2.0175**	**20.8690**	**0.0381**	**8.1298**	**0.0621**	**8.1919**	**4.4688**	**0.0621**	**4.5309**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0727	0.0359	0.5094	1.4400e-003	0.1479	1.0100e-003	0.1489	0.0392	9.3000e-004	0.0402		143.6363	143.6363	3.6300e-003		143.7272
Total	**0.0727**	**0.0359**	**0.5094**	**1.4400e-003**	**0.1479**	**1.0100e-003**	**0.1489**	**0.0392**	**9.3000e-004**	**0.0402**		**143.6363**	**143.6363**	**3.6300e-003**		**143.7272**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**8.6733**	**1.4245**	**10.0978**	**3.5965**	**1.3105**	**4.9070**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0808	0.0399	0.5660	1.6000e-003	0.1643	1.1200e-003	0.1654	0.0436	1.0300e-003	0.0446		159.5959	159.5959	4.0400e-003		159.6969
Total	**0.0808**	**0.0399**	**0.5660**	**1.6000e-003**	**0.1643**	**1.1200e-003**	**0.1654**	**0.0436**	**1.0300e-003**	**0.0446**		**159.5959**	**159.5959**	**4.0400e-003**		**159.6969**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**3.9030**	**0.1015**	**4.0045**	**1.6184**	**0.1015**	**1.7200**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0808	0.0399	0.5660	1.6000e-003	0.1643	1.1200e-003	0.1654	0.0436	1.0300e-003	0.0446		159.5959	159.5959	4.0400e-003		159.6969
Total	**0.0808**	**0.0399**	**0.5660**	**1.6000e-003**	**0.1643**	**1.1200e-003**	**0.1654**	**0.0436**	**1.0300e-003**	**0.0446**		**159.5959**	**159.5959**	**4.0400e-003**		**159.6969**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2203	9.3548	1.4729	0.0311	0.7715	9.2900e-003	0.7808	0.2221	8.8800e-003	0.2309		3,257.8138	3,257.8138	0.1776		3,262.2536
Worker	1.1839	0.5847	8.2925	0.0235	2.4069	0.0165	2.4234	0.6384	0.0152	0.6536		2,338.0803	2,338.0803	0.0591		2,339.5588
Total	**1.4042**	**9.9395**	**9.7654**	**0.0546**	**3.1784**	**0.0257**	**3.2041**	**0.8605**	**0.0240**	**0.8845**		**5,595.8940**	**5,595.8940**	**0.2367**		**5,601.8125**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**0.3278**	**2.2347**	**17.4603**	**0.0269**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2203	9.3548	1.4729	0.0311	0.7715	9.2900e-003	0.7808	0.2221	8.8800e-003	0.2309		3,257.8138	3,257.8138	0.1776		3,262.2536
Worker	1.1839	0.5847	8.2925	0.0235	2.4069	0.0165	2.4234	0.6384	0.0152	0.6536		2,338.0803	2,338.0803	0.0591		2,339.5588
Total	**1.4042**	**9.9395**	**9.7654**	**0.0546**	**3.1784**	**0.0257**	**3.2041**	**0.8605**	**0.0240**	**0.8845**		**5,595.8940**	**5,595.8940**	**0.2367**		**5,601.8125**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2138	9.2792	1.3946	0.0308	0.7714	9.1500e-003	0.7806	0.2220	8.7500e-003	0.2308		3,233.4321	3,233.4321	0.1786		3,237.8968
Worker	1.1031	0.5255	7.6552	0.0226	2.4069	0.0161	2.4230	0.6384	0.0148	0.6532		2,248.1038	2,248.1038	0.0532		2,249.4339
Total	**1.3169**	**9.8048**	**9.0499**	**0.0534**	**3.1784**	**0.0252**	**3.2036**	**0.8605**	**0.0236**	**0.8840**		**5,481.5359**	**5,481.5359**	**0.2318**		**5,487.3307**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2138	9.2792	1.3946	0.0308	0.7714	9.1500e-003	0.7806	0.2220	8.7500e-003	0.2308		3,233.4321	3,233.4321	0.1786		3,237.8968
Worker	1.1031	0.5255	7.6552	0.0226	2.4069	0.0161	2.4230	0.6384	0.0148	0.6532		2,248.1038	2,248.1038	0.0532		2,249.4339
Total	**1.3169**	**9.8048**	**9.0499**	**0.0534**	**3.1784**	**0.0252**	**3.2036**	**0.8605**	**0.0236**	**0.8840**		**5,481.5359**	**5,481.5359**	**0.2318**		**5,487.3307**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.2620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2502**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0565	0.0269	0.3919	1.1600e-003	0.1232	8.2000e-004	0.1241	0.0327	7.6000e-004	0.0334		115.0906	115.0906	2.7200e-003		115.1587
Total	**0.0565**	**0.0269**	**0.3919**	**1.1600e-003**	**0.1232**	**8.2000e-004**	**0.1241**	**0.0327**	**7.6000e-004**	**0.0334**		**115.0906**	**115.0906**	**2.7200e-003**		**115.1587**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.2620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5425**	**1.2154**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0565	0.0269	0.3919	1.1600e-003	0.1232	8.2000e-004	0.1241	0.0327	7.6000e-004	0.0334		115.0906	115.0906	2.7200e-003		115.1587
Total	**0.0565**	**0.0269**	**0.3919**	**1.1600e-003**	**0.1232**	**8.2000e-004**	**0.1241**	**0.0327**	**7.6000e-004**	**0.0334**		**115.0906**	**115.0906**	**2.7200e-003**		**115.1587**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	44.2058					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**44.3865**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2221	0.1058	1.5415	4.5400e-003	0.4847	3.2400e-003	0.4879	0.1286	2.9800e-003	0.1315		452.6898	452.6898	0.0107		452.9577
Total	**0.2221**	**0.1058**	**1.5415**	**4.5400e-003**	**0.4847**	**3.2400e-003**	**0.4879**	**0.1286**	**2.9800e-003**	**0.1315**		**452.6898**	**452.6898**	**0.0107**		**452.9577**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	44.2058					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**44.2355**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2221	0.1058	1.5415	4.5400e-003	0.4847	3.2400e-003	0.4879	0.1286	2.9800e-003	0.1315		452.6898	452.6898	0.0107		452.9577
Total	**0.2221**	**0.1058**	**1.5415**	**4.5400e-003**	**0.4847**	**3.2400e-003**	**0.4879**	**0.1286**	**2.9800e-003**	**0.1315**		**452.6898**	**452.6898**	**0.0107**		**452.9577**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.4898	8.0839	29.1756	0.0874	8.4291	0.0776	8.5067	2.2424	0.0722	2.3146		8,845.6872	8,845.6872	0.4512		8,856.9680
Unmitigated	3.5389	8.3503	30.9011	0.0933	9.0538	0.0825	9.1364	2.4086	0.0768	2.4854		9,445.8224	9,445.8224	0.4740		9,457.6716

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior High School	1,917.00	0.00	0.00	3,078,420	2,866,009
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,917.00	0.00	0.00	3,078,420	2,866,009

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Junior High School	0.527700	0.209000	0.167500	0.005600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000
Other Non-Asphalt Surfaces	0.529564	0.031735	0.175601	0.112621	0.019191	0.004761	0.027424	0.090197	0.001836	0.001047	0.004420	0.000822	0.000781
Parking Lot	0.529564	0.031735	0.175601	0.112621	0.019191	0.004761	0.027424	0.090197	0.001836	0.001047	0.004420	0.000822	0.000781

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0778	0.7071	0.5939	4.2400e-003		0.0537	0.0537		0.0537	0.0537		848.4904	848.4904	0.0163	0.0156	853.5325
NaturalGas Unmitigated	0.0778	0.7071	0.5939	4.2400e-003		0.0537	0.0537		0.0537	0.0537		848.4904	848.4904	0.0163	0.0156	853.5325

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior High School	7212.17	0.0778	0.7071	0.5939	4.2400e-003		0.0537	0.0537		0.0537	0.0537		848.4904	848.4904	0.0163	0.0156	853.5325
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0778**	**0.7071**	**0.5939**	**4.2400e-003**		**0.0537**	**0.0537**		**0.0537**	**0.0537**		**848.4904**	**848.4904**	**0.0163**	**0.0156**	**853.5325**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior High School	7.21217	0.0778	0.7071	0.5939	4.2400e-003		0.0537	0.0537		0.0537	0.0537		848.4904	848.4904	0.0163	0.0156	853.5325
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0778**	**0.7071**	**0.5939**	**4.2400e-003**		**0.0537**	**0.0537**		**0.0537**	**0.0537**		**848.4904**	**848.4904**	**0.0163**	**0.0156**	**853.5325**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.7244	8.5000e-004	0.0931	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1999	0.1999	5.2000e-004		0.2130
Unmitigated	2.9528	8.5000e-004	0.0931	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1999	0.1999	5.2000e-004		0.2130

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4706					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4736					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.6000e-003	8.5000e-004	0.0931	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1999	0.1999	5.2000e-004		0.2130
Total	**2.9528**	**8.5000e-004**	**0.0931**	**1.0000e-005**		**3.3000e-004**	**3.3000e-004**		**3.3000e-004**	**3.3000e-004**		**0.1999**	**0.1999**	**5.2000e-004**		**0.2130**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2422					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4736					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.6000e-003	8.5000e-004	0.0931	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1999	0.1999	5.2000e-004		0.2130
Total	**2.7244**	**8.5000e-004**	**0.0931**	**1.0000e-005**		**3.3000e-004**	**3.3000e-004**		**3.3000e-004**	**3.3000e-004**		**0.1999**	**0.1999**	**5.2000e-004**		**0.2130**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output
Baldwin Master Plan
Construction 2021

Baldwin MP Const and Ops

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	305.00	Dwelling Unit	65.90	549,000.00	872

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2021
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	387.76	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - TID Intensity Rates

Land Use - Project description acreage

Construction Phase -

Architectural Coating - Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Ed Trip Generation Rates

Fleet Mix - SJVAPCD Residential Fleet Mix 2021

Area Coating - Rule 4601 Architectural Coatings compliance

Woodstoves -

Construction Off-road Equipment Mitigation - Tier 4 Mitigation Measure

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation - 2019 Title 24 Compliance w/o solar

Water Mitigation - CalGreen and MWELO requirements

Waste Mitigation - Achieve the CalRecycle 75% Mandate

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65
tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.51	0.54
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD2	5.6820e-003	9.0000e-004
tblFleetMix	MCY	4.7430e-003	2.6000e-003
tblFleetMix	MDV	0.13	0.05

tblFleetMix	MH	9.8700e-004	1.6000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	1.8310e-003	0.00
tblFleetMix	SBUS	8.5600e-004	9.0000e-004
tblFleetMix	UBUS	1.1470e-003	4.4000e-003
tblLandUse	LotAcreage	99.03	65.90
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	790	387.76
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	65.90	0.00
tblWoodstoves	NumberNoncatalytic	65.90	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4507	4.5534	3.2965	6.7700e-003	0.9109	0.2043	1.1152	0.4160	0.1890	0.6050	0.0000	597.5273	597.5273	0.1552	0.0000	601.4061
2022	0.2889	2.5173	2.5819	5.7700e-003	0.1426	0.1071	0.2498	0.0386	0.1008	0.1393	0.0000	511.9876	511.9876	0.0839	0.0000	514.0844
2023	0.2639	2.2561	2.5198	5.7000e-003	0.1426	0.0921	0.2348	0.0386	0.0867	0.1252	0.0000	505.6735	505.6735	0.0805	0.0000	507.6848
2024	0.2489	2.1440	2.4983	5.7000e-003	0.1437	0.0815	0.2252	0.0389	0.0766	0.1155	0.0000	505.1523	505.1523	0.0805	0.0000	507.1637
2025	0.2133	1.8547	2.3644	5.2000e-003	0.1217	0.0674	0.1891	0.0329	0.0632	0.0961	0.0000	460.8681	460.8681	0.0804	0.0000	462.8787
2026	2.2566	0.1777	0.3139	5.3000e-004	8.4500e-003	8.4700e-003	0.0169	2.2500e-003	7.9500e-003	0.0102	0.0000	46.8257	46.8257	0.0107	0.0000	47.0928
Maximum	**2.2566**	**4.5534**	**3.2965**	**6.7700e-003**	**0.9109**	**0.2043**	**1.1152**	**0.4160**	**0.1890**	**0.6050**	**0.0000**	**597.5273**	**597.5273**	**0.1552**	**0.0000**	**601.4061**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1063	0.5699	3.4565	6.7700e-003	0.4498	0.0101	0.4599	0.1980	0.0100	0.2080	0.0000	597.5267	597.5267	0.1552	0.0000	601.4056
2022	0.1097	0.7778	2.7245	5.7700e-003	0.1426	7.2400e-003	0.1499	0.0386	7.1300e-003	0.0457	0.0000	511.9873	511.9873	0.0839	0.0000	514.0840
2023	0.1020	0.6765	2.6779	5.7000e-003	0.1426	6.4600e-003	0.1491	0.0386	6.3800e-003	0.0450	0.0000	505.6732	505.6732	0.0805	0.0000	507.6845
2024	0.0991	0.6756	2.6678	5.7000e-003	0.1437	6.4900e-003	0.1502	0.0389	6.4100e-003	0.0453	0.0000	505.1520	505.1520	0.0805	0.0000	507.1633
2025	0.0866	0.5822	2.5734	5.2000e-003	0.1217	6.1900e-003	0.1279	0.0329	6.1300e-003	0.0390	0.0000	460.8678	460.8678	0.0804	0.0000	462.8784
2026	2.2415	0.0254	0.3569	5.3000e-004	8.4500e-003	7.8000e-004	9.2300e-003	2.2500e-003	7.8000e-004	3.0200e-003	0.0000	46.8256	46.8256	0.0107	0.0000	47.0928
Maximum	**2.2415**	**0.7778**	**3.4565**	**6.7700e-003**	**0.4498**	**0.0101**	**0.4599**	**0.1980**	**0.0100**	**0.2080**	**0.0000**	**597.5267**	**597.5267**	**0.1552**	**0.0000**	**601.4056**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**26.25**	**75.51**	**-6.50**	**0.00**	**31.37**	**93.36**	**48.49**	**38.44**	**92.97**	**64.64**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	1.5065	0.1034
2	**4-1-2021**	**6-30-2021**	1.6489	0.1367
3	**7-1-2021**	**9-30-2021**	1.0620	0.2027
4	**10-1-2021**	**12-31-2021**	0.7854	0.2344
5	**1-1-2022**	**3-31-2022**	0.6953	0.2209

6	**4-1-2022**	**6-30-2022**	0.7014	0.2217
7	**7-1-2022**	**9-30-2022**	0.7091	0.2241
8	**10-1-2022**	**12-31-2022**	0.7107	0.2258
9	**1-1-2023**	**3-31-2023**	0.6244	0.1938
10	**4-1-2023**	**6-30-2023**	0.6303	0.1949
11	**7-1-2023**	**9-30-2023**	0.6372	0.1971
12	**10-1-2023**	**12-31-2023**	0.6383	0.1981
13	**1-1-2024**	**3-31-2024**	0.5949	0.1934
14	**4-1-2024**	**6-30-2024**	0.5939	0.1925
15	**7-1-2024**	**9-30-2024**	0.6005	0.1946
16	**10-1-2024**	**12-31-2024**	0.6014	0.1956
17	**1-1-2025**	**3-31-2025**	0.5514	0.1890
18	**4-1-2025**	**6-30-2025**	0.5566	0.1902
19	**7-1-2025**	**9-30-2025**	0.5627	0.1923
20	**10-1-2025**	**12-31-2025**	0.3958	0.0979
21	**1-1-2026**	**3-31-2026**	1.1704	1.0280
22	**4-1-2026**	**6-30-2026**	1.2629	1.2389
		Highest	1.6489	1.2389

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4495	0.1403	2.3181	8.5000e-004		0.0217	0.0217		0.0217	0.0217	0.0000	135.8275	135.8275	6.1200e-003	2.4200e-003	136.7023
Energy	0.0430	0.3674	0.1564	2.3500e-003		0.0297	0.0297		0.0297	0.0297	0.0000	895.5081	895.5081	0.0348	0.0139	900.5094
Mobile	1.0658	3.8143	12.8546	0.0356	3.1283	0.0373	3.1655	0.8378	0.0349	0.8726	0.0000	3,256.8985	3,256.8985	0.1850	0.0000	3,261.5246
Waste						0.0000	0.0000		0.0000	0.0000	63.7229	0.0000	63.7229	3.7659	0.0000	157.8708
Water						0.0000	0.0000		0.0000	0.0000	6.3045	26.6246	32.9291	0.6490	0.0156	53.8137
Total	**3.5584**	**4.3220**	**15.3291**	**0.0388**	**3.1283**	**0.0887**	**3.2170**	**0.8378**	**0.0863**	**0.9241**	**70.0274**	**4,314.8588**	**4,384.8862**	**4.6409**	**0.0319**	**4,510.4208**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4495	0.1403	2.3181	8.5000e-004		0.0217	0.0217		0.0217	0.0217	0.0000	135.8275	135.8275	6.1200e-003	2.4200e-003	136.7023
Energy	0.0404	0.3454	0.1470	2.2000e-003		0.0279	0.0279		0.0279	0.0279	0.0000	866.2222	866.2222	0.0341	0.0134	871.0520
Mobile	1.0434	3.6534	12.1653	0.0333	2.9124	0.0350	2.9474	0.7800	0.0327	0.8127	0.0000	3,045.4277	3,045.4277	0.1762	0.0000	3,049.8316
Waste						0.0000	0.0000		0.0000	0.0000	47.7922	0.0000	47.7922	2.8244	0.0000	118.4031
Water						0.0000	0.0000		0.0000	0.0000	5.0436	21.2997	26.3433	0.5192	0.0125	43.0509
Total	**3.5333**	**4.1390**	**14.6304**	**0.0363**	**2.9124**	**0.0846**	**2.9970**	**0.7800**	**0.0823**	**0.8623**	**52.8358**	**4,068.7771**	**4,121.6129**	**3.5601**	**0.0283**	**4,219.0399**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.70**	**4.23**	**4.56**	**6.35**	**6.90**	**4.62**	**6.84**	**6.90**	**4.58**	**6.68**	**24.55**	**5.70**	**6.00**	**23.29**	**11.38**	**6.46**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	2/25/2021	5	40	
2	Grading	Grading	2/26/2021	7/29/2021	5	110	
3	Building Construction	Building Construction	7/30/2021	10/30/2025	5	1110	
4	Paving	Paving	10/31/2025	2/12/2026	5	75	
5	Architectural Coating	Architectural Coating	2/13/2026	5/28/2026	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 1,111,725; Residential Outdoor: 370,575; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	110.00	33.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3613	0.0000	0.3613	0.1986	0.0000	0.1986	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0778	0.8099	0.4231	7.6000e-004		0.0409	0.0409		0.0376	0.0376	0.0000	66.8714	66.8714	0.0216	0.0000	67.4121
Total	**0.0778**	**0.8099**	**0.4231**	**7.6000e-004**	**0.3613**	**0.0409**	**0.4022**	**0.1986**	**0.0376**	**0.2362**	**0.0000**	**66.8714**	**66.8714**	**0.0216**	**0.0000**	**67.4121**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	9.8000e-004	0.0106	3.0000e-005	2.8800e-003	2.0000e-005	2.9000e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.5631	2.5631	7.0000e-005	0.0000	2.5649
Total	**1.4900e-003**	**9.8000e-004**	**0.0106**	**3.0000e-005**	**2.8800e-003**	**2.0000e-005**	**2.9000e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5631**	**2.5631**	**7.0000e-005**	**0.0000**	**2.5649**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1626	0.0000	0.1626	0.0894	0.0000	0.0894	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3100e-003	0.0404	0.4174	7.6000e-004		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	66.8714	66.8714	0.0216	0.0000	67.4120
Total	**9.3100e-003**	**0.0404**	**0.4174**	**7.6000e-004**	**0.1626**	**1.2400e-003**	**0.1638**	**0.0894**	**1.2400e-003**	**0.0906**	**0.0000**	**66.8714**	**66.8714**	**0.0216**	**0.0000**	**67.4120**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	9.8000e-004	0.0106	3.0000e-005	2.8800e-003	2.0000e-005	2.9000e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.5631	2.5631	7.0000e-005	0.0000	2.5649
Total	**1.4900e-003**	**9.8000e-004**	**0.0106**	**3.0000e-005**	**2.8800e-003**	**2.0000e-005**	**2.9000e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5631**	**2.5631**	**7.0000e-005**	**0.0000**	**2.5649**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4770	0.0000	0.4770	0.1978	0.0000	0.1978	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2305	2.5520	1.6983	3.4100e-003		0.1092	0.1092		0.1005	0.1005	0.0000	299.7224	299.7224	0.0969	0.0000	302.1458
Total	**0.2305**	**2.5520**	**1.6983**	**3.4100e-003**	**0.4770**	**0.1092**	**0.5862**	**0.1978**	**0.1005**	**0.2983**	**0.0000**	**299.7224**	**299.7224**	**0.0969**	**0.0000**	**302.1458**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.9800e-003	0.0322	9.0000e-005	8.7900e-003	7.0000e-005	8.8500e-003	2.3400e-003	6.0000e-005	2.4000e-003	0.0000	7.8316	7.8316	2.3000e-004	0.0000	7.8373
Total	**4.5600e-003**	**2.9800e-003**	**0.0322**	**9.0000e-005**	**8.7900e-003**	**7.0000e-005**	**8.8500e-003**	**2.3400e-003**	**6.0000e-005**	**2.4000e-003**	**0.0000**	**7.8316**	**7.8316**	**2.3000e-004**	**0.0000**	**7.8373**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2147	0.0000	0.2147	0.0890	0.0000	0.0890	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0419	0.1815	1.8150	3.4100e-003		5.5800e-003	5.5800e-003		5.5800e-003	5.5800e-003	0.0000	299.7220	299.7220	0.0969	0.0000	302.1455
Total	**0.0419**	**0.1815**	**1.8150**	**3.4100e-003**	**0.2147**	**5.5800e-003**	**0.2203**	**0.0890**	**5.5800e-003**	**0.0946**	**0.0000**	**299.7220**	**299.7220**	**0.0969**	**0.0000**	**302.1455**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.9800e-003	0.0322	9.0000e-005	8.7900e-003	7.0000e-005	8.8500e-003	2.3400e-003	6.0000e-005	2.4000e-003	0.0000	7.8316	7.8316	2.3000e-004	0.0000	7.8373
Total	**4.5600e-003**	**2.9800e-003**	**0.0322**	**9.0000e-005**	**8.7900e-003**	**7.0000e-005**	**8.8500e-003**	**2.3400e-003**	**6.0000e-005**	**2.4000e-003**	**0.0000**	**7.8316**	**7.8316**	**2.3000e-004**	**0.0000**	**7.8373**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1055	0.9675	0.9199	1.4900e-003		0.0532	0.0532		0.0500	0.0500	0.0000	128.5587	128.5587	0.0310	0.0000	129.3341
Total	**0.1055**	**0.9675**	**0.9199**	**1.4900e-003**		**0.0532**	**0.0532**		**0.0500**	**0.0500**	**0.0000**	**128.5587**	**128.5587**	**0.0310**	**0.0000**	**129.3341**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5900e-003	0.2035	0.0334	5.1000e-004	0.0121	5.5000e-004	0.0127	3.5000e-003	5.2000e-004	4.0200e-003	0.0000	48.5146	48.5146	4.0100e-003	0.0000	48.6149
Worker	0.0253	0.0166	0.1790	4.8000e-004	0.0488	3.6000e-004	0.0491	0.0130	3.4000e-004	0.0133	0.0000	43.4655	43.4655	1.2600e-003	0.0000	43.4970
Total	**0.0309**	**0.2200**	**0.2124**	**9.9000e-004**	**0.0609**	**9.1000e-004**	**0.0618**	**0.0165**	**8.6000e-004**	**0.0173**	**0.0000**	**91.9801**	**91.9801**	**5.2700e-003**	**0.0000**	**92.1119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0182	0.1240	0.9690	1.4900e-003		2.2600e-003	2.2600e-003		2.2600e-003	2.2600e-003	0.0000	128.5585	128.5585	0.0310	0.0000	129.3339
Total	**0.0182**	**0.1240**	**0.9690**	**1.4900e-003**		**2.2600e-003**	**2.2600e-003**		**2.2600e-003**	**2.2600e-003**	**0.0000**	**128.5585**	**128.5585**	**0.0310**	**0.0000**	**129.3339**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5900e-003	0.2035	0.0334	5.1000e-004	0.0121	5.5000e-004	0.0127	3.5000e-003	5.2000e-004	4.0200e-003	0.0000	48.5146	48.5146	4.0100e-003	0.0000	48.6149
Worker	0.0253	0.0166	0.1790	4.8000e-004	0.0488	3.6000e-004	0.0491	0.0130	3.4000e-004	0.0133	0.0000	43.4655	43.4655	1.2600e-003	0.0000	43.4970
Total	**0.0309**	**0.2200**	**0.2124**	**9.9000e-004**	**0.0609**	**9.1000e-004**	**0.0618**	**0.0165**	**8.6000e-004**	**0.0173**	**0.0000**	**91.9801**	**91.9801**	**5.2700e-003**	**0.0000**	**92.1119**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2428**	**301.2428**	**0.0722**	**0.0000**	**303.0471**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0122	0.4526	0.0724	1.1800e-003	0.0284	1.1100e-003	0.0295	8.2000e-003	1.0600e-003	9.2600e-003	0.0000	112.5624	112.5624	9.0600e-003	0.0000	112.7888
Worker	0.0549	0.0347	0.3822	1.0900e-003	0.1143	8.3000e-004	0.1151	0.0304	7.6000e-004	0.0311	0.0000	98.1824	98.1824	2.6400e-003	0.0000	98.2485
Total	**0.0671**	**0.4873**	**0.4547**	**2.2700e-003**	**0.1426**	**1.9400e-003**	**0.1446**	**0.0386**	**1.8200e-003**	**0.0404**	**0.0000**	**210.7448**	**210.7448**	**0.0117**	**0.0000**	**211.0373**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0426	0.2905	2.2698	3.5000e-003		5.3000e-003	5.3000e-003		5.3000e-003	5.3000e-003	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	**0.0426**	**0.2905**	**2.2698**	**3.5000e-003**		**5.3000e-003**	**5.3000e-003**		**5.3000e-003**	**5.3000e-003**	**0.0000**	**301.2425**	**301.2425**	**0.0722**	**0.0000**	**303.0467**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0122	0.4526	0.0724	1.1800e-003	0.0284	1.1100e-003	0.0295	8.2000e-003	1.0600e-003	9.2600e-003	0.0000	112.5624	112.5624	9.0600e-003	0.0000	112.7888
Worker	0.0549	0.0347	0.3822	1.0900e-003	0.1143	8.3000e-004	0.1151	0.0304	7.6000e-004	0.0311	0.0000	98.1824	98.1824	2.6400e-003	0.0000	98.2485
Total	**0.0671**	**0.4873**	**0.4547**	**2.2700e-003**	**0.1426**	**1.9400e-003**	**0.1446**	**0.0386**	**1.8200e-003**	**0.0404**	**0.0000**	**210.7448**	**210.7448**	**0.0117**	**0.0000**	**211.0373**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3462**	**301.3462**	**0.0717**	**0.0000**	**303.1383**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4400e-003	0.3550	0.0594	1.1500e-003	0.0284	3.5000e-004	0.0287	8.2000e-003	3.4000e-004	8.5300e-003	0.0000	109.8155	109.8155	6.4000e-003	0.0000	109.9756
Worker	0.0510	0.0310	0.3487	1.0500e-003	0.1143	8.0000e-004	0.1151	0.0304	7.4000e-004	0.0311	0.0000	94.5119	94.5119	2.3600e-003	0.0000	94.5709
Total	**0.0594**	**0.3860**	**0.4081**	**2.2000e-003**	**0.1426**	**1.1500e-003**	**0.1438**	**0.0386**	**1.0800e-003**	**0.0396**	**0.0000**	**204.3274**	**204.3274**	**8.7600e-003**	**0.0000**	**204.5465**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0426	0.2905	2.2698	3.5000e-003		5.3000e-003	5.3000e-003		5.3000e-003	5.3000e-003	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	**0.0426**	**0.2905**	**2.2698**	**3.5000e-003**		**5.3000e-003**	**5.3000e-003**		**5.3000e-003**	**5.3000e-003**	**0.0000**	**301.3458**	**301.3458**	**0.0717**	**0.0000**	**303.1380**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4400e-003	0.3550	0.0594	1.1500e-003	0.0284	3.5000e-004	0.0287	8.2000e-003	3.4000e-004	8.5300e-003	0.0000	109.8155	109.8155	6.4000e-003	0.0000	109.9756
Worker	0.0510	0.0310	0.3487	1.0500e-003	0.1143	8.0000e-004	0.1151	0.0304	7.4000e-004	0.0311	0.0000	94.5119	94.5119	2.3600e-003	0.0000	94.5709
Total	**0.0594**	**0.3860**	**0.4081**	**2.2000e-003**	**0.1426**	**1.1500e-003**	**0.1438**	**0.0386**	**1.0800e-003**	**0.0396**	**0.0000**	**204.3274**	**204.3274**	**8.7600e-003**	**0.0000**	**204.5465**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2600e-003	0.3548	0.0567	1.1600e-003	0.0286	3.5000e-004	0.0290	8.2600e-003	3.4000e-004	8.5900e-003	0.0000	109.8471	109.8471	6.4900e-003	0.0000	110.0094
Worker	0.0479	0.0281	0.3238	1.0100e-003	0.1151	7.9000e-004	0.1159	0.0306	7.3000e-004	0.0313	0.0000	91.5829	91.5829	2.1400e-003	0.0000	91.6364
Total	**0.0562**	**0.3829**	**0.3805**	**2.1700e-003**	**0.1437**	**1.1400e-003**	**0.1449**	**0.0389**	**1.0700e-003**	**0.0399**	**0.0000**	**201.4300**	**201.4300**	**8.6300e-003**	**0.0000**	**201.6458**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0429	0.2928	2.2873	3.5300e-003		5.3400e-003	5.3400e-003		5.3400e-003	5.3400e-003	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.0429**	**0.2928**	**2.2873**	**3.5300e-003**		**5.3400e-003**	**5.3400e-003**		**5.3400e-003**	**5.3400e-003**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2600e-003	0.3548	0.0567	1.1600e-003	0.0286	3.5000e-004	0.0290	8.2600e-003	3.4000e-004	8.5900e-003	0.0000	109.8471	109.8471	6.4900e-003	0.0000	110.0094
Worker	0.0479	0.0281	0.3238	1.0100e-003	0.1151	7.9000e-004	0.1159	0.0306	7.3000e-004	0.0313	0.0000	91.5829	91.5829	2.1400e-003	0.0000	91.6364
Total	**0.0562**	**0.3829**	**0.3805**	**2.1700e-003**	**0.1437**	**1.1400e-003**	**0.1449**	**0.0389**	**1.0700e-003**	**0.0399**	**0.0000**	**201.4300**	**201.4300**	**8.6300e-003**	**0.0000**	**201.6458**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1484	1.3530	1.7452	2.9300e-003		0.0572	0.0572		0.0538	0.0538	0.0000	251.6326	251.6326	0.0592	0.0000	253.1114
Total	**0.1484**	**1.3530**	**1.7452**	**2.9300e-003**		**0.0572**	**0.0572**		**0.0538**	**0.0538**	**0.0000**	**251.6326**	**251.6326**	**0.0592**	**0.0000**	**253.1114**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6700e-003	0.2914	0.0449	9.5000e-004	0.0237	2.9000e-004	0.0240	6.8400e-003	2.7000e-004	7.1100e-003	0.0000	90.3484	90.3484	5.3900e-003	0.0000	90.4831
Worker	0.0372	0.0210	0.2467	8.1000e-004	0.0954	6.4000e-004	0.0960	0.0254	5.9000e-004	0.0259	0.0000	72.8310	72.8310	1.6000e-003	0.0000	72.8709
Total	**0.0438**	**0.3124**	**0.2917**	**1.7600e-003**	**0.1190**	**9.3000e-004**	**0.1200**	**0.0322**	**8.6000e-004**	**0.0331**	**0.0000**	**163.1794**	**163.1794**	**6.9900e-003**	**0.0000**	**163.3540**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0356	0.2425	1.8944	2.9300e-003		4.4300e-003	4.4300e-003		4.4300e-003	4.4300e-003	0.0000	251.6323	251.6323	0.0592	0.0000	253.1111
Total	**0.0356**	**0.2425**	**1.8944**	**2.9300e-003**		**4.4300e-003**	**4.4300e-003**		**4.4300e-003**	**4.4300e-003**	**0.0000**	**251.6323**	**251.6323**	**0.0592**	**0.0000**	**253.1111**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6700e-003	0.2914	0.0449	9.5000e-004	0.0237	2.9000e-004	0.0240	6.8400e-003	2.7000e-004	7.1100e-003	0.0000	90.3484	90.3484	5.3900e-003	0.0000	90.4831
Worker	0.0372	0.0210	0.2467	8.1000e-004	0.0954	6.4000e-004	0.0960	0.0254	5.9000e-004	0.0259	0.0000	72.8310	72.8310	1.6000e-003	0.0000	72.8709
Total	**0.0438**	**0.3124**	**0.2917**	**1.7600e-003**	**0.1190**	**9.3000e-004**	**0.1200**	**0.0322**	**8.6000e-004**	**0.0331**	**0.0000**	**163.1794**	**163.1794**	**6.9900e-003**	**0.0000**	**163.3540**

3.5 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0201	0.1888	0.3207	5.0000e-004		9.2100e-003	9.2100e-003		8.4700e-003	8.4700e-003	0.0000	44.0424	44.0424	0.0142	0.0000	44.3985
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0201**	**0.1888**	**0.3207**	**5.0000e-004**		**9.2100e-003**	**9.2100e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**44.0424**	**44.0424**	**0.0142**	**0.0000**	**44.3985**

3.5 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0300e-003	5.8000e-004	6.8200e-003	2.0000e-005	2.6400e-003	2.0000e-005	2.6500e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.0138	2.0138	4.0000e-005	0.0000	2.0149
Total	**1.0300e-003**	**5.8000e-004**	**6.8200e-003**	**2.0000e-005**	**2.6400e-003**	**2.0000e-005**	**2.6500e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**2.0138**	**2.0138**	**4.0000e-005**	**0.0000**	**2.0149**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.1700e-003	0.0267	0.3805	5.0000e-004		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	44.0423	44.0423	0.0142	0.0000	44.3984
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.1700e-003**	**0.0267**	**0.3805**	**5.0000e-004**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**44.0423**	**44.0423**	**0.0142**	**0.0000**	**44.3984**

3.5 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0300e-003	5.8000e-004	6.8200e-003	2.0000e-005	2.6400e-003	2.0000e-005	2.6500e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.0138	2.0138	4.0000e-005	0.0000	2.0149
Total	**1.0300e-003**	**5.8000e-004**	**6.8200e-003**	**2.0000e-005**	**2.6400e-003**	**2.0000e-005**	**2.6500e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**2.0138**	**2.0138**	**4.0000e-005**	**0.0000**	**2.0149**

3.5 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0142	0.1330	0.2260	3.5000e-004		6.4900e-003	6.4900e-003		5.9700e-003	5.9700e-003	0.0000	31.0299	31.0299	0.0100	0.0000	31.2807
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0142**	**0.1330**	**0.2260**	**3.5000e-004**		**6.4900e-003**	**6.4900e-003**		**5.9700e-003**	**5.9700e-003**	**0.0000**	**31.0299**	**31.0299**	**0.0100**	**0.0000**	**31.2807**

3.5 Paving - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	3.7000e-004	4.4200e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.3678	1.3678	3.0000e-005	0.0000	1.3685
Total	**6.8000e-004**	**3.7000e-004**	**4.4200e-003**	**2.0000e-005**	**1.8600e-003**	**1.0000e-005**	**1.8700e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.3678**	**1.3678**	**3.0000e-005**	**0.0000**	**1.3685**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3500e-003	0.0188	0.2681	3.5000e-004		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	31.0298	31.0298	0.0100	0.0000	31.2807
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.3500e-003**	**0.0188**	**0.2681**	**3.5000e-004**		**5.8000e-004**	**5.8000e-004**		**5.8000e-004**	**5.8000e-004**	**0.0000**	**31.0298**	**31.0298**	**0.0100**	**0.0000**	**31.2807**

3.5 Paving - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	3.7000e-004	4.4200e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.3678	1.3678	3.0000e-005	0.0000	1.3685
Total	**6.8000e-004**	**3.7000e-004**	**4.4200e-003**	**2.0000e-005**	**1.8600e-003**	**1.0000e-005**	**1.8700e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.3678**	**1.3678**	**3.0000e-005**	**0.0000**	**1.3685**

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2329					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4100e-003	0.0430	0.0678	1.1000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	9.5747	9.5747	5.2000e-004	0.0000	9.5878
Total	**2.2393**	**0.0430**	**0.0678**	**1.1000e-004**		**1.9300e-003**	**1.9300e-003**		**1.9300e-003**	**1.9300e-003**	**0.0000**	**9.5747**	**9.5747**	**5.2000e-004**	**0.0000**	**9.5878**

3.6 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4100e-003	1.3200e-003	0.0157	5.0000e-005	6.5900e-003	4.0000e-005	6.6300e-003	1.7500e-003	4.0000e-005	1.7900e-003	0.0000	4.8534	4.8534	1.0000e-004	0.0000	4.8558
Total	**2.4100e-003**	**1.3200e-003**	**0.0157**	**5.0000e-005**	**6.5900e-003**	**4.0000e-005**	**6.6300e-003**	**1.7500e-003**	**4.0000e-005**	**1.7900e-003**	**0.0000**	**4.8534**	**4.8534**	**1.0000e-004**	**0.0000**	**4.8558**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2329					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1100e-003	4.8300e-003	0.0687	1.1000e-004		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	9.5747	9.5747	5.2000e-004	0.0000	9.5878
Total	**2.2340**	**4.8300e-003**	**0.0687**	**1.1000e-004**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**	**0.0000**	**9.5747**	**9.5747**	**5.2000e-004**	**0.0000**	**9.5878**

3.6 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4100e-003	1.3200e-003	0.0157	5.0000e-005	6.5900e-003	4.0000e-005	6.6300e-003	1.7500e-003	4.0000e-005	1.7900e-003	0.0000	4.8534	4.8534	1.0000e-004	0.0000	4.8558
Total	**2.4100e-003**	**1.3200e-003**	**0.0157**	**5.0000e-005**	**6.5900e-003**	**4.0000e-005**	**6.6300e-003**	**1.7500e-003**	**4.0000e-005**	**1.7900e-003**	**0.0000**	**4.8534**	**4.8534**	**1.0000e-004**	**0.0000**	**4.8558**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0434	3.6534	12.1653	0.0333	2.9124	0.0350	2.9474	0.7800	0.0327	0.8127	0.0000	3,045.4277	3,045.4277	0.1762	0.0000	3,049.8316
Unmitigated	1.0658	3.8143	12.8546	0.0356	3.1283	0.0373	3.1655	0.8378	0.0349	0.8726	0.0000	3,256.8985	3,256.8985	0.1850	0.0000	3,261.5246

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	2,879.20	2,909.70	2607.75	8,337,937	7,762,619
Total	2,879.20	2,909.70	2,607.75	8,337,937	7,762,619

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.40	13.90	37.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000900	0.001600

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	466.2293	466.2293	0.0265	6.0100e-003	468.6822
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	469.9692	469.9692	0.0267	6.0600e-003	472.4417
NaturalGas Mitigated	0.0404	0.3454	0.1470	2.2000e-003		0.0279	0.0279		0.0279	0.0279	0.0000	399.9929	399.9929	7.6700e-003	7.3300e-003	402.3698
NaturalGas Unmitigated	0.0430	0.3674	0.1564	2.3500e-003		0.0297	0.0297		0.0297	0.0297	0.0000	425.5389	425.5389	8.1600e-003	7.8000e-003	428.0677

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	7.9743e+006	0.0430	0.3674	0.1564	2.3500e-003		0.0297	0.0297		0.0297	0.0297	0.0000	425.5389	425.5389	8.1600e-003	7.8000e-003	428.0677
Total		**0.0430**	**0.3674**	**0.1564**	**2.3500e-003**		**0.0297**	**0.0297**		**0.0297**	**0.0297**	**0.0000**	**425.5389**	**425.5389**	**8.1600e-003**	**7.8000e-003**	**428.0677**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	7.49558e+006	0.0404	0.3454	0.1470	2.2000e-003		0.0279	0.0279		0.0279	0.0279	0.0000	399.9929	399.9929	7.6700e-003	7.3300e-003	402.3698
Total		**0.0404**	**0.3454**	**0.1470**	**2.2000e-003**		**0.0279**	**0.0279**		**0.0279**	**0.0279**	**0.0000**	**399.9929**	**399.9929**	**7.6700e-003**	**7.3300e-003**	**402.3698**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.67203e+006	469.9692	0.0267	6.0600e-003	472.4417
Total		**469.9692**	**0.0267**	**6.0600e-003**	**472.4417**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.65076e+006	466.2293	0.0265	6.0100e-003	468.6822
Total		**466.2293**	**0.0265**	**6.0100e-003**	**468.6822**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4495	0.1403	2.3181	8.5000e-004		0.0217	0.0217		0.0217	0.0217	0.0000	135.8275	135.8275	6.1200e-003	2.4200e-003	136.7023
Unmitigated	2.4495	0.1403	2.3181	8.5000e-004		0.0217	0.0217		0.0217	0.0217	0.0000	135.8275	135.8275	6.1200e-003	2.4200e-003	136.7023

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2233					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1441					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0134	0.1141	0.0486	7.3000e-004		9.2200e-003	9.2200e-003		9.2200e-003	9.2200e-003	0.0000	132.1283	132.1283	2.5300e-003	2.4200e-003	132.9134
Landscaping	0.0688	0.0262	2.2696	1.2000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	3.6993	3.6993	3.5800e-003	0.0000	3.7889
Total	**2.4495**	**0.1403**	**2.3181**	**8.5000e-004**		**0.0217**	**0.0217**		**0.0217**	**0.0217**	**0.0000**	**135.8275**	**135.8275**	**6.1100e-003**	**2.4200e-003**	**136.7023**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2233					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1441					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0134	0.1141	0.0486	7.3000e-004		9.2200e-003	9.2200e-003		9.2200e-003	9.2200e-003	0.0000	132.1283	132.1283	2.5300e-003	2.4200e-003	132.9134
Landscaping	0.0688	0.0262	2.2696	1.2000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	3.6993	3.6993	3.5800e-003	0.0000	3.7889
Total	**2.4495**	**0.1403**	**2.3181**	**8.5000e-004**		**0.0217**	**0.0217**		**0.0217**	**0.0217**	**0.0000**	**135.8275**	**135.8275**	**6.1100e-003**	**2.4200e-003**	**136.7023**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	26.3433	0.5192	0.0125	43.0509
Unmitigated	32.9291	0.6490	0.0156	53.8137

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	19.872 / 12.528	32.9291	0.6490	0.0156	53.8137
Total		**32.9291**	**0.6490**	**0.0156**	**53.8137**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	15.8976 / 10.0224	26.3433	0.5192	0.0125	43.0509
Total		**26.3433**	**0.5192**	**0.0125**	**43.0509**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	47.7922	2.8244	0.0000	118.4031
Unmitigated	63.7229	3.7659	0.0000	157.8708

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	313.92	63.7229	3.7659	0.0000	157.8708
Total		**63.7229**	**3.7659**	**0.0000**	**157.8708**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	235.44	47.7922	2.8244	0.0000	118.4031
Total		**47.7922**	**2.8244**	**0.0000**	**118.4031**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output
Baldwin Master Plan
Operations 2040

Baldwin MP Operations at Buildout 2040

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	305.00	Dwelling Unit	65.90	549,000.00	872

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2040
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	387.76	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - TID Intensity Rates

Land Use - Project description acreage

Construction Phase -

Architectural Coating - Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Ed Trip Generation Rates

Fleet Mix - SJVAPCD Residential Fleet Mix 2021

Area Coating - Rule 4601 Architectural Coatings compliance

Woodstoves -

Construction Off-road Equipment Mitigation - Tier 4 Mitigation Measure

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation - 2019 Title 24 Compliance w/o solar

Water Mitigation - CalGreen and MWELO requirements

Waste Mitigation - Achieve the CalRecycle 75% Mandate

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65
tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.56	0.48
tblFleetMix	LDT1	0.03	0.24
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	8.3940e-003	9.0000e-004
tblFleetMix	LHD2	3.3080e-003	1.0000e-003
tblFleetMix	MCY	3.7970e-003	3.3000e-003
tblFleetMix	MDV	0.09	0.06

tblFleetMix	MH	4.2700e-004	4.4000e-003
tblFleetMix	MHD	0.03	7.9000e-003
tblFleetMix	OBUS	1.8080e-003	0.00
tblFleetMix	SBUS	5.9300e-004	1.1000e-003
tblFleetMix	UBUS	8.7500e-004	4.3000e-003
tblLandUse	LotAcreage	99.03	65.90
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	790	387.76
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	HO_TTP	37.70	38.00
tblVehicleTrips	HS_TTP	13.90	14.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4507	4.5534	3.2965	6.7700e-003	0.9109	0.2043	1.1152	0.4160	0.1890	0.6050	0.0000	597.5273	597.5273	0.1552	0.0000	601.4061
2022	0.2889	2.5173	2.5819	5.7700e-003	0.1426	0.1071	0.2498	0.0386	0.1008	0.1393	0.0000	511.9876	511.9876	0.0839	0.0000	514.0844
2023	0.2639	2.2561	2.5198	5.7000e-003	0.1426	0.0921	0.2348	0.0386	0.0867	0.1252	0.0000	505.6735	505.6735	0.0805	0.0000	507.6848
2024	0.2489	2.1440	2.4983	5.7000e-003	0.1437	0.0815	0.2252	0.0389	0.0766	0.1155	0.0000	505.1523	505.1523	0.0805	0.0000	507.1637
2025	0.2133	1.8547	2.3644	5.2000e-003	0.1217	0.0674	0.1891	0.0329	0.0632	0.0961	0.0000	460.8681	460.8681	0.0804	0.0000	462.8787
2026	2.2566	0.1777	0.3139	5.3000e-004	8.4500e-003	8.4700e-003	0.0169	2.2500e-003	7.9500e-003	0.0102	0.0000	46.8257	46.8257	0.0107	0.0000	47.0928
Maximum	**2.2566**	**4.5534**	**3.2965**	**6.7700e-003**	**0.9109**	**0.2043**	**1.1152**	**0.4160**	**0.1890**	**0.6050**	**0.0000**	**597.5273**	**597.5273**	**0.1552**	**0.0000**	**601.4061**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1063	0.5699	3.4565	6.7700e-003	0.4498	0.0101	0.4599	0.1980	0.0100	0.2080	0.0000	597.5267	597.5267	0.1552	0.0000	601.4056
2022	0.1097	0.7778	2.7245	5.7700e-003	0.1426	7.2400e-003	0.1499	0.0386	7.1300e-003	0.0457	0.0000	511.9873	511.9873	0.0839	0.0000	514.0840
2023	0.1020	0.6765	2.6779	5.7000e-003	0.1426	6.4600e-003	0.1491	0.0386	6.3800e-003	0.0450	0.0000	505.6732	505.6732	0.0805	0.0000	507.6845
2024	0.0991	0.6756	2.6678	5.7000e-003	0.1437	6.4900e-003	0.1502	0.0389	6.4100e-003	0.0453	0.0000	505.1520	505.1520	0.0805	0.0000	507.1633
2025	0.0866	0.5822	2.5734	5.2000e-003	0.1217	6.1900e-003	0.1279	0.0329	6.1300e-003	0.0390	0.0000	460.8678	460.8678	0.0804	0.0000	462.8784
2026	2.2415	0.0254	0.3569	5.3000e-004	8.4500e-003	7.8000e-004	9.2300e-003	2.2500e-003	7.8000e-004	3.0200e-003	0.0000	46.8256	46.8256	0.0107	0.0000	47.0928
Maximum	**2.2415**	**0.7778**	**3.4565**	**6.7700e-003**	**0.4498**	**0.0101**	**0.4599**	**0.1980**	**0.0100**	**0.2080**	**0.0000**	**597.5267**	**597.5267**	**0.1552**	**0.0000**	**601.4056**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**26.25**	**75.51**	**-6.50**	**0.00**	**31.37**	**93.36**	**48.49**	**38.44**	**92.97**	**64.64**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	1.5065	0.1034
2	**4-1-2021**	**6-30-2021**	1.6489	0.1367
3	**7-1-2021**	**9-30-2021**	1.0620	0.2027
4	**10-1-2021**	**12-31-2021**	0.7854	0.2344
5	**1-1-2022**	**3-31-2022**	0.6953	0.2209

6	**4-1-2022**	**6-30-2022**	0.7014	0.2217
7	**7-1-2022**	**9-30-2022**	0.7091	0.2241
8	**10-1-2022**	**12-31-2022**	0.7107	0.2258
9	**1-1-2023**	**3-31-2023**	0.6244	0.1938
10	**4-1-2023**	**6-30-2023**	0.6303	0.1949
11	**7-1-2023**	**9-30-2023**	0.6372	0.1971
12	**10-1-2023**	**12-31-2023**	0.6383	0.1981
13	**1-1-2024**	**3-31-2024**	0.5949	0.1934
14	**4-1-2024**	**6-30-2024**	0.5939	0.1925
15	**7-1-2024**	**9-30-2024**	0.6005	0.1946
16	**10-1-2024**	**12-31-2024**	0.6014	0.1956
17	**1-1-2025**	**3-31-2025**	0.5514	0.1890
18	**4-1-2025**	**6-30-2025**	0.5566	0.1902
19	**7-1-2025**	**9-30-2025**	0.5627	0.1923
20	**10-1-2025**	**12-31-2025**	0.3958	0.0979
21	**1-1-2026**	**3-31-2026**	1.1704	1.0280
22	**4-1-2026**	**6-30-2026**	1.2629	1.2389
		Highest	1.6489	1.2389

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.7912	0.3391	14.4998	0.0406		2.0114	2.0114		2.0114	2.0114	266.4154	135.8275	402.2430	1.2515	2.4200e-003	434.2521
Energy	0.0430	0.3674	0.1564	2.3500e-003		0.0297	0.0297		0.0297	0.0297	0.0000	895.5081	895.5081	0.0348	0.0139	900.5094
Mobile	0.3373	1.8773	4.4271	0.0248	3.1231	0.0110	3.1341	0.8362	0.0102	0.8464	0.0000	2,296.7868	2,296.7868	0.0919	0.0000	2,299.0846
Waste						0.0000	0.0000		0.0000	0.0000	63.7229	0.0000	63.7229	3.7659	0.0000	157.8708
Water						0.0000	0.0000		0.0000	0.0000	6.3045	26.6246	32.9291	0.6490	0.0156	53.8137
Total	**4.1715**	**2.5838**	**19.0833**	**0.0678**	**3.1231**	**2.0522**	**5.1752**	**0.8362**	**2.0514**	**2.8875**	**336.4428**	**3,354.7471**	**3,691.1899**	**5.7932**	**0.0319**	**3,845.5306**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4482	0.1401	2.3033	8.5000e-004		0.0218	0.0218		0.0218	0.0218	0.0000	135.8275	135.8275	6.0500e-003	2.4200e-003	136.7007
Energy	0.0404	0.3454	0.1470	2.2000e-003		0.0279	0.0279		0.0279	0.0279	0.0000	866.2222	866.2222	0.0341	0.0134	871.0520
Mobile	0.3279	1.8282	4.1714	0.0232	2.9076	0.0103	2.9179	0.7785	9.5900e-003	0.7881	0.0000	2,149.6770	2,149.6770	0.0881	0.0000	2,151.8783
Waste						0.0000	0.0000		0.0000	0.0000	47.7922	0.0000	47.7922	2.8244	0.0000	118.4031
Water						0.0000	0.0000		0.0000	0.0000	5.0436	21.2997	26.3433	0.5192	0.0125	43.0509
Total	**2.8166**	**2.3137**	**6.6217**	**0.0263**	**2.9076**	**0.0600**	**2.9676**	**0.7785**	**0.0593**	**0.8378**	**52.8358**	**3,173.0264**	**3,225.8621**	**3.4719**	**0.0283**	**3,321.0851**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**32.48**	**10.45**	**65.30**	**61.26**	**6.90**	**97.07**	**42.66**	**6.90**	**97.11**	**70.99**	**84.30**	**5.42**	**12.61**	**40.07**	**11.38**	**13.64**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	2/25/2021	5	40	
2	Grading	Grading	2/26/2021	7/29/2021	5	110	
3	Building Construction	Building Construction	7/30/2021	10/30/2025	5	1110	
4	Paving	Paving	10/31/2025	2/12/2026	5	75	
5	Architectural Coating	Architectural Coating	2/13/2026	5/28/2026	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 1,111,725; Residential Outdoor: 370,575; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	110.00	33.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3613	0.0000	0.3613	0.1986	0.0000	0.1986	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0778	0.8099	0.4231	7.6000e-004		0.0409	0.0409		0.0376	0.0376	0.0000	66.8714	66.8714	0.0216	0.0000	67.4121
Total	**0.0778**	**0.8099**	**0.4231**	**7.6000e-004**	**0.3613**	**0.0409**	**0.4022**	**0.1986**	**0.0376**	**0.2362**	**0.0000**	**66.8714**	**66.8714**	**0.0216**	**0.0000**	**67.4121**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	9.8000e-004	0.0106	3.0000e-005	2.8800e-003	2.0000e-005	2.9000e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.5631	2.5631	7.0000e-005	0.0000	2.5649
Total	**1.4900e-003**	**9.8000e-004**	**0.0106**	**3.0000e-005**	**2.8800e-003**	**2.0000e-005**	**2.9000e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5631**	**2.5631**	**7.0000e-005**	**0.0000**	**2.5649**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1626	0.0000	0.1626	0.0894	0.0000	0.0894	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3100e-003	0.0404	0.4174	7.6000e-004		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	66.8714	66.8714	0.0216	0.0000	67.4120
Total	**9.3100e-003**	**0.0404**	**0.4174**	**7.6000e-004**	**0.1626**	**1.2400e-003**	**0.1638**	**0.0894**	**1.2400e-003**	**0.0906**	**0.0000**	**66.8714**	**66.8714**	**0.0216**	**0.0000**	**67.4120**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	9.8000e-004	0.0106	3.0000e-005	2.8800e-003	2.0000e-005	2.9000e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.5631	2.5631	7.0000e-005	0.0000	2.5649
Total	**1.4900e-003**	**9.8000e-004**	**0.0106**	**3.0000e-005**	**2.8800e-003**	**2.0000e-005**	**2.9000e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5631**	**2.5631**	**7.0000e-005**	**0.0000**	**2.5649**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4770	0.0000	0.4770	0.1978	0.0000	0.1978	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2305	2.5520	1.6983	3.4100e-003		0.1092	0.1092		0.1005	0.1005	0.0000	299.7224	299.7224	0.0969	0.0000	302.1458
Total	**0.2305**	**2.5520**	**1.6983**	**3.4100e-003**	**0.4770**	**0.1092**	**0.5862**	**0.1978**	**0.1005**	**0.2983**	**0.0000**	**299.7224**	**299.7224**	**0.0969**	**0.0000**	**302.1458**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.9800e-003	0.0322	9.0000e-005	8.7900e-003	7.0000e-005	8.8500e-003	2.3400e-003	6.0000e-005	2.4000e-003	0.0000	7.8316	7.8316	2.3000e-004	0.0000	7.8373
Total	**4.5600e-003**	**2.9800e-003**	**0.0322**	**9.0000e-005**	**8.7900e-003**	**7.0000e-005**	**8.8500e-003**	**2.3400e-003**	**6.0000e-005**	**2.4000e-003**	**0.0000**	**7.8316**	**7.8316**	**2.3000e-004**	**0.0000**	**7.8373**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2147	0.0000	0.2147	0.0890	0.0000	0.0890	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0419	0.1815	1.8150	3.4100e-003		5.5800e-003	5.5800e-003		5.5800e-003	5.5800e-003	0.0000	299.7220	299.7220	0.0969	0.0000	302.1455
Total	**0.0419**	**0.1815**	**1.8150**	**3.4100e-003**	**0.2147**	**5.5800e-003**	**0.2203**	**0.0890**	**5.5800e-003**	**0.0946**	**0.0000**	**299.7220**	**299.7220**	**0.0969**	**0.0000**	**302.1455**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.9800e-003	0.0322	9.0000e-005	8.7900e-003	7.0000e-005	8.8500e-003	2.3400e-003	6.0000e-005	2.4000e-003	0.0000	7.8316	7.8316	2.3000e-004	0.0000	7.8373
Total	**4.5600e-003**	**2.9800e-003**	**0.0322**	**9.0000e-005**	**8.7900e-003**	**7.0000e-005**	**8.8500e-003**	**2.3400e-003**	**6.0000e-005**	**2.4000e-003**	**0.0000**	**7.8316**	**7.8316**	**2.3000e-004**	**0.0000**	**7.8373**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1055	0.9675	0.9199	1.4900e-003		0.0532	0.0532		0.0500	0.0500	0.0000	128.5587	128.5587	0.0310	0.0000	129.3341
Total	**0.1055**	**0.9675**	**0.9199**	**1.4900e-003**		**0.0532**	**0.0532**		**0.0500**	**0.0500**	**0.0000**	**128.5587**	**128.5587**	**0.0310**	**0.0000**	**129.3341**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5900e-003	0.2035	0.0334	5.1000e-004	0.0121	5.5000e-004	0.0127	3.5000e-003	5.2000e-004	4.0200e-003	0.0000	48.5146	48.5146	4.0100e-003	0.0000	48.6149
Worker	0.0253	0.0166	0.1790	4.8000e-004	0.0488	3.6000e-004	0.0491	0.0130	3.4000e-004	0.0133	0.0000	43.4655	43.4655	1.2600e-003	0.0000	43.4970
Total	**0.0309**	**0.2200**	**0.2124**	**9.9000e-004**	**0.0609**	**9.1000e-004**	**0.0618**	**0.0165**	**8.6000e-004**	**0.0173**	**0.0000**	**91.9801**	**91.9801**	**5.2700e-003**	**0.0000**	**92.1119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0182	0.1240	0.9690	1.4900e-003		2.2600e-003	2.2600e-003		2.2600e-003	2.2600e-003	0.0000	128.5585	128.5585	0.0310	0.0000	129.3339
Total	**0.0182**	**0.1240**	**0.9690**	**1.4900e-003**		**2.2600e-003**	**2.2600e-003**		**2.2600e-003**	**2.2600e-003**	**0.0000**	**128.5585**	**128.5585**	**0.0310**	**0.0000**	**129.3339**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5900e-003	0.2035	0.0334	5.1000e-004	0.0121	5.5000e-004	0.0127	3.5000e-003	5.2000e-004	4.0200e-003	0.0000	48.5146	48.5146	4.0100e-003	0.0000	48.6149
Worker	0.0253	0.0166	0.1790	4.8000e-004	0.0488	3.6000e-004	0.0491	0.0130	3.4000e-004	0.0133	0.0000	43.4655	43.4655	1.2600e-003	0.0000	43.4970
Total	**0.0309**	**0.2200**	**0.2124**	**9.9000e-004**	**0.0609**	**9.1000e-004**	**0.0618**	**0.0165**	**8.6000e-004**	**0.0173**	**0.0000**	**91.9801**	**91.9801**	**5.2700e-003**	**0.0000**	**92.1119**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2428**	**301.2428**	**0.0722**	**0.0000**	**303.0471**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0122	0.4526	0.0724	1.1800e-003	0.0284	1.1100e-003	0.0295	8.2000e-003	1.0600e-003	9.2600e-003	0.0000	112.5624	112.5624	9.0600e-003	0.0000	112.7888
Worker	0.0549	0.0347	0.3822	1.0900e-003	0.1143	8.3000e-004	0.1151	0.0304	7.6000e-004	0.0311	0.0000	98.1824	98.1824	2.6400e-003	0.0000	98.2485
Total	**0.0671**	**0.4873**	**0.4547**	**2.2700e-003**	**0.1426**	**1.9400e-003**	**0.1446**	**0.0386**	**1.8200e-003**	**0.0404**	**0.0000**	**210.7448**	**210.7448**	**0.0117**	**0.0000**	**211.0373**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0426	0.2905	2.2698	3.5000e-003		5.3000e-003	5.3000e-003		5.3000e-003	5.3000e-003	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	**0.0426**	**0.2905**	**2.2698**	**3.5000e-003**		**5.3000e-003**	**5.3000e-003**		**5.3000e-003**	**5.3000e-003**	**0.0000**	**301.2425**	**301.2425**	**0.0722**	**0.0000**	**303.0467**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0122	0.4526	0.0724	1.1800e-003	0.0284	1.1100e-003	0.0295	8.2000e-003	1.0600e-003	9.2600e-003	0.0000	112.5624	112.5624	9.0600e-003	0.0000	112.7888
Worker	0.0549	0.0347	0.3822	1.0900e-003	0.1143	8.3000e-004	0.1151	0.0304	7.6000e-004	0.0311	0.0000	98.1824	98.1824	2.6400e-003	0.0000	98.2485
Total	**0.0671**	**0.4873**	**0.4547**	**2.2700e-003**	**0.1426**	**1.9400e-003**	**0.1446**	**0.0386**	**1.8200e-003**	**0.0404**	**0.0000**	**210.7448**	**210.7448**	**0.0117**	**0.0000**	**211.0373**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3462**	**301.3462**	**0.0717**	**0.0000**	**303.1383**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4400e-003	0.3550	0.0594	1.1500e-003	0.0284	3.5000e-004	0.0287	8.2000e-003	3.4000e-004	8.5300e-003	0.0000	109.8155	109.8155	6.4000e-003	0.0000	109.9756
Worker	0.0510	0.0310	0.3487	1.0500e-003	0.1143	8.0000e-004	0.1151	0.0304	7.4000e-004	0.0311	0.0000	94.5119	94.5119	2.3600e-003	0.0000	94.5709
Total	**0.0594**	**0.3860**	**0.4081**	**2.2000e-003**	**0.1426**	**1.1500e-003**	**0.1438**	**0.0386**	**1.0800e-003**	**0.0396**	**0.0000**	**204.3274**	**204.3274**	**8.7600e-003**	**0.0000**	**204.5465**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0426	0.2905	2.2698	3.5000e-003		5.3000e-003	5.3000e-003		5.3000e-003	5.3000e-003	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	**0.0426**	**0.2905**	**2.2698**	**3.5000e-003**		**5.3000e-003**	**5.3000e-003**		**5.3000e-003**	**5.3000e-003**	**0.0000**	**301.3458**	**301.3458**	**0.0717**	**0.0000**	**303.1380**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4400e-003	0.3550	0.0594	1.1500e-003	0.0284	3.5000e-004	0.0287	8.2000e-003	3.4000e-004	8.5300e-003	0.0000	109.8155	109.8155	6.4000e-003	0.0000	109.9756
Worker	0.0510	0.0310	0.3487	1.0500e-003	0.1143	8.0000e-004	0.1151	0.0304	7.4000e-004	0.0311	0.0000	94.5119	94.5119	2.3600e-003	0.0000	94.5709
Total	**0.0594**	**0.3860**	**0.4081**	**2.2000e-003**	**0.1426**	**1.1500e-003**	**0.1438**	**0.0386**	**1.0800e-003**	**0.0396**	**0.0000**	**204.3274**	**204.3274**	**8.7600e-003**	**0.0000**	**204.5465**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2600e-003	0.3548	0.0567	1.1600e-003	0.0286	3.5000e-004	0.0290	8.2600e-003	3.4000e-004	8.5900e-003	0.0000	109.8471	109.8471	6.4900e-003	0.0000	110.0094
Worker	0.0479	0.0281	0.3238	1.0100e-003	0.1151	7.9000e-004	0.1159	0.0306	7.3000e-004	0.0313	0.0000	91.5829	91.5829	2.1400e-003	0.0000	91.6364
Total	**0.0562**	**0.3829**	**0.3805**	**2.1700e-003**	**0.1437**	**1.1400e-003**	**0.1449**	**0.0389**	**1.0700e-003**	**0.0399**	**0.0000**	**201.4300**	**201.4300**	**8.6300e-003**	**0.0000**	**201.6458**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0429	0.2928	2.2873	3.5300e-003		5.3400e-003	5.3400e-003		5.3400e-003	5.3400e-003	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.0429**	**0.2928**	**2.2873**	**3.5300e-003**		**5.3400e-003**	**5.3400e-003**		**5.3400e-003**	**5.3400e-003**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2600e-003	0.3548	0.0567	1.1600e-003	0.0286	3.5000e-004	0.0290	8.2600e-003	3.4000e-004	8.5900e-003	0.0000	109.8471	109.8471	6.4900e-003	0.0000	110.0094
Worker	0.0479	0.0281	0.3238	1.0100e-003	0.1151	7.9000e-004	0.1159	0.0306	7.3000e-004	0.0313	0.0000	91.5829	91.5829	2.1400e-003	0.0000	91.6364
Total	**0.0562**	**0.3829**	**0.3805**	**2.1700e-003**	**0.1437**	**1.1400e-003**	**0.1449**	**0.0389**	**1.0700e-003**	**0.0399**	**0.0000**	**201.4300**	**201.4300**	**8.6300e-003**	**0.0000**	**201.6458**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1484	1.3530	1.7452	2.9300e-003		0.0572	0.0572		0.0538	0.0538	0.0000	251.6326	251.6326	0.0592	0.0000	253.1114
Total	**0.1484**	**1.3530**	**1.7452**	**2.9300e-003**		**0.0572**	**0.0572**		**0.0538**	**0.0538**	**0.0000**	**251.6326**	**251.6326**	**0.0592**	**0.0000**	**253.1114**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6700e-003	0.2914	0.0449	9.5000e-004	0.0237	2.9000e-004	0.0240	6.8400e-003	2.7000e-004	7.1100e-003	0.0000	90.3484	90.3484	5.3900e-003	0.0000	90.4831
Worker	0.0372	0.0210	0.2467	8.1000e-004	0.0954	6.4000e-004	0.0960	0.0254	5.9000e-004	0.0259	0.0000	72.8310	72.8310	1.6000e-003	0.0000	72.8709
Total	**0.0438**	**0.3124**	**0.2917**	**1.7600e-003**	**0.1190**	**9.3000e-004**	**0.1200**	**0.0322**	**8.6000e-004**	**0.0331**	**0.0000**	**163.1794**	**163.1794**	**6.9900e-003**	**0.0000**	**163.3540**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0356	0.2425	1.8944	2.9300e-003		4.4300e-003	4.4300e-003		4.4300e-003	4.4300e-003	0.0000	251.6323	251.6323	0.0592	0.0000	253.1111
Total	**0.0356**	**0.2425**	**1.8944**	**2.9300e-003**		**4.4300e-003**	**4.4300e-003**		**4.4300e-003**	**4.4300e-003**	**0.0000**	**251.6323**	**251.6323**	**0.0592**	**0.0000**	**253.1111**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6700e-003	0.2914	0.0449	9.5000e-004	0.0237	2.9000e-004	0.0240	6.8400e-003	2.7000e-004	7.1100e-003	0.0000	90.3484	90.3484	5.3900e-003	0.0000	90.4831
Worker	0.0372	0.0210	0.2467	8.1000e-004	0.0954	6.4000e-004	0.0960	0.0254	5.9000e-004	0.0259	0.0000	72.8310	72.8310	1.6000e-003	0.0000	72.8709
Total	**0.0438**	**0.3124**	**0.2917**	**1.7600e-003**	**0.1190**	**9.3000e-004**	**0.1200**	**0.0322**	**8.6000e-004**	**0.0331**	**0.0000**	**163.1794**	**163.1794**	**6.9900e-003**	**0.0000**	**163.3540**

3.5 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0201	0.1888	0.3207	5.0000e-004		9.2100e-003	9.2100e-003		8.4700e-003	8.4700e-003	0.0000	44.0424	44.0424	0.0142	0.0000	44.3985
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0201**	**0.1888**	**0.3207**	**5.0000e-004**		**9.2100e-003**	**9.2100e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**44.0424**	**44.0424**	**0.0142**	**0.0000**	**44.3985**

3.5 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0300e-003	5.8000e-004	6.8200e-003	2.0000e-005	2.6400e-003	2.0000e-005	2.6500e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.0138	2.0138	4.0000e-005	0.0000	2.0149
Total	**1.0300e-003**	**5.8000e-004**	**6.8200e-003**	**2.0000e-005**	**2.6400e-003**	**2.0000e-005**	**2.6500e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**2.0138**	**2.0138**	**4.0000e-005**	**0.0000**	**2.0149**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.1700e-003	0.0267	0.3805	5.0000e-004		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	44.0423	44.0423	0.0142	0.0000	44.3984
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.1700e-003**	**0.0267**	**0.3805**	**5.0000e-004**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**44.0423**	**44.0423**	**0.0142**	**0.0000**	**44.3984**

3.5 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0300e-003	5.8000e-004	6.8200e-003	2.0000e-005	2.6400e-003	2.0000e-005	2.6500e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.0138	2.0138	4.0000e-005	0.0000	2.0149
Total	**1.0300e-003**	**5.8000e-004**	**6.8200e-003**	**2.0000e-005**	**2.6400e-003**	**2.0000e-005**	**2.6500e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**2.0138**	**2.0138**	**4.0000e-005**	**0.0000**	**2.0149**

3.5 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0142	0.1330	0.2260	3.5000e-004		6.4900e-003	6.4900e-003		5.9700e-003	5.9700e-003	0.0000	31.0299	31.0299	0.0100	0.0000	31.2807
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0142**	**0.1330**	**0.2260**	**3.5000e-004**		**6.4900e-003**	**6.4900e-003**		**5.9700e-003**	**5.9700e-003**	**0.0000**	**31.0299**	**31.0299**	**0.0100**	**0.0000**	**31.2807**

3.5 Paving - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	3.7000e-004	4.4200e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.3678	1.3678	3.0000e-005	0.0000	1.3685
Total	**6.8000e-004**	**3.7000e-004**	**4.4200e-003**	**2.0000e-005**	**1.8600e-003**	**1.0000e-005**	**1.8700e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.3678**	**1.3678**	**3.0000e-005**	**0.0000**	**1.3685**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3500e-003	0.0188	0.2681	3.5000e-004		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	31.0298	31.0298	0.0100	0.0000	31.2807
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.3500e-003**	**0.0188**	**0.2681**	**3.5000e-004**		**5.8000e-004**	**5.8000e-004**		**5.8000e-004**	**5.8000e-004**	**0.0000**	**31.0298**	**31.0298**	**0.0100**	**0.0000**	**31.2807**

3.5 Paving - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	3.7000e-004	4.4200e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.3678	1.3678	3.0000e-005	0.0000	1.3685
Total	**6.8000e-004**	**3.7000e-004**	**4.4200e-003**	**2.0000e-005**	**1.8600e-003**	**1.0000e-005**	**1.8700e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.3678**	**1.3678**	**3.0000e-005**	**0.0000**	**1.3685**

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2329					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4100e-003	0.0430	0.0678	1.1000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	9.5747	9.5747	5.2000e-004	0.0000	9.5878
Total	**2.2393**	**0.0430**	**0.0678**	**1.1000e-004**		**1.9300e-003**	**1.9300e-003**		**1.9300e-003**	**1.9300e-003**	**0.0000**	**9.5747**	**9.5747**	**5.2000e-004**	**0.0000**	**9.5878**

3.6 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4100e-003	1.3200e-003	0.0157	5.0000e-005	6.5900e-003	4.0000e-005	6.6300e-003	1.7500e-003	4.0000e-005	1.7900e-003	0.0000	4.8534	4.8534	1.0000e-004	0.0000	4.8558
Total	**2.4100e-003**	**1.3200e-003**	**0.0157**	**5.0000e-005**	**6.5900e-003**	**4.0000e-005**	**6.6300e-003**	**1.7500e-003**	**4.0000e-005**	**1.7900e-003**	**0.0000**	**4.8534**	**4.8534**	**1.0000e-004**	**0.0000**	**4.8558**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2329					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1100e-003	4.8300e-003	0.0687	1.1000e-004		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	9.5747	9.5747	5.2000e-004	0.0000	9.5878
Total	**2.2340**	**4.8300e-003**	**0.0687**	**1.1000e-004**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**	**0.0000**	**9.5747**	**9.5747**	**5.2000e-004**	**0.0000**	**9.5878**

3.6 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4100e-003	1.3200e-003	0.0157	5.0000e-005	6.5900e-003	4.0000e-005	6.6300e-003	1.7500e-003	4.0000e-005	1.7900e-003	0.0000	4.8534	4.8534	1.0000e-004	0.0000	4.8558
Total	**2.4100e-003**	**1.3200e-003**	**0.0157**	**5.0000e-005**	**6.5900e-003**	**4.0000e-005**	**6.6300e-003**	**1.7500e-003**	**4.0000e-005**	**1.7900e-003**	**0.0000**	**4.8534**	**4.8534**	**1.0000e-004**	**0.0000**	**4.8558**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3279	1.8282	4.1714	0.0232	2.9076	0.0103	2.9179	0.7785	9.5900e-003	0.7881	0.0000	2,149.6770	2,149.6770	0.0881	0.0000	2,151.8783
Unmitigated	0.3373	1.8773	4.4271	0.0248	3.1231	0.0110	3.1341	0.8362	0.0102	0.8464	0.0000	2,296.7868	2,296.7868	0.0919	0.0000	2,299.0846

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	2,879.20	2,909.70	2607.75	8,325,622	7,751,154
Total	2,879.20	2,909.70	2,607.75	8,325,622	7,751,154

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	14.00	38.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.483400	0.236300	0.171600	0.062500	0.000900	0.001000	0.007900	0.023300	0.000000	0.004300	0.003300	0.001100	0.004400

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	466.2293	466.2293	0.0265	6.0100e-003	468.6822
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	469.9692	469.9692	0.0267	6.0600e-003	472.4417
NaturalGas Mitigated	0.0404	0.3454	0.1470	2.2000e-003		0.0279	0.0279		0.0279	0.0279	0.0000	399.9929	399.9929	7.6700e-003	7.3300e-003	402.3698
NaturalGas Unmitigated	0.0430	0.3674	0.1564	2.3500e-003		0.0297	0.0297		0.0297	0.0297	0.0000	425.5389	425.5389	8.1600e-003	7.8000e-003	428.0677

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	7.9743e+006	0.0430	0.3674	0.1564	2.3500e-003		0.0297	0.0297		0.0297	0.0297	0.0000	425.5389	425.5389	8.1600e-003	7.8000e-003	428.0677
Total		**0.0430**	**0.3674**	**0.1564**	**2.3500e-003**		**0.0297**	**0.0297**		**0.0297**	**0.0297**	**0.0000**	**425.5389**	**425.5389**	**8.1600e-003**	**7.8000e-003**	**428.0677**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	7.49558e+006	0.0404	0.3454	0.1470	2.2000e-003		0.0279	0.0279		0.0279	0.0279	0.0000	399.9929	399.9929	7.6700e-003	7.3300e-003	402.3698
Total		**0.0404**	**0.3454**	**0.1470**	**2.2000e-003**		**0.0279**	**0.0279**		**0.0279**	**0.0279**	**0.0000**	**399.9929**	**399.9929**	**7.6700e-003**	**7.3300e-003**	**402.3698**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.67203e+006	469.9692	0.0267	6.0600e-003	472.4417
Total		**469.9692**	**0.0267**	**6.0600e-003**	**472.4417**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.65076e+006	466.2293	0.0265	6.0100e-003	468.6822
Total		**466.2293**	**0.0265**	**6.0100e-003**	**468.6822**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4482	0.1401	2.3033	8.5000e-004		0.0218	0.0218		0.0218	0.0218	0.0000	135.8275	135.8275	6.0500e-003	2.4200e-003	136.7007
Unmitigated	3.7912	0.3391	14.4998	0.0406		2.0114	2.0114		2.0114	2.0114	266.4154	135.8275	402.2430	1.2515	2.4200e-003	434.2521

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2233					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1441					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.3564	0.3131	12.2451	0.0405		1.9989	1.9989		1.9989	1.9989	266.4154	132.1283	398.5437	1.2480	2.4200e-003	430.4648
Landscaping	0.0674	0.0260	2.2547	1.2000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	3.6993	3.6993	3.5200e-003	0.0000	3.7873
Total	**3.7912**	**0.3391**	**14.4998**	**0.0406**		**2.0114**	**2.0114**		**2.0114**	**2.0114**	**266.4154**	**135.8275**	**402.2430**	**1.2515**	**2.4200e-003**	**434.2521**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2233					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1441					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0134	0.1141	0.0486	7.3000e-004		9.2200e-003	9.2200e-003		9.2200e-003	9.2200e-003	0.0000	132.1283	132.1283	2.5300e-003	2.4200e-003	132.9134
Landscaping	0.0674	0.0260	2.2547	1.2000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	3.6993	3.6993	3.5200e-003	0.0000	3.7873
Total	**2.4482**	**0.1401**	**2.3033**	**8.5000e-004**		**0.0218**	**0.0218**		**0.0218**	**0.0218**	**0.0000**	**135.8275**	**135.8275**	**6.0500e-003**	**2.4200e-003**	**136.7007**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	26.3433	0.5192	0.0125	43.0509
Unmitigated	32.9291	0.6490	0.0156	53.8137

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	19.872 / 12.528	32.9291	0.6490	0.0156	53.8137
Total		**32.9291**	**0.6490**	**0.0156**	**53.8137**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	15.8976 / 10.0224	26.3433	0.5192	0.0125	43.0509
Total		**26.3433**	**0.5192**	**0.0125**	**43.0509**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	47.7922	2.8244	0.0000	118.4031
Unmitigated	63.7229	3.7659	0.0000	157.8708

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	313.92	63.7229	3.7659	0.0000	157.8708
Total		**63.7229**	**3.7659**	**0.0000**	**157.8708**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	235.44	47.7922	2.8244	0.0000	118.4031
Total		**47.7922**	**2.8244**	**0.0000**	**118.4031**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Baldwin Master Plan

Construction and Operations Summer Daily

Baldwin MP Const and Ops

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	305.00	Dwelling Unit	65.90	549,000.00	872

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2021
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	387.76	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - TID Intensity Rates

Land Use - Project description acreage

Construction Phase -

Architectural Coating - Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Ed Trip Generation Rates

Fleet Mix - SJVAPCD Residential Fleet Mix 2021

Area Coating - Rule 4601 Architectural Coatings compliance

Woodstoves -

Construction Off-road Equipment Mitigation - Tier 4 Mitigation Measure

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation - 2019 Title 24 Compliance w/o solar

Water Mitigation - CalGreen and MWELO requirements

Waste Mitigation - Achieve the CalRecycle 75% Mandate

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65
tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblFleetMix	HHD	0.09	0.02
tblFleetMix	LDA	0.51	0.54
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD2	5.6820e-003	9.0000e-004
tblFleetMix	MCY	4.7430e-003	2.6000e-003
tblFleetMix	MDV	0.13	0.05

tblFleetMix	MH	9.8700e-004	1.6000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	1.8310e-003	0.00
tblFleetMix	SBUS	8.5600e-004	9.0000e-004
tblFleetMix	UBUS	1.1470e-003	4.4000e-003
tblLandUse	LotAcreage	99.03	65.90
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	790	387.76
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	65.90	0.00
tblWoodstoves	NumberNoncatalytic	65.90	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2852	46.4497	31.5564	0.0638	18.2141	2.0455	20.2597	9.9699	1.8819	11.8518	0.0000	6,178.9764	6,178.9764	1.9479	0.0000	6,227.6727
2022	2.2770	19.3034	20.2843	0.0453	1.1270	0.8238	1.9507	0.3040	0.7751	1.0790	0.0000	4,432.9592	4,432.9592	0.7095	0.0000	4,450.6966
2023	2.0810	17.3124	19.7836	0.0448	1.1269	0.7086	1.8355	0.3040	0.6667	0.9706	0.0000	4,376.0389	4,376.0389	0.6815	0.0000	4,393.0753
2024	1.9476	16.3272	19.4445	0.0444	1.1269	0.6220	1.7489	0.3040	0.5850	0.8890	0.0000	4,335.6904	4,335.6904	0.6760	0.0000	4,352.5909
2025	1.8154	15.3114	19.1186	0.0440	1.1269	0.5361	1.6630	0.3040	0.5042	0.8082	0.0000	4,296.1875	4,296.1875	0.7162	0.0000	4,312.9561
2026	59.7877	8.6037	14.9105	0.0239	0.1807	0.4193	0.5425	0.0479	0.3858	0.4184	0.0000	2,313.2634	2,313.2634	0.7159	0.0000	2,331.1614
Maximum	**59.7877**	**46.4497**	**31.5564**	**0.0638**	**18.2141**	**2.0455**	**20.2597**	**9.9699**	**1.8819**	**11.8518**	**0.0000**	**6,178.9764**	**6,178.9764**	**1.9479**	**0.0000**	**6,227.6727**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.9435	6.1307	33.6771	0.0638	8.2777	0.1027	8.3408	4.5080	0.1026	4.5711	0.0000	6,178.9764	6,178.9764	1.9479	0.0000	6,227.6727
2022	0.8986	5.9225	21.3811	0.0453	1.1270	0.0556	1.1825	0.3040	0.0547	0.3587	0.0000	4,432.9592	4,432.9592	0.7095	0.0000	4,450.6966
2023	0.8361	5.1622	20.9998	0.0448	1.1269	0.0497	1.1766	0.3040	0.0491	0.3530	0.0000	4,376.0389	4,376.0389	0.6815	0.0000	4,393.0753
2024	0.8038	5.1181	20.7379	0.0444	1.1269	0.0495	1.1764	0.3040	0.0489	0.3528	0.0000	4,335.6904	4,335.6904	0.6760	0.0000	4,352.5909
2025	0.7758	5.0764	20.4942	0.0440	1.1269	0.0493	1.1762	0.3040	0.0487	0.3527	0.0000	4,296.1875	4,296.1875	0.7162	0.0000	4,312.9561
2026	59.6465	1.2375	17.6282	0.0239	0.1807	0.0382	0.1858	0.0479	0.0381	0.0708	0.0000	2,313.2634	2,313.2634	0.7159	0.0000	2,331.1614
Maximum	**59.6465**	**6.1307**	**33.6771**	**0.0638**	**8.2777**	**0.1027**	**8.3408**	**4.5080**	**0.1026**	**4.5711**	**0.0000**	**6,178.9764**	**6,178.9764**	**1.9479**	**0.0000**	**6,227.6727**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**11.48**	**76.77**	**-7.85**	**0.00**	**43.39**	**93.31**	**52.72**	**48.62**	**92.87**	**62.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	14.0618	3.0738	26.4017	0.0191		0.3640	0.3640		0.3640	0.3640	0.0000	3,597.6614	3,597.6614	0.1120	0.0651	3,619.8689
Energy	0.2356	2.0134	0.8568	0.0129		0.1628	0.1628		0.1628	0.1628		2,570.2815	2,570.2815	0.0493	0.0471	2,585.5554
Mobile	7.6636	20.6492	80.8470	0.2162	18.0685	0.2092	18.2777	4.8280	0.1956	5.0236		21,804.1737	21,804.1737	1.1802		21,833.6777
Total	**21.9610**	**25.7363**	**108.1055**	**0.2482**	**18.0685**	**0.7359**	**18.8045**	**4.8280**	**0.7224**	**5.5504**	**0.0000**	**27,972.1166**	**27,972.1166**	**1.3414**	**0.1123**	**28,039.1020**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	14.0618	3.0738	26.4017	0.0191		0.3640	0.3640		0.3640	0.3640	0.0000	3,597.6614	3,597.6614	0.1120	0.0651	3,619.8689
Energy	0.2215	1.8925	0.8053	0.0121		0.1530	0.1530		0.1530	0.1530		2,415.9818	2,415.9818	0.0463	0.0443	2,430.3387
Mobile	7.5275	19.8012	76.1788	0.2022	16.8218	0.1961	17.0179	4.4949	0.1834	4.6783		20,384.9449	20,384.9449	1.1208		20,412.9645
Total	**21.8108**	**24.7675**	**103.3858**	**0.2333**	**16.8218**	**0.7131**	**17.5349**	**4.4949**	**0.7004**	**5.1953**	**0.0000**	**26,398.5881**	**26,398.5881**	**1.2791**	**0.1094**	**26,463.1722**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.68**	**3.76**	**4.37**	**5.98**	**6.90**	**3.10**	**6.75**	**6.90**	**3.04**	**6.40**	**0.00**	**5.63**	**5.63**	**4.65**	**2.52**	**5.62**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	2/25/2021	5	40	
2	Grading	Grading	2/26/2021	7/29/2021	5	110	
3	Building Construction	Building Construction	7/30/2021	10/30/2025	5	1110	
4	Paving	Paving	10/31/2025	2/12/2026	5	75	
5	Architectural Coating	Architectural Coating	2/13/2026	5/28/2026	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 1,111,725; Residential Outdoor: 370,575; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	110.00	33.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0846	0.0449	0.6102	1.5500e-003	0.1479	1.0700e-003	0.1489	0.0392	9.9000e-004	0.0402		154.7397	154.7397	4.5500e-003		154.8534
Total	**0.0846**	**0.0449**	**0.6102**	**1.5500e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**9.9000e-004**	**0.0402**		**154.7397**	**154.7397**	**4.5500e-003**		**154.8534**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**0.4656**	**2.0175**	**20.8690**	**0.0380**	**8.1298**	**0.0621**	**8.1919**	**4.4688**	**0.0621**	**4.5309**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0846	0.0449	0.6102	1.5500e-003	0.1479	1.0700e-003	0.1489	0.0392	9.9000e-004	0.0402		154.7397	154.7397	4.5500e-003		154.8534
Total	**0.0846**	**0.0449**	**0.6102**	**1.5500e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**9.9000e-004**	**0.0402**		**154.7397**	**154.7397**	**4.5500e-003**		**154.8534**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0499	0.6780	1.7300e-003	0.1643	1.1900e-003	0.1655	0.0436	1.1000e-003	0.0447		171.9330	171.9330	5.0500e-003		172.0593
Total	**0.0940**	**0.0499**	**0.6780**	**1.7300e-003**	**0.1643**	**1.1900e-003**	**0.1655**	**0.0436**	**1.1000e-003**	**0.0447**		**171.9330**	**171.9330**	**5.0500e-003**		**172.0593**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0620		0.1015	0.1015		0.1015	0.1015	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**0.7616**	**3.3000**	**32.9991**	**0.0620**	**3.9030**	**0.1015**	**4.0045**	**1.6184**	**0.1015**	**1.7200**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0499	0.6780	1.7300e-003	0.1643	1.1900e-003	0.1655	0.0436	1.1000e-003	0.0447		171.9330	171.9330	5.0500e-003		172.0593
Total	**0.0940**	**0.0499**	**0.6780**	**1.7300e-003**	**0.1643**	**1.1900e-003**	**0.1655**	**0.0436**	**1.1000e-003**	**0.0447**		**171.9330**	**171.9330**	**5.0500e-003**		**172.0593**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0988	3.6217	0.5560	9.3100e-003	0.2234	9.7100e-003	0.2331	0.0643	9.2900e-003	0.0736		975.9029	975.9029	0.0755		977.7891
Worker	0.5169	0.2743	3.7288	9.5000e-003	0.9036	6.5600e-003	0.9102	0.2397	6.0400e-003	0.2457		945.6313	945.6313	0.0278		946.3262
Total	**0.6157**	**3.8960**	**4.2848**	**0.0188**	**1.1270**	**0.0163**	**1.1432**	**0.3040**	**0.0153**	**0.3193**		**1,921.5342**	**1,921.5342**	**0.1032**		**1,924.1153**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**0.3278**	**2.2347**	**17.4603**	**0.0269**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0988	3.6217	0.5560	9.3100e-003	0.2234	9.7100e-003	0.2331	0.0643	9.2900e-003	0.0736		975.9029	975.9029	0.0755		977.7891
Worker	0.5169	0.2743	3.7288	9.5000e-003	0.9036	6.5600e-003	0.9102	0.2397	6.0400e-003	0.2457		945.6313	945.6313	0.0278		946.3262
Total	**0.6157**	**3.8960**	**4.2848**	**0.0188**	**1.1270**	**0.0163**	**1.1432**	**0.3040**	**0.0153**	**0.3193**		**1,921.5342**	**1,921.5342**	**0.1032**		**1,924.1153**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0919	3.4426	0.5142	9.2200e-003	0.2233	8.4100e-003	0.2317	0.0643	8.0400e-003	0.0723		966.7252	966.7252	0.0727		968.5425
Worker	0.4789	0.2452	3.4067	9.1600e-003	0.9036	6.3500e-003	0.9100	0.2397	5.8500e-003	0.2455		911.9004	911.9004	0.0249		912.5219
Total	**0.5708**	**3.6877**	**3.9209**	**0.0184**	**1.1270**	**0.0148**	**1.1417**	**0.3040**	**0.0139**	**0.3179**		**1,878.6256**	**1,878.6256**	**0.0976**		**1,881.0644**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**0.3278**	**2.2347**	**17.4603**	**0.0269**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0919	3.4426	0.5142	9.2200e-003	0.2233	8.4100e-003	0.2317	0.0643	8.0400e-003	0.0723		966.7252	966.7252	0.0727		968.5425
Worker	0.4789	0.2452	3.4067	9.1600e-003	0.9036	6.3500e-003	0.9100	0.2397	5.8500e-003	0.2455		911.9004	911.9004	0.0249		912.5219
Total	**0.5708**	**3.6877**	**3.9209**	**0.0184**	**1.1270**	**0.0148**	**1.1417**	**0.3040**	**0.0139**	**0.3179**		**1,878.6256**	**1,878.6256**	**0.0976**		**1,881.0644**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0638	2.7080	0.4264	9.0000e-003	0.2233	2.6900e-003	0.2260	0.0643	2.5700e-003	0.0669		943.0514	943.0514	0.0514		944.3366
Worker	0.4445	0.2195	3.1132	8.8100e-003	0.9036	6.1800e-003	0.9098	0.2397	5.6900e-003	0.2454		877.7776	877.7776	0.0222		878.3327
Total	**0.5082**	**2.9275**	**3.5396**	**0.0178**	**1.1269**	**8.8700e-003**	**1.1358**	**0.3040**	**8.2600e-003**	**0.3122**		**1,820.8289**	**1,820.8289**	**0.0736**		**1,822.6693**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**0.3278**	**2.2347**	**17.4603**	**0.0269**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0638	2.7080	0.4264	9.0000e-003	0.2233	2.6900e-003	0.2260	0.0643	2.5700e-003	0.0669		943.0514	943.0514	0.0514		944.3366
Worker	0.4445	0.2195	3.1132	8.8100e-003	0.9036	6.1800e-003	0.9098	0.2397	5.6900e-003	0.2454		877.7776	877.7776	0.0222		878.3327
Total	**0.5082**	**2.9275**	**3.5396**	**0.0178**	**1.1269**	**8.8700e-003**	**1.1358**	**0.3040**	**8.2600e-003**	**0.3122**		**1,820.8289**	**1,820.8289**	**0.0736**		**1,822.6693**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0619	2.6861	0.4037	8.9300e-003	0.2233	2.6500e-003	0.2260	0.0643	2.5300e-003	0.0668		935.9935	935.9935	0.0517		937.2859
Worker	0.4141	0.1973	2.8740	8.4700e-003	0.9036	6.0400e-003	0.9097	0.2397	5.5600e-003	0.2452		843.9980	843.9980	0.0200		844.4974
Total	**0.4760**	**2.8834**	**3.2777**	**0.0174**	**1.1269**	**8.6900e-003**	**1.1356**	**0.3040**	**8.0900e-003**	**0.3121**		**1,779.9915**	**1,779.9915**	**0.0717**		**1,781.7833**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0619	2.6861	0.4037	8.9300e-003	0.2233	2.6500e-003	0.2260	0.0643	2.5300e-003	0.0668		935.9935	935.9935	0.0517		937.2859
Worker	0.4141	0.1973	2.8740	8.4700e-003	0.9036	6.0400e-003	0.9097	0.2397	5.5600e-003	0.2452		843.9980	843.9980	0.0200		844.4974
Total	**0.4760**	**2.8834**	**3.2777**	**0.0174**	**1.1269**	**8.6900e-003**	**1.1356**	**0.3040**	**8.0900e-003**	**0.3121**		**1,779.9915**	**1,779.9915**	**0.0717**		**1,781.7833**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0603	2.6635	0.3862	8.8600e-003	0.2233	2.6100e-003	0.2259	0.0643	2.5000e-003	0.0668		929.3750	929.3750	0.0518		930.6699
Worker	0.3876	0.1782	2.6478	8.1300e-003	0.9036	5.9100e-003	0.9095	0.2397	5.4400e-003	0.2451		810.3381	810.3381	0.0180		810.7881
Total	**0.4480**	**2.8417**	**3.0340**	**0.0170**	**1.1269**	**8.5200e-003**	**1.1354**	**0.3040**	**7.9400e-003**	**0.3119**		**1,739.7131**	**1,739.7131**	**0.0698**		**1,741.4580**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0603	2.6635	0.3862	8.8600e-003	0.2233	2.6100e-003	0.2259	0.0643	2.5000e-003	0.0668		929.3750	929.3750	0.0518		930.6699
Worker	0.3876	0.1782	2.6478	8.1300e-003	0.9036	5.9100e-003	0.9095	0.2397	5.4400e-003	0.2451		810.3381	810.3381	0.0180		810.7881
Total	**0.4480**	**2.8417**	**3.0340**	**0.0170**	**1.1269**	**8.5200e-003**	**1.1354**	**0.3040**	**7.9400e-003**	**0.3119**		**1,739.7131**	**1,739.7131**	**0.0698**		**1,741.4580**

3.5 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9152**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

3.5 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0243	0.3611	1.1100e-003	0.1232	8.1000e-004	0.1240	0.0327	7.4000e-004	0.0334		110.5006	110.5006	2.4500e-003		110.5620
Total	**0.0529**	**0.0243**	**0.3611**	**1.1100e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**110.5006**	**110.5006**	**2.4500e-003**		**110.5620**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2805**	**1.2154**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

3.5 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0243	0.3611	1.1100e-003	0.1232	8.1000e-004	0.1240	0.0327	7.4000e-004	0.0334		110.5006	110.5006	2.4500e-003		110.5620
Total	**0.0529**	**0.0243**	**0.3611**	**1.1100e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**110.5006**	**110.5006**	**2.4500e-003**		**110.5620**

3.5 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9152**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

3.5 Paving - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0497	0.0221	0.3325	1.0700e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		106.5182	106.5182	2.2100e-003		106.5736
Total	**0.0497**	**0.0221**	**0.3325**	**1.0700e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.2000e-004**	**0.0334**		**106.5182**	**106.5182**	**2.2100e-003**		**106.5736**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2805**	**1.2154**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

3.5 Paving - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0497	0.0221	0.3325	1.0700e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		106.5182	106.5182	2.2100e-003		106.5736
Total	**0.0497**	**0.0221**	**0.3325**	**1.0700e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.2000e-004**	**0.0334**		**106.5182**	**106.5182**	**2.2100e-003**		**106.5736**

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	59.5440					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**59.7149**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

3.6 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0728	0.0324	0.4877	1.5700e-003	0.1807	1.1400e-003	0.1819	0.0479	1.0500e-003	0.0490		156.2268	156.2268	3.2500e-003		156.3079
Total	**0.0728**	**0.0324**	**0.4877**	**1.5700e-003**	**0.1807**	**1.1400e-003**	**0.1819**	**0.0479**	**1.0500e-003**	**0.0490**		**156.2268**	**156.2268**	**3.2500e-003**		**156.3079**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	59.5440					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**59.5737**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

3.6 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0728	0.0324	0.4877	1.5700e-003	0.1807	1.1400e-003	0.1819	0.0479	1.0500e-003	0.0490		156.2268	156.2268	3.2500e-003		156.3079
Total	**0.0728**	**0.0324**	**0.4877**	**1.5700e-003**	**0.1807**	**1.1400e-003**	**0.1819**	**0.0479**	**1.0500e-003**	**0.0490**		**156.2268**	**156.2268**	**3.2500e-003**		**156.3079**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.5275	19.8012	76.1788	0.2022	16.8218	0.1961	17.0179	4.4949	0.1834	4.6783		20,384.9449	20,384.9449	1.1208		20,412.9645
Unmitigated	7.6636	20.6492	80.8470	0.2162	18.0685	0.2092	18.2777	4.8280	0.1956	5.0236		21,804.1737	21,804.1737	1.1802		21,833.6777

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	2,879.20	2,909.70	2607.75	8,337,937	7,762,619
Total	2,879.20	2,909.70	2,607.75	8,337,937	7,762,619

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.40	13.90	37.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000900	0.001600

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2215	1.8925	0.8053	0.0121		0.1530	0.1530		0.1530	0.1530		2,415.9818	2,415.9818	0.0463	0.0443	2,430.3387
NaturalGas Unmitigated	0.2356	2.0134	0.8568	0.0129		0.1628	0.1628		0.1628	0.1628		2,570.2815	2,570.2815	0.0493	0.0471	2,585.5554

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	21847.4	0.2356	2.0134	0.8568	0.0129		0.1628	0.1628		0.1628	0.1628		2,570.2815	2,570.2815	0.0493	0.0471	2,585.5554
Total		**0.2356**	**2.0134**	**0.8568**	**0.0129**		**0.1628**	**0.1628**		**0.1628**	**0.1628**		**2,570.2815**	**2,570.2815**	**0.0493**	**0.0471**	**2,585.5554**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	20.5358	0.2215	1.8925	0.8053	0.0121		0.1530	0.1530		0.1530	0.1530		2,415.9818	2,415.9818	0.0463	0.0443	2,430.3387
Total		**0.2215**	**1.8925**	**0.8053**	**0.0121**		**0.1530**	**0.1530**		**0.1530**	**0.1530**		**2,415.9818**	**2,415.9818**	**0.0463**	**0.0443**	**2,430.3387**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	14.0618	3.0738	26.4017	0.0191		0.3640	0.3640		0.3640	0.3640	0.0000	3,597.6614	3,597.6614	0.1120	0.0651	3,619.8689
Unmitigated	14.0618	3.0738	26.4017	0.0191		0.3640	0.3640		0.3640	0.3640	0.0000	3,597.6614	3,597.6614	0.1120	0.0651	3,619.8689

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2235					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.7486					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3256	2.7827	1.1841	0.0178		0.2250	0.2250		0.2250	0.2250	0.0000	3,552.3529	3,552.3529	0.0681	0.0651	3,573.4628
Landscaping	0.7641	0.2911	25.2176	1.3300e-003		0.1390	0.1390		0.1390	0.1390		45.3085	45.3085	0.0439		46.4061
Total	**14.0618**	**3.0738**	**26.4017**	**0.0191**		**0.3640**	**0.3640**		**0.3640**	**0.3640**	**0.0000**	**3,597.6614**	**3,597.6614**	**0.1120**	**0.0651**	**3,619.8689**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2235					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.7486					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3256	2.7827	1.1841	0.0178		0.2250	0.2250		0.2250	0.2250	0.0000	3,552.3529	3,552.3529	0.0681	0.0651	3,573.4628
Landscaping	0.7641	0.2911	25.2176	1.3300e-003		0.1390	0.1390		0.1390	0.1390		45.3085	45.3085	0.0439		46.4061
Total	**14.0618**	**3.0738**	**26.4017**	**0.0191**		**0.3640**	**0.3640**		**0.3640**	**0.3640**	**0.0000**	**3,597.6614**	**3,597.6614**	**0.1120**	**0.0651**	**3,619.8689**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix D:
Biological Resources Supporting Information

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D.1 - CNDDB Search

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Patterson (3712142))

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Caulanthus lemmonii Lemmon's jewelflower	PDBRA0M0E0	None	None	G3	S3	1B.2
Ceratochrysis menkei Menke's cuckoo wasp	IIHYM71050	None	None	G1	S1	
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eryngium spinosepalum spiny-sepaled button-celery	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Eschscholzia rhombipetala diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Lanius ludovicianus loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Masticophis flagellum ruddocki San Joaquin coachwhip	ARADB21021	None	None	G5T2T3	S2?	SSC
Navarretia nigelliformis ssp. radians shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2
Rana boylii foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	

Record Count: 20

D.2 - CNPS Inventory Results

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CNPS California Native Plant Society

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Inventory of Rare and Endangered Plants

Plant List

6 matches found. *Click on scientific name for details*

Search Criteria
Found in Quad 3712142

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	State Listing Status	Federal Listing Status	Habitats	Lowest Elevation	Highest Elevation
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S1S2			• Valley and foothill grassland	30 m	505 m
Caulanthus lemmonii	Lemmon's jewelflower	Brassicaceae	annual herb	Feb-May	1B.2	S3			• Pinyon and juniper woodland • Valley and foothill grassland	80 m	1580 m
Clarkia breweri	Brewer's clarkia	Onagraceae	annual herb	Apr-Jun	4.2	S4			• Chaparral • Cismontane woodland • Coastal scrub	215 m	1115 m
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual / perennial herb	Apr-Jun	1B.2	S2			• Valley and foothill grassland • Vernal pools	80 m	975 m
Eschscholzia rhombipetala	diamond-petaled California poppy	Papaveraceae	annual herb	Mar-Apr	1B.1	S1			• Valley and foothill grassland (alkaline, clay)	0 m	975 m
Navarretia nigelliformis ssp. radians	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	1B.2	S2			• Cismontane woodland • Valley and foothill grassland • Vernal pools	65 m	1000 m

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 07 April 2020].

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The Consortium of California Herbaria
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Questions and Comments
rareplants@cnps.org

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Appendix E:
Cultural Resources Supporting Information

Appendix E contains sensitive information pertaining to cultural resources and has been withheld from public distribution pursuant to Public Resources Code, Sections 5097.9 and 5097.993.

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Appendix F:
Hydrological Supporting Information

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Memo

To: Grant Gruber and Jason Brandman, FCS

From: Eric Riedner, P.E. and Edward Ballman, P.E.

Date: January 6, 2020

Subject: Summary of Hydrologic and Hydraulic Modeling of Del Puerto Creek for the Zacharias Master Planning Area Annexation, City of Patterson

This technical memo summarizes the hydrologic and hydraulic modeling work completed to support the Zacharias Master Planning Area Annexation located adjacent to the City of Patterson. The overarching purpose of the work was to more accurately assess the actual flood hazard within the planning area that would result from overflow of Del Puerto Creek in major storm events. Information from that assessment was then used to evaluate potential options for reducing or eliminating that hazard, with the preferred approach consisting of an appropriately sized and located retention basin that could eliminate the flood hazard from Del Puerto Creek overflows both in the planning area as well as in existing portions of the City to the south and east.

Earlier analyses of flooding along Del Puerto Creek are limited to the floodplain mapping prepared by the Federal Emergency Management Agency ("FEMA") described in the Flood Insurance Study for Stanislaus County and depicted on the associated Flood Insurance Rate Map Panels 06099C0730E, 06099C0731E, 06099C0732E, and 06099C0520E. The FEMA study, prepared in 1987, was reviewed and updated for the purposes of this analysis and revised modeling was developed to take advantage of more recent hydrologic data and current hydraulic modeling tools. The updated analysis utilizes peak flood flow estimates available for Del Puerto Creek based on data through 2006 and recently collected topographic information along a portion of the study reach.

Included below are summaries of the existing conditions modeling approach, assumptions underlying the modeling, and a discussion of the modeling results. The memo concludes with an overview of the proposed flood hazard minimization concept.

Flood Hydrograph Development

An inflow hydrograph to Del Puerto Creek was developed using information contained in the Orestimba Creek Hydrology Study (U.S. Army Corps of Engineers, 2008), which, despite the title, also includes Army Corps analysis of the flood hydrology of Del Puerto Creek. It is important to note that the 2008 study includes a statistical analysis of a longer duration set of stream gauge data (from the U.S. Geological Survey gauging station on Del Puerto Creek located just west of U.S. I-5) than was used in the earlier FEMA study. Significantly, the longer gauging record results in a predicted 100-year peak discharge of 5,905 cubic feet per second ("cfs") compared to a predicted value of 7,960 cfs uses in the FEMA Flood Insurance Study.[1]

[1] We use the term "100-year flood" here to refer to the flood event that has a one percent chance of occurring in any given year. In fact, FEMA now prefers use of the term "1-percent chance flood event", but the older 100-year reference is still commonly used.

The 2008 study also includes detailed synthetic flood hydrographs for Orestimba Creek, and the time series ratios of instantaneous flow rate to the overall peak from those hydrographs were used to create a synthetic 100-year hydrograph for Del Puerto Creek (shown on the attached Figure 1). Back-checks were carried out to confirm that the synthetic Del Puerto Creek hydrograph with a 5-day duration matched the predicted discharge volumes for the 1-day and 3-day periods that were presented in the 2008 study.

Strictly speaking, the derived flood hydrograph is appropriate at the location of the U.S.G.S gauge station, which is located upstream of a significant flow constraint at the California Aqueduct. The aqueduct crosses the wide and deep Del Puerto valley at the canyon mouth with a single 16-foot diameter pipe culvert to convey the creek under the more than 40-foot high embankment. Thus, the aqueduct includes a flow restriction (the culvert) and provides a large detention storage area upstream, both of which would work to attenuate peak flow rates passing to the modeled reach of Del Puerto Creek to the east. This flow attenuation was modeled using the U.S. Army Corps of Engineers HEC-HMS version 4.2 platform. The synthetic flood hydrograph was routed through the storage area located upstream from the California Aqueduct, with the model parameterized to include a storage element defined by elevation-storage-discharge curves attached as Figure 2.[2]

The resulting 100-year peak flow downstream of the California Aqueduct is estimated to be 5,390 cfs with the outflow hydrograph also plotted on Figure 1.

Existing Conditions Hydraulic Modeling Approach and Assumptions

A hydraulic model was developed to route the 100-year flood hydrograph through Del Puerto Creek in the reach that can potentially impact the planning area and incorporated portions of the City. Modeling was completed using the Army Corps of Engineers HEC-RAS modeling platform version 5.0.7 and utilizes both one- and two-dimensional hydrodynamic routing ability within the unsteady state routine of the model.

A number of assumptions were used in this hydraulic analysis. Several of the most important are summarized below:

- *One-dimensional channel cross sections.* The channel portion of Del Puerto Creek was defined in the model using one-dimensional elements. A total of 51 cross-sections were used to define the channel along the approximately 4.5-mile long study reach extending from the Delta Mendota Canal to a point approximately 8,000 feet downstream from Highway 33. A workmap is attached as Figure 3 that includes the model reach and cross-section locations.

  Station-elevation data applied to Stations 319+05 through 236+29 were defined using topographic mapping covering the project site from a ground survey carried out in 2016. Station-elevation data for Stations 345+27 through 335+92 and 228+05 through 110+26 were defined using cross-section geometry information extracted from the currently effective FEMA HEC-2 model. Manning's 'n' values were uniformly set to 0.045 along the creek channel.

[2] The creek culvert under the aqueduct was modeled as 300-foot long, 16-foot diameter concrete pipe with a surveyed inlet elevation of 186.75 feet (NAVD 88). The surveyed outlet elevation is 183.0 feet and a Manning's n value of 0.011 was used with an entrance loss of 0.1.

- *Channel crossings*. Eight channel crossings were modeled along the study reach including at Rogers Road, the pipeline immediately downstream from Rogers Road, the weir structure downstream from Rogers Road, an agricultural crossing at Station 237+50, an agricultural crossing at Station 203+60, the railroad tracks upstream from Highway 33, the Highway 33 bridge, and Vineyard Avenue. Crossing geometries are based on spot elevation data included with the project topography as well as information provided in the FEMA HEC-2 model.

- *Lateral weirs.* A total of 55 lateral weirs were defined in the model to route overflows from the one-dimension channel portion of the model to the two-dimensional overbank areas. Weir elevations were defined using the project survey topography as well as bounding elevations along the FEMA HEC-2 modeled sections.

- *Two-dimensional overbank areas.* The overbank portion of the study reach was defined using two two-dimensional (2-D) flow areas, one north of Del Puerto Creek and the other to the south of the creek (the latter representing the planning area). The North Overbank 2D Area consisted of 28,000 grid cells covering an area of approximately 1,600 acres while the South Overbank 2D Area included 102,000 cells covering an area of approximately 4,800 acres. The average cell size across the 2D areas was set to 2,500 square feet (i.e. 50-foot by 50-foot grid).

  The model terrain across the 2D Areas is based primarily on topographic mapping developed for the project in 2016 with areas further upstream and downstream from the project topography defined using a USGS NED 1/3 arc-second DEM. Manning's 'n' values across the 2D Areas were uniformly set to 0.06.

- *Boundary conditions.* The 100-year flood hydrograph calculated at the culvert under the California Aqueduct was loaded to the upstream end of the model at Station 34,527. Downstream boundary conditions in the model were applied to Station 11,026 and at the extents of the 2D Areas with starting water surface elevations defined by a normal depth calculation parameterized with friction slopes between 0.003 and 0.005.

Existing Conditions Hydraulic Modeling Results

Estimates of maximum depth of flooding and water surface elevations resulting from the simulated 100-year flood event are included as Figures 4 and 5 with a hydrograph of the overtopping flow onto the south overbank near the project site included as Figure 6.

Model results indicate that the 100-year flood will overtop Del Puerto Creek south towards the planning area with a peak overflow rate of 410 cfs and a total overflow volume of 182 acre-feet. Overflows onto the south overbank area are predicted to be generally well-dispersed over the relatively uniform terrain with maximum flood depths generally less than 2 feet.

Flood Hazard Reduction Concept Overview and Modeling

In order to minimize the flood hazard south of Zacharias Road, a retention basin is proposed along the south overbank flow path. The proposed retention basin would consist of an excavated area immediately north of Zacharias Road as shown on Figure 7. This retention basin would be designed and sized to intercept and retain most, if not all, of the overflow from Del Puerto Creek that is predicted to occur during the 100-year flood event.

As shown, the basin would cover an area of approximately 27 acres, with a bottom elevation of 125 feet, a flow containment berm with a top elevation of 135 feet, yielding a total storage volume of 189 acre-feet at an elevation of 134 feet. Berming would be included along Zacharias Road to route flow into and contain flow within the basin. Additionally, the elevation of the access road along the western edge of the basin would need to be lowered to minimize flood impacts to the property immediately to the west. The retention basin concept shown on Figure 7 was developed solely for the purpose of assessing the efficacy of the concept, estimating the storage volume required to minimize the flood hazard across the planning area, and to identify the general locations where berms would be needed to divert flow into the basin. It is anticipated that this concept will be used to guide a more detailed and potentially multi-objective retention basin design to be developed by others.

The retention basin concept was parameterized in the hydraulic model by updating the terrain along the South Overbank 2D Area to include the basin grading shown in Figure 7. The average cell size in and around the retention basin was also reduced to 100 square feet (10-foot by 10-foot cell size) to improve model stability.

Estimates of maximum depth of flooding and water surface elevations resulting from the simulated 100-year flood event with the flood retention basin are included as Figures 8 and 9. The model estimates the basin would capture all but 0.7 acre-feet of the south bank overflow, filling the basin to an elevation of 133.8 feet. Interception of the overbank flow would essentially eliminate the flood hazard from Del Puerto Creek within the planning area and would have the significant collateral benefit of removing the same flood hazard from existing portions of the City to the south and east.

Closing

We appreciate the opportunity to provide this analysis related to flood hazards within the Zacharias Master Planning Area that would result from overflows originating in Del Puerto Creek. The modeling shows that a suitably sited and sized flood retention basin north of Zacharias Road could essentially eliminate the associated flood hazard in the planning area and other areas to the south and east.

Do not hesitate to contact us if you have any questions or comment related to the items discussed here.

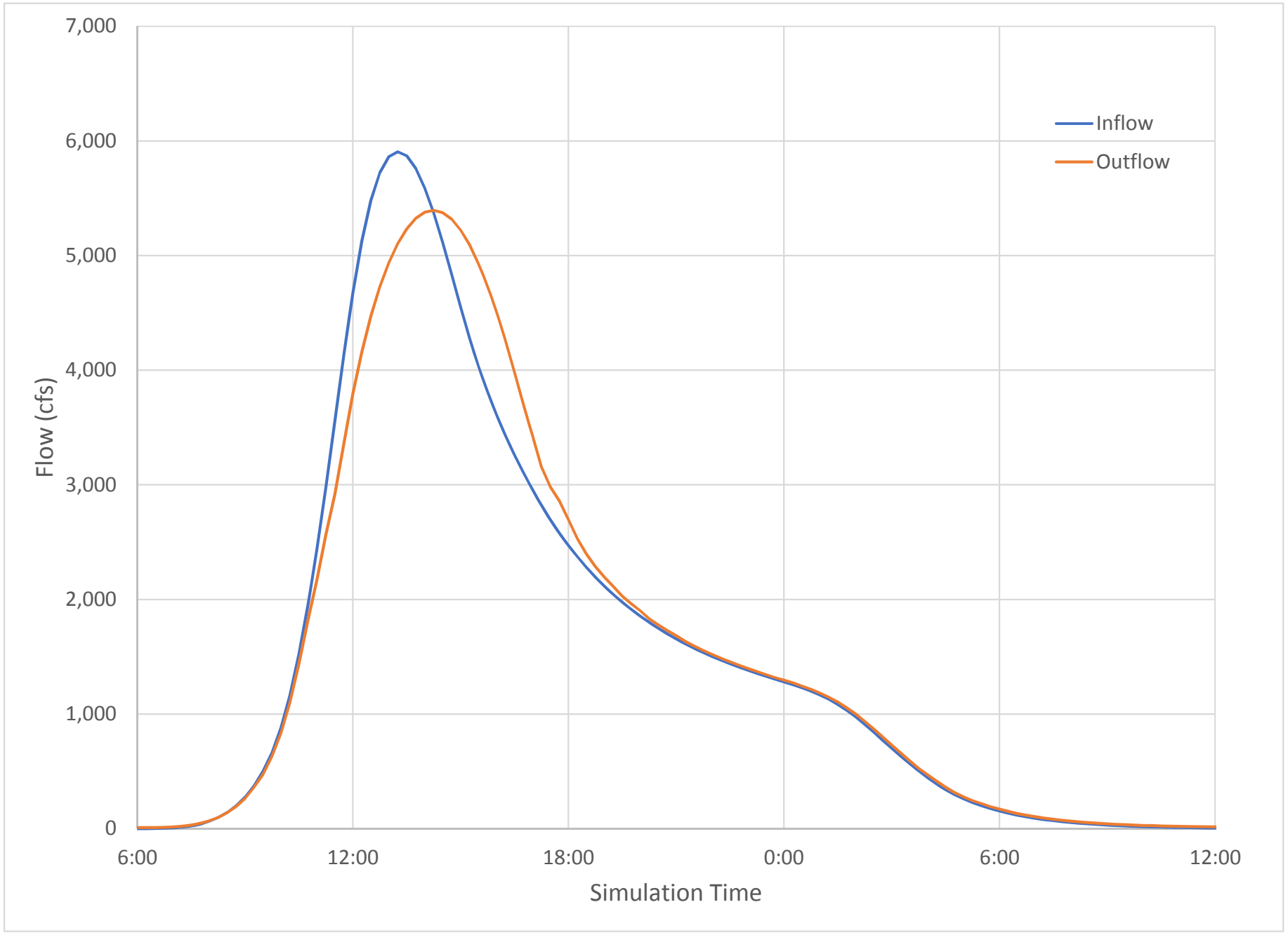

Figure 1. Inflow and outflow hydrographs from the storage area upstream from the California Aqueduct

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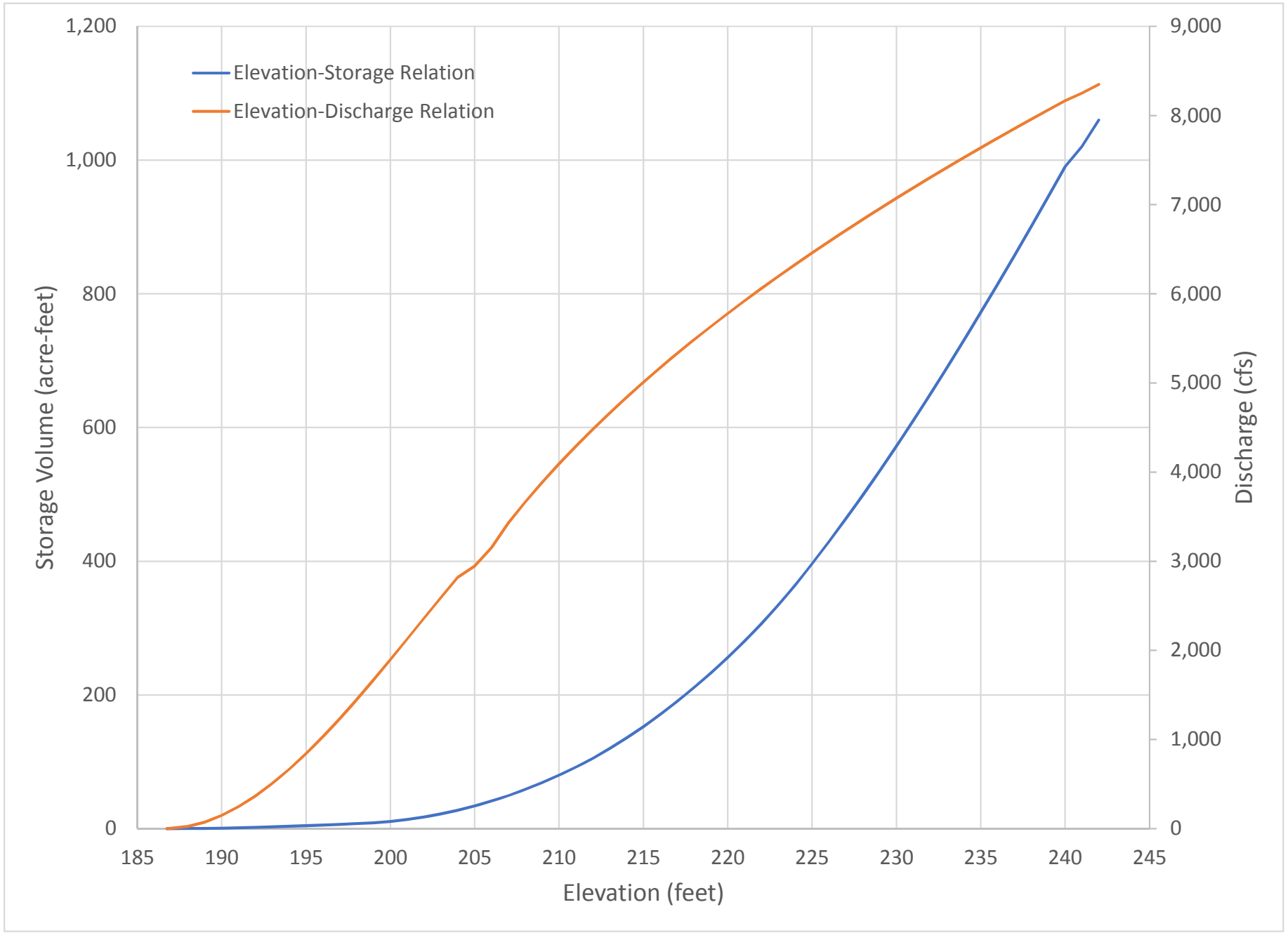

Figure 2. Elevation-Storage-Discharge relation for the storage area upstream from the California Aqueduct

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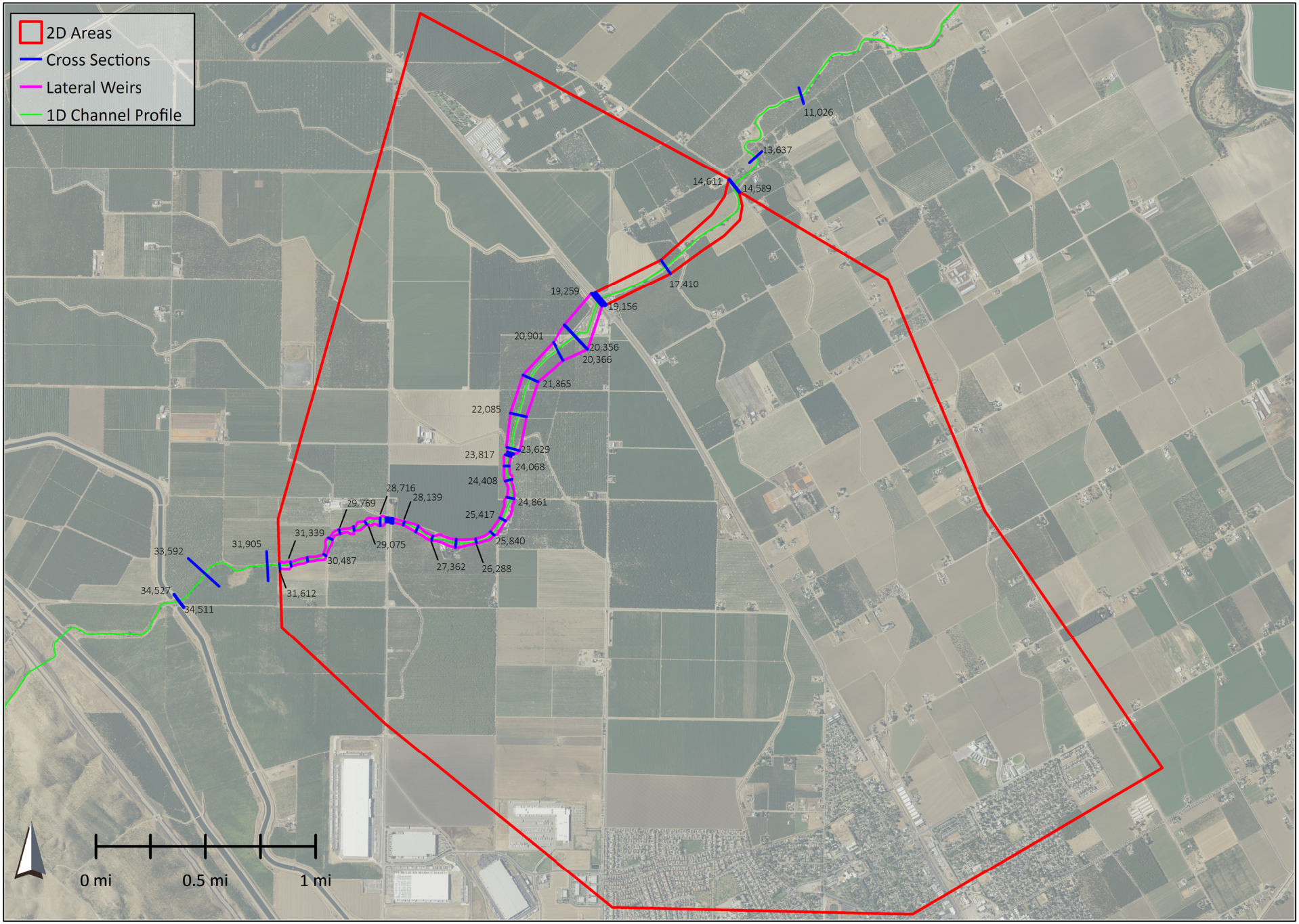

Figure 3. HEC-RAS model workmap

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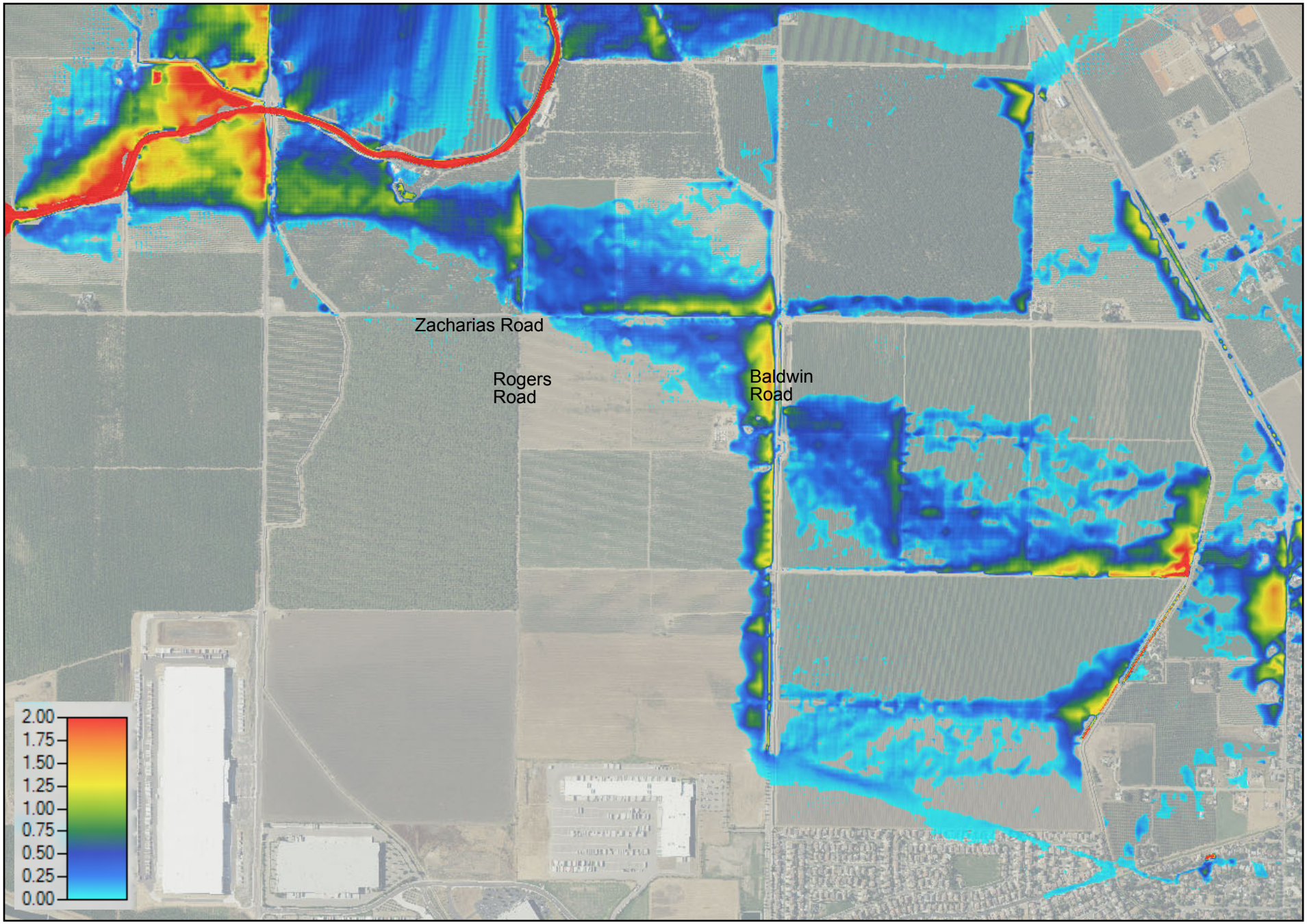

Figure 4. Existing condition 100-year flood maximum flood depths

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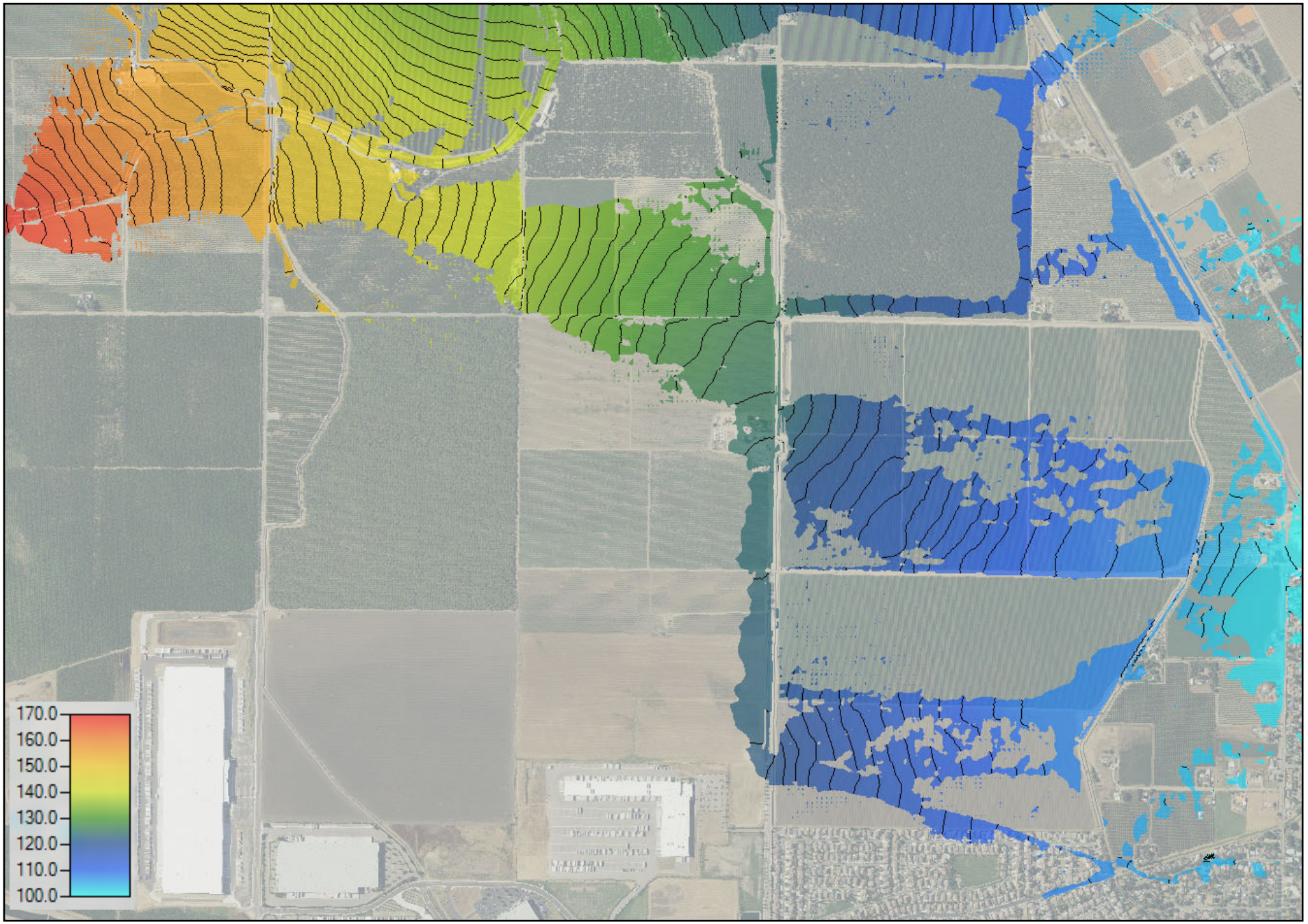

Figure 5. Existing condition 100-year flood maximum water surface elevations

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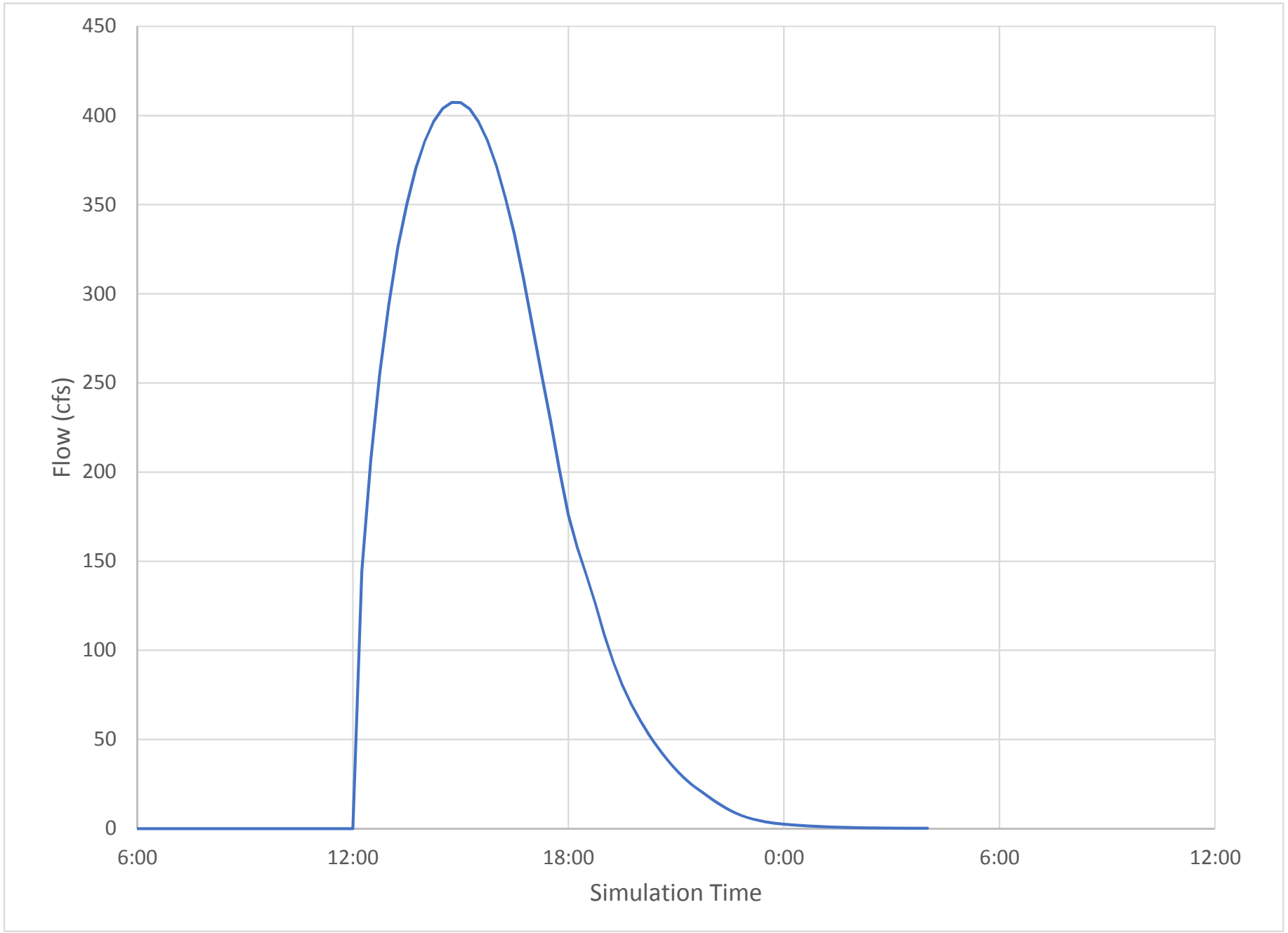

Figure 6. Modeled 100-year flood hydrograph of the overtopping flow onto the south overbank near the project site

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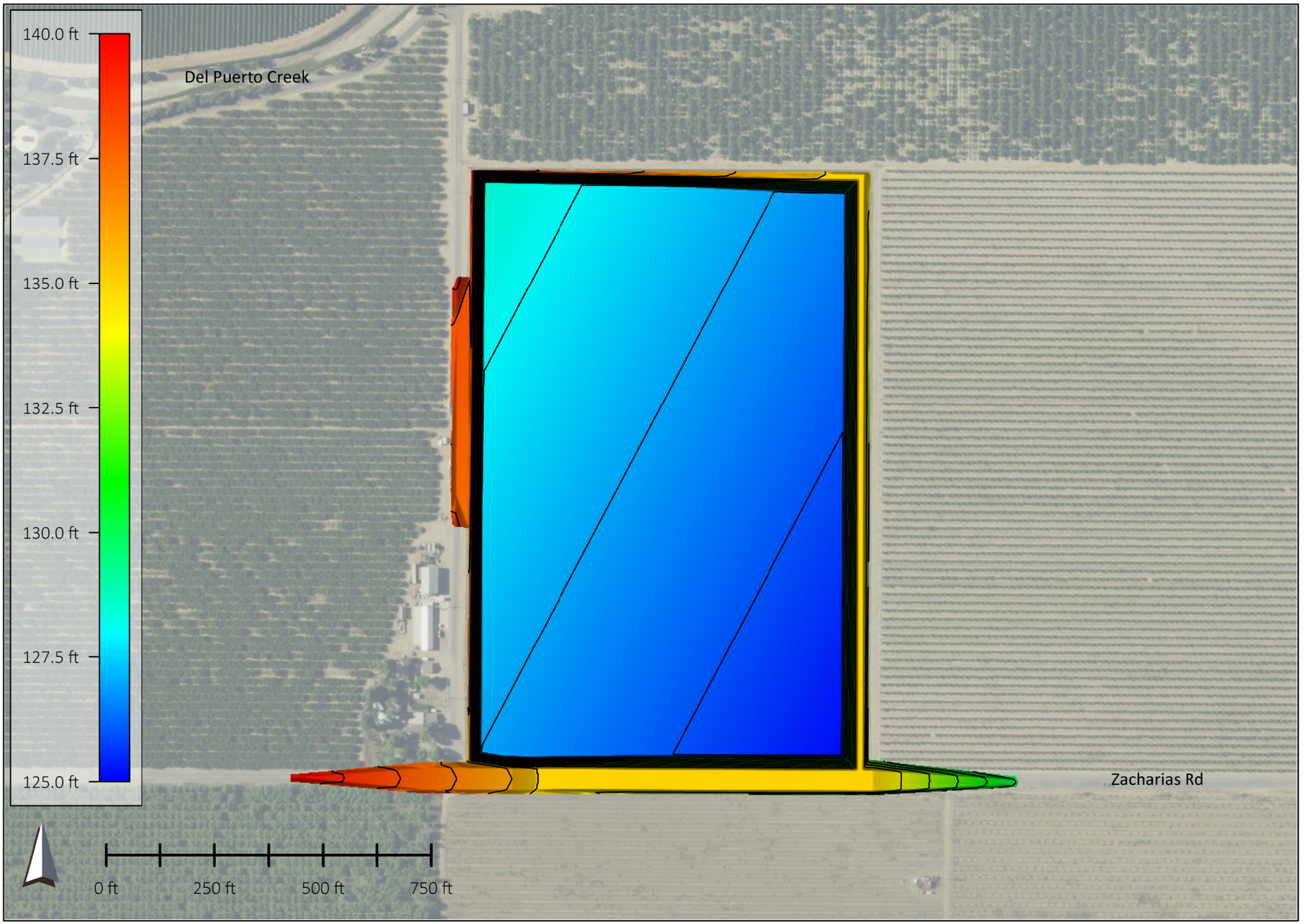

Figure 7. Retention basin grading concept

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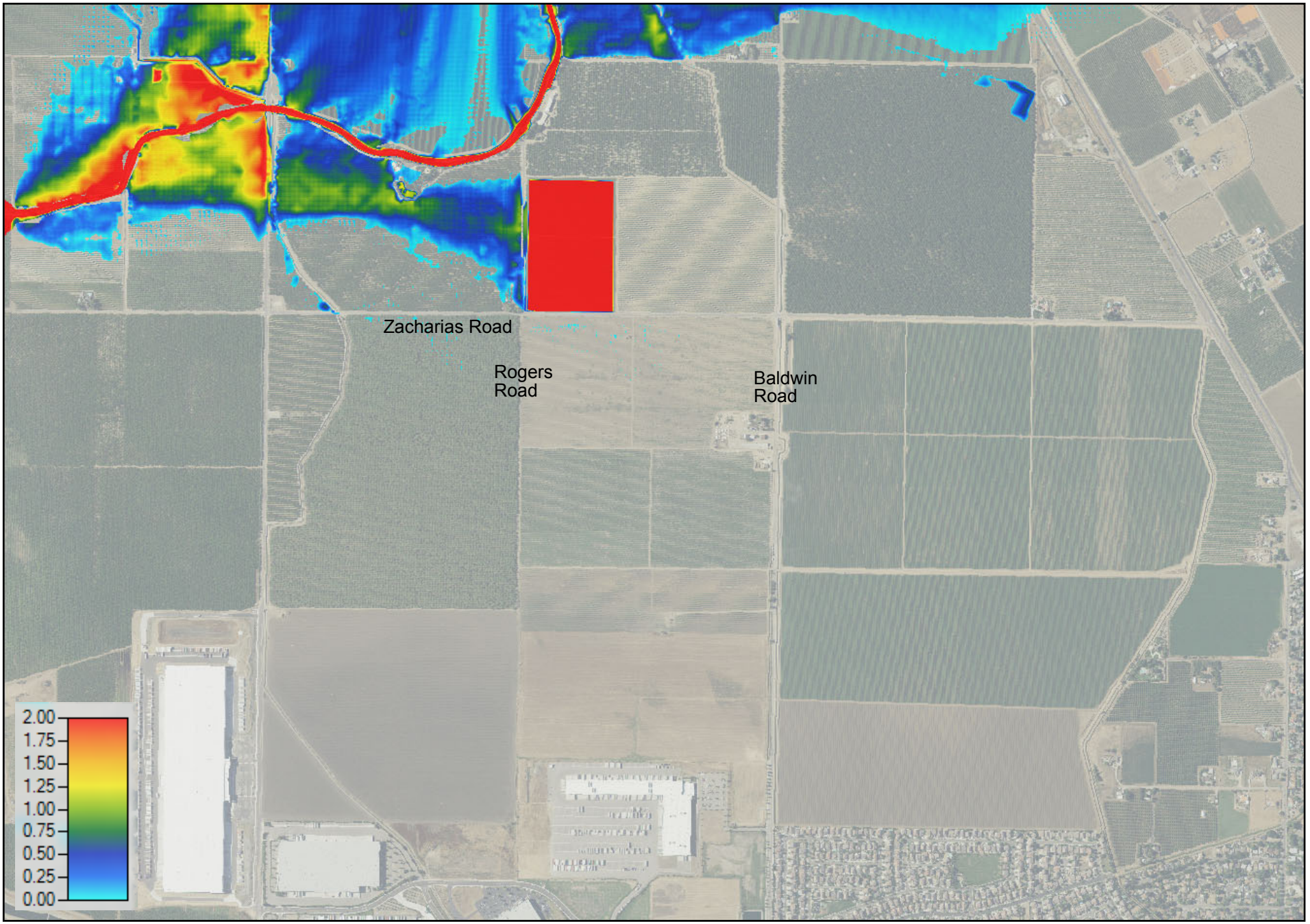

Figure 8. Retention basin condition 100-year flood maximum flood depths

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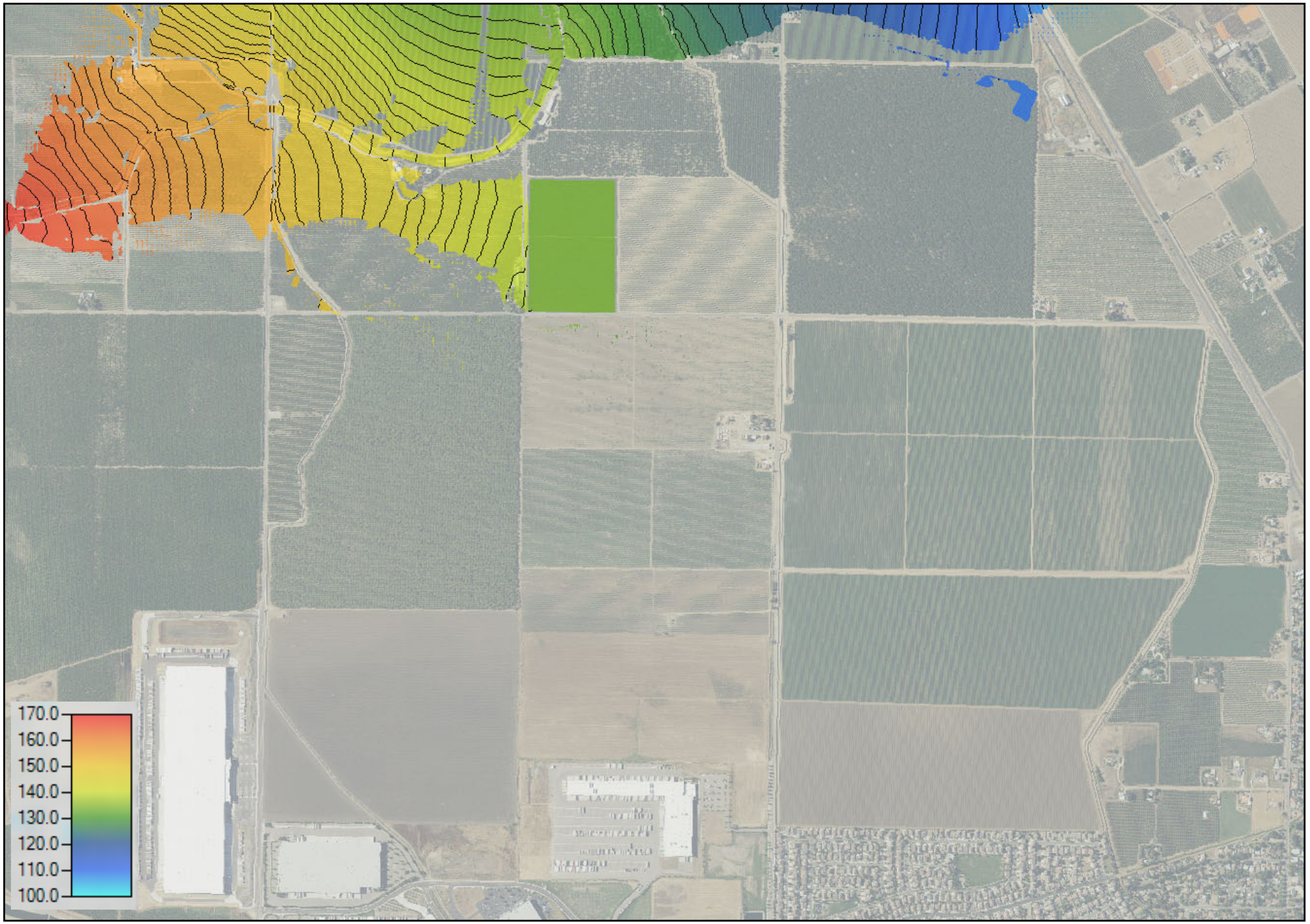

Figure 9. Retention basin condition 100-year flood maximum water surface elevations

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Appendix G:
Noise Supporting Information

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TABLE Existing-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5400 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	89.1

TABLE Existing-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2100 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	80.9

TABLE Existing-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2000 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	55.1	118.1

TABLE Existing-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Rogers Road to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 510 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Baldwin Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 820 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	65.4

TABLE Existing-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.35

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	93.2

TABLE Existing-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	73.0

TABLE Existing-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3400 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	0.0	0.0	53.0	111.7

TABLE Existing-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - south of Sperry Avenue
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1500 SPEED (MPH): 25 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Zacharias Road to Eucalyptus Avenue
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	65.4	140.4	302.2

TABLE Existing-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Eucalyptus Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7900 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	90.7	195.1

TABLE Existing-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Ward Avenue to Olive Avenue
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7300 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	60.6	129.9	279.7

TABLE Existing-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Ward Avenue - south of Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2400 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	52.1

TABLE Existing-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Rogers Road to Park Center Drive
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.35

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	75.7	161.5	347.2

TABLE Existing-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Park Center Drive to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	73.8	157.2	337.9

TABLE Existing-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Baldwin Road to American Eagle Avenue
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9600 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.1	130.2	276.7

TABLE Existing-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - American Eagle Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11200 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.1	116.5	246.8

TABLE Existing Plus Approved Projects-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18800 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.47

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	95.0	204.2

TABLE Existing Plus Approved Projects-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14600 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	63.6	136.5	293.7

TABLE Existing Plus Approved Projects-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	69.5	149.4	321.5

TABLE Existing Plus Approved Projects-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Rogers Road to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	74.1	159.2	342.6

TABLE Existing Plus Approved Projects-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Baldwin Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	80.4	172.8	372.0

TABLE Existing Plus Approved Projects-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	75.2	161.5

TABLE Existing Plus Approved Projects-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3600 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	54.0	115.7

TABLE Existing Plus Approved Projects-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4100 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	59.7	126.4

TABLE Existing Plus Approved Projects-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - south of Sperry Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2300 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	50.7

TABLE Existing Plus Approved Projects-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Zacharias Road to Eucalyptus Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
61.6	132.2	284.6	613.0

TABLE Existing Plus Approved Projects-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Eucalyptus Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22400 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	84.4	181.4	390.7

TABLE Existing Plus Approved Projects-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Ward Avenue to Olive Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	101.9	219.1	471.8

TABLE Existing Plus Approved Projects-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Ward Avenue - south of Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6300 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	98.7

TABLE Existing Plus Approved Projects-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Rogers Road to Park Center Drive
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
62.5	132.6	284.6	612.6

TABLE Existing Plus Approved Projects-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Park Center Drive to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.39

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	76.2	162.6	349.4

TABLE Existing Plus Approved Projects-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Baldwin Road to American Eagle Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11000 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	69.3	142.2	302.8

TABLE Existing Plus Approved Projects-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - American Eagle Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12200 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	61.0	123.1	261.1

TABLE Existing Plus Approved Projects Plus Proposed Project-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18500 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.40

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	94.0	202.0

TABLE Existing Plus Approved Projects Plus Proposed Project-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	67.0	143.8	309.6

TABLE Existing Plus Approved Projects Plus Proposed Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	104.8	225.5	485.5

TABLE Existing Plus Approved Projects Plus Proposed Project-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Rogers Road to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	75.1	161.3	347.2

TABLE Existing Plus Approved Projects Plus Proposed Project-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Baldwin Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	99.3	213.6	460.0

TABLE Existing Plus Approved Projects Plus Proposed Project-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	103.5	222.7	479.7

TABLE Existing Plus Approved Projects Plus Proposed Project-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23600 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	87.4	187.9	404.5

TABLE Existing Plus Approved Projects Plus Proposed Project-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13000 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	59.8	126.7	271.9

TABLE Existing Plus Approved Projects Plus Proposed Project-09

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - south of Sperry Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6800 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	103.8

TABLE Existing Plus Approved Projects Plus Proposed Project-10

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Zacharias Road to Eucalyptus Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 28000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
68.8	147.8	318.1	685.0

TABLE Existing Plus Approved Projects Plus Proposed Project-11

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Eucalyptus Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 27000 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	95.5	205.5	442.5

TABLE Existing Plus Approved Projects Plus Proposed Project-12

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Ward Avenue to Olive Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
52.3	112.2	241.3	519.7

TABLE Existing Plus Approved Projects Plus Proposed Project-13

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Ward Avenue - south of Highway 33
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13600 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	76.6	164.6

TABLE Existing Plus Approved Projects Plus Proposed Project-14

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Rogers Road to Park Center Drive
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	100.6	215.6	463.7

TABLE Existing Plus Approved Projects Plus Proposed Project-15

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Park Center Drive to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.3	199.6	429.4

TABLE Existing Plus Approved Projects Plus Proposed Project-16

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Baldwin Road to American Eagle Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12800 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	75.9	156.9	334.7

TABLE Existing Plus Approved Projects Plus Proposed Project-17

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - American Eagle Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - Existing Plus Approved Projects Plus Proposed Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	65.4	133.2	283.3

TABLE 2040 Cumulative No Project -01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8700 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	57.0	122.3

TABLE 2040 Cumulative No Project -02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2600 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	93.2

TABLE 2040 Cumulative No Project -03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	56.9	122.0

TABLE 2040 Cumulative No Project -04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Rogers Road to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.88

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	74.6

TABLE 2040 Cumulative No Project -05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Baldwin Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1300 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	88.7

TABLE 2040 Cumulative No Project -06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1800 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.44

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	51.4	110.1

TABLE 2040 Cumulative No Project -07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2100 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	80.9

TABLE 2040 Cumulative No Project -08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	66.0	140.3

TABLE 2040 Cumulative No Project -09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - south of Sperry Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4500 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	78.9

TABLE 2040 Cumulative No Project -10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Zacharias Road to Eucalyptus Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	70.6	151.6	326.3

TABLE 2040 Cumulative No Project -11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Eucalyptus Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8100 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	92.3	198.4

TABLE 2040 Cumulative No Project -12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Ward Avenue to Olive Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	57.2	122.7	264.1

TABLE 2040 Cumulative No Project -13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Ward Avenue - south of Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2400 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	52.1

TABLE 2040 Cumulative No Project -14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Rogers Road to Park Center Drive
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	100.6	215.6	463.7

TABLE 2040 Cumulative No Project -15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Park Center Drive to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.3	199.6	429.4

TABLE 2040 Cumulative No Project -16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Baldwin Road to American Eagle Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12800 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	0.0	75.9	156.9	334.7

TABLE 2040 Cumulative No Project -17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - American Eagle Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative No Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	65.4	133.2	283.3

TABLE 2040 Cumulative Plus Project -01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9900 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	62.1	133.3

TABLE 2040 Cumulative Plus Project -02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4000 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	57.8	124.0

TABLE 2040 Cumulative Plus Project -03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	50.9	108.9	234.4

TABLE 2040 Cumulative Plus Project -04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Rogers Road to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	58.7	125.9

TABLE 2040 Cumulative Plus Project -05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Baldwin Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	63.8	137.0	294.8

TABLE 2040 Cumulative Plus Project -06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11800 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	83.2	178.9	385.2

TABLE 2040 Cumulative Plus Project -07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12400 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.13

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	57.1	122.4	263.4

TABLE 2040 Cumulative Plus Project -08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.32

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.9	138.0	296.4

TABLE 2040 Cumulative Plus Project -09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - south of Sperry Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10400 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	64.1	137.7

TABLE 2040 Cumulative Plus Project -10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Zacharias Road to Eucalyptus Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15800 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	101.0	217.3	467.9

TABLE 2040 Cumulative Plus Project -11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Eucalyptus Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10200 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	107.5	231.3

TABLE 2040 Cumulative Plus Project -12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Ward Avenue to Olive Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15300 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	98.9	212.7	458.0

TABLE 2040 Cumulative Plus Project -13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Ward Avenue - south of Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9800 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	61.7	132.4

TABLE 2040 Cumulative Plus Project -14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Rogers Road to Park Center Drive
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	98.9	211.9	455.8

TABLE 2040 Cumulative Plus Project -15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Park Center Drive to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	0.0	91.5	195.8	421.2

TABLE 2040 Cumulative Plus Project -16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Baldwin Road to American Eagle Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14300 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	81.1	168.6	360.3

TABLE 2040 Cumulative Plus Project -17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - American Eagle Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15000 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	68.7	140.6	299.4

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8800 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	57.4	123.2

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3100 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	104.7

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Rogers Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	94.2	202.7

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Rogers Road to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	63.8	137.0	294.8

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Zacharias Road - Baldwin Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.13

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.4	142.7	307.1

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Zacharias Road to Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.3	138.1	297.3

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Keystone Pacific Parkway to Zacharias Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12000 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	55.9	119.8	257.7

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - Sperry Avenue to Keystone Pacific Parkway
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14000 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.7	133.0	285.6

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Baldwin Road - south of Sperry Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9700 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	61.3	131.5

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Zacharias Road to Eucalyptus Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	96.3	207.1	445.9

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Eucalyptus Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8000 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	91.5	196.8

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Highway 33 - Ward Avenue to Olive Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
52.3	112.2	241.3	519.7

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Ward Avenue - south of Highway 33
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12100 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	70.9	152.3

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Rogers Road to Park Center Drive
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	104.0	222.8	479.4

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Park Center Drive to Baldwin Road
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	91.5	195.8	421.2

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - Baldwin Road to American Eagle Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14100 SPEED (MPH): 40 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	80.4	167.1	356.9

TABLE 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/17/2020
ROADWAY SEGMENT: Sperry Avenue - American Eagle Avenue to Ward Avenue
NOTES: Zacharias Baldwin Master Plan - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.39

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	68.1	139.4	296.7

Appendix H:
Traffic Impact Study

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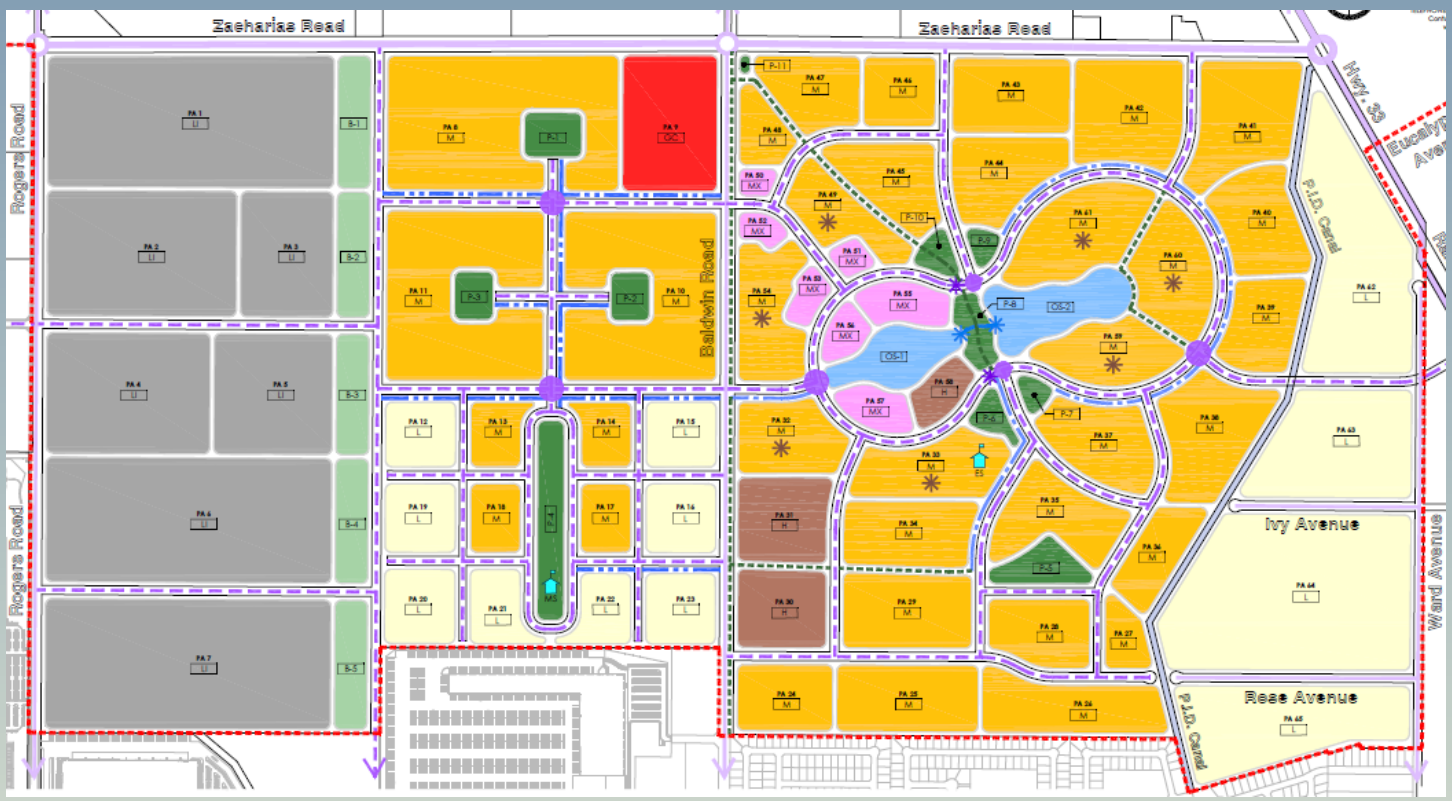
Traffic Impact Study for Proposed Zacharias and Baldwin Master Plan

for the City of Patterson

November 20, 2020



AMG ADVANCED MOBILITY GROUP

Traffic Impact Study for Proposed Zacharias and Baldwin Master Plan in Patterson, California

Final Report

Prepared for:
The City of Patterson

Prepared by:
Advanced Mobility Group

November 20, 2020

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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

INTRODUCTION

The purpose of this traffic impact study is to evaluate potential impacts of proposed Zacharias Master Plan / Baldwin Master Plan Project in Patterson, California. Both Master Plan projects are in the same geographical area as shown in **Figure 1**.

Both Master Plans totals approximately 1,227.1 acres outside the Patterson city limits in unincorporated Stanislaus County, California. The 1,158.4-acre Zacharias Master Plan is bounded by Rogers Road (west), Zacharias Road (north), the California Northern Railroad tracks and Ward Avenue (east), and existing residential and business park uses (south). The 68.7-acre Baldwin Master is located on Baldwin Road to the south of Sperry Avenue and is bounded by the Delta-Mendota Canal (west), the City of Patterson Corporation Yard (north), and agricultural uses (east and south).

SUMMARY

Based on the results of the analysis, the following is a summary of our findings:

Existing Traffic Conditions

All the intersections operate at acceptable LOS D or better, except three intersections below that operates at either LOS E or LOS F:

- Sperry Avenue & SR-33
- Rogers Road & SR-33
- SR 33/Grayson Rd

Existing plus Approved Projects Traffic Conditions

- Three major projects that were previously approved in the city were assumed in this scenario including West Patterson Business Park Master Plan, which was approved in 2003, Villages of Patterson was approved in 2007 and West Patterson Business Park Expansion was approved in 2012.
- Similar to the Existing Conditions, the three-stop control intersections of Sperry Avenue/SR-33, Rogers Road/SR 33 and SR 33/Grayson Rd will continue to operate at LOS E/F.
- In addition, all the other study intersections will operate at LOS E/F during the peak hour except 12 intersections.

The following improvement measures would be required to operate at acceptable LOS D or better.

Improvement Measures

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps

As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. The intersection would improve to LOS D or better. Might require additional adaptive traffic signal improvement.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

10. M Street/Walnut Avenue/SR 33
Add additional westbound left-turn lane and northbound right-turn lane.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes near the intersection. No Parking might be required on the first block near the intersection.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Rogers Road and Zacharias Road should be widened to two lanes on each approach.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add a left-turn lane on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

18. Ward Avenue/SR 33
Signalize intersection and add left-turn lane on northbound and eastbound approaches. SR 33 should be widened to two lanes on each approach.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes on southbound approach.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane on northbound approach. SR 33 should be widened to two lanes on southbound approach.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane.

29. SR 33/Grayson Rd
Signalize intersection.

Existing plus Approved plus Proposed Project Traffic Conditions

- The buildout potential of both Master Plans consists of 5,086 dwelling units and 7,765,000 square feet of non-residential uses.
- The buildout project is estimated to generate approximately 7,047 trips during the AM peak hour and 8,047 trips during the PM peak hour.
- Similar to the Existing plus Approved Project Conditions, the three-stop control intersections of Sperry Avenue/SR-33, Rogers Road/SR 33 and SR 33/Grayson Rd will continue to operate at LOS E/F.
- In addition, all the other study intersections will operate at LOS E/F during the peak hour except six intersections.
- A new east-west connector across the PID Canal (to the north of Ivy Avenue) would be added and will intersect with Ward Avenue and connect to SR 33 to the east. The new intersection with SR-33 would be signalized. It is assumed that the existing Ward Avenue/SR-33 intersection would either be closed or converted to restricted access (e.g., right-in, right-out).

Improvement Measures

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. The intersection would improve to LOS D or better after signal improvement during the AM peak hour. However, the Southbound Off-Ramp intersection will operate at unacceptable LOS F during the PM peak hour. Traffic adaptive signal operations might improve the operations to acceptable level of service.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue. The intersection would improve to LOS D or better during the AM peak hour. However, the intersection will operate at unacceptable LOS F during the PM peak hour.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road. Additional northbound left-turn lane might be required.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two left-turn lane might be required in the northbound.

10. M Street/Walnut Avenue/SR 33
Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane. Two through lanes might be required on SR 33.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two through lanes might be required on SR 33.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes. No Parking might be required on the first block near the intersection.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Zacharias Road should be widened to two lanes on each approach. Three through lanes might be required on northbound approach on Rogers Road.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add two left-turn lanes on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in both directions.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes in both directions.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane. West Main Avenue should be widened to two lanes in both directions.

27. SR 33/New East-West Connection
Signalize intersection and add two northbound left-turn and one southbound right-turn lanes. SR 33 should be widened to two lanes in both directions.

28. Ward Avenue/New East-West Connection
Signalize intersection and add two northbound left-turn lanes. It is recommended that the New East-West Connection roadway should consider having two lanes in both directions.

29. SR 33/Grayson Rd
Signalize intersection.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

At buildout of the project, it is estimated that the following roadways would be widened to four lanes:

- SR 33 – from north of Baldwin Road to Sperry Avenue
- Zacharias Road – from Rogers Road to SR 33
- Baldwin Road – from north of Zacharias Road to south of new East-West Connector

The project should pay its fair share for all intersections and roadway improvements.

2040 Cumulative No Project Traffic Conditions

- In consultation with city staff, the travel demand model used for the project that was recently calibrated and utilized for the Sperry Road at Interstate 5 Interchange Improvements project was selected as the modeling tool for this project.
- It is assumed that the level of intersections and roadway improvements under the Existing plus Approved Projects scenario would be available under this future cumulative base scenario.

Improvement Measures

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, and the final design is estimated to be completed by December 2019. The intersection would improve to LOS D or better.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

10. M Street/Walnut Avenue/SR 33
Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes. No Parking might be required on the first block near the intersection.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Rogers Road and Zacharias Road should be widened to two lanes on each approach.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add a left-turn lane on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

18. Ward Avenue/SR 33
Signalize intersection and add left-turn lane on northbound and eastbound approaches. SR 33 should be widened to two lanes on each approach.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in southbound approach.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes on southbound approach.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane.

29. SR 33/Grayson Rd
Signalize intersection.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

2040 Cumulative plus Project Traffic Conditions

- The buildout potential of both Master Plans consists of 5,086 dwelling units and 7,765,000 square feet of non-residential uses.
- The buildout project is estimated to generate approximately 7,047 trips during the AM peak hour and 8,047 trips during the PM peak hour.
- It is assumed that the level of intersections and roadway improvements under the Existing plus Approved plus Project scenario would be available under this future cumulative scenario.

Improvement Measures

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. Both intersections are expected to operate at acceptable LOS D or better.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road. Additional northbound left-turn lane might be required.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two left-turn lane might be required in the northbound.

10. M Street/Walnut Avenue/SR 33
Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane. Two through lanes might be required on SR 33.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two through lanes might be required on SR 33.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes. No Parking might be required on the first block near the intersection.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Zacharias Road should be widened to two lanes on each approach. Three through lanes might be required on northbound approach on Rogers Road.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add two left-turn lanes on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in both directions.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes in both directions.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane. West Main Avenue should be widened to two lanes in both directions.

27. SR 33/New East-West Connection
Signalize intersection and add two northbound left-turn and one southbound right-turn lanes. SR 33 should be widened to two lanes in both directions.

28. Ward Avenue/New East-West Connection
Signalize intersection and add two northbound left-turn lanes. It is recommended that the New East-West Connection roadway should consider having two lanes in both directions.

29. SR 33/Grayson Rd
Signalize intersection.

30. Marshall Rd/Ward Ave
Convert to All-Way Stop control.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

The project should pay its fair share for all intersections and roadway improvements.

2040 Cumulative plus Project Traffic Conditions (new I-5/Zacharias Road)

- Assumed a new interchange at I-5/Zacharias Road.
- The buildout potential of both Master Plans consists of 5,086 dwelling units and 7,765,000 square feet of non-residential uses.
- The buildout project is estimated to generate approximately 7,047 trips during the AM peak hour and 8,047 trips during the PM peak hour.
- It is assumed that the level of intersections and roadway improvements under the Existing plus Approved plus Project scenario would be available under this future cumulative scenario.
- It is projected that the new interchange would attract approximately 1,500 vph during the peak hour. This will provide much relief from traffic congestions along Sperry Avenue and other major roadways in the City.

Improvement Measures

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. Both intersections are expected to operate at acceptable LOS D or better.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road. Additional northbound left-turn lane might be required.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

10. M Street/Walnut Avenue/SR 33
Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane. Two through lanes might be required on SR 33.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two through lanes might be required on SR 33.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Zacharias Road should be widened to two lanes on each approach. Three through lanes might be required on northbound approach on Rogers Road.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add two left-turn lanes on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in both directions.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes in both directions.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane. West Main Avenue should be widened to two lanes in both directions.

27. SR 33/New East-West Connection
Signalize intersection and add two northbound left-turn and one southbound right-turn lanes. SR 33 should be widened to two lanes in both directions.

28. Ward Avenue/New East-West Connection
Signalize intersection and add two northbound left-turn lanes. It is recommended that the New East-West Connection roadway should consider having two lanes in both directions.

29. SR 33/Grayson Rd
Signalize intersection.

30. Marshall Rd/Ward Ave
Convert to All-Way Stop control.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

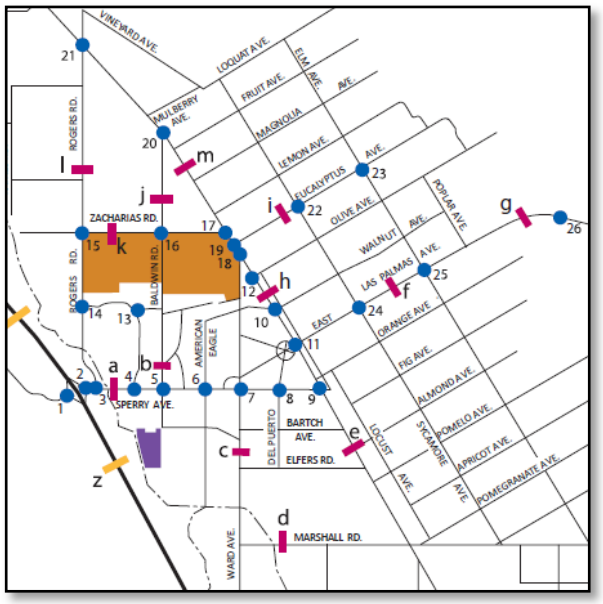
The project should pay its fair share for all intersections and roadway improvements.

2.0 PURPOSE OF PROJECT AND STUDY APPROACH

PROJECT OBJECTIVES DESCRIPTION

The purpose of this traffic impact study is to evaluate potential traffic impacts of proposed Zacharias Master Plan / Baldwin Master Plan. The site vicinity is shown in **Figure 1**.

The proposed project consists of the annexation of the project site into the City of Patterson and the development of residential, mixed use, commercial, industrial, school, parks, and open space uses guided by a Master Plan. The project site is broken down into three planning areas – East of Baldwin Road, West of Baldwin Road, and South of Baldwin Road.



STUDY APPROACH

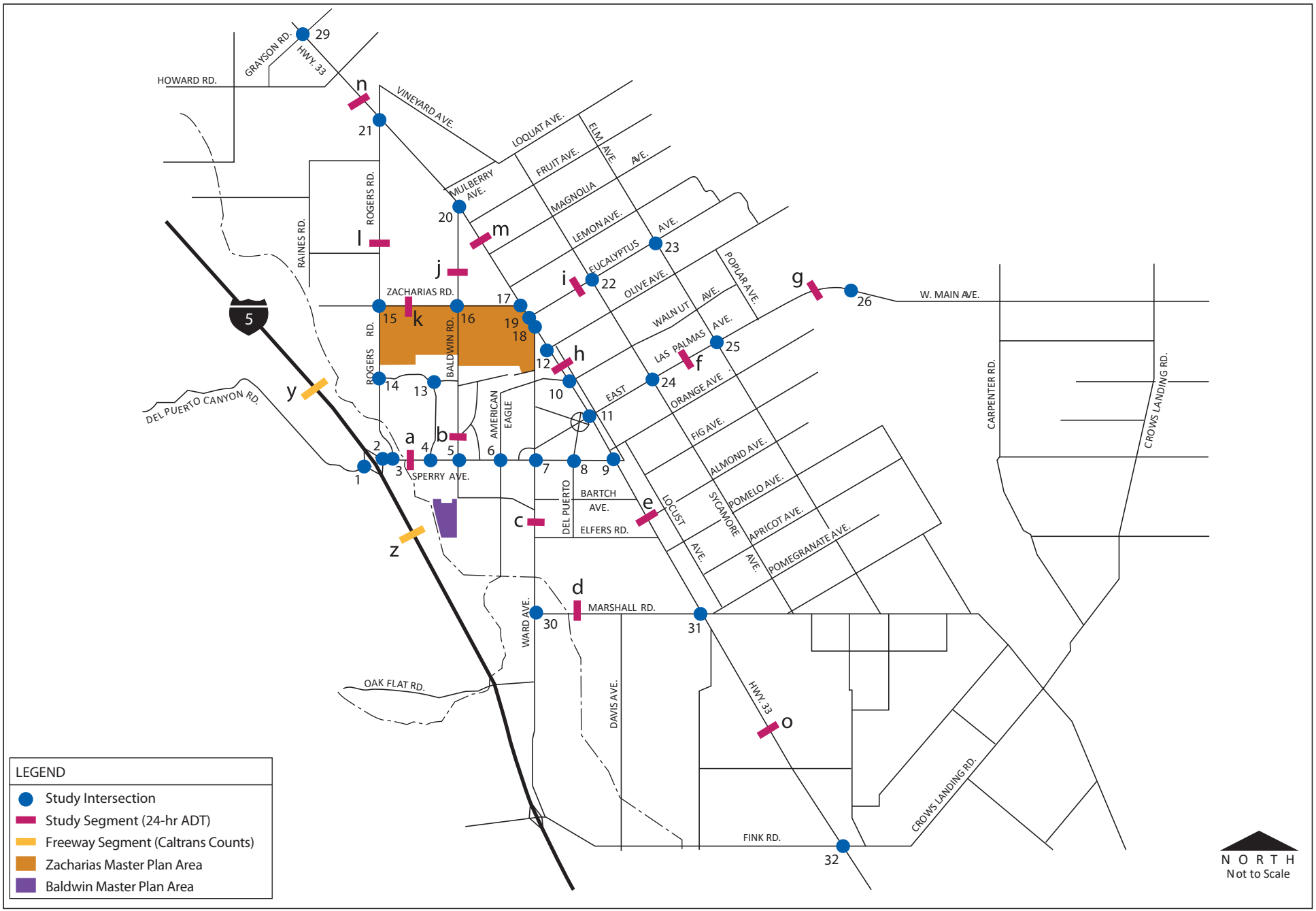
The following are key steps of the study approach:

- Collect traffic counts to establish baseline traffic conditions
- Develop travel demand model for the project
- Conduct trip generation and distribution of project trips
- Determine traffic condition for the following scenarios:
  - Existing + Approved Projects
  - Existing + Approved Projects + Proposed Project
  - 2040 Cumulative No Project
  - 2040 Cumulative Plus Project
  - 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)
- Determine impact of project trips based on established Significance Criteria

City of Patterson - Traffic Impact Study for Proposed Zacharias / Baldwin Master Plan

Figure 1

Study Intersections



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3.0 SETTING

The following section describes the existing transportation conditions in the vicinity of the study area, including descriptions of the existing street system and intersection operating conditions.

EXISTING STREET SYSTEM

Interstate 5 (I-5) is a four-lane freeway near Patterson. Per the 2016 traffic counts obtained from the Caltrans website, I-5 carries between 40,000 to 48,000 vehicles per day (vpd) in the vicinity of Sperry Avenue. For regional travel, residents rely primarily on I-5, a major north-south freeway to the west of the city limits. I-5 connects to I-580, approximately 15 miles to the north of Patterson. I-5 and I-580 provide access to regional employment centers in Pleasanton, San Ramon, and the rest of the San Francisco Bay Area.

The interchange of I-5/Sperry Avenue is configured as a tight diamond with a narrow underpass road and a steep drop in grade next to the northbound on-ramp. All ramps have one lane in each direction.

State Route 33 (SR 33) is located approximately three miles to the east of I-5. SR 33 provides north-south access to Westley to the north and the City of Newman to the south. Its ADT is approximately 6,000 vpd. It is the main north-south roadway in Patterson.

Sperry Avenue is a two- to four-lane major arterial roadway that serves as the major route of travel between I-5 to the west and the City of Patterson to the east. Sperry Avenue terminates at SR 33, three miles east of I-5. Near the freeway, its ADT ranges between 12,000 to 14,000 vpd[1]. A recent count to the east of Rogers Road showed the ADT to be approximately 15,040 vpd.

Rogers Road is a two to three lane north-south collector street located generally to the east of I-5. The road starts from Sperry Avenue to the south and ends at SR 33 to the north. Its ADT is approximately 2,400 vpd.

East Las Palmas Avenue is a three-lane major east west arterial including a center two-way left-turn lane between SR 33 and Sycamore Avenue, where it narrows to a two-lane road. To the west of SR 33, four streets form a roundabout at Las Palmas Avenue. Most traffic destined for Modesto currently uses Las Palmas Avenue. Its ADT is approximately 11,800 vpd. The name changes to W. Main Street near the San Joaquin River.

Zacharias Road is currently a primarily two-lane rural road that extends from SR 33 in the east to slightly past I-5 freeway underpass. West of Rogers Road it is generally unpaved two-lane farm road. Its ADT is approximately 320 vpd.

Baldwin Road is a two-lane north-south collector roadway that connects State Route 33 in the north and a residential neighborhood to the south of Sperry Avenue. This roadway provides access to the industrial and retail establishments in the northwest part of Patterson as well as to residential neighborhoods. Its ADT is approximately 4,910 vpd.

[1] *I-5/Sperry Avenue PAED Study Report, February 2016*

ROADWAY AND INTERSECTION OPERATING CONDITIONS

This section summarizes existing roadway and intersection operating conditions.

Traffic Data Collection

Based on discussions with City staff[2], the following 26 study intersections as shown in **Exhibit I** were selected for analysis:

#	Intersection	#	Intersection
1	Sperry Ave/I-5 SB Off-Ramps	16	Baldwin Rd/Zacharias Rd
2	Sperry Ave/I-5 NB On-Ramps	17	Zacharias Rd/SR-33
3	Sperry Ave/Rogers Road	18	Ward Ave/SR-33
4	Sperry Ave/Park Center Dr	19	SR-33/Eucalyptus
5	Sperry Ave/Baldwin Rd	20	Baldwin Rd/SR-33
6	Sperry Ave/American Eagle Dr	21	Rogers Rd/SR-33
7	Sperry Ave/Ward Ave	22	Sycamore Ave/Eucalyptus
8	Sperry Ave/S Del Puerto Ave	23	Elm Ave/Eucalyptus Ave
9	Sperry Ave/SR-33	24	Sycamore Ave/Las Palmas Ave
10	Walnut Avenue/M Street/SR-33	25	Elm Ave/Las Palmas Ave
11	SR-33/Las Palmas Ave	26	Jennings Rd/W Main Ave
12	Olive Avenue/SR-33	29	SR 33/Grayson Rd
13	Park Center/Keystone Pacific Prkwy	30	Marshall Rd/Ward Ave
14	Rogers Rd/Keystone Pacific Prkwy	31	SR 33/Marshall Rd
15	Rogers Rd/Zacharias Rd	32	SR 33/Crows Landing Rd/Fink Rd

Legend:

2020 counts

2019 counts

2018 counts

Counts based on growth factors with 2014 counts

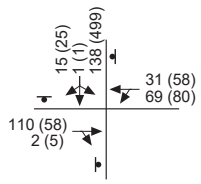
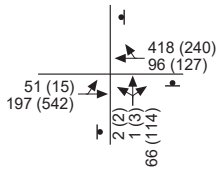
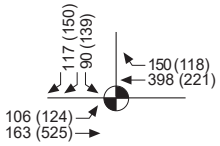
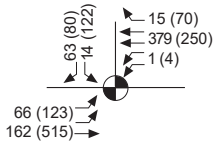
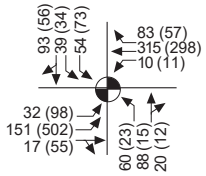
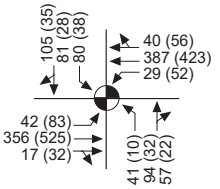
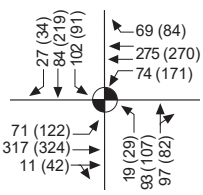
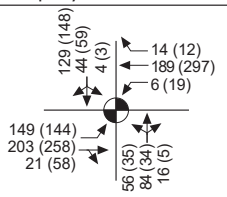
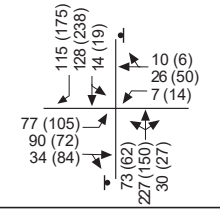
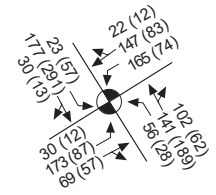
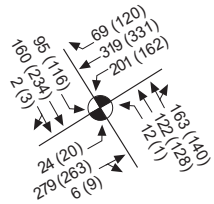
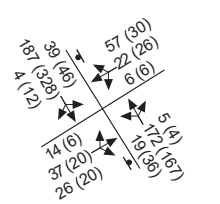
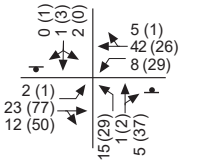
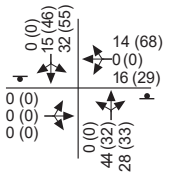
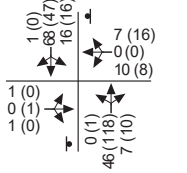
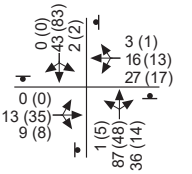
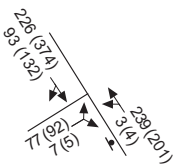
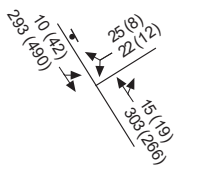
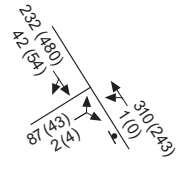
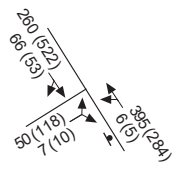
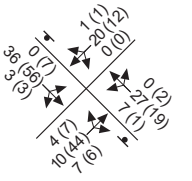
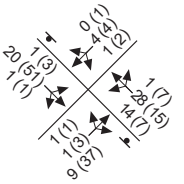
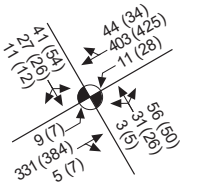
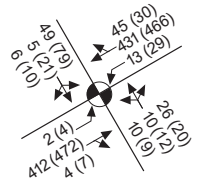
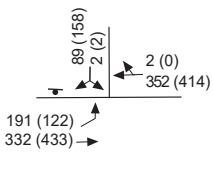
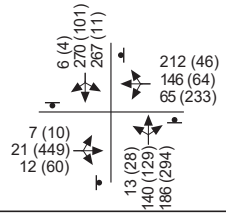
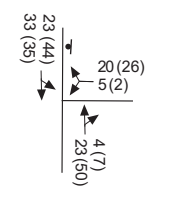
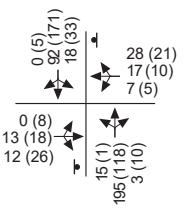
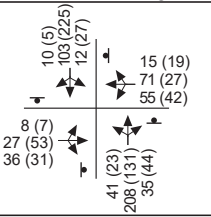
Exhibit I: Study Intersections

Majority of the a.m. and p.m. peak hour intersection turning movement counts were collected either in May 2018 or in April 2019. Counts for three of the intersections south of Marshall Road were based on factoring of 2014 counts[3]. **Figure 2** shows the turning movement volumes and lane configuration at each study intersection. Existing intersection turning movement counts are included in **Appendix A.**

[2] *Discussions with City of Patterson Staff, November 2018*

[3] *Obtained from Transportation Infrastructure Plan Crows Landing Industrial Business Park, October 13, 2017*

Existing Peak Hour Turning Movement Volumes, Lane Geometry & Controls

Intersection #1 Sperry/I-5 SB Ramps	Intersection #2 Sperry/I-5 NB Ramps	Intersection #3 Sperry/Rogers	Intersection #4 Sperry/Park Center Dr.	Intersection #5 Sperry/Baldwin	Intersection #6 Sperry/American Eagle
					
Intersection #7 Sperry/Ward	Intersection #8 Sperry/S. Del Puerto	Intersection #9 Sperry/SR 33	Intersection #10 Walnut/M St./SR 33	Intersection #11 SR 33/Las Palmas	Intersection #12 SR 33/Olive
					
Intersection #13 Park Center/Keystone Pacific	Intersection #14 Rogers/Keystone Pacific	Intersection #15 Rogers/Zacharias	Intersection #16 Baldwin/Zacharias	Intersection #17 Zacharias/SR 33	Intersection #18 Ward/SR 33
					
Intersection #19 SR 33/Eucalyptus	Intersection #20 Baldwin/SR 33	Intersection #21 Rogers/SR 33	Intersection #22 Sycamore/Eucalyptus	Intersection #23 Elm/Eucalyptus	Intersection #24 Sycamore/E. Las Palmas
					
Intersection #25 Elm/Las Palmas	Intersection #26 Jennings/Main	Intersection #29 SR 33/Grayson Rd	Intersection #30 Ward Ave/Marshall Rd	Intersection #31 SR 33/Marshall Rd	Intersection #32 SR 33/Crows Landing Rd
					

LEGEND
Stop Sign
Traffic Signal
XX AM Peak Hour Volume
(XX) PM Peak Hour Volume

Note: Int #27 & 28 do not exist under Existing Conditions

LEVEL OF SERVICE METHODOLOGY

Level of Service is a qualitative index of the performance of an element of the transportation system. Level of Service (LOS) is a rating scale running from A to F, with A indicating no congestion of any kind, and F indicating intolerable congestion and delays.

The 2010 Highway Capacity Manual (HCM) is the standard reference published by the Transportation Research Board and contains the specific criteria and methods to be used in assessing LOS. There are several software packages that have been developed to implement HCM. In this study the Synchro software was used to calculate the LOS at the study intersections.

Signalized Intersections
The relationship between average control delay, driver's perception of traffic, and LOS for signalized intersections is summarized in **Table 1**.

Unsignalized Intersections
The method of unsignalized intersection capacity analysis used in this study is from Chapter 19, "Two-Way Stop-Controlled Intersections" of the Highway Capacity Manual. This method applies to two-way STOP sign or YIELD sign-controlled intersections (or one-way STOP sign or YIELD sign controlled intersections at three-way intersections). At such intersections, drivers on the minor street are forced to use judgment when selecting gaps in the major flow through which to execute crossings or turning maneuvers. Thus, the capacity of the controlled legs of an intersection is based on three factors:

Table 1: Signalized Intersection LOS Criteria

LOS	Driver's Perception and Traffic Operation Description	Delay in Seconds
A	Operations with very low delay occurring with favorable Progression and/or short cycle length.	< 10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10 – 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20 - 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop, and individual cycle failures are noticeable.	> 35 – 55
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55 - 80
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80

1. The distribution of gaps in the major street traffic stream.
2. Driver judgment in selecting gaps through which to execute their desired maneuvers.
3. Follow-up time required to move into the front-of-queue position.

The level of service criterion for two-way STOP controlled intersections is somewhat different from the criterion used for signalized intersections. The primary reason for this is the difference that drivers expect a signalized intersection to carry higher traffic volumes than unsignalized intersections. Additionally, several driver behavior conditions combine to make delays at signalized intersections less onerous than at unsignalized intersections.

The HCM provides procedures for calculating LOS on the minor street approaches and individual movements. It does not specify how a City must utilize that information. Depending on the availability of gaps, the minor approach might be operating at LOS D, E, or F while the overall intersection operates at LOS C or better. A minor approach that operates at LOS D, E, or F does not automatically translate into a need for a traffic signal. A signal warrant would still need to be met. There are many instances where only a few vehicles are experiencing LOS D, E, or F on the minor approach while the whole intersection operates at an acceptable LOS. A signal is usually not warranted under such conditions.

Table 2 summarizes the relationship between delay and LOS for unsignalized intersections. At side-street stop-controlled intersections, the delay is calculated for each stop-controlled movement, the left-turn movement from the major street, as well as the intersection average. The intersection average delay and highest movement/approach delay are reported for side street stop-controlled intersections.

Table 2: Unsignalized Intersection LOS Criteria

LOS	Driver's Perception and Traffic Operation Description	Delay in Seconds
A	Little or no delays	< 10
B	Short traffic delays	> 10 – 15
C	Average traffic delays	> 15 - 25
D	Long traffic delays	> 25 - 35
E	Very long traffic delays	> 35 – 50
F	Extreme traffic delays with intersection capacity exceeded	> 50

The City of Patterson Guidelines for Traffic Impact Studies generally defines acceptable citywide unsignalized intersection operations as LOS D (35 seconds of delay per vehicle) or better during the morning and evening peak periods.

SIGNIFICANCE CRITERIA

City Standards

The following is the City's criteria of significance to determine the potential impacts associated with a proposed project or action:

The City's 2010 General Plan, Policy III.A.2 states that "The City shall endeavor to maintain a Level of Service (LOS) "D", as defined by the 2000 Highway Capacity Manual (HCM) or subsequent revisions, on all streets and intersections within the City."

County and Caltrans Standards

The minimum acceptable level of service standard for Stanislaus County roadway segments is LOS C. Therefore, this report uses LOS C as the minimum acceptable standard and mitigation measures are recommended where service levels are below LOS C along roadways within Stanislaus County.

Facilities under the jurisdiction of Caltrans include freeway segments, ramps, ramp terminals, and arterials. Although Caltrans has not designated a LOS standard, Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) indicates attempts to maintain LOS of a State highway facility between the LOS "C/D" threshold. When existing State highway facilities are operating at higher levels of service than noted above, 20-year forecasts or general plan build-out analysis for the facility should be considered to establish equitable project contributions to local development impact fee programs that address cumulative traffic impacts.

4.0 EXISTING TRAFFIC CONDITION

This section presents the assessment of traffic conditions without the proposed project.

INTERSECTION LEVEL OF SERVICE

To accurately model the traffic condition, AMG created a Synchro traffic analysis model to determine the intersection LOS. The Existing Conditions traffic operations were evaluated based on levels of service criteria using Synchro. The macroscopic simulation model, Synchro, was used to evaluate several measures (such as lane geometries, signal optimization, signal phasing and traffic control) at the study intersections.

The results of the LOS analysis for the existing intersections are shown in **Table 3**. All the intersections operate at acceptable LOS D or better, except three intersections below that operates at either LOS E or LOS F:

- Sperry Avenue & SR-33
- Rogers Road & SR-33
- SR 33/Grayson Rd

Very high left-turn volumes during the PM peak hours from Sperry Avenue and Rogers Road contributed to the LOS E conditions respectively at the intersections of Sperry Avenue & SR-33 and Rogers Road & SR-33.

A Project Report and Project Approval & Environmental Documentation (PA & ED) is currently being finalized and the final design schedule will follow as the City of Patterson finds suitable with their funding mechanisms.[4]

All three currently stop controlled intersections would operate at an acceptable LOS if signalized. Detailed level of service worksheets are provided in **Appendix B**.

Table 4 shows the arterial levels of service under existing conditions. Currently, all arterial segments operate acceptably during the a.m. and p.m. peak hours. The freeway levels of service under existing conditions are shown in **Table 5**. Currently, both freeway segments operate acceptably during the peak hour.

[4] *Based on Interstate 5 / Sperry Ave Interchange Improvements Project, April 20, 2017*

Table 3: Existing LOS of Study Intersections

	Intersection	Existing Control	A.M.		P.M.	
			Delay	LOS	Delay	LOS
1	Sperry Ave/I-5 SB Off-Ramps	All-Way Stop	9.4	A	23.7	C
2	Sperry Ave/I-5 NB On-Ramps	One-Way Stop	10.5	B	15.2	C
3	Sperry Ave/Rogers Road	Signal	14.8	B	12.8	B
4	Sperry Ave/Park Center Dr	Signal	10.1	B	12.7	B
5	Sperry Ave/Baldwin Rd	Signal	17.7	B	17.9	B
6	Sperry Ave/American Eagle Dr	Signal	18.3	B	13.7	B
7	Sperry Ave/Ward Ave	Signal	27.4	C	25.6	C
8	Sperry Ave/S Del Puerto Ave	Signal	8.0	A	7.5	A
9	Sperry Ave/SR-33	Two-Way Stop	37.8	E	35.6	E
10	Walnut Avenue/M Street/SR-33	Signal	21.9	C	19.2	B
11	SR-33/Las Palmas Ave	Signal	15.3	B	14.9	B
12	Olive Avenue/SR-33	Two-Way Stop	19.4	C	18.1	C
13	Park Center/Keystone Pacific Prkwy	Two-Way Stop	10.2	B	12.7	B
14	Rogers Rd/Keystone Pacific Prkwy	Two-Way Stop	10.7	B	11.2	B
15	Rogers Rd/Zacharias Rd	Two-Way Stop	9.6	A	10.9	B
16	Baldwin Rd/Zacharias Rd	All-Way Stop	8.0	A	7.8	A
17	Zacharias Rd/SR-33	Two-Way Stop	10.7	B	13.0	B
18	Ward Ave/SR-33	One-Way Stop	16.4	C	19.0	C
19	SR-33/Eucalyptus	One-Way Stop	14.4	B	16.3	C
20	Baldwin Rd/SR-33	One-Way Stop	17.5	C	18.8	C
21	Rogers Rd/SR-33	One-Way Stop	18.3	C	36.5	E
22	Sycamore Ave/Eucalyptus	Two-Way Stop	10.0	A	10.2	B
23	Elm Ave/Eucalyptus Ave	Two-Way Stop	10.0	A	9.7	A
24	Sycamore Ave/Las Palmas Avenue	Signal	16.2	B	16.4	B
25	Elm Ave/Las Palmas Ave	Signal	11.1	B	11.6	B
26	Jennings Rd/W Main Ave	One-Way Stop	29.6	D	27.5	D
29	SR 33/Grayson Rd	All-Way Stop	63.8	F	79.8	F
30	Marshall Rd/Ward Ave	Two-Way Stop	8.7	A	8.8	A
31	SR 33/Marshall Rd	Two-Way Stop	11.0	B	11.4	B
32	SR 33/Crows Landing Rd/Fink Rd	All-Way Stop	10.5	B	10.4	B

Table 4: Existing Roadway Segment LOS

Link ID	Roadway	Segment	Northbound/Eastbound				Southbound/Westbound			
			AM		PM		AM		PM	
			Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS
A	Sperry Ave	Rogers Rd - Park Center Dr	38.7	A	36.0	B	33.3	A	34.0	B
B	Baldwin Ave	Sperry Ave - Keystone Pacific Prkwy	34.1	A	33.9	A	21.3	C	18.4	D
C	Ward Ave	Barch Ave - Elfers Rd	39.1	A	39.0	A	39.1	A	38.9	A
D	W Marshall Rd	Ward Ave - SR 33	36.7	A	36.6	A	36.7	A	36.7	A
E	SR 33	South of Barch Ave	37.7	A	35.1	B	38.2	A	34.8	B
F	Las Palmas Ave	Sycamore Ave - Elm Ave	39.4	A	38.7	A	37.6	A	37.3	B
G	Las Palmas Ave	Poplar Ave - Jennings Rd	42.4	A	41.9	A	42.1	A	41.4	A
H	SR 33	Walnut Ave - Olive Ave-Ivy Ave	35.8	B	35.7	B	27.8	C	28.5	C
I	Eucalyptus Ave	SR 33 - Sycamore Ave	44.3	A	44.1	A	45.0	A	45.0	A
J	Baldwin Rd	Zacharias Rd - SR 33	45.8	A	45.9	A	43.7	A	43.7	A
K	Zacharias Rd	Rogers Rd - Baldwin Rd	41.8	A	41.8	A	45.9	A	45.9	A
L	Rogers Rd	Zacharias Rd - SR 33	43.2	A	43.1	A	45.2	A	45.3	A
M	SR 33	Zacharias Rd - Baldwin Rd	40.6	A	40.8	A	42.1	A	40.4	A
N	SR 33	Grayson Rd and Rogers Rd	38.5	B	38.9	B	42.4	A	42.3	A
O	SR 33	Crows Landing Rd/Fink/Marshall	43.5	A	43.5	A	44.5	A	44.2	A

Table 5: Existing Freeway Segment LOS

Link ID	Freeway Segment	Existing						
		# Lanes	A.M.			P.M.		
			Volume (vph) [A]	Density (pc/mi/ln)	LOS	Volume (vph)	Density (pc/mi/ln)	LOS
Y	I-5 NB (north of Sperry Ave)	2	1,335	11.6	B	1,508	13.4	B
	I-5 SB (north of Sperry Ave)	2	1,227	12.1	B	1,806	18.5	C
Z	I-5 NB (south of Sperry Ave)	2	1,100	10.0	A	1,408	13.5	B
	I-5 SB (south of Sperry Ave)	2	1,089	9.8	A	1,397	13.6	B

Note:
[A] - *peak hour volumes obtained from online Caltrans Traffic Counts, 2017*

Existing Transit and Rail Service

The public transit system is provided by the Stanislaus Regional Transit (StaRT). The bus service provides local and regional connectivity for residents of Patterson. StaRT operates one fixed-route bus line (Route 40) that serves the City of Patterson, Grayson and Westley. This route operates from 5:15 a.m. and 9:12 p.m. on weekdays. Another fixed-route, Bus Line 45W, operates for Patterson, Turlock and Gustine. This route operates on weekdays from 5:37 a.m. and 9:21 p.m.

The California Northern Railroad operates trains through Patterson, adjacent to State Route 33. The line runs north to Tracy, and south to Los Banos, with multiple rail connections. The Union Pacific Railroad owns the tracks. Currently, there is one daily round trip train between Tracy and Los Banos through Patterson.

An AMTRAK passenger train station is located in Denair, about 20 miles east of Patterson. Trains run multiple times per day. Major destinations include Merced, Fresno, and Bakersfield to the south (with bus and train connections to Los Angeles from Bakersfield) and Stockton, Antioch, Martinez, and Oakland to the north.

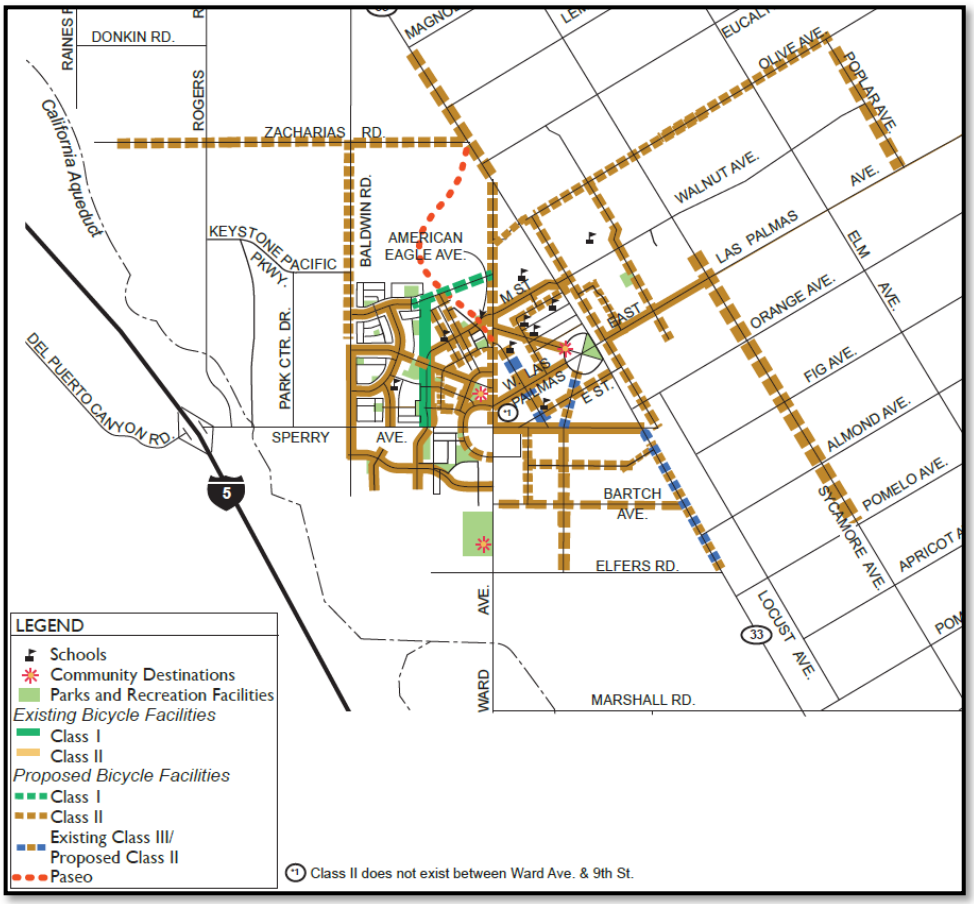
Existing Bicycle Plan

Bicycle facilities are classified by Caltrans into four distinct types of bikeway facilities, as generally described below:

- *Class I Bikeway (Bike Path)*. Provides a completely separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.
- *Class II Bikeway (Bike Lane)*. Provides a restricted right-of-way and is designated for the use of bicycles with a striped lane on a street or highway. Vehicle parking and vehicle/pedestrian crossflow are permitted.
- *Class III Bikeway (Bike Route)*. Provides for a right-of-way designated by signs or pavement markings for shared use with pedestrians or motor vehicles.
- Class IV Bikeway (*Separated Bikeway/Cycle Track*). Provides a cycle track or protected bike lane, is for the exclusive use of bicycles, physically separated from motor traffic with a vertical feature.

The Class II facilities are generally found along the downtown portion of the existing urbanized area. These facilities are found along parts of Las Palmas Avenue, Baldwin Road, American Eagle and 'M' Street.

The Class III Bike Route network is most prevalent in the Central Patterson area. However, there are gaps in the bike routes. Because of these gaps, it is difficult to fully traverse the city traveling north to south or east to west using the designated bicycle network.



5.0 MODELING METHODOLOGY

The travel demand model recently calibrated and utilized for the Sperry Road at Interstate 5 Interchange Improvements project [5](hereafter, the I-5/Sperry Model) was selected as the modeling tool for this project.

The I-5/Sperry Model was based on the travel demand model developed for the Crows Landing Industrial Business Park Transportation Infrastructure Master Plan (TIMP). The TIMP Model integrated the network and land use information from the Three-County Travel Demand Model and the data available from the City of Patterson Travel Demand Model available at that time. The base year of the TIMP Model is 2012, and the forecast year is 2035. It includes 6,772 Traffic Analysis Zones (TAZs) and 100 gateways.

Base Year Validation
The following base year validation checks were conducted to the TIMP Model for the I-5/Sperry Traffic Operations Analysis Report (TOAR) project:

Validation at major regional facilities:
The calibrated 2012 TIMP model volumes to Caltrans counts were compared at selected locations on I-580, SR-99, and I-5 near the study area. Validation statistics for daily, AM/PM peak hour volumes, were calculated based on criteria from Caltrans forecasting guidelines. The TIMP model met most of the validation targets.

Comparison of the K and D factors at key locations:
The K and D factors were calculated from the 2015 counts, the 2012 Model volumes before and after the calibration, and compared to the K and D factors provided by Caltrans. The K & D factors from the 2015 counts were very consistent with those provided by Caltrans, and the calibration improved the reasonableness of K & D factors from the 2012 model.

After the validation, the TIMP model was deemed appropriate for demand forecasting for I-5/Sperry project, based on "Guide on the Consistent Application of Traffic Analysis Tools and Methods", FHWA 2011.

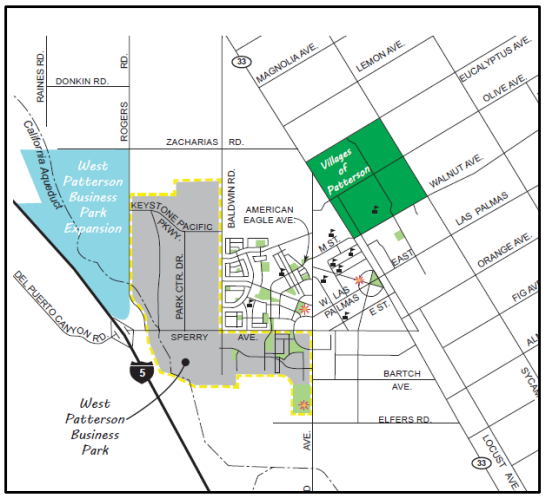
Based on input from City staff, the weekday AM and PM peak hour traffic conditions for the following scenarios were analyzed:

- Existing
- Existing + Approved Projects
- Existing + Approved Projects + Proposed Project
- 2040 Cumulative No Project
- 2040 Cumulative Plus Project
- 2040 Cumulative Plus Project (with new Zacharias Avenue/I-5 Interchange)

[5] *Sperry Road at Interstate 5 Interchange Improvements Traffic Operations Analysis Report (TOAR), February 2016*

6.0 EXISTING PLUS APPROVED PROJECTS TRAFFIC CONDITION

This section presents the assessment of potential transportation impacts of approved projects. There are several significant potential land use development projects in the City of Patterson that could contribute significant amount of traffic to the interchange. Based on discussions with City staff[6], three major approved projects included are:



- West Patterson Business Park Master Plan was approved in 2003 – Originally approved for approximately 8.5 million sf light industrial, freeway commercial, R&D and residential. Approximately 5 million sf available.
- Villages of Patterson was approved in 2007 – 3,100 dwelling units and 1.1 million sf of light industrial, office, retail and public use. Only elementary school on Hartley Avenue has been completed.
- West Patterson Business Park Expansion was approved in 2012 –11 million sf light industrial, 839 ksf business park & 198 ksf business park. 1.5M sf distribution center has been developed.

To better estimate these potential approved projects long-term traffic impacts, AMG utilized the StanCOG three-county travel demand model. As indicated earlier, the StanCOG model was recently calibrated and utilized for the Sperry Road at Interstate 5 Interchange Improvements Traffic Operations Analysis Report (TOAR).

INTERSECTION LEVEL OF SERVICE ANALYSIS

The Existing plus Approved Projects model was created by incorporating the trips from the three approved projects.

The National Cooperative Highway Research Program (NCHRP) Report 255 [7] Difference Method was applied to calculate the travel demand forecasts for the existing conditions (2019) and the future cumulative conditions (2040). Average annual growth by inbound direction at study intersections and by direction at study segments were first calculated based on 2012 and 2035 TIMP Model forecasts. The total growth from the existing conditions (2019) to the future cumulative conditions (2040) were then added to the observed counts to obtain future forecasts. As appropriate adjustments were made taking into considerations limitations of model TAZs to adequately reflect future driveways and traffic access.

[6] *Email from City staff, August 05, 2019*
[7] *National Cooperative Highway Research Program (NCHRP) Report 255*

Figure 3 shows the Existing plus Approved Traffic Conditions peak hour turning movement volumes and lane geometry. **Table 6** shows the LOS under Existing plus Approved Traffic Conditions.

Similar to the Existing Conditions, the two-way stop control intersection of Sperry Avenue & State Route 33 (SR 33) will continue to operate at unacceptable LOS E. The all-way stop control intersection of SR 33/Grayson Rd will continue to operate at LOS F. The intersection of Rogers Road & SR 33 will continue to operate at LOS F.

In addition, all the other study intersections will operate at LOS E/F during the peak hour except 12 intersections.

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Table 6: Existing plus Approved Traffic Condition Intersections LOS

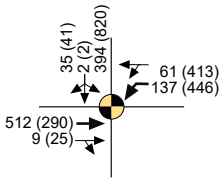
		Existing plus Approved Projects					Existing plus Approved Projects - Mitigated				
	Intersection	Existing Control	A.M.		P.M.		Mitigat Control	A.M.		P.M.	
			Delay	LOS	Delay	LOS		Delay	LOS	Delay	LOS
1	Sperry Ave/I-5 SB Off-Ramps	All-Way Stop	118	F	345	F	Signal	32	C	35	D
2	Sperry Ave/I-5 NB On-Ramps	All-Way Stop	460	F	681	F	Signal	35	C	21	C
3	Sperry Ave/Rogers Road	Signal	61	E	67	E	Signal	36	D	50	D
4	Sperry Ave/Park Center Dr	Signal	13	B	14	B	Signal	12	B	12	B
5	Sperry Ave/Baldwin Rd	Signal	20	C	21	C	Signal	19	B	19	B
6	Sperry Ave/American Eagle Dr	Signal	22	C	15	B	Signal	21	C	15	B
7	Sperry Ave/Ward Ave	Signal	42	D	41	D	Signal	24	C	24	C
8	Sperry Ave/S Del Puerto Ave	Signal	10	B	11	B	Signal	10	A	10	B
9	Sperry Ave/SR-33	Two-Way Stop	490	F	546	F	Signal	23	C	25	C
10	Walnut Avenue/M Street/SR-33	Signal	174	F	110	F	Signal	29	C	32	C
11	SR-33/Las Palmas Ave	Signal	38	D	22	C	Signal	33	C	31	C
12	Olive Avenue/SR-33	Two-Way Stop	1043	F	408	F	Signal	44	D	27	C
13	Park Center/Keystone Pacific Prkwy	Two-Way Stop	750	F	1781	F	Signal	23	C	48	D
14	Rogers Rd/Keystone Pacific Prkwy	Two-Way Stop	70849	F	15	B	Signal	37	D	51	D
15	Rogers Rd/Zacharias Rd	Two-Way Stop	763	F	7240	F	Signal	17	B	37	D
16	Baldwin Rd/Zacharias Rd	All-Way Stop	524	F	290	F	Signal	26	C	26	C
17	Zacharias Rd/SR-33	Two-Way Stop	16	C	1696	F	Signal	11	B	33	C
18	Ward Ave/SR-33	One-Way Stop	1158	F	1048	F	Signal	34	C	15	B
19	SR-33/Eucalyptus Ave	One-Way Stop	1118	F	18	C	Signal	18	B	14	B
20	Baldwin Rd/SR-33	One-Way Stop	40	E	277	F	Signal	10	A	9	A
21	Rogers Rd/SR-33	One-Way Stop	57	F	1376	F	Signal	11	B	24	C
22	Sycamore Ave/Eucalyptus	Two-Way Stop	11	B	11	B	All-Way	8	A	8	A
23	Elm Ave/Eucalyptus Ave	Two-Way Stop	11	B	10	A	Two-	11	B	10	A
24	Sycamore Ave/Las Palmas Avenue	Signal	97	F	49	D	Signal	43	D	28	C
25	Elm Ave/Las Palmas Ave	Signal	51	D	52	D	Signal	14	B	20	C
26	Jennings Rd/W Main Ave	One-Way Stop	118	F	133	F	Signal	25	C	34	C
29	SR 33/Grayson Rd	All-Way Stop	287	F	795	F	**Signal**	19	B	54	D
30	Marshall Rd/Ward Ave	Two-Way Stop	10	A	11	B	Two-	10	A	11	B
31	SR 33/Marshall Rd	Two-Way Stop	18	C	27	D	Two-	18	C	27	D
32	SR 33/Crows Landing Rd/Fink Rd	All-Way Stop	15	B	21	C	All-Way	15	B	21	C

City of Patterson - Traffic Impact Study for Proposed Zacharias / Baldwin Master Plan

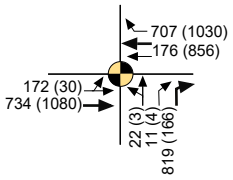
Existing plus Approved Project Peak Hour Turning Movement Volumes, Lane Geometry & Controls

Figure 3

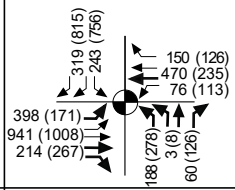
Intersection #1 Sperry/I-5 SB Ramps



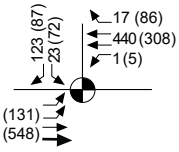
Intersection #2 Sperry/I-5 NB Ramps



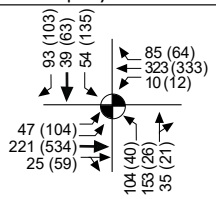
Intersection #3 Sperry/Rogers



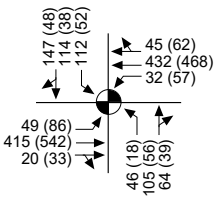
Intersection #4 Sperry/Park Center Dr.



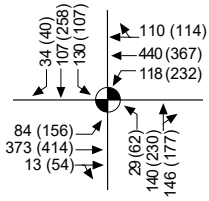
Intersection #5 Sperry/Baldwin



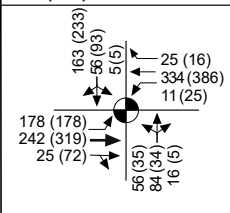
Intersection #6 Sperry/American Eagle



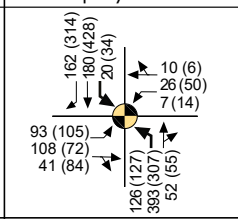
Intersection #7 Sperry/Ward



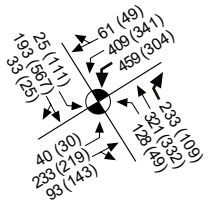
Intersection #8 Sperry/S. Del Puerto



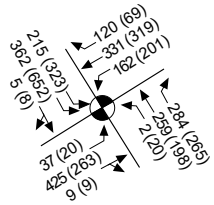
Intersection #9 Sperry/SR 33



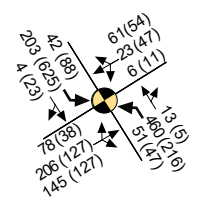
Intersection #10 Walnut/M St./SR 33



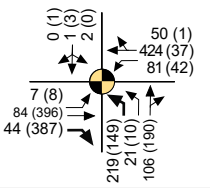
Intersection #11 SR 33/Las Palmas



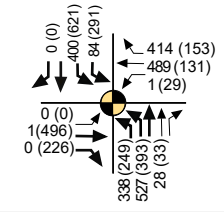
Intersection #12 SR 33/Olive



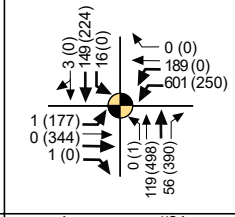
Intersection #13 Park Center/Keystone Pacific



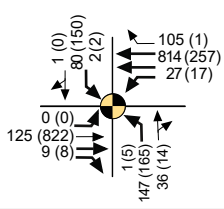
Intersection #14 Rogers/Keystone Pacific



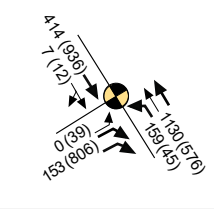
Intersection #15 Rogers/Zacharias



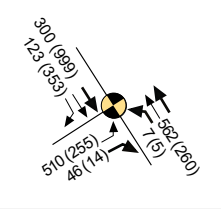
Intersection #16 Baldwin/Zacharias



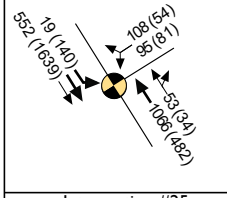
Intersection #17 Zacharias/SR 33



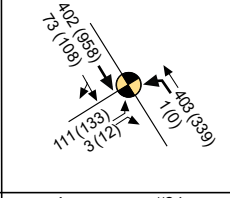
Intersection #18 Ward/SR 33



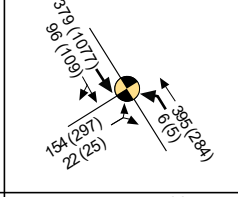
Intersection #19 SR 33/Eucalyptus



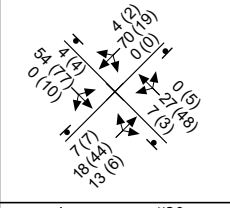
Intersection #20 Baldwin/SR 33



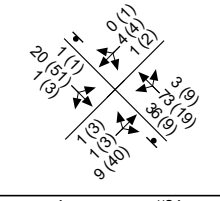
Intersection #21 Rogers/SR 33



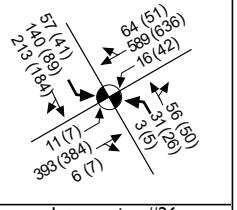
Intersection #22 Sycamore/Eucalyptus



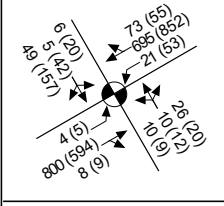
Intersection #23 Elm/Eucalyptus



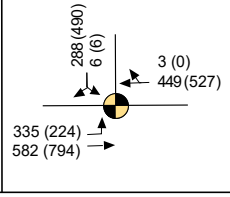
Intersection #24 Sycamore/E. Las Palmas



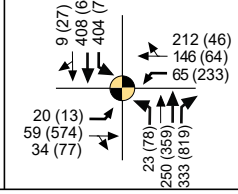
Intersection #25 Elm/Las Palmas



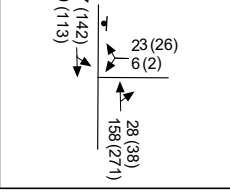
Intersection #26 Jennings/Main



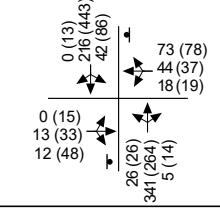
Intersection #29 SR 33/Grayson Rd



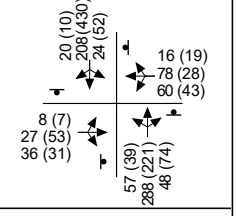
Intersection #30 Ward Ave/Marshall Rd



Intersection #31 SR 33/Marshall Rd



Intersection #26 SR 33/Crows Landing Rd



LEGEND

- Stop Sign
- Traffic Signal
- Recommended
- Recommended Mitigated Lane
- XX AM Peak Hour
- (XX) PM Peak Hour

Note: Int # 27 & 28 do not exist under Existing Plus Approved Project Conditions scenario.

IMPROVEMENTS REQUIRED

Based on the results of the projected traffic for the Existing plus Approved Projects, intersections that require improvement measures in this scenario are described below:

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. The intersection would improve to LOS D or better. Might require additional adaptive traffic signal improvement.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

10. M Street/Walnut Avenue/SR 33
Add additional westbound left-turn lane and northbound right-turn lane.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes near the intersection. No Parking might be required on the first block near the intersection.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Rogers Road and Zacharias Road should be widened to two lanes on each approach.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add a left-turn lane on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

18. Ward Avenue/SR 33
Signalize intersection and add left-turn lane on northbound and eastbound approaches. SR 33 should be widened to two lanes on each approach.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes on southbound approach.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane on northbound approach. SR 33 should be widened to two lanes on southbound approach.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane.

29. SR 33/Grayson Rd
Signalize intersection.

Model plots and detailed level of service worksheets is provided in **Appendix C**.

Table 7 shows the arterial levels of service under Existing plus Approved Traffic Condition. Several arterial segments need to be widened to operate acceptably during the a.m. and p.m. peak hours. The freeway levels of service under Existing plus Approved Traffic Condition are shown in **Table 8**. It is estimated that both freeway segments would operate acceptably during the peak hour.

Table 7: Existing plus Approved Traffic Condition Roadway Segment LOS

Link ID	Roadway	Segment	Northbound/Eastbound				Southbound/Westbound			
			AM		PM		AM		PM	
			Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS
A	Sperry Ave	Rogers Rd - Park Center Dr	33.0	B	26.7	C	43.2	D	23.6	C
B	Baldwin Ave	Sperry Ave - Keystone Pacific Prkwy	33.3	A	33.8	A	18.4	D	16.2	D
C	Ward Ave	Barch Ave - Elfers Rd	39.1	A	37.9	A	37.5	A	38.0	A
D	W Marshall Rd	Ward Ave - SR 33	36.4	A	36.8	A	36.7	A	36.0	A
E	SR 33	South of Barch Ave	32.7	B	34.4	B	34.9	B	32.8	B
F	Las Palmas Ave	Sycamore Ave - Elm Ave	39.0	A	37.2	B	32.4	B	33.0	B
G	Las Palmas Ave	Poplar Ave - Jennings Rd	42.1	A	41.0	A	39.9	A	37.8	B
H	SR 33	Walnut Ave - Olive Ave-Ivy Ave	34.4	B	33.7	B	21.3	D	19.0	D
I	Eucalyptus Ave	SR 33 - Sycamore Ave	44.2	A	43.9	A	44.9	A	45.0	A
J	Baldwin Rd	Zacharias Rd - SR 33	45.5	A	45.6	A	39.6	A	38.9	B
K	Zacharias Rd	Rogers Rd - Baldwin Rd	42.4	A	39.9	A	35.5	A	35.9	B
L	Rogers Rd	Zacharias Rd - SR 33	42.9	A	40.9	A	41.8	A	22.4	D
M	SR 33	Zacharias Rd - Baldwin Rd	40.4	A	39.8	A	41.1	A	40.1	B
N	SR 33	Grayson Rd and Rogers Rd	45.0	A	43.4	A	44.7	A	43.5	A
O	SR 33	Crows Landing Rd/Fink/Marshall	45.6	A	45.6	A	45.8	A	45.1	A

Table 8: Existing plus Approved Freeway Segment LOS

Link ID	Freeway Segment	EPAP						
		# Lanes	A.M.			P.M.		
			Volume (vph) [A]	Density (pc/mi/ln)	LOS	Volume (vph)	Density (pc/mi/ln)	LOS
Y	I-5 NB (north of Sperry Ave)	2	1,591	24.7	C	1,564	24.2	C
	I-5 SB (north of Sperry Ave)	2	1,676	28	D	1,665	30.3	D
Z	I-5 NB (south of Sperry Ave)	2	1,733	27.3	D	1,100	18.3	C
	I-5 SB (south of Sperry Ave)	2	1,535	23.7	C	1,301	21.7	C

7.0 PROPOSED PROJECT & TRIP GENERATION

The proposed project site plan is shown on **Figure 4**. The proposed Master Plans consist of the annexation of the planning areas into the City of Patterson and the development of residential, mixed use, commercial, industrial, school, parks, and open space uses. The buildout potential of both Master Plans consists of:

- 5,086 dwelling units, and
- 7,765,000 square feet of non-residential uses.

At buildout, both Master Plans would support an estimated 14,035 new residents and 8,670 employees. It is assumed to occur over a 20-year period.

Zacharias Master Plan

West of Baldwin Road

The land use west of Baldwin Road will consist of a mix of residential, commercial, and industrial development. Residential uses consist of 1,420 dwelling units at low and medium densities located along Baldwin Road within the Zacharias Ranch area. A 16-acre school site would be located in the center of this planning area. A 22.81-acre community commercial area is proposed at the southwest quadrant of the intersection Zacharias Road/Baldwin Road. Industrial uses would front on Rogers Road; opposite the Arambel Business Park.

East of Baldwin Road (Lakeside Hills and Keystone Ranch)

The area east of Baldwin Road would consist of primarily residential uses and situated around three "lakes." Residential uses would consist of 3,666 dwelling units at low, medium, and high densities. Mixed use would be designated around the western most-lake. A 14-acre school site would be located within this planning area.

Baldwin Master Plan

The Baldwin Master Plan would support exclusively residential uses. A park would be located in the center of this planning area.

TRIP GENERATION

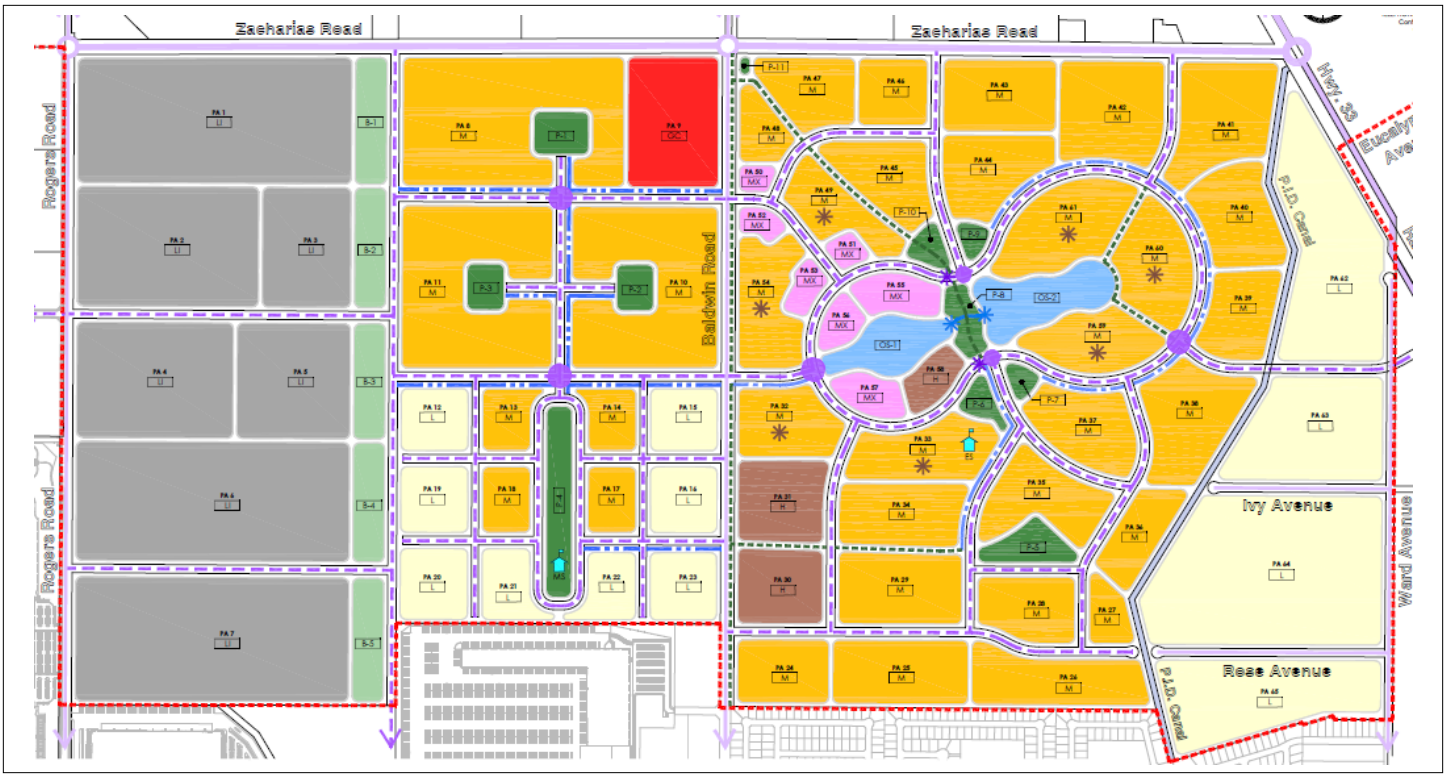
Trip generation is defined as the number of "vehicle trips" produced by a particular land use or project. A trip is defined as a one-direction vehicle movement. The total number of trips generated by each land use includes the inbound and outbound trips.

In consultation with staff, the trip generation estimates for the proposed land uses (residential, mixed-use, light industrial, commercial and school) were calculated using the standard reference Trip Generation, 10th Edition, published by the Institute of Transportation Engineers (ITE).

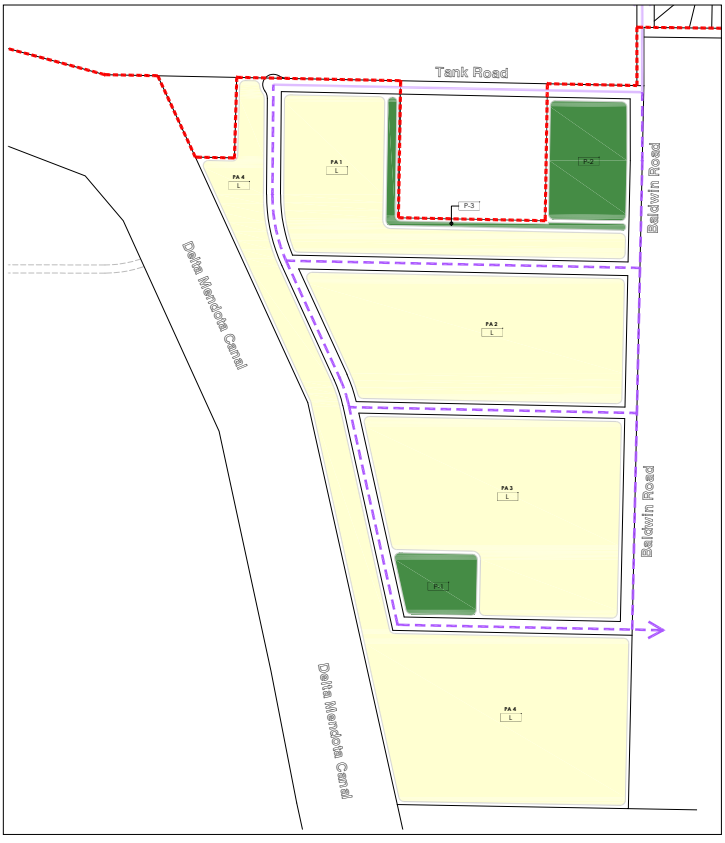
For this study, pass-by trip reduction based on ITE was applied. These trips, known as Pass-By trips, do not result in a route deviation for the existing vehicles as these vehicles are already traveling on a route that provides direct access to the project site. Therefore, these trips result in increased driveway traffic for the project site but do not result in an increase of traffic traveling through the network. Without applying the Pass-By reduction, the trip estimation would effectively double count trips which are attributed to these vehicles.

Proposed Project Site Plan

Zacharias Master Plan



Baldwin Master Plan



AMG ADVANCED MOBILITY GROUP

Since the proposed project is a mixed of residential, commercial and light industrial development, it is anticipated that there would be some internal trips. Studies have shown that conventional use of ITE has overlooked the full potential for internalizing trips through interaction among on-site activities. The ITE trip-generation data and analysis methods apply primarily to single-use and freestanding sites, which limits their applicability to compact, mixed-use development. In 2011, two major studies introduced methodologies for predicting traffic generation from mixed use development:

i. National Cooperative Highway Research Program (NCHRP) Report 684, "Enhancing Internal Trip Capture Estimation for Mixed- Use Developments," analyzed internal-capture relationships of mixed-use sites and examined the travel interactions among six individual types of land uses: office, retail, restaurant, residential, cinema, and hotel, and

ii. The U.S. EPA–sponsored 2011 report, "Traffic Generated by Mixed-Use Developments — A Six-Region Study Using Consistent Built Environmental Measures," investigated trip generation, mode choice, and trip length for trips produced and attracted by mixed use developments. Researchers selected six regions — Atlanta, Boston, Houston, Portland, Sacramento, and Seattle — to represent a wide range of urban scale, form, and climatic condition. It was concluded that the ITE Trip Generation Manual and Handbook overestimate peak traffic generation for mixed-use development by an average of 35 percent.[2]

For this project, AMG assumed that approximately 10 percent of trips are internal trips by customers who frequent the retail, might also patronize the mixed use and other uses. The estimated potential trip generation of the proposed project is shown in **Table 9**. It is estimated that the project will generate approximately 7,047 and 8,047 total trips during the AM and PM peak hours, respectively.

The estimated trip generation of the proposed project is shown in **Table 9** with details contained in **Appendix D**.

[2] *NCHRP Report 684, "Enhancing Internal Trip Capture Estimation for Mixed- Use Developments,"2011, page 26*

Table 9: Proposed Project Trip Generation

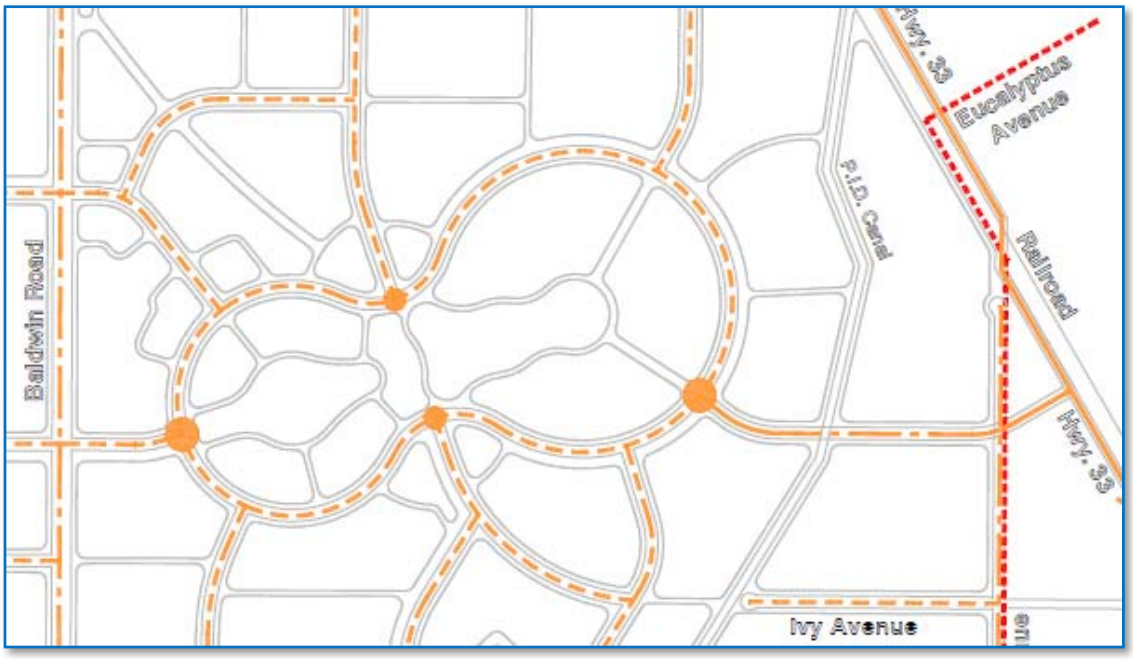
TAZ	Land Use	ITE Code	Size		A.M. Peak				P.M. Peak			
					Rate	In	Out	Total	Rate	In	Out	Total
A	Medium Density Residential	ITE220	343	DU	0.46	36	122	158	0.56	122	71	193
B	Medium Density Residential	ITE220	595	DU	0.46	63	211	274	0.56	210	124	334
C	Medium Density Residential	ITE220	272	DU	0.46	29	97	126	0.56	96	57	153
	High Density Residential	ITE221	147	DU	0.36	14	39	53	0.44	40	25	65
	Mixed Use	ITE 820	315	KSF	Eq.	192	118	310	Eq.	610	661	1,271
D	Medium Density Residential	ITE220	471	DU	0.46	50	167	217	0.56	166	98	264
E	Medium Density Residential	ITE220	340	DU	0.46	36	121	157	0.56	120	71	191
	High Density Residential	ITE221	246	DU	0.36	23	66	89	0.44	66	43	109
	Elem School (K-6)	ITE 520	500	STU	0.67	181	154	335	0.17	41	44	85
	Mixed Use	ITE 820	190	KSF	Eq.	153	94	247	Eq.	420	454	874
F	Medium Density Residential	ITE220	605	DU	0.46	64	215	279	0.56	214	125	339
	High Density Residential	ITE221	216	DU	0.36	20	58	78	0.44	59	37	96
G	Low Density Residential	ITE210	431	DU	0.74	80	239	319	0.99	269	158	427
H	Light Industrial(Warehouse)	ITE 150	2,730	KSF	0.17	358	116	465	0.19	140	379	519
I	Light Industrial	ITE110	4,181	KSF	0.7	2,576	351	2,927	0.63	1,659	975	2,634
J	Medium Density Residential	ITE220	700	DU	0.46	74	248	322	0.56	247	145	392
	Community Commercial	ITE 820	350	KSF	Eq.	203	124	327	Eq.	660	714	1,374
K	Medium Density Residential	ITE220	320	DU	0.46	34	114	148	0.56	113	67	180
	Low Density Residential	ITE210	400	DU	0.74	74	222	296	0.99	249	147	396
	Middle School	ITE 522	900	STU	0.58	282	240	522	0.17	75	78	153
L	Medium Density Residential	ITE220	395	DU	0.46	42	140	182	0.56	140	82	222
	Sub-Total 1					***4,584***	***3,256***	***7,831***		***5,716***	***4,555***	***10,271***
	Pass-By Reductions [A]											
	Mixed Use/Commercial	*ITE 820*			-	-	-	-	-34%	*-575*	*-622*	*-1,196*
	Sub-Total 2					***4,584***	***3,256***	***7,831***		***5,141***	***3,933***	***9,075***
	Internal Trip Reductions [B]											
	10% Internal Trip Assumption				-10%	*-458*	*-326*	*-784*	-10%	*-572*	*-456*	*-1,028*
	Total New Trips					**4,126**	**2,930**	**7,047**		**4,569**	**3,477**	**8,047**

Note:
A *- 34% Ave. Pass-by trips for shopping center (ITE 820, ITE Handbook)*
B *- Internal trips of 10% used (NCHRP 684) - lower than shown in NCHRP 684 or EPA Study*

ITE Source: ITE Trip Generation Manual 10th Edition, 2017

PROPOSED ACCESS AND CIRCULATION

The proposed circulation plan for Zacharias Master Plan and Baldwin Master Plan Project are shown in **Figure 5**. Comprehensive travel is provided through use of arterials for crosstown travels, major and minor collectors to distribute traffic collected from local residential streets.



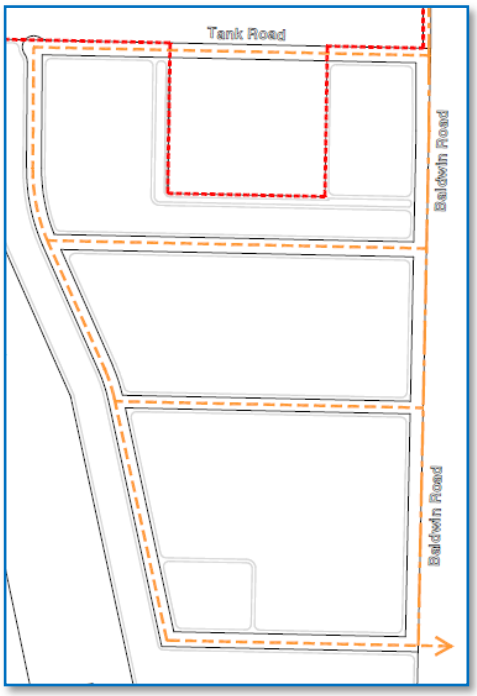
Zacharias Master Plan

East-west major collector includes Zacharias Road which will also serve as a major arterial on the northern boundary of the project. This major collector/arterial provides east-west connections from Rogers Road in the west to connect with SR 33 to the east. It is assumed that a four-lane arterial standard with estimated 135' Right-of-Way (ROW) would be constructed.

There are three north-south major collectors including Rogers Road, Baldwin Road and Ward Avenue that will facilitate traffic flow throughout the whole development.

Traffic flow though the various neighborhoods of the development are facilitated by several minor collector streets including the new east-west connector (to the north of Ivy Avenue) across the PID Canal that will intersect with Ward Avenue and connect to SR 33 to the east.

The new intersection with SR-33 would be signalized. The existing Ward Avenue / SR-33 intersection would either be closed or converted to restricted access (e.g., right-in, right-out). Ward Avenue would ultimately be extended along the west side of the railroad tracks to provide access to the northern portion of the Ranchette Triangle.



To ensure pedestrian and bike safety, many of the neighborhood streets would be designed with traffic calming geometric features including curvilinear streets and roundabout at strategic locations to calm traffic. Neighborhood subdivisions are generally designed around various grid to provide maximum access points for pedestrian access and bike travel.

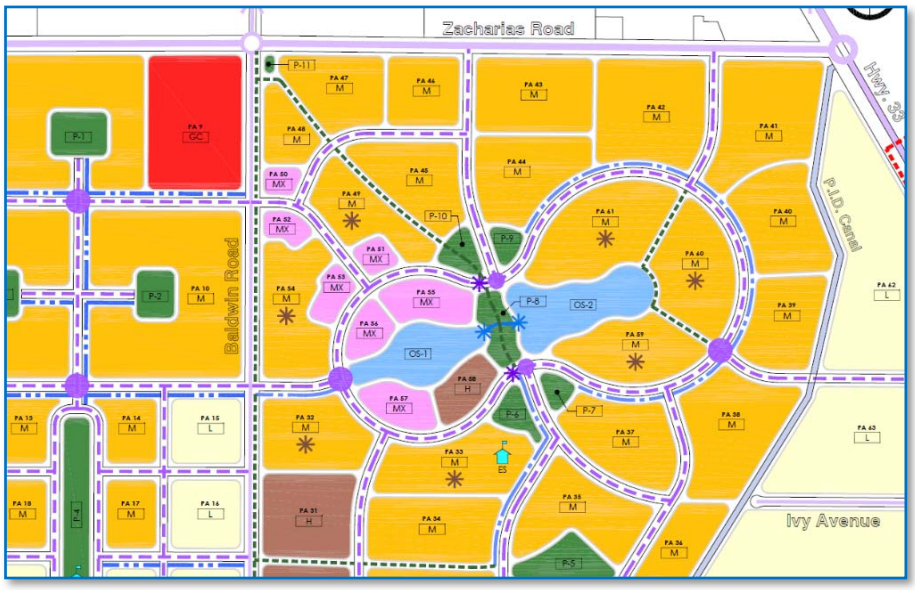
Baldwin Master Plan

Access from the proposed neighborhood is provided by three minor east-west collectors that connect to the major collector street, Baldwin Road. North-south travel is provided by a proposed minor collector street on the western boundary of the project which parallels the Delta Mendota Canal.

Integrated Active Transportation Focus Community

Beginning July 1, 2020, Senate Bill 743 (SB 743) required the Governor's Office of Planning and Research (OPR) to establish a new metric for identifying and mitigating transportation impacts within CEQA in an effort to meet the State's goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through more active transportation.

It is our understanding that Stanislaus Council of Government (StanCOG), the Metropolitan Planning Organizations (MPO) for Stanislaus County is in the process of establishing the VMT thresholds. Once it is established, the City of Patterson intends to evaluate and adopt those baseline and thresholds.

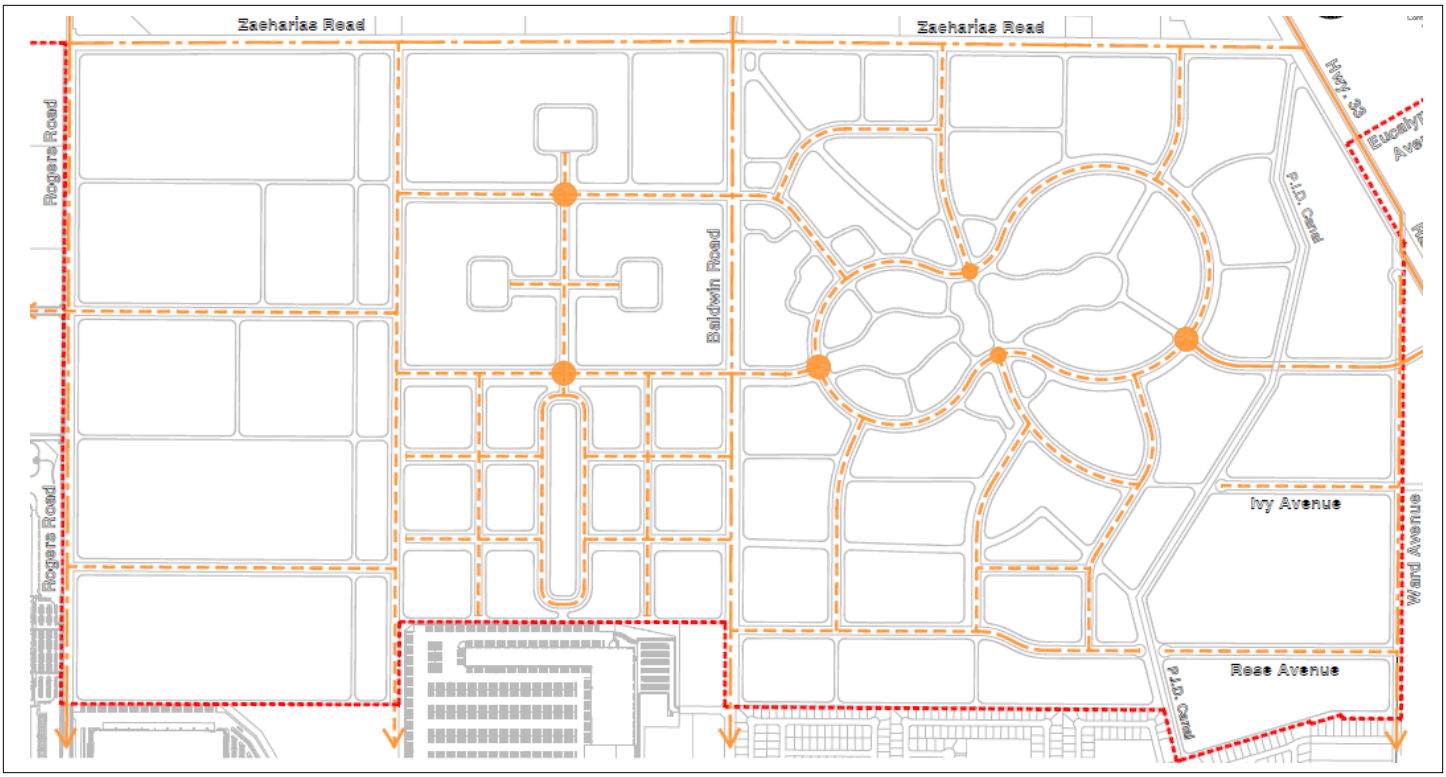


The proposed Zacharias Master Plan land use and circulation plan were designed to promote active transportation. Mixed use, school, retail and parks are centrally located to serve several neighborhoods. They are located within biking and walking distance so that active transportation could be naturally promoted to reduce VMT. The types of active transportation could include walking or bicycling. Broadly speaking, many studies have indicated that most people are willing to walk a quarter mile (5 min) to half-mile (10 min) distance, depending on perceptions of the built environment, safety, and time constraints. 8 Types of walk destinations could include work, to a park, exercise, recreation or leisure and nearly 40 percent for personal errands including shopping. An elementary school and middle school would also be constructed. The schools and mixed-use development are generally within ½ mile which makes them accessible through active transportation and will lead to reduction in VMT.

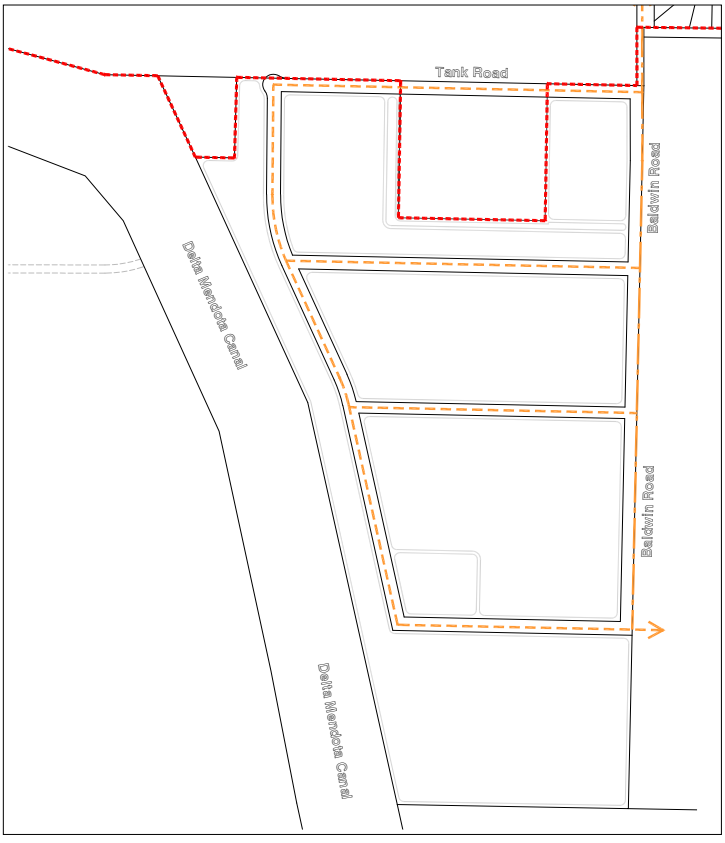
[8] *U.S. Department of Transportation's National Highway Traffic Safety Administration and the Bureau of Transportation Statistics (2002). National Survey of Pedestrian and Bicyclist Attitudes and Behaviors.*

City of Patterson - Traffic Impact Study for Proposed Zacharias / Baldwin Master Plan Figure 5
Proposed Circulation Plan

Zacharias Master Plan



Baldwin Master Plan



AMG ADVANCED MOBILITY GROUP

8.0 EXISTING PLUS APPROVED PLUS PROJECT TRAFFIC CONDITION

This section presents the assessment of potential transportation impacts of the proposed Project. Traffic Condition under Existing plus Approved plus Project Traffic Conditions would be analyzed.

The proposed project includes a northern and a southern site. To more accurately represent traffic access in the model, 11 Traffic Analysis Zones (TAZs) were created to represent the northern site and one TAZ in the southern site.

INTERSECTION LEVEL OF SERVICE ANALYSIS

As indicated earlier, the National Cooperative Highway Research Program (NCHRP) Report 255 [9] Difference Method was applied to calculate the travel demand forecasts for the scenario. As appropriate, volumes were adjusted at several intersections to more reasonably reflect planned future driveways and traffic distributions.

A new east-west connector across the PID Canal (to the north of Ivy Avenue) would be added and will intersect with Ward Avenue and connect to SR 33 to the east. The new intersection with SR-33 would be signalized. To facilitate good traffic flow of project traffic, it is assumed that a higher capacity residential collector would be designed to connect project from SR 33 in the east to Rogers Road to the west. It is assumed that the existing Ward Avenue/SR-33 intersection would either be closed or converted to restricted access (e.g., right-in, right-out).

Figure 6 shows the Existing plus Approved plus Project Traffic Conditions peak hour turning movement volumes and lane geometry. **Table 10** shows the LOS under Existing plus Approved plus Project Traffic Conditions.

The all-way stop control intersection of Sperry Avenue & State Route 33 (SR 33) will operate at unacceptable LOS F. The intersection of Rogers Road & SR 33 and SR 33 & Grayson Road will continue to operate at LOS F. The stop control intersections of SR 33/Marshall Road and SR 33/Crows Landing Rd/Fink Road would deteriorate to LOS F.

In addition, all the other study intersections will operate at LOS E/F during the peak hour except six intersections.

Detailed level of service worksheets is provided in **Appendix D**.

[9] *National Cooperative Highway Research Program (NCHRP) Report 255*

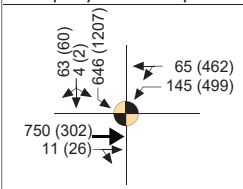
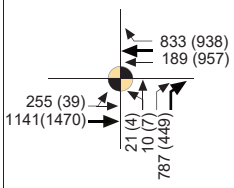
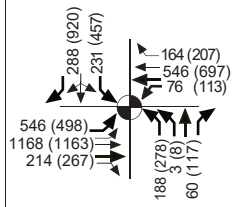
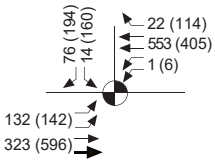
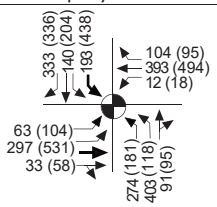
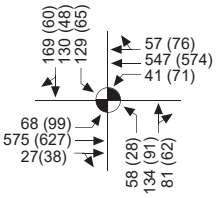
Table 10: Existing plus Approved plus Project Intersection LOS

		Existing plus Approved Plus Proposed Project					Existing plus Approved plus Project - Mitigated				
	Intersection	Existing Control	A.M.		P.M.		Mitigated Control	A.M.		P.M.	
			Delay	LOS	Delay	LOS		Delay	LOS	Delay	LOS
1	Sperry Ave/I-5 SB Off-Ramps	All-Way Stop	352	F	599	F	Signal	42.9	D	82.5	F
2	Sperry Ave/I-5 NB On-Ramps	One-Way Stop	2242	F	1431	F	Signal	40.2	D	31.2	C
3	Sperry Ave/Rogers Road	Signal	104	F	143	F	Signal	40.3	D	83.4	F
4	Sperry Ave/Park Center Dr	Signal	11	B	25	C	Signal	10.8	B	17.7	B
5	Sperry Ave/Baldwin Rd	Signal	85	F	89	F	Signal	49.5	D	36.4	D
6	Sperry Ave/American Eagle Dr	Signal	28	C	18	B	Signal	28.3	C	17.7	B
7	Sperry Ave/Ward Ave	Signal	62	E	52	D	Signal	29.9	C	28.3	C
8	Sperry Ave/S Del Puerto Ave	Signal	15	B	10	B	Signal	13.3	B	10.1	B
9	Sperry Ave/SR-33	Two-Way Stop	500	F	550	F	Signal	37.7	D	32.9	C
10	Walnut Avenue/M Street/SR-33	Signal	328	F	312	F	Signal	47.8	D	34.2	C
11	SR-33/Las Palmas Ave	Signal	73	E	45	D	Signal	35.6	D	30.3	C
12	Olive Avenue/SR-33	Two-Way Stop	85	F	220	F	Signal	51.2	D	29.4	C
13	Park Center/Keystone Pacific Prkwy	Two-Way Stop	1841	F	1952	F	Signal	32.7	C	34.8	C
14	Rogers Rd/Keystone Pacific Prkwy	Two-Way Stop	28	D	23	C	Signal	35.4	D	51.5	D
15	Rogers Rd/Zacharias Rd	Two-Way Stop	94934	F	18	C	Signal	46.7	D	54.2	D
16	Baldwin Rd/Zacharias Rd	All-Way Stop	1059	F	1011	F	Signal	32.6	C	50.8	D
17	Zacharias Rd/SR-33	Two-Way Stop	258	F	1855	F	Signal	41.7	D	54.3	D
18	Ward Ave/SR-33	One-Way Stop	-	-	-	-	-	-	-	-	-
19	SR-33/Eucalyptus Ave	One-Way Stop	4106	F	9013	F	Signal	27.6	C	18.1	B
20	Baldwin Rd/SR-33	One-Way Stop	3393	F	8404	F	Signal	34.7	C	30.6	C
21	Rogers Rd/SR-33	One-Way Stop	1567	F	3489	F	Signal	18.2	B	25.1	C
22	Sycamore Ave/Eucalyptus	Two-Way Stop	48	E	326	F	Signal	8.2	A	8.4	A
23	Elm Ave/Eucalyptus Ave	Two-Way Stop	25	D	13	B	Two-Way	24.4	C	12.8	B
24	Sycamore Ave/Las Palmas Avenue	Signal	56	E	107	F	Signal	34.5	C	39.7	D
25	Elm Ave/Las Palmas Ave	Signal	123	F	56	E	Signal	33.0	C	24.6	C
26	Jennings Rd/W Main Ave	One-Way Stop	1596	F	385	F	Signal	43.5	D	25.2	C
27	SR 33/New East-West Connection	All-Way Stop	256	F	316	F	Signal	12.4	B	16.8	B
28	Ward Ave/New East-West Connectio	All-Way Stop	233	F	335	F	Signal	17.1	B	18.8	B
29	SR 33/Grayson Rd	All-Way Stop	907	F	1234	F	Signal	37.5	D	46.1	D
30	Marshall Rd/Ward Ave	Two-Way Stop	16	C	19	C	Two-Way	15.5	C	18.6	C
31	SR 33/Marshall Rd	Two-Way Stop	105	F	1711	F	Signal	6.2	A	13.9	B
32	SR 33/Crows Landing Rd/Fink Rd	All-Way Stop	81	F	81	F	Signal	9.1	A	6.2	A

City of Patterson - Traffic Impact Study for Proposed Zacharias / Baldwin Master Plan

Existing plus Approved plus Project Peak Hour Turning Movement Volumes,Lane Geometry & Controls

Figure 6

Intersection #1 Sperry/I-5 SB Ramps	Intersection #2 Sperry/I-5 NB Ramps	Intersection #3 Sperry/Rogers	Intersection #4 Sperry/Park Center Dr.	Intersection #5 Sperry/Baldwin	Intersection #6 Sperry/American Eagle
					
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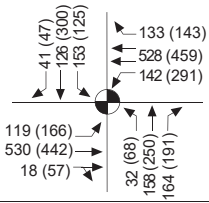	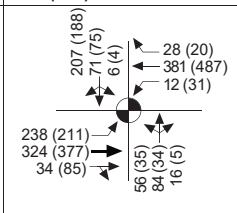	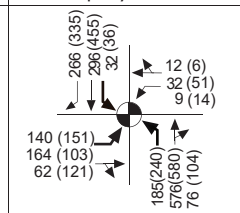	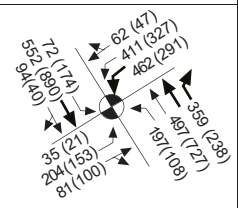	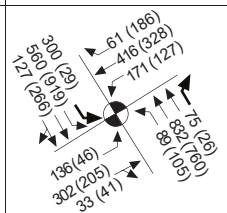	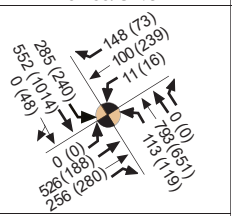
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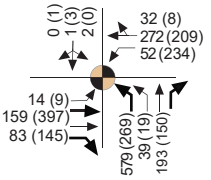	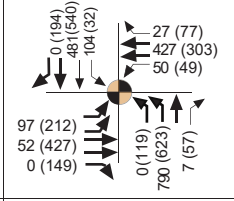	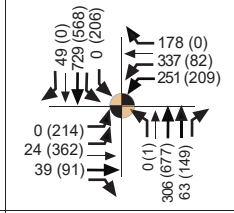	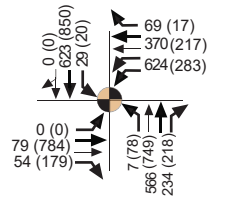	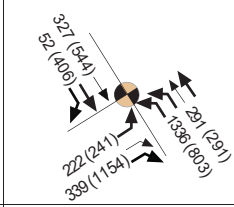	Does Not Exist
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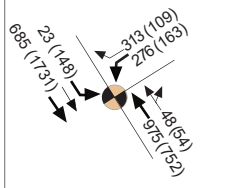
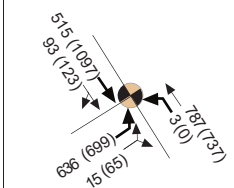
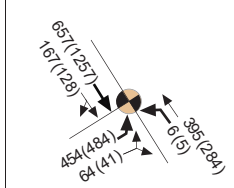
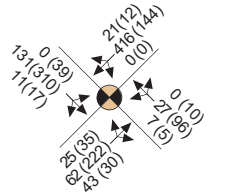
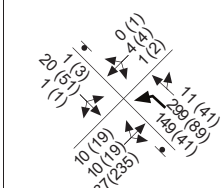
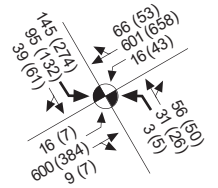
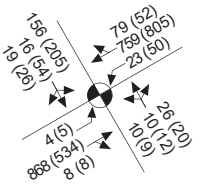
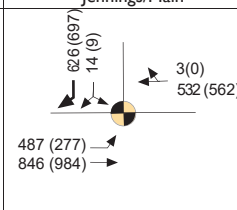
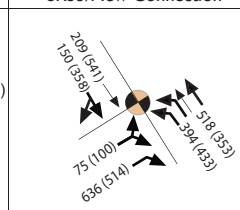
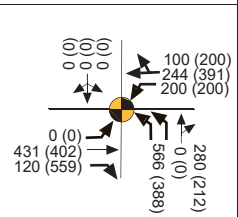
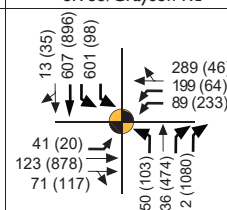
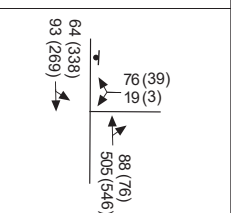
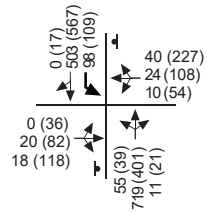
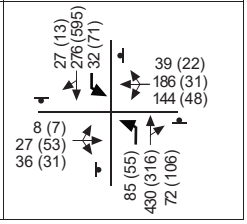
					
Intersection #25 Elm/Las Palmas	Intersection #26 Jennings/Main	Intersection #27 SR33/New Connection	Intersection #28 Ward/New Connection	Intersection #29 SR 33/Grayson Rd	Intersection #30 Ward Ave/Marshall Rd
					
Intersection #31 SR 33/Marshall Rd	Intersection #32 SR 33/Crows Landing Rd				
					

LEGEND

- Stop Sign
- Traffic Signal
- Recommended Mitigated Traffic Signal
- Recommended Mitigated Lane
- XX AM Peak Hour Volume
- (XX) PM Peak Hour Volume

IMPROVEMENTS REQUIRED

Based on the results of the projected traffic for the Existing plus Approved plus Proposed Project, intersections that require improvement measures in this scenario are described below:

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. The intersection would improve to LOS D or better after signal improvement during the AM peak hour. However, the Southbound Off-Ramp intersection will operate at unacceptable LOS F during the PM peak hour. Traffic adaptive signal operations might improve the operations to acceptable level of service.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue. The intersection would improve to LOS D or better during the AM peak hour. However, the intersection will operate at unacceptable LOS F during the PM peak hour.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road. Additional northbound left-turn lane might be required.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two left-turn lane might be required in the northbound.

10. M Street/Walnut Avenue/SR 33
Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane. Two through lanes might be required on SR 33.
Additional Mitigation Due to Proposed Project: Add one northbound through lane.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two through lanes might be required on SR 33.
Additional Mitigation Due to Proposed Project: Add one through lane on both northbound and southbound approaches.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes. No Parking might be required on the first block near the intersection.
Additional Mitigation Due to Proposed Project: Add one southbound through lane.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Zacharias Road should be widened to two lanes on each approach. Three through lanes might be required on northbound approach on Rogers Road.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.
Additional Mitigation Due to Proposed Project: Add additional westbound left-turn lane. Add right-turn lane and additional through lane on northbound and southbound Baldwin Road.

17. Zacharias Road/SR 33
Signalize intersection. Add two left-turn lanes on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in both directions.
Additional Mitigation Due to Proposed Project: Add additional eastbound left-turn lane and additional through lane on northbound approach.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes in both directions.
Additional Mitigation Due to Proposed Project: Add additional eastbound left-turn lane and additional through lane on northbound approach.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane. West Main Avenue should be widened to two lanes in both directions.

27. SR 33/New East-West Connection
Signalize intersection and add two northbound left-turn and one southbound right-turn lanes. SR 33 should be widened to two lanes in both directions.
Additional Mitigation Due to Proposed Project: Full intersection improvements is proposed project responsibility.

28. Ward Avenue/New East-West Connection
Signalize intersection and add two northbound left-turn lanes. It is recommended that the New East-West Connection roadway should consider having two lanes in both directions.
Additional Mitigation Due to Proposed Project: Full intersection improvements is proposed project responsibility.

29. SR 33/Grayson Rd
Signalize intersection.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

At buildout of the project, it is estimated that the following roadways would be widened to four lanes:

- SR 33 – from north of Baldwin Road to Sperry Avenue
- Zacharias Road – from Rogers Road to SR 33
- Baldwin Road – from north of Zacharias Road to south of new East-West Connector

The project should pay its fair share for all intersections and roadway improvements. Model plots and detailed level of service worksheets is provided in **Appendix D**.

Table 11 shows the arterial levels of service under Existing plus Approved plus Project Traffic Condition. Several arterial segments need to be widened to operate acceptably during the a.m. and p.m. peak hours. The freeway levels of service under Existing plus Approved plus Project Traffic Condition are shown in **Table 12**. It is estimated that both freeway segments would operate acceptably during the peak hour.

Table 11: Existing plus Approved plus Project Traffic Condition Roadway Segment LOS

Link ID	Roadway	Segment	Existing Plus Approved Plus Project								Existing Plus Approved Plus Project (Mitigated)							
			Northbound/Eastbound				Southbound/Westbound				Northbound/Eastbound				Southbound/Westbound			
			AM		PM		AM		PM		AM		PM		AM		PM	
			Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS
A	Sperry Ave	Rogers Rd - Park Center Dr	32.9	B	9.3	**F**	15.9	**E**	26.9	C	38.4	B	33.7	B	25.0	C	23.2	D
B	Baldwin Ave	Sperry Ave - Keystone Pacific Prkwy	31.5	B	33.4	A	18.3	D	7.4	**F**	31.5	B	33.4	A	18.3	D	16.0	D
C	Ward Ave	Barch Ave - Elfers Rd	37.5	A	36.7	A	38.6	A	36.7	A	37.5	A	36.7	A	38.6	A	36.7	A
D	W Marshall Rd	Ward Ave - SR 33	36.8	A	35.7	A	36.1	A	36.8	A	36.8	A	35.7	A	36.1	A	36.8	A
E	SR 33	South of Barch Ave	32.3	B	33.5	B	34.4	B	32.3	B	32.3	B	33.5	B	34.4	B	32.3	B
F	Las Palmas Ave	Sycamore Ave - Elm Ave	35.7	B	35.5	B	33.7	B	33.8	B	35.7	B	35.5	B	33.7	B	33.8	B
G	Las Palmas Ave	Poplar Ave - Jennings Rd	42.4	A	41.1	A	40.2	A	37.6	B	42.4	A	41.1	A	40.2	A	37.6	B
H	SR 33	Walnut Ave - Olive Ave-Ivy Ave	39.6	A	32.0	B	6.5	**F**	18.1	D	27.9	C	32.0	B	22.9	C	18.1	D
I	Eucalyptus Ave	SR 33 - Sycamore Ave	44.1	A	44.0	A	44.0	A	44.7	A	44.1	A	44.0	A	44.0	A	44.7	A
J	Baldwin Rd	Zacharias Rd - SR 33	45.0	A	45.2	A	40.5	A	38.6	B	45.0	A	45.2	A	40.5	A	38.6	B
K	Zacharias Rd	Rogers Rd - Baldwin Rd	36.5	B	40.4	A	35.1	A	36.9	B	36.5	B	40.4	A	35.1	A	36.9	B
L	Rogers Rd	Zacharias Rd - SR 33	45.6	A	40.2	A	41.4	A	8.6	**F**	45.6	A	38.4	B	41.4	A	39.3	B
M	SR 33	Zacharias Rd - Baldwin Rd	40.9	A	42.7	A	40.3	A	39.6	B	40.9	A	42.7	A	40.3	A	39.6	B
N	SR 33	Grayson Rd and Rogers Rd	41.8	A	39.4	A	40.4	A	41.2	A	44.9	A	44.7	A	44.8	A	44.4	A
O	SR 33	Crows Landing Rd/Fink/Marshall	44.4	A	45.2	A	45.6	A	44.3	A	44.4	A	45.2	A	45.6	A	44.3	A

Table 12: Existing plus Approved plus Project Freeway Segment LOS

Link ID	Freeway Segment	EPAPP						
		# Lanes	A.M.			P.M.		
			Volume (vph)	Density (pc/mi/ln)	LOS	Volume (vph)	Density (pc/mi/ln)	LOS
Y	I-5 NB (north of Sperry Ave)	2	1,764	27.9	D	1,681	26.3	D
	I-5 SB (north of Sperry Ave)	2	1,881	32.1	D	1,884	34.4	D
Z	I-5 NB (south of Sperry Ave)	2	1,808	28.9	D	1,172	19.5	C
	I-5 SB (south of Sperry Ave)	2	1,567	24.3	C	1,338	22.3	C

TRANSPORTATION DEMAND MANAGEMENT (TDM)

The City's existing population and employment are respectively 23,764 and 9,500. The proposed project is estimated to add approximately 20,000 residents and 8,700 employees. Therefore, at buildout the estimated total is approximately 44,000 residents and 18,000 employment.

The City of Patterson General Plan estimated a buildout population of approximately 66,670 residents and 32,200 employment. Therefore, it could be assumed that at project buildout both Master Plans future population and employment growth would still be within the General Plan's growth projections. The availability of employment closer to Patterson would directly translate to providing both shorter vehicle trips as well as non-auto modes of travel. In addition, it is anticipated that the future Crows Landing Business Park could be a source of employment for nearly 15,000 employees. The future business park is less than seven miles from the project site and should also contribute to shorter VMT.

VMT Reduction

The Governor's Office of Planning and Research (OPR) recommended using a mixture of trip reduction measures and transportation demand management (TDM) strategies to reduce VMT.

Projects may select strategies from "Quantifying Greenhouse Gas Mitigation Measures" report by the California Air Pollution Control Officers Association (CAPCOA), or other peer-reviewed publications as newer data becomes available, including but not limited to:

- TDM: commute trip reduction program, transit subsidies, parking cashout
- Parking Management: unbundled parking, pricing
- Transit improvements: proximity/access improvements, increased service frequency
- Active Transportation Projects: pedestrian and bicycle networks, traffic calming

The proposed project will adopt all the above strategies to aggressively promote TDM and active transportation to reduce VMT.

Transportation Demand Management is a general term for various strategies that increase transportation system efficiency. TDM treats mobility as a means to an end, rather than an end in itself, and so helps individuals and communities meet their transport needs in the most efficient way, which often reduces total vehicle traffic.

Recommended TDM strategies should encourage future property owners, developers, and employers to use creative and effective ways to reduce motor vehicle trips and their associated impacts. TDM strategies should ensure that new developments are designed to make non-single occupant vehicle (SOV) travel easier for new residents, tenants, employees, and visitors by using sustainable travel modes such as carpooling, vanpooling, carsharing, transit, walking, biking, and teleworking. TDM encourages developers, businesses, property owners, homeowners' associations, public agencies and institutions to provide information, incentives, advocacy, and specific services for enhanced transportation options.

TDM for the proposed project could establish the following goals:

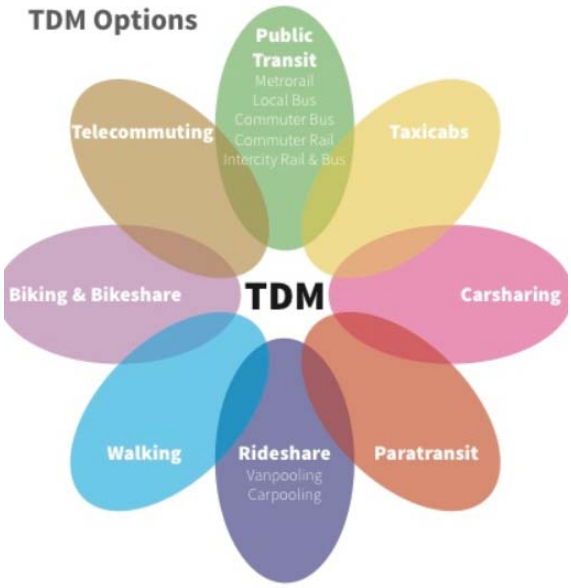
- Reduce the frequency and distance of auto trips
- Shift trips towards the use of environmentally friendly and non-motorized modes of transportation

- Partner with project developers and communities to reduce SOV trips
- Increase the accessibility and convenience of alternatives to driving-alone
- Increase awareness of all transportation choices and costs
- Encourage use of innovative programs and new technologies to reduce driving alone

There are many different TDM strategies with a variety of transportation impacts. Some improve the transportation options available to consumers. Some cause changes in trip scheduling, route, destination or mode. Others reduce the need for physical travel through more efficient land use, or transportation substitutes. TDM is an increasingly common response to transportation problems especially considering SB 743 VMT legislation. Although most individual TDM strategies only affect a small portion of total travel, the cumulative impacts of a comprehensive TDM program can be significant.

TDM programs have been around as major components of urban transportation systems since the 1970s and a significant body of knowledge has been built over this time. In practice, TDM programs range from light-duty marketing campaigns that accomplish little to robust, integrated systems that have measurable impacts on traffic volumes in specific corridors or districts.

Individual businesses can implement and support TDM strategies in their roles as employers, developers, building operators and service providers. In these roles, businesses often make decisions that affect whether TDM strategies are considered at all, how TDM solutions are evaluated and compared with alternatives, and the quality with which TDM strategies are implemented. Demand management can benefit businesses directly. For example, parking management can reduce costs and increase flexibility for employers and developers. Commute Trip Reduction strategies, such as Parking Cash Out and Guaranteed Ride Home programs, can help with employee recruitment and retentions. TDM can improve public relations by reducing congestion and pollution problems.



BEST TDM STRATEGIES

Appropriate TDM measures would be different for residential and non-residential projects. The following strategies are particularly suitable for implementation by businesses and residences which the proposed project could consider.

Alternative Work Schedules

Alternative work schedules include flextime, Compressed Work Week (CWW), and staggered shifts. They can reduce peak period commute travel and help accommodate ridesharing and transit use.

Bicycle/Pedestrian Facilities

Measures promoting the use of bicycles and walking as alternative modes of transportation will include the following key elements:

- A clearly designated pedestrian circulation network within the site that links to the City of Patterson roadway network. Currently there are Class II on-street bike lane on Baldwin Road and Ward Avenue. Class II bike lane should be provided on both streets in the project area. The existing site plan shows pedestrian routes that connect to adjacent local roadways. Clearly designated bike lanes should be provided that connects to employment centers and downtown areas.
- Secure bicycle parking in safe, strategic locations within the site.
- Safety amenities such as lighting, sidewalks, and off-street pedestrian / bicycle paths.

Guaranteed Ride Home

Guaranteed Ride Home (GRH) programs provide an occasional subsidized ride to commuters who use alternative modes, to help deal with unexpected conditions.

Transit, Shuttles, & Ridesharing

Ridesharing is being embraced by a wider group of people than ever before. This provide much opportunity to reduce SOV and promote TDM. The emerging choices of transportation management options, as well as major industry players like Uber, Via, Sidecar and Lyft, reflect a cultural trend that's defining contemporary times: the desire for choice. The following should be actively promoted.

- Carpool or vanpool program
- Commute assistance and ride-matching
- Shuttle program / shuttle consortium / fund transit service
- Transit passes or subsidies
- Car share on-site
- Self-Driving shuttle

Self-driving shuttle (eg. Ollie or Easy Mile) between residential and employment centers are currently being considered or used in many cities. This might be a feasible strategy in trip reduction if it is implemented between large employment centers and new homes in the future Zacharias/Baldwin Master Plan. For example, self-driving shuttle could be designed for a fix route to travel between residents of the future Master Plan and employment centers at Arambel Business Park (less than 2 miles distance) or the future Crows Landing Business Park (less than 7 miles distance). Fixed route could be designed along Zacharias Road and SR 33 between the two destinations. The safety of self-driving vehicle is accelerating at a very quick pace and by the time this project breaks ground it is likely self-driving shuttle is a common phenomenon in many locations in California. The cost associated would also be more affordable by that time. These types of alternative modes of transportation could contribute to major reduction in VMT.

Transportation Management Associations

Businesses can help create Transportation Management Associations (TMAs), which are member-controlled, organizations that provide transportation services in a particular area. Depending on the circumstances, some TMAs have been proven to be critical for the long-term success of a TDM program.

- TDM Coordinator / Contact Person
- Actively participate in a Transportation Management Association
- Developer TDM Fee/ TDM Fund

Telework

Telework involves the use of telecommunications to substitute for physical travel, including telecommuting, teleshopping, distance-learning, electronic government, video conferencing, and Internet-based business-to-business activities.

IMPLEMENTATION

One of the keys to successful TDM programs is understanding how to manage the scale of TDM programs and how to work within a complex urban environment with multiple agencies and organizations interacting, sometimes with competing goals.

Different TDM measures are appropriate for implementation by different entities at different scales. There is little a single employer can do to improve regional public transit service, for example. Regional transit agencies with regional tax bases provide transit service and they typically participate in ancillary programs designed to promote transit patronage, including setting up pass programs. Cities within those transit regions may be represented on the transit board and can influence transit decision making. In some cases, cities may operate local circulators and shuttles as adjuncts to the regional transit system. Groups of employers, operating through a TMA can implement an employee transit pass program, sharing costs and creating an efficient marketing effort with an information clearinghouse.

They can work with the transit agency and city to obtain better service or improved transit stops near their worksites, or to run a local circulator. In many cases, Caltrans or StanCOG may have funds available to help start up TMAs and to support their efforts. In fact, many metropolitan areas have a regional commute trip reduction program designed to provide services and resources to TMAs.

The TDM Program will include a marketing program to make future employees aware of the available commute options and services provided by local transit agencies and each employer, and to encourage employees to use commute alternatives. The marketing and promotion effort will include distribution of information on available commute services, assistance with commute planning, and other services that make the use of commute alternatives more convenient.

The provision of a transportation network that facilitates bicycle and walking modes will also influence an employee's decision to use a commute mode alternative to the automobile. The project site plan should incorporate specifications for sidewalks that will enhance the pedestrian environment.

The proposed project recommended TMA to implement and monitor the progress. To ensure that TDM measures are well coordinated, a part time staff should be provided for the TMA initially and gradually become a half-time when a quarter of the non-residential land use have been developed.

9.0 2040 CUMULATIVE NO PROJECT TRAFFIC CONDITION

To preserve the enhanced validation results in the Patterson area in the TIMP Model while maintaining consistency with the StanCOG 2014 Regional Transportation Plan/Sustainable Committee Strategy (RTP/SCS) forecasts for the rest of the region, a FRATAR adjustment was applied to the TIMP Model 2035 trip tables using TIMP Model 2035 tripends as targets for Patterson zones, and StanCOG Model 2035 tripends as targets for the other zones. Thus, the 2035 TIMP Model trip tables are consistent with StanCOG 2014 RTP/SCS projections.

Interstate 5 Mainline Traffic Growth
The Interstate 5 traffic forecasts in the project area used an annual growth rate of approximately 1.5% for the design projections to account for additional local trips due to modified land uses in the amended City of Patterson General Plan.

The NCHRP 255 Difference Method was applied to calculate the travel demand forecasts for the existing conditions (2019) and the future cumulative conditions (2040). Average annual growth by inbound direction at study intersections and by direction at study segments were first calculated based on 2012 and 2035 TIMP Model forecasts. The total growth from the existing conditions (2019) to the future cumulative conditions (2040) were then added to the observed counts to obtain the forecasts for the future cumulative conditions (2040). As appropriate, volumes were adjusted at several intersections to more reasonably reflect planned future driveways and traffic distributions.

INTERSECTION LEVEL OF SERVICE ANALYSIS

This section presents the assessment of potential transportation impacts of 2040 Cumulative No Project Traffic Conditions. **Figure 7** shows the 2040 Cumulative No Project Traffic Conditions peak hour turning movement volumes and lane geometry.

Table 13 shows the LOS under 2040 Cumulative No Project Traffic Conditions. It is assumed that proposed improvements Sperry Avenue and I-5 Interchange would be implemented including signalization and widening to four lanes. The intersection would improve to LOS D or better after signal improvement. In addition, it is assumed that the level of intersections and roadway improvements under the Existing plus Approved Projects scenario would be available under this future cumulative base scenario.

Model plots and detailed level of service worksheets is provided in **Appendix E**.

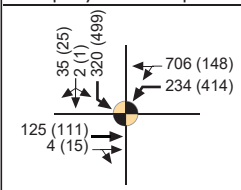
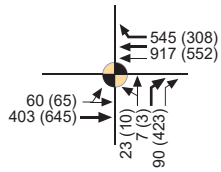
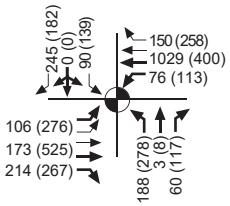
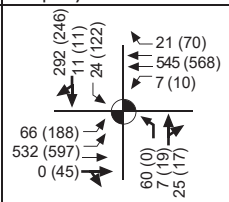
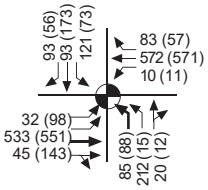
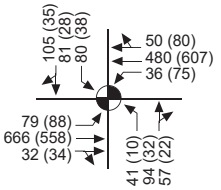
Table 13: 2040 Cumulative No Project Traffic Conditions Intersection LOS

			2040NP				2040NP - Mitigated				
	Intersection	Future Control	A.M.		P.M.		Mitigated	A.M.		P.M.	
			Delay	LOS	Delay	LOS	Control	Delay	LOS	Delay	LOS
1	Sperry Ave/I-5 SB Off-Ramps	All-Way Stop	271	F	154	F	Signal	41	D	19	B
2	Sperry Ave/I-5 NB On-Ramps	One-Way Stop	42	E	159	F	Signal	11	B	13	B
3	Sperry Ave/Rogers Road	Signal	103	F	48	D	Signal	26	C	27	C
4	Sperry Ave/Park Center Dr	Signal	18	B	20	B	Signal	16	B	16	B
5	Sperry Ave/Baldwin Rd	Signal	25	C	27	C	Signal	24	C	21	C
6	Sperry Ave/American Eagle Dr	Signal	17	B	14	B	Signal	17	B	14	B
7	Sperry Ave/Ward Ave	Signal	30	C	35	C	Signal	18	B	23	C
8	Sperry Ave/S Del Puerto Ave	Signal	7	A	8	A	Signal	7	A	8	A
9	Sperry Ave/SR-33	Two-Way Stop	1906	F	1761	F	Signal	30	C	32	C
10	Walnut Avenue/M Street/SR-33	Signal	45	D	29	C	Signal	21	C	18	B
11	SR-33/Las Palmas Ave	Signal	24	C	20	B	Signal	19	B	19	B
12	Olive Avenue/SR-33	Two-Way Stop	354	F	149	F	Signal	12	B	11	B
13	Park Center/Keystone Pacific Prkwy	Two-Way Stop	10	A	11	B	Signal	10	B	11	B
14	Rogers Rd/Keystone Pacific Prkwy	Two-Way Stop	15	C	23	C	Signal	13	B	10	A
15	Rogers Rd/Zacharias Rd	Two-Way Stop	18	C	52	F	Signal	15	B	16	B
16	Baldwin Rd/Zacharias Rd	All-Way Stop	12	B	11	B	Signal	10	B	20	B
17	Zacharias Rd/SR-33	Two-Way Stop	18	C	77	F	Signal	8	A	11	B
18	Ward Ave/SR-33	One-Way Stop	117	F	111	F	Signal	10	A	8	A
19	SR-33/Eucalyptus Ave	One-Way Stop	60	F	44	E	Signal	10	A	7	A
20	Baldwin Rd/SR-33	One-Way Stop	738	F	25	D	Signal	8	A	4	A
21	Rogers Rd/SR-33	One-Way Stop	23	C	132	F	Signal	13	B	9	A
22	Sycamore Ave/Eucalyptus	Two-Way Stop	10	B	38	E	Signal	6	A	8	A
23	Elm Ave/Eucalyptus Ave	Two-Way Stop	29	D	13	B	Two-Way	14	B	13	B
24	Sycamore Ave/Las Palmas Avenue	Signal	12	B	16	B	Signal	36	D	23	C
25	Elm Ave/Las Palmas Ave	Signal	123	F	14	B	Signal	12	B	15	B
26	Jennings Rd/W Main Ave	One-Way Stop	24	C	53	F	Signal	13	B	10	A
27	SR 33/New East-West Connection	-	-	-	-	-	-	-	-	-	-
28	Ward Ave/New East-West Connection	-	-	-	-	-	-	-	-	-	-
29	SR 33/Grayson Rd	All-Way Stop	528	F	393	F	Signal	39	D	22	C
30	Marshall Rd/Ward Ave	Two-Way Stop	14	B	10	A	Two-Way	14	B	10	A
31	SR 33/Marshall Rd	Two-Way Stop	72	F	453	F	Signal	7	A	15	B
32	SR 33/Crows Landing Rd/Fink Rd	All-Way Stop	346	F	274	F	Signal	19	B	21	C

City of Patterson - Traffic Impact Study for Proposed Zacharias / Baldwin Master Plan

2040 Cumulative No Project Project Peak Hour Turning Movement Volumes, Lane Geometry & Controls

Figure 7

Intersection #1 Sperry/I-5 SB Ramps	Intersection #2 Sperry/I-5 NB Ramps	Intersection #3 Sperry/Rogers	Intersection #4 Sperry/Park Center Dr.	Intersection #5 Sperry/Baldwin	Intersection #6 Sperry/American Eagle
					
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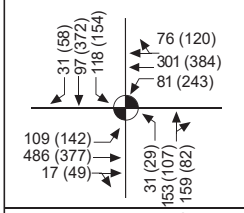	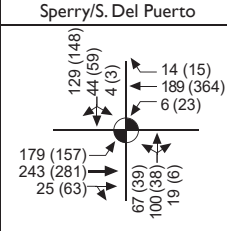	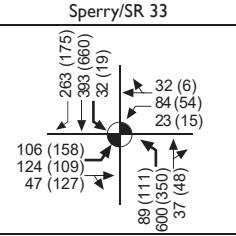	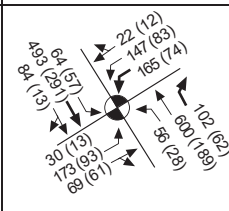	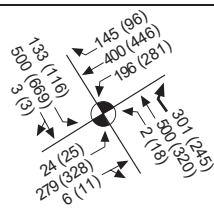	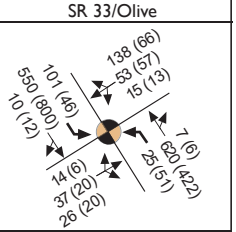
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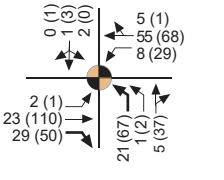	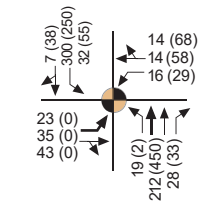	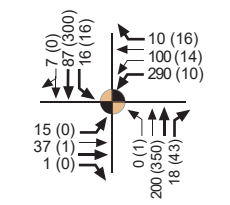	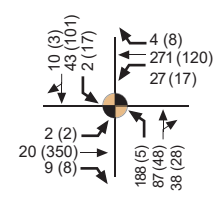	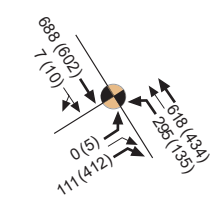	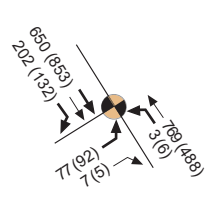
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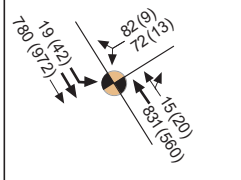	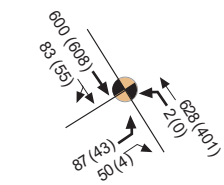	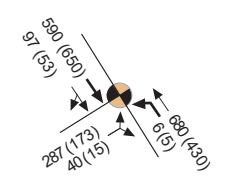		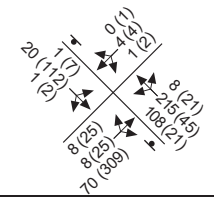	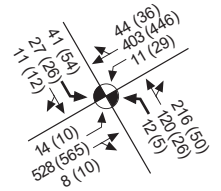
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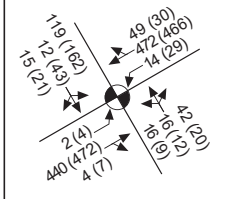
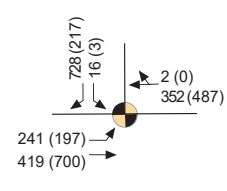
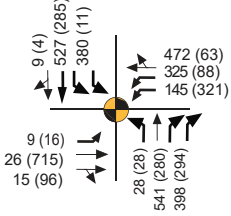
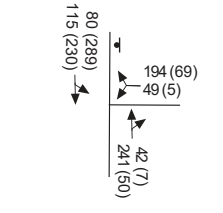
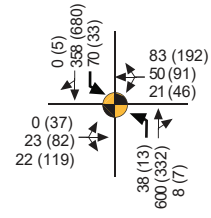
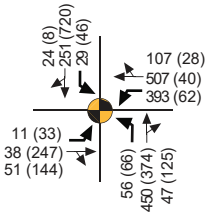
					

LEGEND

- Stop Sign
- Traffic Signal
- Recommended Mitigated Traffic Signal
- Recommended Mitigated Lane
- XX AM Peak Hour Volume
- (XX) PM Peak Hour Volume

Note: Int #27 & 28 do not exist under no project conditions.

IMPROVEMENTS REQUIRED

Based on the results of the projected traffic for the 2040 Cumulative No Project, intersections that require improvement measures in this scenario are described below:

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. The intersection would improve to LOS D or better.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

10. M Street/Walnut Avenue/SR 33
Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes. No Parking might be required on the first block near the intersection.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Rogers Road and Zacharias Road should be widened to two lanes on each approach.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add a left-turn lane on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

18. Ward Avenue/SR 33
Signalize intersection and add left-turn lane on northbound and eastbound approaches. SR 33 should be widened to two lanes on each approach.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in southbound approach.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes on southbound approach.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane.

29. SR 33/Grayson Rd
Signalize intersection.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

Table 14 shows the arterial levels of service under 2040 Cumulative No Project. Several arterial segments need to be widened to operate acceptably during the a.m. and p.m. peak hours. The freeway levels of service under 2040 Cumulative No Project Traffic Conditions are shown in **Table 15**. It is estimated that freeway segment north of Sperry Avenue would operate unacceptably during the PM peak hour.

Table 14: 2040 Cumulative No Project Traffic Condition Roadway Segment LOS

Link ID	Roadway	Segment	2040NP								2040NP (Mitigated)							
			Northbound/Eastbound				Southbound/Westbound				Northbound/Eastbound				Southbound/Westbound			
			AM		PM		AM		PM		AM		PM		AM		PM	
			Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS
A	Sperry Ave	Rogers Rd - Park Center Dr	34.2	B	33.5	B	20.4	D	23.6	C	34.2	B	33.5	B	20.4	D	23.6	C
B	Baldwin Ave	Sperry Ave - Keystone Pacific Prkwy	32.0	B	32.5	A	17.7	D	14.8	**E**	32.0	B	32.5	A	17.7	D	15.3	D
C	Ward Ave	Barch Ave - Elfers Rd	36.4	A	38.3	A	38.6	A	36.1	A	36.4	A	38.3	A	38.6	A	36.1	A
D	W Marshall Rd	Ward Ave - SR 33	36.7	A	35.8	A	35.8	A	36.6	A	36.7	A	35.8	A	35.8	A	36.6	A
E	SR 33	South of Barch Ave	32.3	B	33.8	B	33.0	B	32.2	B	32.3	B	33.8	B	33.0	B	32.2	B
F	Las Palmas Ave	Sycamore Ave - Elm Ave	34.5	B	36.7	B	32.9	B	38.2	B	34.5	B	36.7	B	32.9	B	38.2	B
G	Las Palmas Ave	Poplar Ave - Jennings Rd	42.0	A	41.6	A	40.7	A	40.4	A	42.0	A	41.6	A	40.7	A	40.4	A
H	SR 33	Walnut Ave - Olive Ave-Ivy Ave	24.2	C	35.7	B	23.1	C	28.4	C	24.2	C	35.7	B	23.1	C	28.4	C
I	Eucalyptus Ave	SR 33 - Sycamore Ave	44.3	A	44.1	A	44.5	A	44.8	A	44.3	A	44.1	A	44.5	A	44.8	A
J	Baldwin Rd	Zacharias Rd - SR 33	45.8	A	45.9	A	43.5	A	43.5	A	45.8	A	45.9	A	43.5	A	43.5	A
K	Zacharias Rd	Rogers Rd - Baldwin Rd	41.0	A	41.6	A	41.1	A	41.3	A	41.0	A	41.6	A	41.1	A	41.3	A
L	Rogers Rd	Zacharias Rd - SR 33	42.9	A	43.0	A	41.8	A	43.1	A	42.9	A	43.0	A	41.8	A	43.1	A
M	SR 33	Zacharias Rd - Baldwin Rd	40.7	A	40.8	A	40.7	A	40.4	A	40.7	A	40.8	A	40.7	A	40.4	A
N	SR 33	Grayson Rd and Rogers Rd	43.48	A	44.13	A	43.56	A	43.52	A	43.48	A	44.13	A	43.56	A	43.52	A
O	SR 33	Crows Landing Rd/Fink/Marshall	44.67	A	45.65	A	45.32	A	44.47	A	44.67	A	45.65	A	45.32	A	44.47	A

Table 15: 2040 Cumulative No Project Freeway Segment LOS

Link ID	Freeway Segment	2040NP						
		# Lanes	A.M.			P.M.		
			Volume (vph) [A]	Density (pc/mi/ln)	LOS	Volume (vph)	Density (pc/mi/ln)	LOS
Y	I-5 NB (north of Sperry Ave)	2	2,011	33.7	D	1,545	23.9	C
	I-5 SB (north of Sperry Ave)	2	1,806	30.5	D	1,925	35.2	E
Z	I-5 NB (south of Sperry Ave)	2	1,948	32.1	D	1,437	24.0	C
	I-5 SB (south of Sperry Ave)	2	1,547	23.9	C	1,902	32.6	D

10.0 2040 CUMULATIVE PLUS PROJECT TRAFFIC CONDITION

This section presents the assessment of potential transportation impacts of the proposed Project under 2040 Cumulative plus Project would be analyzed.

The proposed project includes a northern and a southern site. To more accurately represent traffic access in the model, 11 Traffic Analysis Zones (TAZs) were created to represent the northern site and one TAZ in the southern site.

INTERSECTION LEVEL OF SERVICE ANALYSIS

This section presents the assessment of potential transportation impacts of the 2040 Cumulative plus Project. **Figure 8** shows 2040 Cumulative plus Project Peak Hour Turning Movements and lane geometry.

Table 16 shows the LOS under 2040 Cumulative plus Project Peak Hour Turning Movements. It is assumed that proposed improvements Sperry Avenue and I-5 Interchange would be implemented including signalization and widening to four lanes. The intersection would improve to LOS D or better after signal improvement.

In addition, it is assumed that the level of intersections and roadway improvements under the Existing plus Approved Projects scenario would be available under this future cumulative base scenario.

Model plots and detailed level of service worksheets is provided in **Appendix F**.

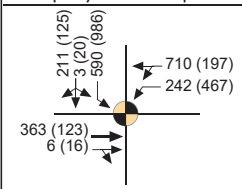
Table 16: 2040 Cumulative plus Project Intersection LOS

		2040PP (No Zach IC)					2040PP (No Zach IC) - Mitigated				
	Intersection	Future Control	A.M.		P.M.		Mitigated	A.M.		P.M.	
			Delay	LOS	Delay	LOS	Control	Delay	LOS	Delay	LOS
1	Sperry Ave/I-5 SB Off-Ramps	All-Way	353	F	407	F	Signal	51	D	43	D
2	Sperry Ave/I-5 NB On-Ramps	One-Way	28	D	306	F	Signal	41	D	16	B
3	Sperry Ave/Rogers Road	Signal	170	F	133	F	Signal	43	D	53	D
4	Sperry Ave/Park Center Dr	Signal	22	C	82	F	Signal	20	C	31	C
5	Sperry Ave/Baldwin Rd	Signal	84	F	175	F	Signal	42	D	34	C
6	Sperry Ave/American Eagle Dr	Signal	21	C	21	C	Signal	21	C	21	C
7	Sperry Ave/Ward Ave	Signal	44	D	65	E	Signal	22	C	45	D
8	Sperry Ave/S Del Puerto Ave	Signal	11	B	9	A	Signal	11	B	9	A
9	Sperry Ave/SR-33	Two-Way	29	D	21	C	Signal	29	C	37	D
10	Walnut Avenue/M Street/SR-33	Signal	306	F	213	F	Signal	41	D	18	B
11	SR-33/Las Palmas Ave	Signal	54	D	43	D	Signal	43	D	40	D
12	Olive Avenue/SR-33	Two-Way	62	F	46	E	Signal	45	D	32	C
13	Park Center/Keystone Pacific Prkwy	Two-Way	17	C	210	F	Signal	12	B	17	B
14	Rogers Rd/Keystone Pacific Prkwy	Two-Way	14	B	21	C	Signal	21	C	20	C
15	Rogers Rd/Zacharias Rd	Two-Way	51*	F	14	B	Signal	18	B	31	C
16	Baldwin Rd/Zacharias Rd	All-Way	612	F	859	F	Signal	30	C	55	D
17	Zacharias Rd/SR-33	Two-Way	461	F	680	F	Signal	27	C	46	D
18	Ward Ave/SR-33	One-Way	-	-	-	-	Signal	-	-	-	-
19	SR-33/Eucalyptus Ave	One-Way	51*	F	539	F	Signal	18	B	20	B
20	Baldwin Rd/SR-33	One-Way	3262	F	3301	F	Signal	16	B	13	B
21	Rogers Rd/SR-33	One-Way	51*	F	5399	F	Signal	22	C	13	B
22	Sycamore Ave/Eucalyptus	Two-Way	501	F	9	A	Signal	11	B	27	C
23	Elm Ave/Eucalyptus Ave	Two-Way	332	F	26	D	Signal	8	A	9	A
24	Sycamore Ave/Las Palmas Avenue	Signal	43	D	25	C	Signal	53	D	26	C
25	Elm Ave/Las Palmas Ave	Signal	20	C	22	C	Signal	20	C	22	C
26	Jennings Rd/W Main Ave	One-Way	457	F	106	F	Signal	18	B	13	B
27	SR 33/New East-West Connection	All-Way	782	F	752	F	Signal	31	C	34	C
28	Ward Ave/New East-West Connection	All-Way	261	F	401	F	Signal	13	B	17	B
29	SR 33/Grayson Rd	All-Way	390	F	1090	F	Signal	40	D	52	D
30	Marshall Rd/Ward Ave	Two-Way	53	F	16	C	All-Way	17	C	15	C
31	SR 33/Marshall Rd	Two-Way	15	B	12	B	Signal	10	B	18	B
32	SR 33/Crows Landing Rd/Fink Rd	All-Way	768	F	811	F	Signal	29	C	21	C

Legend:

"*" *Computational Error due to high traffic demands, delay cannot be calculated ,*

Intersection #1
Sperry/I-5 SB Ramps



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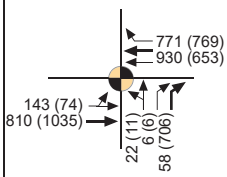
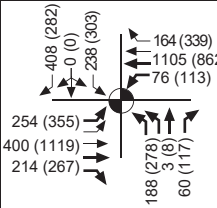
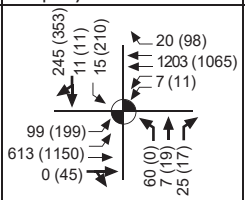
Sperry/I-5 NB Ramps



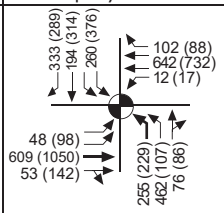
Intersection #3
Sperry/Rogers



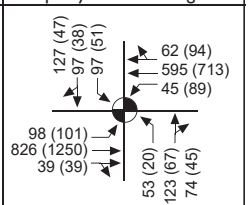
Intersection #4
Sperry/Park Center Dr.



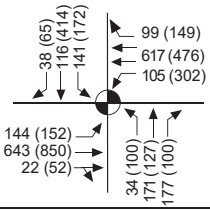
Intersection #5
Sperry/Baldwin



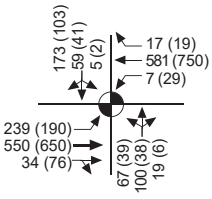
Intersection #6
Sperry/American Eagle



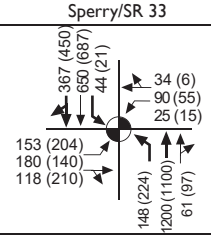
Intersection #7
Sperry/Ward



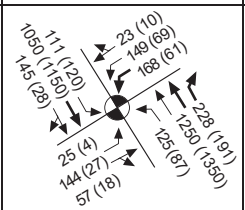
Intersection #8
Sperry/S. Del Puerto



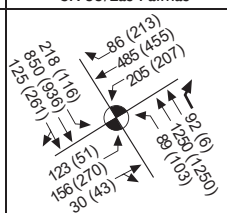
Intersection #9
Sperry/SR 33



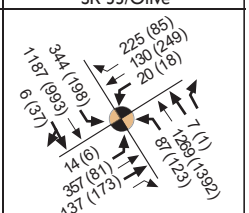
Intersection #10
Walnut/M St./SR 33



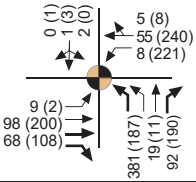
Intersection #11
SR 33/Las Palmas



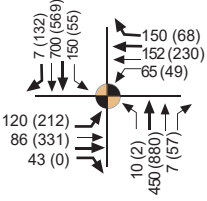
Intersection #12
SR 33/Olive



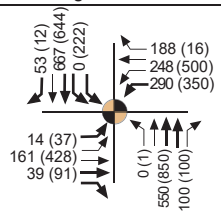
Intersection #13
Park Center/Keystone Pacific



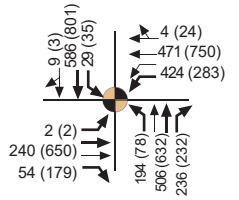
Intersection #14
Rogers/Keystone Pacific



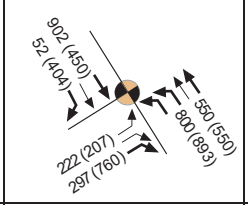
Intersection #15
Rogers/Zacharias



Intersection #16
Baldwin/Zacharias



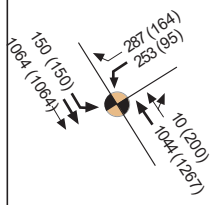
Intersection #17
Zacharias/SR 33



Intersection #18
SR 33/Ward

Does Not Exist Under Cumulative Plus Project Conditions

Intersection #19
SR 33/Eucalyptus



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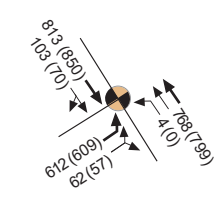
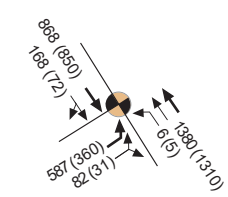
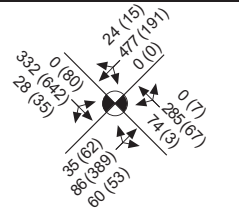
Baldwin/SR 33



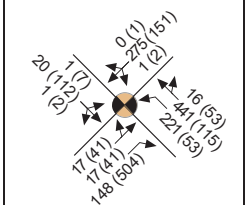
Intersection #21
Rogers/SR 33



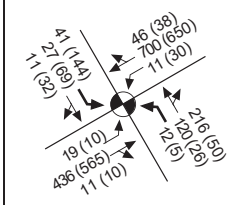
Intersection #22
Sycamore/Eucalyptus



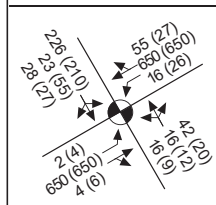
Intersection #23
Elm/Eucalyptus



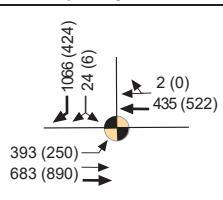
Intersection #24
Sycamore/E. Las Palmas



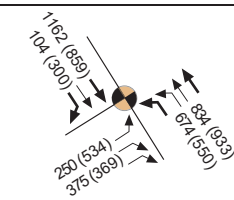
Intersection #25
Elm/Las Palmas



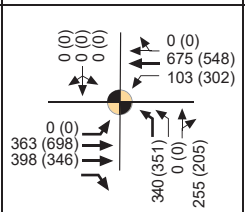
Intersection #26
Jennings/Main



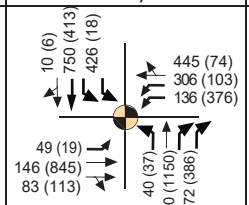
Intersection #27
SR33/New Connection



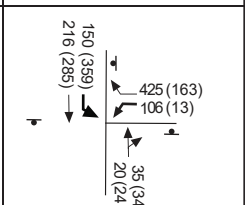
Intersection #28
Ward/New Connection



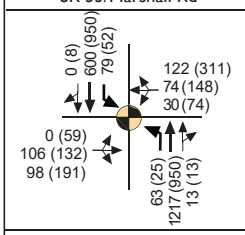
Intersection #29
SR 33/Grayson Rd



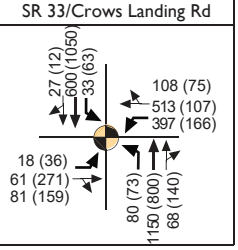
Intersection #30
Ward Ave/Marshall Rd



Intersection #31
SR 33/Marshall Rd



Intersection #32
SR 33/Crows Landing Rd



LEGEND

- Stop Sign
- Traffic Signal
- Recommended Mitigated Traffic Signal
- Recommended Mitigated Lane
- XX AM Peak Hour Volume
- (XX) PM Peak Hour Volume

IMPROVEMENTS REQUIRED

Based on the results of the projected traffic for the 2040 Cumulative plus Project Traffic Conditions, intersections that require improvement measures in this scenario are described below:

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. Both intersections are expected to operate at acceptable LOS D or better.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road. Additional northbound left-turn lane might be required.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two left-turn lane might be required in the northbound.

10. M Street/Walnut Avenue/SR 33
Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane. Two through lanes might be required on SR 33.

Additional Mitigation Due to Proposed Project: Add one northbound through lane.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two through lanes might be required on SR 33.

Additional Mitigation Due to Proposed Project: Add one through lane on both northbound and southbound approaches.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific

Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes. No Parking might be required on the first block near the intersection.

Additional Mitigation Due to Proposed Project: Add one southbound through lane.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Zacharias Road should be widened to two lanes on each approach. Three through lanes might be required on northbound approach on Rogers Road.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.

Additional Mitigation Due to Proposed Project: Add additional westbound left-turn lane. Add right-turn lane and additional through lane on northbound and southbound Baldwin Road.

17. Zacharias Road/SR 33
Signalize intersection. Add two left-turn lanes on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in both directions.

Additional Mitigation Due to Proposed Project: Add additional eastbound left-turn lane and additional through lane on northbound approach.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes in both directions.

Additional Mitigation Due to Proposed Project: Add additional eastbound left-turn lane and additional through lane on northbound approach.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane. West Main Avenue should be widened to two lanes in both directions.

27. SR 33/New East-West Connection
Signalize intersection and add two northbound left-turn and one southbound right-turn lanes. SR 33 should be widened to two lanes in both directions.

Additional Mitigation Due to Proposed Project: Full intersection improvements is proposed project responsibility.

28. Ward Avenue/New East-West Connection
Signalize intersection and add two northbound left-turn lanes. It is recommended that the New East-West Connection roadway should consider having two lanes in both directions.

Additional Mitigation Due to Proposed Project: Full intersection improvements is proposed project responsibility.

29. SR 33/Grayson Rd
Signalize intersection.

30. Marshall Rd/Ward Ave
Convert to All-Way Stop control.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

The project should pay its fair share for all intersections and roadway improvements.

Table 17 shows the arterial levels of service under 2040 Cumulative plus Project Traffic Condition. Several arterial segments need to be widened to operate acceptably during the a.m. and p.m. peak hours. The freeway levels of service under 2040 Cumulative plus Project Traffic Conditions are shown in **Table 18**. It is estimated that both freeway segments would operate unacceptably during the peak hour.

Table 17: 2040 Cumulative plus Project Traffic Condition Roadway Segment LOS

Link ID	Roadway	Segment	2040PP								2040PP (Mitigated)							
			Northbound/Eastbound				Southbound/Westbound				Northbound/Eastbound				Southbound/Westbound			
			AM		PM		AM		PM		AM		PM		AM		PM	
			Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS
A	Sperry Ave	Rogers Rd - Park Center Dr	34.4	B	31.8	B	21.1	D	17.6	**E**	34.4	B	35.0	B	21.1	D	25.0	C
B	Baldwin Ave	Sperry Ave - Keystone Pacific Prkwy	31.9	B	32.0	B	19.1	C	10.2	**F**	31.9	B	32.4	A	19.1	C	16.4	D
C	Ward Ave	Barch Ave - Elfers Rd	36.4	A	37.1	A	38.1	A	36.2	A	36.4	A	37.1	A	38.1	A	36.2	A
D	W Marshall Rd	Ward Ave - SR 33	36.7	A	35.1	B	34.3	B	36.3	A	36.7	A	35.1	B	34.3	B	36.3	A
E	SR 33	South of Barch Ave	31.6	B	33.3	B	33.6	B	31.9	B	31.6	B	33.3	B	33.6	B	31.9	B
F	Las Palmas Ave	Sycamore Ave - Elm Ave	31.4	B	28.1	C	33.6	B	36.6	B	31.4	B	28.1	C	33.6	B	36.6	B
G	Las Palmas Ave	Poplar Ave - Jennings Rd	41.3	A	41.5	A	38.1	B	36.6	B	41.3	A	41.5	A	38.1	B	36.6	B
H	SR 33	Walnut Ave - Olive Ave-Ivy Ave	35.0	B	33.8	B	23.2	C	25.5	C	35.0	B	33.8	B	23.2	C	25.5	C
I	Eucalyptus Ave	SR 33 - Sycamore Ave	42.6	A	43.7	A	43.5	A	44.2	A	42.6	A	43.7	A	43.5	A	44.2	A
J	Baldwin Rd	Zacharias Rd - SR 33	44.8	A	44.7	A	43.8	A	41.9	A	44.8	A	44.7	A	43.8	A	41.9	A
K	Zacharias Rd	Rogers Rd - Baldwin Rd	34.0	B	36.1	B	38.4	A	38.0	B	34.0	B	36.1	B	38.4	A	38.0	B
L	Rogers Rd	Zacharias Rd - SR 33	42.9	A	42.7	A	22.8	A	40.0	A	42.9	A	42.7	A	22.8	A	40.0	A
M	SR 33	Zacharias Rd - Baldwin Rd	41.3	A	42.0	A	40.6	A	39.5	B	41.3	A	42.0	A	40.6	A	39.5	B
N	SR 33	Grayson Rd and Rogers Rd	40.9	A	42.6	A	41.3	A	41.2	A	40.9	A	42.6	A	41.3	A	41.2	A
O	SR 33	Crows Landing Rd/Fink/Marshall	44.24	A	45.25	A	45.2	A	43.55	A	44.24	A	45.25	A	45.2	A	43.55	A

Table 18: 2040 Cumulative plus Project Freeway Segment LOS

Link ID	Freeway Segment	2040PP						
		# Lanes	A.M.			P.M.		
			Volume (vph) [A]	Density (pc/mi/ln)	LOS	Volume (vph)	Density (pc/mi/ln)	LOS
Y	I-5 NB (north of Sperry Ave)	2	2,142	37.5	E	1,661	25.9	C
	I-5 SB (north of Sperry Ave)	2	1,921	33.0	D	2,149	41.3	E
Z	I-5 NB (south of Sperry Ave)	2	2,149	37.7	E	1,556	25.9	C
	I-5 SB (south of Sperry Ave)	2	1,565	24.2	C	2,015	35.4	E

11.0 2040 CUMULATIVE PLUS PROJECT (NEW ZACHARIAS INTERCHANGE) TRAFFIC CONDITION

This section presents the assessment of potential transportation impacts of the proposed Project under 2040 Cumulative plus Project assuming a new interchange at I-5/Zacharias Road. The new interchange at I-5/Zacharias was coded as a diamond interchange. Zacharias Road was assumed to be a 4-lane arterial similar to Sperry Avenue.

The Stanislaus Council of Governments is studying the development of a South County Corridor between Interstate 5 near Patterson and SR-99 in Turlock. A Feasibility Study was released in 2016[10] that considered alignment options and recommended that three of the alternatives be carried forward for further review. Two of those alternatives contemplate an I-5/South County Corridor interchange northwest of the Master Plan area, with the alignment following Zacharias Road to SR-33, where a grade separated interchange would be constructed.

The Master Plan's circulation plan accommodates these two alignments of the future South County Corridor and limits the number of connections along Zacharias Road[11]. If the South County Corridor is not developed along Zacharias Road, this roadway would still be improved to arterial standards.

It is projected that the new interchange would attract approximately 1,500 vph during the peak hour. This will provide much relief from traffic congestions along Sperry Avenue and other major roadways in the City.

INTERSECTION LEVEL OF SERVICE ANALYSIS

This section presents the assessment of potential transportation impacts of the 2040 Cumulative plus Project with proposed Zacharias Road Interchange at I-5. **Figure 9** shows 2040 Cumulative plus Project (proposed Zacharias Road Interchange at I-5) Peak Hour Turning Movements and lane geometry.

Table 19 shows the LOS under 2040 Cumulative plus Project Peak Hour Turning Movements. It is assumed that proposed improvements Sperry Avenue and I-5 Interchange would be implemented including signalization and widening to four lanes. The intersection would improve to LOS D or better after signal improvement. Model plots and detailed level of service worksheets is provided in **Appendix G**.

[10] *Final South County Corridor Feasibility Study, May 2016*

11 The other proposed alignment of the South County Corridor would connect to I-5 at Fink Road near Crows Landing, bypassing Patterson. Thus, this alignment would not have any implications of the Master Plan's circulation plan.

Table 19: 2040 Cumulative plus Project Intersection LOS (with new Zacharias Road Interchange at I-5)

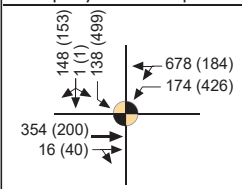
		2040PP (With Zach IC)					2040PP (With Zach IC) - Mitigated				
	Intersection	Future Control	A.M.		P.M.		Mitigated Control	A.M.		P.M.	
			Delay	LOS	Delay	LOS		Delay	LOS	Delay	LOS
1	Sperry Ave/I-5 SB Off-Ramps	All-Way	170	F	145	F	Signal	29	C	20	B
2	Sperry Ave/I-5 NB On-Ramps	One-Way	591	F	377	F	Signal	11	B	12	B
3	Sperry Ave/Rogers Road	Signal	51	D	55	D	Signal	26	C	32	C
4	Sperry Ave/Park Center Dr	Signal	15	B	22	C	Signal	13	B	17	B
5	Sperry Ave/Baldwin Rd	Signal	39	D	50	D	Signal	30	C	26	C
6	Sperry Ave/American Eagle Dr	Signal	18	B	14	B	Signal	18	B	14	B
7	Sperry Ave/Ward Ave	Signal	31	C	42	D	Signal	21	C	25	C
8	Sperry Ave/S Del Puerto Ave	Signal	9	A	8	A	Signal	9	A	8	A
9	Sperry Ave/SR-33	Two-Way	3777	F	1424	F	Signal	33	C	37	D
10	Walnut Avenue/M Street/SR-33	Signal	61	E	48	D	Signal	23	C	16	B
11	SR-33/Las Palmas Ave	Signal	23	C	23	C	Signal	21	C	21	C
12	Olive Avenue/SR-33	Two-Way	26	D	28	D	Signal	18	B	17	B
13	Park Center/Keystone Pacific Prkwy	Two-Way	11	B	19	C	Signal	11	B	12	B
14	Rogers Rd/Keystone Pacific Prkwy	Two-Way	12	B	13	B	Signal	16	B	14	B
15	Rogers Rd/Zacharias Rd	Two-Way	39	E	200	F	Signal	18	B	21	C
16	Baldwin Rd/Zacharias Rd	All-Way	131	F	190	F	Signal	22	C	26	C
17	Zacharias Rd/SR-33	Two-Way	326	F	32	D	Signal	14	B	22	C
18	Ward Ave/SR-33	One-Way	-	-	-	-	Signal	-	-	-	-
19	SR-33/Eucalyptus Ave	One-Way	80	F	327	F	Signal	22	C	19	B
20	Baldwin Rd/SR-33	One-Way	841	F	121	F	Signal	15	B	8	A
21	Rogers Rd/SR-33	One-Way	438	F	89	F	Signal	12	B	10	A
22	Sycamore Ave/Eucalyptus	Two-Way	715	F	446	F	Signal	19	B	12	B
23	Elm Ave/Eucalyptus Ave	Two-Way	34	D	40	E	Two-Way	8	A	10	A
24	Sycamore Ave/Las Palmas Avenue	Signal	33	C	26	C	Signal	38	D	25	C
25	Elm Ave/Las Palmas Ave	Signal	24	C	26	C	Signal	21	C	23	C
26	Jennings Rd/W Main Ave	One-Way	338	F	88	F	Signal	28	C	18	B
27	SR 33/New East-West Connection	All-Way	292	F	334	F	Signal	18	B	20	C
28	Ward Ave/New East-West Connection	All-Way	261	F	401	F	Signal	13	B	27	C
29	SR 33/Grayson Rd	All-Way	556	F	284	F	Signal	28	C	18	B
30	Marshall Rd/Ward Ave	Two-Way	59	F	15	B	All-Way	18	C	14	B
31	SR 33/Marshall Rd	Two-Way	11	B	189	F	Signal	20	C	9	A
32	SR 33/Crows Landing Rd/Fink Rd	All-Way	391	F	296	F	Signal	19	B	22	C

City of Patterson - Traffic Impact Study for Proposed Zacharias / Baldwin Master Plan

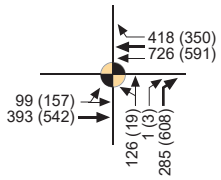
2040 Cumulative plus Project (with new Zacharias Rd Interchange at I-5)
Peak Hour Turning Movement Volumes, Lane Geometry & Controls

Figure 9

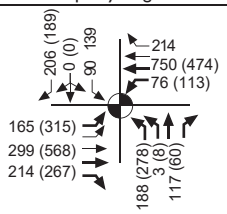
Intersection #1 Sperry/I-5 SB Ramps



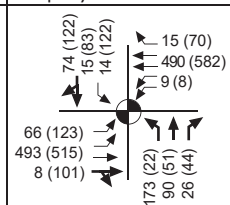
Intersection #2 Sperry/I-5 NB Ramps



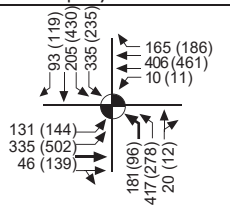
Intersection #3 Sperry/Rogers



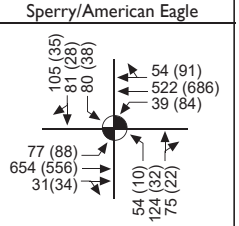
Intersection #4 Sperry/Park Center Dr.



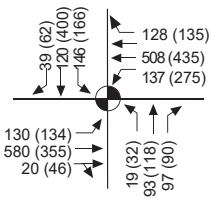
Intersection #5 Sperry/Baldwin



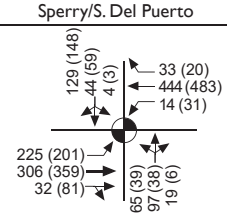
Intersection #6 Sperry/American Eagle



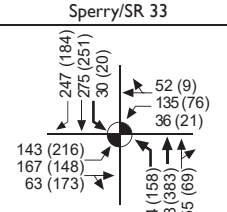
Intersection #7 Sperry/Ward



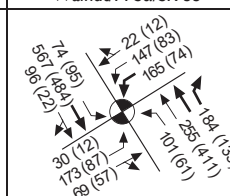
Intersection #8 Sperry/S. Del Puerto



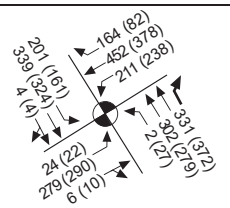
Intersection #9 Sperry/SR 33



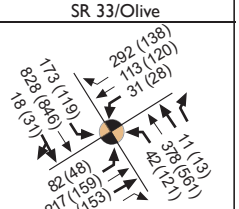
Intersection #10 Walnut/M St./SR 33



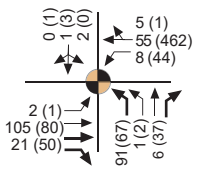
Intersection #11 SR 33/Las Palmas



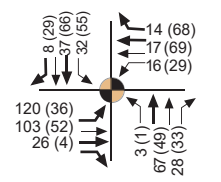
Intersection #12 SR 33/Olive



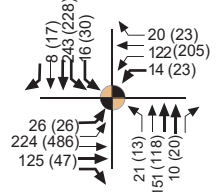
Intersection #13 Park Center/Keystone Pacific



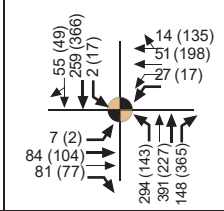
Intersection #14 Rogers/Keystone Pacific



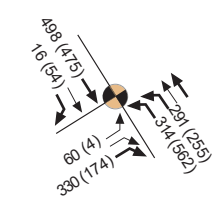
Intersection #15 Rogers/Zacharias



Intersection #16 Baldwin/Zacharias



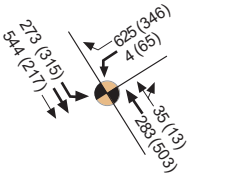
Intersection #17 Zacharias/SR 33



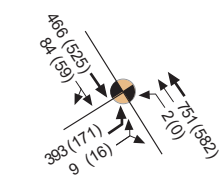
Intersection #18 SR 33/Ward

Does Not Exist

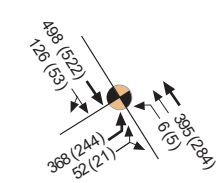
Intersection #19 SR 33/Eucalyptus



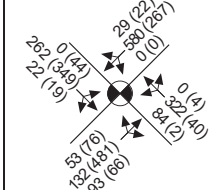
Intersection #20 Baldwin/SR 33



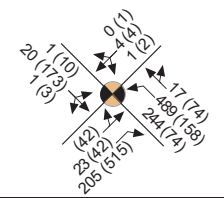
Intersection #21 Rogers/SR 33



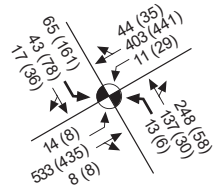
Intersection #22 Sycamore/Eucalyptus



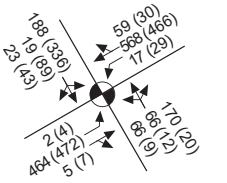
Intersection #23 Elm/Eucalyptus



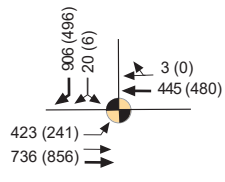
Intersection #24 Sycamore/E. Las Palmas



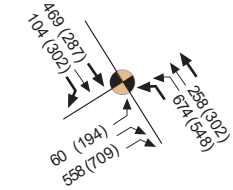
Intersection #25 Elm/Las Palmas



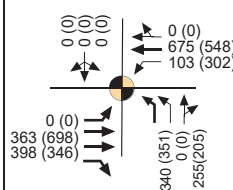
Intersection #26 Jennings/Main



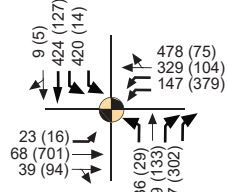
Intersection #27 SR33/New Connection



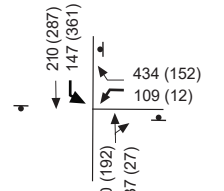
Intersection #28 Ward/New Connection



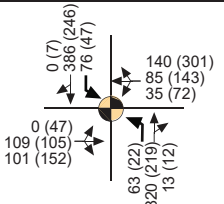
Intersection #29 SR 33/Grayson Rd



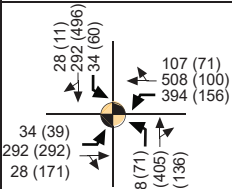
Intersection #30 Ward Ave/Marshall Rd



Intersection #31 SR 33/Marshall Rd



Intersection #32 SR 33/Crows Landing Rd



LEGEND

- Stop Sign
- Traffic Signal
- Recommended Mitigated Traffic Signal
- Recommended Mitigated Lane
- XX AM Peak Hour Volume
- (XX) PM Peak Hour Volume

IMPROVEMENTS REQUIRED

Based on the results of the projected traffic for the 2040 Cumulative plus Project Traffic Conditions (proposed Zacharias Road Interchange at I-5), intersections that require improvement measures in this scenario are described below:

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. Both intersections are expected to operate at acceptable LOS D or better.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road. Additional northbound left-turn lane might be required.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

10. M Street/Walnut Avenue/SR 33
Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane. Two through lanes might be required on SR 33.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two through lanes might be required on SR 33.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Zacharias Road should be widened to two lanes on each approach. Three through lanes might be required on northbound approach on Rogers Road.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add two left-turn lanes on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in both directions.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes in both directions.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane. West Main Avenue should be widened to two lanes in both directions.

27. SR 33/New East-West Connection
Signalize intersection and add two northbound left-turn and one southbound right-turn lanes. SR 33 should be widened to two lanes in both directions.

28. Ward Avenue/New East-West Connection
Signalize intersection and add two northbound left-turn lanes. It is recommended that the New East-West Connection roadway should consider having two lanes in both directions.

29. SR 33/Grayson Rd
Signalize intersection.

30. Marshall Rd/Ward Ave
Convert to All-Way Stop control.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

The project should pay its fair share for all intersections and roadway improvements.

Table 20 shows the arterial levels of service under 2040 Cumulative plus Project Traffic Conditions (proposed Zacharias Road Interchange at I-5). Several arterial segments need to be widened to operate acceptably during the a.m. and p.m. peak hours. The freeway levels of service under 2040 Cumulative plus Project Traffic Conditions are shown in **Table 21**. It is estimated that the freeway segment south of Sperry Avenue would operate unacceptably during the peak hour.

Table 20: 2040 Cumulative plus Project Traffic Condition Roadway Segment LOS (with new Zacharias Road Interchange at I-5)

Link ID	Roadway	Segment	2040PP-ZacIC								2040PP-ZacIC (Mitigated)							
			Northbound/Eastbound				Southbound/Westbound				Northbound/Eastbound				Southbound/Westbound			
			AM		PM		AM		PM		AM		PM		AM		PM	
			Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS
A	Sperry Ave	Rogers Rd - Park Center Dr	34.3	B	24.5	C	25.8	C	19.8	D	34.3	B	24.5	C	25.8	C	19.8	D
B	Baldwin Ave	Sperry Ave - Keystone Pacific Prkwy	31.0	B	32.2	B	16.2	D	9.8	**F**	31.0	B	32.4	B	16.2	D	16.3	D
C	Ward Ave	Barch Ave - Elfers Rd	36.3	A	37.2	A	38.1	A	36.0	A	36.3	A	37.2	A	38.1	A	36.0	A
D	W Marshall Rd	Ward Ave - SR 33	36.7	A	35.5	B	34.4	B	36.3	A	36.7	A	35.5	B	34.4	B	36.3	A
E	SR 33	South of Barch Ave	31.4	B	33.5	B	33.6	B	31.6	B	31.4	B	33.5	B	33.6	B	31.6	B
F	Las Palmas Ave	Sycamore Ave - Elm Ave	26.6	C	32.6	B	29.4	C	36.3	B	26.6	C	32.6	B	29.4	C	36.3	B
G	Las Palmas Ave	Poplar Ave - Jennings Rd	41.2	A	40.8	A	37.9	B	35.7	B	41.2	A	40.8	A	37.9	B	35.7	B
H	SR 33	Walnut Ave - Olive Ave-Ivy Ave	35.0	B	32.1	B	23.3	C	25.2	C	35.0	B	32.1	B	23.3	C	25.2	C
I	Eucalyptus Ave	SR 33 - Sycamore Ave	42.3	B	43.5	A	43.4	A	44.4	A	42.3	B	43.5	A	43.4	A	44.4	A
J	Baldwin Rd	Zacharias Rd - SR 33	45.2	A	45.3	A	43.2	A	41.4	A	45.2	A	45.3	A	43.2	A	41.4	A
K	Zacharias Rd	Rogers Rd - Baldwin Rd	35.3	B	33.5	B	39.3	B	39.3	B	35.3	B	33.5	B	39.3	B	39.3	B
L	Rogers Rd	Zacharias Rd - SR 33	40.9	A	42.7	A	33.1	**F**	41.8	A	40.4	A	42.7	A	39.6	A	41.8	A
M	SR 33	Zacharias Rd - Baldwin Rd	41.5	A	42.0	A	40.6	A	39.8	A	41.5	A	42.0	A	40.6	A	39.8	A
N	SR 33	Grayson Rd and Rogers Rd	42.0	A	43.4	A	42.6	A	42.1	A	42.0	A	43.4	A	42.6	A	42.1	A
O	SR 33	Crows Landing Rd/Fink/Marshall	44.2	A	45.3	A	45.2	A	43.9	A	44.2	A	45.3	A	45.2	A	43.9	A

Table 21: 2040 Cumulative plus Project (with new Zacharias Road Interchange at I-5) Freeway Segment LOS

Link ID	Freeway Segment	2040-ZalcC						
		# Lanes	A.M.			P.M.		
			Volume (vph)	Density (pc/mi/ln)	LOS	Volume (vph)	Density (pc/mi/ln)	LOS
Y	I-5 NB (north of Sperry Ave)	2	1,718	27.0	D	1,475	22.7	C
	I-5 SB (north of Sperry Ave)	2	1,652	27.6	D	1,647	29.9	D
Z	I-5 NB (south of Sperry Ave)	2	2,146	37.6	E	1,575	26.3	D
	I-5 SB (south of Sperry Ave)	2	1,558	24.1	C	2,062	36.7	E

12.0 CONCLUSION

Based on the results of the analysis, the following is a summary of our findings:

Existing Traffic Conditions

All the intersections operate at acceptable LOS D or better, except three intersections below that operates at either LOS E or LOS F:

- Sperry Avenue & SR-33
- Rogers Road & SR-33
- SR 33/Grayson Rd

Existing plus Approved Projects Traffic Conditions

- Three major projects that were previously approved in the city were assumed in this scenario including West Patterson Business Park Master Plan, which was approved in 2003, Villages of Patterson was approved in 2007 and West Patterson Business Park Expansion was approved in 2012.
- Similar to the Existing Conditions, the three-stop control intersections of Sperry Avenue/SR-33, Rogers Road/SR 33 and SR 33/Grayson Rd will continue to operate at LOS E/F.
- In addition, all the other study intersections will operate at LOS E/F during the peak hour except 12 intersections.

The following improvement measures would be required to operate at acceptable LOS D or better.

Improvement Measures

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps

As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. The intersection would improve to LOS D or better. Might require additional adaptive traffic signal improvement.

3. Sperry Avenue/Rogers Road

Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road

Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road

Add additional eastbound through lane making Sperry Avenue four lane road.

8. Sperry Avenue/Del Puerto Road

Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33

Signalize intersection and add left-turn lane to each approach.

10. M Street/Walnut Avenue/SR 33

Add additional westbound left-turn lane and northbound right-turn lane.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes near the intersection. No Parking might be required on the first block near the intersection.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Rogers Road and Zacharias Road should be widened to two lanes on each approach.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add a left-turn lane on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

18. Ward Avenue/SR 33
Signalize intersection and add left-turn lane on northbound and eastbound approaches. SR 33 should be widened to two lanes on each approach.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.
20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes on southbound approach.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane on northbound approach. SR 33 should be widened to two lanes on southbound approach.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane.

29. SR 33/Grayson Rd
Signalize intersection.

Existing plus Approved plus Proposed Project Traffic Conditions

- The buildout potential of both Master Plans consists of 5,086 dwelling units and 7,765,000 square feet of non-residential uses.
- The buildout project is estimated to generate approximately 7,047 trips during the AM peak hour and 8,047 trips during the PM peak hour.
- Similar to the Existing plus Approved Project Conditions, the three-stop control intersections of Sperry Avenue/SR-33, Rogers Road/SR 33 and SR 33/Grayson Rd will continue to operate at LOS E/F.
- In addition, all the other study intersections will operate at LOS E/F during the peak hour except six intersections.
- A new east-west connector across the PID Canal (to the north of Ivy Avenue) would be added and will intersect with Ward Avenue and connect to SR 33 to the east. The new intersection with SR-33 would be signalized. It is assumed that the existing Ward Avenue/SR-33 intersection would either be closed or converted to restricted access (e.g., right-in, right-out).

Improvement Measures

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps

As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. The intersection would improve to LOS D or better after signal improvement during the AM peak hour. However, the Southbound Off-Ramp intersection will operate at unacceptable LOS F during the PM peak hour. Traffic adaptive signal operations might improve the operations to acceptable level of service.

3. Sperry Avenue/Rogers Road

Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue. The intersection would improve to LOS D or better during the AM peak hour. However, the intersection will operate at unacceptable LOS F during the PM peak hour.

4. Sperry Avenue/Rogers Road

Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road

Add additional eastbound through lane making Sperry Avenue four lane road. Additional northbound left-turn lane might be required.

8. Sperry Avenue/Del Puerto Road

Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33

Signalize intersection and add left-turn lane to each approach. Two left-turn lane might be required in the northbound.

10. M Street/Walnut Avenue/SR 33

Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane. Two through lanes might be required on SR 33.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two through lanes might be required on SR 33.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes. No Parking might be required on the first block near the intersection.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Zacharias Road should be widened to two lanes on each approach. Three through lanes might be required on northbound approach on Rogers Road.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add two left-turn lanes on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in both directions.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes in both directions.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane. West Main Avenue should be widened to two lanes in both directions.

27. SR 33/New East-West Connection
Signalize intersection and add two northbound left-turn and one southbound right-turn lanes. SR 33 should be widened to two lanes in both directions.

28. Ward Avenue/New East-West Connection
Signalize intersection and add two northbound left-turn lanes. It is recommended that the New East-West Connection roadway should consider having two lanes in both directions.

29. SR 33/Grayson Rd
Signalize intersection.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

At buildout of the project, it is estimated that the following roadways would be widened to four lanes:

- SR 33 – from north of Baldwin Road to Sperry Avenue
- Zacharias Road – from Rogers Road to SR 33
- Baldwin Road – from north of Zacharias Road to south of new East-West Connector

The project should pay its fair share for all intersections and roadway improvements.

2040 Cumulative No Project Traffic Conditions

- In consultation with city staff, the travel demand model used for the project that was recently calibrated and utilized for the Sperry Road at Interstate 5 Interchange Improvements project was selected as the modeling tool for this project.
- It is assumed that the level of intersections and roadway improvements under the Existing plus Approved Projects scenario would be available under this future cumulative base scenario.

Improvement Measures

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, and the final design is estimated to be completed by December 2019. The intersection would improve to LOS D or better.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

10. M Street/Walnut Avenue/SR 33
Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes. No Parking might be required on the first block near the intersection.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Rogers Road and Zacharias Road should be widened to two lanes on each approach.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add a left-turn lane on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

18. Ward Avenue/SR 33
Signalize intersection and add left-turn lane on northbound and eastbound approaches. SR 33 should be widened to two lanes on each approach.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in southbound approach.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes on southbound approach.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane.

29. SR 33/Grayson Rd
Signalize intersection.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

2040 Cumulative plus Project Traffic Conditions

- The buildout potential of both Master Plans consists of 5,086 dwelling units and 7,765,000 square feet of non-residential uses.
- The buildout project is estimated to generate approximately 7,047 trips during the AM peak hour and 8,047 trips during the PM peak hour.
- It is assumed that the level of intersections and roadway improvements under the Existing plus Approved plus Project scenario would be available under this future cumulative scenario.

Improvement Measures

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. Both intersections are expected to operate at acceptable LOS D or better.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road. Additional northbound left-turn lane might be required.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two left-turn lane might be required in the northbound.

10. M Street/Walnut Avenue/SR 33
Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane. Two through lanes might be required on SR 33.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two through lanes might be required on SR 33.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach. At the intersection, Keystone Pacific might need to provide for two through lanes. No Parking might be required on the first block near the intersection.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Zacharias Road should be widened to two lanes on each approach. Three through lanes might be required on northbound approach on Rogers Road.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach. Zacharias Road should be widened to two lanes on each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add two left-turn lanes on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in both directions.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes in both directions.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane. West Main Avenue should be widened to two lanes in both directions.

27. SR 33/New East-West Connection
Signalize intersection and add two northbound left-turn and one southbound right-turn lanes. SR 33 should be widened to two lanes in both directions.

28. Ward Avenue/New East-West Connection
Signalize intersection and add two northbound left-turn lanes. It is recommended that the New East-West Connection roadway should consider having two lanes in both directions.

29. SR 33/Grayson Rd
Signalize intersection.

30. Marshall Rd/Ward Ave
Convert to All-Way Stop control.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

The project should pay its fair share for all intersections and roadway improvements.

2040 Cumulative plus Project Traffic Conditions (new I-5/Zacharias Road)

- Assumed a new interchange at I-5/Zacharias Road.
- The buildout potential of both Master Plans consists of 5,086 dwelling units and 7,765,000 square feet of non-residential uses.
- The buildout project is estimated to generate approximately 7,047 trips during the AM peak hour and 8,047 trips during the PM peak hour.
- It is assumed that the level of intersections and roadway improvements under the Existing plus Approved plus Project scenario would be available under this future cumulative scenario.
- It is projected that the new interchange would attract approximately 1,500 vph during the peak hour. This will provide much relief from traffic congestions along Sperry Avenue and other major roadways in the City.

Improvement Measures

1. Sperry Avenue /I-5 SB Ramps, & 2. Sperry Avenue /I-5 NB Ramps
As indicated earlier, a Project Report and Project Approval & Environmental Documentation (PA & ED) for Sperry Avenue & I-5 interchange is currently underway, the design schedule will follow as the City of Patterson finds suitable with their funding mechanisms. Both intersections are expected to operate at acceptable LOS D or better.

3. Sperry Avenue/Rogers Road
Add additional eastbound left turn, eastbound right-turn and add additional through lane for both directions making Sperry Avenue four lane road. Northbound double left-turn, through and right-turn lanes would be required to serve future commercial land use south of Sperry Avenue.

4. Sperry Avenue/Rogers Road
Add additional eastbound through lane making Sperry Avenue four lane road.

5. Sperry Avenue/Baldwin Road
Add additional eastbound through lane making Sperry Avenue four lane road. Additional northbound left-turn lane might be required.

8. Sperry Avenue/Del Puerto Road
Add additional eastbound through lane on Sperry Avenue.

9. Sperry Avenue/SR 33
Signalize intersection and add left-turn lane to each approach.

10. M Street/Walnut Avenue/SR 33
Add shared through and right-turn lane in the southbound, add additional westbound left-turn lane and northbound right-turn lane. Two through lanes might be required on SR 33.

12. Olive Avenue/SR 33
Signalize intersection and add left-turn lane to each approach. Two through lanes might be required on SR 33.

13. Park Center/Keystone Pacific
Signalize intersection and add turn lanes. Add eastbound right-turn lane and northbound left-turn lane. Needs further evaluation.

14. Rogers Road/Keystone Pacific
Signalize intersection and add left-turn lane to each approach. Rogers Road should be widened to two lanes on each approach.

15. Rogers Road/Zacharias Road
Signalize intersection and add left-turn lane on each approach. Zacharias Road should be widened to two lanes on each approach. Three through lanes might be required on northbound approach on Rogers Road.

16. Baldwin Road /Zacharias Road
Signalize intersection and add left-turn lane to each approach.

17. Zacharias Road/SR 33
Signalize intersection. Add two left-turn lanes on north and two right-turn lane in the eastbound approach. It is our understanding that the intersection might be redesigned to extend and connect with Eucalyptus Avenue under the South County Corridor plan.

19. SR 33/Eucalyptus Avenue
Signalize intersection. SR 33 should be widened to two lanes on each approach.

20. Baldwin Road /SR 33
Signalize intersection and add left-turn lane in the northbound. SR 33 should be widened to two lanes in both directions.

21. Rogers Road/SR 33
Signalize intersection. Add left-turn lane and right-turn lane on eastbound approach. SR 33 should be widened to two lanes in both directions.

24. Sycamore Avenue/E. Las Palmas Avenue
Signalize intersection. Add left-turn lane to north-south approach.

26. West Main Avenue /Jennings Avenue
Signalize intersection and add eastbound left-turn lane. West Main Avenue should be widened to two lanes in both directions.

27. SR 33/New East-West Connection
Signalize intersection and add two northbound left-turn and one southbound right-turn lanes. SR 33 should be widened to two lanes in both directions.

28. Ward Avenue/New East-West Connection
Signalize intersection and add two northbound left-turn lanes. It is recommended that the New East-West Connection roadway should consider having two lanes in both directions.

29. SR 33/Grayson Rd
Signalize intersection.

30. Marshall Rd/Ward Ave
Convert to All-Way Stop control.

31. SR 33/Marshall Road
Signalize intersection.

32. SR 33/Crows Landing Rd/Fink Road
Signalize intersection.

The project should pay its fair share for all intersections and roadway improvements.

REFERENCES

1. *I-5/Sperry Avenue PAED Study Report, February 2016*
2. *Discussions with City of Patterson Staff, March 2019*
3. *NCHRP Report 684, "Enhancing Internal Trip Capture Estimation for Mixed- Use Developments,"2011, page 26*
4. *West Patterson Business Park Expansion Traffic Study, April 10, 2012*

Advanced Mobility Group Team

Christopher Thnay, PE, AICP	Project Manager
Shruti Shrivastava	Project Engineer
Michael Ohnemus, AICP	Project Planner
Christina Ramos	Senior Project Analyst
Lawrence Liao	Elite Transportation Group

Persons Consulted

Joel Andrews	City Planner
Fernando Ulloa, PE	Director of Engineering, City of Patterson
David James, AICP	Community Development Director, City of Patterson

Appendix A TRAFFIC VOLUME COUNTS

Appendix B INTERSECTION LOS ANALYSIS: EXISTING CONDITIONS LOS CALCULATION SHEETS

Appendix C INTERSECTION LOS ANALYSIS: EXISTING PLUS APPROVED PROJECTS CONDITIONS LOS CALCULATION SHEETS

Appendix D INTERSECTION ANALYSIS: EXISTING PLUS APPROVED PROJECTS PLUS PROPOSED PROJECT CONDITIONS LOS CALCULATION SHEETS

Appendix E INTERSECTION ANALYSIS: 2040 CUMULATIVE NO PROJECT CONDITIONS LOS CALCULATION SHEETS

Appendix F INTERSECTION ANALYSIS: 2040 CUMULATIVE PLUS PROJECT CONDITIONS LOS CALCULATION SHEETS

Appendix G INTERSECTION ANALYSIS: 2040 CUMULATIVE PLUS PROJECT CONDITIONS (WITH NEW ZACHARIAS INTERCHANGE) LOS CALCULATION SHEETS

Appendix A TRAFFIC VOLUME COUNTS

November 20, 2020

Prepared by National Data & Surveying Services

I-5 SB Off Ramps & Sperry Ave

Peak Hour Turning Movement Count

ID: 18-07211-001
City: Patterson

Day: Tuesday
Date: 05/22/2018

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 04:00 PM - 05:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

I-5 SB Off Ramps — SOUTHBOUND

AM	15	1	138	0	0	AM
NOON	0	0	0	0	0	NOON
PM	25	1	499	0	0	PM

EASTBOUND — Sperry Ave

AM	NOON	PM	
46	0	83	⇦
0	0	0	↶ 0
0	0	0	↱ 0
110	0	58	→ 0
2	0	5	↴ 0
AM	NOON	PM	

WESTBOUND — Sperry Ave

PM	NOON	AM	
0	0	0	0 ↷
58	0	31	0 ←
80	0	69	0 ↰
0	0	0	0 ↩
557	0	248	⇨
PM	NOON	AM	

CONTROL

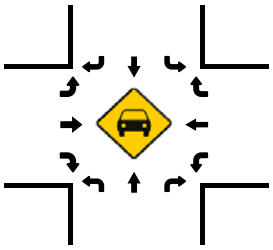
0

TEV	366 AM	0 NOON	726 PM
PHF	0.89		0.99

NORTHBOUND — I-5 SB Off Ramps

PM	86	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	72	0	0	0	0	AM

Total Vehicles (AM)



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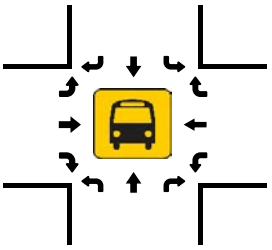
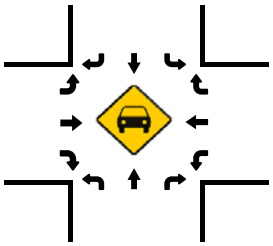
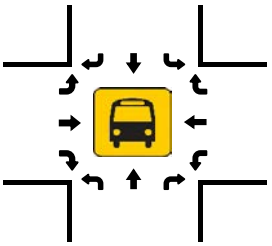


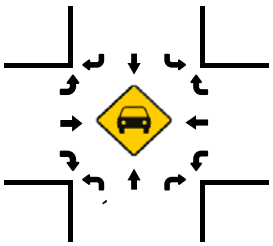
Total Vehicles (NOON)



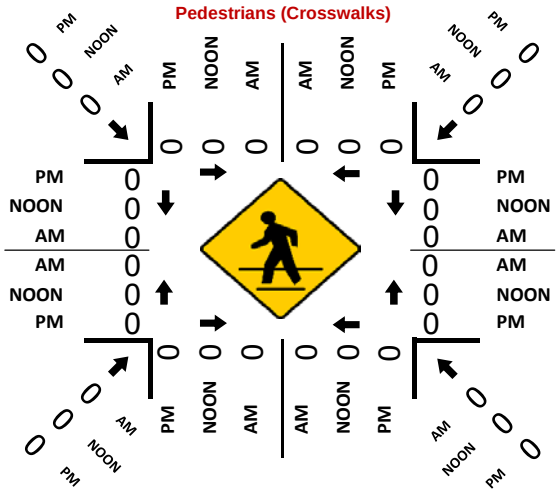
Total Vehicles (NOON)



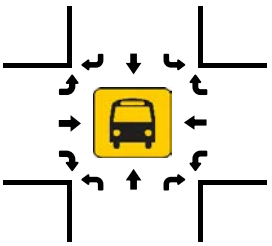
Total Vehicles (PM)



Pedestrians (Crosswalks)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

I-5 NB Off Ramps & Sperry Ave

Peak Hour Turning Movement Count

ID: 18-07211-002
City: Patterson

Day: Tuesday
Date: 05/22/2018

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

I-5 NB Off Ramps — SOUTHBOUND

AM	0	0	0	0	470	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	258	PM

EASTBOUND — Sperry Ave

AM	NOON	PM		
98	0	129	⇦	
0	0	0	↶	0
51	0	15	↱	0
197	0	542	→	0
0	0	0	↴	0
AM	NOON	PM		

WESTBOUND — Sperry Ave

PM	NOON	AM		
240	0	418	↰	0
127	0	96	←	0
0	0	0	↰	0
0	0	0	↰	0
656	0	263	⇨	
PM	NOON	AM		

CONTROL

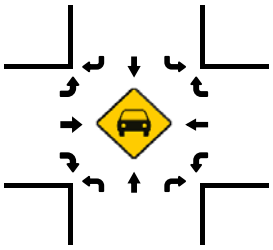
0

TEV	831 AM	0 NOON	1043 PM
PHF	0.91		0.97

NORTHBOUND — I-5 NB Off Ramps

PM	0	0	2	3	114	PM
NOON	0	0	0	0	0	NOON
AM	0	0	2	1	66	AM

Total Vehicles (AM)



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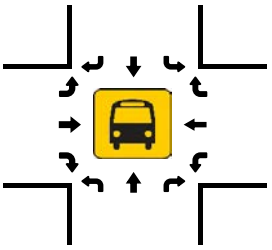
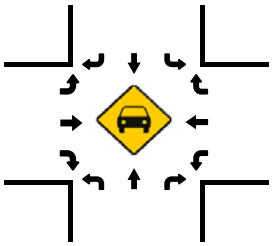


Total Vehicles (NOON)



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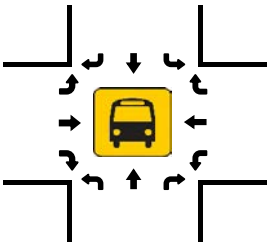
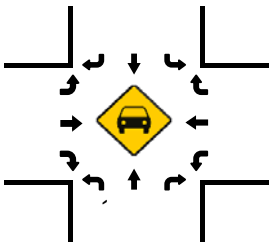
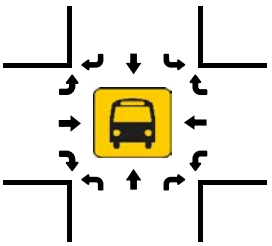


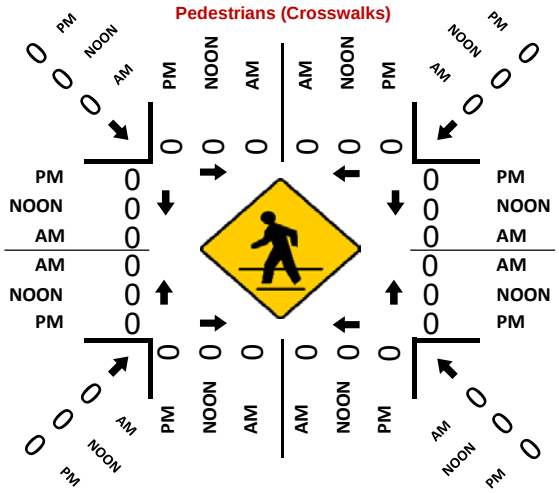
Total Vehicles (PM)



Total Vehicles (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

Rogers Rd & Sperry Ave

Peak Hour Turning Movement Count

ID: 18-07211-003
City: Patterson

Day: Tuesday
Date: 05/22/2018

PEAK HOURS	
AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND (Rogers Rd)

AM	117	0	90	0	256	AM
NOON	0	0	0	0	0	NOON
PM	150	0	139	0	242	PM

EASTBOUND (Sperry Ave)

AM	NOON	PM	
515	0	371	⇦
0	0	0	↶ 0
106	0	124	↱ 0
163	0	525	→ 0
0	0	0	↴ 0

WESTBOUND (Sperry Ave)

PM	NOON	AM	
118	0	150	0 ↰
221	0	398	0 ←
0	0	0	0 ↰
0	0	0	0 ↰
664	0	253	⇨

CONTROL

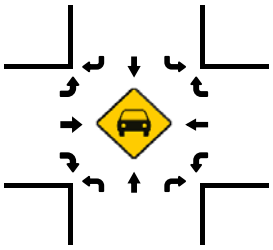
0

TEV	1024 AM	0 NOON	1277 PM
PHF	0.96		0.96

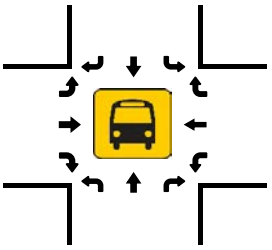
NORTHBOUND (Rogers Rd)

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

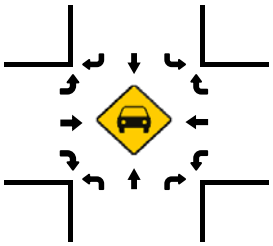
Total Vehicles (AM)



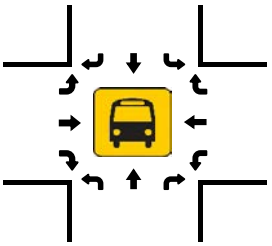
Total Vehicles (AM)



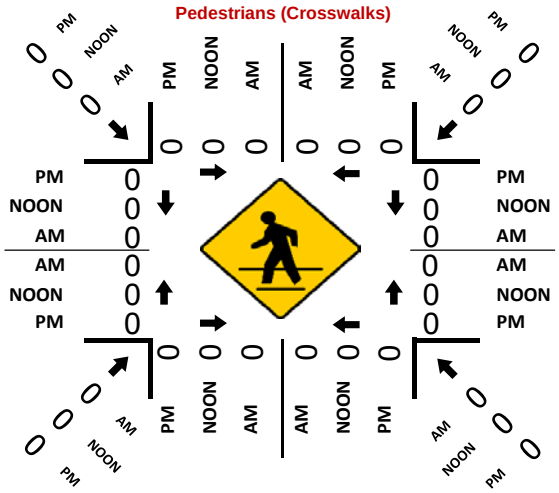
Total Vehicles (NOON)



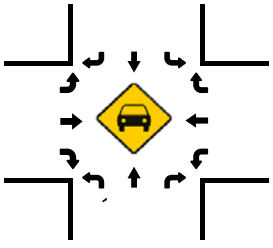
Total Vehicles (NOON)



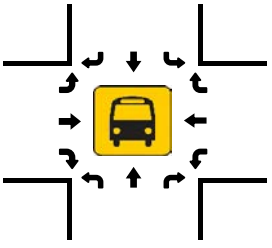
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

Park Center Dr & Sperry Ave

Peak Hour Turning Movement Count

ID: 19-07142-004
City: Patterson

Day: Tuesday
Date: 04/16/2019

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND — Park Center Dr

AM	76	0	14	0	81	AM
NOON	0	0	0	0	0	NOON
PM	74	0	61	0	192	PM

EASTBOUND — Sperry Ave

AM	NOON	PM	
455	0	325	⇦
0	0	1	↶ 0
66	0	122	↱ 0
162	0	515	→ 0
0	0	0	↷ 0
AM	NOON	PM	

WESTBOUND — Sperry Ave

PM	NOON	AM	
70	0	15	0 ↰
250	0	379	0 ←
0	0	0	0 ↶
4	0	1	0 ↷
580	0	177	⇨
PM	NOON	AM	

NORTHBOUND — Park Center Dr

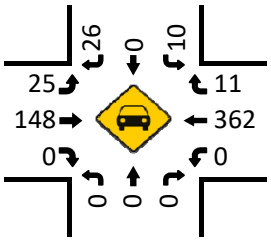
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

CONTROL

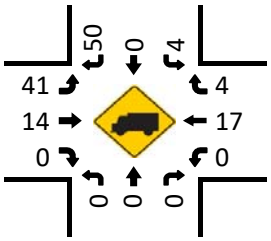
0

TEV	713 AM	0 NOON	1097 PM
PHF	0.93		0.96

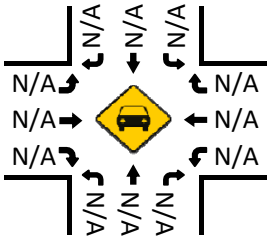
Cars (AM)



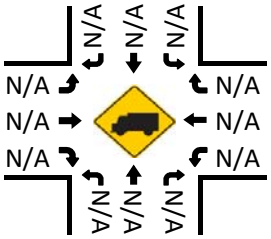
HT (AM)



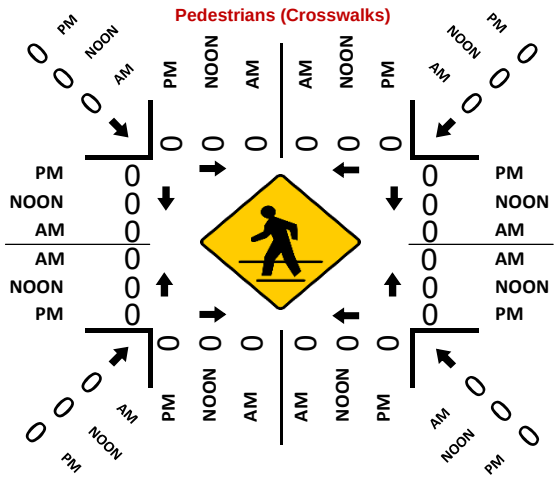
Cars (NOON)



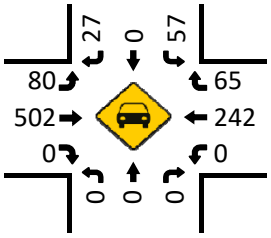
HT (NOON)



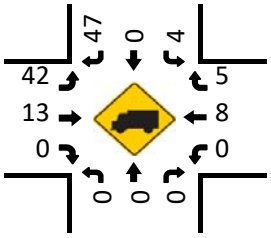
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Baldwin Rd & Sperry Ave

Peak Hour Turning Movement Count

ID: 19-07142-005
City: Patterson

Day: Tuesday
Date: 04/16/2019

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

Baldwin Rd — SOUTHBOUND

AM	93	39	54	0	203	AM
NOON	0	0	0	0	0	NOON
PM	56	34	73	0	170	PM

Sperry Ave — EASTBOUND

AM	NOON	PM	
468	0	377	⇦
0	0	0	↶ 0
32	0	98	↱ 0
151	0	502	→ 0
17	0	55	↳ 0
AM	NOON	PM	

Sperry Ave — WESTBOUND

PM	NOON	AM	
57	0	83	0 ↰
298	0	315	0 ←
11	0	9	0 ↰
0	0	1	0 ↰
587	0	226	⇨
PM	NOON	AM	

CONTROL

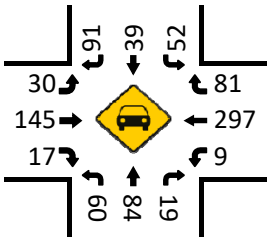
0

TEV	962	0	1234
	AM	NOON	PM
PHF	0.87		0.94

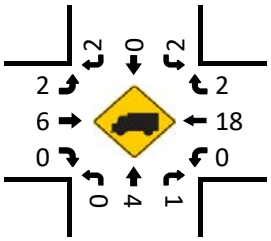
Baldwin Rd — NORTHBOUND

PM	100	0	23	15	12	PM
NOON	0	0	0	0	0	NOON
AM	65	0	60	88	20	AM

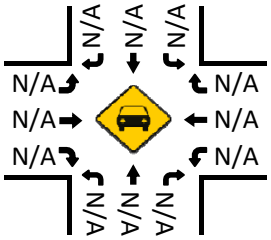
Cars (AM)



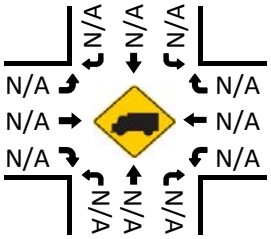
HT (AM)



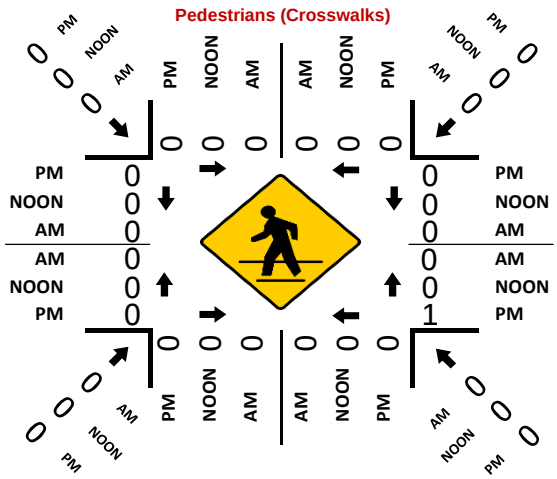
Cars (NOON)



HT (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0

Prepared by National Data & Surveying Services

American Eagle Ave & Sperry Ave

Peak Hour Turning Movement Count

ID: 19-07142-006
City: Patterson

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND — American Eagle Ave

AM	105	81	80	0	175	AM
NOON	0	0	0	0	0	NOON
PM	35	28	38	0	170	PM

EASTBOUND — Sperry Ave

AM	NOON	PM	
534	0	469	⇦
1	0	1	↶ 0
41	0	82	↱ 0
356	0	525	→ 0
17	0	32	↴ 0
AM	NOON	PM	

WESTBOUND — Sperry Ave

PM	NOON	AM	
56	0	40	0 ↰
423	0	387	0 ←
52	0	29	0 ↰
0	0	0	0 ↰
585	0	493	⇨
PM	NOON	AM	

CONTROL

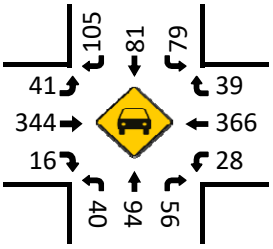
0

TEV	1329 AM	0 NOON	1336 PM
PHF	0.83		0.96

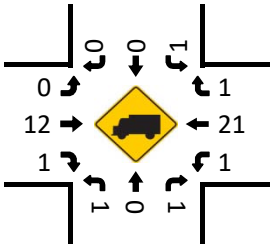
NORTHBOUND — American Eagle Ave

PM	112	0	10	32	22	PM
NOON	0	0	0	0	0	NOON
AM	127	0	41	94	57	AM

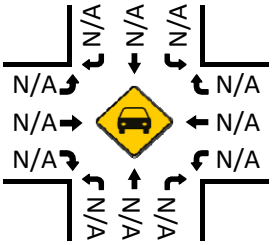
Cars (AM)



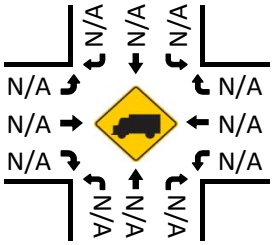
HT (AM)



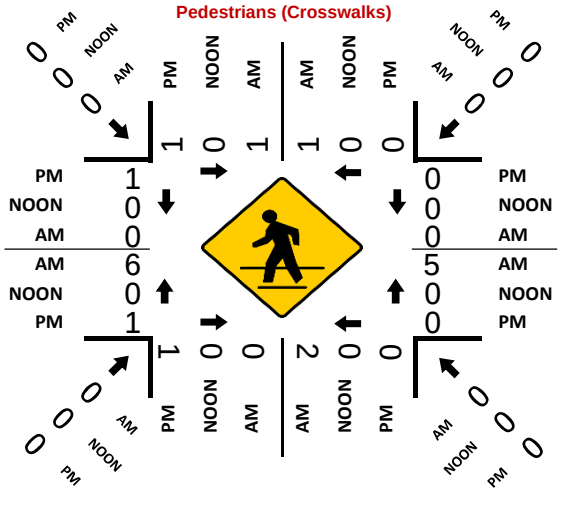
Cars (NOON)



HT (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
1
0
0
1
0
0
0
0
0
1
0
0
0
0
0

Prepared by National Data & Surveying Services

Ward Ave & Sperry Ave

Peak Hour Turning Movement Count

ID: 19-07142-008
City: Patterson

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	
AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Ward Ave — SOUTHBOUND

AM	27	84	102	0	231	AM
NOON	0	0	0	0	0	NOON
PM	34	219	91	0	306	PM

Sperry Ave — EASTBOUND

AM	NOON	PM	
323	0	340	⇦
2	0	7	↶ 0
69	0	115	↱ 0
317	0	324	→ 0
11	0	42	↴ 0
AM	NOON	PM	

CONTROL

0

TEV	1239 AM	0 NOON	1575 PM
PHF	0.79		0.94

Sperry Ave — WESTBOUND

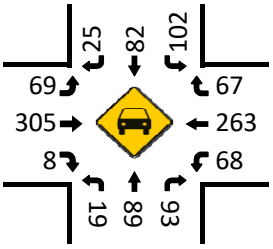
PM	NOON	AM	
84	0	69	↰ 0
270	0	275	← 0
166	0	72	↰ 0
5	0	2	↶ 0
502	0	518	⇨
PM	NOON	AM	

Ward Ave — NORTHBOUND

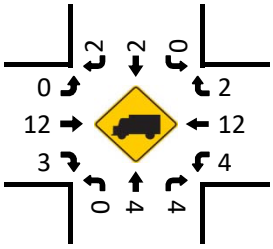
PM	427	0	29	107	82	PM
NOON	0	0	0	0	0	NOON
AM	167	0	19	93	97	AM

Ward Ave

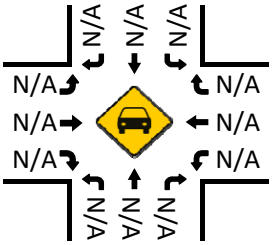
Cars (AM)



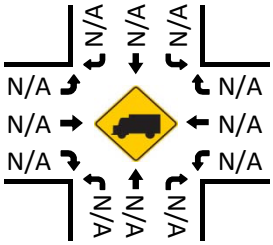
HT (AM)



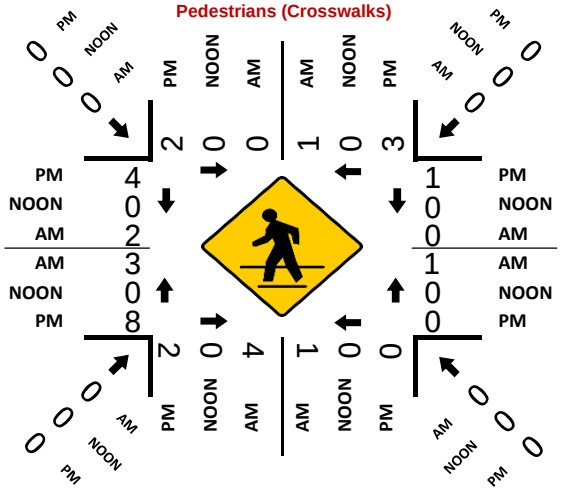
Cars (NOON)



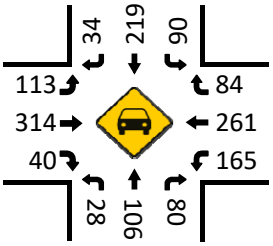
HT (NOON)



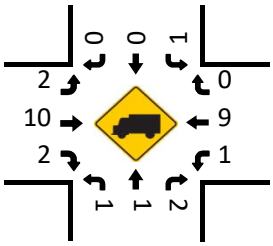
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Del Puerto Ave & Sperry Ave

Peak Hour Turning Movement Count

ID: 19-07142-009
City: Patterson

Day: Tuesday
Date: 04/16/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Del Puerto Ave — SOUTHBOUND

AM	129	44	4	0	247	AM
NOON	0	0	0	0	0	NOON
PM	148	59	3	0	190	PM

Sperry Ave — EASTBOUND

AM	NOON	PM	
374	0	480	⇦
0	0	0	↶ 0
149	0	144	↱ 0
203	0	258	→ 0
21	0	58	↴ 0

CONTROL

0

	AM	NOON	PM
TEV	915	0	1072
PHF	0.87	NOON	0.94

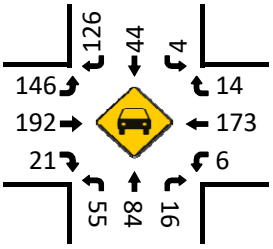
WESTBOUND — Sperry Ave

	PM	NOON	AM
0 ↷	12	0	14
0 ←	297	0	189
0 ↰	19	0	6
0 ↶	0	0	0
⇨	266	0	223

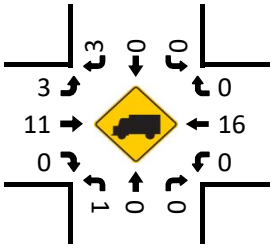
Del Puerto Ave — NORTHBOUND

PM	136	0	35	34	5	PM
NOON	0	0	0	0	0	NOON
AM	71	0	56	84	16	AM

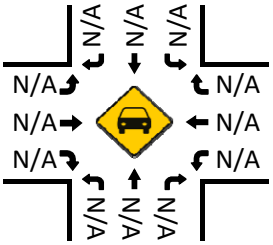
Cars (AM)



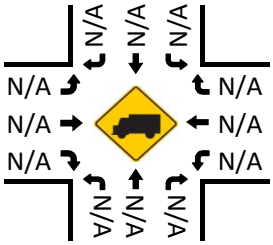
HT (AM)



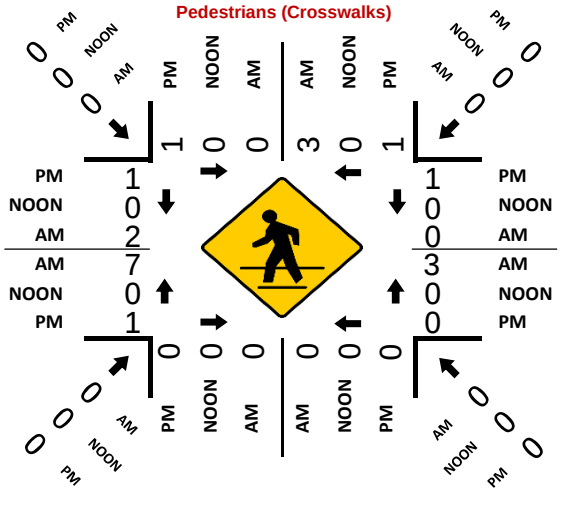
Cars (NOON)



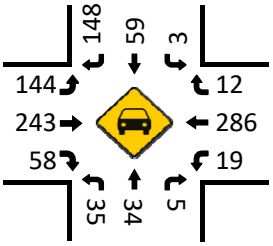
HT (NOON)



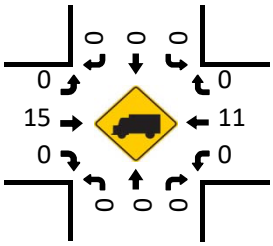
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

SR-33/2nd St & Sperry Ave

Peak Hour Turning Movement Count

ID: 19-07142-010
City: Patterson

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	
AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SR-33/2nd St — SOUTHBOUND

AM	115	128	14	0	314	AM
NOON	0	0	0	0	0	NOON
PM	175	238	19	0	261	PM

Sperry Ave — EASTBOUND

AM	NOON	PM	
214	0	287	⇦
0	0	0	0
77	0	105	0
90	0	72	0
34	0	84	0
AM	NOON	PM	

WESTBOUND — Sperry Ave

PM	NOON	AM	
6	0	10	0
50	0	26	0
14	0	7	0
0	0	0	0
118	0	134	⇨
PM	NOON	AM	

CONTROL

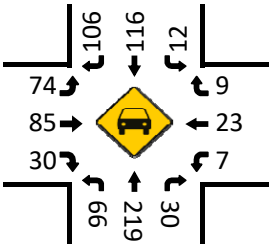
0

TEV	831 AM	0 NOON	1002 PM
PHF	0.86		0.97

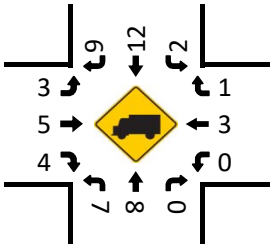
SR-33/2nd St — NORTHBOUND

PM	336	0	62	150	27	PM
NOON	0	0	0	0	0	NOON
AM	169	0	73	227	30	AM

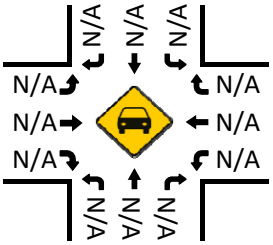
Cars (AM)



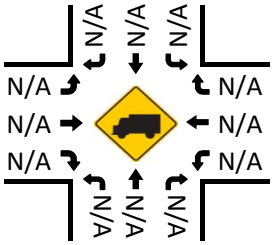
HT (AM)



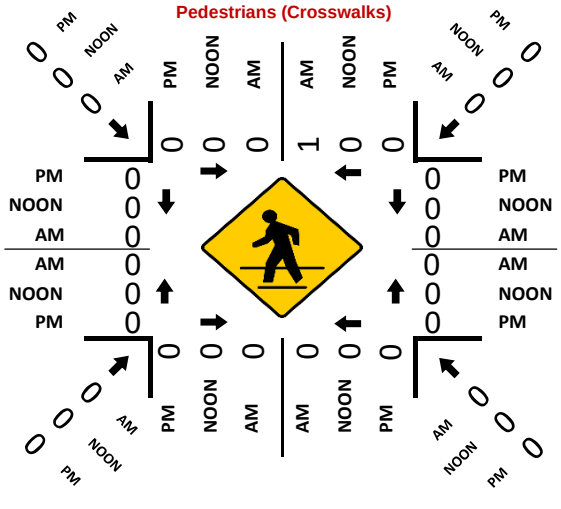
Cars (NOON)



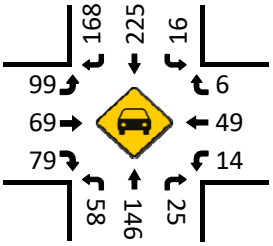
HT (NOON)



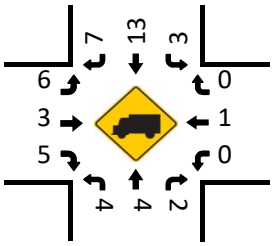
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-010
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	SR-33 Southbound					Walnut Ave/M St Westbound					SR-33 Northbound					Walnut Ave/M St Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	1	28	3	0	32	13	9	5	0	27	8	34	18	0	60	1	15	12	0	28	147	0
7:15	2	32	2	0	36	39	35	7	0	81	15	42	24	0	81	6	38	9	0	53	251	0
7:30	10	63	7	0	80	52	42	4	0	98	17	27	31	0	75	7	50	14	0	71	324	0
7:45	7	41	15	0	63	54	48	6	0	108	20	40	33	0	93	11	43	27	0	81	345	0
Total	20	164	27	0	211	158	134	22	0	314	60	143	106	0	309	25	146	62	0	233	1067	0
8:00	4	41	6	0	51	20	22	5	0	47	4	32	14	0	50	6	42	19	0	67	215	0
8:15	0	27	4	0	31	21	24	5	0	50	0	30	12	0	42	3	17	14	0	34	157	0
8:30	6	25	1	0	32	10	13	3	0	26	3	40	5	0	48	4	11	7	0	22	128	0
8:45	1	39	0	0	40	14	7	0	0	21	6	31	7	0	44	0	15	12	0	27	132	0
Total	11	132	11	0	154	65	66	13	0	144	13	133	38	0	184	13	85	52	0	150	632	0
16:00	11	57	3	0	71	21	19	4	0	44	2	40	7	0	49	7	34	17	0	58	222	0
16:15	9	75	4	0	88	13	16	3	0	32	5	56	11	0	72	3	15	16	0	34	226	0
16:30	14	63	1	0	78	18	21	1	0	40	9	38	18	0	65	6	19	17	0	42	225	0
16:45	17	77	4	0	98	26	22	5	0	53	8	47	11	0	66	3	28	15	0	46	263	0
Total	51	272	12	0	335	78	78	13	0	169	24	181	47	0	252	19	96	65	0	180	936	0
17:00	17	76	4	0	97	17	24	3	0	44	6	48	22	0	76	0	25	9	0	34	251	0
17:15	12	68	1	0	81	8	17	4	0	29	14	39	15	0	68	3	17	10	0	30	208	0
17:30	8	62	5	0	75	20	27	2	0	49	8	41	11	0	60	3	27	8	0	38	222	0
17:45	16	64	7	0	87	14	18	4	0	36	6	26	11	0	43	1	17	10	0	28	194	0
Total	53	270	17	0	340	59	86	13	0	158	34	154	59	0	247	7	86	37	0	130	875	0
Grand Total	135	838	67	0	1040	360	364	61	0	785	131	611	250	0	992	64	413	216	0	693	3510	0
Apprch %	13.0%	80.6%	6.4%	0.0%		45.9%	46.4%	7.8%	0.0%		13.2%	61.6%	25.2%	0.0%		9.2%	59.6%	31.2%	0.0%			
Total %	3.8%	23.9%	1.9%	0.0%	29.6%	10.3%	10.4%	1.7%	0.0%	22.4%	3.7%	17.4%	7.1%	0.0%	28.3%	1.8%	11.8%	6.2%	0.0%	19.7%	100.0%	

AM PEAK HOUR	SR-33 Southbound					Walnut Ave/M St Westbound					SR-33 Northbound					Walnut Ave/M St Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	2	32	2	0	36	39	35	7	0	81	15	42	24	0	81	6	38	9	0	53	251
7:30	10	63	7	0	80	52	42	4	0	98	17	27	31	0	75	7	50	14	0	71	324
7:45	7	41	15	0	63	54	48	6	0	108	20	40	33	0	93	11	43	27	0	81	345
8:00	4	41	6	0	51	20	22	5	0	47	4	32	14	0	50	6	42	19	0	67	215
Total Volume	23	177	30	0	230	165	147	22	0	334	56	141	102	0	299	30	173	69	0	272	1135
% App Total	10.0%	77.0%	13.0%	0.0%		49.4%	44.0%	6.6%	0.0%		18.7%	47.2%	34.1%	0.0%		11.0%	63.6%	25.4%	0.0%		
PHF	.575	.702	.500	.000	.719	.764	.766	.786	.000	.773	.700	.839	.773	.000	.804	.682	.865	.639	.000	.840	.822

PM PEAK HOUR	SR-33 Southbound					Walnut Ave/M St Westbound					SR-33 Northbound					Walnut Ave/M St Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	9	75	4	0	88	13	16	3	0	32	5	56	11	0	72	3	15	16	0	34	226
16:30	14	63	1	0	78	18	21	1	0	40	9	38	18	0	65	6	19	17	0	42	225
16:45	17	77	4	0	98	26	22	5	0	53	8	47	11	0	66	3	28	15	0	46	263
17:00	17	76	4	0	97	17	24	3	0	44	6	48	22	0	76	0	25	9	0	34	251
Total Volume	57	291	13	0	361	74	83	12	0	169	28	189	62	0	279	12	87	57	0	156	965
% App Total	15.8%	80.6%	3.6%	0.0%		43.8%	49.1%	7.1%	0.0%		10.0%	67.7%	22.2%	0.0%		7.7%	55.8%	36.5%	0.0%		
PHF	.838	.945	.813	.000	.921	.712	.865	.600	.000	.797	.778	.844	.705	.000	.918	.500	.777	.838	.000	.848	.917

Prepared by National Data & Surveying Services

2nd St & Las Palmas Ave

Peak Hour Turning Movement Count

ID: 19-07142-011
City: Patterson

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	
AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND (2nd St)

AM	2	160	95	0	272	AM
NOON	0	0	0	0	0	NOON
PM	3	234	116	0	211	PM

EASTBOUND (Las Palmas Ave)

AM	NOON	PM	
334	0	334	
0	0	0	0
24	0	20	0
279	0	263	0
6	0	9	0
AM	NOON	PM	

WESTBOUND (Las Palmas Ave)

PM	NOON	AM	
69	0	120	0
319	0	331	0
201	0	162	0
0	0	0	0
542	0	514	
PM	NOON	AM	

NORTHBOUND (2nd St)

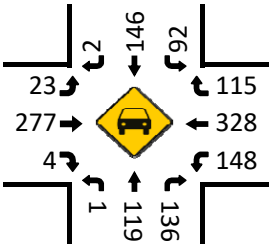
PM	444	0	12	122	163	PM
NOON	0	0	0	0	0	NOON
AM	328	0	1	128	140	AM

CONTROL

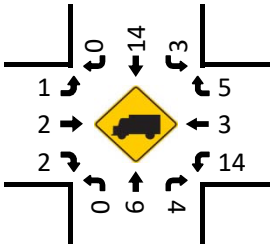
0

TEV	1448	0	1531
	AM	NOON	PM
PHF	0.83		0.93

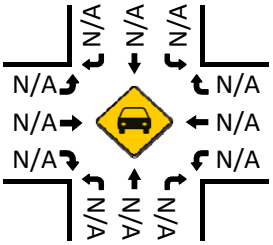
Cars (AM)



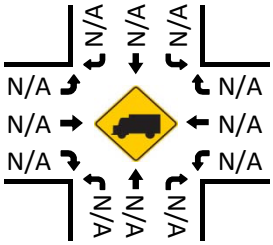
HT (AM)



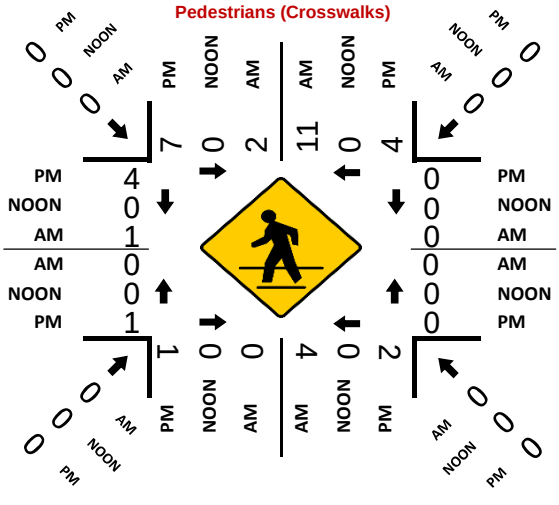
Cars (NOON)



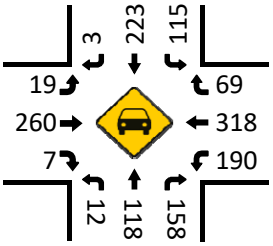
HT (NOON)



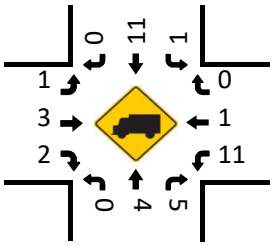
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-012
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	SR-33 Southbound					Olive Ave Westbound					SR-33 Northbound					Olive Ave Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	7	26	0	0	33	0	3	8	0	11	3	32	0	0	35	7	10	8	0	25	104	0
7:15	9	31	0	0	40	2	0	14	0	16	7	49	0	0	56	5	10	2	0	17	129	0
7:30	17	63	2	0	82	4	11	15	0	30	2	28	2	0	32	6	13	11	0	30	174	0
7:45	11	52	2	0	65	0	6	22	0	28	6	57	1	0	64	2	11	7	0	20	177	0
Total	44	172	4	0	220	6	20	59	0	85	18	166	3	0	187	20	44	28	0	92	584	0
8:00	2	41	0	0	43	0	5	6	0	11	4	38	2	0	44	1	3	6	0	10	108	0
8:15	4	27	1	0	32	1	7	6	0	14	4	30	0	0	34	3	4	2	0	9	89	0
8:30	7	28	0	0	35	2	1	8	0	11	1	39	2	0	42	1	2	2	0	5	93	0
8:45	6	33	0	0	39	0	1	8	0	9	3	32	2	0	37	2	2	5	0	9	94	0
Total	19	129	1	0	149	3	14	28	0	45	12	139	6	0	157	7	11	15	0	33	384	0
16:00	12	68	0	0	80	1	7	10	0	18	7	42	0	0	49	1	4	2	0	7	154	0
16:15	11	73	2	0	86	3	5	11	0	19	7	48	1	0	56	1	6	7	0	14	175	0
16:30	13	77	4	0	94	0	10	9	0	19	12	31	1	0	44	1	5	3	0	9	166	0
16:45	8	88	4	0	100	1	4	4	0	9	10	46	0	0	56	0	4	5	0	9	174	0
Total	44	306	10	0	360	5	26	34	0	65	36	167	2	0	205	3	19	17	0	39	669	0
17:00	14	90	2	0	106	2	7	6	0	15	6	42	2	1	51	4	5	5	0	14	186	1
17:15	6	81	2	0	89	2	5	7	0	14	5	32	4	0	41	0	9	1	0	10	154	0
17:30	8	57	1	0	66	2	4	5	0	11	10	33	3	1	47	2	3	3	0	8	132	1
17:45	12	77	3	0	92	2	3	1	0	6	4	18	1	0	23	0	5	4	0	9	130	0
Total	40	305	8	0	353	8	19	19	0	46	25	125	10	2	162	6	22	13	0	41	602	2
Grand Total	147	912	23	0	1082	22	79	140	0	241	91	597	21	2	711	36	96	73	0	205	2239	2
Apprch %	13.6%	84.3%	2.1%	0.0%		9.1%	32.8%	58.1%	0.0%		12.8%	84.0%	3.0%	0.3%		17.6%	46.8%	35.6%	0.0%			
Total %	6.6%	40.7%	1.0%	0.0%	48.3%	1.0%	3.5%	6.3%	0.0%	10.8%	4.1%	26.7%	0.9%	0.1%	31.8%	1.6%	4.3%	3.3%	0.0%	9.2%	100.0%	

AM PEAK HOUR	SR-33 Southbound					Olive Ave Westbound					SR-33 Northbound					Olive Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	9	31	0	0	40	2	0	14	0	16	7	49	0	0	56	5	10	2	0	17	129
7:30	17	63	2	0	82	4	11	15	0	30	2	28	2	0	32	6	13	11	0	30	174
7:45	11	52	2	0	65	0	6	22	0	28	6	57	1	0	64	2	11	7	0	20	177
8:00	2	41	0	0	43	0	5	6	0	11	4	38	2	0	44	1	3	6	0	10	108
Total Volume	39	187	4	0	230	6	22	57	0	85	19	172	5	0	196	14	37	26	0	77	588
% App Total	17.0%	81.3%	1.7%	0.0%		7.1%	25.9%	67.1%	0.0%		9.7%	87.8%	2.6%	0.0%		18.2%	48.1%	33.8%	0.0%		
PHF	.574	.742	.500	.000	.701	.375	.500	.648	.000	.708	.679	.754	.625	.000	.766	.583	.712	.591	.000	.642	.831

PM PEAK HOUR	SR-33 Southbound					Olive Ave Westbound					SR-33 Northbound					Olive Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	11	73	2	0	86	3	5	11	0	19	7	48	1	0	56	1	6	7	0	14	175
16:30	13	77	4	0	94	0	10	9	0	19	12	31	1	0	44	1	5	3	0	9	166
16:45	8	88	4	0	100	1	4	4	0	9	10	46	0	0	56	0	4	5	0	9	174
17:00	14	90	2	0	106	2	7	6	0	15	6	42	2	1	51	4	5	5	0	14	186
Total Volume	46	328	12	0	386	6	26	30	0	62	35	167	4	1	207	6	20	20	0	46	701
% App Total	11.9%	85.0%	3.1%	0.0%		9.7%	41.9%	48.4%	0.0%		16.9%	80.7%	1.9%	0.5%		13.0%	43.5%	43.5%	0.0%		
PHF	.821	.911	.750	.000	.910	.500	.650	.682	.000	.816	.729	.870	.500	.250	.924	.375	.833	.714	.000	.821	.942

Prepared by National Data & Surveying Services

Poplar Ave & Las Palmas Ave

Peak Hour Turning Movement Count

ID: 19-07142-013
City: Patterson

Day: Tuesday
Date: 04/16/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Poplar Ave — SOUTHBOUND

AM	6	0	7	0	14	AM
NOON	0	0	0	0	0	NOON
PM	2	0	3	0	13	PM

Las Palmas Ave — EASTBOUND

AM	NOON	PM	
418	0	543	⇦
0	0	0	↶ 0
9	0	5	↱ 0
506	0	494	→ 0
0	0	0	↴ 0
AM	NOON	PM	

Las Palmas Ave — WESTBOUND

PM	NOON	AM	
8	0	5	0 ↰
541	0	412	0 ←
0	0	0	0 ↙
0	0	0	0 ↲
497	0	513	⇨
PM	NOON	AM	

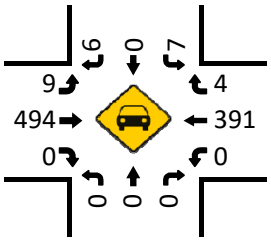
CONTROL: 0

TEV	945 AM	0 NOON	1053 PM
PHF	0.87		0.94

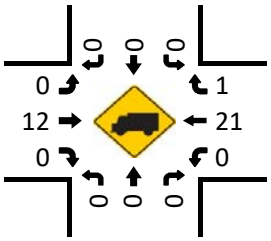
Poplar Ave — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

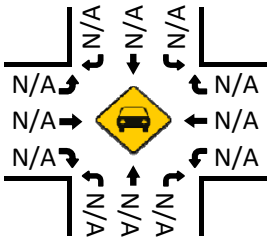
Cars (AM)



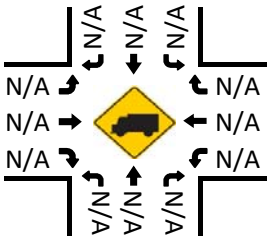
HT (AM)



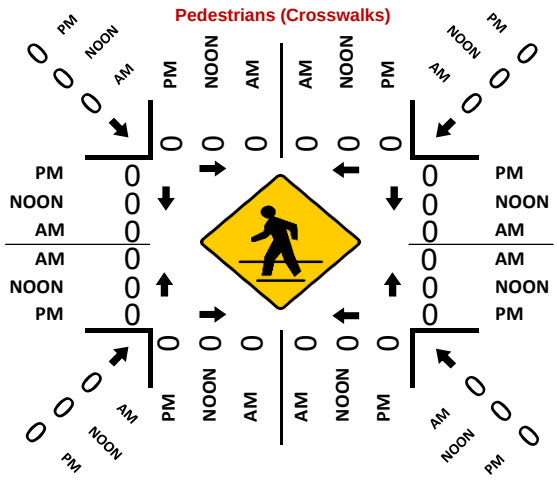
Cars (NOON)



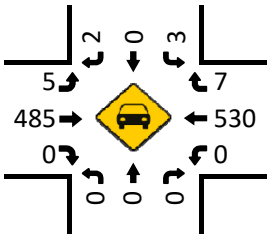
HT (NOON)



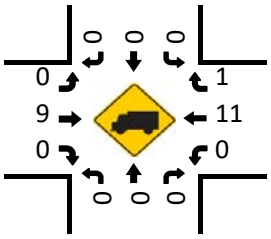
Pedestrians (Crosswalks)



Cars (PM)

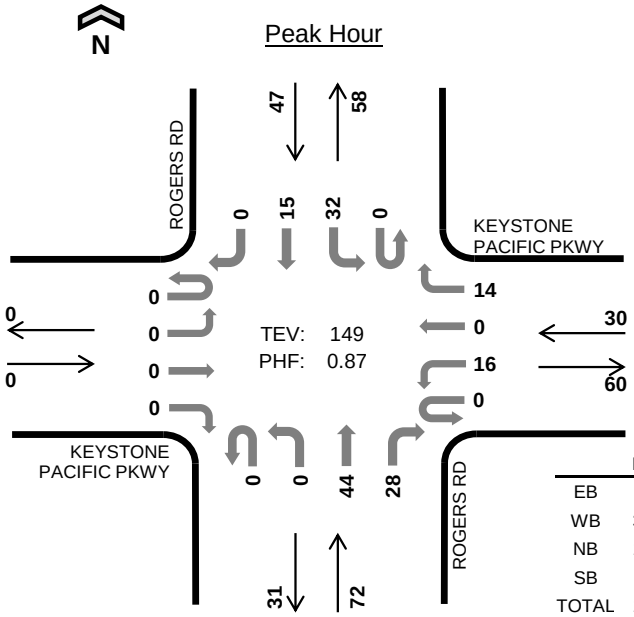


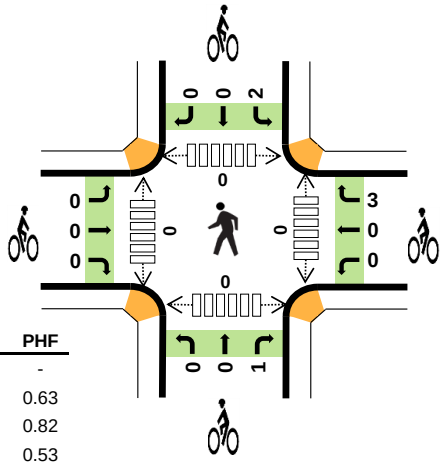
HT (PM)



ROGERS RD
KEYSTONE PACIFIC PKWY

Date: 01-08-2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	-	-
WB	30.0%	0.63
NB	11.1%	0.82
SB	8.5%	0.53
TOTAL	14.1%	0.87

Two-Hour Count Summaries

Interval Start		KEYSTONE PACIFIC PKWY Eastbound				KEYSTONE PACIFIC PKWY Westbound				ROGERS RD Northbound				ROGERS RD Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**12**	**6**	**0**	**8**	**2**	**0**	**32**	0
7:15 AM		**0**	**0**	**0**	**0**	**0**	**6**	**0**	**6**	**0**	**0**	**10**	**8**	**0**	**5**	**2**	**0**	**37**	0
7:30 AM		**0**	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**0**	**0**	**15**	**7**	**0**	**6**	**2**	**0**	**37**	0
7:45 AM		**0**	**0**	**0**	**0**	**0**	**4**	**0**	**3**	**0**	**0**	**7**	**7**	**0**	**13**	**9**	**0**	**43**	**149**
8:00 AM		0	0	0	0	0	4	0	4	0	0	9	4	0	9	1	0	31	148
8:15 AM		0	0	0	0	0	3	0	2	0	0	3	5	0	5	8	0	26	137
8:30 AM		0	0	0	0	0	4	0	3	0	0	9	5	1	5	6	0	33	133
8:45 AM		0	0	0	0	0	1	0	5	0	0	13	2	0	8	6	0	35	125
Count Total		0	0	0	0	0	28	0	28	0	0	78	44	1	59	36	0	274	0
Peak Hour	**All**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**14**	**0**	**0**	**44**	**28**	**0**	**32**	**15**	**0**	**149**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**2**	**0**	**0**	**1**	**7**	**0**	**3**	**1**	**0**	**21**	**0**
	HV%	**-**	**-**	**-**	**-**	**-**	**44%**	**-**	**14%**	**-**	**-**	**2%**	**25%**	**-**	**9%**	**7%**	**-**	**14%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**2**	**2**	***4***	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**0**	**3**	**2**	**1**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**2**	**3**	**0**	***5***	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**4**	**1**	**1**	***6***	**0**	**1**	**1**	**0**	***2***	**0**	**0**	**0**	**0**	***0***
8:00 AM	0	4	2	1	*7*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	2	4	1	*7*	0	4	0	1	*5*	0	0	0	0	*0*
8:30 AM	0	0	2	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	2	2	3	*7*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	17	18	11	*46*	0	7	1	3	*11*	0	0	0	0	*0*
Peak Hour	**0**	**9**	**8**	**4**	***21***	**0**	**3**	**1**	**2**	***6***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	KEYSTONE PACIFIC PKWY				KEYSTONE PACIFIC PKWY				ROGERS RD				ROGERS RD				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**4**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**6**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**5**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**6**	**21**
8:00 AM	0	0	0	0	0	2	0	2	0	0	1	1	0	1	0	0	7	24
8:15 AM	0	0	0	0	0	2	0	0	0	0	0	4	0	1	0	0	7	25
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	4	24
8:45 AM	0	0	0	0	0	0	0	2	0	0	2	0	0	1	2	0	7	25
Count Total	0	0	0	0	0	11	0	6	0	0	5	13	1	6	4	0	46	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**2**	**0**	**0**	**1**	**7**	**0**	**3**	**1**	**0**	**21**	**0**

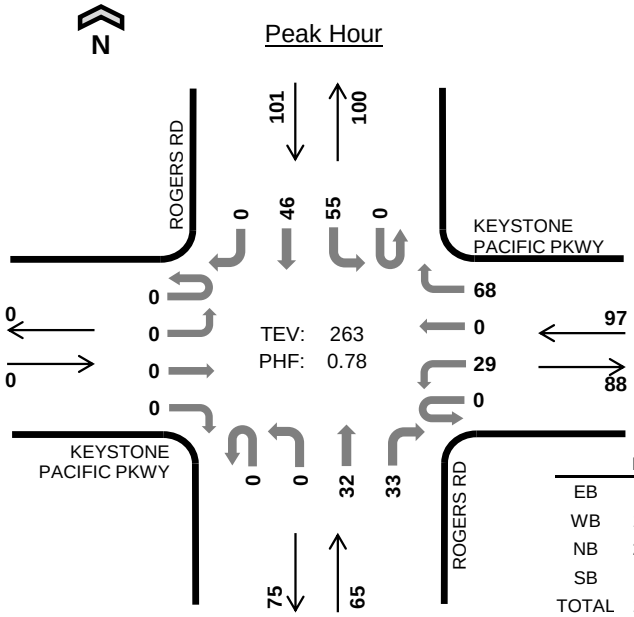
Two-Hour Count Summaries - Bikes

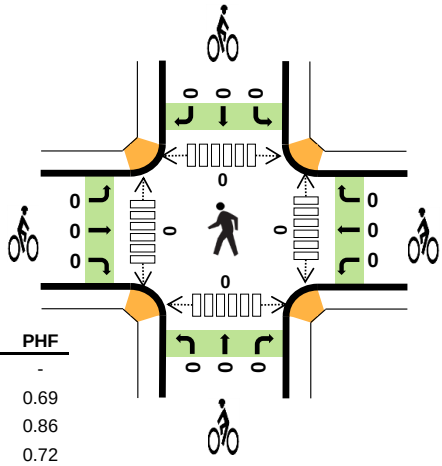
Interval Start	KEYSTONE PACIFIC PKWY			KEYSTONE PACIFIC PKWY			ROGERS RD			ROGERS RD			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**6**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	4	0	0	0	0	1	0	5	9
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Count Total	0	0	0	0	0	7	0	0	1	2	1	0	11	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**2**	**0**	**0**	**6**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

ROGERS RD
KEYSTONE PACIFIC PKWY

Date: 01-08-2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV %:	PHF
EB	-	-
WB	11.3%	0.69
NB	24.6%	0.86
SB	7.9%	0.72
TOTAL	13.3%	0.78

Two-Hour Count Summaries

Interval Start	KEYSTONE PACIFIC PKWY Eastbound				KEYSTONE PACIFIC PKWY Westbound				ROGERS RD Northbound				ROGERS RD Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	4	0	9	0	0	10	4	0	6	13	0	46	0
4:15 PM	0	0	0	0	0	5	0	5	0	0	11	4	0	1	8	0	34	0
4:30 PM	0	0	0	0	0	11	0	15	0	0	4	8	0	3	10	0	51	0
4:45 PM	0	0	0	0	0	14	0	24	0	0	14	4	0	7	9	0	72	203
5:00 PM	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**7**	**0**	**0**	**8**	**7**	**0**	**6**	**6**	**0**	**50**	207
5:15 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**2**	**0**	**0**	**8**	**11**	**0**	**13**	**11**	**0**	**48**	221
5:30 PM	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**30**	**0**	**0**	**8**	**8**	**0**	**13**	**17**	**0**	**81**	251
5:45 PM	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**29**	**0**	**0**	**8**	**7**	**0**	**23**	**12**	**0**	**84**	**263**
Count Total	0	0	0	0	0	63	0	121	0	0	71	53	0	72	86	0	466	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**29**	**0**	**68**	**0**	**0**	**32**	**33**	**0**	**55**	**46**	**0**	**263**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**3**	**0**	**0**	**7**	**9**	**0**	**2**	**6**	**0**	**35**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**28%**	**-**	**4%**	**-**	**-**	**22%**	**27%**	**-**	**4%**	**13%**	**-**	**13%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	2	5	2	*9*	0	0	0	1	*1*	0	0	0	0	*0*
4:15 PM	0	2	5	1	*8*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	2	6	4	*12*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	0	4	1	3	*8*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	**0**	**3**	**3**	**1**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**2**	**4**	**2**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**0**	**0**	**4**	**4**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**0**	**6**	**5**	**1**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	0	21	33	18	*72*	0	0	0	1	*1*	0	0	0	0	*0*
Peak Hour	**0**	**11**	**16**	**8**	***35***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	KEYSTONE PACIFIC PKWY				KEYSTONE PACIFIC PKWY				ROGERS RD				ROGERS RD				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	1	0	0	4	1	0	1	1	0	9	0
4:15 PM	0	0	0	0	0	1	0	1	0	0	3	2	0	0	1	0	8	0
4:30 PM	0	0	0	0	0	2	0	0	0	0	0	6	0	0	4	0	12	0
4:45 PM	0	0	0	0	0	3	0	1	0	0	0	1	0	1	2	0	8	37
5:00 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**1**	**0**	**7**	35
5:15 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**2**	**0**	**8**	35
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**1**	**3**	**0**	**8**	31
5:45 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**	**0**	**0**	**2**	**3**	**0**	**1**	**0**	**0**	**12**	**35**
Count Total	0	0	0	0	0	15	0	6	0	0	14	19	0	4	14	0	72	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**3**	**0**	**0**	**7**	**9**	**0**	**2**	**6**	**0**	**35**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	KEYSTONE PACIFIC PKWY			KEYSTONE PACIFIC PKWY			ROGERS RD			ROGERS RD			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	0	0	0	0	0	1	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Prepared by National Data & Surveying Services

SR 33 & Grayson Rd/Howard Rd

Peak Hour Turning Movement Count

ID: 20-090171-001
City: Westley

Day: Thursday
Date: 11/05/2020

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 04:00 PM - 05:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SR 33

SOUTHBOUND

AM	3	77	8	0	162	AM
NOON	0	0	0	0	0	NOON
PM	4	207	205	0	141	PM

Grayson Rd/Howard Rd

EASTBOUND

AM	NOON	PM		
125	0	74	⇦	
0	0	0	↶	0
5	0	7	↱	0
16	0	345	→	0
9	0	46	↳	0
AM	NOON	PM		

CONTROL

4 Way Stop - 2 Yield

TEV	703 AM	0 NOON	1423 PM
PHF	0.96		0.99

WESTBOUND

PM	NOON	AM		
35	0	50	↰	0
49	0	112	←	0
179	0	163	↰	0
0	0	0	↰	0
776	0	167	⇨	
PM	NOON	AM		

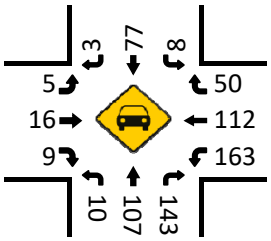
Grayson Rd/Howard Rd

NORTHBOUND

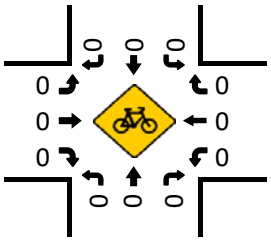
PM	432	0	21	99	226	PM
NOON	0	0	0	0	0	NOON
AM	249	0	10	107	143	AM

SR 33

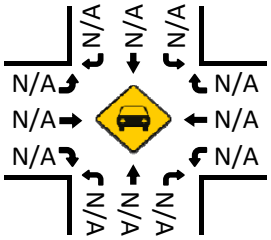
Total Vehicles (AM)



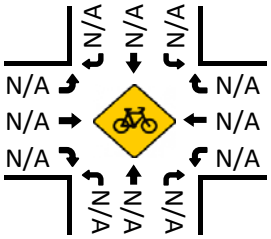
Bikes (AM)



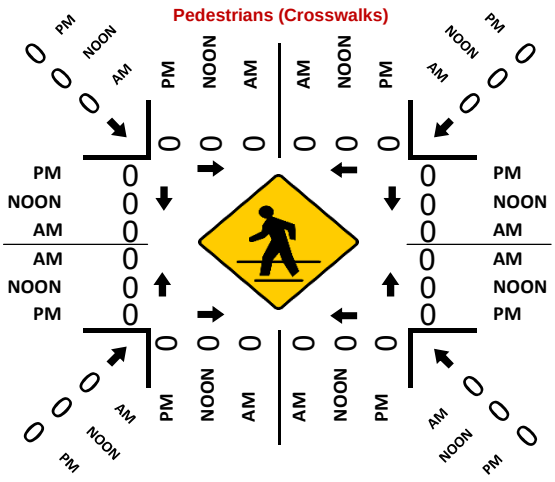
Total Vehicles (NOON)



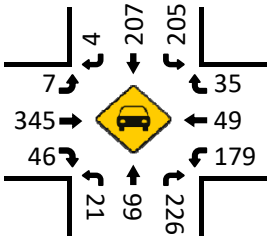
Bikes (NOON)



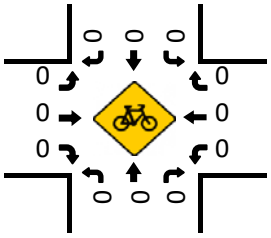
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-015
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	Rogers Rd Southbound					Zacharias Rd Westbound					Rogers Rd Northbound					Zacharias Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	8	26	0	0	34	1	0	3	0	4	0	11	1	0	12	0	0	0	0	0	50	0
7:15	4	13	0	0	17	2	0	1	0	3	0	14	2	0	16	0	0	0	0	0	36	0
7:30	3	8	1	0	12	2	0	1	0	3	0	11	1	0	12	1	0	1	0	2	29	0
7:45	1	21	0	0	22	5	0	2	0	7	0	10	3	0	13	0	0	0	0	0	42	0
Total	16	68	1	0	85	10	0	7	0	17	0	46	7	0	53	1	0	1	0	2	157	0
8:00	2	25	0	0	27	2	0	1	0	3	0	11	2	0	13	0	0	0	0	0	43	0
8:15	4	11	0	0	15	0	0	2	0	2	0	10	2	0	12	1	0	0	0	1	30	0
8:30	1	11	0	0	12	1	0	3	0	4	0	6	1	0	7	0	0	0	0	0	23	0
8:45	4	25	0	0	29	4	0	3	0	7	0	13	1	0	14	0	0	0	0	0	50	0
Total	11	72	0	0	83	7	0	9	0	16	0	40	6	0	46	1	0	0	0	1	146	0
16:00	5	17	0	0	22	2	0	5	0	7	0	19	2	0	21	0	1	0	0	1	51	0
16:15	3	9	0	0	12	2	0	4	0	6	0	43	2	0	45	0	0	0	0	0	63	0
16:30	5	8	0	0	13	1	0	6	0	7	0	30	2	1	33	0	0	0	0	0	53	1
16:45	3	13	0	0	16	3	0	1	0	4	0	26	4	0	30	0	0	0	0	0	50	0
Total	16	47	0	0	63	8	0	16	0	24	0	118	10	1	129	0	1	0	0	1	217	1
17:00	7	11	1	0	19	2	0	4	0	6	0	9	6	0	15	0	0	0	0	0	40	0
17:15	3	17	0	0	20	1	0	1	0	2	0	12	5	0	17	0	0	0	0	0	39	0
17:30	4	21	1	0	26	0	0	3	0	3	0	25	0	0	25	0	0	0	0	0	54	0
17:45	7	32	0	0	39	0	0	6	0	6	0	27	3	0	30	0	0	0	0	0	75	0
Total	21	81	2	0	104	3	0	14	0	17	0	73	14	0	87	0	0	0	0	0	208	0
Grand Total	64	268	3	0	335	28	0	46	0	74	0	277	37	1	315	2	1	1	0	4	728	1
Apprch %	19.1%	80.0%	0.9%	0.0%		37.8%	0.0%	62.2%	0.0%		0.0%	87.9%	11.7%	0.3%		50.0%	25.0%	25.0%	0.0%			
Total %	8.8%	36.8%	0.4%	0.0%	46.0%	3.8%	0.0%	6.3%	0.0%	10.2%	0.0%	38.0%	5.1%	0.1%	43.3%	0.3%	0.1%	0.1%	0.0%	0.5%	100.0%	

AM PEAK HOUR	Rogers Rd Southbound					Zacharias Rd Westbound					Rogers Rd Northbound					Zacharias Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:00 to 08:00																					
Peak Hour For Entire Intersection Begins at 07:00																					
7:00	8	26	0	0	34	1	0	3	0	4	0	11	1	0	12	0	0	0	0	0	50
7:15	4	13	0	0	17	2	0	1	0	3	0	14	2	0	16	0	0	0	0	0	36
7:30	3	8	1	0	12	2	0	1	0	3	0	11	1	0	12	1	0	1	0	2	29
7:45	1	21	0	0	22	5	0	2	0	7	0	10	3	0	13	0	0	0	0	0	42
Total Volume	16	68	1	0	85	10	0	7	0	17	0	46	7	0	53	1	0	1	0	2	157
% App Total	18.8%	80.0%	1.2%	0.0%		58.8%	0.0%	41.2%	0.0%		0.0%	86.8%	13.2%	0.0%		50.0%	0.0%	50.0%	0.0%		
PHF	.500	.654	.250	.000	.625	.500	.000	.583	.000	.607	.000	.821	.583	.000	.828	.250	.000	.250	.000	.250	.785

PM PEAK HOUR	Rogers Rd Southbound					Zacharias Rd Westbound					Rogers Rd Northbound					Zacharias Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	5	17	0	0	22	2	0	5	0	7	0	19	2	0	21	0	1	0	0	1	51
16:15	3	9	0	0	12	2	0	4	0	6	0	43	2	0	45	0	0	0	0	0	63
16:30	5	8	0	0	13	1	0	6	0	7	0	30	2	1	33	0	0	0	0	0	53
16:45	3	13	0	0	16	3	0	1	0	4	0	26	4	0	30	0	0	0	0	0	50
Total Volume	16	47	0	0	63	8	0	16	0	24	0	118	10	1	129	0	1	0	0	1	217
% App Total	25.4%	74.6%	0.0%	0.0%		33.3%	0.0%	66.7%	0.0%		0.0%	91.5%	7.8%	0.8%		0.0%	100.0%	0.0%	0.0%		
PHF	.800	.691	.000	.000	.716	.667	.000	.667	.000	.857	.000	.686	.625	.250	.717	.000	.250	.000	.000	.250	.861

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-016
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	Baldwin Rd Southbound					Zacharias Rd Westbound					Baldwin Rd Northbound					Zacharias Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	7	0	0	7	4	2	1	0	7	1	16	2	0	19	0	4	6	0	10	43	0
7:15	1	9	0	0	10	1	4	0	0	5	0	24	6	0	30	0	4	1	0	5	50	0
7:30	0	13	0	0	13	9	3	2	0	14	0	24	16	0	40	0	2	2	0	4	71	0
7:45	1	14	0	0	15	13	7	0	0	20	0	23	12	0	35	0	3	0	0	3	73	0
Total	2	43	0	0	45	27	16	3	0	46	1	87	36	0	124	0	13	9	0	22	237	0
8:00	0	5	0	0	5	8	4	0	0	12	1	12	0	0	13	0	6	0	0	6	36	0
8:15	0	8	1	0	9	2	1	0	0	3	0	10	2	0	12	0	6	0	0	6	30	0
8:30	0	8	0	0	8	4	5	1	0	10	0	6	3	0	9	0	1	2	0	3	30	0
8:45	0	2	1	0	3	6	5	0	0	11	1	8	5	0	14	0	5	0	0	5	33	0
Total	0	23	2	0	25	20	15	1	0	36	2	36	10	0	48	0	18	2	0	20	129	0
16:00	0	12	1	0	13	4	1	1	0	6	1	12	5	0	18	0	7	2	0	9	46	0
16:15	1	13	1	0	15	1	4	0	0	5	2	13	20	1	36	0	3	0	0	3	59	1
16:30	0	13	0	0	13	2	4	0	0	6	2	11	9	0	22	0	4	2	0	6	47	0
16:45	1	7	0	0	8	1	5	0	0	6	2	8	8	0	18	0	4	1	0	5	37	0
Total	2	45	2	0	49	8	14	1	0	23	7	44	42	1	94	0	18	5	0	23	189	1
17:00	1	20	0	0	21	4	4	1	0	9	1	14	3	0	18	0	14	1	0	15	63	0
17:15	0	23	0	0	23	1	3	0	0	4	0	10	3	0	13	0	7	3	0	10	50	0
17:30	1	22	0	0	23	7	2	0	0	9	1	16	4	0	21	0	3	2	0	5	58	0
17:45	0	18	0	0	18	5	4	0	0	9	3	8	4	0	15	0	11	2	0	13	55	0
Total	2	83	0	0	85	17	13	1	0	31	5	48	14	0	67	0	35	8	0	43	226	0
Grand Total	6	194	4	0	204	72	58	6	0	136	15	215	102	1	333	0	84	24	0	108	781	1
Apprch %	2.9%	95.1%	2.0%	0.0%		52.9%	42.6%	4.4%	0.0%		4.5%	64.6%	30.6%	0.3%		0.0%	77.8%	22.2%	0.0%			
Total %	0.8%	24.8%	0.5%	0.0%	26.1%	9.2%	7.4%	0.8%	0.0%	17.4%	1.9%	27.5%	13.1%	0.1%	42.6%	0.0%	10.8%	3.1%	0.0%	13.8%	100.0%	

AM PEAK HOUR	Baldwin Rd Southbound					Zacharias Rd Westbound					Baldwin Rd Northbound					Zacharias Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:00 to 08:00																					
Peak Hour For Entire Intersection Begins at 07:00																					
7:00	0	7	0	0	7	4	2	1	0	7	1	16	2	0	19	0	4	6	0	10	43
7:15	1	9	0	0	10	1	4	0	0	5	0	24	6	0	30	0	4	1	0	5	50
7:30	0	13	0	0	13	9	3	2	0	14	0	24	16	0	40	0	2	2	0	4	71
7:45	1	14	0	0	15	13	7	0	0	20	0	23	12	0	35	0	3	0	0	3	73
Total Volume	2	43	0	0	45	27	16	3	0	46	1	87	36	0	124	0	13	9	0	22	237
% App Total	4.4%	95.6%	0.0%	0.0%		58.7%	34.8%	6.5%	0.0%		0.8%	70.2%	29.0%	0.0%		0.0%	59.1%	40.9%	0.0%		
PHF	.500	.768	.000	.000	.750	.519	.571	.375	.000	.575	.250	.906	.563	.000	.775	.000	.813	.375	.000	.550	.812

PM PEAK HOUR	Baldwin Rd Southbound					Zacharias Rd Westbound					Baldwin Rd Northbound					Zacharias Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	1	20	0	0	21	4	4	1	0	9	1	14	3	0	18	0	14	1	0	15	63
17:15	0	23	0	0	23	1	3	0	0	4	0	10	3	0	13	0	7	3	0	10	50
17:30	1	22	0	0	23	7	2	0	0	9	1	16	4	0	21	0	3	2	0	5	58
17:45	0	18	0	0	18	5	4	0	0	9	3	8	4	0	15	0	11	2	0	13	55
Total Volume	2	83	0	0	85	17	13	1	0	31	5	48	14	0	67	0	35	8	0	43	226
% App Total	2.4%	97.6%	0.0%	0.0%		54.8%	41.9%	3.2%	0.0%		7.5%	71.6%	20.9%	0.0%		0.0%	81.4%	18.6%	0.0%		
PHF	.500	.902	.000	.000	.924	.607	.813	.250	.000	.861	.417	.750	.875	.000	.798	.000	.625	.667	.000	.717	.897

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-017
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	SR-33 Southbound					Zacharias Rd Westbound					SR-33 Northbound					Zacharias Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	45	1	1	47	0	0	0	0	0	5	60	0	0	65	0	0	4	0	4	116	1
7:15	0	53	1	0	54	0	0	0	0	0	5	91	0	0	96	0	0	12	0	12	162	0
7:30	0	84	0	0	84	0	0	0	0	0	13	62	0	0	75	0	0	17	0	17	176	0
7:45	0	70	2	0	72	0	0	0	0	0	18	78	0	0	96	0	0	16	0	16	184	0
Total	0	252	4	1	257	0	0	0	0	0	41	291	0	0	332	0	0	49	0	49	638	1
8:00	0	46	2	0	48	0	0	0	0	0	9	49	0	0	58	0	0	7	0	7	113	0
8:15	0	28	1	0	29	0	0	0	0	0	3	49	0	0	52	1	0	9	0	10	91	0
8:30	0	43	2	0	45	0	0	0	0	0	6	55	0	0	61	2	0	2	0	4	110	0
8:45	0	47	2	0	49	0	0	0	0	0	9	42	0	0	51	2	0	8	0	10	110	0
Total	0	164	7	0	171	0	0	0	0	0	27	195	0	0	222	5	0	26	0	31	424	0
16:00	0	90	1	0	91	0	0	0	0	0	4	71	0	0	75	0	0	14	0	14	180	0
16:15	0	106	1	0	107	0	0	0	0	0	5	86	0	0	91	1	0	22	0	23	221	0
16:30	0	124	0	0	124	0	0	0	0	0	5	54	0	0	59	1	0	8	0	9	192	0
16:45	0	125	3	0	128	0	0	0	0	0	4	54	0	0	58	0	0	15	0	15	201	0
Total	0	445	5	0	450	0	0	0	0	0	18	265	0	0	283	2	0	59	0	61	794	0
17:00	0	120	2	0	122	0	0	0	0	0	6	61	0	0	67	1	0	17	0	18	207	0
17:15	0	127	1	0	128	0	0	0	0	0	4	54	0	0	58	2	0	10	0	12	198	0
17:30	0	90	1	0	91	0	0	0	0	0	9	56	0	0	65	0	0	6	0	6	162	0
17:45	0	119	2	0	121	0	0	0	0	0	6	30	0	0	36	3	0	12	0	15	172	0
Total	0	456	6	0	462	0	0	0	0	0	25	201	0	0	226	6	0	45	0	51	739	0
Grand Total	0	1317	22	1	1340	0	0	0	0	0	111	952	0	0	1063	13	0	179	0	192	2595	1
Apprch %	0.0%	98.3%	1.6%	0.1%		0.0%	0.0%	0.0%	0.0%		10.4%	89.6%	0.0%	0.0%		6.8%	0.0%	93.2%	0.0%			
Total %	0.0%	50.8%	0.8%	0.0%	51.6%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%	36.7%	0.0%	0.0%	41.0%	0.5%	0.0%	6.9%	0.0%	7.4%	100.0%	

AM PEAK HOUR	SR-33 Southbound					Zacharias Rd Westbound					SR-33 Northbound					Zacharias Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:00 to 08:00																					
Peak Hour For Entire Intersection Begins at 07:00																					
7:00	0	45	1	1	47	0	0	0	0	0	5	60	0	0	65	0	0	4	0	4	116
7:15	0	53	1	0	54	0	0	0	0	0	5	91	0	0	96	0	0	12	0	12	162
7:30	0	84	0	0	84	0	0	0	0	0	13	62	0	0	75	0	0	17	0	17	176
7:45	0	70	2	0	72	0	0	0	0	0	18	78	0	0	96	0	0	16	0	16	184
Total Volume	0	252	4	1	257	0	0	0	0	0	41	291	0	0	332	0	0	49	0	49	638
% App Total	0.0%	98.1%	1.6%	0.4%		0.0%	0.0%	0.0%	0.0%		12.3%	87.7%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%		
PHF	.000	.750	.500	.250	.765	.000	.000	.000	.000	.000	.569	.799	.000	.000	.865	.000	.000	.721	.000	.721	.867

PM PEAK HOUR	SR-33 Southbound					Zacharias Rd Westbound					SR-33 Northbound					Zacharias Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	106	1	0	107	0	0	0	0	0	5	86	0	0	91	1	0	22	0	23	221
16:30	0	124	0	0	124	0	0	0	0	0	5	54	0	0	59	1	0	8	0	9	192
16:45	0	125	3	0	128	0	0	0	0	0	4	54	0	0	58	0	0	15	0	15	201
17:00	0	120	2	0	122	0	0	0	0	0	6	61	0	0	67	1	0	17	0	18	207
Total Volume	0	475	6	0	481	0	0	0	0	0	20	255	0	0	275	3	0	62	0	65	821
% App Total	0.0%	98.8%	1.2%	0.0%		0.0%	0.0%	0.0%	0.0%		7.3%	92.7%	0.0%	0.0%		4.6%	0.0%	95.4%	0.0%		
PHF	.000	.950	.500	.000	.939	.000	.000	.000	.000	.000	.833	.741	.000	.000	.755	.750	.000	.705	.000	.707	.929

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-018
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	SR-33 Southbound					Ward Ave Westbound					SR-33 Northbound					Ward Ave Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	33	15	0	48	0	0	0	0	0	0	47	0	0	47	24	0	0	0	24	119	0
7:15	0	43	22	0	65	0	0	0	0	0	0	69	0	0	69	21	0	0	0	21	155	0
7:30	0	78	27	0	105	0	0	0	0	0	0	47	0	0	47	25	0	1	0	26	178	0
7:45	0	66	26	0	92	0	0	0	0	0	0	79	0	0	79	17	0	3	0	20	191	0
Total	0	220	90	0	310	0	0	0	0	0	0	242	0	0	242	87	0	4	0	91	643	0
8:00	0	39	18	0	57	0	0	0	0	0	3	43	0	0	46	14	0	3	0	17	120	0
8:15	0	29	6	0	35	0	0	0	0	0	1	37	0	0	38	15	0	1	0	16	89	0
8:30	0	35	8	0	43	0	0	0	0	0	0	47	0	0	47	13	0	1	0	14	104	0
8:45	0	33	19	0	52	0	0	0	0	0	0	39	0	0	39	7	0	1	0	8	99	0
Total	0	136	51	0	187	0	0	0	0	0	4	166	0	0	170	49	0	6	0	55	412	0
16:00	0	78	26	0	104	0	0	0	0	0	0	52	0	0	52	24	0	1	0	25	181	0
16:15	0	89	26	0	115	0	0	0	0	0	0	61	0	0	61	34	0	0	0	34	210	0
16:30	0	88	38	0	126	0	0	0	0	0	0	42	0	0	42	16	0	0	0	16	184	0
16:45	0	101	31	0	132	0	0	0	0	0	2	46	0	0	48	17	0	1	0	18	198	0
Total	0	356	121	0	477	0	0	0	0	0	2	201	0	0	203	91	0	2	0	93	773	0
17:00	0	96	37	0	133	0	0	0	0	0	2	52	0	0	54	25	0	4	0	29	216	0
17:15	0	95	44	0	139	0	0	0	0	0	0	39	0	0	39	17	0	1	0	18	196	0
17:30	0	63	32	0	95	0	0	0	0	0	0	38	0	0	38	25	0	2	0	27	160	0
17:45	0	92	36	0	128	0	0	0	0	0	0	21	0	0	21	11	0	0	0	11	160	0
Total	0	346	149	0	495	0	0	0	0	0	2	150	0	0	152	78	0	7	0	85	732	0
Grand Total	0	1058	411	0	1469	0	0	0	0	0	8	759	0	0	767	305	0	19	0	324	2560	0
Apprch %	0.0%	72.0%	28.0%	0.0%		0.0%	0.0%	0.0%	0.0%		1.0%	99.0%	0.0%	0.0%		94.1%	0.0%	5.9%	0.0%			
Total %	0.0%	41.3%	16.1%	0.0%	57.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	29.6%	0.0%	0.0%	30.0%	11.9%	0.0%	0.7%	0.0%	12.7%	100.0%	

AM PEAK HOUR	SR-33 Southbound					Ward Ave Westbound					SR-33 Northbound					Ward Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	0	43	22	0	65	0	0	0	0	0	0	69	0	0	69	21	0	0	0	21	155
7:30	0	78	27	0	105	0	0	0	0	0	0	47	0	0	47	25	0	1	0	26	178
7:45	0	66	26	0	92	0	0	0	0	0	0	79	0	0	79	17	0	3	0	20	191
8:00	0	39	18	0	57	0	0	0	0	0	3	43	0	0	46	14	0	3	0	17	120
Total Volume	0	226	93	0	319	0	0	0	0	0	3	238	0	0	241	77	0	7	0	84	644
% App Total	0.0%	70.8%	29.2%	0.0%		0.0%	0.0%	0.0%	0.0%		1.2%	98.8%	0.0%	0.0%		91.7%	0.0%	8.3%	0.0%		
PHF	.000	.724	.861	.000	.760	.000	.000	.000	.000	.000	.250	.753	.000	.000	.763	.770	.000	.583	.000	.808	.843

PM PEAK HOUR	SR-33 Southbound					Ward Ave Westbound					SR-33 Northbound					Ward Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	89	26	0	115	0	0	0	0	0	0	61	0	0	61	34	0	0	0	34	210
16:30	0	88	38	0	126	0	0	0	0	0	0	42	0	0	42	16	0	0	0	16	184
16:45	0	101	31	0	132	0	0	0	0	0	2	46	0	0	48	17	0	1	0	18	198
17:00	0	96	37	0	133	0	0	0	0	0	2	52	0	0	54	25	0	4	0	29	216
Total Volume	0	374	132	0	506	0	0	0	0	0	4	201	0	0	205	92	0	5	0	97	808
% App Total	0.0%	73.9%	26.1%	0.0%		0.0%	0.0%	0.0%	0.0%		2.0%	98.0%	0.0%	0.0%		94.8%	0.0%	5.2%	0.0%		
PHF	.000	.926	.868	.000	.951	.000	.000	.000	.000	.000	.500	.824	.000	.000	.840	.676	.000	.313	.000	.713	.935

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-019
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	SR-33 Southbound					Eucalyptus Ave Westbound					SR-33 Northbound					Eucalyptus Ave Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	2	46	0	0	48	2	0	4	0	6	0	62	2	0	64	0	0	0	0	0	118	0
7:15	1	64	0	0	65	1	0	5	0	6	0	92	4	0	96	0	0	0	0	0	167	0
7:30	3	93	0	0	96	9	0	5	0	14	0	69	2	0	71	0	0	0	0	0	181	0
7:45	1	86	0	0	87	6	0	7	0	13	0	90	6	0	96	0	0	0	0	0	196	0
Total	7	289	0	0	296	18	0	21	0	39	0	313	14	0	327	0	0	0	0	0	662	0
8:00	5	50	0	0	55	6	0	8	0	14	0	52	3	0	55	0	0	0	0	0	124	0
8:15	1	35	0	0	36	0	0	3	0	3	0	47	0	0	47	0	0	0	0	0	86	0
8:30	2	42	0	0	44	0	0	3	0	3	0	57	4	0	61	0	0	0	0	0	108	0
8:45	4	52	0	0	56	1	0	4	0	5	0	47	3	0	50	0	0	0	0	0	111	0
Total	12	179	0	0	191	7	0	18	0	25	0	203	10	0	213	0	0	0	0	0	429	0
16:00	9	99	0	0	108	4	0	0	0	4	0	73	3	0	76	0	0	0	0	0	188	0
16:15	14	112	0	0	126	2	0	2	0	4	0	87	5	0	92	0	0	0	0	0	222	0
16:30	10	124	0	0	134	4	0	3	0	7	0	56	4	0	60	0	0	0	0	0	201	0
16:45	10	128	0	0	138	2	0	1	0	3	0	58	3	0	61	0	0	0	0	0	202	0
Total	43	463	0	0	506	12	0	6	0	18	0	274	15	0	289	0	0	0	0	0	813	0
17:00	8	126	0	0	134	4	0	2	0	6	0	65	7	0	72	0	0	0	0	0	212	0
17:15	8	130	0	0	138	8	0	2	0	10	0	56	4	0	60	0	0	0	0	0	208	0
17:30	5	94	0	0	99	3	0	3	0	6	0	60	3	0	63	0	0	0	0	0	168	0
17:45	5	124	0	0	129	3	0	5	0	8	0	31	4	0	35	0	0	0	0	0	172	0
Total	26	474	0	0	500	18	0	12	0	30	0	212	18	0	230	0	0	0	0	0	760	0
Grand Total	88	1405	0	0	1493	55	0	57	0	112	0	1002	57	0	1059	0	0	0	0	0	2664	0
Apprch %	5.9%	94.1%	0.0%	0.0%		49.1%	0.0%	50.9%	0.0%		0.0%	94.6%	5.4%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	3.3%	52.7%	0.0%	0.0%	56.0%	2.1%	0.0%	2.1%	0.0%	4.2%	0.0%	37.6%	2.1%	0.0%	39.8%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

AM PEAK HOUR	SR-33 Southbound					Eucalyptus Ave Westbound					SR-33 Northbound					Eucalyptus Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	1	64	0	0	65	1	0	5	0	6	0	92	4	0	96	0	0	0	0	0	167
7:30	3	93	0	0	96	9	0	5	0	14	0	69	2	0	71	0	0	0	0	0	181
7:45	1	86	0	0	87	6	0	7	0	13	0	90	6	0	96	0	0	0	0	0	196
8:00	5	50	0	0	55	6	0	8	0	14	0	52	3	0	55	0	0	0	0	0	124
Total Volume	10	293	0	0	303	22	0	25	0	47	0	303	15	0	318	0	0	0	0	0	668
% App Total	3.3%	96.7%	0.0%	0.0%		46.8%	0.0%	53.2%	0.0%		0.0%	95.3%	4.7%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.500	.788	.000	.000	.789	.611	.000	.781	.000	.839	.000	.823	.625	.000	.828	.000	.000	.000	.000	.000	.852

PM PEAK HOUR	SR-33 Southbound					Eucalyptus Ave Westbound					SR-33 Northbound					Eucalyptus Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	14	112	0	0	126	2	0	2	0	4	0	87	5	0	92	0	0	0	0	0	222
16:30	10	124	0	0	134	4	0	3	0	7	0	56	4	0	60	0	0	0	0	0	201
16:45	10	128	0	0	138	2	0	1	0	3	0	58	3	0	61	0	0	0	0	0	202
17:00	8	126	0	0	134	4	0	2	0	6	0	65	7	0	72	0	0	0	0	0	212
Total Volume	42	490	0	0	532	12	0	8	0	20	0	266	19	0	285	0	0	0	0	0	837
% App Total	7.9%	92.1%	0.0%	0.0%		60.0%	0.0%	40.0%	0.0%		0.0%	93.3%	6.7%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.750	.957	.000	.000	.964	.750	.000	.667	.000	.714	.000	.764	.679	.000	.774	.000	.000	.000	.000	.000	.943

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-020
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	SR-33 Southbound					Baldwin Rd Westbound					SR-33 Northbound					Baldwin Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	42	7	0	49	0	0	0	0	0	1	75	0	0	76	18	0	0	0	18	143	0
7:15	0	52	9	0	61	0	0	0	0	0	0	90	0	0	90	16	0	1	0	17	168	0
7:30	0	75	14	0	89	0	0	0	0	0	0	74	0	0	74	30	0	1	0	31	194	0
7:45	0	63	12	0	75	0	0	0	0	0	0	71	0	0	71	23	0	0	0	23	169	0
Total	0	232	42	0	274	0	0	0	0	0	1	310	0	0	311	87	0	2	0	89	674	0
8:00	0	42	6	0	48	0	0	0	0	0	0	56	0	0	56	17	0	0	0	17	121	0
8:15	0	26	9	0	35	0	0	0	0	0	1	46	0	0	47	7	0	0	0	7	89	0
8:30	0	39	5	0	44	0	0	0	0	0	1	56	0	0	57	9	0	0	0	9	110	0
8:45	0	39	4	0	43	0	0	0	0	0	0	37	0	0	37	7	0	0	0	7	87	0
Total	0	146	24	0	170	0	0	0	0	0	2	195	0	0	197	40	0	0	0	40	407	0
16:00	0	94	15	0	109	0	0	0	0	0	2	55	0	0	57	12	0	0	0	12	178	0
16:15	0	108	12	0	120	0	0	0	0	0	0	80	0	0	80	12	0	0	0	12	212	0
16:30	0	120	15	0	135	0	0	0	0	0	0	49	0	0	49	11	0	2	0	13	197	0
16:45	0	121	6	0	127	0	0	0	0	0	0	56	0	0	56	9	0	1	0	10	193	0
Total	0	443	48	0	491	0	0	0	0	0	2	240	0	0	242	44	0	3	0	47	780	0
17:00	0	131	21	0	152	0	0	0	0	0	0	58	0	0	58	11	0	1	0	12	222	0
17:15	0	121	21	0	142	0	0	0	0	0	1	53	0	0	54	10	0	0	0	10	206	0
17:30	0	94	21	0	115	0	0	0	0	0	0	48	0	0	48	15	0	0	0	15	178	0
17:45	0	117	18	0	135	0	0	0	0	0	1	32	0	0	33	11	0	0	0	11	179	0
Total	0	463	81	0	544	0	0	0	0	0	2	191	0	0	193	47	0	1	0	48	785	0
Grand Total	0	1284	195	0	1479	0	0	0	0	0	7	936	0	0	943	218	0	6	0	224	2646	0
Apprch %	0.0%	86.8%	13.2%	0.0%		0.0%	0.0%	0.0%	0.0%		0.7%	99.3%	0.0%	0.0%		97.3%	0.0%	2.7%	0.0%			
Total %	0.0%	48.5%	7.4%	0.0%	55.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	35.4%	0.0%	0.0%	35.6%	8.2%	0.0%	0.2%	0.0%	8.5%	100.0%	

AM PEAK HOUR	SR-33 Southbound					Baldwin Rd Westbound					SR-33 Northbound					Baldwin Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:00 to 08:00																					
Peak Hour For Entire Intersection Begins at 07:00																					
7:00	0	42	7	0	49	0	0	0	0	0	1	75	0	0	76	18	0	0	0	18	143
7:15	0	52	9	0	61	0	0	0	0	0	0	90	0	0	90	16	0	1	0	17	168
7:30	0	75	14	0	89	0	0	0	0	0	0	74	0	0	74	30	0	1	0	31	194
7:45	0	63	12	0	75	0	0	0	0	0	0	71	0	0	71	23	0	0	0	23	169
Total Volume	0	232	42	0	274	0	0	0	0	0	1	310	0	0	311	87	0	2	0	89	674
% App Total	0.0%	84.7%	15.3%	0.0%		0.0%	0.0%	0.0%	0.0%		0.3%	99.7%	0.0%	0.0%		97.8%	0.0%	2.2%	0.0%		
PHF	.000	.773	.750	.000	.770	.000	.000	.000	.000	.000	.250	.861	.000	.000	.864	.725	.000	.500	.000	.718	.869

PM PEAK HOUR	SR-33 Southbound					Baldwin Rd Westbound					SR-33 Northbound					Baldwin Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	108	12	0	120	0	0	0	0	0	0	80	0	0	80	12	0	0	0	12	212
16:30	0	120	15	0	135	0	0	0	0	0	0	49	0	0	49	11	0	2	0	13	197
16:45	0	121	6	0	127	0	0	0	0	0	0	56	0	0	56	9	0	1	0	10	193
17:00	0	131	21	0	152	0	0	0	0	0	0	58	0	0	58	11	0	1	0	12	222
Total Volume	0	480	54	0	534	0	0	0	0	0	0	243	0	0	243	43	0	4	0	47	824
% App Total	0.0%	89.9%	10.1%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		91.5%	0.0%	8.5%	0.0%		
PHF	.000	.916	.643	.000	.878	.000	.000	.000	.000	.000	.000	.759	.000	.000	.759	.896	.000	.500	.000	.904	.928

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-021
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	Rogers Rd Southbound					SR-33 Westbound					Rogers Rd Northbound					SR-33 Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	0	0	0	0	0	98	0	0	98	11	0	3	0	14	0	41	14	0	55	167	0
7:15	0	0	0	0	0	0	106	0	0	106	13	0	0	0	13	0	56	12	0	68	187	0
7:30	0	0	0	0	0	3	102	0	0	105	15	0	2	0	17	0	99	13	0	112	234	0
7:45	0	0	0	0	0	3	89	0	0	92	11	0	2	0	13	0	64	27	0	91	196	0
Total	0	0	0	0	0	6	395	0	0	401	50	0	7	0	57	0	260	66	0	326	784	0
8:00	0	0	0	0	0	4	70	0	0	74	8	0	2	0	10	0	45	15	0	60	144	0
8:15	0	0	0	0	0	3	59	0	0	62	8	0	0	0	8	0	34	12	0	46	116	0
8:30	0	0	0	0	0	3	64	0	0	67	7	0	2	0	9	0	45	12	0	57	133	0
8:45	0	0	0	0	0	0	45	0	0	45	16	0	3	0	19	0	44	22	0	66	130	0
Total	0	0	0	0	0	10	238	0	0	248	39	0	7	0	46	0	168	61	0	229	523	0
16:00	0	0	0	0	0	1	77	0	0	78	29	0	0	0	29	0	115	16	0	131	238	0
16:15	0	0	0	0	0	1	87	0	0	88	38	0	2	0	40	0	118	10	0	128	256	0
16:30	0	0	0	0	0	1	65	0	0	66	37	0	3	0	40	0	124	10	0	134	240	0
16:45	0	0	0	0	0	1	57	0	0	58	28	0	3	0	31	0	142	19	0	161	250	0
Total	0	0	0	0	0	4	286	0	0	290	132	0	8	0	140	0	499	55	0	554	984	0
17:00	0	0	0	0	0	2	75	0	0	77	15	0	2	0	17	0	138	14	0	152	246	0
17:15	0	0	0	0	0	1	68	0	0	69	8	0	3	0	11	0	137	19	0	156	236	0
17:30	0	0	0	0	0	1	67	0	0	68	25	0	1	0	26	0	118	19	0	137	231	0
17:45	0	0	0	0	0	2	41	0	0	43	31	0	1	0	32	0	141	30	0	171	246	0
Total	0	0	0	0	0	6	251	0	0	257	79	0	7	0	86	0	534	82	0	616	959	0
Grand Total	0	0	0	0	0	26	1170	0	0	1196	300	0	29	0	329	0	1461	264	0	1725	3250	0
Apprch %	0.0%	0.0%	0.0%	0.0%		2.2%	97.8%	0.0%	0.0%		91.2%	0.0%	8.8%	0.0%		0.0%	84.7%	15.3%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	36.0%	0.0%	0.0%	36.8%	9.2%	0.0%	0.9%	0.0%	10.1%	0.0%	45.0%	8.1%	0.0%	53.1%	100.0%	

AM PEAK HOUR	Rogers Rd Southbound					SR-33 Westbound					Rogers Rd Northbound					SR-33 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:00 to 08:00																					
Peak Hour For Entire Intersection Begins at 07:00																					
7:00	0	0	0	0	0	0	98	0	0	98	11	0	3	0	14	0	41	14	0	55	167
7:15	0	0	0	0	0	0	106	0	0	106	13	0	0	0	13	0	56	12	0	68	187
7:30	0	0	0	0	0	3	102	0	0	105	15	0	2	0	17	0	99	13	0	112	234
7:45	0	0	0	0	0	3	89	0	0	92	11	0	2	0	13	0	64	27	0	91	196
Total Volume	0	0	0	0	0	6	395	0	0	401	50	0	7	0	57	0	260	66	0	326	784
% App Total	0.0%	0.0%	0.0%	0.0%		1.5%	98.5%	0.0%	0.0%		87.7%	0.0%	12.3%	0.0%		0.0%	79.8%	20.2%	0.0%		
PHF	.000	.000	.000	.000	.000	.500	.932	.000	.000	.946	.833	.000	.583	.000	.838	.000	.657	.611	.000	.728	.838

PM PEAK HOUR	Rogers Rd Southbound					SR-33 Westbound					Rogers Rd Northbound					SR-33 Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	1	87	0	0	88	38	0	2	0	40	0	118	10	0	128	256
16:30	0	0	0	0	0	1	65	0	0	66	37	0	3	0	40	0	124	10	0	134	240
16:45	0	0	0	0	0	1	57	0	0	58	28	0	3	0	31	0	142	19	0	161	250
17:00	0	0	0	0	0	2	75	0	0	77	15	0	2	0	17	0	138	14	0	152	246
Total Volume	0	0	0	0	0	5	284	0	0	289	118	0	10	0	128	0	522	53	0	575	992
% App Total	0.0%	0.0%	0.0%	0.0%		1.7%	98.3%	0.0%	0.0%		92.2%	0.0%	7.8%	0.0%		0.0%	90.8%	9.2%	0.0%		
PHF	.000	.000	.000	.000	.000	.625	.816	.000	.000	.821	.776	.000	.833	.000	.800	.000	.919	.697	.000	.893	.969

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-022
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	Sycamore Ave Southbound					Eucalyptus Ave Westbound					Sycamore Ave Northbound					Eucalyptus Ave Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	6	1	0	7	0	4	0	0	4	0	10	0	0	10	0	1	0	0	1	22	0
7:15	0	10	0	0	10	0	7	0	0	7	0	4	0	0	4	1	2	0	0	3	24	0
7:30	0	12	1	0	13	0	5	1	0	6	1	7	0	0	8	0	0	6	0	6	33	0
7:45	0	12	1	0	13	0	3	0	0	3	1	10	0	0	11	2	2	1	0	5	32	0
Total	0	40	3	0	43	0	19	1	0	20	2	31	0	0	33	3	5	7	0	15	111	0
8:00	0	2	1	0	3	0	5	0	0	5	5	6	0	0	11	1	6	0	0	7	26	0
8:15	2	5	0	0	7	1	2	0	0	3	1	8	0	0	9	0	1	1	0	2	21	0
8:30	0	3	0	0	3	0	3	1	0	4	1	7	0	0	8	1	0	1	0	2	17	0
8:45	0	4	0	0	4	0	3	0	0	3	1	6	0	0	7	0	3	4	0	7	21	0
Total	2	14	1	0	17	1	13	1	0	15	8	27	0	0	35	2	10	6	0	18	85	0
16:00	0	14	2	0	16	0	1	0	0	1	1	2	0	0	3	0	7	3	0	10	30	0
16:15	4	5	1	0	10	0	0	0	0	0	0	9	2	0	11	2	16	1	0	19	40	0
16:30	1	17	1	0	19	0	5	1	0	6	0	2	0	0	2	1	11	2	0	14	41	0
16:45	1	18	1	1	21	0	3	0	0	3	0	2	0	0	2	1	9	2	0	12	38	1
Total	6	54	5	1	66	0	9	1	0	10	1	15	2	0	18	4	43	8	0	55	149	1
17:00	0	16	0	0	16	0	4	0	0	4	1	6	0	0	7	3	8	1	0	12	39	0
17:15	0	11	1	0	12	0	5	0	0	5	0	6	1	0	7	3	10	3	0	16	40	0
17:30	1	5	3	0	9	1	4	0	0	5	0	9	0	0	9	0	6	1	0	7	30	0
17:45	0	10	1	0	11	1	5	0	0	6	0	5	1	0	6	1	7	1	0	9	32	0
Total	1	42	5	0	48	2	18	0	0	20	1	26	2	0	29	7	31	6	0	44	141	0
Grand Total	9	150	14	1	174	3	59	3	0	65	12	99	4	0	115	16	89	27	0	132	486	1
Apprch %	5.2%	86.2%	8.0%	0.6%		4.6%	90.8%	4.6%	0.0%		10.4%	86.1%	3.5%	0.0%		12.1%	67.4%	20.5%	0.0%			
Total %	1.9%	30.9%	2.9%	0.2%	35.8%	0.6%	12.1%	0.6%	0.0%	13.4%	2.5%	20.4%	0.8%	0.0%	23.7%	3.3%	18.3%	5.6%	0.0%	27.2%	100.0%	

AM PEAK HOUR	Sycamore Ave Southbound					Eucalyptus Ave Westbound					Sycamore Ave Northbound					Eucalyptus Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	0	10	0	0	10	0	7	0	0	7	0	4	0	0	4	1	2	0	0	3	24
7:30	0	12	1	0	13	0	5	1	0	6	1	7	0	0	8	0	0	6	0	6	33
7:45	0	12	1	0	13	0	3	0	0	3	1	10	0	0	11	2	2	1	0	5	32
8:00	0	2	1	0	3	0	5	0	0	5	5	6	0	0	11	1	6	0	0	7	26
Total Volume	0	36	3	0	39	0	20	1	0	21	7	27	0	0	34	4	10	7	0	21	115
% App Total	0.0%	92.3%	7.7%	0.0%		0.0%	95.2%	4.8%	0.0%		20.6%	79.4%	0.0%	0.0%		19.0%	47.6%	33.3%	0.0%		
PHF	.000	.750	.750	.000	.750	.000	.714	.250	.000	.750	.350	.675	.000	.000	.773	.500	.417	.292	.000	.750	.871

PM PEAK HOUR	Sycamore Ave Southbound					Eucalyptus Ave Westbound					Sycamore Ave Northbound					Eucalyptus Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	4	5	1	0	10	0	0	0	0	0	0	9	2	0	11	2	16	1	0	19	40
16:30	1	17	1	0	19	0	5	1	0	6	0	2	0	0	2	1	11	2	0	14	41
16:45	1	18	1	1	21	0	3	0	0	3	0	2	0	0	2	1	9	2	0	12	38
17:00	0	16	0	0	16	0	4	0	0	4	1	6	0	0	7	3	8	1	0	12	39
Total Volume	6	56	3	1	66	0	12	1	0	13	1	19	2	0	22	7	44	6	0	57	158
% App Total	9.1%	84.8%	4.5%	1.5%		0.0%	92.3%	7.7%	0.0%		4.5%	86.4%	9.1%	0.0%		12.3%	77.2%	10.5%	0.0%		
PHF	.375	.778	.750	.250	.786	.000	.600	.250	.000	.542	.250	.528	.250	.000	.500	.583	.688	.750	.000	.750	.963

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-023
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	Elm Ave Southbound					Eucalyptus Ave Westbound					Elm Ave Northbound					Eucalyptus Ave Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	6	1	0	7	1	1	0	0	2	3	4	0	0	7	1	0	3	0	4	20	0
7:15	0	8	0	0	8	1	2	0	0	3	4	9	1	0	14	0	0	2	0	2	27	0
7:30	0	2	0	0	2	0	1	0	0	1	4	5	0	0	9	0	0	0	0	0	12	0
7:45	0	6	0	0	6	0	1	0	0	1	2	3	0	0	5	1	0	1	0	2	14	0
Total	0	22	1	0	23	2	5	0	0	7	13	21	1	0	35	2	0	6	0	8	73	0
8:00	1	4	1	0	6	0	0	0	0	0	4	11	0	0	15	0	1	6	0	7	28	0
8:15	0	1	1	0	2	0	0	1	0	1	2	9	0	0	11	0	0	2	0	2	16	0
8:30	1	2	1	0	4	1	0	0	0	1	3	5	0	0	8	0	0	0	0	0	13	0
8:45	0	5	0	0	5	1	0	0	0	1	2	8	1	0	11	1	1	0	0	2	19	0
Total	2	12	3	0	17	2	0	1	0	3	11	33	1	0	45	1	2	8	0	11	76	0
16:00	0	13	0	0	13	2	0	0	0	2	0	4	1	0	5	1	0	7	0	8	28	0
16:15	0	12	1	0	13	1	0	0	0	1	2	4	2	0	8	2	3	11	0	16	38	0
16:30	1	9	0	0	10	1	1	0	0	2	2	2	4	0	8	1	0	11	0	12	32	0
16:45	2	17	0	0	19	0	0	1	0	1	2	4	0	0	6	0	0	6	0	6	32	0
Total	3	51	1	0	55	4	1	1	0	6	6	14	7	0	27	4	3	35	0	42	130	0
17:00	0	13	0	0	13	0	3	0	0	3	1	5	1	0	7	0	0	9	0	9	32	0
17:15	0	10	1	0	11	1	1	0	0	2	2	7	2	0	11	0	1	9	0	10	34	0
17:30	1	9	0	0	10	0	0	0	0	0	3	3	1	0	7	1	1	5	0	7	24	0
17:45	0	11	0	0	11	0	0	0	0	0	4	2	1	0	7	0	0	6	0	6	24	0
Total	1	43	1	0	45	1	4	0	0	5	10	17	5	0	32	1	2	29	0	32	114	0
Grand Total	6	128	6	0	140	9	10	2	0	21	40	85	14	0	139	8	7	78	0	93	393	0
Apprch %	4.3%	91.4%	4.3%	0.0%		42.9%	47.6%	9.5%	0.0%		28.8%	61.2%	10.1%	0.0%		8.6%	7.5%	83.9%	0.0%			
Total %	1.5%	32.6%	1.5%	0.0%	35.6%	2.3%	2.5%	0.5%	0.0%	5.3%	10.2%	21.6%	3.6%	0.0%	35.4%	2.0%	1.8%	19.8%	0.0%	23.7%	100.0%	

AM PEAK HOUR	Elm Ave Southbound					Eucalyptus Ave Westbound					Elm Ave Northbound					Eucalyptus Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	0	8	0	0	8	1	2	0	0	3	4	9	1	0	14	0	0	2	0	2	27
7:30	0	2	0	0	2	0	1	0	0	1	4	5	0	0	9	0	0	0	0	0	12
7:45	0	6	0	0	6	0	1	0	0	1	2	3	0	0	5	1	0	1	0	2	14
8:00	1	4	1	0	6	0	0	0	0	0	4	11	0	0	15	0	1	6	0	7	28
Total Volume	1	20	1	0	22	1	4	0	0	5	14	28	1	0	43	1	1	9	0	11	81
% App Total	4.5%	90.9%	4.5%	0.0%		20.0%	80.0%	0.0%	0.0%		32.6%	65.1%	2.3%	0.0%		9.1%	9.1%	81.8%	0.0%		
PHF	.250	.625	.250	.000	.688	.250	.500	.000	.000	.417	.875	.636	.250	.000	.717	.250	.250	.375	.000	.393	.723

PM PEAK HOUR	Elm Ave Southbound					Eucalyptus Ave Westbound					Elm Ave Northbound					Eucalyptus Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	12	1	0	13	1	0	0	0	1	2	4	2	0	8	2	3	11	0	16	38
16:30	1	9	0	0	10	1	1	0	0	2	2	2	4	0	8	1	0	11	0	12	32
16:45	2	17	0	0	19	0	0	1	0	1	2	4	0	0	6	0	0	6	0	6	32
17:00	0	13	0	0	13	0	3	0	0	3	1	5	1	0	7	0	0	9	0	9	32
Total Volume	3	51	1	0	55	2	4	1	0	7	7	15	7	0	29	3	3	37	0	43	134
% App Total	5.5%	92.7%	1.8%	0.0%		28.6%	57.1%	14.3%	0.0%		24.1%	51.7%	24.1%	0.0%		7.0%	7.0%	86.0%	0.0%		
PHF	.375	.750	.250	.000	.724	.500	.333	.250	.000	.583	.875	.750	.438	.000	.906	.375	.250	.841	.000	.672	.882

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-024
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	Sycamore Ave Southbound					Las Palmas Ave Westbound					Sycamore Ave Northbound					Las Palmas Ave Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	5	6	2	0	13	1	75	5	0	81	2	5	13	0	20	0	67	2	0	69	183	0
7:15	11	3	3	0	17	2	117	14	0	133	1	6	16	0	23	1	80	1	0	82	255	0
7:30	14	5	4	0	23	6	94	15	0	115	0	10	15	0	25	2	91	0	0	93	256	0
7:45	11	13	2	0	26	2	117	10	0	129	0	10	12	0	22	6	93	2	0	101	278	0
Total	41	27	11	0	79	11	403	44	0	458	3	31	56	0	90	9	331	5	0	345	972	0
8:00	11	5	1	0	17	4	40	4	0	48	1	4	10	0	15	3	98	2	0	103	183	0
8:15	8	5	1	0	14	5	54	7	0	66	1	5	6	0	12	3	86	0	0	89	181	0
8:30	8	3	0	0	11	4	53	3	0	60	0	1	11	0	12	0	67	0	0	67	150	0
8:45	8	2	1	0	11	3	60	10	0	73	2	3	7	0	12	2	59	2	0	63	159	0
Total	35	15	3	0	53	16	207	24	0	247	4	13	34	0	51	8	310	4	0	322	673	0
16:00	7	8	3	0	18	2	73	10	0	85	1	3	13	0	17	1	94	4	0	99	219	0
16:15	11	3	2	0	16	8	101	8	0	117	0	11	15	0	26	2	105	2	0	109	268	0
16:30	14	8	4	0	26	9	109	6	0	124	2	4	8	0	14	1	96	2	0	99	263	0
16:45	18	5	3	0	26	5	117	12	0	134	1	4	15	0	20	4	78	2	0	84	264	0
Total	50	24	12	0	86	24	400	36	0	460	4	22	51	0	77	8	373	10	0	391	1014	0
17:00	11	10	3	0	24	6	98	8	0	112	2	7	12	0	21	0	105	1	0	106	263	0
17:15	14	5	3	0	22	7	129	11	0	147	5	4	12	0	21	2	64	4	0	70	260	0
17:30	12	5	2	0	19	10	112	8	0	130	0	3	19	0	22	0	94	2	0	96	267	0
17:45	7	0	5	0	12	5	114	5	0	124	5	5	12	0	22	3	71	2	0	76	234	0
Total	44	20	13	0	77	28	453	32	0	513	12	19	55	0	86	5	334	9	0	348	1024	0
Grand Total	170	86	39	0	295	79	1463	136	0	1678	23	85	196	0	304	30	1348	28	0	1406	3683	0
Apprch %	57.6%	29.2%	13.2%	0.0%		4.7%	87.2%	8.1%	0.0%		7.6%	28.0%	64.5%	0.0%		2.1%	95.9%	2.0%	0.0%			
Total %	4.6%	2.3%	1.1%	0.0%	8.0%	2.1%	39.7%	3.7%	0.0%	45.6%	0.6%	2.3%	5.3%	0.0%	8.3%	0.8%	36.6%	0.8%	0.0%	38.2%	100.0%	

AM PEAK HOUR	Sycamore Ave Southbound					Las Palmas Ave Westbound					Sycamore Ave Northbound					Las Palmas Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:00 to 08:00																					
Peak Hour For Entire Intersection Begins at 07:00																					
7:00	5	6	2	0	13	1	75	5	0	81	2	5	13	0	20	0	67	2	0	69	183
7:15	11	3	3	0	17	2	117	14	0	133	1	6	16	0	23	1	80	1	0	82	255
7:30	14	5	4	0	23	6	94	15	0	115	0	10	15	0	25	2	91	0	0	93	256
7:45	11	13	2	0	26	2	117	10	0	129	0	10	12	0	22	6	93	2	0	101	278
Total Volume	41	27	11	0	79	11	403	44	0	458	3	31	56	0	90	9	331	5	0	345	972
% App Total	51.9%	34.2%	13.9%	0.0%		2.4%	88.0%	9.6%	0.0%		3.3%	34.4%	62.2%	0.0%		2.6%	95.9%	1.4%	0.0%		
PHF	.732	.519	.688	.000	.760	.458	.861	.733	.000	.861	.375	.775	.875	.000	.900	.375	.890	.625	.000	.854	.874

PM PEAK HOUR	Sycamore Ave Southbound					Las Palmas Ave Westbound					Sycamore Ave Northbound					Las Palmas Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	11	3	2	0	16	8	101	8	0	117	0	11	15	0	26	2	105	2	0	109	268
16:30	14	8	4	0	26	9	109	6	0	124	2	4	8	0	14	1	96	2	0	99	263
16:45	18	5	3	0	26	5	117	12	0	134	1	4	15	0	20	4	78	2	0	84	264
17:00	11	10	3	0	24	6	98	8	0	112	2	7	12	0	21	0	105	1	0	106	263
Total Volume	54	26	12	0	92	28	425	34	0	487	5	26	50	0	81	7	384	7	0	398	1058
% App Total	58.7%	28.3%	13.0%	0.0%		5.7%	87.3%	7.0%	0.0%		6.2%	32.1%	61.7%	0.0%		1.8%	96.5%	1.8%	0.0%		
PHF	.750	.650	.750	.000	.885	.778	.908	.708	.000	.909	.625	.591	.833	.000	.779	.438	.914	.875	.000	.913	.987

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-025
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	Elm Ave Southbound					Las Palmas Ave Westbound					Elm Ave Northbound					Las Palmas Ave Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	15	0	1	0	16	5	81	10	0	96	3	1	6	0	10	1	86	0	0	87	209	0
7:15	11	2	1	0	14	6	125	11	0	142	2	3	7	0	12	0	100	1	0	101	269	0
7:30	9	2	2	0	13	0	115	17	0	132	3	3	4	0	10	0	123	1	0	124	279	0
7:45	14	1	2	0	17	2	110	7	0	119	2	3	9	0	14	1	103	2	0	106	256	0
Total	49	5	6	0	60	13	431	45	0	489	10	10	26	0	46	2	412	4	0	418	1013	0
8:00	14	2	2	0	18	3	48	8	0	59	0	4	3	0	7	2	121	2	0	125	209	0
8:15	6	4	3	0	13	3	65	8	0	76	0	6	7	0	13	1	100	2	0	103	205	0
8:30	6	2	0	0	8	4	60	6	0	70	2	2	2	0	6	2	82	1	0	85	169	0
8:45	5	4	1	0	10	2	71	6	0	79	0	1	5	0	6	1	77	2	0	80	175	0
Total	31	12	6	0	49	12	244	28	0	284	2	13	17	0	32	6	380	7	0	393	758	0
16:00	15	5	2	0	22	1	90	4	0	95	1	3	7	0	11	3	113	0	0	116	244	0
16:15	21	7	2	0	30	8	109	11	0	128	3	3	6	0	12	1	132	1	0	134	304	0
16:30	20	5	3	0	28	9	115	6	0	130	2	4	3	0	9	1	97	3	0	101	268	0
16:45	21	5	3	0	29	2	131	3	0	136	3	4	6	0	13	1	125	1	0	127	305	0
Total	77	22	10	0	109	20	445	24	0	489	9	14	22	0	45	6	467	5	0	478	1121	0
17:00	17	4	2	0	23	10	111	10	0	131	1	1	5	0	7	1	118	2	0	121	282	0
17:15	17	4	3	0	24	6	139	9	0	154	3	4	4	0	11	0	92	2	0	94	283	0
17:30	11	2	1	0	14	8	122	7	0	137	0	0	8	0	8	2	113	0	0	115	274	0
17:45	15	3	0	0	18	3	126	8	0	137	2	0	2	0	4	1	87	2	0	90	249	0
Total	60	13	6	0	79	27	498	34	0	559	6	5	19	0	30	4	410	6	0	420	1088	0
Grand Total	217	52	28	0	297	72	1618	131	0	1821	27	42	84	0	153	18	1669	22	0	1709	3980	0
Apprch %	73.1%	17.5%	9.4%	0.0%		4.0%	88.9%	7.2%	0.0%		17.6%	27.5%	54.9%	0.0%		1.1%	97.7%	1.3%	0.0%			
Total %	5.5%	1.3%	0.7%	0.0%	7.5%	1.8%	40.7%	3.3%	0.0%	45.8%	0.7%	1.1%	2.1%	0.0%	3.8%	0.5%	41.9%	0.6%	0.0%	42.9%	100.0%	

AM PEAK HOUR	Elm Ave Southbound					Las Palmas Ave Westbound					Elm Ave Northbound					Las Palmas Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:00 to 08:00																					
Peak Hour For Entire Intersection Begins at 07:00																					
7:00	15	0	1	0	16	5	81	10	0	96	3	1	6	0	10	1	86	0	0	87	209
7:15	11	2	1	0	14	6	125	11	0	142	2	3	7	0	12	0	100	1	0	101	269
7:30	9	2	2	0	13	0	115	17	0	132	3	3	4	0	10	0	123	1	0	124	279
7:45	14	1	2	0	17	2	110	7	0	119	2	3	9	0	14	1	103	2	0	106	256
Total Volume	49	5	6	0	60	13	431	45	0	489	10	10	26	0	46	2	412	4	0	418	1013
% App Total	81.7%	8.3%	10.0%	0.0%		2.7%	88.1%	9.2%	0.0%		21.7%	21.7%	56.5%	0.0%		0.5%	98.6%	1.0%	0.0%		
PHF	.817	.625	.750	.000	.882	.542	.862	.662	.000	.861	.833	.833	.722	.000	.821	.500	.837	.500	.000	.843	.908

PM PEAK HOUR	Elm Ave Southbound					Las Palmas Ave Westbound					Elm Ave Northbound					Las Palmas Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	21	7	2	0	30	8	109	11	0	128	3	3	6	0	12	1	132	1	0	134	304
16:30	20	5	3	0	28	9	115	6	0	130	2	4	3	0	9	1	97	3	0	101	268
16:45	21	5	3	0	29	2	131	3	0	136	3	4	6	0	13	1	125	1	0	127	305
17:00	17	4	2	0	23	10	111	10	0	131	1	1	5	0	7	1	118	2	0	121	282
Total Volume	79	21	10	0	110	29	466	30	0	525	9	12	20	0	41	4	472	7	0	483	1159
% App Total	71.8%	19.1%	9.1%	0.0%		5.5%	88.8%	5.7%	0.0%		22.0%	29.3%	48.8%	0.0%		0.8%	97.7%	1.4%	0.0%		
PHF	.940	.750	.833	.000	.917	.725	.889	.682	.000	.965	.750	.750	.833	.000	.788	1.000	.894	.583	.000	.901	.950

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 18-07211-026
Date : 05/22/2018

Unshifted Count = All Vehicles & Uturns

	Jennings Rd Southbound					Las Palmas Ave Westbound					Jennings Rd Northbound					Las Palmas Ave Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	0	22	0	22	0	76	0	0	76	0	0	0	0	0	24	81	0	0	105	203	0
7:15	0	0	33	0	33	0	113	0	0	113	0	0	0	0	0	40	72	0	0	112	258	0
7:30	2	0	26	0	28	0	105	1	0	106	0	0	0	0	0	57	78	0	0	135	269	0
7:45	0	0	25	0	25	0	82	0	0	82	0	0	0	0	0	46	81	0	0	127	234	0
Total	2	0	106	0	108	0	376	1	0	377	0	0	0	0	0	167	312	0	0	479	964	0
8:00	0	0	5	0	5	0	52	1	0	53	0	0	0	0	0	48	101	0	0	149	207	0
8:15	0	0	21	0	21	0	46	1	0	47	0	0	0	0	0	26	84	0	0	110	178	0
8:30	1	0	17	0	18	0	60	1	0	61	0	0	0	0	0	25	70	0	0	95	174	0
8:45	1	0	13	0	14	0	65	0	0	65	0	0	0	0	0	28	57	0	0	85	164	0
Total	2	0	56	0	58	0	223	3	0	226	0	0	0	0	0	127	312	0	0	439	723	0
16:00	2	0	24	0	26	0	72	1	0	73	0	0	0	0	0	32	100	0	0	132	231	0
16:15	1	0	29	0	30	0	103	0	0	103	0	0	0	0	0	29	115	0	0	144	277	0
16:30	4	0	34	0	38	0	83	0	0	83	0	0	0	0	0	29	90	0	0	119	240	0
16:45	1	0	42	0	43	0	104	0	0	104	0	0	0	0	0	34	122	0	0	156	303	0
Total	8	0	129	0	137	0	362	1	0	363	0	0	0	0	0	124	427	0	0	551	1051	0
17:00	0	0	41	0	41	0	86	0	0	86	0	0	0	0	0	22	115	0	0	137	264	0
17:15	0	0	30	0	30	0	127	0	0	127	0	0	0	0	0	29	95	0	0	124	281	0
17:30	1	0	45	0	46	0	97	0	0	97	0	0	0	0	0	37	101	0	0	138	281	0
17:45	0	0	28	0	28	0	90	0	0	90	0	0	0	0	0	23	78	0	0	101	219	0
Total	1	0	144	0	145	0	400	0	0	400	0	0	0	0	0	111	389	0	0	500	1045	0
Grand Total	13	0	435	0	448	0	1361	5	0	1366	0	0	0	0	0	529	1440	0	0	1969	3783	0
Apprch %	2.9%	0.0%	97.1%	0.0%		0.0%	99.6%	0.4%	0.0%		0.0%	0.0%	0.0%	0.0%		26.9%	73.1%	0.0%	0.0%			
Total %	0.3%	0.0%	11.5%	0.0%	11.8%	0.0%	36.0%	0.1%	0.0%	36.1%	0.0%	0.0%	0.0%	0.0%	0.0%	14.0%	38.1%	0.0%	0.0%	52.0%	100.0%	

AM PEAK HOUR	Jennings Rd Southbound					Las Palmas Ave Westbound					Jennings Rd Northbound					Las Palmas Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	0	0	33	0	33	0	113	0	0	113	0	0	0	0	0	40	72	0	0	112	258
7:30	2	0	26	0	28	0	105	1	0	106	0	0	0	0	0	57	78	0	0	135	269
7:45	0	0	25	0	25	0	82	0	0	82	0	0	0	0	0	46	81	0	0	127	234
8:00	0	0	5	0	5	0	52	1	0	53	0	0	0	0	0	48	101	0	0	149	207
Total Volume	2	0	89	0	91	0	352	2	0	354	0	0	0	0	0	191	332	0	0	523	968
% App Total	2.2%	0.0%	97.8%	0.0%		0.0%	99.4%	0.6%	0.0%		0.0%	0.0%	0.0%	0.0%		36.5%	63.5%	0.0%	0.0%		
PHF	.250	.000	.674	.000	.689	.000	.779	.500	.000	.783	.000	.000	.000	.000	.000	.838	.822	.000	.000	.878	.900

PM PEAK HOUR	Jennings Rd Southbound					Las Palmas Ave Westbound					Jennings Rd Northbound					Las Palmas Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	1	0	42	0	43	0	104	0	0	104	0	0	0	0	0	34	122	0	0	156	303
17:00	0	0	41	0	41	0	86	0	0	86	0	0	0	0	0	22	115	0	0	137	264
17:15	0	0	30	0	30	0	127	0	0	127	0	0	0	0	0	29	95	0	0	124	281
17:30	1	0	45	0	46	0	97	0	0	97	0	0	0	0	0	37	101	0	0	138	281
Total Volume	2	0	158	0	160	0	414	0	0	414	0	0	0	0	0	122	433	0	0	555	1129
% App Total	1.3%	0.0%	98.8%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		22.0%	78.0%	0.0%	0.0%		
PHF	.500	.000	.878	.000	.870	.000	.815	.000	.000	.815	.000	.000	.000	.000	.000	.824	.887	.000	.000	.889	.932

Prepared by National Data & Surveying Services

CLASSIFICATION

Sperry Ave Bet. Rogers Rd & Park Center Dr

Day: Wednesday
Date: 5/30/2018

City: Patterson
Project #: CA18_7213_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	120	10	1	12	1	0	0	58	0	0	0	0	202
01:00	2	89	8	0	5	5	0	1	36	0	0	0	0	146
02:00	3	124	12	3	5	8	0	1	24	0	0	0	0	180
03:00	2	309	43	2	27	4	0	2	26	0	0	0	0	415
04:00	0	392	91	5	58	5	0	1	37	0	6	0	0	595
05:00	0	421	102	7	59	11	0	4	41	0	4	0	0	649
06:00	1	518	79	8	59	5	0	7	64	0	1	0	0	742
07:00	1	510	80	8	61	14	0	7	79	0	2	0	0	762
08:00	3	412	71	4	44	7	0	6	45	0	0	0	0	592
09:00	0	426	71	5	56	9	0	10	64	0	0	0	0	641
10:00	2	441	62	9	55	4	0	18	68	1	0	0	0	660
11:00	4	467	82	8	53	6	0	13	70	0	1	0	0	704
12:00 PM	1	553	92	4	57	11	0	11	57	0	0	0	0	786
13:00	1	553	74	7	68	6	0	11	87	0	1	0	0	808
14:00	3	574	63	8	63	5	0	14	64	0	0	0	0	794
15:00	0	604	90	4	61	6	0	14	74	0	1	0	0	854
16:00	5	642	105	5	88	9	1	9	56	0	3	0	0	923
17:00	9	714	70	5	69	4	0	1	50	0	1	0	0	923
18:00	4	659	88	3	57	6	0	11	59	0	2	0	0	889
19:00	0	537	67	7	55	2	0	7	50	0	1	0	0	726
20:00	3	487	54	3	40	2	0	2	52	1	5	0	0	649
21:00	1	532	46	2	32	1	0	3	48	0	2	0	0	667
22:00	1	324	37	5	25	3	0	0	42	0	3	0	0	440
23:00	4	214	13	4	15	5	0	5	26	0	4	0	0	290
Totals	50	10622	1510	117	1124	139	1	158	1277	2	37			15037
% of Totals	0%	71%	10%	1%	7%	1%	0%	1%	8%	0%	0%			100%

AM Volumes	18	4229	711	60	494	79	0	70	612	1	14	0	0	6288
% AM	0%	28%	5%	0%	3%	1%		0%	4%	0%	0%			42%
AM Peak Hour	11:00	06:00	05:00	10:00	07:00	07:00		10:00	07:00	10:00	04:00			07:00
Volume	4	518	102	9	61	14		18	79	1	6			762
PM Volumes	32	6393	799	57	630	60	1	88	665	1	23	0	0	8749
% PM	0%	43%	5%	0%	4%	0%	0%	1%	4%	0%	0%			58%
PM Peak Hour	17:00	17:00	16:00	14:00	16:00	12:00	16:00	14:00	13:00	20:00	20:00			16:00
Volume	9	714	105	8	88	11	1	14	87	1	5			923

Directional Peak Periods	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	1354 ⟷	9%	1594 ⟷	11%	1846 ⟷	12%	10243 ⟷	68%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Baldwin Rd N/O Sperry Ave

Day: Wednesday
Date: 5/30/2018

City: Patterson
Project #: CA18_7213_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	49	2	0	0	0	0	0	0	0	0	0	0	51
01:00	0	37	4	0	1	1	0	0	0	0	0	0	0	43
02:00	0	43	1	0	4	0	0	0	0	0	0	0	0	48
03:00	0	77	16	0	6	0	0	0	0	0	0	0	0	99
04:00	0	131	12	1	15	2	0	0	0	0	0	0	0	161
05:00	0	169	19	1	18	0	0	0	1	0	0	0	0	208
06:00	0	168	16	0	19	3	2	0	4	0	0	0	0	212
07:00	1	234	41	0	17	3	0	1	1	0	0	0	0	298
08:00	1	182	28	1	10	1	0	1	1	0	0	0	0	225
09:00	1	192	36	2	23	3	0	0	0	0	0	0	0	257
10:00	2	182	42	0	18	1	0	1	3	0	0	0	0	249
11:00	0	186	24	1	16	1	0	1	2	0	0	0	0	231
12:00 PM	1	209	26	1	19	1	0	1	1	0	0	0	0	259
13:00	1	248	26	2	21	0	0	1	2	0	0	0	0	301
14:00	1	275	32	2	14	0	0	1	1	0	0	0	0	326
15:00	0	222	39	3	20	0	0	1	1	0	0	0	0	286
16:00	1	274	40	1	26	0	0	2	0	0	0	0	0	344
17:00	0	245	29	0	12	0	0	1	0	0	0	0	0	287
18:00	0	222	27	0	18	0	0	1	1	0	0	0	0	269
19:00	0	162	18	0	7	0	0	0	1	0	0	0	0	188
20:00	0	155	19	0	10	0	0	0	0	0	0	0	0	184
21:00	0	157	16	0	9	0	0	0	0	0	0	0	0	182
22:00	0	99	6	1	6	0	0	0	0	0	0	0	0	112
23:00	1	83	5	0	3	0	0	0	0	0	0	0	0	92
Totals	10	4001	524	16	312	16	2	12	19					4912
% of Totals	0%	81%	11%	0%	6%	0%	0%	0%	0%					100%

AM Volumes	5	1650	241	6	147	15	2	4	12	0	0	0	0	2082
% AM	0%	34%	5%	0%	3%	0%	0%	0%	0%					42%
AM Peak Hour	10:00	07:00	10:00	09:00	09:00	06:00	06:00	07:00	06:00					07:00
Volume	2	234	42	2	23	3	2	1	4					298
PM Volumes	5	2351	283	10	165	1	0	8	7	0	0	0	0	2830
% PM	0%	48%	6%	0%	3%	0%		0%	0%					58%
PM Peak Hour	12:00	14:00	16:00	15:00	16:00	12:00		16:00	13:00					16:00
Volume	1	275	40	3	26	1		2	2					344

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	523	⟷	11%	560	⟷	11%	631	⟷	13%	3198	⟷	65%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Ward Ave Bet. Bartch Ave & Elfers Rd

Day: Wednesday
Date: 5/30/2018

City: Patterson
Project #: CA18_7213_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	8	5	0	1	0	0	0	0	0	0	0	0	14
01:00	0	6	3	0	1	0	0	0	1	0	0	0	0	11
02:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
03:00	0	13	1	0	0	0	0	0	1	0	0	0	0	15
04:00	0	22	8	0	1	0	0	0	0	0	0	0	0	31
05:00	0	48	9	0	13	0	0	0	1	0	0	0	0	71
06:00	0	60	16	1	13	0	0	0	1	0	0	0	0	91
07:00	0	102	24	1	8	3	0	0	0	0	0	0	0	138
08:00	0	75	25	0	15	4	1	0	0	0	0	0	0	120
09:00	0	84	23	0	14	5	1	0	0	0	0	0	0	127
10:00	3	100	27	0	11	2	0	0	1	0	0	0	0	144
11:00	0	105	42	0	17	3	1	0	0	0	0	0	0	168
12:00 PM	0	114	36	0	26	4	1	0	1	0	0	0	0	182
13:00	1	129	33	1	23	4	0	0	1	0	0	0	0	192
14:00	3	169	31	2	33	4	1	0	0	0	0	0	0	243
15:00	2	132	32	1	24	0	0	0	1	0	0	0	0	192
16:00	0	188	30	1	24	0	0	0	1	0	0	0	0	244
17:00	1	182	33	0	24	0	1	0	2	0	0	0	0	243
18:00	1	161	24	0	17	0	0	0	0	0	0	0	0	203
19:00	0	144	9	0	14	0	1	0	1	0	0	0	0	169
20:00	0	120	7	0	6	0	0	0	2	0	0	0	0	135
21:00	2	77	7	0	5	0	1	0	1	0	0	0	0	93
22:00	0	40	6	0	2	0	0	0	1	0	0	0	0	49
23:00	0	38	5	0	1	0	0	0	0	0	0	0	0	44
Totals	**13**	**2129**	**436**	**7**	**293**	**29**	**8**		**16**					**2931**
% of Totals	0%	73%	15%	0%	10%	1%	0%		1%					100%

AM Volumes	3	635	183	2	94	17	3	0	5	0	0	0	0	942
% AM	0%	22%	6%	0%	3%	1%	0%		0%					32%
AM Peak Hour	10:00	11:00	11:00	06:00	11:00	09:00	08:00		01:00					11:00
Volume	3	105	42	1	17	5	1		1					168
PM Volumes	10	1494	253	5	199	12	5	0	11	0	0	0	0	1989
% PM	0%	51%	9%	0%	7%	0%	0%		0%					68%
PM Peak Hour	14:00	16:00	12:00	14:00	14:00	12:00	12:00		17:00					16:00
Volume	3	188	36	2	33	4	1		2					244

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume	⟷	%	Volume	⟷	%	Volume	⟷	%	Volume	⟷	%
	258		9%	374		13%	487		17%	1812		62%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	736	662	1,3

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOT
00:00	0	0	1		2		3		12:00	0	0	7		8		15
00:15	0	0	0		0				12:15	0	0	12		11		23
00:30	0	0	2		0		2		12:30	0	0	13		10		23
00:45	0	0	1	4	0	2	1	6	12:45	0	0	8	40	8	37	16
01:00	0	0	1		0		1		13:00	0	0	8		7		15
01:15	0	0	0		0				13:15	0	0	10		17		27
01:30	0	0	1		2		3		13:30	0	0	11		11		22
01:45	0	0	0	2	1	3	1	5	13:45	0	0	15	44	14	49	29
02:00	0	0	1		3		4		14:00	0	0	10		10		20
02:15	0	0	0		1		1		14:15	0	0	15		18		33
02:30	0	0	0		0				14:30	0	0	18		13		31
02:45	0	0	1	2	1	5	2	7	14:45	0	0	21	64	13	54	34
03:00	0	0	0		1		1		15:00	0	0	14		12		26
03:15	0	0	1		0		1		15:15	0	0	19		10		29
03:30	0	0	1		2		3		15:30	0	0	11		8		19
03:45	0	0	0	2	4	7	4	9	15:45	0	0	15	59	14	44	29
04:00	0	0	0		3		3		16:00	0	0	17		11		28
04:15	0	0	0		2		2		16:15	0	0	15		11		26
04:30	0	0	6		7		13		16:30	0	0	15		11		26
04:45	0	0	2	8	4	16	6	24	16:45	0	0	14	61	13	46	27
05:00	0	0	1		3		4		17:00	0	0	20		17		37
05:15	0	0	3		4		7		17:15	0	0	18		10		28
05:30	0	0	4		7		11		17:30	0	0	21		10		31
05:45	0	0	3	11	11	25	14	36	17:45	0	0	11	70	9	46	20
06:00	0	0	6		14		20		18:00	0	0	16		19		35
06:15	0	0	5		6		11		18:15	0	0	17		16		33
06:30	0	0	3		11		14		18:30	0	0	11		6		17
06:45	0	0	8	22	6	37	14	59	18:45	0	0	10	54	7	48	17
07:00	0	0	6		11		17		19:00	0	0	9		4		13
07:15	0	0	8		9		17		19:15	0	0	6		4		10
07:30	0	0	8		12		20		19:30	0	0	13		4		17
07:45	0	0	7	29	18	50	25	79	19:45	0	0	8	36	3	15	11
08:00	0	0	6		6		12		20:00	0	0	6		8		14
08:15	0	0	5		10		15		20:15	0	0	12		2		14
08:30	0	0	5		8		13		20:30	0	0	10		5		15
08:45	0	0	1	17	8	32	9	49	20:45	0	0	13	41	2	17	15
09:00	0	0	6		5		11		21:00	0	0	8		3		11
09:15	0	0	11		7		18		21:15	0	0	8		3		11
09:30	0	0	6		7		13		21:30	0	0	6		5		11
09:45	0	0	13	36	10	29	23	65	21:45	0	0	4	26	1	12	5
10:00	0	0	8		11		19		22:00	0	0	6		2		8
10:15	0	0	6		10		16		22:15	0	0	3		0		3
10:30	0	0	11		8		19		22:30	0	0	0		3		3
10:45	0	0	11	36	7	36	18	72	22:45	0	0	3	12	1	6	4
11:00	0	0	7		12		19		23:00	0	0	9		0		9
11:15	0	0	12		2		14		23:15	0	0	3		2		5
11:30	0	0	8		11		19		23:30	0	0	2		2		4
11:45	0	0	13	40	14	39	27	79	23:45	0	0	6	20	3	7	9
TOTALS				209		281		490	TOTALS				527		381	
SPLIT %				42.7%		57.3%		35.1%	SPLIT %				58.0%		42.0%	

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	736	662	1,3

AM Peak Hour			11:45	07:00	11:45	PM Peak Hour	16:45	14:15
AM Pk Volume			45	50	88	PM Pk Volume	73	56
Pk Hr Factor			0.865	0.694	0.815	Pk Hr Factor	0.869	0.778
7 - 9 Volume	0	0	46	82	128	4 - 6 Volume	131	92
7 - 9 Peak Hour			07:00	07:00	07:00	4 - 6 Peak Hour	16:45	16:15
7 - 9 Pk Volume	0	0	29	50	79	4 - 6 Pk Volume	73	52
Pk Hr Factor	0.000	0.000	0.906	0.694	0.790	Pk Hr Factor	0.869	0.765

Prepared by National Data & Surveying Services

CLASSIFICATION

SR-33 Bet. Bartch Ave & Elfers Rd

Day: Wednesday
Date: 5/30/2018

City: Patterson
Project #: CA18_7213_005

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	11	2	0	0	0	0	0	0	0	0	0	0	13
01:00	0	18	0	0	1	1	0	1	0	0	0	0	0	21
02:00	0	20	2	0	1	1	0	4	0	0	0	0	0	28
03:00	0	32	6	0	7	1	0	0	0	0	0	0	0	46
04:00	0	62	16	0	19	2	0	0	0	0	1	0	0	100
05:00	0	144	38	3	37	0	0	7	1	0	1	0	0	231
06:00	0	107	36	6	48	1	0	9	1	0	2	0	0	210
07:00	0	228	65	5	61	3	0	9	2	0	2	0	0	375
08:00	2	148	41	2	39	4	0	11	1	0	3	0	0	251
09:00	0	153	66	2	58	2	0	4	3	0	2	0	0	290
10:00	1	167	66	3	56	1	0	14	0	0	1	0	0	309
11:00	0	182	61	2	59	4	0	7	1	0	2	0	0	318
12:00 PM	0	199	50	5	58	1	0	7	0	0	0	0	0	320
13:00	0	196	56	2	64	2	0	8	0	0	4	0	0	332
14:00	1	219	43	3	53	1	0	7	0	0	0	0	0	327
15:00	6	239	68	1	58	0	0	9	0	0	0	0	0	381
16:00	1	232	67	2	64	1	0	8	0	0	0	0	0	375
17:00	0	277	60	2	55	0	0	5	0	0	2	0	0	401
18:00	0	202	36	1	47	0	0	4	0	0	0	0	0	290
19:00	0	174	27	0	21	0	0	0	1	0	0	0	0	223
20:00	0	124	25	0	29	0	0	1	0	0	2	0	0	181
21:00	1	120	15	0	16	0	0	1	0	0	0	0	0	153
22:00	0	57	7	0	7	0	0	0	0	0	0	0	0	71
23:00	0	39	5	0	3	0	0	0	0	0	0	0	0	47
Totals	12	3350	858	39	861	25		116	10		22			5293
% of Totals	0%	63%	16%	1%	16%	0%		2%	0%		0%			100%

AM Volumes	3	1272	399	23	386	20	0	66	9	0	14	0	0	2192
% AM	0%	24%	8%	0%	7%	0%		1%	0%		0%			41%
AM Peak Hour	08:00	07:00	09:00	06:00	07:00	08:00		10:00	09:00		08:00			07:00
Volume	2	228	66	6	61	4		14	3		3			375
PM Volumes	9	2078	459	16	475	5	0	50	1	0	8	0	0	3101
% PM	0%	39%	9%	0%	9%	0%		1%	0%		0%			59%
PM Peak Hour	15:00	17:00	15:00	12:00	13:00	13:00		15:00	19:00		13:00			17:00
Volume	6	277	68	5	64	2		9	1		4			401

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	626	⟷	12%	652	⟷	12%	776	⟷	15%	3239	⟷	61%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Las Palmas Ave Bet. Eucalyptus Ave & Elm Ave

Day: Wednesday
Date: 5/30/2018

City: Patterson
Project #: CA18_7213_006

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	55	7	0	6	1	0	1	0	0	0	0	0	70
01:00	0	33	3	0	3	3	0	1	2	0	0	0	0	45
02:00	0	53	2	0	5	0	0	1	2	0	0	0	0	63
03:00	0	73	12	0	6	4	0	0	3	0	0	0	0	98
04:00	0	153	28	1	17	2	0	3	1	0	0	0	0	205
05:00	0	253	51	5	42	0	0	2	4	0	0	0	0	357
06:00	1	352	75	4	66	4	0	4	4	0	0	0	0	510
07:00	2	641	94	4	88	3	0	4	7	0	0	0	0	843
08:00	0	435	79	5	54	1	0	2	6	1	0	0	0	583
09:00	0	399	89	0	82	1	0	3	9	2	0	0	0	585
10:00	1	443	77	3	66	2	0	4	8	0	0	0	0	604
11:00	0	412	85	1	63	2	0	6	4	0	0	0	0	573
12:00 PM	0	515	93	4	72	6	0	4	8	1	0	0	0	703
13:00	2	500	75	1	80	2	0	5	6	1	0	0	0	672
14:00	3	606	91	5	83	6	0	1	4	0	0	0	0	799
15:00	0	592	113	3	95	0	0	4	2	0	0	0	0	809
16:00	1	671	103	5	81	3	0	2	1	0	0	0	0	867
17:00	1	815	87	3	88	0	0	1	2	0	0	0	0	997
18:00	1	538	65	3	57	1	0	2	1	0	0	0	0	668
19:00	1	437	54	0	38	2	0	0	0	0	0	0	0	532
20:00	2	345	39	0	38	0	0	0	0	0	0	0	0	424
21:00	1	319	38	0	32	0	0	0	0	0	0	0	0	390
22:00	0	198	26	0	19	0	0	1	0	1	0	0	0	245
23:00	1	121	16	2	10	0	0	0	1	0	0	0	0	151
Totals	**17**	**8959**	**1402**	**49**	**1191**	**43**		**51**	**75**	**6**				**11793**
% of Totals	0%	76%	12%	0%	10%	0%		0%	1%	0%				100%

AM Volumes	4	3302	602	23	498	23	0	31	50	3	0	0	0	4536
% AM	0%	28%	5%	0%	4%	0%		0%	0%	0%				38%
AM Peak Hour	07:00	07:00	07:00	05:00	07:00	03:00		11:00	09:00	09:00				07:00
Volume	2	641	94	5	88	4		6	9	2				843
PM Volumes	13	5657	800	26	693	20	0	20	25	3	0	0	0	7257
% PM	0%	48%	7%	0%	6%	0%		0%	0%	0%				62%
PM Peak Hour	14:00	17:00	15:00	14:00	15:00	12:00		13:00	12:00	12:00				17:00
Volume	3	815	113	5	95	6		5	8	1				997

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume	⟷	%	Volume	⟷	%	Volume	⟷	%	Volume	⟷	%
	1426		12%	1375		12%	1864		16%	7128		60%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Las Palmas Ave Bet. Elm Ave & Jennings Rd

Day: Wednesday
Date: 5/30/2018

City: Patterson
Project #: CA18_7213_007

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	1	59	8	0	8	2	0	2	0	0	0	0	0	80
01:00	0	43	5	0	3	2	0	0	1	0	0	0	0	54
02:00	0	58	3	0	5	0	0	3	1	0	0	0	0	70
03:00	0	85	14	1	11	4	0	1	1	0	0	0	0	117
04:00	2	175	31	2	23	2	0	3	2	0	0	0	0	240
05:00	1	319	61	5	42	0	0	6	1	0	1	0	0	436
06:00	6	365	88	5	76	3	0	5	4	0	1	0	0	553
07:00	2	645	114	5	101	1	0	6	1	0	0	0	0	875
08:00	0	456	80	7	63	5	0	7	2	0	1	0	0	621
09:00	1	380	94	1	81	3	1	10	4	0	2	0	0	577
10:00	1	411	72	1	52	3	0	17	1	1	1	0	0	560
11:00	0	418	84	3	62	5	1	6	4	1	1	0	0	585
12:00 PM	3	485	89	2	72	7	0	10	3	0	1	0	0	672
13:00	2	487	82	3	101	5	0	11	1	0	2	0	0	694
14:00	5	615	88	5	91	2	0	9	2	0	1	0	0	818
15:00	3	594	111	7	105	3	0	6	5	0	0	0	0	834
16:00	3	676	101	5	84	2	0	7	1	0	0	0	0	879
17:00	4	831	109	4	68	2	0	3	4	0	0	0	0	1025
18:00	1	557	66	4	55	0	0	4	2	0	0	0	0	689
19:00	5	444	51	0	42	0	0	4	0	0	0	0	0	546
20:00	3	340	33	0	45	1	0	3	0	0	0	0	0	425
21:00	2	326	38	0	25	0	0	2	0	0	0	0	0	393
22:00	0	212	26	1	20	0	0	0	0	0	0	0	0	259
23:00	1	135	16	1	7	0	0	1	2	0	0	0	0	163
Totals	46	9116	1464	62	1242	52	2	126	42	2	11			12165
% of Totals	0%	75%	12%	1%	10%	0%	0%	1%	0%	0%	0%			100%

AM Volumes	14	3414	654	30	527	30	2	66	22	2	7	0	0	4768
% AM	0%	28%	5%	0%	4%	0%	0%	1%	0%	0%	0%			39%
AM Peak Hour	06:00	07:00	07:00	08:00	07:00	08:00	09:00	10:00	06:00	10:00	09:00			07:00
Volume	6	645	114	7	101	5	1	17	4	1	2			875
PM Volumes	32	5702	810	32	715	22	0	60	20	0	4	0	0	7397
% PM	0%	47%	7%	0%	6%	0%		0%	0%		0%			61%
PM Peak Hour	14:00	17:00	15:00	15:00	15:00	12:00		13:00	15:00		13:00			17:00
Volume	5	831	111	7	105	7		11	5		2			1025

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume	⟷	%	Volume	⟷	%	Volume	⟷	%	Volume	⟷	%
	1496		12%	1366		11%	1904		16%	7399		61%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

SR-33 Bet. Walnut Ave & Olive Ave

Day: Wednesday
Date: 5/30/2018

City: Patterson
Project #: CA18_7213_008

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	14	3	0	3	0	0	0	1	0	0	0	0	21
01:00	1	11	2	0	0	4	0	1	1	0	0	0	0	20
02:00	0	19	2	0	2	0	0	0	2	0	0	0	0	25
03:00	1	68	16	0	8	4	0	1	1	0	0	0	0	99
04:00	1	123	20	0	20	5	0	1	5	0	0	0	0	175
05:00	0	222	55	2	54	0	0	0	4	0	4	0	0	341
06:00	0	139	42	7	51	4	0	3	7	0	2	0	0	255
07:00	2	263	42	7	45	4	0	3	6	0	3	0	0	375
08:00	2	176	44	5	67	7	0	2	8	0	3	0	0	314
09:00	2	166	53	3	58	2	0	3	5	0	3	0	0	295
10:00	1	180	46	3	67	4	0	2	5	0	1	0	0	309
11:00	1	162	42	1	70	2	0	4	8	0	1	0	0	291
12:00 PM	0	227	57	3	74	5	0	2	10	0	0	0	0	378
13:00	4	212	59	7	76	1	0	4	4	0	3	0	0	370
14:00	1	236	54	5	75	1	0	8	7	0	0	0	0	387
15:00	3	278	70	2	69	3	0	5	6	0	0	0	0	436
16:00	3	298	67	4	89	4	0	2	5	0	2	0	0	474
17:00	2	323	55	2	53	2	0	1	8	0	1	0	0	447
18:00	0	254	38	4	43	0	0	0	5	0	0	0	0	344
19:00	2	200	42	2	27	0	0	1	4	0	1	0	0	279
20:00	1	189	26	2	19	2	0	0	2	0	2	0	0	243
21:00	0	115	15	0	13	0	0	0	5	0	0	0	0	148
22:00	0	62	6	0	5	0	0	1	1	0	0	0	0	75
23:00	0	31	4	0	4	0	0	0	1	0	0	0	0	40
Totals	27	3968	860	59	992	54		44	111		26			6141
% of Totals	0%	65%	14%	1%	16%	1%		1%	2%		0%			100%

AM Volumes	11	1543	367	28	445	36	0	20	53	0	17	0	0	2520
% AM	0%	25%	6%	0%	7%	1%		0%	1%		0%			41%
AM Peak Hour	07:00	07:00	05:00	06:00	11:00	08:00		11:00	08:00		05:00			07:00
Volume	2	263	55	7	70	7		4	8		4			375
PM Volumes	16	2425	493	31	547	18	0	24	58	0	9	0	0	3621
% PM	0%	39%	8%	1%	9%	0%		0%	1%		0%			59%
PM Peak Hour	13:00	17:00	15:00	13:00	16:00	12:00		14:00	12:00		13:00			16:00
Volume	4	323	70	7	89	5		8	10		3			474

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	689	⟷	11%	748	⟷	12%	921	⟷	15%	3783	⟷	62%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Eucalyptus Ave W/O Sycamore Ave

Day: Wednesday
Date: 5/30/2018

City: Patterson
Project #: CA18_7213_009

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	6	0	0	2	0	0	0	0	0	0	0	0	8
01:00	0	5	0	0	0	1	0	0	0	0	0	0	0	6
02:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	8	1	0	2	0	0	0	0	0	0	0	0	11
04:00	0	25	8	0	2	0	0	0	0	0	0	0	0	35
05:00	0	49	10	1	4	0	0	0	0	0	0	0	0	64
06:00	0	23	9	3	11	1	0	0	0	0	0	0	0	47
07:00	0	31	5	0	11	1	0	0	0	0	0	0	0	48
08:00	0	22	7	1	12	2	0	1	0	0	0	0	0	45
09:00	0	21	5	0	10	0	0	0	0	0	0	0	0	36
10:00	0	19	4	2	6	0	0	0	0	0	0	0	0	31
11:00	0	27	8	0	10	1	0	0	0	0	0	0	0	46
12:00 PM	0	19	3	2	7	0	0	0	1	0	0	0	0	32
13:00	0	35	9	1	7	1	0	0	0	0	0	0	0	53
14:00	0	58	8	4	12	1	0	0	0	0	0	0	0	83
15:00	0	27	11	1	7	1	0	0	0	0	0	0	0	47
16:00	0	24	4	0	8	0	0	0	0	0	0	0	0	36
17:00	0	38	4	0	4	0	0	0	0	0	0	0	0	46
18:00	0	30	8	1	1	0	0	0	0	0	0	0	0	40
19:00	0	23	4	0	5	0	0	1	0	0	0	0	0	33
20:00	1	16	1	0	3	0	0	0	0	0	0	0	0	21
21:00	0	13	1	0	4	0	0	0	0	0	0	0	0	18
22:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
23:00	0	16	2	0	1	0	0	1	1	0	0	0	0	21
Totals	1	553	112	16	129	9		3	2					825
% of Totals	0%	67%	14%	2%	16%	1%		0%	0%					100%

AM Volumes	0	244	57	7	70	6	0	1	0	0	0	0	0	385
% AM		30%	7%	1%	8%	1%		0%						47%
AM Peak Hour		05:00	05:00	06:00	08:00	08:00		08:00						05:00
Volume		49	10	3	12	2		1						64
PM Volumes	1	309	55	9	59	3	0	2	2	0	0	0	0	440
% PM	0%	37%	7%	1%	7%	0%		0%	0%					53%
PM Peak Hour	20:00	14:00	15:00	14:00	14:00	13:00		19:00	12:00					14:00
Volume	1	58	11	4	12	1		1	1					83

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	93	⟷	11%	85	⟷	10%	82	⟷	10%	565	⟷	68%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Baldwin Rd Bet. Zacharias Rd & SR-33

Day: Wednesday
Date: 5/30/2018

City: Patterson
Project #: CA18_7213_010

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	11	2	0	0	0	0	0	0	0	0	0	0	13
01:00	0	7	2	0	1	2	0	0	0	0	0	0	0	12
02:00	0	5	0	0	1	1	0	0	0	0	0	0	0	7
03:00	0	10	3	0	1	2	0	0	0	0	0	0	0	16
04:00	0	20	2	0	1	3	0	0	0	0	0	0	0	26
05:00	0	34	10	0	5	5	0	0	0	0	0	0	0	54
06:00	1	51	15	1	3	4	0	0	0	0	0	0	0	75
07:00	2	97	12	0	9	3	0	0	0	0	0	0	0	123
08:00	0	51	15	0	4	1	0	1	0	0	0	0	0	72
09:00	1	47	12	0	9	3	0	0	0	0	0	0	0	72
10:00	1	45	12	1	5	0	0	0	0	0	0	0	0	64
11:00	0	41	8	1	7	0	0	0	0	0	0	0	0	57
12:00 PM	3	60	15	1	7	2	0	0	1	0	0	0	0	89
13:00	2	48	14	1	15	0	0	0	0	0	0	0	0	80
14:00	7	73	13	2	10	1	0	0	0	0	0	0	0	106
15:00	4	67	10	0	13	0	0	1	0	0	0	0	0	95
16:00	5	80	17	0	6	0	0	0	1	0	0	0	0	109
17:00	4	100	13	1	16	0	0	0	0	0	0	0	0	134
18:00	1	72	10	0	7	0	0	0	0	0	0	0	0	90
19:00	1	44	6	0	3	0	0	0	2	0	0	0	0	56
20:00	0	34	5	0	4	0	0	0	0	0	0	0	0	43
21:00	0	42	5	0	1	0	0	0	0	0	0	0	0	48
22:00	0	16	2	0	2	0	0	0	0	0	0	0	0	20
23:00	0	24	1	0	0	0	0	0	0	0	0	0	0	25
Totals	32	1079	204	8	130	27		2	4					1486
% of Totals	2%	73%	14%	1%	9%	2%		0%	0%					100%

AM Volumes	5	419	93	3	46	24	0	1	0	0	0	0	0	591
% AM	0%	28%	6%	0%	3%	2%		0%						40%
AM Peak Hour	07:00	07:00	06:00	06:00	07:00	05:00		08:00						07:00
Volume	2	97	15	1	9	5		1						123
PM Volumes	27	660	111	5	84	3	0	1	4	0	0	0	0	895
% PM	2%	44%	7%	0%	6%	0%		0%	0%					60%
PM Peak Hour	14:00	17:00	16:00	14:00	17:00	12:00		15:00	19:00					17:00
Volume	7	100	17	2	16	2		1	2					134

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	195	⟷	13%	169	⟷	11%	243	⟷	16%	879	⟷	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	To
	1,147	1,165	0	0	2,3

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOT
00:00	11		8		0	0	19		**12:00**	17		15		0	0	32
00:15	3		3		0	0	6		**12:15**	13		7		0	0	20
00:30	2		4		0	0	6		**12:30**	23		15		0	0	38
00:45	3	19	2	17	0	0	5	36	**12:45**	20	73	10	47	0	0	30
01:00	1		1		0	0	2		**13:00**	24		12		0	0	36
01:15	1		3		0	0	4		**13:15**	17		12		0	0	29
01:30	0		1		0	0	1		**13:30**	31		12		0	0	43
01:45	2	4	3	8	0	0	5	12	**13:45**	18	90	15	51	0	0	33
02:00	0		3		0	0	3		**14:00**	39		10		0	0	49
02:15	4		6		0	0	10		**14:15**	17		17		0	0	34
02:30	6		9		0	0	15		**14:30**	69		18		0	0	87
02:45	0	10	8	26	0	0	8	36	**14:45**	35	160	13	58	0	0	48
03:00	1		2		0	0	3		**15:00**	13		19		0	0	32
03:15	1		2		0	0	3		**15:15**	24		11		0	0	35
03:30	2		12		0	0	14		**15:30**	21		6		0	0	27
03:45	2	6	16	32	0	0	18	38	**15:45**	23	81	9	45	0	0	32
04:00	0		3		0	0	3		**16:00**	27		13		0	0	40
04:15	4		10		0	0	14		**16:15**	15		16		0	0	31
04:30	7		22		0	0	29		**16:30**	31		15		0	0	46
04:45	9	20	36	71	0	0	45	91	**16:45**	12	85	15	59	0	0	27
05:00	7		23		0	0	30		**17:00**	21		24		0	0	45
05:15	12		25		0	0	37		**17:15**	13		26		0	0	39
05:30	5		36		0	0	41		**17:30**	26		25		0	0	51
05:45	10	34	52	136	0	0	62	170	**17:45**	14	74	21	96	0	0	35
06:00	7		16		0	0	23		**18:00**	22		9		0	0	31
06:15	6		21		0	0	27		**18:15**	12		9		0	0	21
06:30	21		22		0	0	43		**18:30**	18		7		0	0	25
06:45	11	45	46	105	0	0	57	150	**18:45**	12	64	12	37	0	0	24
07:00	9		13		0	0	22		**19:00**	10		12		0	0	22
07:15	15		16		0	0	31		**19:15**	14		6		0	0	20
07:30	13		15		0	0	28		**19:30**	39		11		0	0	50
07:45	16	53	19	63	0	0	35	116	**19:45**	17	80	7	36	0	0	24
08:00	15		16		0	0	31		**20:00**	11		6		0	0	17
08:15	9		11		0	0	20		**20:15**	7		4		0	0	11
08:30	12		8		0	0	20		**20:30**	13		9		0	0	22
08:45	9	45	22	57	0	0	31	102	**20:45**	13	44	5	24	0	0	18
09:00	10		13		0	0	23		**21:00**	3		2		0	0	5
09:15	13		13		0	0	26		**21:15**	5		4		0	0	9
09:30	6		18		0	0	24		**21:30**	3		6		0	0	9
09:45	8	37	8	52	0	0	16	89	**21:45**	2	13	2	14	0	0	4
10:00	13		6		0	0	19		**22:00**	5		2		0	0	7
10:15	8		8		0	0	16		**22:15**	3		2		0	0	5
10:30	8		14		0	0	22		**22:30**	7		4		0	0	11
10:45	11	40	11	39	0	0	22	79	**22:45**	4	19	4	12	0	0	8
11:00	7		15		0	0	22		**23:00**	5		2		0	0	7
11:15	14		4		0	0	18		**23:15**	1		1		0	0	2
11:30	11		26		0	0	37		**23:30**	3		1		0	0	4
11:45	8	40	25	70	0	0	33	110	**23:45**	2	11	6	10	0	0	8
TOTALS		353		676				**1029**	**TOTALS**		794		489			
SPLIT %		34.3%		65.7%				**44.5%**	**SPLIT %**		61.9%		38.1%			

DAILY TOTALS	NB	SB	EB	WB	To
	1,147	1,165	0	0	2,3

AM Peak Hour	11:45	05:00			**05:00**	**PM Peak Hour**	14:00	17:00		
AM Pk Volume	61	136			**170**	**PM Pk Volume**	160	96		
Pk Hr Factor	0.663	0.654			**0.685**	**Pk Hr Factor**	0.580	0.923		
7 - 9 Volume	98	120	0	0	**218**	**4 - 6 Volume**	159	155	0	0
7 - 9 Peak Hour	07:15	07:15			**07:15**	**4 - 6 Peak Hour**	16:00	17:00		
7 - 9 Pk Volume	59	66	0	0	**125**	**4 - 6 Pk Volume**	85	96	0	0
Pk Hr Factor	0.922	0.868	0.000	0.000	**0.893**	**Pk Hr Factor**	0.685	0.923	0.000	0.000

Prepared by National Data & Surveying Services

CLASSIFICATION

SR-33 Bet. Baldwin Rd & Zacharias Rd

Day: Wednesday
Date: 5/30/2018

City: Patterson
Project #: CA18_7213_013

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	19	3	0	4	0	0	2	0	0	0	0	0	28
01:00	0	21	2	0	2	2	0	3	0	0	0	0	0	30
02:00	0	32	3	0	4	2	0	1	1	0	0	0	0	43
03:00	0	87	17	0	12	1	0	1	0	0	0	0	0	118
04:00	0	138	24	0	44	3	1	2	1	0	0	0	0	213
05:00	2	266	62	2	69	0	0	2	1	0	2	0	0	406
06:00	0	233	53	10	54	2	0	9	0	0	3	0	0	364
07:00	0	351	49	5	68	1	0	6	1	0	3	0	0	484
08:00	0	204	46	9	66	3	0	10	0	0	2	0	0	340
09:00	1	208	54	3	62	0	0	7	2	0	3	0	0	340
10:00	0	216	45	4	79	1	0	6	2	0	0	0	0	353
11:00	1	205	53	2	73	2	0	8	2	0	1	0	0	347
12:00 PM	1	298	66	6	78	5	0	9	0	0	0	0	0	463
13:00	2	261	59	7	80	0	0	5	1	0	2	0	0	417
14:00	2	288	73	7	83	1	0	14	1	0	0	0	0	469
15:00	4	382	78	2	82	0	0	10	1	0	0	0	0	559
16:00	1	390	75	2	102	0	0	4	0	0	2	0	0	576
17:00	1	479	73	4	77	1	0	5	1	0	2	0	0	643
18:00	1	384	55	4	53	0	0	5	0	0	0	0	0	502
19:00	0	254	38	2	44	1	0	3	0	0	1	0	0	343
20:00	0	206	26	2	20	0	0	1	1	0	2	0	0	258
21:00	1	182	18	0	14	0	0	5	0	0	0	0	0	220
22:00	0	88	11	0	8	0	0	2	0	0	1	0	0	110
23:00	0	47	9	0	6	0	0	1	0	0	0	0	0	63
Totals	17	5239	992	71	1184	25	1	121	15		24			7689
% of Totals	0%	68%	13%	1%	15%	0%	0%	2%	0%		0%			100%

AM Volumes	4	1980	411	35	537	17	1	57	10	0	14	0	0	3066
% AM	0%	26%	5%	0%	7%	0%	0%	1%	0%		0%			40%
AM Peak Hour	05:00	07:00	05:00	06:00	10:00	04:00	04:00	08:00	09:00		06:00			07:00
Volume	2	351	62	10	79	3	1	10	2		3			484
PM Volumes	13	3259	581	36	647	8	0	64	5	0	10	0	0	4623
% PM	0%	42%	8%	0%	8%	0%		1%	0%		0%			60%
PM Peak Hour	15:00	17:00	15:00	13:00	16:00	12:00		14:00	13:00		13:00			17:00
Volume	4	479	78	7	102	5		14	1		2			643

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	824	⟷	11%	880	⟷	11%	1219	⟷	16%	4766	⟷	62%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Appendix B INTERSECTION LOS ANALYSIS: EXISTING CONDITIONS LOS CALCULATION SHEETS

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	116	2	69	31	0	0	0	0	138	1	15
Future Vol, veh/h	0	116	2	69	31	0	0	0	0	138	1	15
Peak Hour Factor	0.68	0.68	0.68	0.76	0.76	0.76	0.25	0.25	0.25	0.88	0.88	0.88
Heavy Vehicles, %	0	1	50	22	17	0	0	0	0	23	25	17
Mvmt Flow	0	171	3	91	41	0	0	0	0	157	1	17
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.9	9.3	9.9
HCM LOS	A	A	A

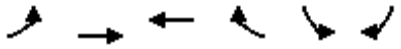
Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	69%	90%
Vol Thru, %	98%	31%	1%
Vol Right, %	2%	0%	10%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	118	100	154
LT Vol	0	69	138
Through Vol	116	31	1
RT Vol	2	0	15
Lane Flow Rate	174	132	175
Geometry Grp	1	1	1
Degree of Util (X)	0.219	0.186	0.25
Departure Headway (Hd)	4.547	5.083	5.143
Convergence, Y/N	Yes	Yes	Yes
Cap	790	707	698
Service Time	2.575	3.114	3.178
HCM Lane V/C Ratio	0.22	0.187	0.251
HCM Control Delay	8.9	9.3	9.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0.7	1

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	203	0	0	98	418	2	1	66	0	0	0
Future Vol, veh/h	51	203	0	0	98	418	2	1	66	0	0	0
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.82	0.82	0.82	0.25	0.25	0.25
Heavy Vehicles, %	0	16	0	0	22	10	0	0	16	0	0	0
Mvmt Flow	61	242	0	0	109	464	2	1	80	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.9	16.6	9
HCM LOS	B	C	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	3%	20%	0%
Vol Thru, %	1%	80%	19%
Vol Right, %	96%	0%	81%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	69	254	516
LT Vol	2	51	0
Through Vol	1	203	98
RT Vol	66	0	418
Lane Flow Rate	84	302	573
Geometry Grp	1	1	1
Degree of Util (X)	0.121	0.398	0.691
Departure Headway (Hd)	5.189	4.744	4.341
Convergence, Y/N	Yes	Yes	Yes
Cap	686	756	831
Service Time	3.261	2.79	2.378
HCM Lane V/C Ratio	0.122	0.399	0.69
HCM Control Delay	9	10.9	16.6
HCM Lane LOS	A	B	C
HCM 95th-tile Q	0.4	1.9	5.7



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	106	163	398	150	90	118
Future Volume (veh/h)	106	163	398	150	90	118
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1557	1652	1845	1827	1759
Adj Flow Rate, veh/h	122	187	433	163	112	148
Adj No. of Lanes	1	1	1	1	1	2
Peak Hour Factor	0.87	0.87	0.92	0.92	0.80	0.80
Percent Heavy Veh, %	9	22	15	3	4	8
Cap, veh/h	173	927	574	544	222	336
Arrive On Green	0.10	0.60	0.35	0.35	0.13	0.13
Sat Flow, veh/h	1660	1557	1652	1566	1740	2632
Grp Volume(v), veh/h	122	187	433	163	112	148
Grp Sat Flow(s),veh/h/ln	1660	1557	1652	1566	1740	1316
Q Serve(g_s), s	3.2	2.5	10.5	3.4	2.7	2.3
Cycle Q Clear(g_c), s	3.2	2.5	10.5	3.4	2.7	2.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	173	927	574	544	222	336
V/C Ratio(X)	0.71	0.20	0.75	0.30	0.50	0.44
Avail Cap(c_a), veh/h	956	1586	1683	1595	1002	1515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	4.2	13.0	10.7	18.4	18.2
Incr Delay (d2), s/veh	5.2	0.2	2.0	0.3	1.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.1	5.0	3.4	1.4	1.8
LnGrp Delay(d),s/veh	24.8	4.4	15.1	11.0	20.1	19.1
LnGrp LOS	C	A	B	B	C	B
Approach Vol, veh/h		309	596		260	
Approach Delay, s/veh		12.5	14.0		19.5	
Approach LOS		B	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		33.4		11.8	11.2	22.2		
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5		
Max Green Setting (Gmax), s		46.0		26.0	26.0	46.0		
Max Q Clear Time (g_c+I1), s		4.5		4.7	5.2	12.5		
Green Ext Time (p_c), s		2.1		0.9	0.3	3.2		

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	162	0	1	379	15	0	0	0	14	0	76
Future Volume (veh/h)	66	162	0	1	379	15	0	0	0	14	0	76
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1173	1743	1900	1900	1827	1496				1473	0	1145
Adj Flow Rate, veh/h	75	184	0	1	480	19				16	0	84
Adj No. of Lanes	2	1	0	2	2	1				1	0	1
Peak Hour Factor	0.88	0.88	0.88	0.79	0.79	0.79				0.90	0.90	0.90
Percent Heavy Veh, %	62	9	0	0	4	27				29	0	66
Cap, veh/h	192	762	0	10	1215	436				199	0	138
Arrive On Green	0.09	0.44	0.00	0.00	0.35	0.35				0.14	0.00	0.14
Sat Flow, veh/h	2167	1743	0	3510	3471	1245				1403	0	973
Grp Volume(v), veh/h	75	184	0	1	480	19				16	0	84
Grp Sat Flow(s),veh/h/ln	1083	1743	0	1755	1736	1245				1403	0	973
Q Serve(g_s), s	1.1	2.3	0.0	0.0	3.7	0.4				0.3	0.0	2.8
Cycle Q Clear(g_c), s	1.1	2.3	0.0	0.0	3.7	0.4				0.3	0.0	2.8
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	192	762	0	10	1215	436				199	0	138
V/C Ratio(X)	0.39	0.24	0.00	0.10	0.39	0.04				0.08	0.00	0.61
Avail Cap(c_a), veh/h	1915	2485	0	3103	4949	1775				1320	0	915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	15.1	6.2	0.0	17.5	8.6	7.5				13.1	0.0	14.1
Incr Delay (d2), s/veh	1.3	0.3	0.0	4.3	0.4	0.1				0.2	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.2	0.0	0.0	1.8	0.3				0.1	0.0	1.7
LnGrp Delay(d),s/veh	16.4	6.6	0.0	21.7	9.0	7.6				13.2	0.0	18.4
LnGrp LOS	B	A		C	A	A				B		B
Approach Vol, veh/h		259			500						100	
Approach Delay, s/veh		9.4			9.0						17.6	
Approach LOS		A			A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	4.6	21.0		9.5	7.6	18.0		
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		
Max Green Setting (Gmax), s	3.1	50.0		33.0	31.0	50.0		
Max Q Clear Time (g_c+I1), s	2.0	4.3		4.8	3.1	5.7		
Green Ext Time (p_c), s	0.0	2.1		0.3	0.2	6.6		

Intersection Summary	
HCM 2010 Ctrl Delay	10.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	151	17	10	315	83	60	88	20	54	39	93
Future Volume (veh/h)	32	151	17	10	315	83	60	88	20	54	39	93
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1834	1900	1900	1792	1863	1900	1810	1900	1827	1874	1900
Adj Flow Rate, veh/h	37	176	20	13	409	108	76	111	25	69	50	119
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.79	0.79	0.79	0.78	0.78	0.78
Percent Heavy Veh, %	6	4	0	0	6	2	0	5	5	4	0	2
Cap, veh/h	159	615	70	36	633	559	141	230	52	248	77	184
Arrive On Green	0.05	0.38	0.38	0.02	0.35	0.35	0.08	0.16	0.16	0.07	0.16	0.16
Sat Flow, veh/h	3312	1614	183	1810	1792	1583	1810	1430	322	3375	493	1173
Grp Volume(v), veh/h	37	0	196	13	409	108	76	0	136	69	0	169
Grp Sat Flow(s),veh/h/ln	1656	0	1797	1810	1792	1583	1810	0	1753	1688	0	1667
Q Serve(g_s), s	0.5	0.0	3.8	0.4	9.7	2.4	2.1	0.0	3.6	1.0	0.0	4.8
Cycle Q Clear(g_c), s	0.5	0.0	3.8	0.4	9.7	2.4	2.1	0.0	3.6	1.0	0.0	4.8
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.18	1.00		0.70
Lane Grp Cap(c), veh/h	159	0	685	36	633	559	141	0	282	248	0	261
V/C Ratio(X)	0.23	0.00	0.29	0.36	0.65	0.19	0.54	0.00	0.48	0.28	0.00	0.65
Avail Cap(c_a), veh/h	1696	0	1699	748	1695	1497	748	0	1139	1396	0	1083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.3	0.0	10.9	24.6	13.8	11.4	22.5	0.0	19.4	22.2	0.0	20.1
Incr Delay (d2), s/veh	0.3	0.0	0.5	12.7	2.4	0.4	1.2	0.0	1.3	0.2	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.0	0.3	5.2	1.1	1.1	0.0	1.8	0.5	0.0	2.4
LnGrp Delay(d),s/veh	23.5	0.0	11.4	37.2	16.1	11.8	23.7	0.0	20.7	22.5	0.0	22.8
LnGrp LOS	C		B	D	B	B	C		C	C		C
Approach Vol, veh/h		233			530			212			238	
Approach Delay, s/veh		13.3			15.8			21.8			22.7	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	24.9	8.1	12.6	6.6	23.4	7.9	12.8
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 21	48.0	* 21	33.0	* 26	48.0	* 21	33.0
Max Q Clear Time (g_c+I1), s	2.4	5.8	4.1	6.8	2.5	11.7	3.0	5.6
Green Ext Time (p_c), s	0.0	2.2	0.1	1.0	0.0	6.2	0.1	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	356	17	29	387	40	41	94	57	80	81	105
Future Volume (veh/h)	42	356	17	29	387	40	41	94	57	80	81	105
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1842	1900	1845	1813	1900	1863	1886	1900	1881	1900	1900
Adj Flow Rate, veh/h	51	434	21	37	496	51	72	165	100	136	137	178
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.82	0.82	0.82	0.78	0.78	0.78	0.57	0.57	0.57	0.59	0.59	0.59
Percent Heavy Veh, %	0	3	6	3	5	3	2	0	2	1	0	0
Cap, veh/h	107	950	46	83	844	87	301	342	207	346	234	305
Arrive On Green	0.06	0.28	0.28	0.05	0.27	0.27	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1810	3395	164	1757	3153	323	1057	1091	661	1117	749	973
Grp Volume(v), veh/h	51	223	232	37	270	277	72	0	265	136	0	315
Grp Sat Flow(s),veh/h/ln	1810	1750	1808	1757	1722	1754	1057	0	1752	1117	0	1722
Q Serve(g_s), s	1.5	5.7	5.7	1.1	7.4	7.4	3.3	0.0	6.6	6.1	0.0	8.3
Cycle Q Clear(g_c), s	1.5	5.7	5.7	1.1	7.4	7.4	11.7	0.0	6.6	12.7	0.0	8.3
Prop In Lane	1.00		0.09	1.00		0.18	1.00		0.38	1.00		0.57
Lane Grp Cap(c), veh/h	107	490	506	83	461	470	301	0	548	346	0	539
V/C Ratio(X)	0.47	0.46	0.46	0.45	0.59	0.59	0.24	0.00	0.48	0.39	0.00	0.58
Avail Cap(c_a), veh/h	1069	1163	1201	1037	1144	1165	478	0	840	532	0	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	16.1	16.1	25.1	17.2	17.3	20.5	0.0	15.1	20.2	0.0	15.6
Incr Delay (d2), s/veh	3.2	0.9	0.9	3.7	1.7	1.7	0.4	0.0	0.7	0.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.9	3.0	0.6	3.7	3.8	1.0	0.0	3.3	1.9	0.0	4.1
LnGrp Delay(d),s/veh	27.9	17.1	17.0	28.8	18.9	18.9	21.0	0.0	15.7	20.9	0.0	16.7
LnGrp LOS	C	B	B	C	B	B	C		B	C		B
Approach Vol, veh/h		506			584			337			451	
Approach Delay, s/veh		18.1			19.6			16.8			17.9	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	21.7		23.5	9.7	21.0		23.5
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	32.0	36.0		26.0	32.0	36.0		26.0
Max Q Clear Time (g_c+I1), s	3.1	7.7		14.7	3.5	9.4		13.7
Green Ext Time (p_c), s	0.1	3.8		2.0	0.1	4.8		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	18.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	317	11	74	275	69	19	93	97	102	84	27
Future Volume (veh/h)	71	317	11	74	275	69	19	93	97	102	84	27
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1814	1900	1792	1827	1845	1900	1827	1900	1900	1863	1776
Adj Flow Rate, veh/h	92	412	14	85	316	79	33	163	170	155	127	41
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.77	0.77	0.77	0.87	0.87	0.87	0.57	0.57	0.57	0.66	0.66	0.66
Percent Heavy Veh, %	0	4	27	6	4	3	0	4	4	0	2	7
Cap, veh/h	133	699	24	121	655	291	74	226	236	201	645	514
Arrive On Green	0.07	0.21	0.21	0.07	0.19	0.19	0.04	0.28	0.28	0.11	0.35	0.35
Sat Flow, veh/h	1810	3398	115	1707	3471	1545	1810	820	855	1810	1863	1484
Grp Volume(v), veh/h	92	208	218	85	316	79	33	0	333	155	127	41
Grp Sat Flow(s),veh/h/ln	1810	1723	1791	1707	1736	1545	1810	0	1675	1810	1863	1484
Q Serve(g_s), s	3.3	7.4	7.4	3.3	5.5	2.9	1.2	0.0	12.1	5.6	3.2	1.2
Cycle Q Clear(g_c), s	3.3	7.4	7.4	3.3	5.5	2.9	1.2	0.0	12.1	5.6	3.2	1.2
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	133	355	368	121	655	291	74	0	462	201	645	514
V/C Ratio(X)	0.69	0.59	0.59	0.70	0.48	0.27	0.44	0.00	0.72	0.77	0.20	0.08
Avail Cap(c_a), veh/h	538	769	799	508	1652	735	565	0	847	565	720	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	24.1	24.1	30.5	24.3	23.3	31.5	0.0	22.0	29.0	15.4	14.8
Incr Delay (d2), s/veh	6.4	3.3	3.2	7.2	1.2	1.1	4.1	0.0	4.5	6.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.8	4.0	1.8	2.7	1.3	0.7	0.0	6.1	3.1	1.7	0.5
LnGrp Delay(d),s/veh	36.8	27.4	27.3	37.7	25.5	24.4	35.6	0.0	26.5	35.2	15.7	14.9
LnGrp LOS	D	C	C	D	C	C	D		C	D	B	B
Approach Vol, veh/h		518			480			366			323	
Approach Delay, s/veh		29.1			27.5			27.3			25.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	19.8	7.4	29.3	11.9	18.7	12.1	24.6
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	20.0	30.0	21.0	26.0	20.0	32.0	21.0	34.0
Max Q Clear Time (g_c+I1), s	5.3	9.4	3.2	5.2	5.3	7.5	7.6	14.1
Green Ext Time (p_c), s	0.1	4.1	0.0	1.4	0.2	4.1	0.3	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	27.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	203	21	6	189	14	56	84	16	4	44	129
Future Volume (veh/h)	149	203	21	6	189	14	56	84	16	4	44	129
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1818	1900	1900	1759	1900	1900	1886	1900	1900	1873	1900
Adj Flow Rate, veh/h	177	242	25	7	220	16	76	114	22	6	66	193
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.74	0.74	0.74	0.67	0.67	0.67
Percent Heavy Veh, %	2	5	0	0	8	0	2	0	0	0	0	2
Cap, veh/h	634	1354	139	668	753	689	273	277	45	126	110	305
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1137	3162	324	1127	1759	1609	431	1083	175	14	432	1195
Grp Volume(v), veh/h	177	131	136	7	220	16	212	0	0	265	0	0
Grp Sat Flow(s),veh/h/ln	1137	1727	1759	1127	1759	1609	1689	0	0	1640	0	0
Q Serve(g_s), s	3.6	1.4	1.4	0.1	2.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.1	1.4	1.4	1.6	2.5	0.2	2.9	0.0	0.0	4.3	0.0	0.0
Prop In Lane	1.00		0.18	1.00		1.00	0.36		0.10	0.02		0.73
Lane Grp Cap(c), veh/h	634	739	753	668	753	689	595	0	0	542	0	0
V/C Ratio(X)	0.28	0.18	0.18	0.01	0.29	0.02	0.36	0.00	0.00	0.49	0.00	0.00
Avail Cap(c_a), veh/h	1547	2126	2166	1574	2166	1981	1849	0	0	1915	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.6	5.3	5.3	5.8	5.6	5.0	9.4	0.0	0.0	9.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.2	0.2	0.0	0.5	0.0	0.4	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.7	0.7	0.0	1.3	0.1	1.5	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	8.1	5.6	5.6	5.8	6.1	5.0	9.8	0.0	0.0	10.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A			B		
Approach Vol, veh/h		444			243			212			265	
Approach Delay, s/veh		6.6			6.0			9.8			10.6	
Approach LOS		A			A			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		17.5		12.6		17.5		12.6
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		37.0		33.0		37.0		33.0
Max Q Clear Time (g_c+I1), s		8.1		4.9		4.5		6.3
Green Ext Time (p_c), s		4.7		1.4		2.7		1.8

Intersection Summary		
HCM 2010 Ctrl Delay		8.0
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	11.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↱		↕			↰	↱
Traffic Vol, veh/h	77	90	34	7	26	10	73	227	30	14	128	115
Future Vol, veh/h	77	90	34	7	26	10	73	227	30	14	128	115
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	67	67	67	76	76	76	81	81	81
Heavy Vehicles, %	10	4	0	14	9	8	4	6	12	0	12	10
Mvmt Flow	89	103	39	10	39	15	96	299	39	17	158	142

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	731	722	158	774	703	320	158	0	0	338	0	0
Stage 1	192	192	-	511	511	-	-	-	-	-	-	-
Stage 2	539	530	-	263	192	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.54	6.2	7.24	6.59	6.28	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.036	3.3	3.626	4.081	3.372	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	327	351	893	301	353	707	1409	-	-	1232	-	0
Stage 1	792	738	-	524	526	-	-	-	-	-	-	0
Stage 2	512	523	-	716	729	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	268	317	893	200	318	706	1409	-	-	1232	-	-
Mov Cap-2 Maneuver	268	317	-	200	318	-	-	-	-	-	-	-
Stage 1	725	727	-	480	482	-	-	-	-	-	-	-
Stage 2	422	479	-	578	718	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37.8	18	1.7	0.8
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	1409	-	-	330	283	706	1232	-
HCM Lane V/C Ratio	0.068	-	-	0.7	0.174	0.021	0.014	-
HCM Control Delay (s)	7.7	0	-	37.8	20.4	10.2	8	0
HCM Lane LOS	A	A	-	E	C	B	A	A
HCM 95th %tile Q(veh)	0.2	-	-	5	0.6	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	173	69	165	147	22	56	141	102	23	177	30
Future Volume (veh/h)	30	173	69	165	147	22	56	141	102	23	177	30
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1667	1667	1900	1597	1597	1900
Adj Flow Rate, veh/h	36	206	82	214	191	29	70	176	128	32	246	42
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.84	0.84	0.84	0.77	0.77	0.77	0.80	0.80	0.80	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	360	257	102	287	256	39	116	222	162	65	289	49
Arrive On Green	0.20	0.20	0.20	0.16	0.16	0.16	0.07	0.25	0.25	0.04	0.22	0.22
Sat Flow, veh/h	1774	1269	505	1774	1580	240	1587	898	653	1521	1330	227
Grp Volume(v), veh/h	36	0	288	214	0	220	70	0	304	32	0	288
Grp Sat Flow(s),veh/h/ln	1774	0	1774	1774	0	1820	1587	0	1551	1521	0	1557
Q Serve(g_s), s	0.9	0.0	8.2	6.1	0.0	6.1	2.3	0.0	9.7	1.1	0.0	9.4
Cycle Q Clear(g_c), s	0.9	0.0	8.2	6.1	0.0	6.1	2.3	0.0	9.7	1.1	0.0	9.4
Prop In Lane	1.00		0.28	1.00		0.13	1.00		0.42	1.00		0.15
Lane Grp Cap(c), veh/h	360	0	360	287	0	294	116	0	384	65	0	338
V/C Ratio(X)	0.10	0.00	0.80	0.75	0.00	0.75	0.61	0.00	0.79	0.49	0.00	0.85
Avail Cap(c_a), veh/h	938	0	938	972	0	997	630	0	1407	603	0	1411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	20.1	21.2	0.0	21.2	23.8	0.0	18.7	24.8	0.0	19.9
Incr Delay (d2), s/veh	0.0	0.0	1.6	1.5	0.0	1.4	1.9	0.0	1.4	2.2	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	4.2	3.1	0.0	3.2	1.1	0.0	4.3	0.5	0.0	4.2
LnGrp Delay(d),s/veh	17.2	0.0	21.7	22.6	0.0	22.6	25.7	0.0	20.1	26.9	0.0	22.3
LnGrp LOS	B		C	C		C	C		C	C		C
Approach Vol, veh/h		324			434			374			320	
Approach Delay, s/veh		21.2			22.6			21.1			22.8	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		14.9	6.3	18.0		13.8	7.9	16.4
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 28	21.0	48.0		29.0	21.0	48.0
Max Q Clear Time (g_c+I1), s		10.2	3.1	11.7		8.1	4.3	11.4
Green Ext Time (p_c), s		0.6	0.0	0.3		0.5	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	279	6	162	331	120	1	128	140	95	160	2
Future Volume (veh/h)	24	279	6	162	331	120	1	128	140	95	160	2
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1777	1900	1845	1743	1900	1827	1614	1900	1743	1880	1900
Adj Flow Rate, veh/h	32	372	8	213	436	158	1	151	165	123	208	3
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.76	0.76	0.76	0.85	0.85	0.85	0.77	0.77	0.77
Percent Heavy Veh, %	0	7	3	3	9	0	4	1	33	9	1	4
Cap, veh/h	341	507	11	440	645	583	334	252	225	328	881	13
Arrive On Green	0.04	0.29	0.29	0.11	0.37	0.37	0.00	0.16	0.16	0.08	0.24	0.24
Sat Flow, veh/h	1810	1733	37	1757	1743	1575	1740	1533	1368	1660	3604	52
Grp Volume(v), veh/h	32	0	380	213	436	158	1	151	165	123	103	108
Grp Sat Flow(s),veh/h/ln	1810	0	1770	1757	1743	1575	1740	1533	1368	1660	1786	1870
Q Serve(g_s), s	0.6	0.0	9.7	3.9	10.6	3.5	0.0	4.6	5.8	2.9	2.3	2.3
Cycle Q Clear(g_c), s	0.6	0.0	9.7	3.9	10.6	3.5	0.0	4.6	5.8	2.9	2.3	2.3
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	341	0	517	440	645	583	334	252	225	328	437	457
V/C Ratio(X)	0.09	0.00	0.73	0.48	0.68	0.27	0.00	0.60	0.73	0.38	0.24	0.24
Avail Cap(c_a), veh/h	1177	0	1410	1325	1735	1568	1197	1008	899	1019	1174	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.0	0.0	16.0	10.6	13.3	11.1	17.5	19.5	19.9	14.5	15.2	15.2
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.3	0.5	0.1	0.0	0.9	1.7	0.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	4.9	1.9	5.0	1.5	0.0	2.0	2.3	1.3	1.2	1.2
LnGrp Delay(d),s/veh	12.0	0.0	16.8	10.9	13.8	11.2	17.5	20.3	21.7	14.8	15.3	15.3
LnGrp LOS	B		B	B	B	B	B	C	C	B	B	B
Approach Vol, veh/h		412			807			317			334	
Approach Delay, s/veh		16.4			12.5			21.0			15.1	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	23.2	8.1	13.1	9.7	19.3	4.1	17.2
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	25.0	50.0	25.0	33.0	31.0	40.0	25.0	33.0
Max Q Clear Time (g_c+I1), s	2.6	12.6	4.9	7.8	5.9	11.7	2.0	4.3
Green Ext Time (p_c), s	0.0	0.4	0.0	0.3	0.0	0.5	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	37	26	6	22	57	19	172	5	39	187	4
Future Vol, veh/h	14	37	26	6	22	57	19	172	5	39	187	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	71	71	71	77	77	77	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	19	19	19
Mvmt Flow	22	58	41	8	31	80	25	223	6	56	267	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	711	658	267	708	661	226	273	0	0	229	0	0
Stage 1	379	379	-	276	276	-	-	-	-	-	-	-
Stage 2	332	279	-	432	385	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.24	-	-	4.29	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.326	-	-	2.371	-	-
Pot Cap-1 Maneuver	348	384	772	350	383	813	1224	-	-	1245	-	-
Stage 1	643	615	-	730	682	-	-	-	-	-	-	-
Stage 2	681	680	-	602	611	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	276	355	772	274	354	813	1224	-	-	1245	-	-
Mov Cap-2 Maneuver	276	355	-	274	354	-	-	-	-	-	-	-
Stage 1	628	582	-	713	666	-	-	-	-	-	-	-
Stage 2	572	664	-	486	579	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.2	13.3	0.8	1.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1224	-	-	329	772	551	1245	-	-
HCM Lane V/C Ratio	0.02	-	-	0.242	0.053	0.217	0.045	-	-
HCM Control Delay (s)	8	0	-	19.4	9.9	13.3	8	0	-
HCM Lane LOS	A	A	-	C	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.2	0.8	0.1	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	23	12	8	42	5	15	1	5	2	1	0
Future Vol, veh/h	2	23	12	8	42	5	15	1	5	2	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	69	69	69	58	58	58	75	75	75
Heavy Vehicles, %	0	0	42	25	10	0	53	0	40	0	100	0
Mvmt Flow	3	32	17	12	61	7	26	2	9	3	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	68	0	0	49	0	0	136	139	42	142	144	65
Stage 1	-	-	-	-	-	-	47	47	-	89	89	-
Stage 2	-	-	-	-	-	-	89	92	-	53	55	-
Critical Hdwy	4.1	-	-	4.35	-	-	7.63	6.5	6.6	7.1	7.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.63	5.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.63	5.5	-	6.1	6.5	-
Follow-up Hdwy	2.2	-	-	2.425	-	-	3.977	4	3.66	3.5	4.9	3.3
Pot Cap-1 Maneuver	1546	-	-	1422	-	-	731	756	930	832	599	1005
Stage 1	-	-	-	-	-	-	852	860	-	923	664	-
Stage 2	-	-	-	-	-	-	807	823	-	965	690	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1546	-	-	1422	-	-	724	748	929	815	593	1005
Mov Cap-2 Maneuver	-	-	-	-	-	-	724	748	-	815	593	-
Stage 1	-	-	-	-	-	-	850	858	-	921	659	-
Stage 2	-	-	-	-	-	-	799	816	-	951	689	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.1	9.9	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	724	893	1546	-	-	1422	-	-	725
HCM Lane V/C Ratio	0.036	0.012	0.002	-	-	0.008	-	-	0.006
HCM Control Delay (s)	10.2	9.1	7.3	-	-	7.6	-	-	10
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	16	0	14	0	44	28	32	15	0
Future Vol, veh/h	0	0	0	16	0	14	0	44	28	32	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	0	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	63	63	63	82	82	82	53	53	53
Heavy Vehicles, %	2	2	2	44	0	14	0	2	25	9	7	0
Mvmt Flow	0	0	0	25	0	22	0	54	34	60	28	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	230	236	28	202	-	54	28	0	0	88	0	0
Stage 1	148	148	-	54	-	-	-	-	-	-	-	-
Stage 2	82	88	-	148	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.54	-	6.34	4.1	-	-	4.19	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.896	-	3.426	2.2	-	-	2.281	-	-
Pot Cap-1 Maneuver	725	665	1047	674	0	980	1599	-	-	1465	-	-
Stage 1	855	775	-	862	0	-	-	-	-	-	-	-
Stage 2	926	822	-	764	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	687	638	1047	653	-	980	1599	-	-	1465	-	-
Mov Cap-2 Maneuver	687	638	-	653	-	-	-	-	-	-	-	-
Stage 1	855	743	-	862	-	-	-	-	-	-	-	-
Stage 2	905	822	-	733	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.8	0	5.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1599	-	-	-	653	980	1465	-	-
HCM Lane V/C Ratio	-	-	-	-	0.039	0.023	0.041	-	-
HCM Control Delay (s)	0	-	-	0	10.7	8.8	7.6	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	10	0	7	0	46	7	16	68	1
Future Vol, veh/h	1	0	1	10	0	7	0	46	7	16	68	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	61	61	61	83	83	83	63	63	63
Heavy Vehicles, %	5	5	5	2	2	2	19	19	19	16	16	16
Mvmt Flow	4	0	4	16	0	11	0	55	8	25	108	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	224	222	109	220	219	59	110	0	0	63	0	0
Stage 1	159	159	-	59	59	-	-	-	-	-	-	-
Stage 2	65	63	-	161	160	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.29	-	-	4.26	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.371	-	-	2.344	-	-
Pot Cap-1 Maneuver	725	671	937	736	679	1007	1381	-	-	1455	-	-
Stage 1	836	761	-	953	846	-	-	-	-	-	-	-
Stage 2	938	837	-	841	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	707	659	937	723	667	1007	1381	-	-	1455	-	-
Mov Cap-2 Maneuver	707	659	-	723	667	-	-	-	-	-	-	-
Stage 1	836	747	-	953	846	-	-	-	-	-	-	-
Stage 2	927	837	-	822	752	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.6	0	1.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1381	-	-	806	818	1455	-	-
HCM Lane V/C Ratio	-	-	-	0.01	0.034	0.017	-	-
HCM Control Delay (s)	0	-	-	9.5	9.6	7.5	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	13	9	27	16	3	1	87	36	2	43	0
Future Vol, veh/h	0	13	9	27	16	3	1	87	36	2	43	0
Peak Hour Factor	0.55	0.55	0.55	0.58	0.58	0.58	0.78	0.78	0.78	0.75	0.75	0.75
Heavy Vehicles, %	5	5	5	2	2	2	5	5	5	18	18	18
Mvmt Flow	0	24	16	47	28	5	1	112	46	3	57	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	8.1	8.1	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	0%	59%	4%
Vol Thru, %	70%	59%	35%	96%
Vol Right, %	29%	41%	7%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	22	46	45
LT Vol	1	0	27	2
Through Vol	87	13	16	43
RT Vol	36	9	3	0
Lane Flow Rate	159	40	79	60
Geometry Grp	1	1	1	1
Degree of Util (X)	0.184	0.048	0.1	0.078
Departure Headway (Hd)	4.169	4.324	4.549	4.655
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	866	830	790	772
Service Time	2.169	2.338	2.563	2.669
HCM Lane V/C Ratio	0.184	0.048	0.1	0.078
HCM Control Delay	8.1	7.6	8.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.2	0.3	0.3

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	49	41	291	252	4
Future Vol, veh/h	0	49	41	291	252	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	87	87	77	77
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	0	68	47	334	327	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	758	330	332	0	-	0
Stage 1	330	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	371	705	1153	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	352	705	1153	-	-	-
Mov Cap-2 Maneuver	352	-	-	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	651	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1153	-	705	-	-
HCM Lane V/C Ratio	0.041	-	0.097	-	-
HCM Control Delay (s)	8.3	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	77	7	3	238	226	93
Future Vol, veh/h	77	7	3	238	226	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	76	76	76	76
Heavy Vehicles, %	8	8	14	14	19	19
Mvmt Flow	95	9	4	313	297	122

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	679	358	419	0	-	0
Stage 1	358	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Critical Hdwy	6.48	6.28	4.24	-	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.326	-	-	-
Pot Cap-1 Maneuver	408	673	1079	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	406	673	1079	-	-	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	722	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.4	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1079	-	420	-	-
HCM Lane V/C Ratio	0.004	-	0.247	-	-
HCM Control Delay (s)	8.3	0	16.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	25	303	15	10	293
Future Vol, veh/h	22	25	303	15	10	293
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	83	83	79	79
Heavy Vehicles, %	29	29	16	16	17	17
Mvmt Flow	26	30	365	18	13	371

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	771	374	0	0	383	0
Stage 1	374	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Critical Hdwy	6.69	6.49	-	-	4.27	-
Critical Hdwy Stg 1	5.69	-	-	-	-	-
Critical Hdwy Stg 2	5.69	-	-	-	-	-
Follow-up Hdwy	3.761	3.561	-	-	2.353	-
Pot Cap-1 Maneuver	333	616	-	-	1098	-
Stage 1	640	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	328	616	-	-	1098	-
Mov Cap-2 Maneuver	328	-	-	-	-	-
Stage 1	640	-	-	-	-	-
Stage 2	615	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	437	1098	-
HCM Lane V/C Ratio	-	-	0.128	0.012	-
HCM Control Delay (s)	-	-	14.4	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	87	2	1	310	232	42
Future Vol, veh/h	87	2	1	310	232	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	86	86	77	77
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	121	3	1	360	301	55

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	691	329	356	0	-	0
Stage 1	329	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	406	706	1129	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	698	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	406	706	1129	-	-	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	698	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1129	-	410	-	-
HCM Lane V/C Ratio	0.001	-	0.301	-	-
HCM Control Delay (s)	8.2	0	17.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1.3	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	260	66	6	395	50	7
Future Vol, veh/h	260	66	6	395	50	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	79	95	95	84	84
Heavy Vehicles, %	17	17	16	16	19	19
Mvmt Flow	356	84	6	416	60	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	440	0	826	398
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	428	-
Critical Hdwy	-	-	4.26	-	6.59	6.39
Critical Hdwy Stg 1	-	-	-	-	5.59	-
Critical Hdwy Stg 2	-	-	-	-	5.59	-
Follow-up Hdwy	-	-	2.344	-	3.671	3.471
Pot Cap-1 Maneuver	-	-	1049	-	320	616
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	623	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1049	-	318	616
Mov Cap-2 Maneuver	-	-	-	-	318	-
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	619	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	338	-	-	1049	-
HCM Lane V/C Ratio	0.201	-	-	0.006	-
HCM Control Delay (s)	18.3	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	10	7	0	20	1	7	27	0	0	36	3
Future Vol, veh/h	4	10	7	0	20	1	7	27	0	0	36	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	77	77	77	75	75	75
Heavy Vehicles, %	20	20	20	29	29	29	2	2	2	2	2	2
Mvmt Flow	5	13	9	0	27	1	9	35	0	0	48	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	117	103	50	114	105	35	52	0	0	35	0	0
Stage 1	50	50	-	53	53	-	-	-	-	-	-	-
Stage 2	67	53	-	61	52	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.39	6.79	6.49	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.761	4.261	3.561	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	819	754	970	803	737	966	1554	-	-	1576	-	-
Stage 1	919	819	-	896	800	-	-	-	-	-	-	-
Stage 2	900	817	-	887	801	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	791	749	970	781	733	966	1554	-	-	1576	-	-
Mov Cap-2 Maneuver	791	749	-	781	733	-	-	-	-	-	-	-
Stage 1	913	819	-	891	795	-	-	-	-	-	-	-
Stage 2	863	812	-	864	801	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	10	1.5	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1554	-	-	820	742	1576	-	-
HCM Lane V/C Ratio	0.006	-	-	0.034	0.038	-	-	-
HCM Control Delay (s)	7.3	0	-	9.5	10	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	9	1	4	0	14	28	1	1	20	1
Future Vol, veh/h	1	1	9	1	4	0	14	28	1	1	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	39	39	39	42	42	42	72	72	72	69	69	69
Heavy Vehicles, %	20	20	20	29	29	29	2	2	2	2	2	2
Mvmt Flow	3	3	23	2	10	0	19	39	1	1	29	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	115	110	30	123	110	40	30	0	0	40	0	0
Stage 1	32	32	-	78	78	-	-	-	-	-	-	-
Stage 2	83	78	-	45	32	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.39	6.79	6.49	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.761	4.261	3.561	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	821	748	995	792	732	959	1583	-	-	1570	-	-
Stage 1	940	834	-	868	780	-	-	-	-	-	-	-
Stage 2	882	796	-	905	818	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	805	738	995	764	722	959	1583	-	-	1570	-	-
Mov Cap-2 Maneuver	805	738	-	764	722	-	-	-	-	-	-	-
Stage 1	929	833	-	858	771	-	-	-	-	-	-	-
Stage 2	861	786	-	880	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	10	2.4	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1583	-	-	945	730	1570	-	-
HCM Lane V/C Ratio	0.012	-	-	0.03	0.016	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.9	10	7.3	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	331	5	11	403	44	3	31	56	41	27	11
Future Volume (veh/h)	9	331	5	11	403	44	3	31	56	41	27	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	389	6	13	469	51	3	34	62	54	36	14
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.86	0.86	0.86	0.90	0.90	0.90	0.76	0.76	0.76
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	24	667	10	26	564	61	7	66	121	96	207	81
Arrive On Green	0.01	0.39	0.39	0.02	0.39	0.39	0.00	0.11	0.11	0.05	0.16	0.16
Sat Flow, veh/h	1675	1728	27	1560	1452	158	1774	592	1080	1774	1278	497
Grp Volume(v), veh/h	11	0	395	13	0	520	3	0	96	54	0	50
Grp Sat Flow(s),veh/h/ln	1675	0	1755	1560	0	1610	1774	0	1672	1774	0	1775
Q Serve(g_s), s	0.3	0.0	8.1	0.4	0.0	13.3	0.1	0.0	2.5	1.4	0.0	1.1
Cycle Q Clear(g_c), s	0.3	0.0	8.1	0.4	0.0	13.3	0.1	0.0	2.5	1.4	0.0	1.1
Prop In Lane	1.00		0.02	1.00		0.10	1.00		0.65	1.00		0.28
Lane Grp Cap(c), veh/h	24	0	678	26	0	626	7	0	187	96	0	288
V/C Ratio(X)	0.46	0.00	0.58	0.50	0.00	0.83	0.41	0.00	0.51	0.56	0.00	0.17
Avail Cap(c_a), veh/h	184	0	1049	171	0	963	195	0	853	195	0	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	11.1	22.2	0.0	12.6	22.6	0.0	19.0	21.0	0.0	16.4
Incr Delay (d2), s/veh	13.2	0.0	0.8	14.1	0.0	3.8	33.5	0.0	2.2	5.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	4.0	0.3	0.0	6.4	0.1	0.0	1.2	0.8	0.0	0.6
LnGrp Delay(d),s/veh	35.4	0.0	11.9	36.3	0.0	16.3	56.1	0.0	21.2	26.0	0.0	16.7
LnGrp LOS	D		B	D		B	E		C	C		B
Approach Vol, veh/h		406			533			99			104	
Approach Delay, s/veh		12.5			16.8			22.3			21.5	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	10.9	4.8	23.4	4.2	13.2	4.6	23.5
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	5.0	23.2	5.0	27.2	5.0	23.2	5.0	27.2
Max Q Clear Time (g_c+I1), s	3.4	4.5	2.4	10.1	2.1	3.1	2.3	15.3
Green Ext Time (p_c), s	0.0	0.4	0.0	2.0	0.0	0.1	0.0	2.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	412	4	13	431	45	10	10	26	49	5	6
Future Volume (veh/h)	2	412	4	13	431	45	10	10	26	49	5	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	490	5	15	501	52	12	12	32	56	6	7
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.82	0.82	0.82	0.88	0.88	0.88
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	5	715	7	30	624	65	153	56	112	321	31	19
Arrive On Green	0.00	0.41	0.41	0.02	0.43	0.43	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1675	1738	18	1560	1460	152	230	466	927	1102	253	153
Grp Volume(v), veh/h	2	0	495	15	0	553	56	0	0	69	0	0
Grp Sat Flow(s),veh/h/ln	1675	0	1756	1560	0	1611	1622	0	0	1508	0	0
Q Serve(g_s), s	0.0	0.0	8.0	0.3	0.0	10.4	0.0	0.0	0.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	8.0	0.3	0.0	10.4	1.0	0.0	0.0	1.3	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.09	0.21		0.57	0.81		0.10
Lane Grp Cap(c), veh/h	5	0	722	30	0	689	322	0	0	370	0	0
V/C Ratio(X)	0.42	0.00	0.69	0.50	0.00	0.80	0.17	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	241	0	1172	224	0	1075	1098	0	0	1059	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	8.4	16.9	0.0	8.7	13.9	0.0	0.0	14.0	0.0	0.0
Incr Delay (d2), s/veh	48.4	0.0	1.2	12.0	0.0	2.5	0.3	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	4.1	0.2	0.0	4.9	0.5	0.0	0.0	0.6	0.0	0.0
LnGrp Delay(d),s/veh	65.7	0.0	9.6	28.9	0.0	11.1	14.2	0.0	0.0	14.2	0.0	0.0
LnGrp LOS	E		A	C		B	B			B		
Approach Vol, veh/h		497			568			56			69	
Approach Delay, s/veh		9.8			11.6			14.2			14.2	
Approach LOS		A			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		10.0	4.7	20.1		10.0	4.1	20.7
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		21.2	5.0	23.2		21.2	5.0	23.2
Max Q Clear Time (g_c+I1), s		3.0	2.3	10.0		3.3	2.0	12.4
Green Ext Time (p_c), s		0.2	0.0	2.3		0.2	0.0	2.5

Intersection Summary		
HCM 2010 Ctrl Delay		11.1
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	191	332	352	2	2	89
Future Vol, veh/h	191	332	352	2	2	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	78	78	69	69
Heavy Vehicles, %	11	11	14	14	2	2
Mvmt Flow	217	377	451	3	3	129

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	454	0	-	0	1264	453
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	811	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1061	-	-	-	187	607
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	437	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1061	-	-	-	149	607
Mov Cap-2 Maneuver	-	-	-	-	149	-
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	437	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1061	-	-	-	149	607
HCM Lane V/C Ratio	0.205	-	-	-	0.019	0.212
HCM Control Delay (s)	9.3	-	-	-	29.6	12.5
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.1	0.8

Intersection	
Intersection Delay, s/veh	63.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	21	12	65	146	212	13	140	186	267	270	6
Future Vol, veh/h	7	21	12	65	146	212	13	140	186	267	270	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	19	19	19	19	19	19
Mvmt Flow	8	23	13	71	159	230	14	152	202	290	293	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.9	36.2	25	113.2
HCM LOS	B	E	C	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	17%	15%	49%
Vol Thru, %	41%	53%	35%	50%
Vol Right, %	55%	30%	50%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	339	40	423	543
LT Vol	13	7	65	267
Through Vol	140	21	146	270
RT Vol	186	12	212	6
Lane Flow Rate	368	43	460	590
Geometry Grp	1	1	1	1
Degree of Util (X)	0.695	0.101	0.836	1.151
Departure Headway (Hd)	7.203	8.86	6.965	7.019
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	505	407	524	519
Service Time	5.203	6.86	4.965	5.023
HCM Lane V/C Ratio	0.729	0.106	0.878	1.137
HCM Control Delay	25	12.9	36.2	113.2
HCM Lane LOS	C	B	E	F
HCM 95th-tile Q	5.3	0.3	8.5	20.5

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	20	23	4	23	33
Future Vol, veh/h	5	20	23	4	23	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	22	25	4	25	36

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	113	27	0	0	29	0
Stage 1	27	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	884	1048	-	-	1584	-
Stage 1	996	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	870	1048	-	-	1584	-
Mov Cap-2 Maneuver	870	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	922	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1007	1584	-
HCM Lane V/C Ratio	-	-	0.027	0.016	-
HCM Control Delay (s)	-	-	8.7	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	13	12	7	17	28	15	195	3	18	92	0
Future Vol, veh/h	0	13	12	7	17	28	15	195	3	18	92	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	0	14	13	8	18	30	16	212	3	20	100	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	410	387	100	400	386	214	100	0	0	215	0	0
Stage 1	140	140	-	246	246	-	-	-	-	-	-	-
Stage 2	270	247	-	154	140	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.32	-	-	4.32	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.398	-	-	2.398	-	-
Pot Cap-1 Maneuver	552	547	956	560	548	826	1376	-	-	1245	-	-
Stage 1	863	781	-	758	703	-	-	-	-	-	-	-
Stage 2	736	702	-	848	781	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	506	531	956	529	532	826	1376	-	-	1245	-	-
Mov Cap-2 Maneuver	506	531	-	529	532	-	-	-	-	-	-	-
Stage 1	852	768	-	748	694	-	-	-	-	-	-	-
Stage 2	681	693	-	807	768	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	11	0.5	1.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1376	-	-	675	658	1245	-	-
HCM Lane V/C Ratio	0.012	-	-	0.04	0.086	0.016	-	-
HCM Control Delay (s)	7.6	0	-	10.6	11	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	27	36	55	71	15	41	208	35	12	103	10
Future Vol, veh/h	8	27	36	55	71	15	41	208	35	12	103	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	9	29	39	60	77	16	45	226	38	13	112	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	9.7	11.8	9.6
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	11%	39%	10%
Vol Thru, %	73%	38%	50%	82%
Vol Right, %	12%	51%	11%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	284	71	141	125
LT Vol	41	8	55	12
Through Vol	208	27	71	103
RT Vol	35	36	15	10
Lane Flow Rate	309	77	153	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.428	0.107	0.22	0.197
Departure Headway (Hd)	4.987	4.992	5.168	5.222
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	716	710	690	681
Service Time	3.053	3.077	3.242	3.3
HCM Lane V/C Ratio	0.432	0.108	0.222	0.2
HCM Control Delay	11.8	8.7	9.7	9.6
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.2	0.4	0.8	0.7

Intersection	
Intersection Delay, s/veh	23.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	58	5	80	74	0	0	0	0	499	1	25
Future Vol, veh/h	0	58	5	80	74	0	0	0	0	499	1	25
Peak Hour Factor	0.84	0.84	0.84	0.92	0.92	0.92	0.25	0.25	0.25	0.95	0.95	0.95
Heavy Vehicles, %	0	4	0	14	0	0	0	0	0	39	4	2
Mvmt Flow	0	69	6	87	80	0	0	0	0	525	1	26
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9.7	11.4	29.3
HCM LOS	A	B	D

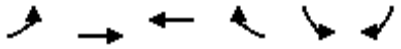
Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	52%	95%
Vol Thru, %	92%	48%	0%
Vol Right, %	8%	0%	5%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	63	154	525
LT Vol	0	80	499
Through Vol	58	74	1
RT Vol	5	0	25
Lane Flow Rate	75	167	553
Geometry Grp	1	1	1
Degree of Util (X)	0.123	0.28	0.828
Departure Headway (Hd)	5.881	6.027	5.397
Convergence, Y/N	Yes	Yes	Yes
Cap	613	599	663
Service Time	3.886	4.027	3.493
HCM Lane V/C Ratio	0.122	0.279	0.834
HCM Control Delay	9.7	11.4	29.3
HCM Lane LOS	A	B	D
HCM 95th-tile Q	0.4	1.1	8.9

Intersection	
Intersection Delay, s/veh	18.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	542	0	0	152	240	2	3	114	0	0	0
Future Vol, veh/h	15	542	0	0	152	240	2	3	114	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.94	0.94	0.94	0.90	0.90	0.90	0.25	0.25	0.25
Heavy Vehicles, %	10	8	0	0	10	21	0	50	20	0	0	0
Mvmt Flow	16	571	0	0	162	255	2	3	127	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	24.7	13.6	10.1
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	2%	3%	0%
Vol Thru, %	3%	97%	39%
Vol Right, %	96%	0%	61%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	119	557	392
LT Vol	2	15	0
Through Vol	3	542	152
RT Vol	114	0	240
Lane Flow Rate	132	586	417
Geometry Grp	1	1	1
Degree of Util (X)	0.207	0.798	0.55
Departure Headway (Hd)	5.649	4.897	4.744
Convergence, Y/N	Yes	Yes	Yes
Cap	639	727	751
Service Time	3.649	2.992	2.843
HCM Lane V/C Ratio	0.207	0.806	0.555
HCM Control Delay	10.1	24.7	13.6
HCM Lane LOS	B	C	B
HCM 95th-tile Q	0.8	8.2	3.4



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	138	518	233	141	114	159
Future Volume (veh/h)	138	518	233	141	114	159
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1727	1610	1863	1881	1667
Adj Flow Rate, veh/h	148	557	265	160	125	175
Adj No. of Lanes	1	1	1	1	1	2
Peak Hour Factor	0.93	0.93	0.88	0.88	0.91	0.91
Percent Heavy Veh, %	9	10	18	2	1	14
Cap, veh/h	203	927	402	395	262	365
Arrive On Green	0.12	0.54	0.25	0.25	0.15	0.15
Sat Flow, veh/h	1660	1727	1610	1583	1792	2493
Grp Volume(v), veh/h	148	557	265	160	125	175
Grp Sat Flow(s),veh/h/ln	1660	1727	1610	1583	1792	1247
Q Serve(g_s), s	3.4	8.7	5.8	3.3	2.5	2.5
Cycle Q Clear(g_c), s	3.4	8.7	5.8	3.3	2.5	2.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	203	927	402	395	262	365
V/C Ratio(X)	0.73	0.60	0.66	0.41	0.48	0.48
Avail Cap(c_a), veh/h	1095	2015	1879	1847	1181	1644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	6.3	13.3	12.4	15.4	15.4
Incr Delay (d2), s/veh	5.0	1.3	1.9	0.7	1.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	4.4	2.8	3.1	1.3	1.8
LnGrp Delay(d),s/veh	21.7	7.6	15.1	13.0	16.8	16.4
LnGrp LOS	C	A	B	B	B	B
Approach Vol, veh/h		705	425		300	
Approach Delay, s/veh		10.5	14.3		16.6	
Approach LOS		B	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.7		11.8	11.3	16.3		
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5		
Max Green Setting (Gmax), s		46.0		26.0	26.0	46.0		
Max Q Clear Time (g_c+I1), s		10.7		4.5	5.4	7.8		
Green Ext Time (p_c), s		7.6		1.0	0.3	2.0		

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	515	0	4	250	70	0	0	0	61	0	74
Future Volume (veh/h)	123	515	0	4	250	70	0	0	0	61	0	74
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1173	1743	1900	1900	1827	1496				1473	0	1145
Adj Flow Rate, veh/h	131	548	0	4	278	78				95	0	116
Adj No. of Lanes	2	1	0	2	2	1				1	0	1
Peak Hour Factor	0.94	0.94	0.94	0.90	0.90	0.90				0.64	0.64	0.64
Percent Heavy Veh, %	62	9	0	0	4	27				29	0	66
Cap, veh/h	242	819	0	23	1265	464				244	0	169
Arrive On Green	0.11	0.47	0.00	0.01	0.36	0.36				0.17	0.00	0.17
Sat Flow, veh/h	2167	1743	0	3510	3471	1272				1403	0	973
Grp Volume(v), veh/h	131	548	0	4	278	78				95	0	116
Grp Sat Flow(s),veh/h/ln	1083	1743	0	1755	1736	1272				1403	0	973
Q Serve(g_s), s	2.4	10.2	0.0	0.0	2.3	1.7				2.5	0.0	4.7
Cycle Q Clear(g_c), s	2.4	10.2	0.0	0.0	2.3	1.7				2.5	0.0	4.7
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	242	819	0	23	1265	464				244	0	169
V/C Ratio(X)	0.54	0.67	0.00	0.17	0.22	0.17				0.39	0.00	0.68
Avail Cap(c_a), veh/h	1598	2073	0	2588	4128	1512				1101	0	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	17.7	8.6	0.0	20.8	9.2	9.0				15.4	0.0	16.3
Incr Delay (d2), s/veh	1.9	2.0	0.0	3.6	0.2	0.4				1.0	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.3	0.0	0.0	1.2	1.5				1.0	0.0	2.7
LnGrp Delay(d),s/veh	19.5	10.6	0.0	24.3	9.4	9.4				16.4	0.0	21.1
LnGrp LOS	B	B		C	A	A				B		C
Approach Vol, veh/h		679			360						211	
Approach Delay, s/veh		12.4			9.6						19.0	
Approach LOS		B			A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	14.8	25.5		11.8	9.2	21.0		
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		
Max Green Setting (Gmax), s	31.0	50.0		33.0	31.0	50.0		
Max Q Clear Time (g_c+I1), s	12.0	12.2		6.7	4.4	4.3		
Green Ext Time (p_c), s	0.0	7.5		0.7	0.4	4.2		

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	502	55	11	298	57	23	15	12	73	34	56
Future Volume (veh/h)	98	502	55	11	298	57	23	15	12	73	34	56
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1850	1900	1743	1827	1900	1900	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	108	552	60	12	335	64	29	19	15	91	42	70
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.91	0.91	0.91	0.89	0.89	0.89	0.78	0.78	0.78	0.80	0.80	0.80
Percent Heavy Veh, %	1	3	0	9	4	0	0	0	0	1	0	0
Cap, veh/h	297	744	81	30	706	624	70	127	100	277	110	183
Arrive On Green	0.09	0.45	0.45	0.02	0.39	0.39	0.04	0.13	0.13	0.08	0.17	0.17
Sat Flow, veh/h	3476	1640	178	1660	1827	1615	1810	979	773	3476	642	1070
Grp Volume(v), veh/h	108	0	612	12	335	64	29	0	34	91	0	112
Grp Sat Flow(s),veh/h/ln	1738	0	1818	1660	1827	1615	1810	0	1751	1738	0	1711
Q Serve(g_s), s	1.7	0.0	16.1	0.4	8.0	1.5	0.9	0.0	1.0	1.4	0.0	3.4
Cycle Q Clear(g_c), s	1.7	0.0	16.1	0.4	8.0	1.5	0.9	0.0	1.0	1.4	0.0	3.4
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.44	1.00		0.63
Lane Grp Cap(c), veh/h	297	0	824	30	706	624	70	0	227	277	0	292
V/C Ratio(X)	0.36	0.00	0.74	0.40	0.47	0.10	0.42	0.00	0.15	0.33	0.00	0.38
Avail Cap(c_a), veh/h	1559	0	1506	601	1513	1337	656	0	997	1259	0	974
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	13.1	28.1	13.4	11.4	27.2	0.0	22.4	25.2	0.0	21.3
Incr Delay (d2), s/veh	0.3	0.0	2.8	17.1	1.1	0.2	1.5	0.0	0.3	0.3	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	8.6	0.3	4.2	0.7	0.5	0.0	0.5	0.7	0.0	1.7
LnGrp Delay(d),s/veh	25.3	0.0	15.9	45.3	14.4	11.5	28.7	0.0	22.7	25.5	0.0	22.2
LnGrp LOS	C		B	D	B	B	C		C	C		C
Approach Vol, veh/h		720			411			63			203	
Approach Delay, s/veh		17.3			14.9			25.4			23.6	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	31.8	6.4	14.5	9.1	27.9	8.8	12.1
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 21	48.0	* 21	33.0	* 26	48.0	* 21	33.0
Max Q Clear Time (g_c+I1), s	2.4	18.1	2.9	5.4	3.7	10.0	3.4	3.0
Green Ext Time (p_c), s	0.0	8.2	0.0	0.6	0.2	4.7	0.1	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.9
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	525	32	52	423	56	10	32	22	38	28	35
Future Volume (veh/h)	83	525	32	52	423	56	10	32	22	38	28	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1848	1900	1900	1847	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	87	553	34	54	441	58	12	40	28	48	35	44
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.80	0.80	0.80	0.79	0.79	0.79
Percent Heavy Veh, %	0	3	0	0	3	2	0	0	0	0	0	0
Cap, veh/h	181	1063	65	123	887	116	286	124	87	297	91	115
Arrive On Green	0.10	0.32	0.32	0.07	0.28	0.28	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1810	3360	206	1810	3120	408	1336	1040	728	1349	765	961
Grp Volume(v), veh/h	87	288	299	54	247	252	12	0	68	48	0	79
Grp Sat Flow(s),veh/h/ln	1810	1755	1811	1810	1754	1774	1336	0	1768	1349	0	1726
Q Serve(g_s), s	1.8	5.3	5.3	1.1	4.6	4.7	0.3	0.0	1.4	1.3	0.0	1.7
Cycle Q Clear(g_c), s	1.8	5.3	5.3	1.1	4.6	4.7	2.0	0.0	1.4	2.7	0.0	1.7
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.41	1.00		0.56
Lane Grp Cap(c), veh/h	181	555	573	123	499	504	286	0	211	297	0	206
V/C Ratio(X)	0.48	0.52	0.52	0.44	0.50	0.50	0.04	0.00	0.32	0.16	0.00	0.38
Avail Cap(c_a), veh/h	1473	1608	1659	1473	1607	1625	1010	0	1170	1028	0	1142
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.7	11.0	11.0	17.6	11.7	11.7	16.9	0.0	15.8	17.1	0.0	16.0
Incr Delay (d2), s/veh	2.0	1.1	1.0	2.4	1.1	1.1	0.1	0.0	0.9	0.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.6	2.8	0.6	2.3	2.4	0.1	0.0	0.7	0.5	0.0	0.9
LnGrp Delay(d),s/veh	18.7	12.1	12.0	20.0	12.8	12.8	16.9	0.0	16.7	17.3	0.0	17.1
LnGrp LOS	B	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		674			553			80			127	
Approach Delay, s/veh		12.9			13.5			16.8			17.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.2	18.9		11.2	10.4	17.7		11.2
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	32.0	36.0		26.0	32.0	36.0		26.0
Max Q Clear Time (g_c+I1), s	13.1	7.3		4.7	3.8	6.7		4.0
Green Ext Time (p_c), s	0.1	5.1		0.5	0.2	4.5		0.3

Intersection Summary			
HCM 2010 Ctrl Delay		13.7	
HCM 2010 LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	324	42	171	270	84	29	107	82	91	219	34
Future Volume (veh/h)	122	324	42	171	270	84	29	107	82	91	219	34
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1841	1900	1881	1845	1900	1845	1873	1900	1881	1900	1900
Adj Flow Rate, veh/h	126	334	43	186	293	91	35	129	99	105	252	39
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.83	0.83	0.83	0.87	0.87	0.87
Percent Heavy Veh, %	2	3	5	1	3	0	3	1	2	1	0	0
Cap, veh/h	165	604	77	238	762	349	77	223	171	145	504	416
Arrive On Green	0.09	0.19	0.19	0.13	0.22	0.22	0.04	0.23	0.23	0.08	0.27	0.27
Sat Flow, veh/h	1774	3114	397	1792	3505	1604	1757	978	750	1792	1900	1568
Grp Volume(v), veh/h	126	186	191	186	293	91	35	0	228	105	252	39
Grp Sat Flow(s),veh/h/ln	1774	1749	1763	1792	1752	1604	1757	0	1728	1792	1900	1568
Q Serve(g_s), s	4.3	6.0	6.1	6.2	4.4	2.9	1.2	0.0	7.3	3.6	7.0	1.2
Cycle Q Clear(g_c), s	4.3	6.0	6.1	6.2	4.4	2.9	1.2	0.0	7.3	3.6	7.0	1.2
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	165	339	342	238	762	349	77	0	394	145	504	416
V/C Ratio(X)	0.76	0.55	0.56	0.78	0.38	0.26	0.45	0.00	0.58	0.72	0.50	0.09
Avail Cap(c_a), veh/h	572	845	852	577	1807	827	594	0	947	606	796	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	22.6	22.6	26.0	20.7	20.1	29.0	0.0	21.3	27.9	19.3	17.2
Incr Delay (d2), s/veh	7.0	2.9	3.0	5.5	0.7	0.8	4.1	0.0	2.9	6.7	1.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	3.1	3.3	3.5	2.2	1.4	0.7	0.0	3.8	2.0	3.9	0.5
LnGrp Delay(d),s/veh	34.5	25.5	25.6	31.6	21.4	21.0	33.1	0.0	24.2	34.6	21.0	17.4
LnGrp LOS	C	C	C	C	C	C	C		C	C	C	B
Approach Vol, veh/h		503			570			263			396	
Approach Delay, s/veh		27.8			24.7			25.3			24.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	18.0	7.3	22.5	12.8	19.5	9.6	20.2
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	20.0	30.0	21.0	26.0	20.0	32.0	21.0	34.0
Max Q Clear Time (g_c+I1), s	8.2	8.1	3.2	9.0	6.3	6.4	5.6	9.3
Green Ext Time (p_c), s	0.4	3.7	0.0	2.5	0.2	3.9	0.2	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	25.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	258	58	19	297	12	35	34	5	3	59	148
Future Volume (veh/h)	144	258	58	19	297	12	35	34	5	3	59	148
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1811	1900	1900	1827	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	150	269	60	21	334	13	47	46	7	3	67	168
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.74	0.74	0.74	0.88	0.88	0.88
Percent Heavy Veh, %	0	6	0	0	4	0	0	0	0	0	0	0
Cap, veh/h	595	1307	287	667	851	751	293	234	27	119	111	271
Arrive On Green	0.47	0.47	0.47	0.47	0.47	0.47	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1049	2806	616	1066	1827	1612	539	1024	118	8	488	1189
Grp Volume(v), veh/h	150	163	166	21	334	13	100	0	0	238	0	0
Grp Sat Flow(s),veh/h/ln	1049	1721	1701	1066	1827	1612	1681	0	0	1684	0	0
Q Serve(g_s), s	3.4	1.7	1.8	0.4	3.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	1.7	1.8	2.2	3.7	0.1	1.3	0.0	0.0	3.9	0.0	0.0
Prop In Lane	1.00		0.36	1.00		1.00	0.47		0.07	0.01		0.71
Lane Grp Cap(c), veh/h	595	801	792	667	851	751	554	0	0	501	0	0
V/C Ratio(X)	0.25	0.20	0.21	0.03	0.39	0.02	0.18	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	1357	2051	2028	1442	2178	1921	1764	0	0	1904	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	4.9	4.9	5.5	5.4	4.5	9.8	0.0	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.3	0.0	0.6	0.0	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.9	0.9	0.1	2.0	0.1	0.7	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	8.2	5.2	5.2	5.6	6.0	4.5	9.9	0.0	0.0	11.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A			B		
Approach Vol, veh/h		479			368			100			238	
Approach Delay, s/veh		6.1			6.0			9.9			11.5	
Approach LOS		A			A			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		19.1		12.0		19.1		12.0
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		37.0		33.0		37.0		33.0
Max Q Clear Time (g_c+I1), s		9.1		3.3		5.7		5.9
Green Ext Time (p_c), s		5.3		0.6		4.4		1.6

Intersection Summary		
HCM 2010 Ctrl Delay		7.5
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	14.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↱		↕			↰	↱
Traffic Vol, veh/h	105	72	84	14	50	6	62	150	27	19	238	175
Future Vol, veh/h	105	72	84	14	50	6	62	150	27	19	238	175
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	80	80	80	98	98	98	88	88	88
Heavy Vehicles, %	6	4	6	0	2	0	6	3	7	16	5	4
Mvmt Flow	122	84	98	18	63	8	63	153	28	22	270	199

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	643	621	270	698	607	167	270	0	0	181	0	0
Stage 1	314	314	-	293	293	-	-	-	-	-	-	-
Stage 2	329	307	-	405	314	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.54	6.26	7.1	6.52	6.2	4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.036	3.354	3.5	4.018	3.3	2.254	-	-	2.344	-	-
Pot Cap-1 Maneuver	381	401	759	358	411	882	1271	-	-	1314	-	0
Stage 1	688	653	-	719	670	-	-	-	-	-	-	0
Stage 2	676	657	-	626	656	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	312	371	759	244	381	882	1271	-	-	1314	-	-
Mov Cap-2 Maneuver	312	371	-	244	381	-	-	-	-	-	-	-
Stage 1	650	640	-	679	633	-	-	-	-	-	-	-
Stage 2	571	621	-	465	643	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35.6	18.1	2.1	0.6
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	1271	-	-	407	339	882	1314	-
HCM Lane V/C Ratio	0.05	-	-	0.746	0.236	0.009	0.016	-
HCM Control Delay (s)	8	0	-	35.6	18.9	9.1	7.8	0
HCM Lane LOS	A	A	-	E	C	A	A	A
HCM 95th %tile Q(veh)	0.2	-	-	6	0.9	0	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	87	57	74	83	12	28	189	62	57	291	13
Future Volume (veh/h)	12	87	57	74	83	12	28	189	62	57	291	13
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1545	1545	1900	1570	1570	1900
Adj Flow Rate, veh/h	14	102	67	92	104	15	30	205	67	62	316	14
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.80	0.80	0.80	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	23	23	23	21	21	21
Cap, veh/h	277	164	108	286	256	37	61	243	79	106	369	16
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.04	0.22	0.22	0.07	0.25	0.25
Sat Flow, veh/h	1774	1051	690	1774	1593	230	1471	1116	365	1495	1492	66
Grp Volume(v), veh/h	14	0	169	92	0	119	30	0	272	62	0	330
Grp Sat Flow(s),veh/h/ln	1774	0	1741	1774	0	1822	1471	0	1480	1495	0	1559
Q Serve(g_s), s	0.3	0.0	4.2	2.1	0.0	2.7	0.9	0.0	8.2	1.9	0.0	9.4
Cycle Q Clear(g_c), s	0.3	0.0	4.2	2.1	0.0	2.7	0.9	0.0	8.2	1.9	0.0	9.4
Prop In Lane	1.00		0.40	1.00		0.13	1.00		0.25	1.00		0.04
Lane Grp Cap(c), veh/h	277	0	272	286	0	293	61	0	323	106	0	386
V/C Ratio(X)	0.05	0.00	0.62	0.32	0.00	0.41	0.49	0.00	0.84	0.58	0.00	0.86
Avail Cap(c_a), veh/h	1070	0	1050	1108	0	1138	665	0	1530	676	0	1611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	18.3	17.2	0.0	17.5	21.8	0.0	17.4	20.9	0.0	16.7
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.2	0.0	0.3	2.3	0.0	2.3	1.9	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.1	1.1	0.0	1.4	0.4	0.0	3.5	0.8	0.0	4.3
LnGrp Delay(d),s/veh	16.7	0.0	19.2	17.5	0.0	17.8	24.0	0.0	19.7	22.8	0.0	18.8
LnGrp LOS	B		B	B		B	C		B	C		B
Approach Vol, veh/h		183			211			302			392	
Approach Delay, s/veh		19.0			17.7			20.2			19.4	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.4	7.3	15.0		12.7	5.9	16.4
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 28	21.0	48.0		29.0	21.0	48.0
Max Q Clear Time (g_c+I1), s		6.2	3.9	10.2		4.7	2.9	11.4
Green Ext Time (p_c), s		0.4	0.0	0.2		0.2	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	263	9	201	319	69	12	122	163	116	234	3
Future Volume (veh/h)	20	263	9	201	319	69	12	122	163	116	234	3
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.98	0.99		0.99	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1868	1900	1810	1900	1900	1900	1845	1900	1881	1811	1900
Adj Flow Rate, veh/h	22	292	10	221	351	76	13	134	179	151	304	4
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	5	1	22	5	0	0	0	3	3	1	5	0
Cap, veh/h	370	440	15	460	648	538	375	322	284	393	899	12
Arrive On Green	0.03	0.25	0.25	0.12	0.34	0.34	0.02	0.18	0.18	0.09	0.26	0.26
Sat Flow, veh/h	1723	1794	61	1723	1900	1577	1810	1752	1547	1792	3475	46
Grp Volume(v), veh/h	22	0	302	221	351	76	13	134	179	151	150	158
Grp Sat Flow(s),veh/h/ln	1723	0	1855	1723	1900	1577	1810	1752	1547	1792	1720	1801
Q Serve(g_s), s	0.5	0.0	7.2	4.3	7.3	1.6	0.3	3.3	5.2	3.1	3.5	3.5
Cycle Q Clear(g_c), s	0.5	0.0	7.2	4.3	7.3	1.6	0.3	3.3	5.2	3.1	3.5	3.5
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	370	0	455	460	648	538	375	322	284	393	445	466
V/C Ratio(X)	0.06	0.00	0.66	0.48	0.54	0.14	0.03	0.42	0.63	0.38	0.34	0.34
Avail Cap(c_a), veh/h	1203	0	1514	1339	1938	1609	1268	1180	1041	1143	1158	1213
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	16.7	10.9	13.0	11.2	15.8	17.7	18.5	13.3	14.8	14.8
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.3	0.3	0.0	0.0	0.3	0.9	0.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.7	2.0	3.8	0.7	0.1	1.6	2.3	1.5	1.6	1.7
LnGrp Delay(d),s/veh	13.3	0.0	17.3	11.2	13.3	11.2	15.8	18.0	19.3	13.6	14.9	14.9
LnGrp LOS	B		B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		324			648			326			459	
Approach Delay, s/veh		17.0			12.3			18.6			14.5	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	21.3	8.5	13.9	10.0	16.6	4.8	17.6
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	25.0	50.0	25.0	33.0	31.0	40.0	25.0	33.0
Max Q Clear Time (g_c+I1), s	2.5	9.3	5.1	7.2	6.3	9.2	2.3	5.5
Green Ext Time (p_c), s	0.0	0.3	0.0	0.3	0.0	0.4	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.9
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	20	20	6	26	30	36	167	4	46	328	12
Future Vol, veh/h	6	20	20	6	26	30	36	167	4	46	328	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	92	92	92	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	23	23	23	21	21	21
Mvmt Flow	7	24	24	7	32	37	39	182	4	51	360	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	759	726	360	755	737	184	373	0	0	186	0	0
Stage 1	462	462	-	262	262	-	-	-	-	-	-	-
Stage 2	297	264	-	493	475	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.33	-	-	4.31	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.407	-	-	2.389	-	-
Pot Cap-1 Maneuver	323	351	684	325	346	858	1079	-	-	1282	-	-
Stage 1	580	565	-	743	691	-	-	-	-	-	-	-
Stage 2	712	690	-	558	557	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	266	320	684	276	316	858	1079	-	-	1282	-	-
Mov Cap-2 Maneuver	266	320	-	276	316	-	-	-	-	-	-	-
Stage 1	557	537	-	713	663	-	-	-	-	-	-	-
Stage 2	623	662	-	488	529	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.8	14.7	1.5	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1079	-	-	306	684	446	1282	-	-
HCM Lane V/C Ratio	0.036	-	-	0.104	0.036	0.17	0.039	-	-
HCM Control Delay (s)	8.5	0	-	18.1	10.5	14.7	7.9	0	-
HCM Lane LOS	A	A	-	C	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	77	50	29	26	1	29	2	37	0	3	1
Future Vol, veh/h	1	77	50	29	26	1	29	2	37	0	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	50	50	50	37	37	37	50	50	50
Heavy Vehicles, %	100	4	8	0	15	0	3	100	3	0	100	100
Mvmt Flow	1	113	74	58	52	2	78	5	100	0	6	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	54	0	0	187	0	0	325	322	150	374	358	53
Stage 1	-	-	-	-	-	-	152	152	-	169	169	-
Stage 2	-	-	-	-	-	-	173	170	-	205	189	-
Critical Hdwy	5.1	-	-	4.1	-	-	7.13	7.5	6.23	7.1	7.5	7.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	6.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	6.5	-	6.1	6.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.527	4.9	3.327	3.5	4.9	4.2
Pot Cap-1 Maneuver	1101	-	-	1399	-	-	626	464	894	587	440	795
Stage 1	-	-	-	-	-	-	848	618	-	838	606	-
Stage 2	-	-	-	-	-	-	827	605	-	802	592	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1101	-	-	1399	-	-	598	445	894	500	422	795
Mov Cap-2 Maneuver	-	-	-	-	-	-	598	445	-	500	422	-
Stage 1	-	-	-	-	-	-	847	617	-	837	581	-
Stage 2	-	-	-	-	-	-	783	580	-	705	591	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	4	10.7	12.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	598	850	1101	-	-	1399	-	-	478
HCM Lane V/C Ratio	0.131	0.124	0.001	-	-	0.041	-	-	0.017
HCM Control Delay (s)	11.9	9.8	8.3	-	-	7.7	-	-	12.7
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.4	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	29	0	68	0	32	33	55	46	0
Future Vol, veh/h	0	0	0	29	0	68	0	32	33	55	46	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	0	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	69	69	69	86	86	86	72	72	72
Heavy Vehicles, %	2	2	2	28	0	4	0	22	27	4	13	0
Mvmt Flow	0	0	0	42	0	99	0	37	38	76	64	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	322	291	64	253	-	37	64	0	0	75	0	0
Stage 1	216	216	-	37	-	-	-	-	-	-	-	-
Stage 2	106	75	-	216	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.38	-	6.24	4.1	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.38	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.38	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.752	-	3.336	2.2	-	-	2.236	-	-
Pot Cap-1 Maneuver	631	619	1000	650	0	1030	1551	-	-	1512	-	-
Stage 1	786	724	-	916	0	-	-	-	-	-	-	-
Stage 2	900	833	-	731	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	549	588	1000	625	-	1030	1551	-	-	1512	-	-
Mov Cap-2 Maneuver	549	588	-	625	-	-	-	-	-	-	-	-
Stage 1	786	688	-	916	-	-	-	-	-	-	-	-
Stage 2	814	833	-	694	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.6	0	4.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1551	-	-	-	625	1030	1512	-	-
HCM Lane V/C Ratio	-	-	-	-	0.067	0.096	0.051	-	-
HCM Control Delay (s)	0	-	-	0	11.2	8.9	7.5	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	0	8	0	16	1	118	10	16	47	0
Future Vol, veh/h	0	1	0	8	0	16	1	118	10	16	47	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	86	86	86	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	8	8	8	18	18	18	16	16	16
Mvmt Flow	0	4	0	9	0	19	1	164	14	22	65	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	292	289	65	284	282	171	65	0	0	178	0	0
Stage 1	109	109	-	173	173	-	-	-	-	-	-	-
Stage 2	183	180	-	111	109	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.18	6.58	6.28	4.28	-	-	4.26	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.572	4.072	3.372	2.362	-	-	2.344	-	-
Pot Cap-1 Maneuver	660	621	999	656	617	857	1441	-	-	1318	-	-
Stage 1	896	805	-	815	744	-	-	-	-	-	-	-
Stage 2	819	750	-	880	794	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	637	610	999	644	606	857	1441	-	-	1318	-	-
Mov Cap-2 Maneuver	637	610	-	644	606	-	-	-	-	-	-	-
Stage 1	895	791	-	814	743	-	-	-	-	-	-	-
Stage 2	800	749	-	861	781	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	9.8	0.1	2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1441	-	-	610	772	1318	-	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.036	0.017	-	-
HCM Control Delay (s)	7.5	0	-	10.9	9.8	7.8	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	35	8	17	13	1	5	48	14	2	83	0
Future Vol, veh/h	0	35	8	17	13	1	5	48	14	2	83	0
Peak Hour Factor	0.72	0.72	0.72	0.86	0.86	0.86	0.80	0.80	0.80	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	8	8	8	9	9	9	14	14	14
Mvmt Flow	0	49	11	20	15	1	6	60	18	2	90	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.8	7.7	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	0%	55%	2%
Vol Thru, %	72%	81%	42%	98%
Vol Right, %	21%	19%	3%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	43	31	85
LT Vol	5	0	17	2
Through Vol	48	35	13	83
RT Vol	14	8	1	0
Lane Flow Rate	84	60	36	92
Geometry Grp	1	1	1	1
Degree of Util (X)	0.097	0.071	0.046	0.112
Departure Headway (Hd)	4.179	4.266	4.594	4.373
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	844	844	784	809
Service Time	2.269	2.267	2.596	2.456
HCM Lane V/C Ratio	0.1	0.071	0.046	0.114
HCM Control Delay	7.7	7.6	7.8	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.1	0.4

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	62	20	255	475	6
Future Vol, veh/h	3	62	20	255	475	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	76	76	94	94
Heavy Vehicles, %	2	2	1	11	14	14
Mvmt Flow	4	87	26	336	505	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	896	508	511	0	-	0
Stage 1	508	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	311	565	1059	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	302	565	1059	-	-	-
Mov Cap-2 Maneuver	302	-	-	-	-	-
Stage 1	586	-	-	-	-	-
Stage 2	686	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1059	-	543	-	-
HCM Lane V/C Ratio	0.025	-	0.169	-	-
HCM Control Delay (s)	8.5	0	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	92	5	4	201	374	132
Future Vol, veh/h	92	5	4	201	374	132
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	84	84	95	95
Heavy Vehicles, %	9	9	23	23	21	21
Mvmt Flow	130	7	5	239	394	139

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	713	464	533	0	-	0
Stage 1	464	-	-	-	-	-
Stage 2	249	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.33	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.407	-	-	-
Pot Cap-1 Maneuver	388	584	936	-	-	-
Stage 1	619	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	386	584	936	-	-	-
Mov Cap-2 Maneuver	386	-	-	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	776	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	936	-	393	-	-
HCM Lane V/C Ratio	0.005	-	0.348	-	-
HCM Control Delay (s)	8.9	0	19	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1.5	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	8	266	19	42	490
Future Vol, veh/h	12	8	266	19	42	490
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	77	77	96	96
Heavy Vehicles, %	9	9	11	11	14	14
Mvmt Flow	17	11	345	25	44	510

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	956	358	0	0	370	0
Stage 1	358	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Critical Hdwy	6.49	6.29	-	-	4.24	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	-	-	2.326	-
Pot Cap-1 Maneuver	278	671	-	-	1125	-
Stage 1	692	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	263	671	-	-	1125	-
Mov Cap-2 Maneuver	263	-	-	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	507	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	348	1125	-
HCM Lane V/C Ratio	-	-	0.081	0.039	-
HCM Control Delay (s)	-	-	16.3	8.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	43	4	0	243	480	54
Future Vol, veh/h	43	4	0	243	480	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	76	76	88	88
Heavy Vehicles, %	9	9	1	11	14	14
Mvmt Flow	48	4	0	320	545	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	896	576	606	0	-	0
Stage 1	576	-	-	-	-	-
Stage 2	320	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.11	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.209	-	-	-
Pot Cap-1 Maneuver	302	504	977	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	721	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	302	504	977	-	-	-
Mov Cap-2 Maneuver	302	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	721	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	977	-	313	-	-
HCM Lane V/C Ratio	-	-	0.167	-	-
HCM Control Delay (s)	0	-	18.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	522	53	5	284	118	10
Future Vol, veh/h	522	53	5	284	118	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	82	82	80	80
Heavy Vehicles, %	11	11	14	14	18	18
Mvmt Flow	587	60	6	346	148	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	647	0	975	617
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	358	-
Critical Hdwy	-	-	4.24	-	6.58	6.38
Critical Hdwy Stg 1	-	-	-	-	5.58	-
Critical Hdwy Stg 2	-	-	-	-	5.58	-
Follow-up Hdwy	-	-	2.326	-	3.662	3.462
Pot Cap-1 Maneuver	-	-	884	-	261	462
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	673	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	884	-	259	462
Mov Cap-2 Maneuver	-	-	-	-	259	-
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	668	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	36.5
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	268	-	-	884	-
HCM Lane V/C Ratio	0.597	-	-	0.007	-
HCM Control Delay (s)	36.5	-	-	9.1	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	3.5	-	-	0	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	44	6	0	12	1	1	19	2	7	56	3
Future Vol, veh/h	7	44	6	0	12	1	1	19	2	7	56	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	54	54	54	50	50	50	79	79	79
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	9	59	8	0	22	2	2	38	4	9	71	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	147	137	73	169	137	40	75	0	0	42	0	0
Stage 1	91	91	-	44	44	-	-	-	-	-	-	-
Stage 2	56	46	-	125	93	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	808	743	972	779	741	1012	1524	-	-	1567	-	-
Stage 1	902	808	-	953	845	-	-	-	-	-	-	-
Stage 2	941	845	-	862	804	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	784	738	972	722	736	1012	1524	-	-	1567	-	-
Mov Cap-2 Maneuver	784	738	-	722	736	-	-	-	-	-	-	-
Stage 1	901	803	-	952	844	-	-	-	-	-	-	-
Stage 2	914	844	-	788	799	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	9.9	0.3	0.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1524	-	-	763	752	1567	-	-
HCM Lane V/C Ratio	0.001	-	-	0.1	0.032	0.006	-	-
HCM Control Delay (s)	7.4	0	-	10.2	9.9	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	3	37	2	4	1	7	15	7	3	51	1
Future Vol, veh/h	3	3	37	2	4	1	7	15	7	3	51	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	58	58	58	91	91	91	72	72	72
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	4	4	55	3	7	2	8	16	8	4	71	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	121	120	72	145	116	20	72	0	0	24	0	0
Stage 1	80	80	-	36	36	-	-	-	-	-	-	-
Stage 2	41	40	-	109	80	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	840	759	974	808	761	1038	1528	-	-	1591	-	-
Stage 1	914	817	-	962	851	-	-	-	-	-	-	-
Stage 2	959	850	-	879	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	827	753	974	754	755	1038	1528	-	-	1591	-	-
Mov Cap-2 Maneuver	827	753	-	754	755	-	-	-	-	-	-	-
Stage 1	909	815	-	957	847	-	-	-	-	-	-	-
Stage 2	945	846	-	822	813	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.7	1.8	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1528	-	-	943	785	1591	-	-
HCM Lane V/C Ratio	0.005	-	-	0.068	0.015	0.003	-	-
HCM Control Delay (s)	7.4	0	-	9.1	9.7	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	384	7	28	425	34	5	26	50	54	26	12
Future Volume (veh/h)	7	384	7	28	425	34	5	26	50	54	26	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	8	422	8	31	467	37	6	33	64	61	29	13
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.78	0.78	0.78	0.89	0.89	0.89
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	17	558	11	61	587	47	14	65	126	107	203	91
Arrive On Green	0.01	0.34	0.34	0.04	0.36	0.36	0.01	0.11	0.11	0.06	0.17	0.17
Sat Flow, veh/h	1616	1659	31	1691	1624	129	1774	568	1101	1774	1220	547
Grp Volume(v), veh/h	8	0	430	31	0	504	6	0	97	61	0	42
Grp Sat Flow(s),veh/h/ln	1616	0	1691	1691	0	1753	1774	0	1668	1774	0	1766
Q Serve(g_s), s	0.2	0.0	9.8	0.8	0.0	11.1	0.1	0.0	2.4	1.4	0.0	0.9
Cycle Q Clear(g_c), s	0.2	0.0	9.8	0.8	0.0	11.1	0.1	0.0	2.4	1.4	0.0	0.9
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.66	1.00		0.31
Lane Grp Cap(c), veh/h	17	0	568	61	0	633	14	0	191	107	0	294
V/C Ratio(X)	0.47	0.00	0.76	0.51	0.00	0.80	0.42	0.00	0.51	0.57	0.00	0.14
Avail Cap(c_a), veh/h	187	0	1064	196	0	1103	205	0	896	205	0	948
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.3	0.0	12.8	20.5	0.0	12.4	21.3	0.0	18.0	19.8	0.0	15.4
Incr Delay (d2), s/veh	18.5	0.0	2.1	6.5	0.0	2.3	18.5	0.0	2.1	4.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	4.9	0.5	0.0	5.7	0.1	0.0	1.2	0.9	0.0	0.4
LnGrp Delay(d),s/veh	39.8	0.0	14.9	26.9	0.0	14.7	39.8	0.0	20.1	24.5	0.0	15.6
LnGrp LOS	D		B	C		B	D		C	C		B
Approach Vol, veh/h		438			535			103			103	
Approach Delay, s/veh		15.3			15.4			21.2			20.9	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	10.7	5.6	20.3	4.3	13.0	4.5	21.4
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	5.0	23.2	5.0	27.2	5.0	23.2	5.0	27.2
Max Q Clear Time (g_c+I1), s	3.4	4.4	2.8	11.8	2.1	2.9	2.2	13.1
Green Ext Time (p_c), s	0.0	0.4	0.0	2.1	0.0	0.1	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	472	7	29	466	30	9	12	20	79	21	10
Future Volume (veh/h)	4	472	7	29	466	30	9	12	20	79	21	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	524	8	30	480	31	11	15	25	86	23	11
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.79	0.79	0.79	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	9	662	10	61	706	46	150	87	112	310	49	19
Arrive On Green	0.01	0.40	0.40	0.04	0.43	0.43	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1616	1666	25	1691	1650	107	213	641	821	1026	358	140
Grp Volume(v), veh/h	4	0	532	30	0	511	51	0	0	120	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1692	1691	0	1757	1675	0	0	1524	0	0
Q Serve(g_s), s	0.1	0.0	10.0	0.6	0.0	8.5	0.0	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	10.0	0.6	0.0	8.5	1.0	0.0	0.0	2.6	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.06	0.22		0.49	0.72		0.09
Lane Grp Cap(c), veh/h	9	0	672	61	0	751	349	0	0	378	0	0
V/C Ratio(X)	0.45	0.00	0.79	0.49	0.00	0.68	0.15	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	223	0	1084	234	0	1126	1068	0	0	1032	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	0.0	9.6	17.1	0.0	8.4	13.9	0.0	0.0	14.6	0.0	0.0
Incr Delay (d2), s/veh	32.5	0.0	2.2	6.1	0.0	1.1	0.2	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	5.0	0.4	0.0	4.2	0.5	0.0	0.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	50.5	0.0	11.7	23.2	0.0	9.5	14.1	0.0	0.0	15.0	0.0	0.0
LnGrp LOS	D		B	C		A	B			B		
Approach Vol, veh/h		536			541			51			120	
Approach Delay, s/veh		12.0			10.2			14.1			15.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		10.7	5.3	20.2		10.7	4.2	21.3
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		21.2	5.0	23.2		21.2	5.0	23.2
Max Q Clear Time (g_c+I1), s		3.0	2.6	12.0		4.6	2.1	10.5
Green Ext Time (p_c), s		0.1	0.0	2.4		0.4	0.0	2.4

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	122	433	414	0	2	158
Future Vol, veh/h	122	433	414	0	2	158
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	82	82	87	87
Heavy Vehicles, %	11	11	5	5	2	2
Mvmt Flow	137	487	505	0	2	182

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	505	0	-	0	1266	505
Stage 1	-	-	-	-	505	-
Stage 2	-	-	-	-	761	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1015	-	-	-	187	567
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	461	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1015	-	-	-	162	567
Mov Cap-2 Maneuver	-	-	-	-	162	-
Stage 1	-	-	-	-	524	-
Stage 2	-	-	-	-	461	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1015	-	-	-	162	567
HCM Lane V/C Ratio	0.135	-	-	-	0.014	0.32
HCM Control Delay (s)	9.1	-	-	-	27.5	14.3
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0	1.4

Intersection	
Intersection Delay, s/veh	79.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	449	60	233	64	46	28	129	294	11	101	4
Future Vol, veh/h	10	449	60	233	64	46	28	129	294	11	101	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	18	18	18	18	18	18
Mvmt Flow	11	488	65	253	70	50	30	140	320	12	110	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	126.8	39.3	72.5	18
HCM LOS	F	E	F	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	2%	68%	9%
Vol Thru, %	29%	87%	19%	87%
Vol Right, %	65%	12%	13%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	451	519	343	116
LT Vol	28	10	233	11
Through Vol	129	449	64	101
RT Vol	294	60	46	4
Lane Flow Rate	490	564	373	126
Geometry Grp	1	1	1	1
Degree of Util (X)	1.007	1.18	0.815	0.33
Departure Headway (Hd)	7.937	7.672	8.431	10.106
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	461	480	432	358
Service Time	5.937	5.672	6.431	8.106
HCM Lane V/C Ratio	1.063	1.175	0.863	0.352
HCM Control Delay	72.5	126.8	39.3	18
HCM Lane LOS	F	F	E	C
HCM 95th-tile Q	13.3	20.6	7.5	1.4

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	26	50	7	44	35
Future Vol, veh/h	2	26	50	7	44	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	28	54	8	48	38

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	192	58	0	0	62	0
Stage 1	58	-	-	-	-	-
Stage 2	134	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	797	1008	-	-	1541	-
Stage 1	965	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	771	1008	-	-	1541	-
Mov Cap-2 Maneuver	771	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	863	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	4.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	986	1541	-
HCM Lane V/C Ratio	-	-	0.031	0.031	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	18	26	5	10	21	13	132	7	33	171	5
Future Vol, veh/h	8	18	26	5	10	21	13	132	7	33	171	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	16	16	16	25	25	25
Mvmt Flow	9	20	28	5	11	23	14	143	8	36	186	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	453	440	189	460	438	147	191	0	0	151	0	0
Stage 1	261	261	-	175	175	-	-	-	-	-	-	-
Stage 2	192	179	-	285	263	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.26	-	-	4.35	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.344	-	-	2.425	-	-
Pot Cap-1 Maneuver	517	511	853	512	512	900	1303	-	-	1301	-	-
Stage 1	744	692	-	827	754	-	-	-	-	-	-	-
Stage 2	810	751	-	722	691	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	479	489	853	464	490	900	1303	-	-	1301	-	-
Mov Cap-2 Maneuver	479	489	-	464	490	-	-	-	-	-	-	-
Stage 1	735	671	-	817	745	-	-	-	-	-	-	-
Stage 2	769	742	-	657	670	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.4	10.8	0.7	1.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1303	-	-	619	660	1301	-	-
HCM Lane V/C Ratio	0.011	-	-	0.091	0.059	0.028	-	-
HCM Control Delay (s)	7.8	0	-	11.4	10.8	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

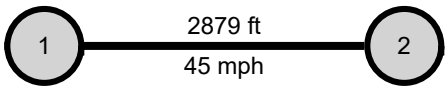
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	53	31	42	27	19	23	131	44	27	225	5
Future Vol, veh/h	7	53	31	42	27	19	23	131	44	27	225	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	8	58	34	46	29	21	25	142	48	29	245	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.2	10.2	11.4
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	8%	48%	11%
Vol Thru, %	66%	58%	31%	88%
Vol Right, %	22%	34%	22%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	91	88	257
LT Vol	23	7	42	27
Through Vol	131	53	27	225
RT Vol	44	31	19	5
Lane Flow Rate	215	99	96	279
Geometry Grp	1	1	1	1
Degree of Util (X)	0.3	0.14	0.14	0.392
Departure Headway (Hd)	5.014	5.11	5.267	5.048
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	712	694	674	707
Service Time	3.083	3.193	3.35	3.114
HCM Lane V/C Ratio	0.302	0.143	0.142	0.395
HCM Control Delay	10.2	9	9.2	11.4
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.3	0.5	0.5	1.9

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information (Sperry Ave between Rogers Rd & Park Center Drive)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2879	2879	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h	never					
1	Base Free-Flow Speed, mph	45.26			46.59		
1	Running Time, s	44.72			44.72		
1	Running Speed, mph	43.90			43.90		
1	Through Delay, s/veh	5.95			14.30		
1	Travel Time, s	50.67			59.02		
1	Travel Speed, mph	38.74			33.26		
1	Stop Rate, stops/veh	0.57			0.67		
1	Spatial Stop Rate, stops/mi	1.05			1.23		
1	Through vol/cap Ratio	0.24			0.60		
1	Percent of Base FFS	85.61			71.38		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.30			2.32		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	3.75		D
1	Bicycle Segment LOS Score / LOS	8.20		F	6.76		F
1	Transit Segment LOS Score / LOS	6.56		F	6.48		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	50.67	59.02
Facility Travel Speed, mph	38.74	33.26
Facility Base Free Flow Speed, mph	45.26	46.59
Facility Percent of Base FFS	85.61	71.38
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.30	2.32

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			3.75	D
Bicycle Facility LOS Score / LOS	8.20	F	6.76	F
Transit Facility LOS Score / LOS	6.56	F	6.48	F

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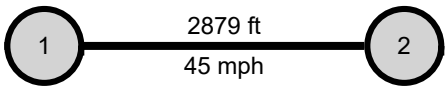
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2879	2879	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never			never	
1	Shared Lane Spillback Time, h	never					
1	Base Free-Flow Speed, mph	45.26			46.59		
1	Running Time, s	46.40			44.42		
1	Running Speed, mph	42.30			44.19		
1	Through Delay, s/veh	8.13			13.34		
1	Travel Time, s	54.53			57.76		
1	Travel Speed, mph	36.00			33.99		
1	Stop Rate, stops/veh	0.54			0.68		
1	Spatial Stop Rate, stops/mi	0.99			1.25		
1	Through vol/cap Ratio	0.62			0.40		
1	Percent of Base FFS	79.54			72.94		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.29			2.33		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	3.68		D
1	Bicycle Segment LOS Score / LOS	4.92		E	4.68		E
1	Transit Segment LOS Score / LOS	6.68		F	6.44		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	54.53	57.76
Facility Travel Speed, mph	36.00	33.99
Facility Base Free Flow Speed, mph	45.26	46.59
Facility Percent of Base FFS	79.54	72.94
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.29	2.33

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			3.68	D
Bicycle Facility LOS Score / LOS	4.92	E	4.68	E
Transit Facility LOS Score / LOS	6.68	F	6.44	F

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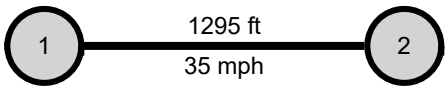
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1295	1295	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	38.00			38.12		
1	Running Time, s	25.76			25.70		
1	Running Speed, mph	34.27			34.35		
1	Through Delay, s/veh	0.17			15.69		
1	Travel Time, s	25.93			41.40		
1	Travel Speed, mph	34.05			21.33		
1	Stop Rate, stops/veh	0.01			0.80		
1	Spatial Stop Rate, stops/mi	0.03			3.27		
1	Through vol/cap Ratio	0.06			0.32		
1	Percent of Base FFS	89.61			55.96		
1	Level of Service	A			C		
1	Auto Traveler Perception Score	2.15			2.66		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.23		C	3.28		C
1	Bicycle Segment LOS Score / LOS	3.68		D	6.83		F
1	Transit Segment LOS Score / LOS	4.32		E	4.29		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	25.93	41.40
Facility Travel Speed, mph	34.05	21.33
Facility Base Free Flow Speed, mph	38.00	38.12
Facility Percent of Base FFS	89.61	55.96
Facility Level of Service	A	C
Facility Auto Traveler Perception Score	2.15	2.66

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.28	C
Bicycle Facility LOS Score / LOS	3.68	D	6.83	F
Transit Facility LOS Score / LOS	4.32	E	4.29	E

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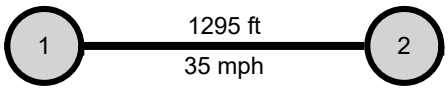
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1295	1295	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	38.00			38.12		
1	Running Time, s	25.88			25.80		
1	Running Speed, mph	34.12			34.22		
1	Through Delay, s/veh	0.21			22.16		
1	Travel Time, s	26.09			47.96		
1	Travel Speed, mph	33.85			18.41		
1	Stop Rate, stops/veh	0.01			0.81		
1	Spatial Stop Rate, stops/mi	0.03			3.30		
1	Through vol/cap Ratio	0.10			0.40		
1	Percent of Base FFS	89.07			48.30		
1	Level of Service	A			D		
1	Auto Traveler Perception Score	2.15			2.66		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.29		C	3.34		C
1	Bicycle Segment LOS Score / LOS	3.72		D	6.86		F
1	Transit Segment LOS Score / LOS	4.35		E	4.32		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	26.09	47.96
Facility Travel Speed, mph	33.85	18.41
Facility Base Free Flow Speed, mph	38.00	38.12
Facility Percent of Base FFS	89.07	48.30
Facility Level of Service	A	D
Facility Auto Traveler Perception Score	2.15	2.66

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.29	C	3.34	C
Bicycle Facility LOS Score / LOS	3.72	D	6.86	F
Transit Facility LOS Score / LOS	4.35	E	4.32	E

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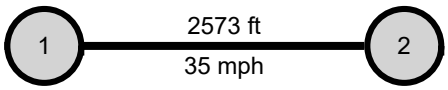
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2573	2573	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.75			40.62		
1	Running Time, s	44.69			44.77		
1	Running Speed, mph	39.25			39.19		
1	Through Delay, s/veh	0.17			0.15		
1	Travel Time, s	44.86			44.92		
1	Travel Speed, mph	39.10			39.05		
1	Stop Rate, stops/veh	0.01			0.01		
1	Spatial Stop Rate, stops/mi	0.02			0.02		
1	Through vol/cap Ratio	0.05			0.04		
1	Percent of Base FFS	95.96			96.15		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.14			2.14		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.21		C	2.72		B
1	Transit Segment LOS Score / LOS	4.36		E	4.30		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	44.86	44.92
Facility Travel Speed, mph	39.10	39.05
Facility Base Free Flow Speed, mph	40.75	40.62
Facility Percent of Base FFS	95.96	96.15
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.14	2.14

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.21	C	2.72	C
Transit Facility LOS Score / LOS	4.36	E	4.30	E

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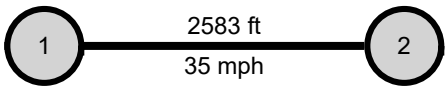
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2583	2583	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.76			40.62		
1	Running Time, s	44.93			45.12		
1	Running Speed, mph	39.20			39.04		
1	Through Delay, s/veh	0.20			0.21		
1	Travel Time, s	45.12			45.33		
1	Travel Speed, mph	39.03			38.85		
1	Stop Rate, stops/veh	0.01			0.01		
1	Spatial Stop Rate, stops/mi	0.02			0.02		
1	Through vol/cap Ratio	0.07			0.08		
1	Percent of Base FFS	95.76			95.64		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.14			2.14		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.38		C	3.20		C
1	Transit Segment LOS Score / LOS	4.39		E	4.38		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	45.12	45.33
Facility Travel Speed, mph	39.03	38.85
Facility Base Free Flow Speed, mph	40.76	40.62
Facility Percent of Base FFS	95.76	95.64
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.14	2.14

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.38	C	3.20	C
Transit Facility LOS Score / LOS	4.39	E	4.38	E

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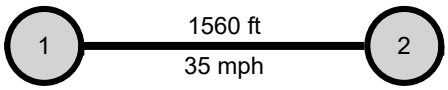
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward A	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information (W Marshall Rd, east of Ward Ave)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	27.78			27.82		
1	Running Speed, mph	38.28			38.24		
1	Through Delay, s/veh	1.16			1.18		
1	Travel Time, s	28.95			29.00		
1	Travel Speed, mph	36.74			36.68		
1	Stop Rate, stops/veh	0.41			0.42		
1	Spatial Stop Rate, stops/mi	1.40			1.41		
1	Through vol/cap Ratio	0.03			0.06		
1	Percent of Base FFS	87.94			87.79		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.57			2.57		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	7.03		F	6.54		F
1	Transit Segment LOS Score / LOS	6.47		F	6.49		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	28.95	29.00
Facility Travel Speed, mph	36.74	36.68
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	87.94	87.79
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.57	2.57

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	7.03	F	6.54	F
Transit Facility LOS Score / LOS	6.47	F	6.49	F

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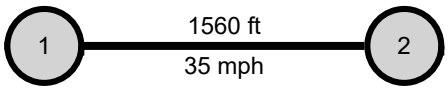
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward /	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	27.85			27.81		
1	Running Speed, mph	38.20			38.24		
1	Through Delay, s/veh	1.21			1.18		
1	Travel Time, s	29.05			28.99		
1	Travel Speed, mph	36.61			36.69		
1	Stop Rate, stops/veh	0.42			0.42		
1	Spatial Stop Rate, stops/mi	1.42			1.41		
1	Through vol/cap Ratio	0.09			0.05		
1	Percent of Base FFS	87.63			87.81		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.57			2.57		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.51		E	4.35		E
1	Transit Segment LOS Score / LOS	6.51		F	6.48		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	29.05	28.99
Facility Travel Speed, mph	36.61	36.69
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	87.63	87.81
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.57	2.57

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.51	E	4.35	E
Transit Facility LOS Score / LOS	6.51	F	6.48	F

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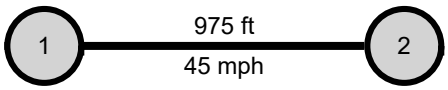
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_A	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information (SR 33, south of Bartch Ave)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	16.61			16.50		
1	Running Speed, mph	40.02			40.30		
1	Through Delay, s/veh	1.03			0.89		
1	Travel Time, s	17.64			17.39		
1	Travel Speed, mph	37.68			38.24		
1	Stop Rate, stops/veh	0.36			0.36		
1	Spatial Stop Rate, stops/mi	1.97			1.97		
1	Through vol/cap Ratio	0.29			0.13		
1	Percent of Base FFS	82.14			83.36		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.67			2.67		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	2.94		C	2.15		B
1	Transit Segment LOS Score / LOS	6.64		F	6.53		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	17.64	17.39
Facility Travel Speed, mph	37.68	38.24
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	82.14	83.36
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.67	2.67

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	2.94	C	2.15	B
Transit Facility LOS Score / LOS	6.64	F	6.53	F

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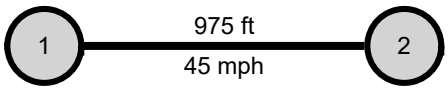
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_P	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	18.02			18.09		
1	Running Speed, mph	36.89			36.75		
1	Through Delay, s/veh	0.94			1.01		
1	Travel Time, s	18.96			19.09		
1	Travel Speed, mph	35.06			34.82		
1	Stop Rate, stops/veh	0.36			0.36		
1	Spatial Stop Rate, stops/mi	1.97			1.97		
1	Through vol/cap Ratio	0.19			0.27		
1	Percent of Base FFS	76.44			75.91		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.67			2.67		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.43		C	3.47		C
1	Transit Segment LOS Score / LOS	6.59		F	6.62		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	18.96	19.09
Facility Travel Speed, mph	35.06	34.82
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	76.44	75.91
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.67	2.67

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.43	C	3.47	C
Transit Facility LOS Score / LOS	6.59	F	6.62	F

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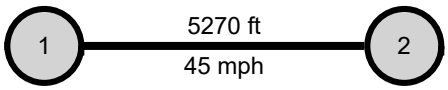
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave_AM.xus	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information (Las Palmas Ave, between Sycamore Ave and Elm Ave)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5270	5270	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.15			45.15		
1	Running Time, s	82.06			82.05		
1	Running Speed, mph	43.79			43.79		
1	Through Delay, s/veh	9.11			13.63		
1	Travel Time, s	91.17			95.69		
1	Travel Speed, mph	39.41			37.55		
1	Stop Rate, stops/veh	0.57			0.63		
1	Spatial Stop Rate, stops/mi	0.57			0.63		
1	Through vol/cap Ratio	0.67			0.79		
1	Percent of Base FFS	87.29			83.17		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.23			2.23		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.48		C	5.78		F
1	Transit Segment LOS Score / LOS	6.63		F	6.63		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	91.17	95.69
Facility Travel Speed, mph	39.41	37.55
Facility Base Free Flow Speed, mph	45.15	45.15
Facility Percent of Base FFS	87.29	83.17
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.23	2.23

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.48	C	5.78	F
Transit Facility LOS Score / LOS	6.63	F	6.63	F

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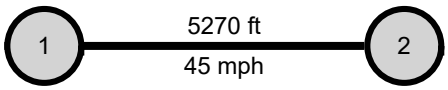
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave, Sycamore &	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5270	5270	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.15			45.15		
1	Running Time, s	82.37			82.24		
1	Running Speed, mph	43.62			43.69		
1	Through Delay, s/veh	10.50			14.06		
1	Travel Time, s	92.87			96.31		
1	Travel Speed, mph	38.69			37.31		
1	Stop Rate, stops/veh	0.57			0.62		
1	Spatial Stop Rate, stops/mi	0.57			0.62		
1	Through vol/cap Ratio	0.76			0.80		
1	Percent of Base FFS	85.70			82.63		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.22			2.23		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.92		D	4.29		E
1	Transit Segment LOS Score / LOS	6.65		F	6.64		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	92.87	96.31
Facility Travel Speed, mph	38.69	37.31
Facility Base Free Flow Speed, mph	45.15	45.15
Facility Percent of Base FFS	85.70	82.63
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.22	2.23

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.92	D	4.29	E
Transit Facility LOS Score / LOS	6.65	F	6.64	F

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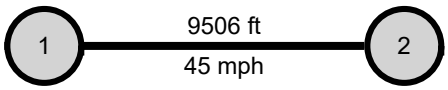
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave2_AM - Copy.	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9506	9506	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.00			46.01		
1	Running Time, s	144.56			144.26		
1	Running Speed, mph	44.84			44.93		
1	Through Delay, s/veh	8.30			9.70		
1	Travel Time, s	152.86			153.95		
1	Travel Speed, mph	42.40			42.10		
1	Stop Rate, stops/veh	0.31			0.59		
1	Spatial Stop Rate, stops/mi	0.17			0.33		
1	Through vol/cap Ratio	0.29			0.72		
1	Percent of Base FFS	92.17			91.51		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.17			2.40		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.87		D	3.99		D
1	Transit Segment LOS Score / LOS	6.63		F	6.63		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	152.86	153.95
Facility Travel Speed, mph	42.40	42.10
Facility Base Free Flow Speed, mph	46.00	46.01
Facility Percent of Base FFS	92.17	91.51
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.17	2.40

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.87	D	3.99	D
Transit Facility LOS Score / LOS	6.63	F	6.63	F

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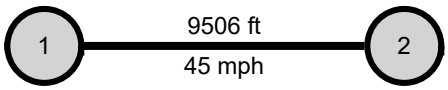
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave, wo Jennings	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9506	9506	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.00			46.01		
1	Running Time, s	145.26			145.36		
1	Running Speed, mph	44.62			44.59		
1	Through Delay, s/veh	9.28			11.16		
1	Travel Time, s	154.54			156.52		
1	Travel Speed, mph	41.94			41.41		
1	Stop Rate, stops/veh	0.34			0.55		
1	Spatial Stop Rate, stops/mi	0.19			0.31		
1	Through vol/cap Ratio	0.42			0.80		
1	Percent of Base FFS	91.17			90.00		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.17			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.89		D	4.01		D
1	Transit Segment LOS Score / LOS	6.66		F	6.68		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	154.54	156.52
Facility Travel Speed, mph	41.94	41.41
Facility Base Free Flow Speed, mph	46.00	46.01
Facility Percent of Base FFS	91.17	90.00
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.17	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.89	D	4.01	D
Transit Facility LOS Score / LOS	6.66	F	6.68	F

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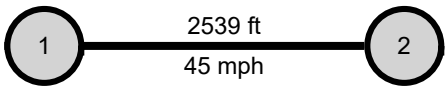
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_AM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2539	2539	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.89			43.54		
1	Running Time, s	39.85			41.85		
1	Running Speed, mph	43.44			41.36		
1	Through Delay, s/veh	8.46			20.51		
1	Travel Time, s	48.31			62.36		
1	Travel Speed, mph	35.83			27.76		
1	Stop Rate, stops/veh	0.34			0.81		
1	Spatial Stop Rate, stops/mi	0.70			1.69		
1	Through vol/cap Ratio	0.21			0.82		
1	Percent of Base FFS	78.08			63.75		
1	Level of Service	B			C		
1	Auto Traveler Perception Score	2.46			2.62		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.02		D	4.68		E
1	Transit Segment LOS Score / LOS	6.56		F	0.39		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	48.31	62.36
Facility Travel Speed, mph	35.83	27.76
Facility Base Free Flow Speed, mph	45.89	43.54
Facility Percent of Base FFS	78.08	63.75
Facility Level of Service	B	C
Facility Auto Traveler Perception Score	2.46	2.62

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.02	D	4.68	E
Transit Facility LOS Score / LOS	6.56	F	0.39	A

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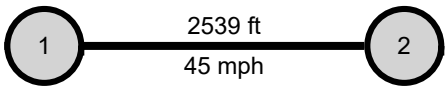
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_PM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2539	2539	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.89			43.54		
1	Running Time, s	39.90			42.17		
1	Running Speed, mph	43.39			41.05		
1	Through Delay, s/veh	8.59			18.66		
1	Travel Time, s	48.48			60.83		
1	Travel Speed, mph	35.71			28.46		
1	Stop Rate, stops/veh	0.34			0.76		
1	Spatial Stop Rate, stops/mi	0.71			1.58		
1	Through vol/cap Ratio	0.24			0.86		
1	Percent of Base FFS	77.80			65.35		
1	Level of Service	B			C		
1	Auto Traveler Perception Score	2.46			2.60		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.03		D	4.72		E
1	Transit Segment LOS Score / LOS	6.57		F	0.45		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	48.48	60.83
Facility Travel Speed, mph	35.71	28.46
Facility Base Free Flow Speed, mph	45.89	43.54
Facility Percent of Base FFS	77.80	65.35
Facility Level of Service	B	C
Facility Auto Traveler Perception Score	2.46	2.60

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.03	D	4.72	E
Transit Facility LOS Score / LOS	6.57	F	0.45	A

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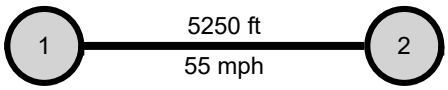
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5250	5250	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.03			45.33		
1	Running Time, s	72.46			79.63		
1	Running Speed, mph	49.40			44.95		
1	Through Delay, s/veh	8.32			0.00		
1	Travel Time, s	80.78			79.63		
1	Travel Speed, mph	44.31			44.95		
1	Stop Rate, stops/veh	0.51			0.00		
1	Spatial Stop Rate, stops/mi	0.51			0.00		
1	Through vol/cap Ratio	0.04			0.00		
1	Percent of Base FFS	88.57			99.17		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.42			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.61		E	5.60		F
1	Transit Segment LOS Score / LOS	6.51		F	0.19		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	80.78	79.63
Facility Travel Speed, mph	44.31	44.95
Facility Base Free Flow Speed, mph	50.03	45.33
Facility Percent of Base FFS	88.57	99.17
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.42	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.61	E	5.60	F
Transit Facility LOS Score / LOS	6.51	F	0.19	A

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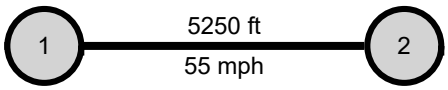
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5250	5250	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.03			45.33		
1	Running Time, s	72.57			79.58		
1	Running Speed, mph	49.32			44.98		
1	Through Delay, s/veh	8.54			0.00		
1	Travel Time, s	81.11			79.58		
1	Travel Speed, mph	44.13			44.98		
1	Stop Rate, stops/veh	0.51			0.00		
1	Spatial Stop Rate, stops/mi	0.52			0.00		
1	Through vol/cap Ratio	0.09			0.00		
1	Percent of Base FFS	88.21			99.23		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.43			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.75		E	5.52		F
1	Transit Segment LOS Score / LOS	6.54		F	0.18		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	81.11	79.58
Facility Travel Speed, mph	44.13	44.98
Facility Base Free Flow Speed, mph	50.03	45.33
Facility Percent of Base FFS	88.21	99.23
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.43	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.75	E	5.52	F
Transit Facility LOS Score / LOS	6.54	F	0.18	A

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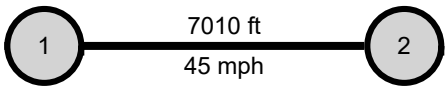
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7010	7010	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	104.37			104.11		
1	Running Speed, mph	45.80			45.91		
1	Through Delay, s/veh	0.00			5.19		
1	Travel Time, s	104.37			109.30		
1	Travel Speed, mph	45.80			43.73		
1	Stop Rate, stops/veh	0.00			0.64		
1	Spatial Stop Rate, stops/mi	0.00			0.48		
1	Through vol/cap Ratio	0.00			0.07		
1	Percent of Base FFS	99.34			94.86		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.34			2.42		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.59		D	4.35		E
1	Transit Segment LOS Score / LOS	6.53		F	6.49		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	104.37	109.30
Facility Travel Speed, mph	45.80	43.73
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	99.34	94.86
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.34	2.42

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.59	D	4.35	E
Transit Facility LOS Score / LOS	6.53	F	6.49	F

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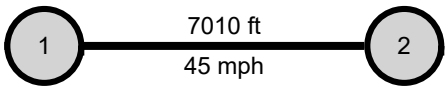
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7010	7010	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	104.16			104.17		
1	Running Speed, mph	45.89			45.88		
1	Through Delay, s/veh	0.00			5.33		
1	Travel Time, s	104.16			109.49		
1	Travel Speed, mph	45.89			43.65		
1	Stop Rate, stops/veh	0.00			0.64		
1	Spatial Stop Rate, stops/mi	0.00			0.49		
1	Through vol/cap Ratio	0.00			0.09		
1	Percent of Base FFS	99.54			94.69		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.34			2.42		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.45		C	4.40		E
1	Transit Segment LOS Score / LOS	6.49		F	6.50		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	104.16	109.49
Facility Travel Speed, mph	45.89	43.65
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	99.54	94.69
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.34	2.42

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.45	C	4.40	E
Transit Facility LOS Score / LOS	6.49	F	6.50	F

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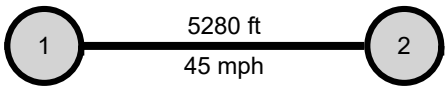
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5280	5280	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.28			46.28		
1	Running Time, s	78.48			78.46		
1	Running Speed, mph	45.87			45.88		
1	Through Delay, s/veh	7.56			0.00		
1	Travel Time, s	86.05			78.46		
1	Travel Speed, mph	41.84			45.88		
1	Stop Rate, stops/veh	0.81			0.00		
1	Spatial Stop Rate, stops/mi	0.81			0.00		
1	Through vol/cap Ratio	0.15			0.00		
1	Percent of Base FFS	90.40			99.15		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.47			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.11		C	3.07		C
1	Transit Segment LOS Score / LOS	6.47		F	6.46		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	86.05	78.46
Facility Travel Speed, mph	41.84	45.88
Facility Base Free Flow Speed, mph	46.28	46.28
Facility Percent of Base FFS	90.40	99.15
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.47	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.11	C	3.07	C
Transit Facility LOS Score / LOS	6.47	F	6.46	F

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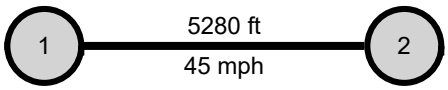
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5280	5280	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.28			46.28		
1	Running Time, s	78.50			78.47		
1	Running Speed, mph	45.86			45.88		
1	Through Delay, s/veh	7.61			0.00		
1	Travel Time, s	86.11			78.47		
1	Travel Speed, mph	41.81			45.88		
1	Stop Rate, stops/veh	0.83			0.00		
1	Spatial Stop Rate, stops/mi	0.83			0.00		
1	Through vol/cap Ratio	0.19			0.00		
1	Percent of Base FFS	90.34			99.15		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.48			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.14		C	3.08		C
1	Transit Segment LOS Score / LOS	6.47		F	6.46		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	86.11	78.47
Facility Travel Speed, mph	41.81	45.88
Facility Base Free Flow Speed, mph	46.28	46.28
Facility Percent of Base FFS	90.34	99.15
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.48	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.14	C	3.08	C
Transit Facility LOS Score / LOS	6.47	F	6.46	F

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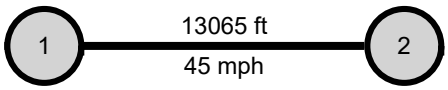
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13065	13065	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement		2	12	1	6	
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.21			46.21		
1	Running Time, s	193.11			197.10		
1	Running Speed, mph	46.13			45.20		
1	Through Delay, s/veh	13.33			0.00		
1	Travel Time, s	206.44			197.10		
1	Travel Speed, mph	43.15			45.20		
1	Stop Rate, stops/veh	0.47			0.00		
1	Spatial Stop Rate, stops/mi	0.19			0.00		
1	Through vol/cap Ratio	0.04			0.00		
1	Percent of Base FFS	93.38			97.80		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.37			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.34		E	4.53		E
1	Transit Segment LOS Score / LOS	6.49		F	6.74		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	206.44	197.10
Facility Travel Speed, mph	43.15	45.20
Facility Base Free Flow Speed, mph	46.21	46.21
Facility Percent of Base FFS	93.38	97.80
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.37	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.34	E	4.53	E
Transit Facility LOS Score / LOS	6.49	F	6.74	F

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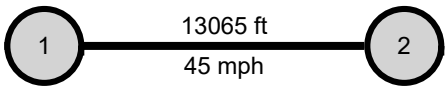
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13065	13065	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement		2	12	1	6	
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.21			46.21		
1	Running Time, s	193.15			196.65		
1	Running Speed, mph	46.12			45.30		
1	Through Delay, s/veh	13.36			0.00		
1	Travel Time, s	206.51			196.65		
1	Travel Speed, mph	43.14			45.30		
1	Stop Rate, stops/veh	0.47			0.00		
1	Spatial Stop Rate, stops/mi	0.19			0.00		
1	Through vol/cap Ratio	0.04			0.00		
1	Percent of Base FFS	93.34			98.02		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.37			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.40		E	4.52		E
1	Transit Segment LOS Score / LOS	6.49		F	6.73		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	206.51	196.65
Facility Travel Speed, mph	43.14	45.30
Facility Base Free Flow Speed, mph	46.21	46.21
Facility Percent of Base FFS	93.34	98.02
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.37	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.40	E	4.52	E
Transit Facility LOS Score / LOS	6.49	F	6.73	F

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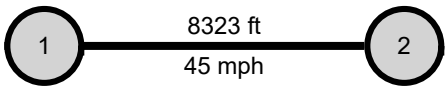
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	123.84			123.48		
1	Running Speed, mph	45.82			45.96		
1	Through Delay, s/veh	15.79			11.22		
1	Travel Time, s	139.63			134.70		
1	Travel Speed, mph	40.64			42.13		
1	Stop Rate, stops/veh	0.53			0.56		
1	Spatial Stop Rate, stops/mi	0.34			0.35		
1	Through vol/cap Ratio	0.43			0.36		
1	Percent of Base FFS	87.31			90.50		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.40			2.40		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.21		D	4.15		D
1	Transit Segment LOS Score / LOS	6.61		F	6.57		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	139.63	134.70
Facility Travel Speed, mph	40.64	42.13
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	87.31	90.50
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.40	2.40

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.21	D	4.15	D
Transit Facility LOS Score / LOS	6.61	F	6.57	F

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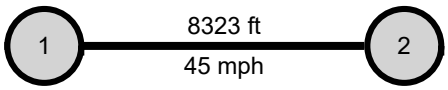
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	123.63			125.14		
1	Running Speed, mph	45.90			45.35		
1	Through Delay, s/veh	15.38			15.31		
1	Travel Time, s	139.01			140.45		
1	Travel Speed, mph	40.82			40.40		
1	Stop Rate, stops/veh	0.59			0.63		
1	Spatial Stop Rate, stops/mi	0.37			0.40		
1	Through vol/cap Ratio	0.41			0.75		
1	Percent of Base FFS	87.69			86.79		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.40			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.19		D	4.22		D
1	Transit Segment LOS Score / LOS	6.60		F	6.66		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	139.01	140.45
Facility Travel Speed, mph	40.82	40.40
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	87.69	86.79
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.40	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.19	D	4.22	D
Transit Facility LOS Score / LOS	6.60	F	6.66	F

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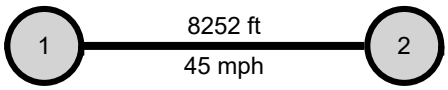
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	124.39			122.42		
1	Running Speed, mph	45.23			45.96		
1	Through Delay, s/veh	21.82			10.42		
1	Travel Time, s	146.21			132.84		
1	Travel Speed, mph	38.48			42.35		
1	Stop Rate, stops/veh	0.78			0.53		
1	Spatial Stop Rate, stops/mi	0.50			0.34		
1	Through vol/cap Ratio	0.73			0.23		
1	Percent of Base FFS	83.03			91.38		
1	Level of Service	B			A		
1	Auto Traveler Perception Score	2.42			2.40		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.44		E	4.33		E
1	Transit Segment LOS Score / LOS	6.73		F	6.59		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	146.21	132.84
Facility Travel Speed, mph	38.48	42.35
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	83.03	91.38
Facility Level of Service	B	A
Facility Auto Traveler Perception Score	2.42	2.40

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.44	E	4.33	E
Transit Facility LOS Score / LOS	6.73	F	6.59	F

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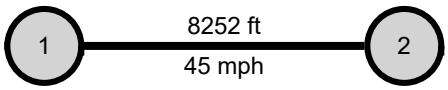
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_F	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	124.09			122.53		
1	Running Speed, mph	45.34			45.92		
1	Through Delay, s/veh	20.59			10.54		
1	Travel Time, s	144.68			133.07		
1	Travel Speed, mph	38.89			42.28		
1	Stop Rate, stops/veh	0.77			0.53		
1	Spatial Stop Rate, stops/mi	0.49			0.34		
1	Through vol/cap Ratio	0.69			0.24		
1	Percent of Base FFS	83.90			91.22		
1	Level of Service	B			A		
1	Auto Traveler Perception Score	2.42			2.40		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.45		E	4.42		E
1	Transit Segment LOS Score / LOS	6.71		F	6.63		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	144.68	133.07
Facility Travel Speed, mph	38.89	42.28
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	83.90	91.22
Facility Level of Service	B	A
Facility Auto Traveler Perception Score	2.42	2.40

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.45	E	4.42	E
Transit Facility LOS Score / LOS	6.71	F	6.63	F

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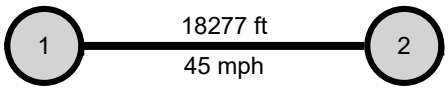
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	271.51			269.79		
1	Running Speed, mph	45.90			46.19		
1	Through Delay, s/veh	15.22			10.17		
1	Travel Time, s	286.72			279.96		
1	Travel Speed, mph	43.46			44.51		
1	Stop Rate, stops/veh	0.58			0.52		
1	Spatial Stop Rate, stops/mi	0.17			0.15		
1	Through vol/cap Ratio	0.37			0.16		
1	Percent of Base FFS	93.60			95.86		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.37			2.37		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.35		E	4.22		D
1	Transit Segment LOS Score / LOS	6.65		F	6.54		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	286.72	279.96
Facility Travel Speed, mph	43.46	44.51
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	93.60	95.86
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.37	2.37

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.35	E	4.22	D
Transit Facility LOS Score / LOS	6.65	F	6.54	F

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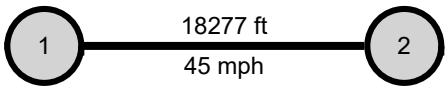
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	Existing Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	271.51			271.04		
1	Running Speed, mph	45.90			45.98		
1	Through Delay, s/veh	15.08			10.99		
1	Travel Time, s	286.59			282.03		
1	Travel Speed, mph	43.48			44.19		
1	Stop Rate, stops/veh	0.58			0.55		
1	Spatial Stop Rate, stops/mi	0.17			0.16		
1	Through vol/cap Ratio	0.36			0.30		
1	Percent of Base FFS	93.64			95.16		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.37			2.37		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.35		E	4.39		E
1	Transit Segment LOS Score / LOS	6.65		F	6.64		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	286.59	282.03
Facility Travel Speed, mph	43.48	44.19
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	93.64	95.16
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.37	2.37

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.35	E	4.39	E
Transit Facility LOS Score / LOS	6.65	F	6.64	F

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	Existing AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2018
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	1335	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	355	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	753	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	753	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	11.6	pc/mi/ln
Level of service, LOS	B	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	Existing PM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2018
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	1508	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	401	v
Trucks and buses	17	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.922	
Driver population factor, fp	1.00	
Flow rate, vp	870	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	870	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	13.4	pc/mi/ln
Level of service, LOS	B	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	Existing AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2018
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	1227	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	326	v
Trucks and buses	22	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.901	
Driver population factor, fp	1.00	
Flow rate, vp	724	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	61.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	61.0	mi/h

LOS and Performance Measures

Flow rate, vp	724	pc/h/ln
Free-flow speed, FFS	61.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	2	
Density, D	12.1	pc/mi/ln
Level of service, LOS	B	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	Existing PM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2018
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	1806	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	480	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1018	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1018	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	2	
Density, D	18.5	pc/mi/ln
Level of service, LOS	C	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	Existing AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2018
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	1100	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	293	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	647	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	647	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	10.0	pc/mi/ln
Level of service, LOS	A	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	Existing PM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2018
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	1408	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	374	v
Trucks and buses	16	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.926	
Driver population factor, fp	1.00	
Flow rate, vp	809	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	58.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	58.0	mi/h

LOS and Performance Measures

Flow rate, vp	809	pc/h/ln
Free-flow speed, FFS	58.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	2	
Density, D	13.5	pc/mi/ln
Level of service, LOS	B	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	Existing AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2018
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	1089	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	290	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	640	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	640	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	2	
Density, D	9.8	pc/mi/ln
Level of service, LOS	A	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	Existing PM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2018
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	1397	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	372	v
Trucks and buses	19	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.913	
Driver population factor, fp	1.00	
Flow rate, vp	814	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	61.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	61.0	mi/h

LOS and Performance Measures

Flow rate, vp	814	pc/h/ln
Free-flow speed, FFS	61.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	2	
Density, D	13.6	pc/mi/ln
Level of service, LOS	B	

Appendix C INTERSECTION LOS ANALYSIS: EXISTING PLUS APPROVED PROJECTS CONDITIONS LOS CALCULATION SHEETS

Intersection	
Intersection Delay, s/veh	118.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	512	9	137	61	0	0	0	0	394	2	35
Future Vol, veh/h	0	512	9	137	61	0	0	0	0	394	2	35
Peak Hour Factor	0.68	0.68	0.68	0.76	0.76	0.76	0.25	0.25	0.25	0.88	0.88	0.88
Heavy Vehicles, %	0	1	50	22	17	0	0	0	0	23	25	17
Mvmt Flow	0	753	13	180	80	0	0	0	0	448	2	40
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	191.6	19.7	56.4
HCM LOS	F	C	F

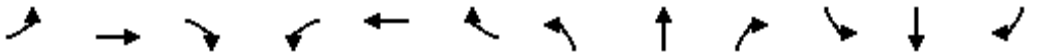
Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	69%	91%
Vol Thru, %	98%	31%	0%
Vol Right, %	2%	0%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	521	198	431
LT Vol	0	137	394
Through Vol	512	61	2
RT Vol	9	0	35
Lane Flow Rate	766	261	490
Geometry Grp	1	1	1
Degree of Util (X)	1.357	0.533	0.944
Departure Headway (Hd)	6.375	7.97	7.637
Convergence, Y/N	Yes	Yes	Yes
Cap	575	456	480
Service Time	4.427	5.97	5.637
HCM Lane V/C Ratio	1.332	0.572	1.021
HCM Control Delay	191.6	19.7	56.4
HCM Lane LOS	F	C	F
HCM 95th-tile Q	33.5	3.1	11.4

Intersection	
Intersection Delay, s/veh	460.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	172	734	0	0	176	707	22	11	819	0	0	0
Future Vol, veh/h	172	734	0	0	176	707	22	11	819	0	0	0
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.82	0.82	0.82	0.25	0.25	0.25
Heavy Vehicles, %	0	16	0	0	22	10	0	0	16	0	0	0
Mvmt Flow	205	874	0	0	196	786	27	13	999	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	531.7	431	413.5
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	3%	19%	0%
Vol Thru, %	1%	81%	20%
Vol Right, %	96%	0%	80%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	852	906	883
LT Vol	22	172	0
Through Vol	11	734	176
RT Vol	819	0	707
Lane Flow Rate	1039	1079	981
Geometry Grp	1	1	1
Degree of Util (X)	1.855	2.108	1.878
Departure Headway (Hd)	8.371	10.65	10.869
Convergence, Y/N	Yes	Yes	Yes
Cap	447	356	343
Service Time	6.371	8.65	8.869
HCM Lane V/C Ratio	2.324	3.031	2.86
HCM Control Delay	413.5	531.7	431
HCM Lane LOS	F	F	F
HCM 95th-tile Q	51.7	52	41.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	398	941	214	76	470	150	188	3	60	183	0	225
Future Volume (vph)	398	941	214	76	470	150	188	3	60	183	0	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	2959	1583	1770	1652	1546	1770	1863	1583		1736	2632
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	2959	1583	1770	1652	1546	1770	1863	1583		1736	2632
Peak-hour factor, PHF	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.92	0.80
Adj. Flow (vph)	457	1082	233	83	511	163	204	3	65	229	0	281
RTOR Reduction (vph)	0	0	108	0	0	97	0	0	57	0	0	124
Lane Group Flow (vph)	457	1082	125	83	511	66	204	3	8	0	229	157
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	9%	22%	2%	2%	15%	3%	2%	2%	2%	4%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	37.5	72.2	72.2	11.3	44.0	44.0	17.9	17.9	17.9		21.1	58.6
Effective Green, g (s)	37.5	72.2	72.2	11.3	44.0	44.0	17.9	17.9	17.9		21.1	58.6
Actuated g/C Ratio	0.26	0.50	0.50	0.08	0.31	0.31	0.12	0.12	0.12		0.15	0.41
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	431	1483	793	138	504	472	220	231	196		254	1071
v/s Ratio Prot	c0.28	0.37		0.05	c0.31		c0.12	0.00			c0.13	0.04
v/s Ratio Perm			0.08			0.04			0.01			0.02
v/c Ratio	1.06	0.73	0.16	0.60	1.01	0.14	0.93	0.01	0.04		0.90	0.15
Uniform Delay, d1	53.2	28.2	19.4	64.2	50.0	36.3	62.4	55.3	55.5		60.4	26.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	60.2	2.3	0.2	7.2	43.6	0.1	40.6	0.0	0.1		31.8	0.1
Delay (s)	113.5	30.5	19.6	71.4	93.6	36.4	103.0	55.3	55.6		92.2	27.0
Level of Service	F	C	B	E	F	D	F	E	E		F	C
Approach Delay (s)		50.5			78.9			91.1			56.3	
Approach LOS		D			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	61.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	242	0	1	440	17	0	0	0	23	0	123
Future Volume (veh/h)	99	242	0	1	440	17	0	0	0	23	0	123
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1173	1743	1900	1900	1827	1496				1473	0	1145
Adj Flow Rate, veh/h	112	275	0	1	557	22				26	0	137
Adj No. of Lanes	2	1	0	2	2	1				1	0	1
Peak Hour Factor	0.88	0.88	0.88	0.79	0.79	0.79				0.90	0.90	0.90
Percent Heavy Veh, %	62	9	0	0	4	27				29	0	66
Cap, veh/h	230	818	0	9	1267	454				234	0	162
Arrive On Green	0.11	0.47	0.00	0.00	0.37	0.37				0.17	0.00	0.17
Sat Flow, veh/h	2167	1743	0	3510	3471	1245				1403	0	973
Grp Volume(v), veh/h	112	275	0	1	557	22				26	0	137
Grp Sat Flow(s),veh/h/ln	1083	1743	0	1755	1736	1245				1403	0	973
Q Serve(g_s), s	2.0	4.0	0.0	0.0	4.9	0.5				0.6	0.0	5.5
Cycle Q Clear(g_c), s	2.0	4.0	0.0	0.0	4.9	0.5				0.6	0.0	5.5
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	230	818	0	9	1267	454				234	0	162
V/C Ratio(X)	0.49	0.34	0.00	0.12	0.44	0.05				0.11	0.00	0.84
Avail Cap(c_a), veh/h	1654	2146	0	2680	4274	1533				1140	0	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	17.1	6.8	0.0	20.2	9.8	8.3				14.4	0.0	16.4
Incr Delay (d2), s/veh	1.6	0.5	0.0	5.8	0.5	0.1				0.2	0.0	11.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.0	0.0	0.0	2.4	0.4				0.3	0.0	3.3
LnGrp Delay(d),s/veh	18.7	7.3	0.0	26.0	10.3	8.4				14.6	0.0	27.5
LnGrp LOS	B	A		C	B	A				B		C
Approach Vol, veh/h		387			580						163	
Approach Delay, s/veh		10.6			10.2						25.5	
Approach LOS		B			B						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	4.6	24.8		11.3	8.8	20.5		
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		
Max Green Setting (Gmax), s	3.1	50.0		33.0	31.0	50.0		
Max Q Clear Time (g_c+I1), s	2.0	6.0		7.5	4.0	6.9		
Green Ext Time (p_c), s	0.0	3.3		0.5	0.4	7.9		

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	221	25	10	323	85	104	153	35	54	39	93
Future Volume (veh/h)	47	221	25	10	323	85	104	153	35	54	39	93
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1834	1900	1900	1792	1863	1900	1810	1900	1827	1874	1900
Adj Flow Rate, veh/h	55	257	29	13	419	110	132	194	44	69	50	119
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.79	0.79	0.79	0.78	0.78	0.78
Percent Heavy Veh, %	6	4	0	0	6	2	0	5	5	4	0	2
Cap, veh/h	204	630	71	35	624	551	173	270	61	238	81	193
Arrive On Green	0.06	0.39	0.39	0.02	0.35	0.35	0.10	0.19	0.19	0.07	0.16	0.16
Sat Flow, veh/h	3312	1615	182	1810	1792	1583	1810	1428	324	3375	493	1173
Grp Volume(v), veh/h	55	0	286	13	419	110	132	0	238	69	0	169
Grp Sat Flow(s),veh/h/ln	1656	0	1797	1810	1792	1583	1810	0	1752	1688	0	1667
Q Serve(g_s), s	0.9	0.0	6.5	0.4	11.1	2.7	4.0	0.0	7.1	1.1	0.0	5.3
Cycle Q Clear(g_c), s	0.9	0.0	6.5	0.4	11.1	2.7	4.0	0.0	7.1	1.1	0.0	5.3
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.18	1.00		0.70
Lane Grp Cap(c), veh/h	204	0	701	35	624	551	173	0	332	238	0	274
V/C Ratio(X)	0.27	0.00	0.41	0.37	0.67	0.20	0.76	0.00	0.72	0.29	0.00	0.62
Avail Cap(c_a), veh/h	1539	0	1542	679	1537	1358	679	0	1033	1267	0	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.1	0.0	12.4	27.1	15.5	12.8	24.7	0.0	21.3	24.7	0.0	21.7
Incr Delay (d2), s/veh	0.3	0.0	0.8	13.0	2.7	0.4	2.7	0.0	2.9	0.2	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.3	0.3	5.9	1.2	2.1	0.0	3.7	0.5	0.0	2.6
LnGrp Delay(d),s/veh	25.3	0.0	13.2	40.0	18.2	13.2	27.3	0.0	24.2	24.9	0.0	24.0
LnGrp LOS	C		B	D	B	B	C		C	C		C
Approach Vol, veh/h		341			542			370			238	
Approach Delay, s/veh		15.2			17.7			25.3			24.3	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	27.3	9.5	13.8	7.6	25.0	8.1	15.2
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 21	48.0	* 21	33.0	* 26	48.0	* 21	33.0
Max Q Clear Time (g_c+I1), s	2.4	8.5	6.0	7.3	2.9	13.1	3.1	9.1
Green Ext Time (p_c), s	0.0	3.4	0.1	1.0	0.1	6.3	0.1	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	415	20	32	432	45	46	105	64	112	114	147
Future Volume (veh/h)	49	415	20	32	432	45	46	105	64	112	114	147
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1842	1900	1845	1813	1900	1863	1886	1900	1881	1900	1900
Adj Flow Rate, veh/h	60	506	24	41	554	58	81	184	112	190	193	249
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.82	0.82	0.82	0.78	0.78	0.78	0.57	0.57	0.57	0.59	0.59	0.59
Percent Heavy Veh, %	0	3	6	3	5	3	2	0	2	1	0	0
Cap, veh/h	112	977	46	86	864	90	239	388	236	358	268	345
Arrive On Green	0.06	0.29	0.29	0.05	0.27	0.27	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1810	3398	161	1757	3147	329	942	1089	663	1087	752	971
Grp Volume(v), veh/h	60	260	270	41	303	309	81	0	296	190	0	442
Grp Sat Flow(s),veh/h/ln	1810	1750	1809	1757	1722	1753	942	0	1752	1087	0	1723
Q Serve(g_s), s	2.0	7.9	7.9	1.4	9.8	9.8	5.2	0.0	8.3	10.4	0.0	14.1
Cycle Q Clear(g_c), s	2.0	7.9	7.9	1.4	9.8	9.8	19.2	0.0	8.3	18.7	0.0	14.1
Prop In Lane	1.00		0.09	1.00		0.19	1.00		0.38	1.00		0.56
Lane Grp Cap(c), veh/h	112	503	520	86	473	481	239	0	623	358	0	613
V/C Ratio(X)	0.54	0.52	0.52	0.48	0.64	0.64	0.34	0.00	0.47	0.53	0.00	0.72
Avail Cap(c_a), veh/h	915	995	1029	888	979	997	291	0	720	418	0	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.8	18.9	18.9	29.3	20.2	20.2	26.0	0.0	15.8	23.1	0.0	17.7
Incr Delay (d2), s/veh	4.0	1.2	1.1	4.1	2.1	2.0	0.8	0.0	0.6	1.2	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.9	4.1	0.8	4.9	5.0	1.4	0.0	4.0	3.2	0.0	7.1
LnGrp Delay(d),s/veh	32.8	20.0	20.0	33.4	22.3	22.3	26.8	0.0	16.4	24.3	0.0	20.7
LnGrp LOS	C	C	C	C	C	C	C		B	C		C
Approach Vol, veh/h		590			653			377			632	
Approach Delay, s/veh		21.3			23.0			18.6			21.8	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.6	24.7		29.0	10.4	23.9		29.0
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	32.0	36.0		26.0	32.0	36.0		26.0
Max Q Clear Time (g_c+I1), s	3.4	9.9		20.7	4.0	11.8		21.2
Green Ext Time (p_c), s	0.1	4.4		1.8	0.1	5.4		1.0

Intersection Summary		
HCM 2010 Ctrl Delay		21.5
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	373	13	118	440	110	29	140	146	130	107	34
Future Volume (veh/h)	84	373	13	118	440	110	29	140	146	130	107	34
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1813	1900	1792	1827	1845	1900	1827	1900	1900	1863	1776
Adj Flow Rate, veh/h	109	484	17	136	506	126	51	246	256	197	162	52
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.77	0.77	0.77	0.87	0.87	0.87	0.57	0.57	0.57	0.66	0.66	0.66
Percent Heavy Veh, %	0	4	27	6	4	3	0	4	4	0	2	7
Cap, veh/h	140	717	25	168	771	343	83	270	281	235	767	612
Arrive On Green	0.08	0.21	0.21	0.10	0.22	0.22	0.05	0.33	0.33	0.13	0.41	0.41
Sat Flow, veh/h	1810	3393	119	1707	3471	1546	1810	821	854	1810	1863	1485
Grp Volume(v), veh/h	109	245	256	136	506	126	51	0	502	197	162	52
Grp Sat Flow(s),veh/h/ln	1810	1723	1789	1707	1736	1546	1810	0	1675	1810	1863	1485
Q Serve(g_s), s	5.8	12.7	12.8	7.6	12.9	6.7	2.7	0.0	28.0	10.3	5.5	2.1
Cycle Q Clear(g_c), s	5.8	12.7	12.8	7.6	12.9	6.7	2.7	0.0	28.0	10.3	5.5	2.1
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	140	364	378	168	771	343	83	0	550	235	767	612
V/C Ratio(X)	0.78	0.67	0.68	0.81	0.66	0.37	0.61	0.00	0.91	0.84	0.21	0.08
Avail Cap(c_a), veh/h	372	531	552	351	1141	508	390	0	585	390	767	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	35.3	35.3	43.0	34.5	32.1	45.6	0.0	31.3	41.4	18.4	17.4
Incr Delay (d2), s/veh	9.0	4.6	4.5	9.0	2.0	1.4	7.0	0.0	19.4	8.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	6.5	6.8	4.0	6.4	3.0	1.5	0.0	15.8	5.7	2.9	0.9
LnGrp Delay(d),s/veh	53.1	39.9	39.8	52.0	36.5	33.5	52.6	0.0	50.7	49.4	18.7	17.6
LnGrp LOS	D	D	D	D	D	C	D		D	D	B	B
Approach Vol, veh/h		610			768			553			411	
Approach Delay, s/veh		42.2			38.7			50.9			33.3	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.6	26.6	9.1	46.1	14.5	27.6	17.2	38.0
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	20.0	30.0	21.0	26.0	20.0	32.0	21.0	34.0
Max Q Clear Time (g_c+I1), s	9.6	14.8	4.7	7.5	7.8	14.9	12.3	30.0
Green Ext Time (p_c), s	0.2	4.3	0.1	1.8	0.2	5.8	0.3	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	41.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	242	25	11	334	25	56	84	16	5	56	163
Future Volume (veh/h)	178	242	25	11	334	25	56	84	16	5	56	163
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1818	1900	1900	1759	1900	1900	1886	1900	1900	1873	1900
Adj Flow Rate, veh/h	212	288	30	13	388	29	76	114	22	7	84	243
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.74	0.74	0.74	0.67	0.67	0.67
Percent Heavy Veh, %	2	5	0	0	8	0	2	0	0	0	0	2
Cap, veh/h	506	1566	162	645	872	798	231	305	49	88	124	341
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	964	3159	326	1077	1759	1610	415	1070	172	11	436	1195
Grp Volume(v), veh/h	212	156	162	13	388	29	212	0	0	334	0	0
Grp Sat Flow(s),veh/h/ln	964	1727	1759	1077	1759	1610	1657	0	0	1643	0	0
Q Serve(g_s), s	7.9	2.2	2.2	0.3	6.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.1	2.2	2.2	2.5	6.2	0.4	4.1	0.0	0.0	7.9	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.36		0.10	0.02		0.73
Lane Grp Cap(c), veh/h	506	856	872	645	872	798	585	0	0	553	0	0
V/C Ratio(X)	0.42	0.18	0.19	0.02	0.45	0.04	0.36	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	852	1474	1502	1030	1502	1375	1274	0	0	1331	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.6	6.1	6.1	6.8	7.1	5.6	12.5	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.2	0.2	0.0	0.8	0.0	0.4	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	1.1	1.1	0.1	3.1	0.2	2.1	0.0	0.0	3.7	0.0	0.0
LnGrp Delay(d),s/veh	12.8	6.3	6.3	6.8	7.8	5.7	12.9	0.0	0.0	15.0	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B			B		
Approach Vol, veh/h		530			430			212			334	
Approach Delay, s/veh		8.9			7.7			12.9			15.0	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		26.1		17.3		26.1		17.3
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		37.0		33.0		37.0		33.0
Max Q Clear Time (g_c+I1), s		16.1		6.1		8.2		9.9
Green Ext Time (p_c), s		5.4		1.5		5.1		2.3

Intersection Summary		
HCM 2010 Ctrl Delay		10.4
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	106.2

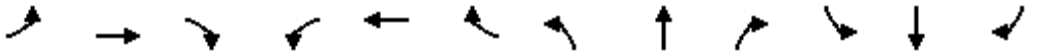
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↱		↕			↰	↱
Traffic Vol, veh/h	93	108	41	7	26	10	126	393	52	20	180	162
Future Vol, veh/h	93	108	41	7	26	10	126	393	52	20	180	162
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	67	67	67	76	76	76	81	81	81
Heavy Vehicles, %	10	4	0	14	9	8	4	6	12	0	12	10
Mvmt Flow	107	124	47	10	39	15	166	517	68	25	222	200

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1183	1189	222	1241	1155	552	222	0	0	585	0	0
Stage 1	272	272	-	883	883	-	-	-	-	-	-	-
Stage 2	911	917	-	358	272	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.54	6.2	7.24	6.59	6.28	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.036	3.3	3.626	4.081	3.372	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	160	186	823	143	191	522	1335	-	-	1000	-	0
Stage 1	717	681	-	324	354	-	-	-	-	-	-	0
Stage 2	318	348	-	636	672	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 105	147	823	34	151	522	1335	-	-	1000	-	-
Mov Cap-2 Maneuver	~ 105	147	-	34	151	-	-	-	-	-	-	-
Stage 1	584	661	-	264	288	-	-	-	-	-	-	-
Stage 2	217	283	-	473	653	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 489.7	72.2	1.8	0.9
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	1335	-	-	145	87	522	1000	-
HCM Lane V/C Ratio	0.124	-	-	1.918	0.566	0.029	0.025	-
HCM Control Delay (s)	8.1	0	-	$ 489.7	90.4	12.1	8.7	0
HCM Lane LOS	A	A	-	F	F	B	A	A
HCM 95th %tile Q(veh)	0.4	-	-	21.5	2.5	0.1	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	233	93	459	409	61	128	321	233	25	193	33
Future Volume (veh/h)	40	233	93	459	409	61	128	321	233	25	193	33
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1667	1667	1900	1597	1597	1900
Adj Flow Rate, veh/h	48	277	111	596	531	79	160	401	291	35	268	46
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.84	0.84	0.84	0.77	0.77	0.77	0.80	0.80	0.80	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	389	278	111	403	360	54	182	338	246	51	392	67
Arrive On Green	0.22	0.22	0.22	0.23	0.23	0.23	0.11	0.38	0.38	0.03	0.29	0.29
Sat Flow, veh/h	1774	1266	507	1774	1585	236	1587	899	652	1521	1328	228
Grp Volume(v), veh/h	48	0	388	596	0	610	160	0	692	35	0	314
Grp Sat Flow(s),veh/h/ln	1774	0	1773	1774	0	1821	1587	0	1552	1521	0	1556
Q Serve(g_s), s	2.8	0.0	27.9	29.0	0.0	29.0	12.7	0.0	48.0	2.9	0.0	22.7
Cycle Q Clear(g_c), s	2.8	0.0	27.9	29.0	0.0	29.0	12.7	0.0	48.0	2.9	0.0	22.7
Prop In Lane	1.00		0.29	1.00		0.13	1.00		0.42	1.00		0.15
Lane Grp Cap(c), veh/h	389	0	389	403	0	414	182	0	584	51	0	459
V/C Ratio(X)	0.12	0.00	1.00	1.48	0.00	1.47	0.88	0.00	1.19	0.69	0.00	0.68
Avail Cap(c_a), veh/h	389	0	389	403	0	414	261	0	584	250	0	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	0.0	49.7	49.3	0.0	49.3	55.6	0.0	39.8	61.0	0.0	39.7
Incr Delay (d2), s/veh	0.1	0.0	44.7	228.0	0.0	225.8	15.8	0.0	99.9	6.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	18.4	39.7	0.0	40.5	6.4	0.0	36.6	1.3	0.0	9.9
LnGrp Delay(d),s/veh	40.0	0.0	94.5	277.3	0.0	275.1	71.4	0.0	139.6	67.0	0.0	41.0
LnGrp LOS	D		F	F		F	E		F	E		D
Approach Vol, veh/h		436			1206			852			349	
Approach Delay, s/veh		88.5			276.2			126.8			43.6	
Approach LOS		F			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		32.2	8.3	52.9		34.2	18.6	42.5
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 28	21.0	48.0		29.0	21.0	48.0
Max Q Clear Time (g_c+I1), s		29.9	4.9	50.0		31.0	14.7	24.7
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	174.1
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	425	9	162	331	120	2	259	284	215	362	5
Future Volume (veh/h)	37	425	9	162	331	120	2	259	284	215	362	5
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1777	1900	1845	1743	1900	1827	1614	1900	1743	1880	1900
Adj Flow Rate, veh/h	49	567	12	213	436	158	2	305	334	279	470	6
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.76	0.76	0.76	0.85	0.85	0.85	0.77	0.77	0.77
Percent Heavy Veh, %	0	7	3	3	9	0	4	1	33	9	1	4
Cap, veh/h	301	594	13	252	699	632	307	401	358	312	1429	18
Arrive On Green	0.04	0.34	0.34	0.09	0.40	0.40	0.00	0.26	0.26	0.14	0.40	0.40
Sat Flow, veh/h	1810	1733	37	1757	1743	1577	1740	1533	1369	1660	3612	46
Grp Volume(v), veh/h	49	0	579	213	436	158	2	305	334	279	232	244
Grp Sat Flow(s),veh/h/ln	1810	0	1770	1757	1743	1577	1740	1533	1369	1660	1786	1871
Q Serve(g_s), s	1.8	0.0	33.9	8.0	21.2	7.1	0.1	19.5	25.3	12.5	9.6	9.6
Cycle Q Clear(g_c), s	1.8	0.0	33.9	8.0	21.2	7.1	0.1	19.5	25.3	12.5	9.6	9.6
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	301	0	606	252	699	632	307	401	358	312	707	740
V/C Ratio(X)	0.16	0.00	0.96	0.84	0.62	0.25	0.01	0.76	0.93	0.89	0.33	0.33
Avail Cap(c_a), veh/h	662	0	667	600	821	743	712	477	426	476	707	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	34.1	24.7	25.4	21.2	28.8	36.2	38.3	25.8	22.3	22.3
Incr Delay (d2), s/veh	0.1	0.0	22.6	3.0	0.6	0.1	0.0	4.6	23.7	9.6	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	20.4	4.1	10.3	3.1	0.0	8.7	11.9	6.5	4.7	5.0
LnGrp Delay(d),s/veh	22.3	0.0	56.7	27.7	26.0	21.3	28.8	40.8	62.1	35.4	22.4	22.4
LnGrp LOS	C		E	C	C	C	C	D	E	D	C	C
Approach Vol, veh/h		628			807			641			755	
Approach Delay, s/veh		54.0			25.5			51.8			27.2	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	47.1	18.6	32.6	14.0	41.0	4.3	46.9
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	25.0	50.0	25.0	33.0	31.0	40.0	25.0	33.0
Max Q Clear Time (g_c+I1), s	3.8	23.2	14.5	27.3	10.0	35.9	2.1	11.6
Green Ext Time (p_c), s	0.0	0.4	0.1	0.4	0.0	0.4	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	38.2
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	254.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	78	206	145	6	23	61	51	460	13	42	203	4
Future Vol, veh/h	78	206	145	6	23	61	51	460	13	42	203	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	71	71	71	77	77	77	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	19	19	19
Mvmt Flow	122	322	227	8	32	86	66	597	17	60	290	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1207	1156	290	1426	1154	606	296	0	0	614	0	0
Stage 1	410	410	-	738	738	-	-	-	-	-	-	-
Stage 2	797	746	-	688	416	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.24	-	-	4.29	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.326	-	-	2.371	-	-
Pot Cap-1 Maneuver	160	~ 197	749	113	197	497	1200	-	-	888	-	-
Stage 1	619	595	-	410	424	-	-	-	-	-	-	-
Stage 2	380	421	-	436	592	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 99	~ 166	749	-	166	497	1200	-	-	888	-	-
Mov Cap-2 Maneuver	~ 99	~ 166	-	-	166	-	-	-	-	-	-	-
Stage 1	567	547	-	376	388	-	-	-	-	-	-	-
Stage 2	264	386	-	115	544	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 694.7		0.8	1.6
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1200	-	-	140	749	-	888	-	-
HCM Lane V/C Ratio	0.055	-	-	3.17	0.302	-	0.068	-	-
HCM Control Delay (s)	8.2	0	-	$ 1043.3	11.9	-	9.3	0	-
HCM Lane LOS	A	A	-	F	B	-	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	41.9	1.3	-	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	180.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	84	44	81	424	50	219	21	106	2	1	0
Future Vol, veh/h	7	84	44	81	424	50	219	21	106	2	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	69	69	69	58	58	58	75	75	75
Heavy Vehicles, %	0	0	42	25	10	0	53	0	40	0	100	0
Mvmt Flow	10	118	62	117	614	72	378	36	183	3	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	686	0	0	180	0	0	1054	1089	150	1164	1084	650
Stage 1	-	-	-	-	-	-	169	169	-	884	884	-
Stage 2	-	-	-	-	-	-	885	920	-	280	200	-
Critical Hdwy	4.1	-	-	4.35	-	-	7.63	6.5	6.6	7.1	7.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.63	5.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.63	5.5	-	6.1	6.5	-
Follow-up Hdwy	2.2	-	-	2.425	-	-	3.977	4	3.66	3.5	4.9	3.3
Pot Cap-1 Maneuver	917	-	-	1268	-	-	~ 164	217	806	173	147	473
Stage 1	-	-	-	-	-	-	727	763	-	343	256	-
Stage 2	-	-	-	-	-	-	~ 278	352	-	731	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	917	-	-	1268	-	-	~ 150	195	805	106	132	473
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 150	195	-	106	132	-
Stage 1	-	-	-	-	-	-	719	755	-	339	232	-
Stage 2	-	-	-	-	-	-	~ 251	320	-	532	579	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.2	$ 480.5	38
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	150	531	917	-	-	1268	-	-	113
HCM Lane V/C Ratio	2.517	0.412	0.011	-	-	0.093	-	-	0.035
HCM Control Delay (s)	$ 749.5	16.5	9	-	-	8.1	-	-	38
HCM Lane LOS	F	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	32.8	2	0	-	-	0.3	-	-	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	16029.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	0	1	489	414	338	527	28	84	400	0
Future Vol, veh/h	0	1	0	1	489	414	338	527	28	84	400	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	0	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	63	63	63	82	82	82	53	53	53
Heavy Vehicles, %	2	2	2	44	0	14	0	2	25	9	7	0
Mvmt Flow	0	4	0	2	776	657	412	643	34	158	755	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3272	2572	755	2540	2538	643	755	0	0	677	0	0
Stage 1	1071	1071	-	1467	1467	-	-	-	-	-	-	-
Stage 2	2201	1501	-	1073	1071	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.54	6.5	6.34	4.1	-	-	4.19	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.54	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.54	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.896	4	3.426	2.2	-	-	2.281	-	-
Pot Cap-1 Maneuver	5	26	409	13	~ 28	~ 453	865	-	-	883	-	-
Stage 1	267	297	-	128	~ 194	-	-	-	-	-	-	-
Stage 2	59	185	-	222	~ 300	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	5	409	2	~ 5	~ 453	865	-	-	883	-	-
Mov Cap-2 Maneuver	-	5	-	2	~ 5	-	-	-	-	-	-	-
Stage 1	62	244	-	30	~ 45	-	-	-	-	-	-	-
Stage 2	100	43	-	179	~ 246	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 38436.7	4.9	1.7
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	865	-	-	-	2	5	453	883	-	-
HCM Lane V/C Ratio	0.477	-	-	-	0.794	155.238	1.451	0.179	-	-
HCM Control Delay (s)	12.9	0	-	$ 256	$ 70	849.4	238.7	10	-	-
HCM Lane LOS	B	A	-	-	F	F	F	A	-	-
HCM 95th %tile Q(veh)	2.6	-	-	-	0.7	99.3	33	0.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	555.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	601	189	0	0	119	56	16	149	3
Future Vol, veh/h	1	0	1	601	189	0	0	119	56	16	149	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	61	61	61	83	83	83	63	63	63
Heavy Vehicles, %	5	5	5	2	2	2	19	19	19	16	16	16
Mvmt Flow	4	0	4	985	310	0	0	143	67	25	237	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	622	500	240	469	469	177	242	0	0	210	0	0
Stage 1	290	290	-	177	177	-	-	-	-	-	-	-
Stage 2	332	210	-	292	292	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.29	-	-	4.26	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.371	-	-	2.344	-	-
Pot Cap-1 Maneuver	395	468	792	~ 505	492	866	1231	-	-	1282	-	-
Stage 1	711	667	-	~ 825	753	-	-	-	-	-	-	-
Stage 2	675	723	-	~ 716	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	188	457	792	~ 493	481	866	1231	-	-	1282	-	-
Mov Cap-2 Maneuver	188	457	-	~ 493	481	-	-	-	-	-	-	-
Stage 1	711	652	-	~ 825	753	-	-	-	-	-	-	-
Stage 2	397	723	-	~ 696	656	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.2	$ 763.3	0	0.7
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1231	-	-	304	490	1282	-	-
HCM Lane V/C Ratio	-	-	-	0.026	2.643	0.02	-	-
HCM Control Delay (s)	0	-	-	17.2	$ 763.3	7.9	0	-
HCM Lane LOS	A	-	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	105.2	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	524.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	125	9	27	814	105	1	147	36	2	80	1
Future Vol, veh/h	0	125	9	27	814	105	1	147	36	2	80	1
Peak Hour Factor	0.55	0.55	0.55	0.58	0.58	0.58	0.78	0.78	0.78	0.75	0.75	0.75
Heavy Vehicles, %	5	5	5	2	2	2	5	5	5	18	18	18
Mvmt Flow	0	227	16	47	1403	181	1	188	46	3	107	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	17.2	707.6	19.9	16.8
HCM LOS	C	F	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	0%	3%	2%
Vol Thru, %	80%	93%	86%	96%
Vol Right, %	20%	7%	11%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	184	134	946	83
LT Vol	1	0	27	2
Through Vol	147	125	814	80
RT Vol	36	9	105	1
Lane Flow Rate	236	244	1631	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.436	0.425	2.533	0.227
Departure Headway (Hd)	9.638	8.26	5.59	10.651
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	377	439	669	340
Service Time	7.638	6.26	3.621	8.651
HCM Lane V/C Ratio	0.626	0.556	2.438	0.326
HCM Control Delay	19.9	17.2	707.6	16.8
HCM Lane LOS	C	C	F	C
HCM 95th-tile Q	2.1	2.1	127.5	0.9

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	153	159	1130	414	7
Future Vol, veh/h	0	153	159	1130	414	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	87	87	77	77
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	0	213	183	1299	538	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2208	543	547	0	-	0
Stage 1	543	-	-	-	-	-
Stage 2	1665	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	48	534	956	-	-	-
Stage 1	576	-	-	-	-	-
Stage 2	166	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	15	534	956	-	-	-
Mov Cap-2 Maneuver	15	-	-	-	-	-
Stage 1	180	-	-	-	-	-
Stage 2	166	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.1	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	956	-	534	-	-
HCM Lane V/C Ratio	0.191	-	0.398	-	-
HCM Control Delay (s)	9.7	0	16.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.7	-	1.9	-	-

Intersection	
Int Delay, s/veh	399.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	510	46	7	562	300	123
Future Vol, veh/h	510	46	7	562	300	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	76	76	76	76
Heavy Vehicles, %	8	8	14	14	19	19
Mvmt Flow	630	57	9	739	395	162

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1233	476	557	0	-	0
Stage 1	476	-	-	-	-	-
Stage 2	757	-	-	-	-	-
Critical Hdwy	6.48	6.28	4.24	-	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.326	-	-	-
Pot Cap-1 Maneuver	~ 190	577	956	-	-	-
Stage 1	~ 613	-	-	-	-	-
Stage 2	~ 453	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 187	577	956	-	-	-
Mov Cap-2 Maneuver	~ 187	-	-	-	-	-
Stage 1	~ 603	-	-	-	-	-
Stage 2	~ 453	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 1158.2	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	956	-	198	-	-
HCM Lane V/C Ratio	0.01	-	3.467	-	-
HCM Control Delay (s)	8.8	-	$ 1158.2	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	65	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	117

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	95	108	1066	53	19	552
Future Vol, veh/h	95	108	1066	53	19	552
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	83	83	79	79
Heavy Vehicles, %	29	29	16	16	17	17
Mvmt Flow	113	129	1284	64	24	699

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2063	1316	0	0	1348	0
Stage 1	1316	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.69	6.49	-	-	4.27	-
Critical Hdwy Stg 1	5.69	-	-	-	-	-
Critical Hdwy Stg 2	5.69	-	-	-	-	-
Follow-up Hdwy	3.761	3.561	-	-	2.353	-
Pot Cap-1 Maneuver	~ 50	169	-	-	465	-
Stage 1	220	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 46	169	-	-	465	-
Mov Cap-2 Maneuver	~ 46	-	-	-	-	-
Stage 1	220	-	-	-	-	-
Stage 2	387	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	1118.3	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	75	465	-
HCM Lane V/C Ratio	-	-	3.222	0.052	-
HCM Control Delay (s)	-	-	$ 1118.3	13.2	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	24.5	0.2	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	111	3	1	403	402	73
Future Vol, veh/h	111	3	1	403	402	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	86	86	77	77
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	154	4	1	469	522	95

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1041	570	617	0	-	0
Stage 1	570	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	251	515	899	-	-	-
Stage 1	560	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	250	515	899	-	-	-
Mov Cap-2 Maneuver	250	-	-	-	-	-
Stage 1	559	-	-	-	-	-
Stage 2	622	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	40.4	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	899	-	253	-	-
HCM Lane V/C Ratio	0.001	-	0.626	-	-
HCM Control Delay (s)	9	0	40.4	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	3.8	-	-

Intersection	
Int Delay, s/veh	9.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	379	96	6	395	154	22
Future Vol, veh/h	379	96	6	395	154	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	79	95	95	84	84
Heavy Vehicles, %	17	17	16	16	19	19
Mvmt Flow	519	122	6	416	183	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	641	0	1008	580
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	428	-
Critical Hdwy	-	-	4.26	-	6.59	6.39
Critical Hdwy Stg 1	-	-	-	-	5.59	-
Critical Hdwy Stg 2	-	-	-	-	5.59	-
Follow-up Hdwy	-	-	2.344	-	3.671	3.471
Pot Cap-1 Maneuver	-	-	880	-	248	484
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	623	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	880	-	246	484
Mov Cap-2 Maneuver	-	-	-	-	246	-
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	617	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	57.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	262	-	-	880	-
HCM Lane V/C Ratio	0.8	-	-	0.007	-
HCM Control Delay (s)	57.2	-	-	9.1	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	6.2	-	-	0	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	18	13	0	70	4	7	27	0	0	54	4
Future Vol, veh/h	7	18	13	0	70	4	7	27	0	0	54	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	77	77	77	75	75	75
Heavy Vehicles, %	20	20	20	29	29	29	2	2	2	2	2	2
Mvmt Flow	9	24	17	0	93	5	9	35	0	0	72	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	177	128	75	148	130	35	77	0	0	35	0	0
Stage 1	75	75	-	53	53	-	-	-	-	-	-	-
Stage 2	102	53	-	95	77	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.39	6.79	6.49	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.761	4.261	3.561	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	747	730	939	762	713	966	1522	-	-	1576	-	-
Stage 1	891	799	-	896	800	-	-	-	-	-	-	-
Stage 2	862	817	-	849	781	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	665	726	939	725	709	966	1522	-	-	1576	-	-
Mov Cap-2 Maneuver	665	726	-	725	709	-	-	-	-	-	-	-
Stage 1	886	799	-	891	795	-	-	-	-	-	-	-
Stage 2	752	812	-	808	781	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	10.8	1.5	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1522	-	-	773	719	1576	-	-
HCM Lane V/C Ratio	0.006	-	-	0.066	0.137	-	-	-
HCM Control Delay (s)	7.4	0	-	10	10.8	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.5	0	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	9	1	4	0	36	73	3	1	20	1
Future Vol, veh/h	1	1	9	1	4	0	36	73	3	1	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	39	39	39	42	42	42	72	72	72	69	69	69
Heavy Vehicles, %	20	20	20	29	29	29	2	2	2	2	2	2
Mvmt Flow	3	3	23	2	10	0	50	101	4	1	29	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	240	237	30	248	235	103	30	0	0	105	0	0
Stage 1	32	32	-	203	203	-	-	-	-	-	-	-
Stage 2	208	205	-	45	32	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.39	6.79	6.49	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.761	4.261	3.561	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	678	634	995	653	621	883	1583	-	-	1486	-	-
Stage 1	940	834	-	741	686	-	-	-	-	-	-	-
Stage 2	755	700	-	905	818	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	652	612	995	619	599	883	1583	-	-	1486	-	-
Mov Cap-2 Maneuver	652	612	-	619	599	-	-	-	-	-	-	-
Stage 1	908	833	-	716	663	-	-	-	-	-	-	-
Stage 2	719	676	-	880	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	11.1	2.4	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1583	-	-	901	603	1486	-	-
HCM Lane V/C Ratio	0.032	-	-	0.031	0.02	0.001	-	-
HCM Control Delay (s)	7.3	0	-	9.1	11.1	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	393	6	16	589	64	3	31	56	213	140	57
Future Volume (veh/h)	11	393	6	16	589	64	3	31	56	213	140	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	13	462	7	19	685	74	3	34	62	280	184	75
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.86	0.86	0.86	0.90	0.90	0.90	0.76	0.76	0.76
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	27	782	12	35	667	72	7	65	119	150	239	98
Arrive On Green	0.02	0.45	0.45	0.02	0.46	0.46	0.00	0.11	0.11	0.08	0.19	0.19
Sat Flow, veh/h	1675	1728	26	1560	1453	157	1774	592	1080	1774	1259	513
Grp Volume(v), veh/h	13	0	469	19	0	759	3	0	96	280	0	259
Grp Sat Flow(s),veh/h/ln	1675	0	1755	1560	0	1610	1774	0	1672	1774	0	1772
Q Serve(g_s), s	0.5	0.0	11.8	0.7	0.0	27.2	0.1	0.0	3.2	5.0	0.0	8.2
Cycle Q Clear(g_c), s	0.5	0.0	11.8	0.7	0.0	27.2	0.1	0.0	3.2	5.0	0.0	8.2
Prop In Lane	1.00		0.01	1.00		0.10	1.00		0.65	1.00		0.29
Lane Grp Cap(c), veh/h	27	0	794	35	0	739	7	0	184	150	0	337
V/C Ratio(X)	0.48	0.00	0.59	0.54	0.00	1.03	0.42	0.00	0.52	1.87	0.00	0.77
Avail Cap(c_a), veh/h	141	0	805	132	0	739	150	0	654	150	0	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.9	0.0	12.1	28.7	0.0	16.0	29.4	0.0	24.9	27.1	0.0	22.8
Incr Delay (d2), s/veh	12.4	0.0	1.1	12.1	0.0	40.2	34.0	0.0	2.3	416.4	0.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.8	0.4	0.0	20.2	0.1	0.0	1.6	19.7	0.0	4.4
LnGrp Delay(d),s/veh	41.3	0.0	13.3	40.7	0.0	56.3	63.5	0.0	27.2	443.5	0.0	26.5
LnGrp LOS	D		B	D		F	E		C	F		C
Approach Vol, veh/h		482			778			99			539	
Approach Delay, s/veh		14.0			55.9			28.3			243.1	
Approach LOS		B			E			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	12.3	5.3	32.6	4.2	17.1	5.0	33.0
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	5.0	23.2	5.0	27.2	5.0	23.2	5.0	27.2
Max Q Clear Time (g_c+I1), s	7.0	5.2	2.7	13.8	2.1	10.2	2.5	29.2
Green Ext Time (p_c), s	0.0	0.4	0.0	2.2	0.0	1.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	97.0
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	800	8	21	695	73	10	10	26	49	5	6
Future Volume (veh/h)	4	800	8	21	695	73	10	10	26	49	5	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	5	952	10	24	808	85	12	12	32	56	6	7
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.82	0.82	0.82	0.88	0.88	0.88
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	11	899	9	45	787	83	121	50	98	263	27	16
Arrive On Green	0.01	0.52	0.52	0.03	0.54	0.54	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1675	1738	18	1560	1458	153	222	475	929	1116	253	155
Grp Volume(v), veh/h	5	0	962	24	0	893	56	0	0	69	0	0
Grp Sat Flow(s),veh/h/ln	1675	0	1756	1560	0	1611	1625	0	0	1524	0	0
Q Serve(g_s), s	0.1	0.0	23.2	0.7	0.0	24.2	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	23.2	0.7	0.0	24.2	1.4	0.0	0.0	1.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.10	0.21		0.57	0.81		0.10
Lane Grp Cap(c), veh/h	11	0	909	45	0	869	269	0	0	306	0	0
V/C Ratio(X)	0.44	0.00	1.06	0.53	0.00	1.03	0.21	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	187	0	909	174	0	869	853	0	0	825	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.2	0.0	10.8	21.5	0.0	10.3	18.5	0.0	0.0	18.6	0.0	0.0
Incr Delay (d2), s/veh	25.0	0.0	46.6	9.5	0.0	37.7	0.4	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	22.6	0.4	0.0	19.5	0.7	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	47.1	0.0	57.4	31.0	0.0	48.0	18.9	0.0	0.0	19.0	0.0	0.0
LnGrp LOS	D		F	C		F	B			B		
Approach Vol, veh/h		967			917			56			69	
Approach Delay, s/veh		57.3			47.6			18.9			19.0	
Approach LOS		E			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		10.5	5.3	29.0		10.5	4.3	30.0
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		21.2	5.0	23.2		21.2	5.0	23.2
Max Q Clear Time (g_c+I1), s		3.4	2.7	25.2		3.7	2.1	26.2
Green Ext Time (p_c), s		0.2	0.0	0.0		0.2	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		50.5
HCM 2010 LOS		D

Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	335	582	449	3	6	288
Future Vol, veh/h	335	582	449	3	6	288
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	78	78	69	69
Heavy Vehicles, %	11	11	14	14	2	2
Mvmt Flow	381	661	576	4	9	417

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	580	0	-	0	2001	578
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	1423	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	951	-	-	-	66	516
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	222	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	951	-	-	-	40	516
Mov Cap-2 Maneuver	-	-	-	-	40	-
Stage 1	-	-	-	-	336	-
Stage 2	-	-	-	-	222	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	36.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	951	-	-	-	40	516
HCM Lane V/C Ratio	0.4	-	-	-	0.217	0.809
HCM Control Delay (s)	11.3	-	-	-	118.4	35.2
HCM Lane LOS	B	-	-	-	F	E
HCM 95th %tile Q(veh)	1.9	-	-	-	0.7	7.8

Intersection	
Intersection Delay, s/veh	286.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	59	34	65	146	212	23	250	333	404	408	9
Future Vol, veh/h	20	59	34	65	146	212	23	250	333	404	408	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	19	19	19	19	19	19
Mvmt Flow	22	64	37	71	159	230	25	272	362	439	443	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	22.5	71.4	222.7	481.1
HCM LOS	C	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	18%	15%	49%
Vol Thru, %	41%	52%	35%	50%
Vol Right, %	55%	30%	50%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	606	113	423	821
LT Vol	23	20	65	404
Through Vol	250	59	146	408
RT Vol	333	34	212	9
Lane Flow Rate	659	123	460	892
Geometry Grp	1	1	1	1
Degree of Util (X)	1.403	0.319	0.965	2.004
Departure Headway (Hd)	9.588	13.349	9.985	9.005
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	389	271	368	410
Service Time	7.588	11.349	7.985	7.005
HCM Lane V/C Ratio	1.694	0.454	1.25	2.176
HCM Control Delay	222.7	22.5	71.4	481.1
HCM Lane LOS	F	C	F	F
HCM 95th-tile Q	26.4	1.3	10.7	55.6

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	23	158	28	27	39
Future Vol, veh/h	6	23	158	28	27	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	25	172	30	29	42

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	287	187	0	0	202	0
Stage 1	187	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	703	855	-	-	1370	-
Stage 1	845	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	688	855	-	-	1370	-
Mov Cap-2 Maneuver	688	-	-	-	-	-
Stage 1	845	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	3.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	814	1370	-
HCM Lane V/C Ratio	-	-	0.039	0.021	-
HCM Control Delay (s)	-	-	9.6	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	13	12	18	44	73	26	341	5	42	216	0
Future Vol, veh/h	0	13	12	18	44	73	26	341	5	42	216	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	0	14	13	20	48	79	28	371	5	46	235	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	820	759	235	771	757	374	235	0	0	376	0	0
Stage 1	327	327	-	430	430	-	-	-	-	-	-	-
Stage 2	493	432	-	341	327	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.32	-	-	4.32	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.398	-	-	2.398	-	-
Pot Cap-1 Maneuver	294	336	804	317	337	672	1223	-	-	1081	-	-
Stage 1	686	648	-	603	583	-	-	-	-	-	-	-
Stage 2	558	582	-	674	648	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	216	310	804	283	311	672	1223	-	-	1081	-	-
Mov Cap-2 Maneuver	216	310	-	283	311	-	-	-	-	-	-	-
Stage 1	666	616	-	586	566	-	-	-	-	-	-	-
Stage 2	437	565	-	616	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	17.6	0.6	1.4
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1223	-	-	440	430	1081	-	-
HCM Lane V/C Ratio	0.023	-	-	0.062	0.341	0.042	-	-
HCM Control Delay (s)	8	0	-	13.7	17.6	8.5	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	1.5	0.1	-	-

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	27	36	60	78	16	57	288	48	24	208	20
Future Vol, veh/h	8	27	36	60	78	16	57	288	48	24	208	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	9	29	39	65	85	17	62	313	52	26	226	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	11.4	17.7	12.9
HCM LOS	A	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	11%	39%	10%
Vol Thru, %	73%	38%	51%	83%
Vol Right, %	12%	51%	10%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	393	71	154	252
LT Vol	57	8	60	24
Through Vol	288	27	78	208
RT Vol	48	36	16	20
Lane Flow Rate	427	77	167	274
Geometry Grp	1	1	1	1
Degree of Util (X)	0.643	0.127	0.279	0.43
Departure Headway (Hd)	5.416	5.932	6.007	5.649
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	666	601	596	635
Service Time	3.454	3.996	4.062	3.693
HCM Lane V/C Ratio	0.641	0.128	0.28	0.431
HCM Control Delay	17.7	9.9	11.4	12.9
HCM Lane LOS	C	A	B	B
HCM 95th-tile Q	4.7	0.4	1.1	2.2

Intersection	
Intersection Delay, s/veh	345.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	290	25	446	413	0	0	0	0	820	2	41
Future Vol, veh/h	0	290	25	446	413	0	0	0	0	820	2	41
Peak Hour Factor	0.84	0.84	0.84	0.92	0.92	0.92	0.25	0.25	0.25	0.95	0.95	0.95
Heavy Vehicles, %	0	4	0	14	0	0	0	0	0	39	4	2
Mvmt Flow	0	345	30	485	449	0	0	0	0	863	2	43
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	37.5	393	423.6
HCM LOS	E	F	F

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	52%	95%
Vol Thru, %	92%	48%	0%
Vol Right, %	8%	0%	5%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	315	859	863
LT Vol	0	446	820
Through Vol	290	413	2
RT Vol	25	0	41
Lane Flow Rate	375	934	908
Geometry Grp	1	1	1
Degree of Util (X)	0.731	1.803	1.875
Departure Headway (Hd)	10.564	9.151	8.805
Convergence, Y/N	Yes	Yes	Yes
Cap	345	411	427
Service Time	8.564	7.151	6.805
HCM Lane V/C Ratio	1.087	2.273	2.126
HCM Control Delay	37.5	393	423.6
HCM Lane LOS	E	F	F
HCM 95th-tile Q	5.5	45.4	50.4

Intersection	
Intersection Delay, s/veh	680.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	1080	0	0	856	1030	3	4	166	0	0	0
Future Vol, veh/h	30	1080	0	0	856	1030	3	4	166	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.94	0.94	0.94	0.90	0.90	0.90	0.25	0.25	0.25
Heavy Vehicles, %	10	8	0	0	10	21	0	50	20	0	0	0
Mvmt Flow	32	1137	0	0	911	1096	3	4	184	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	403.9	905.4	16.5
HCM LOS	F	F	C

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	2%	3%	0%
Vol Thru, %	2%	97%	45%
Vol Right, %	96%	0%	55%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	173	1110	1886
LT Vol	3	30	0
Through Vol	4	1080	856
RT Vol	166	0	1030
Lane Flow Rate	192	1168	2006
Geometry Grp	1	1	1
Degree of Util (X)	0.343	1.838	2.971
Departure Headway (Hd)	8.944	7.666	6.214
Convergence, Y/N	Yes	Yes	Yes
Cap	406	491	602
Service Time	6.944	5.666	4.214
HCM Lane V/C Ratio	0.473	2.379	3.332
HCM Control Delay	16.5	403.9	905.4
HCM Lane LOS	C	F	F
HCM 95th-tile Q	1.5	55.1	147.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	1008	267	113	235	126	278	8	117	394	0	920
Future Volume (vph)	171	1008	267	113	235	126	278	8	117	394	0	920
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	3282	1583	1770	1610	1583	1770	1863	1583		1787	2493
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	3282	1583	1770	1610	1583	1770	1863	1583		1787	2493
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.88	0.88	0.92	0.92	0.92	0.91	0.92	0.91
Adj. Flow (vph)	184	1084	290	123	267	143	302	9	127	433	0	1011
RTOR Reduction (vph)	0	0	111	0	0	100	0	0	106	0	0	402
Lane Group Flow (vph)	184	1084	179	123	267	43	302	9	21	0	433	609
Heavy Vehicles (%)	9%	10%	2%	2%	18%	2%	2%	2%	2%	1%	2%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	20.9	46.0	46.0	14.5	39.6	39.6	22.0	22.0	22.0		26.0	46.9
Effective Green, g (s)	20.9	46.0	46.0	14.5	39.6	39.6	22.0	22.0	22.0		26.0	46.9
Actuated g/C Ratio	0.16	0.35	0.35	0.11	0.30	0.30	0.17	0.17	0.17		0.20	0.36
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	262	1143	551	194	483	474	295	310	263		351	885
v/s Ratio Prot	c0.11	c0.33		0.07	0.17		c0.17	0.00			c0.24	0.11
v/s Ratio Perm			0.11			0.03			0.01			0.14
v/c Ratio	0.70	0.95	0.32	0.63	0.55	0.09	1.02	0.03	0.08		1.23	0.69
Uniform Delay, d1	52.6	41.8	31.6	56.2	38.8	33.2	55.0	46.1	46.5		53.0	36.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	8.2	16.1	0.7	6.6	1.4	0.1	58.6	0.0	0.1		127.5	2.2
Delay (s)	60.8	57.9	32.3	62.8	40.1	33.3	113.6	46.1	46.6		180.5	38.6
Level of Service	E	E	C	E	D	C	F	D	D		F	D
Approach Delay (s)		53.5			43.5			92.8			81.1	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	66.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	132.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	548	0	5	308	86	0	0	0	72	0	87
Future Volume (veh/h)	131	548	0	5	308	86	0	0	0	72	0	87
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1173	1743	1900	1900	1827	1496				1473	0	1145
Adj Flow Rate, veh/h	139	583	0	6	342	96				112	0	136
Adj No. of Lanes	2	1	0	2	2	1				1	0	1
Peak Hour Factor	0.94	0.94	0.94	0.90	0.90	0.90				0.64	0.64	0.64
Percent Heavy Veh, %	62	9	0	0	4	27				29	0	66
Cap, veh/h	236	841	0	34	1329	487				260	0	180
Arrive On Green	0.11	0.48	0.00	0.01	0.38	0.38				0.19	0.00	0.19
Sat Flow, veh/h	2167	1743	0	3510	3471	1272				1403	0	973
Grp Volume(v), veh/h	139	583	0	6	342	96				112	0	136
Grp Sat Flow(s),veh/h/ln	1083	1743	0	1755	1736	1272				1403	0	973
Q Serve(g_s), s	2.8	11.8	0.0	0.1	3.1	2.3				3.2	0.0	6.0
Cycle Q Clear(g_c), s	2.8	11.8	0.0	0.1	3.1	2.3				3.2	0.0	6.0
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	236	841	0	34	1329	487				260	0	180
V/C Ratio(X)	0.59	0.69	0.00	0.18	0.26	0.20				0.43	0.00	0.76
Avail Cap(c_a), veh/h	1476	1915	0	2391	3813	1397				1017	0	705
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	19.3	9.2	0.0	22.4	9.6	9.4				16.4	0.0	17.6
Incr Delay (d2), s/veh	2.3	2.2	0.0	2.5	0.2	0.4				1.1	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	6.0	0.0	0.0	1.5	2.0				1.3	0.0	3.4
LnGrp Delay(d),s/veh	21.6	11.4	0.0	24.8	9.8	9.8				17.6	0.0	23.9
LnGrp LOS	C	B		C	A	A				B		C
Approach Vol, veh/h		722			444						248	
Approach Delay, s/veh		13.3			10.0						21.0	
Approach LOS		B			B						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	4.9	27.7		12.9	9.5	23.1		
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		
Max Green Setting (Gmax), s	3.1	50.0		33.0	31.0	50.0		
Max Q Clear Time (g_c+I1), s	2.1	13.8		8.0	4.8	5.1		
Green Ext Time (p_c), s	0.0	8.1		0.8	0.5	5.3		

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	534	59	12	333	64	40	26	21	135	63	103
Future Volume (veh/h)	104	534	59	12	333	64	40	26	21	135	63	103
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1850	1900	1743	1827	1900	1900	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	114	587	65	13	374	72	51	33	27	169	79	129
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.91	0.91	0.91	0.89	0.89	0.89	0.78	0.78	0.78	0.80	0.80	0.80
Percent Heavy Veh, %	1	3	0	9	4	0	0	0	0	1	0	0
Cap, veh/h	285	763	85	32	737	652	102	127	104	313	108	176
Arrive On Green	0.08	0.47	0.47	0.02	0.40	0.40	0.06	0.13	0.13	0.09	0.17	0.17
Sat Flow, veh/h	3476	1637	181	1660	1827	1615	1810	962	787	3476	650	1062
Grp Volume(v), veh/h	114	0	652	13	374	72	51	0	60	169	0	208
Grp Sat Flow(s),veh/h/ln	1738	0	1818	1660	1827	1615	1810	0	1748	1738	0	1713
Q Serve(g_s), s	2.0	0.0	18.9	0.5	9.7	1.8	1.7	0.0	2.0	2.9	0.0	7.3
Cycle Q Clear(g_c), s	2.0	0.0	18.9	0.5	9.7	1.8	1.7	0.0	2.0	2.9	0.0	7.3
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.45	1.00		0.62
Lane Grp Cap(c), veh/h	285	0	848	32	737	652	102	0	230	313	0	283
V/C Ratio(X)	0.40	0.00	0.77	0.40	0.51	0.11	0.50	0.00	0.26	0.54	0.00	0.73
Avail Cap(c_a), veh/h	1430	0	1381	552	1387	1226	601	0	913	1155	0	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	14.0	30.6	14.1	11.8	29.0	0.0	24.7	27.5	0.0	25.0
Incr Delay (d2), s/veh	0.3	0.0	3.2	16.5	1.2	0.2	1.4	0.0	0.6	0.5	0.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	10.2	0.4	5.1	0.8	0.9	0.0	1.0	1.4	0.0	3.7
LnGrp Delay(d),s/veh	27.9	0.0	17.2	47.2	15.3	11.9	30.4	0.0	25.3	28.0	0.0	28.7
LnGrp LOS	C		B	D	B	B	C		C	C		C
Approach Vol, veh/h		766			459			111			377	
Approach Delay, s/veh		18.8			15.7			27.6			28.4	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	35.0	7.7	15.1	9.4	31.0	9.9	12.9
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 21	48.0	* 21	33.0	* 26	48.0	* 21	33.0
Max Q Clear Time (g_c+I1), s	2.5	20.9	3.7	9.3	4.0	11.7	4.9	4.0
Green Ext Time (p_c), s	0.0	8.6	0.0	1.2	0.2	5.3	0.2	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	542	33	57	468	62	18	56	39	52	38	48
Future Volume (veh/h)	86	542	33	57	468	62	18	56	39	52	38	48
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1848	1900	1900	1847	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	91	571	35	59	488	65	22	70	49	66	48	61
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.80	0.80	0.80	0.79	0.79	0.79
Percent Heavy Veh, %	0	3	0	0	3	2	0	0	0	0	0	0
Cap, veh/h	168	1068	65	128	921	122	298	163	114	292	119	151
Arrive On Green	0.09	0.32	0.32	0.07	0.30	0.30	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1810	3361	206	1810	3114	413	1301	1040	728	1290	760	966
Grp Volume(v), veh/h	91	298	308	59	274	279	22	0	119	66	0	109
Grp Sat Flow(s),veh/h/ln	1810	1755	1811	1810	1754	1773	1301	0	1768	1290	0	1725
Q Serve(g_s), s	2.1	6.0	6.0	1.3	5.6	5.6	0.7	0.0	2.6	2.1	0.0	2.4
Cycle Q Clear(g_c), s	2.1	6.0	6.0	1.3	5.6	5.6	3.1	0.0	2.6	4.7	0.0	2.4
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.41	1.00		0.56
Lane Grp Cap(c), veh/h	168	558	576	128	519	524	298	0	277	292	0	270
V/C Ratio(X)	0.54	0.53	0.54	0.46	0.53	0.53	0.07	0.00	0.43	0.23	0.00	0.40
Avail Cap(c_a), veh/h	1351	1474	1521	1351	1473	1489	883	0	1072	872	0	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.6	12.0	12.0	19.1	12.6	12.6	17.7	0.0	16.3	18.5	0.0	16.3
Incr Delay (d2), s/veh	2.7	1.1	1.1	2.6	1.2	1.2	0.1	0.0	1.1	0.4	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.1	3.2	0.8	2.8	2.9	0.2	0.0	1.3	0.8	0.0	1.2
LnGrp Delay(d),s/veh	21.3	13.1	13.1	21.7	13.8	13.8	17.8	0.0	17.4	18.9	0.0	17.2
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		697			612			141			175	
Approach Delay, s/veh		14.2			14.6			17.5			17.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	20.1		13.2	10.5	19.2		13.2
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	32.0	36.0		26.0	32.0	36.0		26.0
Max Q Clear Time (g_c+I1), s	3.3	8.0		6.7	4.1	7.6		5.1
Green Ext Time (p_c), s	0.1	5.3		0.8	0.2	5.0		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	414	54	232	367	114	62	230	177	107	258	40
Future Volume (veh/h)	156	414	54	232	367	114	62	230	177	107	258	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1841	1900	1881	1845	1900	1845	1873	1900	1881	1900	1900
Adj Flow Rate, veh/h	161	427	56	252	399	124	75	277	213	123	297	46
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.83	0.83	0.83	0.87	0.87	0.87
Percent Heavy Veh, %	2	3	5	1	3	0	3	1	2	1	0	0
Cap, veh/h	197	602	79	289	820	375	98	315	242	156	672	557
Arrive On Green	0.11	0.19	0.19	0.16	0.23	0.23	0.06	0.32	0.32	0.09	0.35	0.35
Sat Flow, veh/h	1774	3105	405	1792	3505	1605	1757	977	751	1792	1900	1575
Grp Volume(v), veh/h	161	239	244	252	399	124	75	0	490	123	297	46
Grp Sat Flow(s),veh/h/ln	1774	1748	1761	1792	1752	1605	1757	0	1728	1792	1900	1575
Q Serve(g_s), s	8.5	12.3	12.4	13.2	9.4	6.2	4.0	0.0	25.7	6.5	11.5	1.9
Cycle Q Clear(g_c), s	8.5	12.3	12.4	13.2	9.4	6.2	4.0	0.0	25.7	6.5	11.5	1.9
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	197	339	342	289	820	375	98	0	557	156	672	557
V/C Ratio(X)	0.82	0.71	0.71	0.87	0.49	0.33	0.77	0.00	0.88	0.79	0.44	0.08
Avail Cap(c_a), veh/h	370	547	551	374	1170	535	385	0	613	392	672	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	36.1	36.2	39.3	31.8	30.5	44.7	0.0	30.7	42.9	23.7	20.6
Incr Delay (d2), s/veh	8.2	5.6	5.8	16.3	1.0	1.1	11.9	0.0	14.6	8.5	1.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	6.4	6.6	7.8	4.7	2.9	2.3	0.0	14.5	3.5	6.2	0.8
LnGrp Delay(d),s/veh	49.9	41.7	42.0	55.6	32.7	31.6	56.6	0.0	45.4	51.5	24.7	20.8
LnGrp LOS	D	D	D	E	C	C	E		D	D	C	C
Approach Vol, veh/h		644			775			565			466	
Approach Delay, s/veh		43.8			40.0			46.9			31.4	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.5	24.6	9.9	39.9	17.6	28.4	12.9	36.9
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	20.0	30.0	21.0	26.0	20.0	32.0	21.0	34.0
Max Q Clear Time (g_c+I1), s	15.2	14.4	6.0	13.5	10.5	11.4	8.5	27.7
Green Ext Time (p_c), s	0.3	4.2	0.1	2.6	0.3	5.1	0.2	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	40.9
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	319	72	25	386	16	35	34	5	5	93	233
Future Volume (veh/h)	178	319	72	25	386	16	35	34	5	5	93	233
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1811	1900	1900	1827	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	185	332	75	28	434	18	47	46	7	6	106	265
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.74	0.74	0.74	0.88	0.88	0.88
Percent Heavy Veh, %	0	6	0	0	4	0	0	0	0	0	0	0
Cap, veh/h	476	1380	308	577	901	795	272	238	30	82	148	356
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	953	2797	624	993	1827	1612	524	793	99	8	493	1184
Grp Volume(v), veh/h	185	203	204	28	434	18	100	0	0	377	0	0
Grp Sat Flow(s),veh/h/ln	953	1721	1700	993	1827	1612	1416	0	0	1685	0	0
Q Serve(g_s), s	7.4	3.1	3.2	0.8	7.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.7	3.1	3.2	4.0	7.3	0.3	1.8	0.0	0.0	9.3	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.47		0.07	0.02		0.70
Lane Grp Cap(c), veh/h	476	849	839	577	901	795	540	0	0	586	0	0
V/C Ratio(X)	0.39	0.24	0.24	0.05	0.48	0.02	0.19	0.00	0.00	0.64	0.00	0.00
Avail Cap(c_a), veh/h	771	1382	1365	885	1467	1294	1099	0	0	1283	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.6	6.7	6.7	7.9	7.8	6.0	11.9	0.0	0.0	14.5	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.3	0.3	0.1	0.9	0.0	0.2	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.5	1.6	0.2	3.8	0.1	1.0	0.0	0.0	4.5	0.0	0.0
LnGrp Delay(d),s/veh	13.7	7.0	7.0	7.9	8.6	6.0	12.1	0.0	0.0	15.7	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B			B		
Approach Vol, veh/h		592			480			100			377	
Approach Delay, s/veh		9.1			8.5			12.1			15.7	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		27.3		18.7		27.3		18.7
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		37.0		33.0		37.0		33.0
Max Q Clear Time (g_c+I1), s		16.7		3.8		9.3		11.3
Green Ext Time (p_c), s		6.1		0.6		5.8		2.6

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	123

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↱		↕			↰	↱
Traffic Vol, veh/h	105	72	84	14	50	6	127	307	55	34	428	314
Future Vol, veh/h	105	72	84	14	50	6	127	307	55	34	428	314
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	80	80	80	98	98	98	88	88	88
Heavy Vehicles, %	6	4	6	0	2	0	6	3	7	16	5	4
Mvmt Flow	122	84	98	18	63	8	130	313	56	39	486	357

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1201	1193	486	1256	1165	341	486	0	0	369	0	0
Stage 1	564	564	-	601	601	-	-	-	-	-	-	-
Stage 2	637	629	-	655	564	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.54	6.26	7.1	6.52	6.2	4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.036	3.354	3.5	4.018	3.3	2.254	-	-	2.344	-	-
Pot Cap-1 Maneuver	159	185	573	150	194	706	1056	-	-	1116	-	0
Stage 1	503	505	-	491	489	-	-	-	-	-	-	0
Stage 2	459	472	-	458	508	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 93	149	573	60	156	706	1056	-	-	1116	-	-
Mov Cap-2 Maneuver	~ 93	149	-	60	156	-	-	-	-	-	-	-
Stage 1	425	481	-	414	413	-	-	-	-	-	-	-
Stage 2	325	398	-	299	484	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s$	545.6	80.1	2.3	0.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	1056	-	-	148	116	706	1116	-
HCM Lane V/C Ratio	0.123	-	-	2.051	0.69	0.011	0.035	-
HCM Control Delay (s)	8.9	0	-	$ 545.6	86.7	10.2	8.3	0
HCM Lane LOS	A	A	-	F	F	B	A	A
HCM 95th %tile Q(veh)	0.4	-	-	24.1	3.7	0	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	219	143	304	341	49	49	332	109	111	567	25
Future Volume (veh/h)	30	219	143	304	341	49	49	332	109	111	567	25
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1545	1545	1900	1570	1570	1900
Adj Flow Rate, veh/h	35	258	168	380	426	61	53	361	118	121	616	27
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.80	0.80	0.80	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	23	23	23	21	21	21
Cap, veh/h	377	224	146	390	350	50	64	374	122	141	576	25
Arrive On Green	0.21	0.21	0.21	0.22	0.22	0.22	0.04	0.34	0.34	0.09	0.39	0.39
Sat Flow, veh/h	1774	1055	687	1774	1594	228	1471	1116	365	1495	1493	65
Grp Volume(v), veh/h	35	0	426	380	0	487	53	0	479	121	0	643
Grp Sat Flow(s),veh/h/ln	1774	0	1742	1774	0	1822	1471	0	1480	1495	0	1559
Q Serve(g_s), s	2.1	0.0	28.0	28.1	0.0	29.0	4.7	0.0	42.0	10.5	0.0	50.8
Cycle Q Clear(g_c), s	2.1	0.0	28.0	28.1	0.0	29.0	4.7	0.0	42.0	10.5	0.0	50.8
Prop In Lane	1.00		0.39	1.00		0.13	1.00		0.25	1.00		0.04
Lane Grp Cap(c), veh/h	377	0	370	390	0	401	64	0	496	141	0	601
V/C Ratio(X)	0.09	0.00	1.15	0.97	0.00	1.22	0.82	0.00	0.97	0.86	0.00	1.07
Avail Cap(c_a), veh/h	377	0	370	390	0	401	234	0	539	238	0	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.7	0.0	52.0	51.1	0.0	51.5	62.6	0.0	43.1	58.9	0.0	40.5
Incr Delay (d2), s/veh	0.0	0.0	95.1	38.5	0.0	117.8	9.4	0.0	28.5	6.8	0.0	56.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	23.2	17.9	0.0	27.7	2.1	0.0	21.1	4.6	0.0	31.4
LnGrp Delay(d),s/veh	41.8	0.0	147.1	89.6	0.0	169.3	72.0	0.0	71.6	65.7	0.0	97.5
LnGrp LOS	D		F	F		F	E		E	E		F
Approach Vol, veh/h		461			867			532			764	
Approach Delay, s/veh		139.1			134.3			71.6			92.4	
Approach LOS		F			F			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		32.2	16.4	49.1		34.2	9.8	55.7
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 28	21.0	48.0		29.0	21.0	48.0
Max Q Clear Time (g_c+I1), s		30.0	12.5	44.0		31.0	6.7	52.8
Green Ext Time (p_c), s		0.0	0.0	0.3		0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	110.3
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	263	9	201	319	69	20	198	265	323	652	8
Future Volume (veh/h)	20	263	9	201	319	69	20	198	265	323	652	8
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.98	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1868	1900	1810	1900	1900	1900	1845	1900	1881	1811	1900
Adj Flow Rate, veh/h	22	292	10	221	351	76	22	218	291	419	847	10
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	5	1	22	5	0	0	0	3	3	1	5	0
Cap, veh/h	290	397	14	377	601	498	274	391	346	490	1377	16
Arrive On Green	0.02	0.22	0.22	0.12	0.32	0.32	0.02	0.22	0.22	0.20	0.40	0.40
Sat Flow, veh/h	1723	1794	61	1723	1900	1576	1810	1752	1550	1792	3481	41
Grp Volume(v), veh/h	22	0	302	221	351	76	22	218	291	419	419	438
Grp Sat Flow(s),veh/h/ln	1723	0	1855	1723	1900	1576	1810	1752	1550	1792	1720	1802
Q Serve(g_s), s	0.7	0.0	11.1	6.8	11.4	2.5	0.7	8.1	13.2	12.4	14.2	14.2
Cycle Q Clear(g_c), s	0.7	0.0	11.1	6.8	11.4	2.5	0.7	8.1	13.2	12.4	14.2	14.2
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	290	0	411	377	601	498	274	391	346	490	681	713
V/C Ratio(X)	0.08	0.00	0.74	0.59	0.58	0.15	0.08	0.56	0.84	0.85	0.61	0.61
Avail Cap(c_a), veh/h	835	0	1013	900	1296	1075	847	789	698	749	775	812
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	0.0	26.5	18.3	21.0	18.0	21.0	25.2	27.2	16.7	17.7	17.7
Incr Delay (d2), s/veh	0.0	0.0	1.0	0.5	0.3	0.1	0.0	0.5	2.1	3.9	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.8	3.2	6.0	1.1	0.3	3.9	5.8	6.5	6.9	7.2
LnGrp Delay(d),s/veh	21.3	0.0	27.5	18.8	21.3	18.1	21.0	25.7	29.3	20.6	18.3	18.3
LnGrp LOS	C		C	B	C	B	C	C	C	C	B	B
Approach Vol, veh/h		324			648			531			1276	
Approach Delay, s/veh		27.1			20.1			27.5			19.1	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	27.8	18.4	21.3	12.8	20.8	5.8	33.9
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	25.0	50.0	25.0	33.0	31.0	40.0	25.0	33.0
Max Q Clear Time (g_c+I1), s	2.7	13.4	14.4	15.2	8.8	13.1	2.7	16.2
Green Ext Time (p_c), s	0.0	0.3	0.1	0.5	0.0	0.4	0.0	0.7

Intersection Summary		
HCM 2010 Ctrl Delay		21.9
HCM 2010 LOS		C

Intersection	
Int Delay, s/veh	54

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	127	127	11	47	54	47	216	5	88	625	23
Future Vol, veh/h	38	127	127	11	47	54	47	216	5	88	625	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	92	92	92	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	23	23	23	21	21	21
Mvmt Flow	46	155	155	13	57	66	51	235	5	97	687	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1282	1223	687	1389	1246	238	712	0	0	240	0	0
Stage 1	881	881	-	340	340	-	-	-	-	-	-	-
Stage 2	401	342	-	1049	906	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.33	-	-	4.31	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.407	-	-	2.389	-	-
Pot Cap-1 Maneuver	142	179	447	120	174	801	798	-	-	1223	-	-
Stage 1	341	365	-	675	639	-	-	-	-	-	-	-
Stage 2	626	638	-	275	355	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	76	~ 144	447	-	140	801	798	-	-	1223	-	-
Mov Cap-2 Maneuver	76	~ 144	-	-	140	-	-	-	-	-	-	-
Stage 1	316	317	-	625	592	-	-	-	-	-	-	-
Stage 2	481	591	-	80	308	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	238		1.7	1
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	798	-	-	119	447	-	1223	-	-
HCM Lane V/C Ratio	0.064	-	-	1.691	0.346	-	0.079	-	-
HCM Control Delay (s)	9.8	0	-	$ 407.9	17.3	-	8.2	0	-
HCM Lane LOS	A	A	-	F	C	-	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	15.2	1.5	-	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	438

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	596	387	42	37	1	149	10	190	0	3	1
Future Vol, veh/h	8	596	387	42	37	1	149	10	190	0	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	50	50	50	37	37	37	50	50	50
Heavy Vehicles, %	100	4	8	0	15	0	3	100	3	0	100	100
Mvmt Flow	12	876	569	84	74	2	403	27	514	0	6	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	76	0	0	1445	0	0	1432	1429	1161	1698	1712	75
Stage 1	-	-	-	-	-	-	1185	1185	-	243	243	-
Stage 2	-	-	-	-	-	-	247	244	-	1455	1469	-
Critical Hdwy	5.1	-	-	4.1	-	-	7.13	7.5	6.23	7.1	7.5	7.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	6.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	6.5	-	6.1	6.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.527	4.9	3.327	3.5	4.9	4.2
Pot Cap-1 Maneuver	1077	-	-	475	-	-	~ 111	85	~ 237	74	54	770
Stage 1	-	-	-	-	-	-	~ 229	174	-	765	556	-
Stage 2	-	-	-	-	-	-	755	556	-	163	120	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1077	-	-	475	-	-	~ 85	69	~ 237	-	44	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 85	69	-	-	44	-
Stage 1	-	-	-	-	-	-	~ 226	172	-	757	458	-
Stage 2	-	-	-	-	-	-	612	458	-	-	119	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	7.5	$ 1191.4	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	85	211	1077	-	-	475	-	-	-
HCM Lane V/C Ratio	4.738	2.562	0.011	-	-	0.177	-	-	-
HCM Control Delay (s)	$ 1781.4	$ 751.8	8.4	-	-	14.2	-	-	-
HCM Lane LOS	F	F	A	-	-	B	-	-	-
HCM 95th %tile Q(veh)	43.2	45.6	0	-	-	0.6	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	496	226	29	131	153	249	393	33	291	621	0
Future Vol, veh/h	0	496	226	29	131	153	249	393	33	291	621	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	0	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	69	69	69	86	86	86	72	72	72
Heavy Vehicles, %	2	2	2	28	0	4	0	22	27	4	13	0
Mvmt Flow	0	1984	904	42	190	222	290	457	38	404	863	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2933	2746	863	4152	2708	457	863	0	0	495	0	0
Stage 1	1671	1671	-	1037	1037	-	-	-	-	-	-	-
Stage 2	1262	1075	-	3115	1671	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.38	6.5	6.24	4.1	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.38	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.38	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.752	4	3.336	2.2	-	-	2.236	-	-
Pot Cap-1 Maneuver	9	~ 20	~ 354	~ 1	~ 21	599	788	-	-	1058	-	-
Stage 1	121	~ 153	-	250	311	-	-	-	-	-	-	-
Stage 2	208	~ 296	-	~ 13	~ 154	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 6	~ 354	-	~ 6	599	788	-	-	1058	-	-
Mov Cap-2 Maneuver	-	~ 6	-	-	~ 6	-	-	-	-	-	-	-
Stage 1	59	~ 95	-	122	~ 152	-	-	-	-	-	-	-
Stage 2	-	~ 145	-	248	~ 95	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			4.5	3.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	788	-	-	-	-	599	1058	-	-
HCM Lane V/C Ratio	0.367	-	-	-	-	0.37	0.382	-	-
HCM Control Delay (s)	12.2	0	-	-	-	14.5	10.5	-	-
HCM Lane LOS	B	A	-	-	-	B	B	-	-
HCM 95th %tile Q(veh)	1.7	-	-	-	-	1.7	1.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3848.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	177	344	0	250	0	0	1	498	390	0	224	0
Future Vol, veh/h	177	344	0	250	0	0	1	498	390	0	224	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	86	86	86	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	8	8	8	18	18	18	16	16	16
Mvmt Flow	708	1376	0	291	0	0	1	692	542	0	311	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1276	1547	311	1964	1276	963	311	0	0	1234	0	0
Stage 1	311	311	-	965	965	-	-	-	-	-	-	-
Stage 2	965	1236	-	999	311	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.18	6.58	6.28	4.28	-	-	4.26	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.572	4.072	3.372	2.362	-	-	2.344	-	-
Pot Cap-1 Maneuver	~ 144	~ 114	729	~ 46	162	302	1164	-	-	519	-	-
Stage 1	~ 699	~ 658	-	299	326	-	-	-	-	-	-	-
Stage 2	~ 306	~ 248	-	~ 286	648	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 144	~ 114	729	-	162	302	1164	-	-	519	-	-
Mov Cap-2 Maneuver	~ 144	~ 114	-	-	162	-	-	-	-	-	-	-
Stage 1	~ 697	~ 658	-	298	325	-	-	-	-	-	-	-
Stage 2	~ 305	~ 247	-	-	648	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 7239.6		0	0
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1164	-	-	123	-	519	-	-
HCM Lane V/C Ratio	0.001	-	-	16.943	-	-	-	-
HCM Control Delay (s)	8.1	0	-	$ 7239.6	-	0	-	-
HCM Lane LOS	A	A	-	F	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	248.3	-	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	290.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	822	8	17	257	1	5	165	14	2	150	0
Future Vol, veh/h	0	822	8	17	257	1	5	165	14	2	150	0
Peak Hour Factor	0.72	0.72	0.72	0.86	0.86	0.86	0.80	0.80	0.80	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	8	8	8	9	9	9	14	14	14
Mvmt Flow	0	1142	11	20	299	1	6	206	18	2	163	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	457.6	22.6	20.2	18
HCM LOS	F	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	6%	1%
Vol Thru, %	90%	99%	93%	99%
Vol Right, %	8%	1%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	184	830	275	152
LT Vol	5	0	17	2
Through Vol	165	822	257	150
RT Vol	14	8	1	0
Lane Flow Rate	230	1153	320	165
Geometry Grp	1	1	1	1
Degree of Util (X)	0.466	1.969	0.597	0.351
Departure Headway (Hd)	9.316	6.15	8.191	9.805
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	391	599	444	370
Service Time	7.316	4.221	6.191	7.805
HCM Lane V/C Ratio	0.588	1.925	0.721	0.446
HCM Control Delay	20.2	457.6	22.6	18
HCM Lane LOS	C	F	C	C
HCM 95th-tile Q	2.4	75.7	3.8	1.5

Intersection	
Int Delay, s/veh	669.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	806	45	576	936	12
Future Vol, veh/h	39	806	45	576	936	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	76	76	94	94
Heavy Vehicles, %	2	2	1	11	14	14
Mvmt Flow	55	1135	59	758	996	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1879	1003	1009	0	-	0
Stage 1	1003	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	78	~ 294	691	-	-	-
Stage 1	355	-	-	-	-	-
Stage 2	407	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	67	~ 294	691	-	-	-
Mov Cap-2 Maneuver	67	-	-	-	-	-
Stage 1	303	-	-	-	-	-
Stage 2	407	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 1695.5	0.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	691	-	254	-	-
HCM Lane V/C Ratio	0.086	-	4.686	-	-
HCM Control Delay (s)	10.7	-	$ 1695.5	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.3	-	120.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	187.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	255	14	5	260	999	353
Future Vol, veh/h	255	14	5	260	999	353
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	84	84	95	95
Heavy Vehicles, %	9	9	23	23	21	21
Mvmt Flow	359	20	6	310	1052	372

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1560	1238	1424	0	-	0
Stage 1	1238	-	-	-	-	-
Stage 2	322	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.33	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.407	-	-	-
Pot Cap-1 Maneuver	~ 119	207	418	-	-	-
Stage 1	~ 265	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 117	207	418	-	-	-
Mov Cap-2 Maneuver	~ 117	-	-	-	-	-
Stage 1	~ 260	-	-	-	-	-
Stage 2	719	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, $	1047.9	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	418	-	120	-	-
HCM Lane V/C Ratio	0.014	-	3.157	-	-
HCM Control Delay (s)	13.7	$	1047.9	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	36.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	54	482	34	140	1639
Future Vol, veh/h	81	54	482	34	140	1639
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	77	77	96	96
Heavy Vehicles, %	9	9	11	11	14	14
Mvmt Flow	114	76	626	44	146	1707

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2647	648	0	0	670	0
Stage 1	648	-	-	-	-	-
Stage 2	1999	-	-	-	-	-
Critical Hdwy	6.49	6.29	-	-	4.24	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	-	-	2.326	-
Pot Cap-1 Maneuver	~ 24	458	-	-	866	-
Stage 1	508	-	-	-	-	-
Stage 2	~ 110	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	458	-	-	866	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	508	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.3	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	458	866	-
HCM Lane V/C Ratio	-	-	0.415	0.168	-
HCM Control Delay (s)	-	-	18.3	10	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2	0.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	24.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	133	12	0	339	958	108
Future Vol, veh/h	133	12	0	339	958	108
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	76	76	88	88
Heavy Vehicles, %	9	9	1	11	14	14
Mvmt Flow	148	13	0	446	1089	123

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1597	1151	1212	0	-	0
Stage 1	1151	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.11	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.209	-	-	-
Pot Cap-1 Maneuver	~ 113	233	579	-	-	-
Stage 1	292	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 113	233	579	-	-	-
Mov Cap-2 Maneuver	~ 113	-	-	-	-	-
Stage 1	292	-	-	-	-	-
Stage 2	631	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	277.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	579	-	118	-	-
HCM Lane V/C Ratio	-	-	1.365	-	-
HCM Control Delay (s)	0	-	277.4	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	10.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	265.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1077	109	5	284	297	25
Future Vol, veh/h	1077	109	5	284	297	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	82	82	80	80
Heavy Vehicles, %	11	11	14	14	18	18
Mvmt Flow	1210	122	6	346	371	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1332	0	1629	1271
Stage 1	-	-	-	-	1271	-
Stage 2	-	-	-	-	358	-
Critical Hdwy	-	-	4.24	-	6.58	6.38
Critical Hdwy Stg 1	-	-	-	-	5.58	-
Critical Hdwy Stg 2	-	-	-	-	5.58	-
Follow-up Hdwy	-	-	2.326	-	3.662	3.462
Pot Cap-1 Maneuver	-	-	481	-	~ 102	189
Stage 1	-	-	-	-	~ 244	-
Stage 2	-	-	-	-	673	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	481	-	~ 100	189
Mov Cap-2 Maneuver	-	-	-	-	~ 100	-
Stage 1	-	-	-	-	~ 244	-
Stage 2	-	-	-	-	663	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	$ 1376.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	104	-	-	481	-
HCM Lane V/C Ratio	3.87	-	-	0.013	-
HCM Control Delay (s)	$ 1376.3	-	-	12.6	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	41	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	44	6	0	19	2	3	48	5	10	77	4
Future Vol, veh/h	7	44	6	0	19	2	3	48	5	10	77	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	54	54	54	50	50	50	79	79	79
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	9	59	8	0	35	4	6	96	10	13	97	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	259	244	100	272	241	101	102	0	0	106	0	0
Stage 1	126	126	-	113	113	-	-	-	-	-	-	-
Stage 2	133	118	-	159	128	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	682	648	939	666	649	936	1490	-	-	1485	-	-
Stage 1	864	780	-	875	789	-	-	-	-	-	-	-
Stage 2	856	787	-	827	777	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	644	640	939	608	641	936	1490	-	-	1485	-	-
Mov Cap-2 Maneuver	644	640	-	608	641	-	-	-	-	-	-	-
Stage 1	861	773	-	872	786	-	-	-	-	-	-	-
Stage 2	811	784	-	751	770	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	10.8	0.4	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1490	-	-	663	661	1485	-	-
HCM Lane V/C Ratio	0.004	-	-	0.115	0.059	0.009	-	-
HCM Control Delay (s)	7.4	0	-	11.1	10.8	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.2	0	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	3	40	2	4	1	9	19	9	3	51	1
Future Vol, veh/h	3	3	40	2	4	1	9	19	9	3	51	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	58	58	58	91	91	91	72	72	72
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	4	4	60	3	7	2	10	21	10	4	71	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	131	131	72	158	126	26	72	0	0	31	0	0
Stage 1	80	80	-	46	46	-	-	-	-	-	-	-
Stage 2	51	51	-	112	80	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	828	749	974	792	752	1030	1528	-	-	1582	-	-
Stage 1	914	817	-	950	843	-	-	-	-	-	-	-
Stage 2	947	841	-	876	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	815	742	974	734	744	1030	1528	-	-	1582	-	-
Mov Cap-2 Maneuver	815	742	-	734	744	-	-	-	-	-	-	-
Stage 1	908	815	-	943	837	-	-	-	-	-	-	-
Stage 2	931	835	-	815	813	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.7	1.8	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1528	-	-	943	772	1582	-	-
HCM Lane V/C Ratio	0.006	-	-	0.073	0.016	0.003	-	-
HCM Control Delay (s)	7.4	0	-	9.1	9.7	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	384	7	42	636	51	5	26	50	184	89	41
Future Volume (veh/h)	7	384	7	42	636	51	5	26	50	184	89	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	8	422	8	46	699	56	6	33	64	207	100	46
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.78	0.78	0.78	0.89	0.89	0.89
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	17	703	13	77	744	60	14	58	113	154	220	101
Arrive On Green	0.01	0.42	0.42	0.05	0.46	0.46	0.01	0.10	0.10	0.09	0.18	0.18
Sat Flow, veh/h	1616	1659	31	1691	1623	130	1774	568	1101	1774	1209	556
Grp Volume(v), veh/h	8	0	430	46	0	755	6	0	97	207	0	146
Grp Sat Flow(s),veh/h/ln	1616	0	1691	1691	0	1753	1774	0	1668	1774	0	1765
Q Serve(g_s), s	0.3	0.0	11.3	1.5	0.0	23.5	0.2	0.0	3.2	5.0	0.0	4.2
Cycle Q Clear(g_c), s	0.3	0.0	11.3	1.5	0.0	23.5	0.2	0.0	3.2	5.0	0.0	4.2
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.66	1.00		0.32
Lane Grp Cap(c), veh/h	17	0	717	77	0	804	14	0	171	154	0	321
V/C Ratio(X)	0.47	0.00	0.60	0.60	0.00	0.94	0.43	0.00	0.57	1.34	0.00	0.46
Avail Cap(c_a), veh/h	141	0	801	147	0	830	154	0	674	154	0	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	0.0	12.8	26.9	0.0	14.8	28.4	0.0	24.6	26.2	0.0	21.0
Incr Delay (d2), s/veh	19.3	0.0	1.0	7.3	0.0	17.9	19.0	0.0	2.9	190.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	5.5	0.9	0.0	15.1	0.2	0.0	1.6	10.6	0.0	2.2
LnGrp Delay(d),s/veh	47.5	0.0	13.8	34.3	0.0	32.7	47.4	0.0	27.5	216.3	0.0	22.0
LnGrp LOS	D		B	C		C	D		C	F		C
Approach Vol, veh/h		438			801			103			353	
Approach Delay, s/veh		14.4			32.8			28.6			135.9	
Approach LOS		B			C			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	11.7	6.6	30.1	4.5	16.2	4.6	32.1
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	5.0	23.2	5.0	27.2	5.0	23.2	5.0	27.2
Max Q Clear Time (g_c+I1), s	7.0	5.2	3.5	13.3	2.2	6.2	2.3	25.5
Green Ext Time (p_c), s	0.0	0.4	0.0	2.0	0.0	0.6	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	49.3
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	594	9	53	852	55	9	12	20	157	42	20
Future Volume (veh/h)	5	594	9	53	852	55	9	12	20	157	42	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	6	660	10	55	878	57	11	15	25	171	46	22
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.79	0.79	0.79	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	13	721	11	90	788	51	124	140	171	333	67	28
Arrive On Green	0.01	0.43	0.43	0.05	0.48	0.48	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1616	1667	25	1691	1650	107	182	690	838	1032	328	138
Grp Volume(v), veh/h	6	0	670	55	0	935	51	0	0	239	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1692	1691	0	1757	1710	0	0	1498	0	0
Q Serve(g_s), s	0.2	0.0	18.7	1.6	0.0	24.0	0.0	0.0	0.0	6.3	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	18.7	1.6	0.0	24.0	1.2	0.0	0.0	7.5	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.06	0.22		0.49	0.72		0.09
Lane Grp Cap(c), veh/h	13	0	732	90	0	839	435	0	0	428	0	0
V/C Ratio(X)	0.46	0.00	0.92	0.61	0.00	1.11	0.12	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	161	0	782	168	0	839	782	0	0	746	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.8	0.0	13.4	23.3	0.0	13.1	16.4	0.0	0.0	18.8	0.0	0.0
Incr Delay (d2), s/veh	23.8	0.0	14.9	6.5	0.0	67.2	0.1	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	11.6	0.9	0.0	27.1	0.6	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	48.6	0.0	28.3	29.8	0.0	80.3	16.5	0.0	0.0	19.9	0.0	0.0
LnGrp LOS	D		C	C		F	B			B		
Approach Vol, veh/h		676			990			51			239	
Approach Delay, s/veh		28.5			77.5			16.5			19.9	
Approach LOS		C			E			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		16.0	6.7	27.5		16.0	4.4	29.8
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		21.2	5.0	23.2		21.2	5.0	23.2
Max Q Clear Time (g_c+I1), s		3.2	3.6	20.7		9.5	2.2	26.0
Green Ext Time (p_c), s		0.1	0.0	1.0		0.9	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		51.9
HCM 2010 LOS		D

Intersection	
Int Delay, s/veh	33.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	224	794	527	0	6	490
Future Vol, veh/h	224	794	527	0	6	490
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	82	82	87	87
Heavy Vehicles, %	11	11	5	5	2	2
Mvmt Flow	252	892	643	0	7	563

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	643	0	-	0	2039	643
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	1396	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	900	-	-	-	62	~ 473
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	229	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	900	-	-	-	45	~ 473
Mov Cap-2 Maneuver	-	-	-	-	45	-
Stage 1	-	-	-	-	377	-
Stage 2	-	-	-	-	229	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	132.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	900	-	-	-	45	473
HCM Lane V/C Ratio	0.28	-	-	-	0.153	1.191
HCM Control Delay (s)	10.5	-	-	-	99	132.5
HCM Lane LOS	B	-	-	-	F	F
HCM 95th %tile Q(veh)	1.1	-	-	-	0.5	21.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	795.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	574	77	233	64	46	78	359	819	74	680	27
Future Vol, veh/h	13	574	77	233	64	46	78	359	819	74	680	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	18	18	18	18	18	18
Mvmt Flow	14	624	84	253	70	50	85	390	890	80	739	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	477.7	155.4	1219.5	664.3
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	2%	68%	9%
Vol Thru, %	29%	86%	19%	87%
Vol Right, %	65%	12%	13%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1256	664	343	781
LT Vol	78	13	233	74
Through Vol	359	574	64	680
RT Vol	819	77	46	27
Lane Flow Rate	1365	722	373	849
Geometry Grp	1	1	1	1
Degree of Util (X)	3.612	1.918	1.003	2.335
Departure Headway (Hd)	17.431	21.214	31.84	22.879
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	232	180	119	170
Service Time	15.431	19.214	29.84	20.879
HCM Lane V/C Ratio	5.884	4.011	3.134	4.994
HCM Control Delay	1219.5	477.7	155.4	664.3
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	71.4	24.5	6.5	30.7

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	26	271	38	142	113
Future Vol, veh/h	2	26	271	38	142	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	28	295	41	154	123

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	747	316	0	0	336	0
Stage 1	316	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	381	724	-	-	1223	-
Stage 1	739	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	330	724	-	-	1223	-
Mov Cap-2 Maneuver	330	-	-	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	567	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	4.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	667	1223	-
HCM Lane V/C Ratio	-	-	0.046	0.126	-
HCM Control Delay (s)	-	-	10.7	8.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.4	-

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	33	48	19	37	78	26	264	14	86	443	13
Future Vol, veh/h	15	33	48	19	37	78	26	264	14	86	443	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	16	16	16	25	25	25
Mvmt Flow	16	36	52	21	40	85	28	287	15	93	482	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1088	1033	489	1070	1033	295	496	0	0	302	0	0
Stage 1	675	675	-	351	351	-	-	-	-	-	-	-
Stage 2	413	358	-	719	682	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.26	-	-	4.35	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.344	-	-	2.425	-	-
Pot Cap-1 Maneuver	193	232	579	199	232	744	999	-	-	1139	-	-
Stage 1	444	453	-	666	632	-	-	-	-	-	-	-
Stage 2	616	628	-	420	450	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	129	199	579	139	199	744	999	-	-	1139	-	-
Mov Cap-2 Maneuver	129	199	-	139	199	-	-	-	-	-	-	-
Stage 1	429	402	-	643	611	-	-	-	-	-	-	-
Stage 2	493	607	-	309	399	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.4	26.1	0.7	1.3
HCM LOS	D	D		

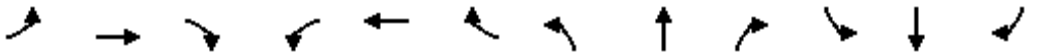
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	999	-	-	263	313	1139	-	-
HCM Lane V/C Ratio	0.028	-	-	0.397	0.465	0.082	-	-
HCM Control Delay (s)	8.7	0	-	27.4	26.1	8.4	0	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.8	2.3	0.3	-	-

Intersection	
Intersection Delay, s/veh	21
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	53	31	43	28	19	39	221	74	52	430	10
Future Vol, veh/h	7	53	31	43	28	19	39	221	74	52	430	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	8	58	34	47	30	21	42	240	80	57	467	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

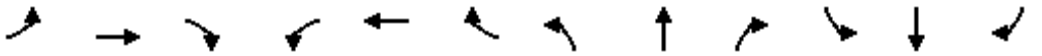
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.8	11	15.8	28.2
HCM LOS	B	B	C	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	8%	48%	11%
Vol Thru, %	66%	58%	31%	87%
Vol Right, %	22%	34%	21%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	334	91	90	492
LT Vol	39	7	43	52
Through Vol	221	53	28	430
RT Vol	74	31	19	10
Lane Flow Rate	363	99	98	535
Geometry Grp	1	1	1	1
Degree of Util (X)	0.566	0.175	0.178	0.815
Departure Headway (Hd)	5.615	6.386	6.545	5.489
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	639	559	545	658
Service Time	3.667	4.464	4.62	3.533
HCM Lane V/C Ratio	0.568	0.177	0.18	0.813
HCM Control Delay	15.8	10.8	11	28.2
HCM Lane LOS	C	B	B	D
HCM 95th-tile Q	3.5	0.6	0.6	8.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	512	9	137	61	0	0	0	0	394	2	35
Future Volume (vph)	0	512	9	137	61	0	0	0	0	394	2	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1		4.0	4.0					5.1	5.1	
Lane Util. Factor		0.95		0.95	0.95					0.95	0.95	
Frpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		1.00		1.00	1.00					1.00	0.98	
Flt Protected		1.00		0.95	0.98					0.95	0.96	
Satd. Flow (prot)		3535		1406	1488					1394	1385	
Flt Permitted		1.00		0.95	0.98					0.95	0.96	
Satd. Flow (perm)		3535		1406	1488					1394	1385	
Peak-hour factor, PHF	0.68	0.68	0.68	0.76	0.76	0.76	0.25	0.25	0.25	0.88	0.88	0.88
Adj. Flow (vph)	0	753	13	180	80	0	0	0	0	448	2	40
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	765	0	128	132	0	0	0	0	246	238	0
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	0%	1%	50%	22%	17%	0%	0%	0%	0%	23%	25%	17%
Turn Type		NA		Split	NA					Split	NA	
Protected Phases		4		3	3					6	6	
Permitted Phases												
Actuated Green, G (s)		27.6		14.2	14.2					44.0	44.0	
Effective Green, g (s)		27.6		14.2	14.2					44.0	44.0	
Actuated g/C Ratio		0.28		0.14	0.14					0.44	0.44	
Clearance Time (s)		5.1		4.0	4.0					5.1	5.1	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		975		199	211					613	609	
v/s Ratio Prot		c0.22		c0.09	0.09					c0.18	0.17	
v/s Ratio Perm												
v/c Ratio		0.78		0.64	0.63					0.40	0.39	
Uniform Delay, d1		33.4		40.5	40.4					19.0	18.9	
Progression Factor		1.00		0.74	0.74					1.00	1.00	
Incremental Delay, d2		4.2		6.9	5.6					2.0	1.9	
Delay (s)		37.6		36.9	35.5					21.0	20.8	
Level of Service		D		D	D					C	C	
Approach Delay (s)		37.6			36.2			0.0			20.9	
Approach LOS		D			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	734	0	0	176	707	22	11	819	0	0	0
Future Volume (vph)	172	734	0	0	176	707	22	11	819	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1	5.1		5.1	5.1			
Lane Util. Factor		0.95			0.95	1.00		1.00	0.88			
Frt		1.00			1.00	0.85		1.00	0.85			
Flt Protected		0.99			1.00	1.00		0.97	1.00			
Satd. Flow (prot)		3166			2959	1468		1838	2450			
Flt Permitted		0.99			1.00	1.00		0.97	1.00			
Satd. Flow (perm)		3166			2959	1468		1838	2450			
Peak-hour factor, PHF	0.84	0.84	0.84	0.90	0.90	0.90	0.82	0.82	0.82	0.25	0.25	0.25
Adj. Flow (vph)	205	874	0	0	196	786	27	13	999	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	177	0	0	79	0	0	0
Lane Group Flow (vph)	0	1079	0	0	196	609	0	40	920	0	0	0
Heavy Vehicles (%)	0%	16%	0%	0%	22%	10%	0%	0%	16%	0%	0%	0%
Turn Type	Split	NA			NA	custom	Split	NA	custom			
Protected Phases	2!	2			6	2!	4	4	6			
Permitted Phases						6			4			
Actuated Green, G (s)		47.6			29.9	77.5		7.2	37.1			
Effective Green, g (s)		47.6			29.9	77.5		7.2	37.1			
Actuated g/C Ratio		0.48			0.30	0.78		0.07	0.37			
Clearance Time (s)		5.1			5.1	5.1		5.1	5.1			
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)		1507			884	1212		132	1033			
v/s Ratio Prot		c0.34			0.07	0.24		0.02	c0.27			
v/s Ratio Perm						0.18			0.11			
v/c Ratio		0.72			0.22	0.50		0.30	0.89			
Uniform Delay, d1		20.8			26.3	4.1		44.0	29.5			
Progression Factor		0.40			0.82	15.57		1.00	1.00			
Incremental Delay, d2		2.4			0.1	0.3		1.3	9.7			
Delay (s)		10.7			21.7	64.9		45.3	39.3			
Level of Service		B			C	E		D	D			
Approach Delay (s)		10.7			56.2			39.5			0.0	
Approach LOS		B			E			D			A	

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	398	941	214	76	470	150	188	3	60	183	0	225
Future Volume (vph)	398	941	214	76	470	150	188	3	60	183	0	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (prot)	3213	2959	1583	1770	3139	1547	1770	1863	1583	1649	1430	1421
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (perm)	3213	2959	1583	1770	3139	1547	1770	1863	1583	1649	1430	1421
Peak-hour factor, PHF	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.92	0.80
Adj. Flow (vph)	457	1082	233	83	511	163	204	3	65	229	0	281
RTOR Reduction (vph)	0	0	129	0	0	120	0	0	54	0	152	108
Lane Group Flow (vph)	457	1082	104	83	511	43	204	3	11	176	19	55
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	9%	22%	2%	2%	15%	3%	2%	2%	2%	4%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	22.5	44.7	44.7	6.1	26.3	26.3	16.5	16.5	16.5	11.2	11.2	33.7
Effective Green, g (s)	22.5	44.7	44.7	6.1	26.3	26.3	16.5	16.5	16.5	11.2	11.2	33.7
Actuated g/C Ratio	0.22	0.45	0.45	0.06	0.26	0.26	0.16	0.16	0.16	0.11	0.11	0.34
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	722	1322	707	107	825	406	292	307	261	184	160	571
v/s Ratio Prot	0.14	c0.37		c0.05	0.16		c0.12	0.00		c0.11	0.01	0.02
v/s Ratio Perm			0.07			0.03			0.01			0.02
v/c Ratio	0.63	0.82	0.15	0.78	0.62	0.11	0.70	0.01	0.04	0.96	0.12	0.10
Uniform Delay, d1	35.0	24.1	16.4	46.3	32.4	27.9	39.4	34.9	35.1	44.2	40.0	22.7
Progression Factor	1.05	0.91	1.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	3.2	0.2	28.9	3.5	0.5	7.1	0.0	0.1	53.2	0.3	0.1
Delay (s)	37.6	25.1	19.9	75.1	35.9	28.5	46.5	34.9	35.2	97.4	40.3	22.8
Level of Service	D	C	B	E	D	C	D	C	D	F	D	C
Approach Delay (s)		27.6			38.6			43.7			54.4	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	35.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	242	0	1	440	17	0	0	0	23	0	123
Future Volume (veh/h)	99	242	0	1	440	17	0	0	0	23	0	123
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1173	1743	1900	1900	1827	1496				1473	0	1145
Adj Flow Rate, veh/h	112	275	0	1	557	22				26	0	137
Adj No. of Lanes	2	2	0	1	2	1				1	0	1
Peak Hour Factor	0.88	0.88	0.88	0.79	0.79	0.79				0.90	0.90	0.90
Percent Heavy Veh, %	62	9	0	0	4	27				29	0	66
Cap, veh/h	230	1554	0	4	1267	454				234	0	162
Arrive On Green	0.11	0.47	0.00	0.00	0.37	0.37				0.17	0.00	0.17
Sat Flow, veh/h	2167	3399	0	1810	3471	1245				1403	0	973
Grp Volume(v), veh/h	112	275	0	1	557	22				26	0	137
Grp Sat Flow(s),veh/h/ln	1083	1656	0	1810	1736	1245				1403	0	973
Q Serve(g_s), s	2.0	2.0	0.0	0.0	4.9	0.5				0.6	0.0	5.5
Cycle Q Clear(g_c), s	2.0	2.0	0.0	0.0	4.9	0.5				0.6	0.0	5.5
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	230	1554	0	4	1267	454				234	0	162
V/C Ratio(X)	0.49	0.18	0.00	0.22	0.44	0.05				0.11	0.00	0.84
Avail Cap(c_a), veh/h	1654	4078	0	1381	4274	1533				1140	0	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	17.1	6.2	0.0	20.2	9.8	8.3				14.4	0.0	16.4
Incr Delay (d2), s/veh	1.6	0.1	0.0	23.6	0.5	0.1				0.2	0.0	11.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.9	0.0	0.0	2.4	0.4				0.3	0.0	3.3
LnGrp Delay(d),s/veh	18.7	6.4	0.0	43.9	10.3	8.4				14.6	0.0	27.5
LnGrp LOS	B	A		D	B	A				B		C
Approach Vol, veh/h		387			580						163	
Approach Delay, s/veh		9.9			10.3						25.5	
Approach LOS		A			B						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	4.6	24.8		11.3	8.8	20.5		
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		
Max Green Setting (Gmax), s	3.1	50.0		33.0	31.0	50.0		
Max Q Clear Time (g_c+I1), s	2.0	4.0		7.5	4.0	6.9		
Green Ext Time (p_c), s	0.0	3.5		0.5	0.4	7.9		

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	221	25	10	323	85	104	153	35	54	39	93
Future Volume (veh/h)	47	221	25	10	323	85	104	153	35	54	39	93
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1834	1900	1900	1792	1863	1900	1810	1900	1827	1900	1863
Adj Flow Rate, veh/h	55	257	29	13	419	110	132	194	44	69	50	119
Adj No. of Lanes	1	2	0	1	1	1	2	1	0	1	1	1
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.79	0.79	0.79	0.78	0.78	0.78
Percent Heavy Veh, %	6	4	0	0	6	2	0	5	5	4	0	2
Cap, veh/h	106	1189	133	36	599	529	335	274	62	124	319	266
Arrive On Green	0.06	0.38	0.38	0.02	0.33	0.33	0.10	0.19	0.19	0.07	0.17	0.17
Sat Flow, veh/h	1707	3153	352	1810	1792	1583	3510	1428	324	1740	1900	1583
Grp Volume(v), veh/h	55	141	145	13	419	110	132	0	238	69	50	119
Grp Sat Flow(s),veh/h/ln	1707	1742	1763	1810	1792	1583	1755	0	1752	1740	1900	1583
Q Serve(g_s), s	1.7	3.0	3.0	0.4	11.0	2.7	1.9	0.0	6.9	2.1	1.2	3.7
Cycle Q Clear(g_c), s	1.7	3.0	3.0	0.4	11.0	2.7	1.9	0.0	6.9	2.1	1.2	3.7
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	106	657	665	36	599	529	335	0	336	124	319	266
V/C Ratio(X)	0.52	0.21	0.22	0.37	0.70	0.21	0.39	0.00	0.71	0.56	0.16	0.45
Avail Cap(c_a), veh/h	188	1026	1038	210	1065	941	1046	0	1154	237	944	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	11.5	11.5	26.3	15.7	12.9	23.1	0.0	20.6	24.4	19.3	20.4
Incr Delay (d2), s/veh	1.4	0.3	0.3	12.9	3.2	0.4	0.3	0.0	2.8	1.4	0.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.5	1.5	0.3	5.9	1.2	0.9	0.0	3.6	1.0	0.7	1.7
LnGrp Delay(d),s/veh	26.1	11.8	11.8	39.2	18.9	13.4	23.4	0.0	23.3	25.8	19.6	21.5
LnGrp LOS	C	B	B	D	B	B	C		C	C	B	C
Approach Vol, veh/h		341			542			370			238	
Approach Delay, s/veh		14.1			18.2			23.3			22.4	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	26.0	9.4	13.7	7.6	23.7	8.1	15.0
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6.3	32.0	* 16	27.0	* 6	32.3	* 7.4	35.8
Max Q Clear Time (g_c+I1), s	2.4	5.0	3.9	5.7	3.7	13.0	4.1	8.9
Green Ext Time (p_c), s	0.0	2.9	0.2	0.6	0.0	5.1	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	415	20	32	432	45	46	105	64	112	114	147
Future Volume (veh/h)	49	415	20	32	432	45	46	105	64	112	114	147
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1842	1900	1845	1813	1900	1863	1886	1900	1881	1900	1900
Adj Flow Rate, veh/h	60	506	24	41	554	58	81	184	112	190	193	249
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.82	0.82	0.82	0.78	0.78	0.78	0.57	0.57	0.57	0.59	0.59	0.59
Percent Heavy Veh, %	0	3	6	3	5	3	2	0	2	1	0	0
Cap, veh/h	115	925	44	87	813	85	238	380	231	357	262	339
Arrive On Green	0.06	0.27	0.27	0.05	0.26	0.26	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1810	3398	161	1757	3147	329	942	1089	663	1086	752	971
Grp Volume(v), veh/h	60	260	270	41	303	309	81	0	296	190	0	442
Grp Sat Flow(s),veh/h/ln	1810	1750	1809	1757	1722	1753	942	0	1752	1086	0	1723
Q Serve(g_s), s	1.9	7.5	7.6	1.3	9.4	9.4	4.9	0.0	7.8	9.8	0.0	13.3
Cycle Q Clear(g_c), s	1.9	7.5	7.6	1.3	9.4	9.4	18.2	0.0	7.8	17.7	0.0	13.3
Prop In Lane	1.00		0.09	1.00		0.19	1.00		0.38	1.00		0.56
Lane Grp Cap(c), veh/h	115	477	493	87	445	453	238	0	611	357	0	601
V/C Ratio(X)	0.52	0.55	0.55	0.47	0.68	0.68	0.34	0.00	0.48	0.53	0.00	0.74
Avail Cap(c_a), veh/h	183	665	687	178	654	666	260	0	651	381	0	640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.9	18.4	18.4	27.4	19.8	19.8	24.9	0.0	15.1	22.0	0.0	16.9
Incr Delay (d2), s/veh	3.6	1.4	1.4	3.9	2.6	2.6	0.8	0.0	0.6	1.2	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.8	3.9	0.7	4.8	4.9	1.3	0.0	3.9	3.1	0.0	7.0
LnGrp Delay(d),s/veh	30.5	19.8	19.8	31.3	22.4	22.4	25.7	0.0	15.7	23.3	0.0	21.0
LnGrp LOS	C	B	B	C	C	C	C		B	C		C
Approach Vol, veh/h		590			653			377			632	
Approach Delay, s/veh		20.9			22.9			17.9			21.7	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	22.6		27.2	10.3	21.8		27.2
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	6.0	22.5		22.0	6.0	22.5		22.0
Max Q Clear Time (g_c+I1), s	3.3	9.6		19.7	3.9	11.4		20.2
Green Ext Time (p_c), s	0.0	3.3		0.9	0.0	3.7		0.4

Intersection Summary		
HCM 2010 Ctrl Delay		21.2
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	373	13	118	440	110	29	140	146	130	107	34
Future Volume (veh/h)	84	373	13	118	440	110	29	140	146	130	107	34
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1813	1900	1792	1830	1900	1900	1827	1827	1900	1863	1776
Adj Flow Rate, veh/h	109	484	17	136	506	126	51	246	256	197	162	52
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.77	0.77	0.77	0.87	0.87	0.87	0.57	0.57	0.57	0.66	0.66	0.66
Percent Heavy Veh, %	0	4	27	6	4	3	0	4	4	0	2	7
Cap, veh/h	141	945	33	174	795	197	464	671	570	346	684	545
Arrive On Green	0.08	0.28	0.28	0.10	0.29	0.29	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1810	3393	119	1707	2755	682	1183	1827	1552	910	1863	1484
Grp Volume(v), veh/h	109	245	256	136	318	314	51	246	256	197	162	52
Grp Sat Flow(s),veh/h/ln	1810	1723	1790	1707	1739	1699	1183	1827	1552	910	1863	1484
Q Serve(g_s), s	4.2	8.5	8.6	5.5	11.4	11.5	2.2	7.0	8.9	14.4	4.3	1.6
Cycle Q Clear(g_c), s	4.2	8.5	8.6	5.5	11.4	11.5	6.5	7.0	8.9	21.4	4.3	1.6
Prop In Lane	1.00		0.07	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	480	498	174	502	490	464	671	570	346	684	545
V/C Ratio(X)	0.77	0.51	0.51	0.78	0.63	0.64	0.11	0.37	0.45	0.57	0.24	0.10
Avail Cap(c_a), veh/h	228	531	552	503	804	786	593	871	740	445	888	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	21.7	21.7	31.3	22.1	22.1	17.9	16.5	17.1	24.3	15.6	14.8
Incr Delay (d2), s/veh	8.7	1.8	1.7	7.4	2.8	3.0	0.2	0.7	1.2	3.1	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.3	4.4	3.0	5.8	5.8	0.8	3.7	4.0	3.9	2.3	0.7
LnGrp Delay(d),s/veh	41.0	23.5	23.4	38.7	24.9	25.1	18.1	17.2	18.3	27.5	16.0	15.0
LnGrp LOS	D	C	C	D	C	C	B	B	B	C	B	B
Approach Vol, veh/h		610			768			553			411	
Approach Delay, s/veh		26.6			27.4			17.8			21.4	
Approach LOS		C			C			B			C	

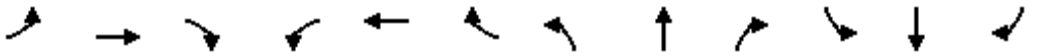
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.3	25.9		32.2	12.5	26.6		32.2
Change Period (Y+Rc), s	6.0	6.0		6.0	7.0	6.0		6.0
Max Green Setting (Gmax), s	21.0	22.0		34.0	9.0	33.0		34.0
Max Q Clear Time (g_c+I1), s	17.5	10.6		23.4	6.2	13.5		10.9
Green Ext Time (p_c), s	0.3	3.6		2.8	0.1	6.4		5.2

Intersection Summary			
HCM 2010 Ctrl Delay		23.9	
HCM 2010 LOS		C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	242	25	11	334	25	56	84	16	5	56	163
Future Volume (veh/h)	178	242	25	11	334	25	56	84	16	5	56	163
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1818	1900	1900	1759	1900	1900	1886	1900	1900	1873	1900
Adj Flow Rate, veh/h	212	288	30	13	388	29	76	114	22	7	84	243
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.74	0.74	0.74	0.67	0.67	0.67
Percent Heavy Veh, %	2	5	0	0	8	0	2	0	0	0	0	2
Cap, veh/h	494	1494	154	634	832	761	243	316	50	96	125	343
Arrive On Green	0.47	0.47	0.47	0.47	0.47	0.47	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	964	3159	326	1076	1759	1610	416	1100	176	11	436	1195
Grp Volume(v), veh/h	212	156	162	13	388	29	212	0	0	334	0	0
Grp Sat Flow(s),veh/h/ln	964	1727	1759	1076	1759	1610	1692	0	0	1643	0	0
Q Serve(g_s), s	7.5	2.1	2.1	0.3	5.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.4	2.1	2.1	2.4	5.9	0.4	3.7	0.0	0.0	7.2	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.36		0.10	0.02		0.73
Lane Grp Cap(c), veh/h	494	817	832	634	832	761	609	0	0	564	0	0
V/C Ratio(X)	0.43	0.19	0.19	0.02	0.47	0.04	0.35	0.00	0.00	0.59	0.00	0.00
Avail Cap(c_a), veh/h	633	1065	1085	788	1085	993	1149	0	0	1173	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.6	6.0	6.1	6.7	7.1	5.6	11.4	0.0	0.0	12.6	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.2	0.2	0.0	0.9	0.0	0.3	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	1.0	1.0	0.1	3.0	0.2	1.9	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	12.9	6.3	6.3	6.8	7.9	5.6	11.7	0.0	0.0	13.6	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B			B		
Approach Vol, veh/h		530			430			212			334	
Approach Delay, s/veh		8.9			7.7			11.7			13.6	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		23.3		16.3		23.3		16.3
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		24.4		26.1		24.4		26.1
Max Q Clear Time (g_c+I1), s		15.4		5.7		7.9		9.2
Green Ext Time (p_c), s		3.3		1.3		4.1		2.1

Intersection Summary		
HCM 2010 Ctrl Delay		10.0
HCM 2010 LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	108	41	7	26	10	126	393	52	20	180	162
Future Volume (vph)	93	108	41	7	26	10	126	393	52	20	180	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.96		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1641	1770		1583	1661		1736	1750		1805	1696	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1641	1770		1583	1661		1736	1750		1805	1696	1468
Peak-hour factor, PHF	0.87	0.87	0.87	0.67	0.67	0.67	0.76	0.76	0.76	0.81	0.81	0.81
Adj. Flow (vph)	107	124	47	10	39	15	166	517	68	25	222	200
RTOR Reduction (vph)	0	19	0	0	14	0	0	5	0	0	0	125
Lane Group Flow (vph)	107	152	0	10	40	0	166	580	0	25	222	75
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	10%	4%	0%	14%	9%	8%	4%	6%	12%	0%	12%	10%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	10.9	10.9		3.2	3.2		9.3	33.5		1.7	25.9	25.9
Effective Green, g (s)	10.9	10.9		3.2	3.2		9.3	33.5		1.7	25.9	25.9
Actuated g/C Ratio	0.16	0.16		0.05	0.05		0.14	0.49		0.02	0.38	0.38
Clearance Time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	259	280		73	77		234	852		44	638	552
v/s Ratio Prot	0.07	c0.09		0.01	c0.02		c0.10	c0.33		0.01	0.13	
v/s Ratio Perm												0.05
v/c Ratio	0.41	0.54		0.14	0.52		0.71	0.68		0.57	0.35	0.14
Uniform Delay, d1	26.1	26.7		31.5	32.0		28.5	13.5		33.2	15.4	14.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.1	2.2		0.9	5.7		9.5	4.4		15.7	1.5	0.5
Delay (s)	27.1	28.8		32.3	37.8		37.9	17.9		48.9	16.9	14.6
Level of Service	C	C		C	D		D	B		D	B	B
Approach Delay (s)		28.2			36.9			22.3			17.7	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	19.5
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	233	93	459	409	61	128	321	233	25	193	33
Future Volume (veh/h)	40	233	93	459	409	61	128	321	233	25	193	33
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1667	1667	1667	1597	1597	1900
Adj Flow Rate, veh/h	48	277	111	596	531	79	160	401	291	35	268	46
Adj No. of Lanes	1	1	0	2	1	0	1	1	1	1	2	0
Peak Hour Factor	0.84	0.84	0.84	0.77	0.77	0.77	0.80	0.80	0.80	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	91	306	123	691	625	93	356	439	658	64	579	98
Arrive On Green	0.05	0.24	0.24	0.20	0.39	0.39	0.08	0.26	0.26	0.04	0.22	0.22
Sat Flow, veh/h	1774	1266	507	3442	1585	236	1587	1667	1417	1521	2596	440
Grp Volume(v), veh/h	48	0	388	596	0	610	160	401	291	35	155	159
Grp Sat Flow(s),veh/h/ln	1774	0	1773	1721	0	1821	1587	1667	1417	1521	1517	1519
Q Serve(g_s), s	1.9	0.0	15.4	12.2	0.0	22.2	5.6	17.0	1.8	1.6	6.4	6.6
Cycle Q Clear(g_c), s	1.9	0.0	15.4	12.2	0.0	22.2	5.6	17.0	1.8	1.6	6.4	6.6
Prop In Lane	1.00		0.29	1.00		0.13	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	91	0	429	691	0	718	356	439	658	64	338	339
V/C Ratio(X)	0.53	0.00	0.90	0.86	0.00	0.85	0.45	0.91	0.44	0.55	0.46	0.47
Avail Cap(c_a), veh/h	146	0	456	1373	0	1050	356	527	733	126	480	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	0.0	26.7	28.1	0.0	20.1	19.2	25.9	4.5	34.2	24.4	24.5
Incr Delay (d2), s/veh	1.8	0.0	19.7	1.3	0.0	3.1	0.3	16.7	0.2	2.7	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	9.9	5.9	0.0	11.6	2.4	9.8	2.1	0.7	2.7	2.8
LnGrp Delay(d),s/veh	35.4	0.0	46.4	29.4	0.0	23.2	19.6	42.7	4.7	36.9	24.8	24.9
LnGrp LOS	D		D	C		C	B	D	A	D	C	C
Approach Vol, veh/h		436			1206			852			349	
Approach Delay, s/veh		45.2			26.2			25.4			26.0	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	21.8	7.0	24.1	7.7	33.9	10.0	21.1
Change Period (Y+Rc), s	5.2	* 4.2	4.0	4.9	4.0	* 5.2	4.0	4.9
Max Green Setting (Gmax), s	23	* 19	6.0	23.0	6.0	* 42	6.0	23.0
Max Q Clear Time (g_c+I1), s	4.2	17.4	3.6	19.0	3.9	24.2	7.6	8.6
Green Ext Time (p_c), s	0.4	0.2	0.0	0.2	0.0	1.4	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	425	9	162	331	120	2	259	284	215	362	5
Future Volume (veh/h)	37	425	9	162	331	120	2	259	284	215	362	5
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1777	1900	1845	1743	1900	1827	1881	1429	1743	1880	1900
Adj Flow Rate, veh/h	49	567	12	213	436	158	2	305	334	279	470	6
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	2	1	0
Peak Hour Factor	0.75	0.75	0.75	0.76	0.76	0.76	0.85	0.85	0.85	0.77	0.77	0.77
Percent Heavy Veh, %	0	7	3	3	9	0	4	1	33	9	1	4
Cap, veh/h	323	599	13	274	702	635	210	551	355	601	661	8
Arrive On Green	0.04	0.35	0.35	0.10	0.40	0.40	0.00	0.29	0.29	0.07	0.36	0.36
Sat Flow, veh/h	1810	1733	37	1757	1743	1577	1740	1881	1213	3221	1852	24
Grp Volume(v), veh/h	49	0	579	213	436	158	2	305	334	279	0	476
Grp Sat Flow(s),veh/h/ln	1810	0	1770	1757	1743	1577	1740	1881	1213	1610	0	1876
Q Serve(g_s), s	1.5	0.0	28.1	6.5	17.6	5.9	0.1	12.1	23.7	5.2	0.0	19.3
Cycle Q Clear(g_c), s	1.5	0.0	28.1	6.5	17.6	5.9	0.1	12.1	23.7	5.2	0.0	19.3
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	323	0	612	274	702	635	210	551	355	601	0	670
V/C Ratio(X)	0.15	0.00	0.95	0.78	0.62	0.25	0.01	0.55	0.94	0.46	0.00	0.71
Avail Cap(c_a), veh/h	366	0	690	474	936	847	363	609	393	601	0	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	28.1	20.2	21.0	17.5	23.0	26.3	30.5	19.8	0.0	24.5
Incr Delay (d2), s/veh	0.1	0.0	20.0	1.8	0.3	0.1	0.0	0.3	28.2	0.2	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	17.1	3.3	8.5	2.5	0.0	6.3	10.7	2.3	0.0	10.5
LnGrp Delay(d),s/veh	18.2	0.0	48.1	22.1	21.4	17.6	23.0	26.7	58.6	20.0	0.0	27.5
LnGrp LOS	B		D	C	C	B	C	C	E	C		C
Approach Vol, veh/h		628			807			641			755	
Approach Delay, s/veh		45.7			20.8			43.3			24.7	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	40.1	9.9	30.8	12.5	35.1	4.2	36.4
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.6	47.4	5.9	28.6	18.6	34.4	8.0	26.5
Max Q Clear Time (g_c+I1), s	3.5	19.6	7.2	25.7	8.5	30.1	2.1	21.3
Green Ext Time (p_c), s	0.0	0.4	0.0	0.1	0.0	0.4	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	32.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	206	145	6	23	61	51	460	13	42	203	4
Future Volume (veh/h)	78	206	145	6	23	61	51	460	13	42	203	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1667	1667	1900	1597	1597	1900
Adj Flow Rate, veh/h	122	322	227	8	32	86	66	597	17	60	290	6
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.64	0.64	0.64	0.71	0.71	0.71	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	153	333	224	61	193	454	82	623	18	72	596	12
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.05	0.39	0.39	0.05	0.38	0.38
Sat Flow, veh/h	259	828	556	45	480	1128	1587	1613	46	1521	1559	32
Grp Volume(v), veh/h	671	0	0	126	0	0	66	0	614	60	0	296
Grp Sat Flow(s),veh/h/ln	1643	0	0	1653	0	0	1587	0	1659	1521	0	1591
Q Serve(g_s), s	31.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	31.7	3.4	0.0	12.4
Cycle Q Clear(g_c), s	35.4	0.0	0.0	4.3	0.0	0.0	3.6	0.0	31.7	3.4	0.0	12.4
Prop In Lane	0.18		0.34	0.06		0.68	1.00		0.03	1.00		0.02
Lane Grp Cap(c), veh/h	709	0	0	709	0	0	82	0	641	72	0	609
V/C Ratio(X)	0.95	0.00	0.00	0.18	0.00	0.00	0.81	0.00	0.96	0.83	0.00	0.49
Avail Cap(c_a), veh/h	709	0	0	709	0	0	180	0	648	100	0	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.4	0.0	0.0	17.0	0.0	0.0	41.3	0.0	26.3	41.5	0.0	20.6
Incr Delay (d2), s/veh	21.5	0.0	0.0	0.1	0.0	0.0	16.7	0.0	25.2	31.6	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.5	0.0	0.0	2.0	0.0	0.0	2.0	0.0	19.0	2.1	0.0	5.5
LnGrp Delay(d),s/veh	47.9	0.0	0.0	17.1	0.0	0.0	58.0	0.0	51.5	73.2	0.0	21.2
LnGrp LOS	D			B			E		D	E		C
Approach Vol, veh/h		671			126			680			356	
Approach Delay, s/veh		47.9			17.1			52.1			30.0	
Approach LOS		D			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	39.8		40.0	8.5	39.5		40.0
Change Period (Y+Rc), s	4.0	5.8		4.6	4.0	5.8		4.6
Max Green Setting (Gmax), s	5.8	34.4		35.4	10.0	30.2		35.4
Max Q Clear Time (g_c+I1), s	5.4	33.7		37.4	5.6	14.4		6.3
Green Ext Time (p_c), s	0.0	0.3		0.0	0.0	1.4		0.8

Intersection Summary		
HCM 2010 Ctrl Delay	43.9	
HCM 2010 LOS	D	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	84	44	81	424	50	219	21	106	2	1	0
Future Volume (veh/h)	7	84	44	81	424	50	219	21	106	2	1	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1338	1520	1744	1900	1242	1424	1900	1900	1520	1900
Adj Flow Rate, veh/h	10	118	62	117	614	72	378	36	183	3	1	0
Adj No. of Lanes	1	1	1	1	1	0	2	1	0	0	1	0
Peak Hour Factor	0.71	0.71	0.71	0.69	0.69	0.69	0.58	0.58	0.58	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	42	25	10	0	53	0	40	0	100	0
Cap, veh/h	23	709	679	143	702	82	534	47	241	7	2	0
Arrive On Green	0.01	0.37	0.37	0.10	0.46	0.46	0.23	0.23	0.23	0.01	0.01	0.00
Sat Flow, veh/h	1810	1900	1111	1448	1529	179	2294	204	1035	1099	366	0
Grp Volume(v), veh/h	10	118	62	117	0	686	378	0	219	4	0	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1111	1448	0	1708	1147	0	1239	1465	0	0
Q Serve(g_s), s	0.3	2.6	1.5	4.9	0.0	22.6	9.4	0.0	10.3	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	2.6	1.5	4.9	0.0	22.6	9.4	0.0	10.3	0.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.84	0.75		0.00
Lane Grp Cap(c), veh/h	23	709	679	143	0	784	534	0	288	9	0	0
V/C Ratio(X)	0.43	0.17	0.09	0.82	0.00	0.87	0.71	0.00	0.76	0.42	0.00	0.00
Avail Cap(c_a), veh/h	145	804	735	351	0	1000	902	0	487	141	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.6	13.1	5.1	27.5	0.0	15.2	22.0	0.0	22.3	30.9	0.0	0.0
Incr Delay (d2), s/veh	12.3	0.1	0.1	10.7	0.0	7.2	1.7	0.0	4.1	27.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.4	0.7	2.4	0.0	12.1	3.1	0.0	3.8	0.1	0.0	0.0
LnGrp Delay(d),s/veh	42.9	13.2	5.2	38.2	0.0	22.5	23.7	0.0	26.4	58.3	0.0	0.0
LnGrp LOS	D	B	A	D		C	C		C	E		
Approach Vol, veh/h		190			803			597			4	
Approach Delay, s/veh		12.1			24.8			24.7			58.3	
Approach LOS		B			C			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		19.0	10.7	27.8		4.9	5.3	33.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		24.5	15.1	26.4		6.0	5.0	36.5
Max Q Clear Time (g_c+I1), s		12.3	6.9	4.6		2.2	2.3	24.6
Green Ext Time (p_c), s		2.2	0.2	0.8		0.0	0.0	4.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	1	489	414	338	527	28	84	400	0
Future Volume (veh/h)	0	1	0	1	489	414	338	527	28	84	400	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1319	1900	1667	1900	1863	1520	1743	1776	1900
Adj Flow Rate, veh/h	0	4	0	2	776	657	412	643	34	158	755	0
Adj No. of Lanes	1	2	1	1	1	1	2	2	1	2	2	0
Peak Hour Factor	0.25	0.25	0.25	0.63	0.63	0.63	0.82	0.82	0.82	0.53	0.53	0.53
Percent Heavy Veh, %	2	2	2	44	0	14	0	2	25	9	7	0
Cap, veh/h	92	1535	687	523	824	717	447	1117	408	234	880	0
Arrive On Green	0.00	0.43	0.00	0.43	0.43	0.43	0.13	0.32	0.32	0.07	0.26	0.00
Sat Flow, veh/h	372	3539	1583	996	1900	1417	3510	3539	1292	3221	3463	0
Grp Volume(v), veh/h	0	4	0	2	776	657	412	643	34	158	755	0
Grp Sat Flow(s),veh/h/ln	372	1770	1583	996	1900	1417	1755	1770	1292	1610	1687	0
Q Serve(g_s), s	0.0	0.1	0.0	0.1	30.7	33.6	9.1	11.9	1.5	3.8	16.8	0.0
Cycle Q Clear(g_c), s	0.0	0.1	0.0	0.1	30.7	33.6	9.1	11.9	1.5	3.8	16.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	92	1535	687	523	824	717	447	1117	408	234	880	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.94	0.92	0.92	0.58	0.08	0.67	0.86	0.00
Avail Cap(c_a), veh/h	93	1549	693	523	824	717	447	1117	408	369	961	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.6	0.0	12.7	21.3	17.9	33.9	22.5	18.9	35.5	27.7	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	18.7	16.5	24.7	0.7	0.1	3.4	7.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	20.2	16.2	5.9	5.9	0.5	1.8	8.7	0.0
LnGrp Delay(d),s/veh	0.0	12.6	0.0	12.7	40.0	34.3	58.6	23.2	19.0	38.9	35.0	0.0
LnGrp LOS		B		B	D	C	E	C	B	D	C	
Approach Vol, veh/h		4			1435			1089			913	
Approach Delay, s/veh		12.6			37.4			36.5			35.7	
Approach LOS		B			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	29.9		39.0	14.0	25.6		39.0
Change Period (Y+Rc), s	4.0	5.1		* 4.9	4.0	* 5.1		4.9
Max Green Setting (Gmax), s	9.6	22.9		* 34	10.0	* 22		34.1
Max Q Clear Time (g_c+I1), s	5.8	13.9		2.1	11.1	18.8		35.6
Green Ext Time (p_c), s	0.1	2.9		0.0	0.0	1.8		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	36.6
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	601	189	0	0	119	56	16	149	3
Future Volume (veh/h)	1	0	1	601	189	0	0	119	56	16	149	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1863	1863	1863	1597	1597	1597	1638	1638	1900
Adj Flow Rate, veh/h	4	0	4	985	310	0	0	143	67	25	237	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	1	2	0
Peak Hour Factor	0.25	0.25	0.25	0.61	0.61	0.61	0.83	0.83	0.83	0.63	0.63	0.63
Percent Heavy Veh, %	5	5	5	2	2	2	19	19	19	16	16	16
Cap, veh/h	22	43	19	1188	643	593	3	506	226	46	871	18
Arrive On Green	0.01	0.00	0.01	0.35	0.35	0.00	0.00	0.17	0.17	0.03	0.28	0.28
Sat Flow, veh/h	1723	3438	1538	3442	1863	1583	1521	3034	1357	1560	3117	66
Grp Volume(v), veh/h	4	0	4	985	310	0	0	143	67	25	118	124
Grp Sat Flow(s),veh/h/ln	1723	1719	1538	1721	1863	1583	1521	1517	1357	1560	1556	1626
Q Serve(g_s), s	0.1	0.0	0.1	12.6	6.3	0.0	0.0	2.0	2.1	0.8	2.8	2.9
Cycle Q Clear(g_c), s	0.1	0.0	0.1	12.6	6.3	0.0	0.0	2.0	2.1	0.8	2.8	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	22	43	19	1188	643	593	3	506	226	46	435	455
V/C Ratio(X)	0.18	0.00	0.21	0.83	0.48	0.00	0.00	0.28	0.30	0.54	0.27	0.27
Avail Cap(c_a), veh/h	215	430	192	1305	706	647	174	563	252	179	435	455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	23.5	14.4	12.3	0.0	0.0	17.5	17.5	23.0	13.5	13.5
Incr Delay (d2), s/veh	4.0	0.0	5.1	4.3	0.6	0.0	0.0	0.3	0.7	9.6	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	6.6	3.3	0.0	0.0	0.8	0.8	0.4	1.3	1.3
LnGrp Delay(d),s/veh	27.4	0.0	28.6	18.7	12.9	0.0	0.0	17.8	18.3	32.5	13.8	13.8
LnGrp LOS	C		C	B	B			B	B	C	B	B
Approach Vol, veh/h		8			1295			210			267	
Approach Delay, s/veh		28.0			17.3			17.9			15.6	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.4	13.8		6.4	0.0	19.2		22.4
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	8.9		6.0	5.5	8.9		18.2
Max Q Clear Time (g_c+I1), s	2.8	4.1		2.1	0.0	4.9		14.6
Green Ext Time (p_c), s	0.0	0.4		0.0	0.0	0.4		2.0

Intersection Summary		
HCM 2010 Ctrl Delay		17.2
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	125	9	27	814	105	1	147	36	2	80	1
Future Volume (veh/h)	0	125	9	27	814	105	1	147	36	2	80	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1863	1863	1863	1810	1810	1900	1610	1610	1900
Adj Flow Rate, veh/h	0	227	16	47	1403	181	1	188	46	3	107	1
Adj No. of Lanes	1	2	1	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.55	0.55	0.55	0.58	0.58	0.58	0.78	0.78	0.78	0.75	0.75	0.75
Percent Heavy Veh, %	5	5	5	2	2	2	5	5	5	18	18	18
Cap, veh/h	158	315	141	1601	1646	736	2	226	55	6	260	2
Arrive On Green	0.00	0.09	0.09	0.47	0.47	0.47	0.00	0.16	0.16	0.00	0.16	0.16
Sat Flow, veh/h	1723	3438	1538	3442	3539	1583	1723	1405	344	1533	1593	15
Grp Volume(v), veh/h	0	227	16	47	1403	181	1	0	234	3	0	108
Grp Sat Flow(s),veh/h/ln	1723	1719	1538	1721	1770	1583	1723	0	1749	1533	0	1608
Q Serve(g_s), s	0.0	4.9	0.7	0.6	27.0	5.3	0.0	0.0	10.0	0.2	0.0	4.6
Cycle Q Clear(g_c), s	0.0	4.9	0.7	0.6	27.0	5.3	0.0	0.0	10.0	0.2	0.0	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		0.01
Lane Grp Cap(c), veh/h	158	315	141	1601	1646	736	2	0	281	6	0	263
V/C Ratio(X)	0.00	0.72	0.11	0.03	0.85	0.25	0.42	0.00	0.83	0.48	0.00	0.41
Avail Cap(c_a), veh/h	184	367	164	1756	1806	808	123	0	357	110	0	328
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	33.9	32.0	11.1	18.2	12.4	38.3	0.0	31.2	38.2	0.0	28.8
Incr Delay (d2), s/veh	0.0	5.6	0.4	0.0	3.9	0.2	89.3	0.0	12.6	48.8	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.6	0.3	0.3	13.9	2.4	0.1	0.0	5.8	0.1	0.0	2.1
LnGrp Delay(d),s/veh	0.0	39.6	32.4	11.2	22.1	12.6	127.7	0.0	43.8	87.0	0.0	29.9
LnGrp LOS		D	C	B	C	B	F		D	F		C
Approach Vol, veh/h		243			1631			235			111	
Approach Delay, s/veh		39.1			20.7			44.2			31.4	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.3	18.1		12.8	4.1	18.3		41.5
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	15.7		8.2	5.5	15.7		39.2
Max Q Clear Time (g_c+I1), s	2.2	12.0		6.9	2.0	6.6		29.0
Green Ext Time (p_c), s	0.0	0.4		0.2	0.0	0.3		6.7

Intersection Summary	
HCM 2010 Ctrl Delay	25.8
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	153	159	1130	414	7
Future Volume (veh/h)	0	153	159	1130	414	7
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1638	1638	1624	1900
Adj Flow Rate, veh/h	0	212	183	1299	538	9
Adj No. of Lanes	1	2	1	2	2	0
Peak Hour Factor	0.72	0.72	0.87	0.87	0.77	0.77
Percent Heavy Veh, %	5	5	16	16	17	17
Cap, veh/h	242	380	227	1732	951	16
Arrive On Green	0.00	0.14	0.15	0.56	0.31	0.31
Sat Flow, veh/h	1723	2707	1560	3194	3187	52
Grp Volume(v), veh/h	0	212	183	1299	267	280
Grp Sat Flow(s),veh/h/ln	1723	1354	1560	1556	1543	1615
Q Serve(g_s), s	0.0	2.8	4.3	12.2	5.6	5.6
Cycle Q Clear(g_c), s	0.0	2.8	4.3	12.2	5.6	5.6
Prop In Lane	1.00	1.00	1.00			0.03
Lane Grp Cap(c), veh/h	242	380	227	1732	472	494
V/C Ratio(X)	0.00	0.56	0.81	0.75	0.57	0.57
Avail Cap(c_a), veh/h	270	425	408	2229	540	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.3	15.8	6.5	11.1	11.1
Incr Delay (d2), s/veh	0.0	1.3	6.6	1.1	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.2	2.2	5.3	2.4	2.6
LnGrp Delay(d),s/veh	0.0	16.6	22.4	7.5	12.2	12.2
LnGrp LOS		B	C	A	B	B
Approach Vol, veh/h	212			1482	547	
Approach Delay, s/veh	16.6			9.4	12.2	
Approach LOS	B			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.1		11.2	9.6	17.5		
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8		
Max Green Setting (Gmax), s		27.4		6.0	10.0	13.4		
Max Q Clear Time (g_c+I1), s		14.2		4.8	6.3	7.6		
Green Ext Time (p_c), s		7.1		0.1	0.2	1.5		

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	510	46	7	562	300	123
Future Volume (veh/h)	510	46	7	562	300	123
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1667	1667	1597	1597
Adj Flow Rate, veh/h	630	57	9	739	395	162
Adj No. of Lanes	1	1	1	1	2	1
Peak Hour Factor	0.81	0.81	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	8	8	14	14	19	19
Cap, veh/h	667	595	18	787	1254	561
Arrive On Green	0.40	0.40	0.01	0.47	0.41	0.41
Sat Flow, veh/h	1675	1495	1587	1667	3113	1357
Grp Volume(v), veh/h	630	57	9	739	395	162
Grp Sat Flow(s),veh/h/ln	1675	1495	1587	1667	1517	1357
Q Serve(g_s), s	30.4	2.0	0.5	35.3	7.4	6.7
Cycle Q Clear(g_c), s	30.4	2.0	0.5	35.3	7.4	6.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	667	595	18	787	1254	561
V/C Ratio(X)	0.95	0.10	0.50	0.94	0.32	0.29
Avail Cap(c_a), veh/h	717	640	95	858	1254	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.4	15.8	41.2	21.0	16.6	16.4
Incr Delay (d2), s/veh	20.6	0.1	20.2	17.0	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.8	2.1	0.3	19.7	3.1	2.5
LnGrp Delay(d),s/veh	45.0	15.9	61.4	38.0	16.7	16.7
LnGrp LOS	D	B	E	D	B	B
Approach Vol, veh/h	687			748	557	
Approach Delay, s/veh	42.5			38.3	16.7	
Approach LOS	D			D	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.4		38.5	4.9	40.5		
Change Period (Y+Rc), s		5.8		5.1	4.0	5.8		
Max Green Setting (Gmax), s		43.2		35.9	5.0	34.2		
Max Q Clear Time (g_c+I1), s		37.3		32.4	2.5	9.4		
Green Ext Time (p_c), s		2.4		0.9	0.0	3.0		

Intersection Summary	
HCM 2010 Ctrl Delay	33.7
HCM 2010 LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	95	108	1066	53	19	552
Future Volume (veh/h)	95	108	1066	53	19	552
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1473	1900	1638	1900	1624	1624
Adj Flow Rate, veh/h	113	129	1284	64	24	699
Adj No. of Lanes	0	0	2	0	1	2
Peak Hour Factor	0.84	0.84	0.83	0.83	0.79	0.79
Percent Heavy Veh, %	29	29	16	16	17	17
Cap, veh/h	116	133	1629	81	42	1942
Arrive On Green	0.19	0.19	0.54	0.54	0.03	0.63
Sat Flow, veh/h	613	700	3099	150	1547	3167
Grp Volume(v), veh/h	243	0	661	687	24	699
Grp Sat Flow(s),veh/h/ln	1319	0	1556	1611	1547	1543
Q Serve(g_s), s	11.8	0.0	21.8	21.9	1.0	7.0
Cycle Q Clear(g_c), s	11.8	0.0	21.8	21.9	1.0	7.0
Prop In Lane	0.47	0.53		0.09	1.00	
Lane Grp Cap(c), veh/h	250	0	840	870	42	1942
V/C Ratio(X)	0.97	0.00	0.79	0.79	0.57	0.36
Avail Cap(c_a), veh/h	250	0	1386	1435	120	3180
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	0.0	11.8	11.8	30.9	5.7
Incr Delay (d2), s/veh	48.4	0.0	1.7	1.6	11.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	9.6	9.9	0.6	2.9
LnGrp Delay(d),s/veh	74.2	0.0	13.5	13.5	42.6	5.8
LnGrp LOS	E		B	B	D	A
Approach Vol, veh/h	243		1348			723
Approach Delay, s/veh	74.2		13.5			7.0
Approach LOS	E		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	5.7	40.5				46.2		18.0
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8
Max Green Setting (Gmax), s	5.0	57.2				66.2		12.2
Max Q Clear Time (g_c+I1), s	13.8	23.9				9.0		13.8
Green Ext Time (p_c), s	0.0	10.8				5.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	111	3	1	403	402	73
Future Volume (veh/h)	111	3	1	403	402	73
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1638	1638	1624	1900
Adj Flow Rate, veh/h	154	4	1	469	522	95
Adj No. of Lanes	1	1	1	1	2	0
Peak Hour Factor	0.72	0.72	0.86	0.86	0.77	0.77
Percent Heavy Veh, %	5	5	16	16	17	17
Cap, veh/h	331	295	5	710	790	143
Arrive On Green	0.19	0.19	0.00	0.43	0.30	0.30
Sat Flow, veh/h	1723	1538	1560	1638	2691	473
Grp Volume(v), veh/h	154	4	1	469	308	309
Grp Sat Flow(s),veh/h/ln	1723	1538	1560	1638	1543	1540
Q Serve(g_s), s	2.5	0.1	0.0	7.0	5.4	5.4
Cycle Q Clear(g_c), s	2.5	0.1	0.0	7.0	5.4	5.4
Prop In Lane	1.00	1.00	1.00			0.31
Lane Grp Cap(c), veh/h	331	295	5	710	467	466
V/C Ratio(X)	0.47	0.01	0.20	0.66	0.66	0.66
Avail Cap(c_a), veh/h	540	482	277	1254	708	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	10.1	15.4	7.0	9.4	9.4
Incr Delay (d2), s/veh	1.0	0.0	18.2	1.1	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	3.3	2.4	2.4
LnGrp Delay(d),s/veh	12.1	10.1	33.6	8.0	11.0	11.0
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	158			470	617	
Approach Delay, s/veh	12.1			8.1	11.0	
Approach LOS	B			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		11.7	4.0	15.2				19.2
Change Period (Y+Rc), s		5.8	4.0	5.8				5.8
Max Green Setting (Gmax), s		9.7	5.5	14.2				23.7
Max Q Clear Time (g_c+I1), s		4.5	2.0	7.4				9.0
Green Ext Time (p_c), s		0.2	0.0	1.9				2.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.0
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	379	96	6	395	154	22
Future Volume (veh/h)	379	96	6	395	154	22
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1624	1900	1638	1638	1597	1900
Adj Flow Rate, veh/h	519	122	6	416	183	26
Adj No. of Lanes	2	0	1	1	0	0
Peak Hour Factor	0.73	0.79	0.95	0.95	0.84	0.84
Percent Heavy Veh, %	17	17	16	16	19	19
Cap, veh/h	773	181	13	736	227	32
Arrive On Green	0.31	0.31	0.01	0.45	0.17	0.17
Sat Flow, veh/h	2564	581	1560	1638	1306	186
Grp Volume(v), veh/h	322	319	6	416	210	0
Grp Sat Flow(s),veh/h/ln	1543	1521	1560	1638	1499	0
Q Serve(g_s), s	5.6	5.6	0.1	5.8	4.1	0.0
Cycle Q Clear(g_c), s	5.6	5.6	0.1	5.8	4.1	0.0
Prop In Lane		0.38	1.00		0.87	0.12
Lane Grp Cap(c), veh/h	480	474	13	736	260	0
V/C Ratio(X)	0.67	0.67	0.47	0.57	0.81	0.00
Avail Cap(c_a), veh/h	662	653	253	1182	545	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.2	9.2	15.2	6.3	12.2	0.0
Incr Delay (d2), s/veh	1.6	1.7	25.0	0.7	5.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	2.5	0.1	2.7	2.1	0.0
LnGrp Delay(d),s/veh	10.8	10.9	40.2	6.9	18.1	0.0
LnGrp LOS	B	B	D	A	B	
Approach Vol, veh/h	641			422	210	
Approach Delay, s/veh	10.9			7.4	18.1	
Approach LOS	B			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		11.1	4.2	15.4				19.6
Change Period (Y+Rc), s		5.8	4.0	5.8				5.8
Max Green Setting (Gmax), s		11.2	5.0	13.2				22.2
Max Q Clear Time (g_c+I1), s		6.1	2.1	7.6				7.8
Green Ext Time (p_c), s		0.3	0.0	1.9				2.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	18	13	0	70	4	7	27	0	0	54	4
Future Vol, veh/h	7	18	13	0	70	4	7	27	0	0	54	4
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.77	0.77	0.77	0.75	0.75	0.75
Heavy Vehicles, %	20	20	20	29	29	29	2	2	2	2	2	2
Mvmt Flow	9	24	17	0	93	5	9	35	0	0	72	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	8.4	7.7	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	18%	0%	0%
Vol Thru, %	79%	47%	95%	93%
Vol Right, %	0%	34%	5%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	34	38	74	58
LT Vol	7	7	0	0
Through Vol	27	18	70	54
RT Vol	0	13	4	4
Lane Flow Rate	44	51	99	77
Geometry Grp	1	1	1	1
Degree of Util (X)	0.054	0.063	0.126	0.092
Departure Headway (Hd)	4.42	4.463	4.611	4.303
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	814	807	768	837
Service Time	2.425	2.468	2.701	2.307
HCM Lane V/C Ratio	0.054	0.063	0.129	0.092
HCM Control Delay	7.7	7.8	8.4	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.4	0.3

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	9	1	4	0	36	73	3	1	20	1
Future Vol, veh/h	1	1	9	1	4	0	36	73	3	1	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	39	39	39	42	42	42	72	72	72	69	69	69
Heavy Vehicles, %	20	20	20	29	29	29	2	2	2	2	2	2
Mvmt Flow	3	3	23	2	10	0	50	101	4	1	29	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	240	237	30	248	235	103	30	0	0	105	0	0
Stage 1	32	32	-	203	203	-	-	-	-	-	-	-
Stage 2	208	205	-	45	32	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.39	6.79	6.49	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.761	4.261	3.561	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	678	634	995	653	621	883	1583	-	-	1486	-	-
Stage 1	940	834	-	741	686	-	-	-	-	-	-	-
Stage 2	755	700	-	905	818	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	652	612	995	619	599	883	1583	-	-	1486	-	-
Mov Cap-2 Maneuver	652	612	-	619	599	-	-	-	-	-	-	-
Stage 1	908	833	-	716	663	-	-	-	-	-	-	-
Stage 2	719	676	-	880	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	11.1	2.4	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1583	-	-	901	603	1486	-	-
HCM Lane V/C Ratio	0.032	-	-	0.031	0.02	0.001	-	-
HCM Control Delay (s)	7.3	0	-	9.1	11.1	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	393	6	16	589	64	3	31	56	213	140	57
Future Volume (veh/h)	11	393	6	16	589	64	3	31	56	213	140	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	13	462	7	19	685	74	3	34	62	280	184	75
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.86	0.86	0.86	0.90	0.90	0.90	0.76	0.76	0.76
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	26	825	13	33	702	76	128	43	78	315	224	91
Arrive On Green	0.02	0.48	0.48	0.02	0.48	0.48	0.07	0.07	0.07	0.18	0.18	0.18
Sat Flow, veh/h	1675	1728	26	1560	1453	157	1774	592	1080	1774	1259	513
Grp Volume(v), veh/h	13	0	469	19	0	759	3	0	96	280	0	259
Grp Sat Flow(s),veh/h/ln	1675	0	1755	1560	0	1610	1774	0	1672	1774	0	1772
Q Serve(g_s), s	0.7	0.0	16.2	1.0	0.0	39.3	0.1	0.0	4.8	13.1	0.0	12.0
Cycle Q Clear(g_c), s	0.7	0.0	16.2	1.0	0.0	39.3	0.1	0.0	4.8	13.1	0.0	12.0
Prop In Lane	1.00		0.01	1.00		0.10	1.00		0.65	1.00		0.29
Lane Grp Cap(c), veh/h	26	0	838	33	0	778	128	0	121	315	0	315
V/C Ratio(X)	0.50	0.00	0.56	0.57	0.00	0.98	0.02	0.00	0.79	0.89	0.00	0.82
Avail Cap(c_a), veh/h	98	0	848	91	0	778	150	0	141	316	0	316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.6	0.0	15.9	41.3	0.0	21.5	36.7	0.0	38.9	34.2	0.0	33.8
Incr Delay (d2), s/veh	14.0	0.0	0.8	14.6	0.0	26.2	0.1	0.0	22.8	24.8	0.0	15.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	8.0	0.6	0.0	22.9	0.1	0.0	3.0	8.6	0.0	7.2
LnGrp Delay(d),s/veh	55.7	0.0	16.7	56.0	0.0	47.7	36.8	0.0	61.7	59.1	0.0	49.6
LnGrp LOS	E		B	E		D	D		E	E		D
Approach Vol, veh/h		482			778			99			539	
Approach Delay, s/veh		17.7			47.9			60.9			54.5	
Approach LOS		B			D			E			D	

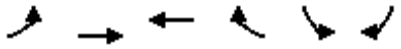
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		12.0	5.8	46.5		21.0	5.3	47.0
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		7.2	5.0	41.2		15.2	5.0	41.2
Max Q Clear Time (g_c+I1), s		6.8	3.0	18.2		15.1	2.7	41.3
Green Ext Time (p_c), s		0.0	0.0	2.7		0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	42.8
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	800	8	21	695	73	10	10	26	49	5	6
Future Volume (veh/h)	4	800	8	21	695	73	10	10	26	49	5	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	5	952	10	24	808	85	12	12	32	56	6	7
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.82	0.82	0.82	0.88	0.88	0.88
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	11	1085	11	43	941	99	93	42	82	211	19	14
Arrive On Green	0.01	0.62	0.62	0.03	0.65	0.65	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1675	1738	18	1560	1458	153	225	480	940	1170	221	157
Grp Volume(v), veh/h	5	0	962	24	0	893	56	0	0	69	0	0
Grp Sat Flow(s),veh/h/ln	1675	0	1756	1560	0	1611	1646	0	0	1548	0	0
Q Serve(g_s), s	0.2	0.0	27.3	0.9	0.0	26.4	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	27.3	0.9	0.0	26.4	1.9	0.0	0.0	2.3	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.10	0.21		0.57	0.81		0.10
Lane Grp Cap(c), veh/h	11	0	1097	43	0	1040	217	0	0	245	0	0
V/C Ratio(X)	0.45	0.00	0.88	0.56	0.00	0.86	0.26	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	140	0	1735	130	0	1592	272	0	0	288	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.6	0.0	9.3	28.8	0.0	8.5	25.8	0.0	0.0	25.9	0.0	0.0
Incr Delay (d2), s/veh	25.6	0.0	3.3	10.9	0.0	3.1	0.6	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	13.8	0.5	0.0	12.3	0.9	0.0	0.0	1.1	0.0	0.0
LnGrp Delay(d),s/veh	55.3	0.0	12.7	39.7	0.0	11.6	26.4	0.0	0.0	26.6	0.0	0.0
LnGrp LOS	E		B	D		B	C			C		
Approach Vol, veh/h		967			917			56			69	
Approach Delay, s/veh		12.9			12.3			26.4			26.6	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.1	5.6	43.2		11.1	4.4	44.5
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		7.3	5.0	59.2		7.1	5.0	59.2
Max Q Clear Time (g_c+I1), s		3.9	2.9	29.3		4.3	2.2	28.4
Green Ext Time (p_c), s		0.0	0.0	8.2		0.0	0.0	7.4

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	335	582	449	3	6	288
Future Volume (veh/h)	335	582	449	3	6	288
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1712	1712	1667	1900	1863	1863
Adj Flow Rate, veh/h	381	661	576	4	9	417
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.88	0.88	0.78	0.78	0.69	0.69
Percent Heavy Veh, %	11	11	14	14	2	2
Cap, veh/h	421	1185	625	4	255	637
Arrive On Green	0.26	0.69	0.38	0.38	0.14	0.14
Sat Flow, veh/h	1630	1712	1653	11	1774	1583
Grp Volume(v), veh/h	381	661	0	580	9	417
Grp Sat Flow(s),veh/h/ln	1630	1712	0	1665	1774	1583
Q Serve(g_s), s	16.0	13.7	0.0	23.6	0.3	10.2
Cycle Q Clear(g_c), s	16.0	13.7	0.0	23.6	0.3	10.2
Prop In Lane	1.00			0.01	1.00	1.00
Lane Grp Cap(c), veh/h	421	1185	0	629	255	637
V/C Ratio(X)	0.91	0.56	0.00	0.92	0.04	0.66
Avail Cap(c_a), veh/h	460	1285	0	686	255	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	5.5	0.0	21.0	26.1	17.2
Incr Delay (d2), s/veh	20.3	0.5	0.0	17.2	0.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	6.4	0.0	13.8	0.2	13.4
LnGrp Delay(d),s/veh	45.7	5.9	0.0	38.3	26.1	19.6
LnGrp LOS	D	A		D	C	B
Approach Vol, veh/h		1042	580		426	
Approach Delay, s/veh		20.5	38.3		19.8	
Approach LOS		C	D		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				54.9		16.0	22.3	32.6
Change Period (Y+Rc), s				5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s				53.2		10.2	20.0	29.2
Max Q Clear Time (g_c+I1), s				15.7		12.2	18.0	25.6
Green Ext Time (p_c), s				4.6		0.0	0.3	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	25.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	59	34	65	146	212	23	250	333	404	408	9
Future Volume (veh/h)	20	59	34	65	146	212	23	250	333	404	408	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1597	1597	1597	1597	1597	1900
Adj Flow Rate, veh/h	22	64	0	71	159	0	25	272	0	439	443	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	19	19	19	19	19	19
Cap, veh/h	47	180	0	111	248	0	45	451	287	506	1371	0
Arrive On Green	0.03	0.10	0.00	0.06	0.13	0.00	0.03	0.15	0.00	0.33	0.45	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1521	3034	1357	1521	3113	0
Grp Volume(v), veh/h	22	64	0	71	159	0	25	272	0	439	443	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1521	1517	1357	1521	1517	0
Q Serve(g_s), s	0.6	1.6	0.0	2.0	4.1	0.0	0.8	4.2	0.0	13.6	4.7	0.0
Cycle Q Clear(g_c), s	0.6	1.6	0.0	2.0	4.1	0.0	0.8	4.2	0.0	13.6	4.7	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	47	180	0	111	248	0	45	451	287	506	1371	0
V/C Ratio(X)	0.47	0.36	0.00	0.64	0.64	0.00	0.56	0.60	0.00	0.87	0.32	0.00
Avail Cap(c_a), veh/h	181	677	0	227	726	0	191	1206	625	835	2491	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.0	21.2	0.0	22.9	20.6	0.0	24.0	19.9	0.0	15.7	8.8	0.0
Incr Delay (d2), s/veh	7.2	1.2	0.0	6.0	2.8	0.0	10.6	1.3	0.0	5.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.9	0.0	1.1	2.3	0.0	0.5	1.8	0.0	6.4	2.0	0.0
LnGrp Delay(d),s/veh	31.2	22.3	0.0	28.9	23.3	0.0	34.5	21.2	0.0	21.2	8.9	0.0
LnGrp LOS	C	C		C	C		C	C		C	A	
Approach Vol, veh/h		86			230			297			882	
Approach Delay, s/veh		24.6			25.0			22.3			15.0	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.1	11.9	7.6	9.3	6.0	27.1	5.8	11.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	27.5	19.9	6.4	18.2	6.3	41.1	5.1	19.5
Max Q Clear Time (g_c+I1), s	15.6	6.2	4.0	3.6	2.8	6.7	2.6	6.1
Green Ext Time (p_c), s	1.1	1.2	0.0	0.2	0.0	2.9	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	18.6
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	23	158	28	27	39
Future Vol, veh/h	6	23	158	28	27	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	25	172	30	29	42

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	287	187	0	0	202	0
Stage 1	187	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	703	855	-	-	1370	-
Stage 1	845	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	688	855	-	-	1370	-
Mov Cap-2 Maneuver	688	-	-	-	-	-
Stage 1	845	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	3.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	814	1370	-
HCM Lane V/C Ratio	-	-	0.039	0.021	-
HCM Control Delay (s)	-	-	9.6	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	13	12	18	44	73	26	341	5	42	216	0
Future Vol, veh/h	0	13	12	18	44	73	26	341	5	42	216	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	0	14	13	20	48	79	28	371	5	46	235	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	820	759	235	771	757	374	235	0	0	376	0	0
Stage 1	327	327	-	430	430	-	-	-	-	-	-	-
Stage 2	493	432	-	341	327	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.32	-	-	4.32	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.398	-	-	2.398	-	-
Pot Cap-1 Maneuver	294	336	804	317	337	672	1223	-	-	1081	-	-
Stage 1	686	648	-	603	583	-	-	-	-	-	-	-
Stage 2	558	582	-	674	648	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	216	310	804	283	311	672	1223	-	-	1081	-	-
Mov Cap-2 Maneuver	216	310	-	283	311	-	-	-	-	-	-	-
Stage 1	666	616	-	586	566	-	-	-	-	-	-	-
Stage 2	437	565	-	616	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	17.6	0.6	1.4
HCM LOS	B	C		

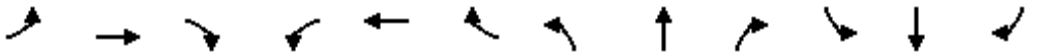
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1223	-	-	440	430	1081	-	-
HCM Lane V/C Ratio	0.023	-	-	0.062	0.341	0.042	-	-
HCM Control Delay (s)	8	0	-	13.7	17.6	8.5	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	1.5	0.1	-	-

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	27	36	60	78	16	57	288	48	24	208	20
Future Vol, veh/h	8	27	36	60	78	16	57	288	48	24	208	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	9	29	39	65	85	17	62	313	52	26	226	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	11.4	17.7	12.9
HCM LOS	A	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	11%	39%	10%
Vol Thru, %	73%	38%	51%	83%
Vol Right, %	12%	51%	10%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	393	71	154	252
LT Vol	57	8	60	24
Through Vol	288	27	78	208
RT Vol	48	36	16	20
Lane Flow Rate	427	77	167	274
Geometry Grp	1	1	1	1
Degree of Util (X)	0.643	0.127	0.279	0.43
Departure Headway (Hd)	5.416	5.932	6.007	5.649
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	666	601	596	635
Service Time	3.454	3.996	4.062	3.693
HCM Lane V/C Ratio	0.641	0.128	0.28	0.431
HCM Control Delay	17.7	9.9	11.4	12.9
HCM Lane LOS	C	A	B	B
HCM 95th-tile Q	4.7	0.4	1.1	2.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	290	25	446	413	0	0	0	0	820	2	41
Future Volume (vph)	0	290	25	446	413	0	0	0	0	820	2	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1		4.0	4.0					5.1	5.1	
Lane Util. Factor		0.95		0.95	0.95					0.95	0.95	
Frpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.99		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	0.96	
Satd. Flow (prot)		3435		1504	1772					1234	1258	
Flt Permitted		1.00		0.95	1.00					0.95	0.96	
Satd. Flow (perm)		3435		1504	1772					1234	1258	
Peak-hour factor, PHF	0.84	0.84	0.84	0.92	0.92	0.92	0.25	0.25	0.25	0.95	0.95	0.95
Adj. Flow (vph)	0	345	30	485	449	0	0	0	0	863	2	43
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	370	0	436	498	0	0	0	0	457	448	0
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	0%	4%	0%	14%	0%	0%	0%	0%	0%	39%	4%	2%
Turn Type		NA		Split	NA					Split	NA	
Protected Phases		4		3	3					6	6	
Permitted Phases												
Actuated Green, G (s)		16.1		40.9	40.9					58.8	58.8	
Effective Green, g (s)		16.1		40.9	40.9					58.8	58.8	
Actuated g/C Ratio		0.12		0.31	0.31					0.45	0.45	
Clearance Time (s)		5.1		4.0	4.0					5.1	5.1	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		425		473	557					558	569	
v/s Ratio Prot		c0.11		c0.29	0.28					c0.37	0.36	
v/s Ratio Perm												
v/c Ratio		0.87		0.92	0.89					0.82	0.79	
Uniform Delay, d1		55.9		43.0	42.5					31.0	30.3	
Progression Factor		1.00		0.06	0.05					1.00	1.00	
Incremental Delay, d2		17.0		13.6	9.1					12.6	10.6	
Delay (s)		73.0		16.2	11.1					43.6	40.9	
Level of Service		E		B	B					D	D	
Approach Delay (s)		73.0			13.5			0.0			42.2	
Approach LOS		E			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1080	0	0	856	1030	3	4	166	0	0	0
Future Volume (vph)	30	1080	0	0	856	1030	3	4	166	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1	5.1		5.1	5.1			
Lane Util. Factor		0.95			0.95	1.00		1.00	0.88			
Frt		1.00			1.00	0.85		1.00	0.85			
Flt Protected		1.00			1.00	1.00		0.98	1.00			
Satd. Flow (prot)		3336			3282	1335		1447	2369			
Flt Permitted		1.00			1.00	1.00		0.98	1.00			
Satd. Flow (perm)		3336			3282	1335		1447	2369			
Peak-hour factor, PHF	0.95	0.95	0.95	0.94	0.94	0.94	0.90	0.90	0.90	0.25	0.25	0.25
Adj. Flow (vph)	32	1137	0	0	911	1096	3	4	184	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	46	0	0	0
Lane Group Flow (vph)	0	1169	0	0	911	1096	0	7	138	0	0	0
Heavy Vehicles (%)	10%	8%	0%	0%	10%	21%	0%	50%	20%	0%	0%	0%
Turn Type	Split	NA			NA	custom	Split	NA	custom			
Protected Phases	2!	2			6	2 4!	4	4!	6			
Permitted Phases						6			4			
Actuated Green, G (s)		61.8			39.8	119.8		13.1	52.9			
Effective Green, g (s)		61.8			39.8	119.8		13.1	52.9			
Actuated g/C Ratio		0.48			0.31	0.92		0.10	0.41			
Clearance Time (s)		5.1			5.1			5.1	5.1			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		1585			1004	1335		145	1056			
v/s Ratio Prot		0.35			0.28	c0.51		0.00	0.04			
v/s Ratio Perm						0.32			0.02			
v/c Ratio		0.74			0.91	0.82		0.05	0.13			
Uniform Delay, d1		27.5			43.3	1.6		52.8	24.2			
Progression Factor		0.31			0.97	1.00		1.00	1.00			
Incremental Delay, d2		1.7			9.9	3.5		0.1	0.1			
Delay (s)		10.3			52.1	5.1		53.0	24.2			
Level of Service		B			D	A		D	C			
Approach Delay (s)		10.3			26.5			25.3			0.0	
Approach LOS		B			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	117.3%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	1008	267	113	235	126	278	8	117	394	0	920
Future Volume (vph)	171	1008	267	113	235	126	278	8	117	394	0	920
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.86	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3213	3282	1583	1770	3059	1583	1770	1863	1583	1698	1315	1346
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3213	3282	1583	1770	3059	1583	1770	1863	1583	1698	1315	1346
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.88	0.88	0.92	0.92	0.92	0.91	0.92	0.91
Adj. Flow (vph)	184	1084	290	123	267	143	302	9	127	433	0	1011
RTOR Reduction (vph)	0	0	155	0	0	124	0	0	104	0	309	92
Lane Group Flow (vph)	184	1084	135	123	267	19	302	9	23	390	219	434
Heavy Vehicles (%)	9%	10%	2%	2%	18%	2%	2%	2%	2%	1%	2%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	36.3	45.2	45.2	10.0	16.9	16.9	23.3	23.3	23.3	30.0	30.0	66.3
Effective Green, g (s)	36.3	45.2	45.2	10.0	16.9	16.9	23.3	23.3	23.3	30.0	30.0	66.3
Actuated g/C Ratio	0.28	0.35	0.35	0.08	0.13	0.13	0.18	0.18	0.18	0.23	0.23	0.51
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	897	1141	550	136	397	205	317	333	283	391	303	753
v/s Ratio Prot	0.06	c0.33		c0.07	0.09		c0.17	0.00		c0.23	0.17	0.16
v/s Ratio Perm			0.09			0.01			0.01			0.16
v/c Ratio	0.21	0.95	0.25	0.90	0.67	0.09	0.95	0.03	0.08	1.00	0.72	0.58
Uniform Delay, d1	35.8	41.3	30.2	59.5	53.9	49.8	52.8	44.0	44.4	50.0	46.2	22.1
Progression Factor	0.61	0.56	0.28	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	15.1	0.9	49.1	8.8	0.9	37.9	0.0	0.1	44.5	8.2	1.1
Delay (s)	21.9	38.0	9.4	108.6	62.7	50.7	90.7	44.0	44.6	94.5	54.4	23.2
Level of Service	C	D	A	F	E	D	F	D	D	F	D	C
Approach Delay (s)		30.8			70.1			76.3			53.8	
Approach LOS		C			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	49.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	548	0	5	308	86	0	0	0	72	0	87
Future Volume (veh/h)	131	548	0	5	308	86	0	0	0	72	0	87
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1173	1743	1900	1900	1827	1496				1473	0	1145
Adj Flow Rate, veh/h	139	583	0	6	342	96				112	0	136
Adj No. of Lanes	2	2	0	1	2	1				1	0	1
Peak Hour Factor	0.94	0.94	0.94	0.90	0.90	0.90				0.64	0.64	0.64
Percent Heavy Veh, %	62	9	0	0	4	27				29	0	66
Cap, veh/h	267	1308	0	18	977	350				279	0	194
Arrive On Green	0.12	0.40	0.00	0.01	0.28	0.28				0.20	0.00	0.20
Sat Flow, veh/h	2167	3399	0	1810	3471	1245				1403	0	973
Grp Volume(v), veh/h	139	583	0	6	342	96				112	0	136
Grp Sat Flow(s),veh/h/ln	1083	1656	0	1810	1736	1245				1403	0	973
Q Serve(g_s), s	2.2	4.8	0.0	0.1	2.9	2.2				2.6	0.0	4.8
Cycle Q Clear(g_c), s	2.2	4.8	0.0	0.1	2.9	2.2				2.6	0.0	4.8
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	267	1308	0	18	977	350				279	0	194
V/C Ratio(X)	0.52	0.45	0.00	0.34	0.35	0.27				0.40	0.00	0.70
Avail Cap(c_a), veh/h	847	3866	0	463	3584	1285				2175	0	1508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	8.2	0.0	18.2	10.6	10.4				12.9	0.0	13.8
Incr Delay (d2), s/veh	1.6	0.5	0.0	11.1	0.5	0.9				0.9	0.0	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.3	0.0	0.1	1.4	1.8				1.1	0.0	2.8
LnGrp Delay(d),s/veh	16.8	8.7	0.0	29.3	11.1	11.3				13.9	0.0	18.4
LnGrp LOS	B	A		C	B	B				B		B
Approach Vol, veh/h		722			444						248	
Approach Delay, s/veh		10.3			11.4						16.4	
Approach LOS		B			B						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	4.9	20.4		11.9	9.1	16.1		
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		
Max Green Setting (Gmax), s	9.5	43.3		57.5	14.5	38.3		
Max Q Clear Time (g_c+I1), s	2.1	6.8		6.8	4.2	4.9		
Green Ext Time (p_c), s	0.0	7.9		0.8	0.3	5.0		

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	534	59	12	333	64	40	26	21	135	63	103
Future Volume (veh/h)	104	534	59	12	333	64	40	26	21	135	63	103
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1850	1900	1743	1827	1900	1900	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	114	587	65	13	374	72	51	33	27	169	79	129
Adj No. of Lanes	1	2	0	1	1	1	2	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.89	0.89	0.89	0.78	0.78	0.78	0.80	0.80	0.80
Percent Heavy Veh, %	1	3	0	9	4	0	0	0	0	1	0	0
Cap, veh/h	165	1138	126	33	520	460	210	145	119	218	403	343
Arrive On Green	0.09	0.36	0.36	0.02	0.28	0.28	0.06	0.15	0.15	0.12	0.21	0.21
Sat Flow, veh/h	1792	3185	352	1660	1827	1615	3510	968	792	1792	1900	1615
Grp Volume(v), veh/h	114	323	329	13	374	72	51	0	60	169	79	129
Grp Sat Flow(s),veh/h/ln	1792	1758	1779	1660	1827	1615	1755	0	1760	1792	1900	1615
Q Serve(g_s), s	3.3	7.6	7.7	0.4	9.7	1.8	0.7	0.0	1.6	4.8	1.8	3.6
Cycle Q Clear(g_c), s	3.3	7.6	7.7	0.4	9.7	1.8	0.7	0.0	1.6	4.8	1.8	3.6
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	165	628	636	33	520	460	210	0	265	218	403	343
V/C Ratio(X)	0.69	0.51	0.52	0.40	0.72	0.16	0.24	0.00	0.23	0.77	0.20	0.38
Avail Cap(c_a), veh/h	272	856	867	189	821	726	433	0	901	775	1560	1326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	13.3	13.4	25.5	17.0	14.1	23.7	0.0	19.7	22.5	17.1	17.8
Incr Delay (d2), s/veh	1.9	1.4	1.4	15.8	4.0	0.3	0.2	0.0	0.4	2.2	0.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.9	4.0	0.3	5.5	0.8	0.4	0.0	0.8	2.5	1.0	1.7
LnGrp Delay(d),s/veh	25.1	14.7	14.7	41.3	20.9	14.5	23.9	0.0	20.1	24.7	17.3	18.5
LnGrp LOS	C	B	B	D	C	B	C		C	C	B	B
Approach Vol, veh/h		766			459			111			377	
Approach Delay, s/veh		16.3			20.5			21.9			21.0	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	24.4	7.4	15.8	9.1	20.5	10.6	12.5
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	25.7	* 6.5	43.3	* 8	23.7	* 23	27.0
Max Q Clear Time (g_c+I1), s	2.4	9.7	2.7	5.6	5.3	11.7	6.8	3.6
Green Ext Time (p_c), s	0.0	5.9	0.0	0.8	0.0	3.3	0.2	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	18.8
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	542	33	57	468	62	18	56	39	52	38	48
Future Volume (veh/h)	86	542	33	57	468	62	18	56	39	52	38	48
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1848	1900	1900	1847	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	91	571	35	59	488	65	22	70	49	66	48	61
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.80	0.80	0.80	0.79	0.79	0.79
Percent Heavy Veh, %	0	3	0	0	3	2	0	0	0	0	0	0
Cap, veh/h	170	1007	62	129	864	115	303	161	113	297	119	151
Arrive On Green	0.09	0.30	0.30	0.07	0.28	0.28	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1810	3356	205	1810	3114	413	1299	1030	721	1290	759	964
Grp Volume(v), veh/h	91	298	308	59	274	279	22	0	119	66	0	109
Grp Sat Flow(s),veh/h/ln	1810	1755	1806	1810	1754	1773	1299	0	1752	1290	0	1723
Q Serve(g_s), s	2.0	5.9	5.9	1.3	5.5	5.6	0.6	0.0	2.5	2.0	0.0	2.4
Cycle Q Clear(g_c), s	2.0	5.9	5.9	1.3	5.5	5.6	3.0	0.0	2.5	4.6	0.0	2.4
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.41	1.00		0.56
Lane Grp Cap(c), veh/h	170	527	542	129	487	492	303	0	274	297	0	269
V/C Ratio(X)	0.53	0.57	0.57	0.46	0.56	0.57	0.07	0.00	0.43	0.22	0.00	0.41
Avail Cap(c_a), veh/h	285	952	980	267	935	945	792	0	933	782	0	918
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.8	12.2	12.2	18.4	12.8	12.8	17.0	0.0	15.8	17.8	0.0	15.7
Incr Delay (d2), s/veh	2.6	1.4	1.3	2.5	1.5	1.5	0.1	0.0	1.1	0.4	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.0	3.1	0.7	2.9	2.9	0.2	0.0	1.3	0.7	0.0	1.2
LnGrp Delay(d),s/veh	20.4	13.5	13.5	20.9	14.2	14.3	17.1	0.0	16.9	18.2	0.0	16.7
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		697			612			141			175	
Approach Delay, s/veh		14.4			14.9			16.9			17.3	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	18.9		13.0	10.4	18.0		13.0
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	6.1	22.4		22.0	6.5	22.0		22.0
Max Q Clear Time (g_c+I1), s	3.3	7.9		6.6	4.0	7.6		5.0
Green Ext Time (p_c), s	0.0	4.1		0.7	0.0	3.8		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	15.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	414	54	232	367	114	62	230	177	107	258	40
Future Volume (veh/h)	156	414	54	232	367	114	62	230	177	107	258	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.99		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1841	1900	1881	1857	1900	1845	1881	1863	1881	1900	1900
Adj Flow Rate, veh/h	161	427	56	252	399	124	75	277	213	123	297	46
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.83	0.83	0.83	0.87	0.87	0.87
Percent Heavy Veh, %	2	3	5	1	3	0	3	1	2	1	0	0
Cap, veh/h	202	677	88	308	691	212	326	631	530	311	637	529
Arrive On Green	0.11	0.22	0.22	0.17	0.26	0.26	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3105	405	1792	2648	813	1018	1881	1582	911	1900	1578
Grp Volume(v), veh/h	161	239	244	252	264	259	75	277	213	123	297	46
Grp Sat Flow(s),veh/h/ln	1774	1748	1761	1792	1765	1696	1018	1881	1582	911	1900	1578
Q Serve(g_s), s	5.8	8.1	8.2	8.9	8.5	8.7	4.1	7.5	6.8	8.0	8.1	1.3
Cycle Q Clear(g_c), s	5.8	8.1	8.2	8.9	8.5	8.7	12.2	7.5	6.8	15.5	8.1	1.3
Prop In Lane	1.00		0.23	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	381	384	308	461	443	326	631	530	311	637	529
V/C Ratio(X)	0.80	0.63	0.63	0.82	0.57	0.58	0.23	0.44	0.40	0.40	0.47	0.09
Avail Cap(c_a), veh/h	271	560	564	601	862	828	512	976	821	478	986	818
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.3	23.2	23.3	26.1	21.0	21.1	22.0	17.0	16.7	23.0	17.2	14.9
Incr Delay (d2), s/veh	11.4	3.6	3.7	5.3	2.4	2.6	0.8	1.0	1.1	1.7	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	4.3	4.4	4.9	4.4	4.4	1.2	4.0	3.1	2.1	4.4	0.6
LnGrp Delay(d),s/veh	39.7	26.8	26.9	31.4	23.4	23.7	22.7	18.0	17.8	24.8	18.3	15.1
LnGrp LOS	D	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		644			775			565			466	
Approach Delay, s/veh		30.1			26.1			18.6			19.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.3	20.3		28.0	14.5	23.1		28.0
Change Period (Y+Rc), s	6.0	6.0		6.0	7.0	6.0		6.0
Max Green Setting (Gmax), s	22.0	21.0		34.0	10.0	32.0		34.0
Max Q Clear Time (g_c+I1), s	10.9	10.2		17.5	7.8	10.7		14.2
Green Ext Time (p_c), s	0.5	3.3		4.2	0.1	5.4		5.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	319	72	25	386	16	35	34	5	5	93	233
Future Volume (veh/h)	178	319	72	25	386	16	35	34	5	5	93	233
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1811	1900	1900	1827	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	185	332	75	28	434	18	47	46	7	6	106	265
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.74	0.74	0.74	0.88	0.88	0.88
Percent Heavy Veh, %	0	6	0	0	4	0	0	0	0	0	0	0
Cap, veh/h	477	1364	304	579	891	786	277	241	30	86	145	350
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	953	2797	624	993	1827	1612	528	816	101	8	492	1184
Grp Volume(v), veh/h	185	203	204	28	434	18	100	0	0	377	0	0
Grp Sat Flow(s),veh/h/ln	953	1721	1700	993	1827	1612	1445	0	0	1685	0	0
Q Serve(g_s), s	7.1	3.0	3.1	0.7	7.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.1	3.0	3.1	3.8	7.0	0.3	1.7	0.0	0.0	8.9	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.47		0.07	0.02		0.70
Lane Grp Cap(c), veh/h	477	839	829	579	891	786	548	0	0	581	0	0
V/C Ratio(X)	0.39	0.24	0.25	0.05	0.49	0.02	0.18	0.00	0.00	0.65	0.00	0.00
Avail Cap(c_a), veh/h	698	1239	1224	810	1315	1160	888	0	0	1006	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.3	6.5	6.5	7.6	7.5	5.8	11.5	0.0	0.0	14.0	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.3	0.3	0.1	0.9	0.0	0.2	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.5	1.5	0.2	3.7	0.1	0.9	0.0	0.0	4.3	0.0	0.0
LnGrp Delay(d),s/veh	13.4	6.8	6.9	7.7	8.4	5.8	11.6	0.0	0.0	15.2	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B			B		
Approach Vol, veh/h		592			480			100			377	
Approach Delay, s/veh		8.9			8.3			11.6			15.2	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.9		17.8		25.9		17.8
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		31.5		24.0		31.5		24.0
Max Q Clear Time (g_c+I1), s		16.1		3.7		9.0		10.9
Green Ext Time (p_c), s		5.3		0.5		5.4		2.1

Intersection Summary		
HCM 2010 Ctrl Delay		10.4
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	72	84	14	50	6	127	307	55	34	428	314
Future Volume (vph)	105	72	84	14	50	6	127	307	55	34	428	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1703	1662		1805	1835		1703	1792		1556	1810	1553
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1703	1662		1805	1835		1703	1792		1556	1810	1553
Peak-hour factor, PHF	0.86	0.86	0.86	0.80	0.80	0.80	0.98	0.98	0.98	0.88	0.88	0.88
Adj. Flow (vph)	122	84	98	18	62	8	130	313	56	39	486	357
RTOR Reduction (vph)	0	64	0	0	7	0	0	7	0	0	0	219
Lane Group Flow (vph)	122	118	0	18	64	0	130	362	0	39	486	138
Heavy Vehicles (%)	6%	4%	6%	0%	2%	0%	6%	3%	7%	16%	5%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	10.3	10.3		4.6	4.6		7.1	31.6		1.8	26.3	26.3
Effective Green, g (s)	10.3	10.3		4.6	4.6		7.1	31.6		1.8	26.3	26.3
Actuated g/C Ratio	0.15	0.15		0.07	0.07		0.10	0.47		0.03	0.39	0.39
Clearance Time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	258	252		122	124		178	835		41	702	602
v/s Ratio Prot	c0.07	0.07		0.01	c0.04		c0.08	0.20		0.03	c0.27	
v/s Ratio Perm												0.09
v/c Ratio	0.47	0.47		0.15	0.52		0.73	0.43		0.95	0.69	0.23
Uniform Delay, d1	26.3	26.3		29.8	30.5		29.4	12.1		33.0	17.4	13.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	1.4		0.6	3.6		14.3	1.6		121.0	5.5	0.9
Delay (s)	27.6	27.6		30.3	34.2		43.7	13.8		153.9	22.9	14.8
Level of Service	C	C		C	C		D	B		F	C	B
Approach Delay (s)		27.6			33.4			21.5			25.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	67.8	Sum of lost time (s)	19.5
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	219	143	304	341	49	49	332	109	111	567	25
Future Volume (veh/h)	30	219	143	304	341	49	49	332	109	111	567	25
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1545	1545	1545	1570	1570	1900
Adj Flow Rate, veh/h	35	258	168	380	426	61	53	361	118	121	616	27
Adj No. of Lanes	1	1	0	2	1	0	1	1	1	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.80	0.80	0.80	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	23	23	23	21	21	21
Cap, veh/h	73	284	185	471	586	84	246	395	516	146	875	38
Arrive On Green	0.04	0.27	0.27	0.14	0.37	0.37	0.05	0.26	0.26	0.10	0.30	0.30
Sat Flow, veh/h	1774	1055	687	3442	1594	228	1471	1545	1313	1495	2912	128
Grp Volume(v), veh/h	35	0	426	380	0	487	53	361	118	121	315	328
Grp Sat Flow(s),veh/h/ln	1774	0	1742	1721	0	1822	1471	1545	1313	1495	1492	1548
Q Serve(g_s), s	1.5	0.0	18.0	8.2	0.0	17.6	2.0	17.3	1.1	6.0	14.3	14.3
Cycle Q Clear(g_c), s	1.5	0.0	18.0	8.2	0.0	17.6	2.0	17.3	1.1	6.0	14.3	14.3
Prop In Lane	1.00		0.39	1.00		0.13	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	73	0	469	471	0	670	246	395	516	146	448	465
V/C Ratio(X)	0.48	0.00	0.91	0.81	0.00	0.73	0.22	0.91	0.23	0.83	0.70	0.70
Avail Cap(c_a), veh/h	140	0	551	1311	0	1132	284	499	604	177	541	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	0.0	26.9	31.9	0.0	20.8	19.7	27.5	5.3	33.7	23.6	23.6
Incr Delay (d2), s/veh	1.8	0.0	15.9	1.3	0.0	0.6	0.2	16.6	0.1	19.9	2.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	10.7	3.9	0.0	8.9	0.8	9.1	0.9	3.3	6.1	6.4
LnGrp Delay(d),s/veh	37.5	0.0	42.8	33.1	0.0	21.3	19.9	44.1	5.4	53.7	25.8	25.8
LnGrp LOS	D		D	C		C	B	D	A	D	C	C
Approach Vol, veh/h		461			867			532			764	
Approach Delay, s/veh		42.4			26.5			33.1			30.2	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.6	24.7	11.4	24.4	7.1	33.2	8.0	27.8
Change Period (Y+Rc), s	* 5.2	* 4.2	4.0	4.9	4.0	* 5.2	4.0	4.9
Max Green Setting (Gmax), s	* 23	* 24	9.0	24.6	6.0	* 47	6.0	27.6
Max Q Clear Time (g_c+I1), s	10.2	20.0	8.0	19.3	3.5	19.6	4.0	16.3
Green Ext Time (p_c), s	0.3	0.5	0.0	0.2	0.0	1.1	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	31.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	263	9	201	319	69	20	198	265	323	652	8
Future Volume (veh/h)	20	263	9	201	319	69	20	198	265	323	652	8
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.97	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1868	1900	1810	1900	1900	1900	1845	1845	1881	1811	1900
Adj Flow Rate, veh/h	22	292	10	221	351	76	22	218	291	419	847	10
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	2	1	0
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	5	1	22	5	0	0	0	3	3	1	5	0
Cap, veh/h	234	361	12	319	561	465	129	788	666	1040	872	10
Arrive On Green	0.02	0.20	0.20	0.12	0.30	0.30	0.02	0.43	0.43	0.08	0.49	0.49
Sat Flow, veh/h	1723	1795	61	1723	1900	1573	1810	1845	1559	3476	1785	21
Grp Volume(v), veh/h	22	0	302	221	351	76	22	218	291	419	0	857
Grp Sat Flow(s),veh/h/ln	1723	0	1856	1723	1900	1573	1810	1845	1559	1738	0	1806
Q Serve(g_s), s	1.0	0.0	15.9	10.0	16.4	3.7	0.7	7.9	13.5	6.6	0.0	47.4
Cycle Q Clear(g_c), s	1.0	0.0	15.9	10.0	16.4	3.7	0.7	7.9	13.5	6.6	0.0	47.4
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	234	0	373	319	561	465	129	788	666	1040	0	883
V/C Ratio(X)	0.09	0.00	0.81	0.69	0.63	0.16	0.17	0.28	0.44	0.40	0.00	0.97
Avail Cap(c_a), veh/h	289	0	518	433	774	641	229	1101	930	1051	0	1093
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	39.1	27.8	31.2	26.8	24.2	19.1	20.7	13.5	0.0	25.5
Incr Delay (d2), s/veh	0.1	0.0	4.5	1.2	0.4	0.1	0.2	0.1	0.2	0.1	0.0	17.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	8.6	4.8	8.6	1.6	0.4	4.0	5.8	3.2	0.0	27.9
LnGrp Delay(d),s/veh	31.6	0.0	43.6	29.0	31.7	26.8	24.4	19.1	20.8	13.6	0.0	43.1
LnGrp LOS	C		D	C	C	C	C	B	C	B		D
Approach Vol, veh/h		324			648			531			1276	
Approach Delay, s/veh		42.8			30.2			20.3			33.4	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	34.9	12.6	48.7	16.0	25.2	6.3	55.0
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.6	41.8	8.9	61.2	18.8	28.6	8.0	62.1
Max Q Clear Time (g_c+I1), s	3.0	18.4	8.6	15.5	12.0	17.9	2.7	49.4
Green Ext Time (p_c), s	0.0	0.3	0.0	0.1	0.0	0.3	0.0	0.8

Intersection Summary		
HCM 2010 Ctrl Delay		31.2
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	127	127	11	47	54	47	216	5	88	625	23
Future Volume (veh/h)	38	127	127	11	47	54	47	216	5	88	625	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1545	1545	1900	1570	1570	1900
Adj Flow Rate, veh/h	46	155	155	13	57	66	51	235	5	97	687	25
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	23	23	23	21	21	21
Cap, veh/h	94	194	176	75	199	203	67	702	15	119	753	27
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.05	0.47	0.47	0.08	0.50	0.50
Sat Flow, veh/h	141	801	726	70	820	839	1471	1507	32	1495	1506	55
Grp Volume(v), veh/h	356	0	0	136	0	0	51	0	240	97	0	712
Grp Sat Flow(s),veh/h/ln	1668	0	0	1729	0	0	1471	0	1539	1495	0	1561
Q Serve(g_s), s	8.4	0.0	0.0	0.0	0.0	0.0	2.3	0.0	6.7	4.3	0.0	28.5
Cycle Q Clear(g_c), s	13.9	0.0	0.0	4.4	0.0	0.0	2.3	0.0	6.7	4.3	0.0	28.5
Prop In Lane	0.13		0.44	0.10		0.49	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	464	0	0	477	0	0	67	0	717	119	0	780
V/C Ratio(X)	0.77	0.00	0.00	0.28	0.00	0.00	0.76	0.00	0.33	0.82	0.00	0.91
Avail Cap(c_a), veh/h	511	0	0	524	0	0	126	0	805	258	0	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	0.0	21.1	0.0	0.0	32.0	0.0	11.5	30.7	0.0	15.6
Incr Delay (d2), s/veh	6.3	0.0	0.0	0.3	0.0	0.0	16.1	0.0	0.3	12.7	0.0	11.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.0	0.0	2.1	0.0	0.0	1.2	0.0	2.9	2.2	0.0	14.5
LnGrp Delay(d),s/veh	30.9	0.0	0.0	21.5	0.0	0.0	48.2	0.0	11.7	43.4	0.0	26.9
LnGrp LOS	C			C			D		B	D		C
Approach Vol, veh/h		356			136			291			809	
Approach Delay, s/veh		30.9			21.5			18.1			28.9	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	37.4		21.0	7.1	39.7		21.0
Change Period (Y+Rc), s	4.0	5.8		4.6	4.0	5.8		4.6
Max Green Setting (Gmax), s	11.7	35.5		18.4	5.8	41.4		18.4
Max Q Clear Time (g_c+I1), s	6.3	8.7		15.9	4.3	30.5		6.4
Green Ext Time (p_c), s	0.1	1.3		0.6	0.0	3.4		0.5

Intersection Summary		
HCM 2010 Ctrl Delay	26.8	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	396	387	42	37	1	149	10	190	0	3	1
Future Volume (veh/h)	8	396	387	42	37	1	149	10	190	0	3	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	950	1827	1759	1900	1658	1900	1845	1762	1900	1900	950	1900
Adj Flow Rate, veh/h	12	582	569	84	74	2	403	27	514	0	6	2
Adj No. of Lanes	1	1	1	1	1	0	2	1	0	0	1	0
Peak Hour Factor	0.68	0.68	0.68	0.50	0.50	0.50	0.37	0.37	0.37	0.50	0.50	0.50
Percent Heavy Veh, %	100	4	8	0	15	0	3	100	3	0	100	100
Cap, veh/h	13	728	1032	108	712	19	1013	22	426	0	8	3
Arrive On Green	0.01	0.40	0.40	0.06	0.44	0.44	0.30	0.30	0.30	0.00	0.01	0.01
Sat Flow, veh/h	905	1827	1475	1810	1606	43	3408	75	1434	0	682	227
Grp Volume(v), veh/h	12	582	569	84	0	76	403	0	541	0	0	8
Grp Sat Flow(s),veh/h/ln	905	1827	1475	1810	0	1649	1704	0	1509	0	0	910
Q Serve(g_s), s	1.0	21.8	14.8	3.5	0.0	2.1	7.3	0.0	23.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s	1.0	21.8	14.8	3.5	0.0	2.1	7.3	0.0	23.0	0.0	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.95	0.00		0.25
Lane Grp Cap(c), veh/h	13	728	1032	108	0	731	1013	0	448	0	0	11
V/C Ratio(X)	0.90	0.80	0.55	0.78	0.00	0.10	0.40	0.00	1.21	0.00	0.00	0.72
Avail Cap(c_a), veh/h	64	1121	1349	129	0	1012	1013	0	448	0	0	71
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	38.1	20.6	5.8	35.9	0.0	12.6	21.7	0.0	27.2	0.0	0.0	38.1
Incr Delay (d2), s/veh	89.3	2.4	0.5	21.6	0.0	0.1	0.3	0.0	112.4	0.0	0.0	60.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	11.3	12.0	2.4	0.0	1.0	3.4	0.0	23.5	0.0	0.0	0.4
LnGrp Delay(d),s/veh	127.4	22.9	6.3	57.5	0.0	12.6	21.9	0.0	139.6	0.0	0.0	98.3
LnGrp LOS	F	C	A	E		B	C		F			F
Approach Vol, veh/h		1163			160			944			8	
Approach Delay, s/veh		15.9			36.2			89.4			98.3	
Approach LOS		B			D			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		27.5	9.1	35.3		5.4	5.6	38.8
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		23.0	5.5	47.5		6.0	5.5	47.5
Max Q Clear Time (g_c+I1), s		25.0	5.5	23.8		2.7	3.0	4.1
Green Ext Time (p_c), s		0.0	0.0	7.1		0.0	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	48.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	496	226	29	131	153	249	393	33	291	421	200
Future Volume (veh/h)	0	496	226	29	131	153	249	393	33	291	421	200
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1484	1900	1827	1900	1557	1496	1827	1681	1900
Adj Flow Rate, veh/h	0	1984	904	42	190	222	290	457	38	404	585	278
Adj No. of Lanes	1	2	1	1	1	1	2	2	1	2	2	1
Peak Hour Factor	0.25	0.25	0.25	0.69	0.69	0.69	0.86	0.86	0.86	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	28	0	4	0	22	27	4	13	0
Cap, veh/h	73	1951	873	73	1048	1045	320	548	235	411	689	348
Arrive On Green	0.00	0.55	0.55	0.55	0.55	0.55	0.09	0.19	0.19	0.12	0.22	0.22
Sat Flow, veh/h	970	3539	1583	71	1900	1553	3510	2959	1272	3375	3195	1615
Grp Volume(v), veh/h	0	1984	904	42	190	222	290	457	38	404	585	278
Grp Sat Flow(s),veh/h/ln	970	1770	1583	71	1900	1553	1755	1480	1272	1688	1597	1615
Q Serve(g_s), s	0.0	54.4	54.4	0.0	4.9	5.4	8.1	14.7	2.5	11.8	17.4	16.1
Cycle Q Clear(g_c), s	0.0	54.4	54.4	54.4	4.9	5.4	8.1	14.7	2.5	11.8	17.4	16.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	73	1951	873	73	1048	1045	320	548	235	411	689	348
V/C Ratio(X)	0.00	1.02	1.04	0.58	0.18	0.21	0.91	0.83	0.16	0.98	0.85	0.80
Avail Cap(c_a), veh/h	73	1951	873	73	1048	1045	320	597	256	411	758	383
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.1	22.1	49.3	11.0	6.2	44.4	38.7	33.8	43.2	37.2	36.7
Incr Delay (d2), s/veh	0.0	24.6	40.0	10.6	0.1	0.1	27.8	9.3	0.3	40.1	8.4	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	33.0	33.3	1.3	2.6	2.3	5.1	6.7	0.9	7.7	8.4	8.2
LnGrp Delay(d),s/veh	0.0	46.8	62.1	59.9	11.1	6.3	72.2	48.0	34.1	83.3	45.6	47.2
LnGrp LOS		F	F	E	B	A	E	D	C	F	D	D
Approach Vol, veh/h		2888			454			785			1267	
Approach Delay, s/veh		51.6			13.3			56.3			58.0	
Approach LOS		D			B			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	23.4		59.3	13.0	26.4		59.3
Change Period (Y+Rc), s	4.0	5.1		* 4.9	4.0	* 5.1		4.9
Max Green Setting (Gmax), s	12.0	19.9		* 54	9.0	* 23		54.1
Max Q Clear Time (g_c+I1), s	13.8	16.7		56.4	10.1	19.4		56.4
Green Ext Time (p_c), s	0.0	0.9		0.0	0.0	1.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.5
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	344	0	250	0	0	1	498	390	0	224	0
Future Volume (veh/h)	177	344	0	250	0	0	1	498	390	0	224	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1759	1759	1759	1610	1610	1610	1638	1638	1900
Adj Flow Rate, veh/h	708	1376	0	291	0	0	1	692	542	0	311	0
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	1	2	0
Peak Hour Factor	0.25	0.25	0.25	0.86	0.86	0.86	0.72	0.72	0.72	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	8	8	8	18	18	18	16	16	16
Cap, veh/h	754	1519	680	376	211	102	2	840	534	2	670	0
Arrive On Green	0.42	0.43	0.00	0.12	0.00	0.00	0.00	0.27	0.27	0.00	0.22	0.00
Sat Flow, veh/h	1774	3539	1583	3250	1759	1495	1533	3059	1369	1560	3194	0
Grp Volume(v), veh/h	708	1376	0	291	0	0	1	692	542	0	311	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1625	1759	1495	1533	1530	1369	1560	1556	0
Q Serve(g_s), s	29.6	28.2	0.0	6.7	0.0	4.0	0.1	16.4	21.3	0.0	6.8	0.0
Cycle Q Clear(g_c), s	29.6	28.2	0.0	6.7	0.0	4.0	0.1	16.4	21.3	0.0	6.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	754	1519	680	376	211	102	2	840	534	2	670	0
V/C Ratio(X)	0.94	0.91	0.00	0.77	0.00	0.00	0.47	0.82	1.01	0.00	0.46	0.00
Avail Cap(c_a), veh/h	846	1574	704	469	211	102	99	840	534	111	834	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	21.3	20.7	0.0	33.3	0.0	0.0	38.7	26.4	23.6	0.0	26.5	0.0
Incr Delay (d2), s/veh	16.9	7.7	0.0	6.2	0.0	0.0	112.8	6.7	42.6	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.9	15.2	0.0	3.4	0.0	0.0	0.1	7.7	17.6	0.0	2.9	0.0
LnGrp Delay(d),s/veh	38.3	28.4	0.0	39.5	0.0	0.0	151.5	33.1	66.3	0.0	27.0	0.0
LnGrp LOS	D	C		D			F	C	F		C	
Approach Vol, veh/h		2084			291			1235			311	
Approach Delay, s/veh		31.8			39.5			47.7			27.0	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	26.3	13.5	37.8	4.6	21.7	37.5	13.8
Change Period (Y+Rc), s	4.0	* 5	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	5.5	* 21	11.2	34.5	5.0	20.8	37.0	8.7
Max Q Clear Time (g_c+I1), s	10.0	23.3	8.7	30.2	2.1	8.8	31.6	0.0
Green Ext Time (p_c), s	0.0	0.0	0.2	3.1	0.0	1.4	1.3	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	37.0
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	822	8	17	257	1	5	165	14	2	150	0
Future Volume (veh/h)	0	822	8	17	257	1	5	165	14	2	150	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1759	1759	1759	1743	1743	1900	1667	1667	1900
Adj Flow Rate, veh/h	0	1142	11	20	299	1	6	206	18	2	163	0
Adj No. of Lanes	1	2	1	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.72	0.72	0.72	0.86	0.86	0.86	0.80	0.80	0.80	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	8	8	8	9	9	9	14	14	14
Cap, veh/h	689	1375	615	394	405	181	13	256	22	4	262	0
Arrive On Green	0.00	0.39	0.39	0.12	0.12	0.12	0.01	0.16	0.16	0.00	0.16	0.00
Sat Flow, veh/h	1774	3539	1583	3250	3343	1495	1660	1581	138	1587	1667	0
Grp Volume(v), veh/h	0	1142	11	20	299	1	6	0	224	2	163	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1625	1671	1495	1660	0	1719	1587	1667	0
Q Serve(g_s), s	0.0	19.2	0.3	0.4	5.7	0.0	0.2	0.0	8.3	0.1	6.0	0.0
Cycle Q Clear(g_c), s	0.0	19.2	0.3	0.4	5.7	0.0	0.2	0.0	8.3	0.1	6.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		0.00
Lane Grp Cap(c), veh/h	689	1375	615	394	405	181	13	0	279	4	262	0
V/C Ratio(X)	0.00	0.83	0.02	0.05	0.74	0.01	0.46	0.00	0.80	0.46	0.62	0.00
Avail Cap(c_a), veh/h	787	1571	703	455	467	209	139	0	384	133	372	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	18.2	12.4	25.6	27.9	25.4	32.5	0.0	26.6	32.8	25.9	0.0
Incr Delay (d2), s/veh	0.0	3.5	0.0	0.1	5.2	0.0	22.9	0.0	8.4	61.5	2.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.0	0.1	0.2	2.9	0.0	0.2	0.0	4.6	0.1	2.9	0.0
LnGrp Delay(d),s/veh	0.0	21.7	12.4	25.6	33.1	25.4	55.4	0.0	34.9	94.3	28.3	0.0
LnGrp LOS		C	B	C	C	C	E		C	F	C	
Approach Vol, veh/h		1153			320			230			165	
Approach Delay, s/veh		21.6			32.6			35.5			29.1	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	16.5		31.4	4.5	16.1		13.8
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	14.7		29.2	5.5	14.7		9.2
Max Q Clear Time (g_c+I1), s	2.1	10.3		21.2	2.2	8.0		7.7
Green Ext Time (p_c), s	0.0	0.4		4.4	0.0	0.4		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	25.8
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	806	45	576	936	12
Future Volume (veh/h)	39	806	45	576	936	12
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1881	1712	1667	1900
Adj Flow Rate, veh/h	55	1135	59	758	996	13
Adj No. of Lanes	1	2	1	2	2	0
Peak Hour Factor	0.71	0.71	0.76	0.76	0.94	0.94
Percent Heavy Veh, %	2	2	1	11	14	14
Cap, veh/h	805	1264	77	1403	1116	15
Arrive On Green	0.45	0.45	0.04	0.43	0.35	0.35
Sat Flow, veh/h	1774	2787	1792	3338	3284	42
Grp Volume(v), veh/h	55	1135	59	758	493	516
Grp Sat Flow(s),veh/h/ln	1774	1393	1792	1626	1583	1659
Q Serve(g_s), s	1.8	37.9	3.3	17.4	29.7	29.7
Cycle Q Clear(g_c), s	1.8	37.9	3.3	17.4	29.7	29.7
Prop In Lane	1.00	1.00	1.00			0.03
Lane Grp Cap(c), veh/h	805	1264	77	1403	552	578
V/C Ratio(X)	0.07	0.90	0.76	0.54	0.89	0.89
Avail Cap(c_a), veh/h	1306	2051	373	2071	616	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.5	25.4	47.7	21.3	31.1	31.1
Incr Delay (d2), s/veh	0.0	3.5	14.4	0.3	14.3	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	25.1	1.9	7.9	15.1	15.7
LnGrp Delay(d),s/veh	15.6	28.9	62.1	21.6	45.4	44.9
LnGrp LOS	B	C	E	C	D	D
Approach Vol, veh/h	1190			817	1009	
Approach Delay, s/veh	28.3			24.5	45.1	
Approach LOS	C			C	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		49.3		51.5	8.3	41.0		
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8		
Max Green Setting (Gmax), s		64.2		74.2	21.0	39.2		
Max Q Clear Time (g_c+I1), s		19.4		39.9	5.3	31.7		
Green Ext Time (p_c), s		5.5		5.9	0.1	3.5		

Intersection Summary	
HCM 2010 Ctrl Delay	32.9
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	255	14	5	260	999	353
Future Volume (veh/h)	255	14	5	260	999	353
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1743	1545	1545	1570	1570
Adj Flow Rate, veh/h	359	20	6	310	1052	372
Adj No. of Lanes	1	1	1	1	2	1
Peak Hour Factor	0.71	0.71	0.84	0.84	0.95	0.95
Percent Heavy Veh, %	9	9	23	23	21	21
Cap, veh/h	423	378	12	824	1335	597
Arrive On Green	0.25	0.25	0.01	0.53	0.45	0.45
Sat Flow, veh/h	1660	1482	1471	1545	3062	1335
Grp Volume(v), veh/h	359	20	6	310	1052	372
Grp Sat Flow(s),veh/h/ln	1660	1482	1471	1545	1492	1335
Q Serve(g_s), s	10.6	0.5	0.2	6.0	15.5	11.0
Cycle Q Clear(g_c), s	10.6	0.5	0.2	6.0	15.5	11.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	423	378	12	824	1335	597
V/C Ratio(X)	0.85	0.05	0.51	0.38	0.79	0.62
Avail Cap(c_a), veh/h	577	515	143	1087	1577	705
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	14.5	25.4	7.0	12.1	10.9
Incr Delay (d2), s/veh	8.6	0.1	30.4	0.3	2.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.5	0.2	2.6	6.7	4.2
LnGrp Delay(d),s/veh	26.8	14.5	55.8	7.3	14.5	12.2
LnGrp LOS	C	B	E	A	B	B
Approach Vol, veh/h	379			316	1424	
Approach Delay, s/veh	26.2			8.2	13.9	
Approach LOS	C			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		33.2		18.2	4.4	28.8		
Change Period (Y+Rc), s		5.8		5.1	4.0	5.8		
Max Green Setting (Gmax), s		36.2		17.9	5.0	27.2		
Max Q Clear Time (g_c+I1), s		8.0		12.6	2.2	17.5		
Green Ext Time (p_c), s		1.7		0.6	0.0	5.6		

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	81	54	482	34	140	1639
Future Volume (veh/h)	81	54	482	34	140	1639
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1900	1712	1900	1667	1667
Adj Flow Rate, veh/h	114	76	626	44	146	1707
Adj No. of Lanes	0	0	2	0	1	2
Peak Hour Factor	0.71	0.71	0.77	0.77	0.96	0.96
Percent Heavy Veh, %	9	9	11	11	14	14
Cap, veh/h	137	92	1404	99	183	2037
Arrive On Green	0.15	0.15	0.46	0.46	0.12	0.64
Sat Flow, veh/h	946	631	3169	216	1587	3250
Grp Volume(v), veh/h	191	0	330	340	146	1707
Grp Sat Flow(s),veh/h/ln	1585	0	1626	1674	1587	1583
Q Serve(g_s), s	6.4	0.0	7.6	7.6	4.9	22.9
Cycle Q Clear(g_c), s	6.4	0.0	7.6	7.6	4.9	22.9
Prop In Lane	0.60	0.40		0.13	1.00	
Lane Grp Cap(c), veh/h	230	0	740	762	183	2037
V/C Ratio(X)	0.83	0.00	0.45	0.45	0.80	0.84
Avail Cap(c_a), veh/h	231	0	740	762	376	2331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	0.0	10.2	10.2	23.7	7.6
Incr Delay (d2), s/veh	21.7	0.0	0.4	0.4	7.8	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	3.5	3.6	2.5	10.4
LnGrp Delay(d),s/veh	44.5	0.0	10.6	10.6	31.4	10.1
LnGrp LOS	D		B	B	C	B
Approach Vol, veh/h	191		670			1853
Approach Delay, s/veh	44.5		10.6			11.8
Approach LOS	D		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.3	30.8				41.1		13.8
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8
Max Green Setting (Gmax), s	13.6	23.4				40.4		8.0
Max Q Clear Time (g_c+I1), s	6.9	9.6				24.9		8.4
Green Ext Time (p_c), s	0.2	3.2				10.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	133	12	0	339	958	108
Future Volume (veh/h)	133	12	0	339	958	108
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1743	1881	1712	1667	1900
Adj Flow Rate, veh/h	148	13	0	446	1089	123
Adj No. of Lanes	1	1	1	1	2	0
Peak Hour Factor	0.90	0.90	0.76	0.76	0.88	0.88
Percent Heavy Veh, %	9	9	1	11	14	14
Cap, veh/h	286	255	5	893	1497	169
Arrive On Green	0.17	0.17	0.00	0.52	0.52	0.52
Sat Flow, veh/h	1660	1482	1792	1712	2953	324
Grp Volume(v), veh/h	148	13	0	446	600	612
Grp Sat Flow(s),veh/h/ln	1660	1482	1792	1712	1583	1610
Q Serve(g_s), s	3.1	0.3	0.0	6.4	11.1	11.1
Cycle Q Clear(g_c), s	3.1	0.3	0.0	6.4	11.1	11.1
Prop In Lane	1.00	1.00	1.00			0.20
Lane Grp Cap(c), veh/h	286	255	5	893	826	840
V/C Ratio(X)	0.52	0.05	0.00	0.50	0.73	0.73
Avail Cap(c_a), veh/h	469	418	260	1702	1178	1197
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	13.1	0.0	5.9	7.0	7.0
Incr Delay (d2), s/veh	1.4	0.1	0.0	0.4	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.1	0.0	3.1	5.0	5.1
LnGrp Delay(d),s/veh	15.7	13.2	0.0	6.3	8.3	8.3
LnGrp LOS	B	B		A	A	A
Approach Vol, veh/h	161			446	1212	
Approach Delay, s/veh	15.5			6.3	8.3	
Approach LOS	B			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.3	0.0	25.6				25.6
Change Period (Y+Rc), s		5.8	4.0	5.8				5.8
Max Green Setting (Gmax), s		10.7	5.5	28.2				37.7
Max Q Clear Time (g_c+I1), s		5.1	0.0	13.1				8.4
Green Ext Time (p_c), s		0.2	0.0	6.7				2.6

Intersection Summary	
HCM 2010 Ctrl Delay	8.5
HCM 2010 LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1077	109	5	284	297	25
Future Volume (veh/h)	1077	109	5	284	297	25
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1712	1900	1667	1667	1610	1900
Adj Flow Rate, veh/h	1210	122	6	346	371	31
Adj No. of Lanes	2	0	1	1	0	0
Peak Hour Factor	0.89	0.89	0.82	0.82	0.80	0.80
Percent Heavy Veh, %	11	11	14	14	18	18
Cap, veh/h	1439	145	12	909	412	34
Arrive On Green	0.48	0.48	0.01	0.55	0.29	0.29
Sat Flow, veh/h	3070	300	1587	1667	1399	117
Grp Volume(v), veh/h	658	674	6	346	403	0
Grp Sat Flow(s),veh/h/ln	1626	1659	1587	1667	1520	0
Q Serve(g_s), s	25.5	25.7	0.3	8.6	18.4	0.0
Cycle Q Clear(g_c), s	25.5	25.7	0.3	8.6	18.4	0.0
Prop In Lane		0.18	1.00		0.92	0.08
Lane Grp Cap(c), veh/h	784	800	12	909	448	0
V/C Ratio(X)	0.84	0.84	0.48	0.38	0.90	0.00
Avail Cap(c_a), veh/h	902	920	110	1132	612	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.3	16.4	35.8	9.5	24.5	0.0
Incr Delay (d2), s/veh	6.4	6.4	26.1	0.3	13.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	13.0	0.2	4.0	9.3	0.0
LnGrp Delay(d),s/veh	22.7	22.8	61.9	9.7	37.5	0.0
LnGrp LOS	C	C	E	A	D	
Approach Vol, veh/h	1332			352	403	
Approach Delay, s/veh	22.7			10.6	37.5	
Approach LOS	C			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		27.2	4.6	40.7				45.3
Change Period (Y+Rc), s		5.8	4.0	5.8				5.8
Max Green Setting (Gmax), s		29.2	5.0	40.2				49.2
Max Q Clear Time (g_c+I1), s		20.4	2.3	27.7				10.6
Green Ext Time (p_c), s		0.9	0.0	7.2				2.3

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	44	6	0	19	2	3	48	5	10	77	4
Future Vol, veh/h	7	44	6	0	19	2	3	48	5	10	77	4
Peak Hour Factor	0.75	0.75	0.75	0.54	0.54	0.54	0.50	0.50	0.50	0.79	0.79	0.79
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	9	59	8	0	35	4	6	96	10	13	97	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	7.9	8	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	12%	0%	11%
Vol Thru, %	86%	77%	90%	85%
Vol Right, %	9%	11%	10%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	57	21	91
LT Vol	3	7	0	10
Through Vol	48	44	19	77
RT Vol	5	6	2	4
Lane Flow Rate	112	76	39	115
Geometry Grp	1	1	1	1
Degree of Util (X)	0.133	0.096	0.05	0.138
Departure Headway (Hd)	4.286	4.551	4.593	4.32
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	839	790	782	833
Service Time	2.298	2.565	2.608	2.332
HCM Lane V/C Ratio	0.133	0.096	0.05	0.138
HCM Control Delay	8	8	7.9	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.3	0.2	0.5

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	3	40	2	4	1	9	19	9	3	51	1
Future Vol, veh/h	3	3	40	2	4	1	9	19	9	3	51	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	58	58	58	91	91	91	72	72	72
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	4	4	60	3	7	2	10	21	10	4	71	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	131	131	72	158	126	26	72	0	0	31	0	0
Stage 1	80	80	-	46	46	-	-	-	-	-	-	-
Stage 2	51	51	-	112	80	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	828	749	974	792	752	1030	1528	-	-	1582	-	-
Stage 1	914	817	-	950	843	-	-	-	-	-	-	-
Stage 2	947	841	-	876	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	815	742	974	734	744	1030	1528	-	-	1582	-	-
Mov Cap-2 Maneuver	815	742	-	734	744	-	-	-	-	-	-	-
Stage 1	908	815	-	943	837	-	-	-	-	-	-	-
Stage 2	931	835	-	815	813	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.7	1.8	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1528	-	-	943	772	1582	-	-
HCM Lane V/C Ratio	0.006	-	-	0.073	0.016	0.003	-	-
HCM Control Delay (s)	7.4	0	-	9.1	9.7	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	384	7	42	636	51	5	26	50	184	89	41
Future Volume (veh/h)	7	384	7	42	636	51	5	26	50	184	89	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	8	422	8	46	699	56	6	33	64	207	100	46
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.78	0.78	0.78	0.89	0.89	0.89
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	17	737	14	70	772	62	133	42	82	258	176	81
Arrive On Green	0.01	0.44	0.44	0.04	0.48	0.48	0.07	0.07	0.07	0.15	0.15	0.15
Sat Flow, veh/h	1616	1659	31	1691	1623	130	1774	568	1101	1774	1209	556
Grp Volume(v), veh/h	8	0	430	46	0	755	6	0	97	207	0	146
Grp Sat Flow(s),veh/h/ln	1616	0	1691	1691	0	1753	1774	0	1668	1774	0	1765
Q Serve(g_s), s	0.4	0.0	13.8	2.0	0.0	28.9	0.2	0.0	4.2	8.2	0.0	5.6
Cycle Q Clear(g_c), s	0.4	0.0	13.8	2.0	0.0	28.9	0.2	0.0	4.2	8.2	0.0	5.6
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.66	1.00		0.32
Lane Grp Cap(c), veh/h	17	0	751	70	0	834	133	0	125	258	0	257
V/C Ratio(X)	0.48	0.00	0.57	0.65	0.00	0.91	0.05	0.00	0.78	0.80	0.00	0.57
Avail Cap(c_a), veh/h	111	0	933	162	0	1015	200	0	188	321	0	320
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.9	0.0	15.1	34.4	0.0	17.6	31.3	0.0	33.1	30.1	0.0	29.0
Incr Delay (d2), s/veh	20.2	0.0	0.7	9.8	0.0	10.0	0.1	0.0	11.0	11.0	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	6.6	1.1	0.0	16.2	0.1	0.0	2.3	4.8	0.0	2.9
LnGrp Delay(d),s/veh	56.0	0.0	15.8	44.3	0.0	27.7	31.4	0.0	44.1	41.1	0.0	31.0
LnGrp LOS	E		B	D		C	C		D	D		C
Approach Vol, veh/h		438			801			103			353	
Approach Delay, s/veh		16.5			28.6			43.3			36.9	
Approach LOS		B			C			D			D	

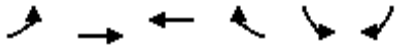
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.3	7.0	38.2		16.4	4.7	40.5
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		8.2	7.0	40.2		13.2	5.0	42.2
Max Q Clear Time (g_c+I1), s		6.2	4.0	15.8		10.2	2.4	30.9
Green Ext Time (p_c), s		0.1	0.0	2.4		0.4	0.0	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	28.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	594	9	53	852	55	9	12	20	157	42	20
Future Volume (veh/h)	5	594	9	53	852	55	9	12	20	157	42	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	6	660	10	55	878	57	11	15	25	171	46	22
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.79	0.79	0.79	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	13	914	14	79	969	63	100	123	155	284	54	25
Arrive On Green	0.01	0.55	0.55	0.05	0.59	0.59	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1616	1667	25	1691	1650	107	208	673	847	1070	294	138
Grp Volume(v), veh/h	6	0	670	55	0	935	51	0	0	239	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1692	1691	0	1757	1728	0	0	1503	0	0
Q Serve(g_s), s	0.3	0.0	20.8	2.3	0.0	33.0	0.0	0.0	0.0	9.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	20.8	2.3	0.0	33.0	1.8	0.0	0.0	10.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.06	0.22		0.49	0.72		0.09
Lane Grp Cap(c), veh/h	13	0	928	79	0	1032	378	0	0	363	0	0
V/C Ratio(X)	0.47	0.00	0.72	0.69	0.00	0.91	0.13	0.00	0.00	0.66	0.00	0.00
Avail Cap(c_a), veh/h	115	0	1231	144	0	1303	378	0	0	384	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.8	0.0	11.9	33.0	0.0	12.8	24.2	0.0	0.0	27.7	0.0	0.0
Incr Delay (d2), s/veh	24.8	0.0	1.4	10.4	0.0	7.9	0.2	0.0	0.0	3.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	9.9	1.3	0.0	18.1	0.9	0.0	0.0	4.9	0.0	0.0
LnGrp Delay(d),s/veh	59.6	0.0	13.3	43.4	0.0	20.7	24.4	0.0	0.0	31.5	0.0	0.0
LnGrp LOS	E		B	D		C	C			C		
Approach Vol, veh/h		676			990			51			239	
Approach Delay, s/veh		13.7			22.0			24.4			31.5	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		18.7	7.3	44.4		18.7	4.6	47.1
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		7.5	6.0	51.2		13.9	5.0	52.2
Max Q Clear Time (g_c+I1), s		3.8	4.3	22.8		12.8	2.3	35.0
Green Ext Time (p_c), s		0.0	0.0	4.5		0.1	0.0	6.3

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	224	794	527	0	6	490
Future Volume (veh/h)	224	794	527	0	6	490
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1712	1712	1810	1900	1863	1863
Adj Flow Rate, veh/h	252	892	643	0	7	563
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.89	0.89	0.82	0.82	0.87	0.87
Percent Heavy Veh, %	11	11	5	5	2	2
Cap, veh/h	295	1080	691	0	306	560
Arrive On Green	0.18	0.63	0.38	0.00	0.17	0.17
Sat Flow, veh/h	1630	1712	1810	0	1774	1583
Grp Volume(v), veh/h	252	892	643	0	7	563
Grp Sat Flow(s),veh/h/ln	1630	1712	1810	0	1774	1583
Q Serve(g_s), s	8.8	23.7	20.1	0.0	0.2	10.2
Cycle Q Clear(g_c), s	8.8	23.7	20.1	0.0	0.2	10.2
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	295	1080	691	0	306	560
V/C Ratio(X)	0.85	0.83	0.93	0.00	0.02	1.01
Avail Cap(c_a), veh/h	304	1107	711	0	306	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	8.4	17.5	0.0	20.3	19.1
Incr Delay (d2), s/veh	20.1	5.2	18.5	0.0	0.0	39.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	12.5	13.6	0.0	0.1	21.2
LnGrp Delay(d),s/veh	43.5	13.6	36.0	0.0	20.3	58.5
LnGrp LOS	D	B	D		C	F
Approach Vol, veh/h		1144	643		570	
Approach Delay, s/veh		20.2	36.0		58.0	
Approach LOS		C	D		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				43.0		16.0	14.7	28.4
Change Period (Y+Rc), s				5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s				38.2		10.2	11.0	23.2
Max Q Clear Time (g_c+I1), s				25.7		12.2	10.8	22.1
Green Ext Time (p_c), s				4.9		0.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	33.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	574	77	233	64	46	78	359	819	74	680	27
Future Volume (veh/h)	13	574	77	233	64	46	78	359	819	74	680	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1610	1610	1610	1610	1610	1900
Adj Flow Rate, veh/h	14	624	0	253	70	0	85	390	0	80	739	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	18	18	18	18	18	18
Cap, veh/h	81	649	0	290	868	0	91	794	579	98	808	0
Arrive On Green	0.05	0.35	0.00	0.16	0.47	0.00	0.06	0.26	0.00	0.06	0.26	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	1533	3059	1369	1533	3140	0
Grp Volume(v), veh/h	14	624	0	253	70	0	85	390	0	80	739	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	1533	1530	1369	1533	1530	0
Q Serve(g_s), s	0.8	35.9	0.0	15.2	2.3	0.0	6.0	11.8	0.0	5.6	25.6	0.0
Cycle Q Clear(g_c), s	0.8	35.9	0.0	15.2	2.3	0.0	6.0	11.8	0.0	5.6	25.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	81	649	0	290	868	0	91	794	579	98	808	0
V/C Ratio(X)	0.17	0.96	0.00	0.87	0.08	0.00	0.93	0.49	0.00	0.82	0.91	0.00
Avail Cap(c_a), veh/h	292	655	0	592	970	0	91	794	579	143	853	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.2	34.9	0.0	44.7	16.2	0.0	51.3	34.4	0.0	50.6	39.1	0.0
Incr Delay (d2), s/veh	1.0	25.7	0.0	8.1	0.0	0.0	72.5	0.5	0.0	20.3	13.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	23.0	0.0	8.1	1.2	0.0	4.4	5.0	0.0	3.0	12.3	0.0
LnGrp Delay(d),s/veh	51.2	60.6	0.0	52.8	16.2	0.0	123.8	34.8	0.0	70.9	52.9	0.0
LnGrp LOS	D	E		D	B		F	C		E	D	
Approach Vol, veh/h		638			323			475			819	
Approach Delay, s/veh		60.4			44.9			50.8			54.6	
Approach LOS		E			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	32.9	22.4	42.7	11.0	33.4	9.5	55.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.3	26.8	36.5	38.5	6.5	30.5	18.0	57.0
Max Q Clear Time (g_c+I1), s	17.6	13.8	17.2	37.9	8.0	27.6	2.8	4.3
Green Ext Time (p_c), s	0.0	1.9	0.6	0.2	0.0	1.3	0.0	0.3

Intersection Summary		
HCM 2010 Ctrl Delay		54.0
HCM 2010 LOS		D

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	26	271	38	142	113
Future Vol, veh/h	2	26	271	38	142	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	28	295	41	154	123

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	747	316	0	0	336	0
Stage 1	316	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	381	724	-	-	1223	-
Stage 1	739	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	330	724	-	-	1223	-
Mov Cap-2 Maneuver	330	-	-	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	567	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	4.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	667	1223	-
HCM Lane V/C Ratio	-	-	0.046	0.126	-
HCM Control Delay (s)	-	-	10.7	8.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.4	-

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	33	48	19	37	78	26	264	14	86	443	13
Future Vol, veh/h	15	33	48	19	37	78	26	264	14	86	443	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	16	16	16	25	25	25
Mvmt Flow	16	36	52	21	40	85	28	287	15	93	482	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1088	1033	489	1070	1033	295	496	0	0	302	0	0
Stage 1	675	675	-	351	351	-	-	-	-	-	-	-
Stage 2	413	358	-	719	682	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.26	-	-	4.35	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.344	-	-	2.425	-	-
Pot Cap-1 Maneuver	193	232	579	199	232	744	999	-	-	1139	-	-
Stage 1	444	453	-	666	632	-	-	-	-	-	-	-
Stage 2	616	628	-	420	450	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	129	199	579	139	199	744	999	-	-	1139	-	-
Mov Cap-2 Maneuver	129	199	-	139	199	-	-	-	-	-	-	-
Stage 1	429	402	-	643	611	-	-	-	-	-	-	-
Stage 2	493	607	-	309	399	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.4	26.1	0.7	1.3
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	999	-	-	263	313	1139	-	-
HCM Lane V/C Ratio	0.028	-	-	0.397	0.465	0.082	-	-
HCM Control Delay (s)	8.7	0	-	27.4	26.1	8.4	0	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.8	2.3	0.3	-	-

Intersection	
Intersection Delay, s/veh	21
Intersection LOS	C

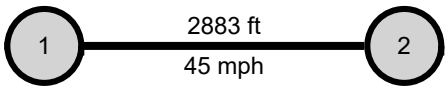
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	53	31	43	28	19	39	221	74	52	430	10
Future Vol, veh/h	7	53	31	43	28	19	39	221	74	52	430	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	8	58	34	47	30	21	42	240	80	57	467	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.8	11	15.8	28.2
HCM LOS	B	B	C	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	8%	48%	11%
Vol Thru, %	66%	58%	31%	87%
Vol Right, %	22%	34%	21%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	334	91	90	492
LT Vol	39	7	43	52
Through Vol	221	53	28	430
RT Vol	74	31	19	10
Lane Flow Rate	363	99	98	535
Geometry Grp	1	1	1	1
Degree of Util (X)	0.566	0.175	0.178	0.815
Departure Headway (Hd)	5.615	6.386	6.545	5.489
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	639	559	545	658
Service Time	3.667	4.464	4.62	3.533
HCM Lane V/C Ratio	0.568	0.177	0.18	0.813
HCM Control Delay	15.8	10.8	11	28.2
HCM Lane LOS	C	B	B	D
HCM 95th-tile Q	3.5	0.6	0.6	8.5

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	145
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Existing Plus Approved Projects				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2883	2883	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.26			46.59		
1	Running Time, s	48.46			45.11		
1	Running Speed, mph	40.57			43.58		
1	Through Delay, s/veh	11.17			52.58		
1	Travel Time, s	59.62			97.68		
1	Travel Speed, mph	32.97			20.12		
1	Stop Rate, stops/veh	0.48			0.90		
1	Spatial Stop Rate, stops/mi	0.88			1.66		
1	Through vol/cap Ratio	0.80			0.82		
1	Percent of Base FFS	72.84			43.19		
1	Level of Service	B			D		
1	Auto Traveler Perception Score	2.27			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	3.92		D
1	Bicycle Segment LOS Score / LOS	4.87		E	4.90		E
1	Transit Segment LOS Score / LOS	6.88		F	6.53		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	59.62	97.68
Facility Travel Speed, mph	32.97	20.12
Facility Base Free Flow Speed, mph	45.26	46.59
Facility Percent of Base FFS	72.84	43.19
Facility Level of Service	B	D
Facility Auto Traveler Perception Score	2.27	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			3.92	D
Bicycle Facility LOS Score / LOS	4.87	E	4.90	E
Transit Facility LOS Score / LOS	6.88	F	6.53	F

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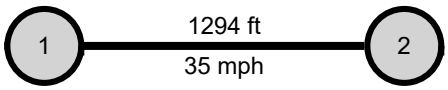
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	53
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1294	1294	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	38.00			38.11		
1	Running Time, s	26.04			25.83		
1	Running Speed, mph	33.88			34.16		
1	Through Delay, s/veh	0.47			22.10		
1	Travel Time, s	26.51			47.92		
1	Travel Speed, mph	33.28			18.41		
1	Stop Rate, stops/veh	0.02			0.75		
1	Spatial Stop Rate, stops/mi	0.09			3.08		
1	Through vol/cap Ratio	0.17			0.60		
1	Percent of Base FFS	87.59			48.30		
1	Level of Service	A			D		
1	Auto Traveler Perception Score	2.15			2.63		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.40		C	3.36		C
1	Bicycle Segment LOS Score / LOS	3.77		D	6.87		F
1	Transit Segment LOS Score / LOS	4.40		E	4.33		E

Facility Output Data	Northbound		Southbound	
Facility Travel Time, s	26.51		47.92	
Facility Travel Speed, mph	33.28		18.41	
Facility Base Free Flow Speed, mph	38.00		38.11	
Facility Percent of Base FFS	87.59		48.30	
Facility Level of Service	A		D	
Facility Auto Traveler Perception Score	2.15		2.63	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.40	C	3.36	C
Bicycle Facility LOS Score / LOS	3.77	D	6.87	F
Transit Facility LOS Score / LOS	4.40	E	4.33	E

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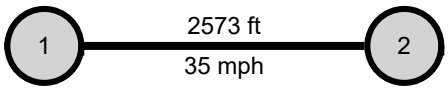
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2573	2573	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.75			40.62		
1	Running Time, s	44.68			46.17		
1	Running Speed, mph	39.26			38.00		
1	Through Delay, s/veh	0.17			0.66		
1	Travel Time, s	44.85			46.83		
1	Travel Speed, mph	39.12			37.46		
1	Stop Rate, stops/veh	0.01			0.01		
1	Spatial Stop Rate, stops/mi	0.02			0.03		
1	Through vol/cap Ratio	0.05			0.34		
1	Percent of Base FFS	95.99			92.23		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.14			2.14		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.19		C	3.56		D
1	Transit Segment LOS Score / LOS	4.35		E	4.58		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	44.85	46.83
Facility Travel Speed, mph	39.12	37.46
Facility Base Free Flow Speed, mph	40.75	40.62
Facility Percent of Base FFS	95.99	92.23
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.14	2.14

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.19	C	3.56	D
Transit Facility LOS Score / LOS	4.35	E	4.58	E

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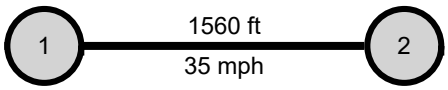
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward /	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	27.96			27.82		
1	Running Speed, mph	38.04			38.24		
1	Through Delay, s/veh	1.29			1.18		
1	Travel Time, s	29.25			29.00		
1	Travel Speed, mph	36.36			36.67		
1	Stop Rate, stops/veh	0.42			0.42		
1	Spatial Stop Rate, stops/mi	1.43			1.41		
1	Through vol/cap Ratio	0.18			0.06		
1	Percent of Base FFS	87.03			87.78		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.58			2.57		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.67		E	4.37		E
1	Transit Segment LOS Score / LOS	6.59		F	6.49		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	29.25	29.00
Facility Travel Speed, mph	36.36	36.67
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	87.03	87.78
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.58	2.57

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.67	E	4.37	E
Transit Facility LOS Score / LOS	6.59	F	6.49	F

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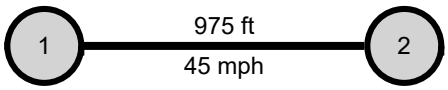
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_A	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	18.75			18.19		
1	Running Speed, mph	35.46			36.54		
1	Through Delay, s/veh	1.57			0.84		
1	Travel Time, s	20.32			19.03		
1	Travel Speed, mph	32.72			34.94		
1	Stop Rate, stops/veh	0.27			0.27		
1	Spatial Stop Rate, stops/mi	1.48			1.47		
1	Through vol/cap Ratio	0.78			0.33		
1	Percent of Base FFS	71.34			76.17		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.58			2.58		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.71		D	3.52		D
1	Transit Segment LOS Score / LOS	6.82		F	6.66		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	20.32	19.03
Facility Travel Speed, mph	32.72	34.94
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	71.34	76.17
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.58	2.58

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.71	D	3.52	D
Transit Facility LOS Score / LOS	6.82	F	6.66	F

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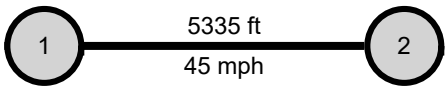
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave_AM.xus	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5335	5335	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.17			45.17		
1	Running Time, s	84.24			84.41		
1	Running Speed, mph	43.18			43.09		
1	Through Delay, s/veh	8.95			27.74		
1	Travel Time, s	93.19			112.15		
1	Travel Speed, mph	39.04			32.43		
1	Stop Rate, stops/veh	0.43			0.75		
1	Spatial Stop Rate, stops/mi	0.43			0.74		
1	Through vol/cap Ratio	0.73			0.95		
1	Percent of Base FFS	86.42			71.80		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.20			2.25		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.96		D	4.33		E
1	Transit Segment LOS Score / LOS	6.71		F	6.72		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	93.19	112.15
Facility Travel Speed, mph	39.04	32.43
Facility Base Free Flow Speed, mph	45.17	45.17
Facility Percent of Base FFS	86.42	71.80
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.20	2.25

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.96	D	4.33	E
Transit Facility LOS Score / LOS	6.71	F	6.72	F

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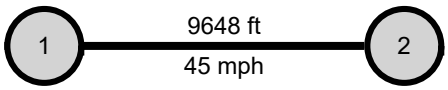
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave, wo Jennings	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9648	9648	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.02			46.02		
1	Running Time, s	150.27			149.03		
1	Running Speed, mph	43.78			44.14		
1	Through Delay, s/veh	5.97			15.91		
1	Travel Time, s	156.24			164.95		
1	Travel Speed, mph	42.10			39.88		
1	Stop Rate, stops/veh	0.41			0.51		
1	Spatial Stop Rate, stops/mi	0.22			0.28		
1	Through vol/cap Ratio	0.59			0.87		
1	Percent of Base FFS	91.50			86.66		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.17			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.95		D	4.05		D
1	Transit Segment LOS Score / LOS	6.76		F	6.73		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	156.24	164.95
Facility Travel Speed, mph	42.10	39.88
Facility Base Free Flow Speed, mph	46.02	46.02
Facility Percent of Base FFS	91.50	86.66
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.17	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.95	D	4.05	D
Transit Facility LOS Score / LOS	6.76	F	6.73	F

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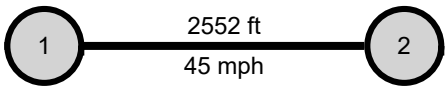
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_AM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2552	2552	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.90			43.55		
1	Running Time, s	40.51			42.37		
1	Running Speed, mph	42.95			41.07		
1	Through Delay, s/veh	10.08			39.27		
1	Travel Time, s	50.59			81.64		
1	Travel Speed, mph	34.40			21.31		
1	Stop Rate, stops/veh	0.38			0.76		
1	Spatial Stop Rate, stops/mi	0.80			1.58		
1	Through vol/cap Ratio	0.44			0.69		
1	Percent of Base FFS	74.94			48.94		
1	Level of Service	B			D		
1	Auto Traveler Perception Score	2.47			2.60		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.14		D	4.72		E
1	Transit Segment LOS Score / LOS	6.64		F	0.45		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	50.59	81.64
Facility Travel Speed, mph	34.40	21.31
Facility Base Free Flow Speed, mph	45.90	43.55
Facility Percent of Base FFS	74.94	48.94
Facility Level of Service	B	D
Facility Auto Traveler Perception Score	2.47	2.60

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.14	D	4.72	E
Transit Facility LOS Score / LOS	6.64	F	0.45	A

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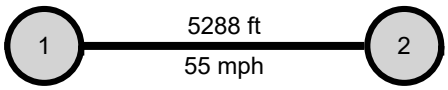
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5288	5288	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.04			45.34		
1	Running Time, s	73.03			80.37		
1	Running Speed, mph	49.37			44.86		
1	Through Delay, s/veh	8.48			0.00		
1	Travel Time, s	81.51			80.37		
1	Travel Speed, mph	44.23			44.86		
1	Stop Rate, stops/veh	0.51			0.00		
1	Spatial Stop Rate, stops/mi	0.51			0.00		
1	Through vol/cap Ratio	0.08			0.00		
1	Percent of Base FFS	88.40			98.95		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.43			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.72		E	5.79		F
1	Transit Segment LOS Score / LOS	6.53		F	0.24		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	81.51	80.37
Facility Travel Speed, mph	44.23	44.86
Facility Base Free Flow Speed, mph	50.04	45.34
Facility Percent of Base FFS	88.40	98.95
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.43	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.72	E	5.79	F
Transit Facility LOS Score / LOS	6.53	F	0.24	A

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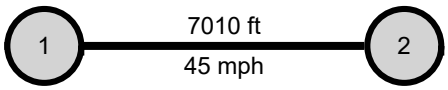
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7010	7010	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	105.11			104.27		
1	Running Speed, mph	45.47			45.84		
1	Through Delay, s/veh	0.00			16.32		
1	Travel Time, s	105.11			120.59		
1	Travel Speed, mph	45.47			39.64		
1	Stop Rate, stops/veh	0.00			0.78		
1	Spatial Stop Rate, stops/mi	0.00			0.58		
1	Through vol/cap Ratio	0.00			0.22		
1	Percent of Base FFS	98.64			85.98		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.34			2.44		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.81		D	4.46		E
1	Transit Segment LOS Score / LOS	6.66		F	6.52		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	105.11	120.59
Facility Travel Speed, mph	45.47	39.64
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	98.64	85.98
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.34	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.81	D	4.46	E
Transit Facility LOS Score / LOS	6.66	F	6.52	F

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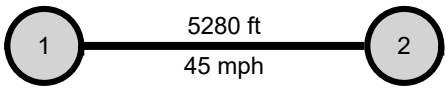
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5280	5280	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			7.66	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.28			46.28		
1	Running Time, s	78.68			81.43		
1	Running Speed, mph	45.76			44.21		
1	Through Delay, s/veh	6.21			19.85		
1	Travel Time, s	84.89			101.28		
1	Travel Speed, mph	42.41			35.54		
1	Stop Rate, stops/veh	0.47			0.65		
1	Spatial Stop Rate, stops/mi	0.47			0.65		
1	Through vol/cap Ratio	0.10			0.97		
1	Percent of Base FFS	91.64			76.81		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.42			2.45		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.34		C	3.90		D
1	Transit Segment LOS Score / LOS	6.52		F	6.82		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	84.89	101.28
Facility Travel Speed, mph	42.41	35.54
Facility Base Free Flow Speed, mph	46.28	46.28
Facility Percent of Base FFS	91.64	76.81
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.42	2.45

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.34	C	3.90	D
Transit Facility LOS Score / LOS	6.52	F	6.82	F

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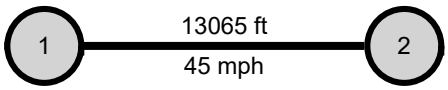
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13065	13065	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.21			46.21		
1	Running Time, s	193.59			198.23		
1	Running Speed, mph	46.01			44.94		
1	Through Delay, s/veh	13.84			15.04		
1	Travel Time, s	207.44			213.27		
1	Travel Speed, mph	42.94			41.77		
1	Stop Rate, stops/veh	0.48			0.63		
1	Spatial Stop Rate, stops/mi	0.19			0.25		
1	Through vol/cap Ratio	0.12			0.75		
1	Percent of Base FFS	92.93			90.39		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.37			2.38		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.54		E	4.77		E
1	Transit Segment LOS Score / LOS	6.54		F	6.78		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	207.44	213.27
Facility Travel Speed, mph	42.94	41.77
Facility Base Free Flow Speed, mph	46.21	46.21
Facility Percent of Base FFS	92.93	90.39
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.37	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.54	E	4.77	E
Transit Facility LOS Score / LOS	6.54	F	6.78	F

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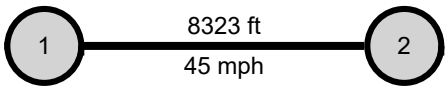
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	124.17			124.59		
1	Running Speed, mph	45.70			45.55		
1	Through Delay, s/veh	16.34			13.54		
1	Travel Time, s	140.51			138.13		
1	Travel Speed, mph	40.39			41.08		
1	Stop Rate, stops/veh	0.53			0.62		
1	Spatial Stop Rate, stops/mi	0.33			0.39		
1	Through vol/cap Ratio	0.51			0.62		
1	Percent of Base FFS	86.76			88.25		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.40			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.22		D	4.21		D
1	Transit Segment LOS Score / LOS	6.63		F	6.63		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	140.51	138.13
Facility Travel Speed, mph	40.39	41.08
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	86.76	88.25
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.40	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.22	D	4.21	D
Transit Facility LOS Score / LOS	6.63	F	6.63	F

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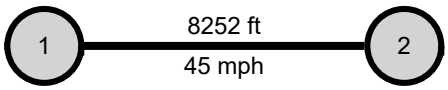
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_A	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	Existing Plus Approved Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	124.55			125.41		
1	Running Speed, mph	45.17			44.86		
1	Through Delay, s/veh	0.40			0.53		
1	Travel Time, s	124.95			125.94		
1	Travel Speed, mph	45.03			44.67		
1	Stop Rate, stops/veh	0.11			0.13		
1	Spatial Stop Rate, stops/mi	0.07			0.08		
1	Through vol/cap Ratio	0.36			0.45		
1	Percent of Base FFS	97.15			96.39		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.46		E	4.52		E
1	Transit Segment LOS Score / LOS	6.74		F	6.78		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	124.95	125.94
Facility Travel Speed, mph	45.03	44.67
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	97.15	96.39
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.46	E	4.52	E
Transit Facility LOS Score / LOS	6.74	F	6.78	F

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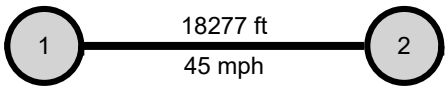
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	Existing Plus Approved Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	273.12			271.70		
1	Running Speed, mph	45.63			45.86		
1	Through Delay, s/veh	0.35			0.36		
1	Travel Time, s	273.47			272.06		
1	Travel Speed, mph	45.57			45.80		
1	Stop Rate, stops/veh	0.11			0.12		
1	Spatial Stop Rate, stops/mi	0.03			0.04		
1	Through vol/cap Ratio	0.27			0.20		
1	Percent of Base FFS	98.14			98.64		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.35			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.39		E	4.42		E
1	Transit Segment LOS Score / LOS	6.69		F	6.66		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	273.47	272.06
Facility Travel Speed, mph	45.57	45.80
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	98.14	98.64
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.35	2.35

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.39	E	4.42	E
Transit Facility LOS Score / LOS	6.69	F	6.66	F

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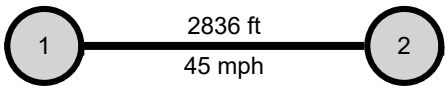
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2836	2836	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.24			46.59		
1	Running Time, s	49.33			43.97		
1	Running Speed, mph	39.20			43.98		
1	Through Delay, s/veh	23.16			38.02		
1	Travel Time, s	72.50			81.99		
1	Travel Speed, mph	26.67			23.59		
1	Stop Rate, stops/veh	0.55			0.67		
1	Spatial Stop Rate, stops/mi	1.03			1.25		
1	Through vol/cap Ratio	0.99			0.39		
1	Percent of Base FFS	58.96			50.62		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.29			2.33		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	3.76		D
1	Bicycle Segment LOS Score / LOS	4.95		E	4.74		E
1	Transit Segment LOS Score / LOS	6.98		F	6.46		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	72.50	81.99
Facility Travel Speed, mph	26.67	23.59
Facility Base Free Flow Speed, mph	45.24	46.59
Facility Percent of Base FFS	58.96	50.62
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.29	2.33

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			3.76	D
Bicycle Facility LOS Score / LOS	4.95	E	4.74	E
Transit Facility LOS Score / LOS	6.98	F	6.46	F

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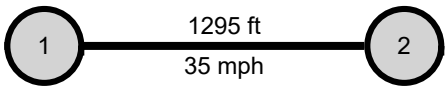
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1295	1295	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	38.00			38.12		
1	Running Time, s	25.91			26.03		
1	Running Speed, mph	34.07			33.91		
1	Through Delay, s/veh	0.23			28.61		
1	Travel Time, s	26.14			54.64		
1	Travel Speed, mph	33.78			16.16		
1	Stop Rate, stops/veh	0.01			0.85		
1	Spatial Stop Rate, stops/mi	0.04			3.45		
1	Through vol/cap Ratio	0.11			0.72		
1	Percent of Base FFS	88.88			42.39		
1	Level of Service	A			D		
1	Auto Traveler Perception Score	2.15			2.69		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.31		C	3.47		C
1	Bicycle Segment LOS Score / LOS	3.73		D	6.91		F
1	Transit Segment LOS Score / LOS	4.36		E	4.37		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	26.14	54.64
Facility Travel Speed, mph	33.78	16.16
Facility Base Free Flow Speed, mph	38.00	38.12
Facility Percent of Base FFS	88.88	42.39
Facility Level of Service	A	D
Facility Auto Traveler Perception Score	2.15	2.69

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.31	C	3.47	C
Bicycle Facility LOS Score / LOS	3.73	D	6.91	F
Transit Facility LOS Score / LOS	4.36	E	4.37	E

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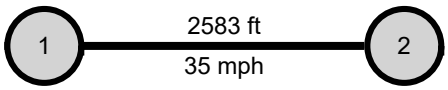
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2583	2583	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.76			40.62		
1	Running Time, s	45.88			45.92		
1	Running Speed, mph	38.39			38.35		
1	Through Delay, s/veh	0.56			0.49		
1	Travel Time, s	46.44			46.41		
1	Travel Speed, mph	37.93			37.95		
1	Stop Rate, stops/veh	0.01			0.01		
1	Spatial Stop Rate, stops/mi	0.02			0.02		
1	Through vol/cap Ratio	0.29			0.26		
1	Percent of Base FFS	93.06			93.41		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.14			2.14		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.78		D	3.53		D
1	Transit Segment LOS Score / LOS	4.58		E	4.53		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	46.44	46.41
Facility Travel Speed, mph	37.93	37.95
Facility Base Free Flow Speed, mph	40.76	40.62
Facility Percent of Base FFS	93.06	93.41
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.14	2.14

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.78	D	3.53	D
Transit Facility LOS Score / LOS	4.58	E	4.53	E

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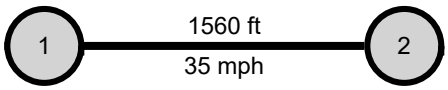
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward /	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	27.75			28.14		
1	Running Speed, mph	38.33			37.80		
1	Through Delay, s/veh	1.14			1.42		
1	Travel Time, s	28.89			29.56		
1	Travel Speed, mph	36.82			35.98		
1	Stop Rate, stops/veh	0.41			0.42		
1	Spatial Stop Rate, stops/mi	1.39			1.43		
1	Through vol/cap Ratio	0.00			0.30		
1	Percent of Base FFS	88.13			86.12		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.57			2.58		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.16		D	4.69		E
1	Transit Segment LOS Score / LOS	6.45		F	6.66		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	28.89	29.56
Facility Travel Speed, mph	36.82	35.98
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	88.13	86.12
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.57	2.58

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.16	D	4.69	E
Transit Facility LOS Score / LOS	6.45	F	6.66	F

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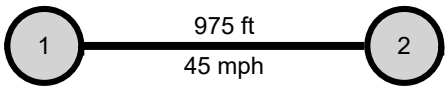
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_P	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	18.36			18.78		
1	Running Speed, mph	36.20			35.40		
1	Through Delay, s/veh	0.96			1.52		
1	Travel Time, s	19.33			20.30		
1	Travel Speed, mph	34.40			32.75		
1	Stop Rate, stops/veh	0.26			0.26		
1	Spatial Stop Rate, stops/mi	1.40			1.40		
1	Through vol/cap Ratio	0.48			0.78		
1	Percent of Base FFS	74.99			71.40		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.57			2.57		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.58		D	3.72		D
1	Transit Segment LOS Score / LOS	6.71		F	6.83		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	19.33	20.30
Facility Travel Speed, mph	34.40	32.75
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	74.99	71.40
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.57	2.57

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.58	D	3.72	D
Transit Facility LOS Score / LOS	6.71	F	6.83	F

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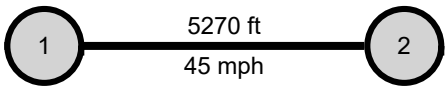
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave, Sycamore &	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5270	5270	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.15			45.15		
1	Running Time, s	83.04			84.45		
1	Running Speed, mph	43.27			42.55		
1	Through Delay, s/veh	13.66			24.48		
1	Travel Time, s	96.70			108.93		
1	Travel Speed, mph	37.16			32.99		
1	Stop Rate, stops/veh	0.65			0.71		
1	Spatial Stop Rate, stops/mi	0.65			0.71		
1	Through vol/cap Ratio	0.69			0.98		
1	Percent of Base FFS	82.30			73.06		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.24			2.25		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.94		D	4.35		E
1	Transit Segment LOS Score / LOS	6.70		F	6.78		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	96.70	108.93
Facility Travel Speed, mph	37.16	32.99
Facility Base Free Flow Speed, mph	45.15	45.15
Facility Percent of Base FFS	82.30	73.06
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.24	2.25

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.94	D	4.35	E
Transit Facility LOS Score / LOS	6.70	F	6.78	F

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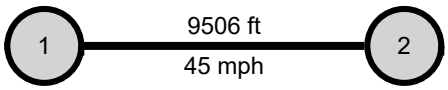
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave, wo Jennings	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9506	9506	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.00			46.01		
1	Running Time, s	147.07			148.98		
1	Running Speed, mph	44.07			43.51		
1	Through Delay, s/veh	10.95			22.60		
1	Travel Time, s	158.02			171.58		
1	Travel Speed, mph	41.02			37.78		
1	Stop Rate, stops/veh	0.40			0.65		
1	Spatial Stop Rate, stops/mi	0.22			0.36		
1	Through vol/cap Ratio	0.57			0.96		
1	Percent of Base FFS	89.16			82.11		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.17			2.40		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.97		D	4.08		D
1	Transit Segment LOS Score / LOS	6.73		F	6.80		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	158.02	171.58
Facility Travel Speed, mph	41.02	37.78
Facility Base Free Flow Speed, mph	46.00	46.01
Facility Percent of Base FFS	89.16	82.11
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.17	2.40

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.97	D	4.08	D
Transit Facility LOS Score / LOS	6.73	F	6.80	F

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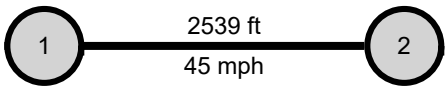
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_PM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2539	2539	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.89			43.54		
1	Running Time, s	40.31			43.31		
1	Running Speed, mph	42.95			39.97		
1	Through Delay, s/veh	11.03			47.71		
1	Travel Time, s	51.34			91.02		
1	Travel Speed, mph	33.72			19.02		
1	Stop Rate, stops/veh	0.37			0.74		
1	Spatial Stop Rate, stops/mi	0.77			1.55		
1	Through vol/cap Ratio	0.54			0.89		
1	Percent of Base FFS	73.47			43.68		
1	Level of Service	B			D		
1	Auto Traveler Perception Score	2.47			2.60		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.09		D	4.79		E
1	Transit Segment LOS Score / LOS	6.63		F	0.65		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	51.34	91.02
Facility Travel Speed, mph	33.72	19.02
Facility Base Free Flow Speed, mph	45.89	43.54
Facility Percent of Base FFS	73.47	43.68
Facility Level of Service	B	D
Facility Auto Traveler Perception Score	2.47	2.60

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.09	D	4.79	E
Transit Facility LOS Score / LOS	6.63	F	0.65	A

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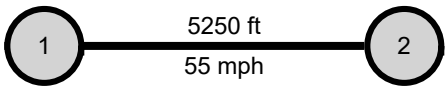
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5250	5250	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.03			45.33		
1	Running Time, s	72.71			79.62		
1	Running Speed, mph	49.23			44.96		
1	Through Delay, s/veh	8.80			0.00		
1	Travel Time, s	81.51			79.62		
1	Travel Speed, mph	43.91			44.96		
1	Stop Rate, stops/veh	0.53			0.00		
1	Spatial Stop Rate, stops/mi	0.53			0.00		
1	Through vol/cap Ratio	0.15			0.00		
1	Percent of Base FFS	87.78			99.19		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.43			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.87		E	5.59		F
1	Transit Segment LOS Score / LOS	6.58		F	0.19		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	81.51	79.62
Facility Travel Speed, mph	43.91	44.96
Facility Base Free Flow Speed, mph	50.03	45.33
Facility Percent of Base FFS	87.78	99.19
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.43	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.87	E	5.59	F
Transit Facility LOS Score / LOS	6.58	F	0.19	A

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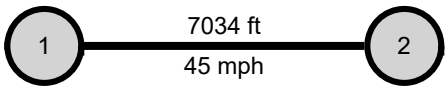
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7034	7034	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	105.12			104.59		
1	Running Speed, mph	45.62			45.85		
1	Through Delay, s/veh	0.00			18.57		
1	Travel Time, s	105.12			123.16		
1	Travel Speed, mph	45.62			38.94		
1	Stop Rate, stops/veh	0.00			0.77		
1	Spatial Stop Rate, stops/mi	0.00			0.58		
1	Through vol/cap Ratio	0.00			0.22		
1	Percent of Base FFS	98.96			84.47		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.34			2.44		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.78		D	4.45		E
1	Transit Segment LOS Score / LOS	6.64		F	6.51		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	105.12	123.16
Facility Travel Speed, mph	45.62	38.94
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	98.96	84.47
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.34	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.78	D	4.45	E
Transit Facility LOS Score / LOS	6.64	F	6.51	F

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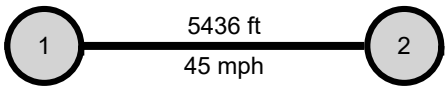
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5436	5436	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.29			46.29		
1	Running Time, s	82.71			81.69		
1	Running Speed, mph	44.81			45.37		
1	Through Delay, s/veh	10.09			21.67		
1	Travel Time, s	92.80			103.36		
1	Travel Speed, mph	39.94			35.86		
1	Stop Rate, stops/veh	0.60			0.41		
1	Spatial Stop Rate, stops/mi	0.59			0.40		
1	Through vol/cap Ratio	0.80			0.44		
1	Percent of Base FFS	86.28			77.46		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.44			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.87		D	3.63		D
1	Transit Segment LOS Score / LOS	6.75		F	6.67		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	92.80	103.36
Facility Travel Speed, mph	39.94	35.86
Facility Base Free Flow Speed, mph	46.29	46.29
Facility Percent of Base FFS	86.28	77.46
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.44	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.87	D	3.63	D
Transit Facility LOS Score / LOS	6.75	F	6.67	F

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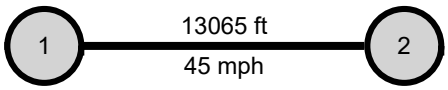
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13065	13065	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.21			46.21		
1	Running Time, s	197.90			198.58		
1	Running Speed, mph	45.01			44.86		
1	Through Delay, s/veh	20.02			198.74		
1	Travel Time, s	217.92			397.32		
1	Travel Speed, mph	40.88			22.42		
1	Stop Rate, stops/veh	0.74			1.18		
1	Spatial Stop Rate, stops/mi	0.30			0.48		
1	Through vol/cap Ratio	0.74			0.90		
1	Percent of Base FFS	88.46			48.52		
1	Level of Service	A			D		
1	Auto Traveler Perception Score	2.39			2.42		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	5.05		F	4.59		E
1	Transit Segment LOS Score / LOS	6.77		F	6.79		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	217.92	397.32
Facility Travel Speed, mph	40.88	22.42
Facility Base Free Flow Speed, mph	46.21	46.21
Facility Percent of Base FFS	88.46	48.52
Facility Level of Service	A	D
Facility Auto Traveler Perception Score	2.39	2.42

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	5.05	F	4.59	E
Transit Facility LOS Score / LOS	6.77	F	6.79	F

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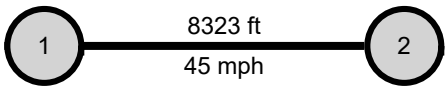
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	124.72			125.69		
1	Running Speed, mph	45.50			45.15		
1	Through Delay, s/veh	17.75			16.00		
1	Travel Time, s	142.47			141.69		
1	Travel Speed, mph	39.83			40.05		
1	Stop Rate, stops/veh	0.70			0.62		
1	Spatial Stop Rate, stops/mi	0.45			0.39		
1	Through vol/cap Ratio	0.68			0.86		
1	Percent of Base FFS	85.57			86.04		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.41			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.24		D	4.30		E
1	Transit Segment LOS Score / LOS	6.65		F	6.69		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	142.47	141.69
Facility Travel Speed, mph	39.83	40.05
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	85.57	86.04
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.41	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.24	D	4.30	E
Transit Facility LOS Score / LOS	6.65	F	6.69	F

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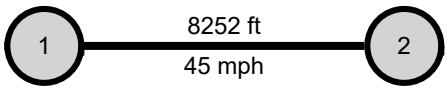
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_F	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	Existing Plus Approved Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	128.14			128.10		
1	Running Speed, mph	43.91			43.92		
1	Through Delay, s/veh	1.44			1.26		
1	Travel Time, s	129.58			129.36		
1	Travel Speed, mph	43.42			43.49		
1	Stop Rate, stops/veh	0.11			0.13		
1	Spatial Stop Rate, stops/mi	0.07			0.08		
1	Through vol/cap Ratio	0.69			0.66		
1	Percent of Base FFS	93.68			93.84		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.56		E	4.59		E
1	Transit Segment LOS Score / LOS	6.89		F	6.89		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	129.58	129.36
Facility Travel Speed, mph	43.42	43.49
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	93.68	93.84
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.56	E	4.59	E
Transit Facility LOS Score / LOS	6.89	F	6.89	F

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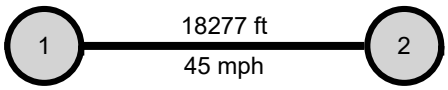
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	Existing Plus Approved Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	273.04			275.65		
1	Running Speed, mph	45.64			45.21		
1	Through Delay, s/veh	0.34			0.50		
1	Travel Time, s	273.37			276.15		
1	Travel Speed, mph	45.58			45.13		
1	Stop Rate, stops/veh	0.11			0.13		
1	Spatial Stop Rate, stops/mi	0.03			0.04		
1	Through vol/cap Ratio	0.25			0.41		
1	Percent of Base FFS	98.17			97.18		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.35			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.39		E	4.49		E
1	Transit Segment LOS Score / LOS	6.69		F	6.75		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	273.37	276.15
Facility Travel Speed, mph	45.58	45.13
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	98.17	97.18
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.35	2.35

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.39	E	4.49	E
Transit Facility LOS Score / LOS	6.69	F	6.75	F

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	EPAP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	2821	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	750	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1591	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	1591	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	2	
Density, D	24.7	pc/mi/ln
Level of service, LOS	C	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	EPAP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	2838	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	755	v
Trucks and buses	22	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.901	
Driver population factor, fp	1.00	
Flow rate, vp	1676	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	61.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	61.0	mi/h

LOS and Performance Measures

Flow rate, vp	1676	pc/h/ln
Free-flow speed, FFS	61.0	mi/h
Average passenger-car speed, S	59.9	mi/h
Number of lanes, N	2	
Density, D	28.0	pc/mi/ln
Level of service, LOS	D	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	EPAP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	2949	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	784	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	1733	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	1733	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	63.4	mi/h
Number of lanes, N	2	
Density, D	27.3	pc/mi/ln
Level of service, LOS	D	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	EPAP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	2611	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	694	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	1535	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	1535	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	64.7	mi/h
Number of lanes, N	2	
Density, D	23.7	pc/mi/ln
Level of service, LOS	C	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	EPAP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	2710	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	721	v
Trucks and buses	17	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.922	
Driver population factor, fp	1.00	
Flow rate, vp	1564	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	1564	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	64.6	mi/h
Number of lanes, N	2	
Density, D	24.2	pc/mi/ln
Level of service, LOS	C	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	EPAP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	2953	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	785	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1665	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	1665	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	2	
Density, D	30.3	pc/mi/ln
Level of service, LOS	D	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	EPAP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	1914	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	509	v
Trucks and buses	16	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.926	
Driver population factor, fp	1.00	
Flow rate, vp	1100	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	58.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	58.0	mi/h

LOS and Performance Measures

Flow rate, vp	1100	pc/h/ln
Free-flow speed, FFS	58.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	2	
Density, D	18.3	pc/mi/ln
Level of service, LOS	C	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	EPAP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	2234	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	594	v
Trucks and buses	19	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.913	
Driver population factor, fp	1.00	
Flow rate, vp	1301	pc/h/ln

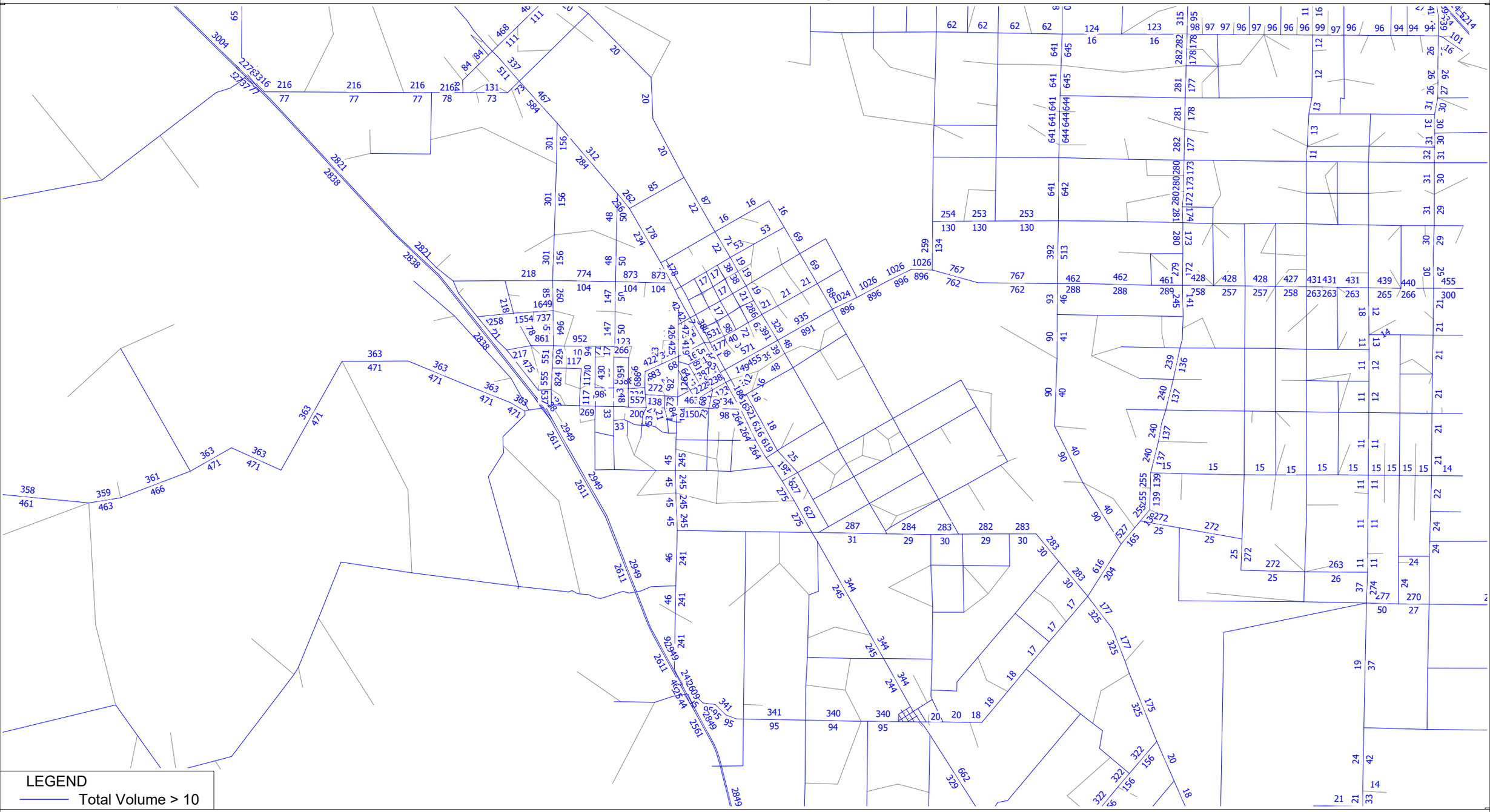
Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	61.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	61.0	mi/h

LOS and Performance Measures

Flow rate, vp	1301	pc/h/ln
Free-flow speed, FFS	61.0	mi/h
Average passenger-car speed, S	60.0	mi/h
Number of lanes, N	2	
Density, D	21.7	pc/mi/ln
Level of service, LOS	C	

2012 with Approved Projects
AM PH Vehicle Trips



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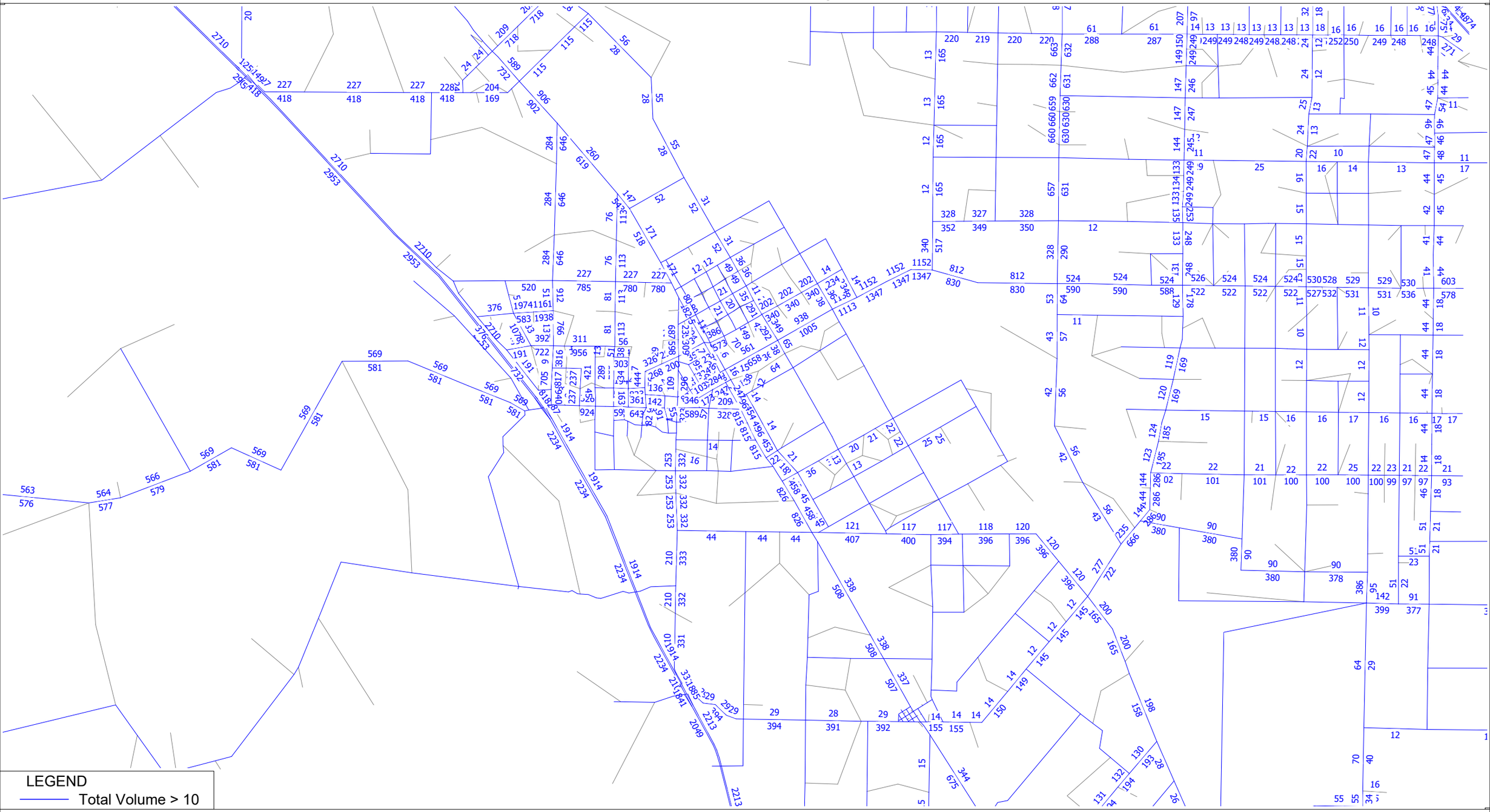
2012 with Approved Projects
PM PH Vehicle Trips



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Appendix D INTERSECTION ANALYSIS: EXISTING PLUS APPROVED PROJECTS PLUS PROPOSED PROJECT CONDITIONS LOS CALCULATION SHEETS

Intersection	
Intersection Delay, s/veh	351.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	750	11	145	65	0	0	0	0	646	4	63
Future Vol, veh/h	0	750	11	145	65	0	0	0	0	646	4	63
Peak Hour Factor	0.68	0.68	0.68	0.76	0.76	0.76	0.25	0.25	0.25	0.88	0.88	0.88
Heavy Vehicles, %	0	1	50	22	17	0	0	0	0	23	25	17
Mvmt Flow	0	1103	16	191	86	0	0	0	0	734	5	72
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	477.8	26.9	288.5
HCM LOS	F	D	F

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	69%	91%
Vol Thru, %	99%	31%	1%
Vol Right, %	1%	0%	9%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	761	210	713
LT Vol	0	145	646
Through Vol	750	65	4
RT Vol	11	0	63
Lane Flow Rate	1119	276	810
Geometry Grp	1	1	1
Degree of Util (X)	2.004	0.576	1.566
Departure Headway (Hd)	7.862	10.542	8.69
Convergence, Y/N	Yes	Yes	Yes
Cap	470	345	429
Service Time	5.862	8.542	6.69
HCM Lane V/C Ratio	2.381	0.8	1.888
HCM Control Delay	477.8	26.9	288.5
HCM Lane LOS	F	D	F
HCM 95th-tile Q	62.9	3.4	36.1

Intersection	
Intersection Delay, s/veh	725.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	255	1141	0	0	189	833	21	10	787	0	0	0
Future Vol, veh/h	255	1141	0	0	189	833	21	10	787	0	0	0
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.82	0.82	0.82	0.25	0.25	0.25
Heavy Vehicles, %	0	16	0	0	22	10	0	0	16	0	0	0
Mvmt Flow	304	1358	0	0	210	926	26	12	960	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	1040.6	564.6	382.6
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	3%	18%	0%
Vol Thru, %	1%	82%	18%
Vol Right, %	96%	0%	82%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	818	1396	1022
LT Vol	21	255	0
Through Vol	10	1141	189
RT Vol	787	0	833
Lane Flow Rate	998	1662	1136
Geometry Grp	1	1	1
Degree of Util (X)	1.78	3.247	2.171
Departure Headway (Hd)	9.042	10.907	12.456
Convergence, Y/N	Yes	Yes	Yes
Cap	409	349	307
Service Time	7.042	8.907	10.456
HCM Lane V/C Ratio	2.44	4.762	3.7
HCM Control Delay	382.6	1040.6	564.6
HCM Lane LOS	F	F	F
HCM 95th-tile Q	44.8	96.9	47.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	546	1168	214	76	546	164	188	3	60	231	0	288
Future Volume (vph)	546	1168	214	76	546	164	188	3	60	231	0	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	2959	1583	1770	1652	1547	1770	1863	1583		1736	2632
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	2959	1583	1770	1652	1547	1770	1863	1583		1736	2632
Peak-hour factor, PHF	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.92	0.80
Adj. Flow (vph)	628	1343	233	83	593	178	204	3	65	289	0	360
RTOR Reduction (vph)	0	0	89	0	0	97	0	0	56	0	0	120
Lane Group Flow (vph)	628	1343	144	83	593	81	204	3	9	0	289	240
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	9%	22%	2%	2%	15%	3%	2%	2%	2%	4%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	38.5	75.6	75.6	7.9	43.0	43.0	19.9	19.9	19.9		18.0	56.5
Effective Green, g (s)	38.5	75.6	75.6	7.9	43.0	43.0	19.9	19.9	19.9		18.0	56.5
Actuated g/C Ratio	0.27	0.53	0.53	0.06	0.30	0.30	0.14	0.14	0.14		0.13	0.40
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	446	1565	837	97	497	465	246	259	220		218	1040
v/s Ratio Prot	c0.38	0.45		0.05	c0.36		c0.12	0.00			c0.17	0.06
v/s Ratio Perm			0.09			0.05			0.01			0.03
v/c Ratio	1.41	0.86	0.17	0.86	1.19	0.17	0.83	0.01	0.04		1.33	0.23
Uniform Delay, d1	52.2	29.0	17.4	66.9	50.0	36.8	59.8	53.0	53.2		62.5	28.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	196.6	5.4	0.2	48.1	105.4	0.2	20.1	0.0	0.1		174.7	0.1
Delay (s)	248.8	34.4	17.6	115.0	155.3	37.0	79.9	53.0	53.3		237.2	28.9
Level of Service	F	C	B	F	F	D	E	D	D		F	C
Approach Delay (s)		93.7			126.7			73.3			121.6	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	104.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	142.9	Sum of lost time (s)	23.5
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	323	0	1	553	22	0	0	0	14	0	76
Future Volume (veh/h)	132	323	0	1	553	22	0	0	0	14	0	76
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1173	1743	1900	1900	1827	1496				1473	0	1145
Adj Flow Rate, veh/h	150	367	0	1	700	28				16	0	84
Adj No. of Lanes	2	1	0	2	2	1				1	0	1
Peak Hour Factor	0.88	0.88	0.88	0.79	0.79	0.79				0.90	0.90	0.90
Percent Heavy Veh, %	62	9	0	0	4	27				29	0	66
Cap, veh/h	247	938	0	8	1478	530				179	0	124
Arrive On Green	0.11	0.54	0.00	0.00	0.43	0.43				0.13	0.00	0.13
Sat Flow, veh/h	2167	1743	0	3510	3471	1245				1403	0	973
Grp Volume(v), veh/h	150	367	0	1	700	28				16	0	84
Grp Sat Flow(s),veh/h/ln	1083	1743	0	1755	1736	1245				1403	0	973
Q Serve(g_s), s	2.9	5.4	0.0	0.0	6.4	0.6				0.4	0.0	3.6
Cycle Q Clear(g_c), s	2.9	5.4	0.0	0.0	6.4	0.6				0.4	0.0	3.6
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	247	938	0	8	1478	530				179	0	124
V/C Ratio(X)	0.61	0.39	0.00	0.13	0.47	0.05				0.09	0.00	0.68
Avail Cap(c_a), veh/h	1518	1970	0	2459	3922	1407				1046	0	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	18.7	6.0	0.0	22.0	9.1	7.5				17.0	0.0	18.4
Incr Delay (d2), s/veh	2.4	0.6	0.0	6.9	0.5	0.1				0.2	0.0	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.7	0.0	0.0	3.1	0.6				0.2	0.0	2.1
LnGrp Delay(d),s/veh	21.0	6.5	0.0	29.0	9.6	7.6				17.2	0.0	24.6
LnGrp LOS	C	A		C	A	A				B		C
Approach Vol, veh/h		517			729						100	
Approach Delay, s/veh		10.8			9.6						23.5	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	4.6	29.5		10.2	9.6	24.5		
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		
Max Green Setting (Gmax), s	3.1	50.0		33.0	31.0	50.0		
Max Q Clear Time (g_c+I1), s	2.0	7.4		5.6	4.9	8.4		
Green Ext Time (p_c), s	0.0	4.6		0.3	0.5	10.4		

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	297	33	12	393	104	274	403	91	193	140	333
Future Volume (veh/h)	63	297	33	12	393	104	274	403	91	193	140	333
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1834	1900	1900	1792	1863	1900	1810	1900	1827	1874	1900
Adj Flow Rate, veh/h	73	345	38	16	510	135	347	510	115	247	179	427
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.79	0.79	0.79	0.78	0.78	0.78
Percent Heavy Veh, %	6	4	0	0	6	2	0	5	5	4	0	2
Cap, veh/h	154	579	64	38	594	525	326	531	120	310	139	332
Arrive On Green	0.05	0.36	0.36	0.02	0.33	0.33	0.18	0.37	0.37	0.09	0.28	0.28
Sat Flow, veh/h	3312	1620	178	1810	1792	1583	1810	1430	322	3375	492	1174
Grp Volume(v), veh/h	73	0	383	16	510	135	347	0	625	247	0	606
Grp Sat Flow(s),veh/h/ln	1656	0	1798	1810	1792	1583	1810	0	1753	1688	0	1666
Q Serve(g_s), s	2.5	0.0	20.3	1.0	31.0	7.3	21.0	0.0	40.6	8.4	0.0	33.0
Cycle Q Clear(g_c), s	2.5	0.0	20.3	1.0	31.0	7.3	21.0	0.0	40.6	8.4	0.0	33.0
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.18	1.00		0.70
Lane Grp Cap(c), veh/h	154	0	642	38	594	525	326	0	651	310	0	472
V/C Ratio(X)	0.47	0.00	0.60	0.42	0.86	0.26	1.06	0.00	0.96	0.80	0.00	1.28
Avail Cap(c_a), veh/h	739	0	740	326	738	652	326	0	651	608	0	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.2	0.0	30.6	56.4	36.4	28.5	47.8	0.0	35.8	51.9	0.0	41.8
Incr Delay (d2), s/veh	0.8	0.0	2.0	15.4	10.5	0.5	67.9	0.0	25.6	1.8	0.0	143.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	10.5	0.7	17.0	3.3	16.6	0.0	24.2	4.0	0.0	33.9
LnGrp Delay(d),s/veh	55.0	0.0	32.6	71.8	46.9	29.0	115.7	0.0	61.4	53.7	0.0	185.2
LnGrp LOS	E		C	E	D	C	F		E	D		F
Approach Vol, veh/h		456			661			972			853	
Approach Delay, s/veh		36.2			43.9			80.8			147.1	
Approach LOS		D			D			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	47.1	25.2	37.6	9.6	44.1	14.9	47.9
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 21	48.0	* 21	33.0	* 26	48.0	* 21	33.0
Max Q Clear Time (g_c+I1), s	13.0	22.3	23.0	35.0	4.5	33.0	10.4	42.6
Green Ext Time (p_c), s	0.0	4.3	0.0	0.0	0.1	5.6	0.3	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	84.8
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	575	27	41	547	57	58	134	81	129	130	169
Future Volume (veh/h)	68	575	27	41	547	57	58	134	81	129	130	169
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1842	1900	1845	1813	1900	1863	1886	1900	1881	1900	1900
Adj Flow Rate, veh/h	83	701	33	53	701	73	102	235	142	219	220	286
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.82	0.82	0.82	0.78	0.78	0.78	0.57	0.57	0.57	0.59	0.59	0.59
Percent Heavy Veh, %	0	3	6	3	5	3	2	0	2	1	0	0
Cap, veh/h	121	1106	52	95	985	102	175	387	234	278	266	345
Arrive On Green	0.07	0.33	0.33	0.05	0.31	0.31	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1810	3400	160	1757	3148	328	889	1093	660	1009	749	974
Grp Volume(v), veh/h	83	361	373	53	383	391	102	0	377	219	0	506
Grp Sat Flow(s),veh/h/ln	1810	1750	1809	1757	1722	1754	889	0	1753	1009	0	1722
Q Serve(g_s), s	3.3	12.8	12.9	2.2	14.4	14.4	6.3	0.0	13.0	13.0	0.0	19.7
Cycle Q Clear(g_c), s	3.3	12.8	12.9	2.2	14.4	14.4	26.0	0.0	13.0	26.0	0.0	19.7
Prop In Lane	1.00		0.09	1.00		0.19	1.00		0.38	1.00		0.57
Lane Grp Cap(c), veh/h	121	570	589	95	539	548	175	0	622	278	0	611
V/C Ratio(X)	0.69	0.63	0.63	0.56	0.71	0.71	0.58	0.00	0.61	0.79	0.00	0.83
Avail Cap(c_a), veh/h	790	859	888	767	846	861	175	0	622	278	0	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.5	21.0	21.0	33.8	22.3	22.3	34.3	0.0	19.5	31.3	0.0	21.6
Incr Delay (d2), s/veh	6.8	1.7	1.6	5.1	2.5	2.5	4.9	0.0	1.7	14.1	0.0	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	6.5	6.7	1.2	7.2	7.3	2.3	0.0	6.6	5.5	0.0	10.9
LnGrp Delay(d),s/veh	40.2	22.7	22.6	38.9	24.8	24.7	39.2	0.0	21.2	45.4	0.0	30.9
LnGrp LOS	D	C	C	D	C	C	D		C	D		C
Approach Vol, veh/h		817			827			479			725	
Approach Delay, s/veh		24.4			25.7			25.0			35.3	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	30.4		32.5	11.4	29.4		32.5
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	4.0	36.0		26.0	32.0	36.0		26.0
Max Q Clear Time (g_c+I1), s	14.2	14.9		28.0	5.3	16.4		28.0
Green Ext Time (p_c), s	0.1	6.1		0.0	0.2	6.5		0.0

Intersection Summary			
HCM 2010 Ctrl Delay		27.7	
HCM 2010 LOS		C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	530	18	142	528	133	32	158	164	153	126	41
Future Volume (veh/h)	119	530	18	142	528	133	32	158	164	153	126	41
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1814	1900	1792	1827	1845	1900	1827	1900	1900	1863	1776
Adj Flow Rate, veh/h	155	688	23	163	607	153	56	277	288	232	191	62
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.77	0.77	0.77	0.87	0.87	0.87	0.57	0.57	0.57	0.66	0.66	0.66
Percent Heavy Veh, %	0	4	27	6	4	3	0	4	4	0	2	7
Cap, veh/h	186	815	27	192	835	372	80	248	257	264	751	599
Arrive On Green	0.10	0.24	0.24	0.11	0.24	0.24	0.04	0.30	0.30	0.15	0.40	0.40
Sat Flow, veh/h	1810	3401	114	1707	3471	1546	1810	821	854	1810	1863	1485
Grp Volume(v), veh/h	155	348	363	163	607	153	56	0	565	232	191	62
Grp Sat Flow(s),veh/h/ln	1810	1723	1791	1707	1736	1546	1810	0	1675	1810	1863	1485
Q Serve(g_s), s	9.5	21.7	21.8	10.6	18.2	9.4	3.4	0.0	34.0	14.2	7.7	2.9
Cycle Q Clear(g_c), s	9.5	21.7	21.8	10.6	18.2	9.4	3.4	0.0	34.0	14.2	7.7	2.9
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	186	413	429	192	835	372	80	0	505	264	751	599
V/C Ratio(X)	0.83	0.84	0.84	0.85	0.73	0.41	0.70	0.00	1.12	0.88	0.25	0.10
Avail Cap(c_a), veh/h	321	458	477	303	985	439	337	0	505	337	751	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	40.9	40.9	49.1	39.4	36.1	53.2	0.0	39.4	47.2	22.4	21.0
Incr Delay (d2), s/veh	9.2	14.5	14.1	12.2	3.3	1.6	10.7	0.0	76.7	18.9	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	12.0	12.5	5.6	9.1	4.2	2.0	0.0	26.3	8.5	4.0	1.2
LnGrp Delay(d),s/veh	58.8	55.4	55.0	61.2	42.7	37.7	63.9	0.0	116.1	66.1	22.7	21.1
LnGrp LOS	E	E	D	E	D	D	E		F	E	C	C
Approach Vol, veh/h		866			923			621			485	
Approach Delay, s/veh		55.8			45.1			111.4			43.3	
Approach LOS		E			D			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.7	33.0	9.6	51.5	18.6	33.1	21.0	40.0
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	20.0	30.0	21.0	26.0	20.0	32.0	21.0	34.0
Max Q Clear Time (g_c+I1), s	12.6	23.8	5.4	9.7	11.5	20.2	16.2	36.0
Green Ext Time (p_c), s	0.2	3.3	0.1	2.0	0.2	5.6	0.3	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	62.2
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	324	34	12	381	28	56	84	16	6	71	207
Future Volume (veh/h)	238	324	34	12	381	28	56	84	16	6	71	207
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1818	1900	1900	1759	1900	1900	1886	1900	1900	1873	1900
Adj Flow Rate, veh/h	283	386	40	14	443	33	76	114	22	9	106	309
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.74	0.74	0.74	0.67	0.67	0.67
Percent Heavy Veh, %	2	5	0	0	8	0	2	0	0	0	0	2
Cap, veh/h	459	1685	174	572	938	859	187	256	42	63	136	376
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	914	3160	326	975	1759	1610	345	817	135	12	434	1198
Grp Volume(v), veh/h	283	210	216	14	443	33	212	0	0	424	0	0
Grp Sat Flow(s),veh/h/ln	914	1727	1759	975	1759	1610	1296	0	0	1643	0	0
Q Serve(g_s), s	17.4	4.0	4.1	0.5	9.8	0.6	0.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	27.1	4.0	4.1	4.5	9.8	0.6	7.3	0.0	0.0	14.8	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.36		0.10	0.02		0.73
Lane Grp Cap(c), veh/h	459	921	938	572	938	859	486	0	0	575	0	0
V/C Ratio(X)	0.62	0.23	0.23	0.02	0.47	0.04	0.44	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	517	1029	1048	633	1048	960	788	0	0	930	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.5	7.7	7.7	8.9	9.0	6.9	16.7	0.0	0.0	19.7	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.3	0.3	0.0	0.8	0.0	0.6	0.0	0.0	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	1.9	2.0	0.1	4.9	0.3	3.0	0.0	0.0	7.0	0.0	0.0
LnGrp Delay(d),s/veh	20.7	8.0	8.0	9.0	9.8	6.9	17.3	0.0	0.0	21.5	0.0	0.0
LnGrp LOS	C	A	A	A	A	A	B			C		
Approach Vol, veh/h		709			490			212			424	
Approach Delay, s/veh		13.0			9.6			17.3			21.5	
Approach LOS		B			A			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		37.7		24.4		37.7		24.4
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		37.0		33.0		37.0		33.0
Max Q Clear Time (g_c+I1), s		29.1		9.3		11.8		16.8
Green Ext Time (p_c), s		4.0		1.5		5.8		2.7

Intersection Summary	
HCM 2010 Ctrl Delay	14.6
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	140	164	62	9	32	12	185	576	76	32	296	266
Future Vol, veh/h	140	164	62	9	32	12	185	576	76	32	296	266
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	67	67	67	76	76	76	81	81	81
Heavy Vehicles, %	10	4	0	14	9	8	4	6	12	0	12	10
Mvmt Flow	161	189	71	13	48	18	243	758	100	40	365	328

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1773	1789	365	1869	1739	809	365	0	0	858	0	0
Stage 1	445	445	-	1294	1294	-	-	-	-	-	-	-
Stage 2	1328	1344	-	575	445	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.54	6.2	7.24	6.59	6.28	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.036	3.3	3.626	4.081	3.372	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 62	~ 80	685	51	84	371	1183	-	-	791	-	0
Stage 1	577	571	-	189	226	-	-	-	-	-	-	0
Stage 2	184	218	-	483	563	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	~ 45	685	-	~ 47	371	1183	-	-	791	-	-
Mov Cap-2 Maneuver	-	~ 45	-	-	~ 47	-	-	-	-	-	-	-
Stage 1	346	535	-	113	135	-	-	-	-	-	-	-
Stage 2	~ 68	~ 131	-	263	528	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			2	1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	1183	-	-	-	-	371	791	-
HCM Lane V/C Ratio	0.206	-	-	-	-	0.048	0.05	-
HCM Control Delay (s)	8.8	0	-	-	-	15.2	9.8	0
HCM Lane LOS	A	A	-	-	-	C	A	A
HCM 95th %tile Q(veh)	0.8	-	-	-	-	0.2	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	204	81	462	411	62	197	497	359	72	552	94
Future Volume (veh/h)	35	204	81	462	411	62	197	497	359	72	552	94
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1667	1667	1900	1597	1597	1900
Adj Flow Rate, veh/h	42	243	96	600	534	81	246	621	449	100	767	131
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.84	0.84	0.84	0.77	0.77	0.77	0.80	0.80	0.80	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	344	247	97	357	318	48	231	361	261	118	442	76
Arrive On Green	0.19	0.19	0.19	0.20	0.20	0.20	0.15	0.40	0.40	0.08	0.33	0.33
Sat Flow, veh/h	1774	1272	502	1774	1581	240	1587	901	651	1521	1329	227
Grp Volume(v), veh/h	42	0	339	600	0	615	246	0	1070	100	0	898
Grp Sat Flow(s),veh/h/ln	1774	0	1774	1774	0	1820	1587	0	1552	1521	0	1557
Q Serve(g_s), s	2.8	0.0	27.5	29.0	0.0	29.0	21.0	0.0	57.8	9.4	0.0	48.0
Cycle Q Clear(g_c), s	2.8	0.0	27.5	29.0	0.0	29.0	21.0	0.0	57.8	9.4	0.0	48.0
Prop In Lane	1.00		0.28	1.00		0.13	1.00		0.42	1.00		0.15
Lane Grp Cap(c), veh/h	344	0	344	357	0	366	231	0	622	118	0	518
V/C Ratio(X)	0.12	0.00	0.98	1.68	0.00	1.68	1.06	0.00	1.72	0.85	0.00	1.73
Avail Cap(c_a), veh/h	344	0	344	357	0	366	231	0	622	221	0	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	57.9	57.7	0.0	57.7	61.7	0.0	43.2	65.7	0.0	48.2
Incr Delay (d2), s/veh	0.1	0.0	44.2	319.3	0.0	318.1	77.4	0.0	331.3	6.3	0.0	338.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	17.7	45.8	0.0	46.9	14.1	0.0	81.9	4.1	0.0	69.2
LnGrp Delay(d),s/veh	48.1	0.0	102.1	376.9	0.0	375.8	139.1	0.0	374.5	72.0	0.0	386.6
LnGrp LOS	D		F	F		F	F		F	E		F
Approach Vol, veh/h		381			1215			1316			998	
Approach Delay, s/veh		96.1			376.4			330.5			355.1	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		32.2	15.2	62.7		34.2	25.0	52.9
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 28	21.0	48.0		29.0	21.0	48.0
Max Q Clear Time (g_c+I1), s		29.5	11.4	59.8		31.0	23.0	50.0
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	328.2
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	302	33	171	416	61	89	832	75	300	560	127
Future Volume (veh/h)	136	302	33	171	416	61	89	832	75	300	560	127
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1782	1900	1845	1743	1900	1827	1833	1900	1743	1871	1900
Adj Flow Rate, veh/h	181	403	44	225	547	80	105	979	88	390	727	165
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.76	0.76	0.76	0.85	0.85	0.85	0.77	0.77	0.77
Percent Heavy Veh, %	0	7	3	3	9	0	4	1	33	9	1	4
Cap, veh/h	177	449	49	265	560	505	295	950	85	379	1254	285
Arrive On Green	0.07	0.28	0.28	0.10	0.32	0.32	0.05	0.29	0.29	0.20	0.44	0.44
Sat Flow, veh/h	1810	1577	172	1757	1743	1572	1740	3233	291	1660	2866	650
Grp Volume(v), veh/h	181	0	447	225	547	80	105	527	540	390	451	441
Grp Sat Flow(s),veh/h/ln	1810	0	1749	1757	1743	1572	1740	1742	1781	1660	1777	1739
Q Serve(g_s), s	9.5	0.0	35.6	12.8	45.0	5.3	6.1	42.6	42.6	28.8	27.7	27.7
Cycle Q Clear(g_c), s	9.5	0.0	35.6	12.8	45.0	5.3	6.1	42.6	42.6	28.8	27.7	27.7
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.16	1.00		0.37
Lane Grp Cap(c), veh/h	177	0	498	265	560	505	295	512	523	379	778	761
V/C Ratio(X)	1.02	0.00	0.90	0.85	0.98	0.16	0.36	1.03	1.03	1.03	0.58	0.58
Avail Cap(c_a), veh/h	177	0	498	310	560	505	308	512	523	379	778	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	0.0	49.8	35.9	48.7	35.2	32.9	51.2	51.2	46.8	30.7	30.7
Incr Delay (d2), s/veh	73.4	0.0	18.3	15.2	31.8	0.1	0.3	47.9	47.5	53.6	0.7	0.7
Initial Q Delay(d3),s/veh	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	19.7	7.2	26.5	2.3	2.9	27.3	27.8	20.8	13.7	13.5
LnGrp Delay(d),s/veh	115.2	0.0	68.1	51.1	80.5	35.2	33.2	99.1	98.7	100.4	31.4	31.5
LnGrp LOS	F		E	D	F	D	C	F	F	F	C	C
Approach Vol, veh/h		628			852			1172			1282	
Approach Delay, s/veh		81.7			68.5			93.0			52.4	
Approach LOS		F			E			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	51.2	32.8	47.5	18.8	45.9	12.0	68.3
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	9.5	46.6	28.8	42.6	18.5	37.6	9.0	62.4
Max Q Clear Time (g_c+I1), s	11.5	47.0	30.8	44.6	14.8	37.6	8.1	29.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8

Intersection Summary		
HCM 2010 Ctrl Delay		72.7
HCM 2010 LOS		E

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	526	256	11	100	148	113	793	0	285	552	0
Future Vol, veh/h	0	526	256	11	100	148	113	793	0	285	552	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	71	71	71	77	77	77	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	19	19	19
Mvmt Flow	0	822	400	15	141	208	147	1030	0	407	789	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3102	2927	789	3538	2927	1030	789	0	0	1030	0	0
Stage 1	1603	1603	-	1324	1324	-	-	-	-	-	-	-
Stage 2	1499	1324	-	2214	1603	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.24	-	-	4.29	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.326	-	-	2.371	-	-
Pot Cap-1 Maneuver	7	~ 15	~ 391	~ 3	~ 15	283	780	-	-	613	-	-
Stage 1	133	~ 165	-	192	225	-	-	-	-	-	-	-
Stage 2	152	~ 225	-	58	165	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	~ 391	-	0	283	780	-	-	613	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	74	0	-	108	~ 126	-	-	-	-	-	-	-
Stage 2	-	~ 126	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.3	7.4
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	780	-	-	-	391	-	613	-	-
HCM Lane V/C Ratio	0.188	-	-	-	1.023	-	0.664	-	-
HCM Control Delay (s)	10.7	0	-	-	84.7	-	21.7	0	-
HCM Lane LOS	B	A	-	-	F	-	C	A	-
HCM 95th %tile Q(veh)	0.7	-	-	-	12.8	-	5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	812.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	159	83	52	272	32	579	39	193	2	1	0
Future Vol, veh/h	14	159	83	52	272	32	579	39	193	2	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	69	69	69	58	58	58	75	75	75
Heavy Vehicles, %	0	0	42	25	10	0	53	0	40	0	100	0
Mvmt Flow	20	224	117	75	394	46	998	67	333	3	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	440	0	0	341	0	0	891	913	284	1091	948	417
Stage 1	-	-	-	-	-	-	323	323	-	567	567	-
Stage 2	-	-	-	-	-	-	568	590	-	524	381	-
Critical Hdwy	4.1	-	-	4.35	-	-	7.63	6.5	6.6	7.1	7.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.63	5.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.63	5.5	-	6.1	6.5	-
Follow-up Hdwy	2.2	-	-	2.425	-	-	3.977	4	3.66	3.5	4.9	3.3
Pot Cap-1 Maneuver	1131	-	-	1100	-	-	~ 215	276	673	194	181	640
Stage 1	-	-	-	-	-	-	~ 594	654	-	512	379	-
Stage 2	-	-	-	-	-	-	~ 428	498	-	540	473	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1131	-	-	1100	-	-	~ 200	253	672	73	166	640
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 200	253	-	73	166	-
Stage 1	-	-	-	-	-	-	~ 583	642	-	503	353	-
Stage 2	-	-	-	-	-	-	~ 397	464	-	240	464	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.2	$ 1323.3	46.9
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	200	526	1131	-	-	1100	-	-	90
HCM Lane V/C Ratio	4.991	0.76	0.017	-	-	0.069	-	-	0.044
HCM Control Delay (s)	$ 1841.4	30.4	8.2	-	-	8.5	-	-	46.9
HCM Lane LOS	F	D	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	103.4	6.7	0.1	-	-	0.2	-	-	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	52	0	50	627	27	0	1024	7	104	481	0
Future Vol, veh/h	97	52	0	50	627	27	0	1024	7	104	481	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	0	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	63	63	63	82	82	82	53	53	53
Heavy Vehicles, %	2	2	2	44	0	14	0	2	25	9	7	0
Mvmt Flow	388	208	0	79	995	43	0	1249	9	196	908	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3073	2558	908	2653	2549	1249	908	0	0	1258	0	0
Stage 1	1300	1300	-	1249	1249	-	-	-	-	-	-	-
Stage 2	1773	1258	-	1404	1300	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.54	6.5	6.34	4.1	-	-	4.19	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.54	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.54	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.896	4	3.426	2.2	-	-	2.281	-	-
Pot Cap-1 Maneuver	~ 7	~ 26	334	~ 11	~ 27	199	758	-	-	530	-	-
Stage 1	~ 198	231	-	174	~ 247	-	-	-	-	-	-	-
Stage 2	~ 106	242	-	140	~ 233	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 16	334	-	~ 17	199	758	-	-	530	-	-
Mov Cap-2 Maneuver	-	~ 16	-	-	~ 17	-	-	-	-	-	-	-
Stage 1	~ 198	~ 146	-	174	~ 247	-	-	-	-	-	-	-
Stage 2	-	242	-	-	~ 147	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	2.8
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	758	-	-	-	-	199	530	-	-
HCM Lane V/C Ratio	-	-	-	-	-	0.215	0.37	-	-
HCM Control Delay (s)	0	-	-	-	-	28	15.7	-	-
HCM Lane LOS	A	-	-	-	-	D	C	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0.8	1.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	37403.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	24	39	251	337	178	0	306	63	0	729	49
Future Vol, veh/h	0	24	39	251	337	178	0	306	63	0	729	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	61	61	61	83	83	83	63	63	63
Heavy Vehicles, %	5	5	5	2	2	2	19	19	19	16	16	16
Mvmt Flow	0	96	156	411	552	292	0	369	76	0	1157	78

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2025	1641	1196	1729	1642	407	1235	0	0	445	0	0
Stage 1	1196	1196	-	407	407	-	-	-	-	-	-	-
Stage 2	829	445	-	1322	1235	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.29	-	-	4.26	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.371	-	-	2.344	-	-
Pot Cap-1 Maneuver	42	98	224	~ 69	~ 100	644	509	-	-	1045	-	-
Stage 1	224	256	-	621	597	-	-	-	-	-	-	-
Stage 2	361	570	-	~ 193	~ 249	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	98	224	~ 2	~ 100	644	509	-	-	1045	-	-
Mov Cap-2 Maneuver	-	98	-	~ 2	~ 100	-	-	-	-	-	-	-
Stage 1	224	256	-	621	597	-	-	-	-	-	-	-
Stage 2	15	570	-	~ 37	~ 249	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 94934.4	0	0
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	509	-	-	-	6	1045	-	-
HCM Lane V/C Ratio	-	-	-	-	209.29	-	-	-
HCM Control Delay (s)	0	-	-	$ 94934.4	0	-	-	-
HCM Lane LOS	A	-	-	-	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	159.2	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	1058.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	79	54	624	370	69	7	566	234	29	623	0
Future Vol, veh/h	0	79	54	624	370	69	7	566	234	29	623	0
Peak Hour Factor	0.55	0.55	0.55	0.58	0.58	0.58	0.78	0.78	0.78	0.75	0.75	0.75
Heavy Vehicles, %	5	5	5	2	2	2	5	5	5	18	18	18
Mvmt Flow	0	144	98	1076	638	119	9	726	300	39	831	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	104.7	1592.4	722.9	598.5
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	0%	59%	4%
Vol Thru, %	70%	59%	35%	96%
Vol Right, %	29%	41%	6%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	807	133	1063	652
LT Vol	7	0	624	29
Through Vol	566	79	370	623
RT Vol	234	54	69	0
Lane Flow Rate	1035	242	1833	869
Geometry Grp	1	1	1	1
Degree of Util (X)	2.46	0.634	4.459	2.164
Departure Headway (Hd)	24.292	44.488	14.44	26.451
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	166	85	275	148
Service Time	22.292	42.488	12.44	24.451
HCM Lane V/C Ratio	6.235	2.847	6.665	5.872
HCM Control Delay	722.9	104.7	1592.4	598.5
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	31.4	2.9	111.5	24.3

Intersection	
Int Delay, s/veh	168.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	222	339	1336	291	327	52
Future Vol, veh/h	222	339	1336	291	327	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	87	87	77	77
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	308	471	1536	334	425	68

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3865	459	493	0	-	0
Stage 1	459	-	-	-	-	-
Stage 2	3406	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	~ 4	596	~ 1002	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	~ 20	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	596	~ 1002	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	~ 20	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	171.5	212	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 1002	-	596	-	-
HCM Lane V/C Ratio	1.533	-	1.307	-	-
HCM Control Delay (s)	258.2	0	171.5	-	-
HCM Lane LOS	F	A	F	-	-
HCM 95th %tile Q(veh)	74.4	-	32	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1017.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	276	313	975	48	23	685
Future Vol, veh/h	276	313	975	48	23	685
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	83	83	79	79
Heavy Vehicles, %	29	29	16	16	17	17
Mvmt Flow	329	373	1175	58	29	867

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2129	1204	0	0	1233	0
Stage 1	1204	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Critical Hdwy	6.69	6.49	-	-	4.27	-
Critical Hdwy Stg 1	5.69	-	-	-	-	-
Critical Hdwy Stg 2	5.69	-	-	-	-	-
Follow-up Hdwy	3.761	3.561	-	-	2.353	-
Pot Cap-1 Maneuver	~ 46	~ 197	-	-	516	-
Stage 1	~ 251	-	-	-	-	-
Stage 2	346	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 41	~ 197	-	-	516	-
Mov Cap-2 Maneuver	~ 41	-	-	-	-	-
Stage 1	~ 251	-	-	-	-	-
Stage 2	~ 309	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 4105.5	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	71	516	-
HCM Lane V/C Ratio	-	-	9.876	0.056	-
HCM Control Delay (s)	-	-	$ 4105.5	12.4	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	82	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1174.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	636	15	3	787	515	93
Future Vol, veh/h	636	15	3	787	515	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	86	86	77	77
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	883	21	3	915	669	121

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1651	730	790	0	-	0
Stage 1	730	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	~ 107	417	771	-	-	-
Stage 1	~ 472	-	-	-	-	-
Stage 2	~ 383	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 106	417	771	-	-	-
Mov Cap-2 Maneuver	~ 106	-	-	-	-	-
Stage 1	~ 468	-	-	-	-	-
Stage 2	~ 383	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 3393.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	771	-	108	-	-
HCM Lane V/C Ratio	0.005	-	8.372	-	-
HCM Control Delay (s)	9.7	$	3393.1	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	102.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	449.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	657	167	6	395	454	64
Future Vol, veh/h	657	167	6	395	454	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	79	95	95	84	84
Heavy Vehicles, %	17	17	16	16	19	19
Mvmt Flow	900	211	6	416	540	76

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1111	0	1434	1006
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	428	-
Critical Hdwy	-	-	4.26	-	6.59	6.39
Critical Hdwy Stg 1	-	-	-	-	5.59	-
Critical Hdwy Stg 2	-	-	-	-	5.59	-
Follow-up Hdwy	-	-	2.344	-	3.671	3.471
Pot Cap-1 Maneuver	-	-	579	-	~ 135	272
Stage 1	-	-	-	-	~ 329	-
Stage 2	-	-	-	-	623	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	579	-	~ 133	272
Mov Cap-2 Maneuver	-	-	-	-	~ 133	-
Stage 1	-	-	-	-	~ 329	-
Stage 2	-	-	-	-	615	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	$ 1566.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	142	-	-	579	-
HCM Lane V/C Ratio	4.343	-	-	0.011	-
HCM Control Delay (s)	$ 1566.8	-	-	11.3	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	63	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	33.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	62	43	0	416	21	7	27	0	0	131	11
Future Vol, veh/h	25	62	43	0	416	21	7	27	0	0	131	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	77	77	77	75	75	75
Heavy Vehicles, %	20	20	20	29	29	29	2	2	2	2	2	2
Mvmt Flow	33	83	57	0	555	28	9	35	0	0	175	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	528	236	183	306	243	35	190	0	0	35	0	0
Stage 1	183	183	-	53	53	-	-	-	-	-	-	-
Stage 2	345	53	-	253	190	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.39	6.79	6.49	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.761	4.261	3.561	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	434	635	815	597	615	966	1384	-	-	1576	-	-
Stage 1	779	716	-	896	800	-	-	-	-	-	-	-
Stage 2	635	817	-	695	695	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	89	631	815	497	611	966	1384	-	-	1576	-	-
Mov Cap-2 Maneuver	89	631	-	497	611	-	-	-	-	-	-	-
Stage 1	774	716	-	890	794	-	-	-	-	-	-	-
Stage 2	185	811	-	572	695	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32	48	1.6	0
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1384	-	-	301	622	1576	-	-
HCM Lane V/C Ratio	0.007	-	-	0.576	0.937	-	-	-
HCM Control Delay (s)	7.6	0	-	32	48	0	-	-
HCM Lane LOS	A	A	-	D	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	3.4	12.5	0	-	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	87	1	4	0	149	299	11	1	20	1
Future Vol, veh/h	10	10	87	1	4	0	149	299	11	1	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	39	39	39	42	42	42	72	72	72	69	69	69
Heavy Vehicles, %	20	20	20	29	29	29	2	2	2	2	2	2
Mvmt Flow	26	26	223	2	10	0	207	415	15	1	29	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	874	876	30	993	869	423	30	0	0	430	0	0
Stage 1	32	32	-	837	837	-	-	-	-	-	-	-
Stage 2	842	844	-	156	32	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.39	6.79	6.49	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.761	4.261	3.561	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	251	269	995	200	263	577	1583	-	-	1129	-	-
Stage 1	940	834	-	325	346	-	-	-	-	-	-	-
Stage 2	334	355	-	786	818	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	211	222	995	123	218	577	1583	-	-	1129	-	-
Mov Cap-2 Maneuver	211	222	-	123	218	-	-	-	-	-	-	-
Stage 1	778	833	-	269	286	-	-	-	-	-	-	-
Stage 2	267	294	-	590	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	25.3	2.5	0.4
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1583	-	-	595	189	1129	-	-
HCM Lane V/C Ratio	0.131	-	-	0.461	0.063	0.001	-	-
HCM Control Delay (s)	7.6	0	-	16.1	25.3	8.2	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	2.4	0.2	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	600	9	16	601	66	3	31	56	145	95	39
Future Volume (veh/h)	16	600	9	16	601	66	3	31	56	145	95	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	706	11	19	699	77	3	34	62	191	125	51
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.86	0.86	0.86	0.90	0.90	0.90	0.76	0.76	0.76
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	38	795	12	35	668	74	7	59	108	150	228	93
Arrive On Green	0.02	0.46	0.46	0.02	0.46	0.46	0.00	0.10	0.10	0.08	0.18	0.18
Sat Flow, veh/h	1675	1728	27	1560	1450	160	1774	592	1080	1774	1259	514
Grp Volume(v), veh/h	19	0	717	19	0	776	3	0	96	191	0	176
Grp Sat Flow(s),veh/h/ln	1675	0	1755	1560	0	1610	1774	0	1672	1774	0	1772
Q Serve(g_s), s	0.7	0.0	22.0	0.7	0.0	27.2	0.1	0.0	3.2	5.0	0.0	5.3
Cycle Q Clear(g_c), s	0.7	0.0	22.0	0.7	0.0	27.2	0.1	0.0	3.2	5.0	0.0	5.3
Prop In Lane	1.00		0.02	1.00		0.10	1.00		0.65	1.00		0.29
Lane Grp Cap(c), veh/h	38	0	808	35	0	741	7	0	168	150	0	321
V/C Ratio(X)	0.50	0.00	0.89	0.54	0.00	1.05	0.42	0.00	0.57	1.27	0.00	0.55
Avail Cap(c_a), veh/h	142	0	808	132	0	741	150	0	657	150	0	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.5	0.0	14.5	28.6	0.0	15.9	29.3	0.0	25.4	27.0	0.0	22.0
Incr Delay (d2), s/veh	9.8	0.0	11.8	12.1	0.0	46.0	34.0	0.0	3.0	164.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	13.2	0.4	0.0	21.4	0.1	0.0	1.6	9.3	0.0	2.7
LnGrp Delay(d),s/veh	38.4	0.0	26.3	40.6	0.0	61.9	63.3	0.0	28.4	191.2	0.0	23.5
LnGrp LOS	D		C	D		F	E		C	F		C
Approach Vol, veh/h		736			795			99			367	
Approach Delay, s/veh		26.6			61.4			29.5			110.8	
Approach LOS		C			E			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	11.7	5.3	33.0	4.2	16.5	5.3	33.0
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	5.0	23.2	5.0	27.2	5.0	23.2	5.0	27.2
Max Q Clear Time (g_c+I1), s	7.0	5.2	2.7	24.0	2.1	7.3	2.7	29.2
Green Ext Time (p_c), s	0.0	0.4	0.0	1.4	0.0	0.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	56.1
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	868	8	23	759	79	10	10	26	156	16	19
Future Volume (veh/h)	4	868	8	23	759	79	10	10	26	156	16	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	5	1033	10	27	883	92	12	12	32	177	18	22
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.82	0.82	0.82	0.88	0.88	0.88
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	11	809	8	49	715	74	120	105	184	356	26	28
Arrive On Green	0.01	0.47	0.47	0.03	0.49	0.49	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1675	1739	17	1560	1459	152	172	553	966	1180	137	148
Grp Volume(v), veh/h	5	0	1043	27	0	975	56	0	0	217	0	0
Grp Sat Flow(s),veh/h/ln	1675	0	1756	1560	0	1611	1691	0	0	1465	0	0
Q Serve(g_s), s	0.1	0.0	23.2	0.9	0.0	24.4	0.0	0.0	0.0	5.5	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	23.2	0.9	0.0	24.4	1.4	0.0	0.0	6.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.09	0.21		0.57	0.82		0.10
Lane Grp Cap(c), veh/h	11	0	817	49	0	789	410	0	0	410	0	0
V/C Ratio(X)	0.44	0.00	1.28	0.55	0.00	1.24	0.14	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	168	0	817	156	0	789	780	0	0	741	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.7	0.0	13.3	23.8	0.0	12.7	16.9	0.0	0.0	19.0	0.0	0.0
Incr Delay (d2), s/veh	25.2	0.0	133.9	9.4	0.0	116.8	0.1	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	41.3	0.5	0.0	36.1	0.7	0.0	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	49.8	0.0	147.2	33.2	0.0	129.5	17.0	0.0	0.0	20.1	0.0	0.0
LnGrp LOS	D		F	C		F	B			C		
Approach Vol, veh/h		1048			1002			56			217	
Approach Delay, s/veh		146.7			127.0			17.0			20.1	
Approach LOS		F			F			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		15.3	5.6	29.0		15.3	4.3	30.2
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		21.2	5.0	23.2		21.2	5.0	23.2
Max Q Clear Time (g_c+I1), s		3.4	2.9	25.2		8.9	2.1	26.4
Green Ext Time (p_c), s		0.2	0.0	0.0		0.8	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		123.2
HCM 2010 LOS		F

Intersection	
Int Delay, s/veh	154.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	487	846	532	3	14	626
Future Vol, veh/h	487	846	532	3	14	626
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	78	78	69	69
Heavy Vehicles, %	11	11	14	14	2	2
Mvmt Flow	553	961	682	4	20	907

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	686	0	-	0	2751	684
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	2067	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	867	-	-	-	22	~ 449
Stage 1	-	-	-	-	501	-
Stage 2	-	-	-	-	106	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	867	-	-	-	~ 8	~ 449
Mov Cap-2 Maneuver	-	-	-	-	~ 8	-
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	106	-

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	$ 511.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	867	-	-	-	8	449
HCM Lane V/C Ratio	0.638	-	-	-	2.536	2.021
HCM Control Delay (s)	16.2	-	-	-	$ 1596.3	$ 487.6
HCM Lane LOS	C	-	-	-	F	F
HCM 95th %tile Q(veh)	4.7	-	-	-	3.6	62.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	256.4
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	75	636	394	518	209	150
Future Vol, veh/h	75	636	394	518	209	150
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	691	428	563	227	163
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	176.3	406.9	32.6
HCM LOS	F	F	D

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	43%	11%	0%
Vol Thru, %	57%	0%	58%
Vol Right, %	0%	89%	42%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	912	711	359
LT Vol	394	75	0
Through Vol	518	0	209
RT Vol	0	636	150
Lane Flow Rate	991	773	390
Geometry Grp	1	1	1
Degree of Util (X)	1.845	1.309	0.735
Departure Headway (Hd)	7.629	7.511	8.821
Convergence, Y/N	Yes	Yes	Yes
Cap	486	495	414
Service Time	5.629	5.511	6.821
HCM Lane V/C Ratio	2.039	1.562	0.942
HCM Control Delay	406.9	176.3	32.6
HCM Lane LOS	F	F	D
HCM 95th-tile Q	55.7	27.2	5.8

Intersection	
Intersection Delay, s/veh	233.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	431	120	200	244	100	566	0	280	0	0	0
Future Vol, veh/h	0	431	120	200	244	100	566	0	280	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	468	130	217	265	109	615	0	304	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	121.8	122.6	377.3	0
HCM LOS	F	F	F	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	67%	0%	37%	0%
Vol Thru, %	0%	78%	45%	100%
Vol Right, %	33%	22%	18%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	846	551	544	0
LT Vol	566	0	200	0
Through Vol	0	431	244	0
RT Vol	280	120	100	0
Lane Flow Rate	920	599	591	0
Geometry Grp	1	1	1	1
Degree of Util (X)	1.779	1.148	1.149	0
Departure Headway (Hd)	7.452	9.136	9.234	13.035
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	497	401	396	0
Service Time	5.452	7.136	7.234	11.035
HCM Lane V/C Ratio	1.851	1.494	1.492	0
HCM Control Delay	377.3	121.8	122.6	16
HCM Lane LOS	F	F	F	N
HCM 95th-tile Q	53.1	17.2	17.1	0

Intersection	
Intersection Delay, s/veh	906.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	123	71	89	199	289	50	536	712	601	607	13
Future Vol, veh/h	41	123	71	89	199	289	50	536	712	601	607	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	19	19	19	19	19	19
Mvmt Flow	45	134	77	97	216	314	54	583	774	653	660	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	82.5	287.2	1135.7	1114.3
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	17%	15%	49%
Vol Thru, %	41%	52%	34%	50%
Vol Right, %	55%	30%	50%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1298	235	577	1221
LT Vol	50	41	89	601
Through Vol	536	123	199	607
RT Vol	712	71	289	13
Lane Flow Rate	1411	255	627	1327
Geometry Grp	1	1	1	1
Degree of Util (X)	3.429	0.673	1.483	3.378
Departure Headway (Hd)	16.653	31.162	18.996	17.242
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	240	120	201	226
Service Time	14.653	29.162	16.996	15.242
HCM Lane V/C Ratio	5.879	2.125	3.119	5.872
HCM Control Delay	1135.7	82.5	287.2	1114.3
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	69.6	3.5	17.5	66.1

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	76	505	88	64	93
Future Vol, veh/h	19	76	505	88	64	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	83	549	96	70	101

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	838	597	0	0	645	0
Stage 1	597	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	336	503	-	-	940	-
Stage 1	550	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	309	503	-	-	940	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	736	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.5	0	3.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	447	940	-
HCM Lane V/C Ratio	-	-	0.231	0.074	-
HCM Control Delay (s)	-	-	15.5	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	20	18	10	24	40	55	719	11	98	503	0
Future Vol, veh/h	0	20	18	10	24	40	55	719	11	98	503	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	0	22	20	11	26	43	60	782	12	107	547	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1704	1675	547	1690	1669	788	547	0	0	794	0	0
Stage 1	761	761	-	908	908	-	-	-	-	-	-	-
Stage 2	943	914	-	782	761	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.32	-	-	4.32	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.398	-	-	2.398	-	-
Pot Cap-1 Maneuver	72	95	537	74	96	391	929	-	-	746	-	-
Stage 1	398	414	-	330	354	-	-	-	-	-	-	-
Stage 2	315	352	-	387	414	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	35	67	537	42	67	391	929	-	-	746	-	-
Mov Cap-2 Maneuver	35	67	-	42	67	-	-	-	-	-	-	-
Stage 1	352	329	-	292	313	-	-	-	-	-	-	-
Stage 2	227	311	-	277	329	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	53.5	105.3	0.6	1.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	929	-	-	114	106	746	-	-
HCM Lane V/C Ratio	0.064	-	-	0.362	0.759	0.143	-	-
HCM Control Delay (s)	9.1	0	-	53.5	105.3	10.6	0	-
HCM Lane LOS	A	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.5	4.1	0.5	-	-

Intersection	
Intersection Delay, s/veh	80.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	27	36	144	186	39	85	430	72	32	276	27
Future Vol, veh/h	8	27	36	144	186	39	85	430	72	32	276	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	9	29	39	157	202	42	92	467	78	35	300	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.8	33.1	148.7	28.9
HCM LOS	B	D	F	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	11%	39%	10%
Vol Thru, %	73%	38%	50%	82%
Vol Right, %	12%	51%	11%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	587	71	369	335
LT Vol	85	8	144	32
Through Vol	430	27	186	276
RT Vol	72	36	39	27
Lane Flow Rate	638	77	401	364
Geometry Grp	1	1	1	1
Degree of Util (X)	1.245	0.175	0.783	0.729
Departure Headway (Hd)	7.022	8.89	7.642	7.761
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	523	406	477	470
Service Time	5.029	6.89	5.642	5.761
HCM Lane V/C Ratio	1.22	0.19	0.841	0.774
HCM Control Delay	148.7	13.8	33.1	28.9
HCM Lane LOS	F	B	D	D
HCM 95th-tile Q	25.2	0.6	7	5.9

Intersection	
Intersection Delay, s/veh	598.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	302	26	499	462	0	0	0	0	1207	2	60
Future Vol, veh/h	0	302	26	499	462	0	0	0	0	1207	2	60
Peak Hour Factor	0.84	0.84	0.84	0.92	0.92	0.92	0.25	0.25	0.25	0.95	0.95	0.95
Heavy Vehicles, %	0	4	0	14	0	0	0	0	0	39	4	2
Mvmt Flow	0	360	31	542	502	0	0	0	0	1271	2	63
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	48.5	504.8	832.6
HCM LOS	E	F	F

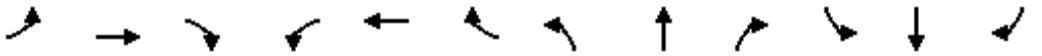
Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	52%	95%
Vol Thru, %	92%	48%	0%
Vol Right, %	8%	0%	5%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	328	961	1269
LT Vol	0	499	1207
Through Vol	302	462	2
RT Vol	26	0	60
Lane Flow Rate	390	1045	1336
Geometry Grp	1	1	1
Degree of Util (X)	0.752	2.043	2.792
Departure Headway (Hd)	13.566	11.296	9.169
Convergence, Y/N	Yes	Yes	Yes
Cap	269	334	414
Service Time	11.566	9.296	7.169
HCM Lane V/C Ratio	1.45	3.129	3.227
HCM Control Delay	48.5	504.8	832.6
HCM Lane LOS	E	F	F
HCM 95th-tile Q	5.5	46.8	92.4

Intersection	
Intersection Delay, s/veh	994.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	1470	0	0	957	938	4	7	449	0	0	0
Future Vol, veh/h	39	1470	0	0	957	938	4	7	449	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.94	0.94	0.94	0.90	0.90	0.90	0.25	0.25	0.25
Heavy Vehicles, %	10	8	0	0	10	21	0	50	20	0	0	0
Mvmt Flow	41	1547	0	0	1018	998	4	8	499	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	964.2	1257	54.5
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	1%	3%	0%
Vol Thru, %	2%	97%	51%
Vol Right, %	98%	0%	49%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	460	1509	1895
LT Vol	4	39	0
Through Vol	7	1470	957
RT Vol	449	0	938
Lane Flow Rate	511	1588	2016
Geometry Grp	1	1	1
Degree of Util (X)	0.91	3.079	3.738
Departure Headway (Hd)	8.7	10.446	9.32
Convergence, Y/N	Yes	Yes	Yes
Cap	419	365	423
Service Time	6.7	8.446	7.32
HCM Lane V/C Ratio	1.22	4.351	4.766
HCM Control Delay	54.5	964.2	1257
HCM Lane LOS	F	F	F
HCM 95th-tile Q	9.8	93.8	136.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	1402	267	113	697	207	278	8	117	457	0	920
Future Volume (vph)	250	1402	267	113	697	207	278	8	117	457	0	920
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	3282	1583	1770	1610	1583	1770	1863	1583		1787	2493
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	3282	1583	1770	1610	1583	1770	1863	1583		1787	2493
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.88	0.88	0.92	0.92	0.92	0.91	0.92	0.91
Adj. Flow (vph)	269	1508	290	123	792	235	302	9	127	502	0	1011
RTOR Reduction (vph)	0	0	100	0	0	86	0	0	107	0	0	90
Lane Group Flow (vph)	269	1508	190	123	792	149	302	9	20	0	502	921
Heavy Vehicles (%)	9%	10%	2%	2%	18%	2%	2%	2%	2%	1%	2%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	17.5	64.9	64.9	10.1	55.5	55.5	22.5	22.5	22.5		26.0	43.5
Effective Green, g (s)	17.5	64.9	64.9	10.1	55.5	55.5	22.5	22.5	22.5		26.0	43.5
Actuated g/C Ratio	0.12	0.45	0.45	0.07	0.38	0.38	0.16	0.16	0.16		0.18	0.30
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	199	1468	708	123	616	605	274	289	245		320	747
v/s Ratio Prot	c0.16	0.46		0.07	c0.49		c0.17	0.00			c0.28	0.15
v/s Ratio Perm			0.12			0.09			0.01			0.22
v/c Ratio	1.35	1.03	0.27	1.00	1.29	0.25	1.10	0.03	0.08		1.57	1.23
Uniform Delay, d1	63.8	40.0	25.1	67.5	44.8	30.5	61.2	52.0	52.4		59.5	50.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	187.6	30.7	0.4	81.2	140.6	0.2	84.5	0.0	0.1		270.6	116.5
Delay (s)	251.4	70.8	25.6	148.6	185.3	30.7	145.8	52.0	52.5		330.1	167.3
Level of Service	F	E	C	F	F	C	F	D	D		F	F
Approach Delay (s)		87.9			149.8			116.8			221.3	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	143.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	596	0	6	405	114	0	0	0	160	0	194
Future Volume (veh/h)	142	596	0	6	405	114	0	0	0	160	0	194
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1173	1743	1900	1900	1827	1496				1473	0	1145
Adj Flow Rate, veh/h	151	634	0	7	450	127				250	0	303
Adj No. of Lanes	2	1	0	2	2	1				1	0	1
Peak Hour Factor	0.94	0.94	0.94	0.90	0.90	0.90				0.64	0.64	0.64
Percent Heavy Veh, %	62	9	0	0	4	27				29	0	66
Cap, veh/h	209	782	0	38	1259	461				481	0	334
Arrive On Green	0.10	0.45	0.00	0.01	0.36	0.36				0.34	0.00	0.34
Sat Flow, veh/h	2167	1743	0	3510	3471	1272				1403	0	973
Grp Volume(v), veh/h	151	634	0	7	450	127				250	0	303
Grp Sat Flow(s),veh/h/ln	1083	1743	0	1755	1736	1272				1403	0	973
Q Serve(g_s), s	5.0	23.4	0.0	0.1	7.1	5.3				10.6	0.0	22.1
Cycle Q Clear(g_c), s	5.0	23.4	0.0	0.1	7.1	5.3				10.6	0.0	22.1
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	209	782	0	38	1259	461				481	0	334
V/C Ratio(X)	0.72	0.81	0.00	0.18	0.36	0.28				0.52	0.00	0.91
Avail Cap(c_a), veh/h	904	1172	0	1464	2335	855				623	0	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	17.8	0.0	36.4	17.3	16.8				19.5	0.0	23.3
Incr Delay (d2), s/veh	4.6	4.7	0.0	2.3	0.4	0.7				0.9	0.0	19.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	12.1	0.0	0.1	3.4	4.4				4.2	0.0	12.1
LnGrp Delay(d),s/veh	37.2	22.5	0.0	38.7	17.7	17.5				20.4	0.0	42.7
LnGrp LOS	D	C		D	B	B				C		D
Approach Vol, veh/h		785			584						553	
Approach Delay, s/veh		25.3			17.9						32.6	
Approach LOS		C			B						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	5.3	39.0		30.0	11.7	32.7		
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		
Max Green Setting (Gmax), s	3.6	50.0		33.0	31.0	50.0		
Max Q Clear Time (g_c+I1), s	2.1	25.4		24.1	7.0	9.1		
Green Ext Time (p_c), s	0.0	7.9		1.4	0.5	7.1		

Intersection Summary	
HCM 2010 Ctrl Delay	25.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	531	58	18	494	95	181	118	95	438	204	336
Future Volume (veh/h)	104	531	58	18	494	95	181	118	95	438	204	336
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1850	1900	1743	1827	1900	1900	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	114	584	64	20	555	107	232	151	122	548	255	420
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.91	0.91	0.91	0.89	0.89	0.89	0.78	0.78	0.78	0.80	0.80	0.80
Percent Heavy Veh, %	1	3	0	9	4	0	0	0	0	1	0	0
Cap, veh/h	175	633	69	41	659	582	261	248	200	603	184	303
Arrive On Green	0.05	0.39	0.39	0.02	0.36	0.36	0.14	0.26	0.26	0.17	0.28	0.28
Sat Flow, veh/h	3476	1639	180	1660	1827	1615	1810	968	782	3476	647	1065
Grp Volume(v), veh/h	114	0	648	20	555	107	232	0	273	548	0	675
Grp Sat Flow(s),veh/h/ln	1738	0	1818	1660	1827	1615	1810	0	1750	1738	0	1712
Q Serve(g_s), s	3.7	0.0	39.3	1.4	32.3	5.3	14.6	0.0	15.9	17.9	0.0	33.0
Cycle Q Clear(g_c), s	3.7	0.0	39.3	1.4	32.3	5.3	14.6	0.0	15.9	17.9	0.0	33.0
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.45	1.00		0.62
Lane Grp Cap(c), veh/h	175	0	703	41	659	582	261	0	447	603	0	488
V/C Ratio(X)	0.65	0.00	0.92	0.49	0.84	0.18	0.89	0.00	0.61	0.91	0.00	1.38
Avail Cap(c_a), veh/h	780	0	753	301	757	669	328	0	499	630	0	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.0	0.0	33.9	55.8	34.0	25.4	48.6	0.0	38.0	47.0	0.0	41.4
Incr Delay (d2), s/veh	1.5	0.0	17.2	18.2	9.2	0.3	18.5	0.0	1.8	16.2	0.0	185.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	23.0	0.8	17.9	2.4	8.6	0.0	8.0	10.0	0.0	40.5
LnGrp Delay(d),s/veh	55.5	0.0	51.1	73.9	43.2	25.7	67.2	0.0	39.8	63.2	0.0	226.6
LnGrp LOS	E		D	E	D	C	E		D	E		F
Approach Vol, veh/h		762			682			505			1223	
Approach Delay, s/veh		51.8			41.4			52.4			153.4	
Approach LOS		D			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	50.3	20.9	37.6	10.0	47.3	24.3	34.2
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 21	48.0	* 21	33.0	* 26	48.0	* 21	33.0
Max Q Clear Time (g_c+I1), s	13.4	41.3	16.6	35.0	5.7	34.3	19.9	17.9
Green Ext Time (p_c), s	0.0	3.4	0.1	0.0	0.2	5.6	0.2	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	88.8
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	627	38	71	574	76	28	91	62	65	48	60
Future Volume (veh/h)	99	627	38	71	574	76	28	91	62	65	48	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1848	1900	1900	1847	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	104	660	40	74	598	79	35	114	78	82	61	76
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.80	0.80	0.80	0.79	0.79	0.79
Percent Heavy Veh, %	0	3	0	0	3	2	0	0	0	0	0	0
Cap, veh/h	163	1126	68	138	1000	132	321	222	152	279	162	202
Arrive On Green	0.09	0.33	0.33	0.08	0.32	0.32	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1810	3363	204	1810	3117	411	1269	1051	719	1208	769	958
Grp Volume(v), veh/h	104	344	356	74	336	341	35	0	192	82	0	137
Grp Sat Flow(s),veh/h/ln	1810	1755	1812	1810	1754	1773	1269	0	1771	1208	0	1728
Q Serve(g_s), s	2.9	8.4	8.4	2.0	8.3	8.3	1.3	0.0	4.9	3.3	0.0	3.5
Cycle Q Clear(g_c), s	2.9	8.4	8.4	2.0	8.3	8.3	4.8	0.0	4.9	8.3	0.0	3.5
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.41	1.00		0.55
Lane Grp Cap(c), veh/h	163	588	607	138	563	569	321	0	374	279	0	365
V/C Ratio(X)	0.64	0.59	0.59	0.54	0.60	0.60	0.11	0.00	0.51	0.29	0.00	0.38
Avail Cap(c_a), veh/h	1123	1225	1265	1123	1225	1238	693	0	893	633	0	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	14.2	14.2	23.0	14.7	14.7	19.5	0.0	18.0	21.7	0.0	17.4
Incr Delay (d2), s/veh	4.1	1.3	1.3	3.2	1.4	1.4	0.1	0.0	1.1	0.6	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.2	4.4	1.1	4.2	4.3	0.5	0.0	2.5	1.1	0.0	1.7
LnGrp Delay(d),s/veh	26.7	15.5	15.5	26.2	16.2	16.2	19.6	0.0	19.1	22.2	0.0	18.1
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		804			751			227			219	
Approach Delay, s/veh		17.0			17.2			19.2			19.6	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	23.8		17.4	11.1	23.0		17.4
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	4.0	36.0		26.0	32.0	36.0		26.0
Max Q Clear Time (g_c+I1), s	4.9	10.4		10.3	4.9	10.3		6.9
Green Ext Time (p_c), s	0.2	6.1		0.9	0.2	6.2		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	17.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	442	57	291	459	143	68	250	191	125	300	47
Future Volume (veh/h)	166	442	57	291	459	143	68	250	191	125	300	47
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1841	1900	1881	1845	1900	1845	1873	1900	1881	1900	1900
Adj Flow Rate, veh/h	171	456	59	316	499	155	82	301	230	144	345	54
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.83	0.83	0.83	0.87	0.87	0.87
Percent Heavy Veh, %	2	3	5	1	3	0	3	1	2	1	0	0
Cap, veh/h	203	606	78	331	896	410	106	308	235	176	669	554
Arrive On Green	0.11	0.19	0.19	0.18	0.26	0.26	0.06	0.31	0.31	0.10	0.35	0.35
Sat Flow, veh/h	1774	3110	400	1792	3505	1606	1757	980	749	1792	1900	1574
Grp Volume(v), veh/h	171	255	260	316	499	155	82	0	531	144	345	54
Grp Sat Flow(s),veh/h/ln	1774	1749	1762	1792	1752	1606	1757	0	1729	1792	1900	1574
Q Serve(g_s), s	10.2	14.9	15.1	18.9	13.4	8.6	5.0	0.0	33.0	8.5	15.6	2.5
Cycle Q Clear(g_c), s	10.2	14.9	15.1	18.9	13.4	8.6	5.0	0.0	33.0	8.5	15.6	2.5
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	203	341	343	331	896	410	106	0	542	176	669	554
V/C Ratio(X)	0.84	0.75	0.76	0.96	0.56	0.38	0.78	0.00	0.98	0.82	0.52	0.10
Avail Cap(c_a), veh/h	327	484	488	331	1035	474	340	0	542	347	669	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	41.1	41.2	43.7	35.0	33.2	50.2	0.0	36.8	47.9	27.8	23.6
Incr Delay (d2), s/veh	10.3	7.3	7.6	37.7	1.2	1.2	11.5	0.0	33.3	9.0	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	7.9	8.1	12.9	6.6	4.0	2.8	0.0	20.7	4.7	8.4	1.1
LnGrp Delay(d),s/veh	57.3	48.4	48.8	81.5	36.2	34.4	61.7	0.0	70.1	56.9	29.2	23.7
LnGrp LOS	E	D	D	F	D	C	E		E	E	C	C
Approach Vol, veh/h		686			970			613			543	
Approach Delay, s/veh		50.8			50.6			69.0			36.0	
Approach LOS		D			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	27.1	11.1	44.1	19.4	33.7	15.2	40.0
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	20.0	30.0	21.0	26.0	20.0	32.0	21.0	34.0
Max Q Clear Time (g_c+I1), s	20.9	17.1	7.0	17.6	12.2	15.4	10.5	35.0
Green Ext Time (p_c), s	0.0	4.0	0.1	2.4	0.2	5.8	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	51.8
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	377	85	31	487	20	35	34	5	4	75	188
Future Volume (veh/h)	211	377	85	31	487	20	35	34	5	4	75	188
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1811	1900	1900	1827	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	220	393	89	35	547	22	47	46	7	5	85	214
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.74	0.74	0.74	0.88	0.88	0.88
Percent Heavy Veh, %	0	6	0	0	4	0	0	0	0	0	0	0
Cap, veh/h	469	1580	354	601	1033	912	240	208	26	75	120	290
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	855	2794	627	927	1827	1612	548	850	105	9	490	1185
Grp Volume(v), veh/h	220	241	241	35	547	22	100	0	0	304	0	0
Grp Sat Flow(s),veh/h/ln	855	1721	1700	927	1827	1612	1502	0	0	1684	0	0
Q Serve(g_s), s	10.8	3.5	3.6	1.0	9.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	20.1	3.5	3.6	4.6	9.3	0.3	2.1	0.0	0.0	8.3	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.47		0.07	0.02		0.70
Lane Grp Cap(c), veh/h	469	973	961	601	1033	912	474	0	0	485	0	0
V/C Ratio(X)	0.47	0.25	0.25	0.06	0.53	0.02	0.21	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	616	1269	1253	760	1347	1189	1051	0	0	1178	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.0	5.5	5.5	6.7	6.8	4.8	15.1	0.0	0.0	17.4	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.3	0.3	0.1	0.9	0.0	0.2	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	1.7	1.8	0.3	4.8	0.1	1.1	0.0	0.0	4.1	0.0	0.0
LnGrp Delay(d),s/veh	14.5	5.8	5.8	6.8	7.7	4.8	15.3	0.0	0.0	18.8	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B			B		
Approach Vol, veh/h		702			604			100			304	
Approach Delay, s/veh		8.5			7.5			15.3			18.8	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		33.0		17.2		33.0		17.2
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		37.0		33.0		37.0		33.0
Max Q Clear Time (g_c+I1), s		22.1		4.1		11.3		10.3
Green Ext Time (p_c), s		6.3		0.6		7.6		2.0

Intersection Summary		
HCM 2010 Ctrl Delay		10.4
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	151	103	121	14	51	6	240	580	104	36	455	335
Future Vol, veh/h	151	103	121	14	51	6	240	580	104	36	455	335
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	80	80	80	98	98	98	88	88	88
Heavy Vehicles, %	6	4	6	0	2	0	6	3	7	16	5	4
Mvmt Flow	176	120	141	18	64	8	245	592	106	41	517	381

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1770	1787	517	1865	1734	645	517	0	0	698	0	0
Stage 1	599	599	-	1135	1135	-	-	-	-	-	-	-
Stage 2	1171	1188	-	730	599	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.54	6.26	7.1	6.52	6.2	4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.036	3.354	3.5	4.018	3.3	2.254	-	-	2.344	-	-
Pot Cap-1 Maneuver	~ 63	~ 80	550	56	88	476	1029	-	-	837	-	0
Stage 1	481	487	-	248	277	-	-	-	-	-	-	0
Stage 2	230	259	-	417	490	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	~ 45	550	-	~ 49	476	1029	-	-	837	-	-
Mov Cap-2 Maneuver	-	~ 45	-	-	~ 49	-	-	-	-	-	-	-
Stage 1	290	453	-	150	167	-	-	-	-	-	-	-
Stage 2	~ 84	156	-	213	456	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			2.5	0.7
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	1029	-	-	-	-	476	837	-
HCM Lane V/C Ratio	0.238	-	-	-	-	0.016	0.049	-
HCM Control Delay (s)	9.6	0	-	-	-	12.7	9.5	0
HCM Lane LOS	A	A	-	-	-	B	A	A
HCM 95th %tile Q(veh)	0.9	-	-	-	-	0	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	153	100	291	327	47	108	727	238	174	890	40
Future Volume (veh/h)	21	153	100	291	327	47	108	727	238	174	890	40
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1545	1545	1900	1570	1570	1900
Adj Flow Rate, veh/h	25	180	118	364	409	59	117	790	259	189	967	43
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.80	0.80	0.80	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	23	23	23	21	21	21
Cap, veh/h	327	194	127	366	328	47	135	380	125	208	579	26
Arrive On Green	0.18	0.18	0.18	0.21	0.21	0.21	0.09	0.34	0.34	0.14	0.39	0.39
Sat Flow, veh/h	1774	1052	689	1774	1592	230	1471	1115	365	1495	1492	66
Grp Volume(v), veh/h	25	0	298	364	0	468	117	0	1049	189	0	1010
Grp Sat Flow(s),veh/h/ln	1774	0	1741	1774	0	1822	1471	0	1480	1495	0	1559
Q Serve(g_s), s	1.6	0.0	23.7	28.8	0.0	29.0	11.0	0.0	48.0	17.5	0.0	54.6
Cycle Q Clear(g_c), s	1.6	0.0	23.7	28.8	0.0	29.0	11.0	0.0	48.0	17.5	0.0	54.6
Prop In Lane	1.00		0.40	1.00		0.13	1.00		0.25	1.00		0.04
Lane Grp Cap(c), veh/h	327	0	321	366	0	375	135	0	505	208	0	605
V/C Ratio(X)	0.08	0.00	0.93	1.00	0.00	1.25	0.87	0.00	2.08	0.91	0.00	1.67
Avail Cap(c_a), veh/h	353	0	346	366	0	375	219	0	505	223	0	605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.5	0.0	56.5	55.8	0.0	55.9	63.0	0.0	46.4	59.7	0.0	43.1
Incr Delay (d2), s/veh	0.0	0.0	28.9	45.9	0.0	131.4	10.3	0.0	491.9	34.2	0.0	309.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	14.0	18.7	0.0	28.2	4.9	0.0	88.5	9.2	0.0	75.2
LnGrp Delay(d),s/veh	47.6	0.0	85.4	101.7	0.0	187.3	73.3	0.0	538.3	94.0	0.0	352.0
LnGrp LOS	D		F	F		F	E		F	F		F
Approach Vol, veh/h		323			832			1166			1199	
Approach Delay, s/veh		82.5			149.8			491.6			311.4	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		30.1	23.5	52.9		34.2	16.9	59.5
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 28	21.0	48.0		29.0	21.0	48.0
Max Q Clear Time (g_c+I1), s		25.7	19.5	50.0		31.0	13.0	56.6
Green Ext Time (p_c), s		0.2	0.0	0.0		0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	311.9
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	205	41	127	328	186	105	760	26	29	919	266
Future Volume (veh/h)	46	205	41	127	328	186	105	760	26	29	919	266
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.97	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1818	1900	1810	1900	1900	1900	1845	1900	1881	1829	1900
Adj Flow Rate, veh/h	51	228	46	140	360	204	115	835	29	38	1194	345
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	5	1	22	5	0	0	0	3	3	1	5	0
Cap, veh/h	229	310	63	306	479	396	198	1538	53	329	1122	318
Arrive On Green	0.04	0.21	0.21	0.08	0.25	0.25	0.06	0.45	0.45	0.04	0.42	0.42
Sat Flow, veh/h	1723	1461	295	1723	1900	1571	1810	3455	120	1792	2657	753
Grp Volume(v), veh/h	51	0	274	140	360	204	115	423	441	38	773	766
Grp Sat Flow(s),veh/h/ln	1723	0	1755	1723	1900	1571	1810	1752	1823	1792	1738	1672
Q Serve(g_s), s	1.8	0.0	11.4	4.8	13.7	8.7	2.8	13.8	13.8	0.9	33.0	33.0
Cycle Q Clear(g_c), s	1.8	0.0	11.4	4.8	13.7	8.7	2.8	13.8	13.8	0.9	33.0	33.0
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.07	1.00		0.45
Lane Grp Cap(c), veh/h	229	0	373	306	479	396	198	780	811	329	734	706
V/C Ratio(X)	0.22	0.00	0.74	0.46	0.75	0.51	0.58	0.54	0.54	0.12	1.05	1.09
Avail Cap(c_a), veh/h	707	0	898	846	1216	1005	671	780	811	838	734	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	28.7	21.4	27.0	25.1	18.2	15.9	15.9	12.7	22.6	22.6
Incr Delay (d2), s/veh	0.2	0.0	1.1	0.4	0.9	0.4	1.0	0.4	0.4	0.1	48.2	59.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	5.6	2.3	7.2	3.8	1.4	6.7	6.9	0.4	25.5	26.7
LnGrp Delay(d),s/veh	23.3	0.0	29.8	21.8	27.9	25.5	19.2	16.3	16.3	12.8	70.8	81.9
LnGrp LOS	C		C	C	C	C	B	B	B	B	F	F
Approach Vol, veh/h		325			704			979			1577	
Approach Delay, s/veh		28.8			26.0			16.6			74.8	
Approach LOS		C			C			B			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	24.3	6.8	39.7	10.5	21.2	8.6	37.9
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	25.0	50.0	25.0	33.0	31.0	40.0	25.0	33.0
Max Q Clear Time (g_c+I1), s	3.8	15.7	2.9	15.8	6.8	13.4	4.8	35.0
Green Ext Time (p_c), s	0.0	0.3	0.0	0.7	0.0	0.3	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay	45.1	
HCM 2010 LOS	D	

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	188	280	16	239	73	119	651	0	240	1014	48
Future Vol, veh/h	0	188	280	16	239	73	119	651	0	240	1014	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	92	92	92	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	23	23	23	21	21	21
Mvmt Flow	0	229	341	20	291	89	129	708	0	264	1114	53

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2798	2608	1114	2920	2661	708	1167	0	0	708	0	0
Stage 1	1642	1642	-	966	966	-	-	-	-	-	-	-
Stage 2	1156	966	-	1954	1695	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.33	-	-	4.31	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.407	-	-	2.389	-	-
Pot Cap-1 Maneuver	12	~ 25	~ 253	~ 10	~ 23	435	529	-	-	809	-	-
Stage 1	126	~ 158	-	306	333	-	-	-	-	-	-	-
Stage 2	239	333	-	83	~ 148	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 1	~ 253	-	~ 1	435	529	-	-	809	-	-
Mov Cap-2 Maneuver	-	~ 1	-	-	~ 1	-	-	-	-	-	-	-
Stage 1	75	~ 9	-	183	~ 199	-	-	-	-	-	-	-
Stage 2	-	~ 199	-	40	~ 8	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			2.2	2.1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	529	-	-	-	253	-	809	-	-
HCM Lane V/C Ratio	0.245	-	-	-	1.35	-	0.326	-	-
HCM Control Delay (s)	14	0	-	-	219.7	-	11.6	0	-
HCM Lane LOS	B	A	-	-	F	-	B	A	-
HCM 95th %tile Q(veh)	1	-	-	-	18.1	-	1.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	15.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	686	445	234	209	8	269	19	343	0	3	1
Future Vol, veh/h	9	686	445	234	209	8	269	19	343	0	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	50	50	50	37	37	37	50	50	50
Heavy Vehicles, %	100	4	8	0	15	0	3	100	3	0	100	100
Mvmt Flow	13	1009	654	468	418	16	727	51	927	0	6	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	434	0	0	1663	0	0	2728	2732	1336	3213	3051	426
Stage 1	-	-	-	-	-	-	1362	1362	-	1362	1362	-
Stage 2	-	-	-	-	-	-	1366	1370	-	1851	1689	-
Critical Hdwy	5.1	-	-	4.1	-	-	7.13	7.5	6.23	7.1	7.5	7.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	6.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	6.5	-	6.1	6.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.527	4.9	3.327	3.5	4.9	4.2
Pot Cap-1 Maneuver	753	-	-	~ 392	-	-	~ 13	~ 9	~ 187	6	~ 5	464
Stage 1	-	-	-	-	-	-	~ 182	138	-	185	138	-
Stage 2	-	-	-	-	-	-	~ 181	137	-	96	89	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	753	-	-	~ 392	-	-	-	0	~ 187	-	0	464
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	0	-
Stage 1	-	-	-	-	-	-	~ 179	136	-	182	0	-
Stage 2	-	-	-	-	-	-	-	0	-	-	87	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	72.9		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	187	753	-	-	~ 392	-	-	-
HCM Lane V/C Ratio	-	5.232	0.018	-	-	1.194	-	-	-
HCM Control Delay (s)	-	$ 1952.1	9.9	-	-	140.5	-	-	-
HCM Lane LOS	-	F	A	-	-	F	-	-	-
HCM 95th %tile Q(veh)	-	102.5	0.1	-	-	18.8	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	212	827	49	49	303	77	119	823	57	32	940	94
Future Vol, veh/h	212	827	49	49	303	77	119	823	57	32	940	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	0	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	69	69	69	86	86	86	72	72	72
Heavy Vehicles, %	2	2	2	28	0	4	0	22	27	4	13	0
Mvmt Flow	848	3308	196	71	439	112	138	957	66	44	1306	131

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3002	2759	1372	4445	2758	957	1437	0	0	1023	0	0
Stage 1	1460	1460	-	1233	1233	-	-	-	-	-	-	-
Stage 2	1542	1299	-	3212	1525	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.38	6.5	6.24	4.1	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.38	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.38	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.752	4	3.336	2.2	-	-	2.236	-	-
Pot Cap-1 Maneuver	~ 8	~ 20	~ 179	0	~ 20	310	479	-	-	671	-	-
Stage 1	~ 161	~ 194	-	192	~ 251	-	-	-	-	-	-	-
Stage 2	~ 144	~ 232	-	~ 11	~ 182	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 6	~ 179	-	~ 6	310	479	-	-	671	-	-
Mov Cap-2 Maneuver	-	~ 6	-	-	~ 6	-	-	-	-	-	-	-
Stage 1	~ 52	~ 181	-	~ 62	~ 81	-	-	-	-	-	-	-
Stage 2	-	~ 74	-	~ 17	~ 170	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.9	0.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	479	-	-	-	-	310	671	-	-
HCM Lane V/C Ratio	0.289	-	-	-	-	0.36	0.066	-	-
HCM Control Delay (s)	15.5	0	-	-	-	23	10.7	-	-
HCM Lane LOS	C	A	-	-	-	C	B	-	-
HCM 95th %tile Q(veh)	1.2	-	-	-	-	1.6	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	214	562	91	209	82	0	1	677	149	206	568	0
Future Vol, veh/h	214	562	91	209	82	0	1	677	149	206	568	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	86	86	86	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	8	8	8	18	18	18	16	16	16
Mvmt Flow	856	2248	364	243	95	0	1	940	207	286	789	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2454	2510	789	3713	2407	1044	789	0	0	1147	0	0
Stage 1	1361	1361	-	1046	1046	-	-	-	-	-	-	-
Stage 2	1093	1149	-	2667	1361	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.18	6.58	6.28	4.28	-	-	4.26	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.572	4.072	3.372	2.362	-	-	2.344	-	-
Pot Cap-1 Maneuver	~ 21	~ 28	391	~ 2	~ 32	271	764	-	-	561	-	-
Stage 1	~ 183	~ 216	-	269	298	-	-	-	-	-	-	-
Stage 2	~ 260	~ 273	-	~ 29	210	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 3	391	-	~ 3	271	764	-	-	561	-	-
Mov Cap-2 Maneuver	-	~ 3	-	-	~ 3	-	-	-	-	-	-	-
Stage 1	~ 182	~ 20	-	268	297	-	-	-	-	-	-	-
Stage 2	~ 176	~ 272	-	-	~ 19	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	4.8
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	764	-	-	-	-	561	-	-
HCM Lane V/C Ratio	0.002	-	-	-	-	0.51	-	-
HCM Control Delay (s)	9.7	0	-	-	-	17.9	0	-
HCM Lane LOS	A	A	-	-	-	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-	2.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	1010.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	784	179	283	217	17	78	749	218	20	850	0
Future Vol, veh/h	0	784	179	283	217	17	78	749	218	20	850	0
Peak Hour Factor	0.72	0.72	0.72	0.86	0.86	0.86	0.80	0.80	0.80	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	8	8	8	9	9	9	14	14	14
Mvmt Flow	0	1089	249	329	252	20	98	936	273	22	924	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	1213.6	443.8	1203.2	817.6
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	0%	55%	2%
Vol Thru, %	72%	81%	42%	98%
Vol Right, %	21%	19%	3%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1045	963	517	870
LT Vol	78	0	283	20
Through Vol	749	784	217	850
RT Vol	218	179	17	0
Lane Flow Rate	1306	1338	601	946
Geometry Grp	1	1	1	1
Degree of Util (X)	3.498	3.537	1.64	2.585
Departure Headway (Hd)	32.393	29.371	52.653	40.481
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	131	147	78	104
Service Time	30.393	27.371	50.653	38.481
HCM Lane V/C Ratio	9.969	9.102	7.705	9.096
HCM Control Delay	1203.2	1213.6	443.8	817.6
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	38.5	42.7	9.8	21.6

Intersection	
Int Delay, s/veh	888.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	241	1154	803	291	544	406
Future Vol, veh/h	241	1154	803	291	544	406
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	76	76	94	94
Heavy Vehicles, %	2	2	1	11	14	14
Mvmt Flow	339	1625	1057	383	579	432

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3292	795	1011	0	-	0
Stage 1	795	-	-	-	-	-
Stage 2	2497	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	~ 10	~ 388	~ 690	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	~ 64	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	~ 388	~ 690	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	~ 64	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, $	1854.5	193.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 690	-	388	-	-
HCM Lane V/C Ratio	1.531	-	5.064	-	-
HCM Control Delay (s)	263.5	-	$ 1854.5	-	-
HCM Lane LOS	F	A	F	-	-
HCM 95th %tile Q(veh)	53.3	-	200.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	163	109	752	54	148	1731
Future Vol, veh/h	163	109	752	54	148	1731
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	77	77	96	96
Heavy Vehicles, %	9	9	11	11	14	14
Mvmt Flow	230	154	977	70	154	1803

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3123	1012	0	0	1047	0
Stage 1	1012	-	-	-	-	-
Stage 2	2111	-	-	-	-	-
Critical Hdwy	6.49	6.29	-	-	4.24	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	-	-	2.326	-
Pot Cap-1 Maneuver	~ 12	282	-	-	621	-
Stage 1	341	-	-	-	-	-
Stage 2	~ 96	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 12	282	-	-	621	-
Mov Cap-2 Maneuver	~ 12	-	-	-	-	-
Stage 1	341	-	-	-	-	-
Stage 2	~ 96	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	9012.8	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	19	621	-
HCM Lane V/C Ratio	-	-	20.163	0.248	-
HCM Control Delay (s)	-	-	$ 9012.8	12.7	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	48.5	1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2225.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	699	65	0	737	1097	123
Future Vol, veh/h	699	65	0	737	1097	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	76	76	88	88
Heavy Vehicles, %	9	9	1	11	14	14
Mvmt Flow	777	72	0	970	1247	140

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2287	1317	1387	0	-	0
Stage 1	1317	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.11	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.209	-	-	-
Pot Cap-1 Maneuver	~ 41	186	497	-	-	-
Stage 1	~ 242	-	-	-	-	-
Stage 2	~ 357	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 41	186	497	-	-	-
Mov Cap-2 Maneuver	~ 41	-	-	-	-	-
Stage 1	~ 242	-	-	-	-	-
Stage 2	~ 357	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 8404	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	497	-	44	-	-
HCM Lane V/C Ratio	-	-	19.293	-	-
HCM Control Delay (s)	0	-	$ 8404	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	103.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	892.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1257	128	5	284	484	41
Future Vol, veh/h	1257	128	5	284	484	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	82	82	80	80
Heavy Vehicles, %	11	11	14	14	18	18
Mvmt Flow	1412	144	6	346	605	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1556	0	1842	1484
Stage 1	-	-	-	-	1484	-
Stage 2	-	-	-	-	358	-
Critical Hdwy	-	-	4.24	-	6.58	6.38
Critical Hdwy Stg 1	-	-	-	-	5.58	-
Critical Hdwy Stg 2	-	-	-	-	5.58	-
Follow-up Hdwy	-	-	2.326	-	3.662	3.462
Pot Cap-1 Maneuver	-	-	393	-	~ 75	141
Stage 1	-	-	-	-	~ 191	-
Stage 2	-	-	-	-	673	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	393	-	~ 74	141
Mov Cap-2 Maneuver	-	-	-	-	~ 74	-
Stage 1	-	-	-	-	~ 191	-
Stage 2	-	-	-	-	660	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	$ 3489.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	77	-	-	393	-
HCM Lane V/C Ratio	8.523	-	-	0.016	-
HCM Control Delay (s)	$ 3489.1	-	-	14.3	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	75.7	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	104.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	35	222	30	0	144	12	5	96	10	39	310	17
Future Vol, veh/h	35	222	30	0	144	12	5	96	10	39	310	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	54	54	54	50	50	50	79	79	79
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	47	296	40	0	267	22	10	192	20	49	392	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	868	733	403	891	734	202	414	0	0	212	0	0
Stage 1	501	501	-	222	222	-	-	-	-	-	-	-
Stage 2	367	232	-	669	512	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	266	341	635	256	339	821	1145	-	-	1358	-	-
Stage 1	541	533	-	765	707	-	-	-	-	-	-	-
Stage 2	640	702	-	436	525	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	75	322	635	46	320	821	1145	-	-	1358	-	-
Mov Cap-2 Maneuver	75	322	-	46	320	-	-	-	-	-	-	-
Stage 1	536	508	-	757	700	-	-	-	-	-	-	-
Stage 2	382	695	-	162	500	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 326	55.9	0.4	0.8
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1145	-	-	239	336	1358	-	-
HCM Lane V/C Ratio	0.009	-	-	1.601	0.86	0.036	-	-
HCM Control Delay (s)	8.2	0	-	$ 326	55.9	7.8	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	23.9	7.9	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	19	235	2	4	1	41	89	41	3	51	1
Future Vol, veh/h	19	19	235	2	4	1	41	89	41	3	51	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	58	58	58	91	91	91	72	72	72
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	28	28	351	3	7	2	45	98	45	4	71	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	295	313	72	480	291	121	72	0	0	143	0	0
Stage 1	80	80	-	211	211	-	-	-	-	-	-	-
Stage 2	215	233	-	269	80	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	645	592	974	485	608	912	1528	-	-	1440	-	-
Stage 1	914	817	-	775	715	-	-	-	-	-	-	-
Stage 2	774	701	-	721	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	621	571	974	291	587	912	1528	-	-	1440	-	-
Mov Cap-2 Maneuver	621	571	-	291	587	-	-	-	-	-	-	-
Stage 1	885	815	-	750	692	-	-	-	-	-	-	-
Stage 2	740	679	-	444	813	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	12.8	1.8	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1528	-	-	895	473	1440	-	-
HCM Lane V/C Ratio	0.029	-	-	0.455	0.026	0.003	-	-
HCM Control Delay (s)	7.4	0	-	12.3	12.8	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.4	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	384	7	43	658	53	5	26	50	274	132	61
Future Volume (veh/h)	7	384	7	43	658	53	5	26	50	274	132	61
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	8	422	8	47	723	58	6	33	64	308	148	69
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.78	0.78	0.78	0.89	0.89	0.89
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	17	714	14	77	755	61	14	58	113	152	217	101
Arrive On Green	0.01	0.43	0.43	0.05	0.47	0.47	0.01	0.10	0.10	0.09	0.18	0.18
Sat Flow, veh/h	1616	1659	31	1691	1623	130	1774	568	1101	1774	1203	561
Grp Volume(v), veh/h	8	0	430	47	0	781	6	0	97	308	0	217
Grp Sat Flow(s),veh/h/ln	1616	0	1691	1691	0	1753	1774	0	1668	1774	0	1764
Q Serve(g_s), s	0.3	0.0	11.3	1.6	0.0	25.1	0.2	0.0	3.2	5.0	0.0	6.7
Cycle Q Clear(g_c), s	0.3	0.0	11.3	1.6	0.0	25.1	0.2	0.0	3.2	5.0	0.0	6.7
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.66	1.00		0.32
Lane Grp Cap(c), veh/h	17	0	727	77	0	816	14	0	171	152	0	318
V/C Ratio(X)	0.48	0.00	0.59	0.61	0.00	0.96	0.43	0.00	0.57	2.02	0.00	0.68
Avail Cap(c_a), veh/h	139	0	789	145	0	818	152	0	664	152	0	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.7	0.0	12.7	27.3	0.0	15.0	28.8	0.0	24.9	26.7	0.0	22.3
Incr Delay (d2), s/veh	19.3	0.0	1.0	7.5	0.0	21.7	19.1	0.0	3.0	483.4	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	5.5	0.9	0.0	16.8	0.2	0.0	1.6	22.8	0.0	3.5
LnGrp Delay(d),s/veh	48.0	0.0	13.7	34.8	0.0	36.7	47.9	0.0	27.9	510.0	0.0	24.9
LnGrp LOS	D		B	C		D	D		C	F		C
Approach Vol, veh/h		438			828			103			525	
Approach Delay, s/veh		14.3			36.6			29.1			309.5	
Approach LOS		B			D			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	11.8	6.7	30.9	4.5	16.3	4.6	32.9
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	5.0	23.2	5.0	27.2	5.0	23.2	5.0	27.2
Max Q Clear Time (g_c+I1), s	7.0	5.2	3.6	13.3	2.2	8.7	2.3	27.1
Green Ext Time (p_c), s	0.0	0.4	0.0	2.0	0.0	0.9	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	106.7
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	534	8	50	805	52	9	12	20	205	54	26
Future Volume (veh/h)	5	534	8	50	805	52	9	12	20	205	54	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	6	593	9	52	830	54	11	15	25	223	59	28
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.79	0.79	0.79	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	13	666	10	86	729	47	136	169	213	384	76	34
Arrive On Green	0.01	0.40	0.40	0.05	0.44	0.44	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1616	1667	25	1691	1649	107	209	668	843	1051	301	134
Grp Volume(v), veh/h	6	0	602	52	0	884	51	0	0	310	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1692	1691	0	1757	1721	0	0	1486	0	0
Q Serve(g_s), s	0.2	0.0	17.4	1.6	0.0	23.2	0.0	0.0	0.0	9.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	17.4	1.6	0.0	23.2	1.2	0.0	0.0	10.3	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.06	0.22		0.49	0.72		0.09
Lane Grp Cap(c), veh/h	13	0	676	86	0	777	518	0	0	493	0	0
V/C Ratio(X)	0.47	0.00	0.89	0.61	0.00	1.14	0.10	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	154	0	748	161	0	777	757	0	0	714	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.9	0.0	14.7	24.4	0.0	14.6	15.1	0.0	0.0	18.4	0.0	0.0
Incr Delay (d2), s/veh	23.9	0.0	12.1	6.8	0.0	77.5	0.1	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	10.3	0.9	0.0	27.7	0.6	0.0	0.0	4.4	0.0	0.0
LnGrp Delay(d),s/veh	49.8	0.0	26.8	31.2	0.0	92.2	15.2	0.0	0.0	19.7	0.0	0.0
LnGrp LOS	D		C	C		F	B			B		
Approach Vol, veh/h		608			936			51			310	
Approach Delay, s/veh		27.0			88.8			15.2			19.7	
Approach LOS		C			F			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		19.1	6.7	26.8		19.1	4.4	29.0
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		21.2	5.0	23.2		21.2	5.0	23.2
Max Q Clear Time (g_c+I1), s		3.2	3.6	19.4		12.3	2.2	25.2
Green Ext Time (p_c), s		0.1	0.0	1.3		1.1	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		55.8
HCM 2010 LOS		E

Intersection	
Int Delay, s/veh	108

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	277	984	562	0	9	697
Future Vol, veh/h	277	984	562	0	9	697
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	82	82	87	87
Heavy Vehicles, %	11	11	5	5	2	2
Mvmt Flow	311	1106	685	0	10	801

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	685	0	-	0	2413	685
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	1728	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	868	-	-	-	36	~ 448
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	157	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	868	-	-	-	23	~ 448
Mov Cap-2 Maneuver	-	-	-	-	23	-
Stage 1	-	-	-	-	321	-
Stage 2	-	-	-	-	157	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	$ 383.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	868	-	-	-	23	448
HCM Lane V/C Ratio	0.359	-	-	-	0.45	1.788
HCM Control Delay (s)	11.4	-	-	-	254.5	$ 385.1
HCM Lane LOS	B	-	-	-	F	F
HCM 95th %tile Q(veh)	1.6	-	-	-	1.3	50.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	316
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	100	514	433	353	541	358
Future Vol, veh/h	100	514	433	353	541	358
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	559	471	384	588	389
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	143	345.2	408.7
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	55%	16%	0%
Vol Thru, %	45%	0%	60%
Vol Right, %	0%	84%	40%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	786	614	899
LT Vol	433	100	0
Through Vol	353	0	541
RT Vol	0	514	358
Lane Flow Rate	854	667	977
Geometry Grp	1	1	1
Degree of Util (X)	1.695	1.217	1.844
Departure Headway (Hd)	8.945	8.215	8.377
Convergence, Y/N	Yes	Yes	Yes
Cap	419	447	440
Service Time	6.945	6.215	6.377
HCM Lane V/C Ratio	2.038	1.492	2.22
HCM Control Delay	345.2	143	408.7
HCM Lane LOS	F	F	F
HCM 95th-tile Q	41.2	21.3	51.1

Intersection	
Intersection Delay, s/veh	335.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	402	559	200	391	200	388	0	212	0	0	0
Future Vol, veh/h	0	402	559	200	391	200	388	0	212	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	437	608	217	425	217	422	0	230	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	450.4	327.9	161.1	0
HCM LOS	F	F	F	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	65%	0%	25%	0%
Vol Thru, %	0%	42%	49%	100%
Vol Right, %	35%	58%	25%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	600	961	791	0
LT Vol	388	0	200	0
Through Vol	0	402	391	0
RT Vol	212	559	200	0
Lane Flow Rate	652	1045	860	0
Geometry Grp	1	1	1	1
Degree of Util (X)	1.259	1.939	1.655	0
Departure Headway (Hd)	8.674	8.32	8.969	15.647
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	424	449	413	0
Service Time	6.674	6.32	6.969	13.647
HCM Lane V/C Ratio	1.538	2.327	2.082	0
HCM Control Delay	161.1	450.4	327.9	18.6
HCM Lane LOS	F	F	F	N
HCM 95th-tile Q	22.2	56.4	39.2	0

Intersection	
Intersection Delay, s/veh	1233.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	878	117	233	64	46	103	474	1080	98	896	35
Future Vol, veh/h	20	878	117	233	64	46	103	474	1080	98	896	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	18	18	18	18	18	18
Mvmt Flow	22	954	127	253	70	50	112	515	1174	107	974	38
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	938	232.5	1753.5	1021.3
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	2%	68%	10%
Vol Thru, %	29%	87%	19%	87%
Vol Right, %	65%	12%	13%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1657	1015	343	1029
LT Vol	103	20	233	98
Through Vol	474	878	64	896
RT Vol	1080	117	46	35
Lane Flow Rate	1801	1103	373	1118
Geometry Grp	1	1	1	1
Degree of Util (X)	4.761	2.929	0.997	3.074
Departure Headway (Hd)	25.9	27.286	62.583	35.318
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	162	143	63	123
Service Time	23.9	25.286	60.583	33.318
HCM Lane V/C Ratio	11.117	7.713	5.921	9.089
HCM Control Delay	1753.5	938	232.5	1021.3
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	68.9	35.9	4.6	30.3

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	39	546	76	338	269
Future Vol, veh/h	3	39	546	76	338	269
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	42	593	83	367	292

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1661	635	0	0	676	0
Stage 1	635	-	-	-	-	-
Stage 2	1026	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	107	478	-	-	915	-
Stage 1	528	-	-	-	-	-
Stage 2	346	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	56	478	-	-	915	-
Mov Cap-2 Maneuver	56	-	-	-	-	-
Stage 1	528	-	-	-	-	-
Stage 2	180	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.6	0	6.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	311	915	-
HCM Lane V/C Ratio	-	-	0.147	0.402	-
HCM Control Delay (s)	-	-	18.6	11.5	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	0.5	2	-

Intersection	
Int Delay, s/veh	374.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	36	82	118	54	108	227	39	401	21	109	567	17
Future Vol, veh/h	36	82	118	54	108	227	39	401	21	109	567	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	16	16	16	25	25	25
Mvmt Flow	39	89	128	59	117	247	42	436	23	118	616	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1575	1404	625	1502	1402	448	634	0	0	459	0	0
Stage 1	861	861	-	532	532	-	-	-	-	-	-	-
Stage 2	714	543	-	970	870	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.26	-	-	4.35	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.344	-	-	2.425	-	-
Pot Cap-1 Maneuver	89	140	485	100	140	611	885	-	-	991	-	-
Stage 1	350	372	-	531	526	-	-	-	-	-	-	-
Stage 2	422	520	-	304	369	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	107	485	~ 19	~ 107	611	885	-	-	991	-	-
Mov Cap-2 Maneuver	-	107	-	~ 19	~ 107	-	-	-	-	-	-	-
Stage 1	328	303	-	497	492	-	-	-	-	-	-	-
Stage 2	179	487	-	129	301	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 1710.9	0.8	1.4
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	885	-	-	-	92	991	-	-
HCM Lane V/C Ratio	0.048	-	-	-	4.596	0.12	-	-
HCM Control Delay (s)	9.3	0	-	$ 1710.9	9.1	0	-	
HCM Lane LOS	A	A	-	-	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	-	44.9	0.4	-	-

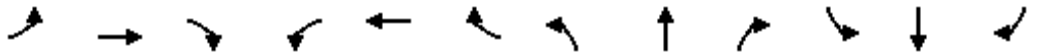
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	81
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	53	31	48	31	22	55	316	106	71	595	13
Future Vol, veh/h	7	53	31	48	31	22	55	316	106	71	595	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	8	58	34	52	34	24	60	343	115	77	647	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

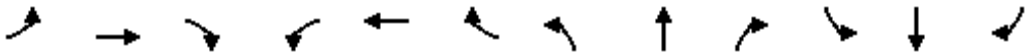
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.5	13	35	132.6
HCM LOS	B	B	D	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	8%	48%	10%
Vol Thru, %	66%	58%	31%	88%
Vol Right, %	22%	34%	22%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	477	91	101	679
LT Vol	55	7	48	71
Through Vol	316	53	31	595
RT Vol	106	31	22	13
Lane Flow Rate	518	99	110	738
Geometry Grp	1	1	1	1
Degree of Util (X)	0.851	0.196	0.221	1.216
Departure Headway (Hd)	6.241	7.679	7.77	5.929
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	586	470	465	613
Service Time	4.241	5.679	5.77	3.976
HCM Lane V/C Ratio	0.884	0.211	0.237	1.204
HCM Control Delay	35	12.5	13	132.6
HCM Lane LOS	D	B	B	F
HCM 95th-tile Q	9.2	0.7	0.8	26.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	750	11	145	65	0	0	0	0	646	4	63
Future Volume (vph)	0	750	11	145	65	0	0	0	0	646	4	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1		4.0	4.0					5.1	5.1	
Lane Util. Factor		0.95		0.95	0.95					0.95	0.95	
Frpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		1.00		1.00	1.00					1.00	0.97	
Flt Protected		1.00		0.95	0.98					0.95	0.96	
Satd. Flow (prot)		3541		1406	1488					1394	1384	
Flt Permitted		1.00		0.95	0.98					0.95	0.96	
Satd. Flow (perm)		3541		1406	1488					1394	1384	
Peak-hour factor, PHF	0.68	0.68	0.68	0.76	0.76	0.76	0.25	0.25	0.25	0.88	0.88	0.88
Adj. Flow (vph)	0	1103	16	191	86	0	0	0	0	734	5	72
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	1118	0	136	141	0	0	0	0	411	393	0
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	0%	1%	50%	22%	17%	0%	0%	0%	0%	23%	25%	17%
Turn Type		NA		Split	NA					Split	NA	
Protected Phases		4		3	3					6	6	
Permitted Phases												
Actuated Green, G (s)		41.7		15.2	15.2					48.9	48.9	
Effective Green, g (s)		41.7		15.2	15.2					48.9	48.9	
Actuated g/C Ratio		0.35		0.13	0.13					0.41	0.41	
Clearance Time (s)		5.1		4.0	4.0					5.1	5.1	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1230		178	188					568	563	
v/s Ratio Prot		c0.32		c0.10	0.09					c0.29	0.28	
v/s Ratio Perm												
v/c Ratio		0.91		0.76	0.75					0.72	0.70	
Uniform Delay, d1		37.3		50.7	50.6					29.9	29.5	
Progression Factor		1.00		0.51	0.51					1.00	1.00	
Incremental Delay, d2		9.9		17.2	15.1					7.8	7.1	
Delay (s)		47.3		43.2	41.1					37.7	36.5	
Level of Service		D		D	D					D	D	
Approach Delay (s)		47.3			42.2			0.0			37.1	
Approach LOS		D			D			A			D	

Intersection Summary			
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	1141	0	0	189	833	21	10	787	0	0	0
Future Volume (vph)	255	1141	0	0	189	833	21	10	787	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1	5.1		5.1	5.1			
Lane Util. Factor		0.95			0.95	1.00		1.00	0.88			
Frt		1.00			1.00	0.85		1.00	0.85			
Flt Protected		0.99			1.00	1.00		0.97	1.00			
Satd. Flow (prot)		3164			2959	1468		1837	2450			
Flt Permitted		0.99			1.00	1.00		0.97	1.00			
Satd. Flow (perm)		3164			2959	1468		1837	2450			
Peak-hour factor, PHF	0.84	0.84	0.84	0.90	0.90	0.90	0.82	0.82	0.82	0.25	0.25	0.25
Adj. Flow (vph)	304	1358	0	0	210	926	26	12	960	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	43	0	0	0
Lane Group Flow (vph)	0	1662	0	0	210	926	0	38	917	0	0	0
Heavy Vehicles (%)	0%	16%	0%	0%	22%	10%	0%	0%	16%	0%	0%	0%
Turn Type	Split	NA			NA	custom	Split	NA	custom			
Protected Phases	2!	2			6	2 4!	4	4!	6			
Permitted Phases						6			4			
Actuated Green, G (s)		64.8			27.9	109.8		12.0	39.9			
Effective Green, g (s)		64.8			27.9	109.8		12.0	39.9			
Actuated g/C Ratio		0.54			0.23	0.91		0.10	0.33			
Clearance Time (s)		5.1			5.1			5.1	5.1			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		1708			687	1468		183	918			
v/s Ratio Prot		c0.53			0.07	0.43		0.02	c0.23			
v/s Ratio Perm						0.20			0.14			
v/c Ratio		0.97			0.31	0.63		0.21	1.00			
Uniform Delay, d1		26.8			38.0	1.0		49.6	40.0			
Progression Factor		1.26			1.00	1.00		1.00	1.00			
Incremental Delay, d2		11.0			0.3	0.9		0.6	29.1			
Delay (s)		44.8			38.3	1.9		50.2	69.1			
Level of Service		D			D	A		D	E			
Approach Delay (s)		44.8			8.6			68.4			0.0	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	40.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	546	1168	214	76	546	164	188	3	60	231	0	288
Future Volume (vph)	546	1168	214	76	546	164	188	3	60	231	0	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.95	0.91	0.95
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)	3213	2959	1583	1770	3139	1547	3433	1863	1583	1649	1427	1421
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)	3213	2959	1583	1770	3139	1547	3433	1863	1583	1649	1427	1421
Peak-hour factor, PHF	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.92	0.80
Adj. Flow (vph)	628	1343	233	83	593	178	204	3	65	289	0	360
RTOR Reduction (vph)	0	0	105	0	0	136	0	0	58	0	170	81
Lane Group Flow (vph)	628	1343	128	83	593	42	204	3	7	225	45	128
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	9%	22%	2%	2%	15%	3%	2%	2%	2%	4%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	30.0	50.6	50.6	6.0	24.6	24.6	11.5	11.5	11.5	15.0	15.0	45.0
Effective Green, g (s)	30.0	50.6	50.6	6.0	24.6	24.6	11.5	11.5	11.5	15.0	15.0	45.0
Actuated g/C Ratio	0.29	0.48	0.48	0.06	0.24	0.24	0.11	0.11	0.11	0.14	0.14	0.43
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	921	1431	765	101	738	363	377	204	174	236	204	699
v/s Ratio Prot	0.20	c0.45		c0.05	0.19		c0.06	0.00		c0.14	0.03	0.05
v/s Ratio Perm			0.08			0.03			0.00			0.04
v/c Ratio	0.68	0.94	0.17	0.82	0.80	0.12	0.54	0.01	0.04	0.95	0.22	0.18
Uniform Delay, d1	33.1	25.5	15.2	48.8	37.7	31.4	44.1	41.5	41.6	44.5	39.6	18.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	12.3	0.2	39.3	6.3	0.1	1.6	0.0	0.1	45.4	0.5	0.1
Delay (s)	35.2	37.9	15.4	88.0	44.1	31.6	45.6	41.5	41.7	89.8	40.2	18.6
Level of Service	D	D	B	F	D	C	D	D	D	F	D	B
Approach Delay (s)		34.7			45.7			44.7			50.4	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	104.6	Sum of lost time (s)	23.5
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	323	0	1	553	22	0	0	0	14	0	76
Future Volume (veh/h)	132	323	0	1	553	22	0	0	0	14	0	76
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1173	1743	1900	1900	1827	1496				1473	0	1145
Adj Flow Rate, veh/h	150	367	0	1	700	28				16	0	84
Adj No. of Lanes	2	2	0	2	2	1				1	0	1
Peak Hour Factor	0.88	0.88	0.88	0.79	0.79	0.79				0.90	0.90	0.90
Percent Heavy Veh, %	62	9	0	0	4	27				29	0	66
Cap, veh/h	247	1783	0	8	1478	530				179	0	124
Arrive On Green	0.11	0.54	0.00	0.00	0.43	0.43				0.13	0.00	0.13
Sat Flow, veh/h	2167	3399	0	3510	3471	1245				1403	0	973
Grp Volume(v), veh/h	150	367	0	1	700	28				16	0	84
Grp Sat Flow(s),veh/h/ln	1083	1656	0	1755	1736	1245				1403	0	973
Q Serve(g_s), s	2.9	2.5	0.0	0.0	6.4	0.6				0.4	0.0	3.6
Cycle Q Clear(g_c), s	2.9	2.5	0.0	0.0	6.4	0.6				0.4	0.0	3.6
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	247	1783	0	8	1478	530				179	0	124
V/C Ratio(X)	0.61	0.21	0.00	0.13	0.47	0.05				0.09	0.00	0.68
Avail Cap(c_a), veh/h	1518	3743	0	2459	3922	1407				1046	0	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	18.7	5.3	0.0	22.0	9.1	7.5				17.0	0.0	18.4
Incr Delay (d2), s/veh	2.4	0.1	0.0	6.9	0.5	0.1				0.2	0.0	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.2	0.0	0.0	3.1	0.6				0.2	0.0	2.1
LnGrp Delay(d),s/veh	21.0	5.4	0.0	29.0	9.6	7.6				17.2	0.0	24.6
LnGrp LOS	C	A		C	A	A				B		C
Approach Vol, veh/h		517			729						100	
Approach Delay, s/veh		10.0			9.6						23.5	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	4.6	29.5		10.2	9.6	24.5		
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		
Max Green Setting (Gmax), s	3.1	50.0		33.0	31.0	50.0		
Max Q Clear Time (g_c+I1), s	2.0	4.5		5.6	4.9	8.4		
Green Ext Time (p_c), s	0.0	4.8		0.3	0.5	10.4		

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	297	33	12	393	104	274	403	91	193	140	333
Future Volume (veh/h)	63	297	33	12	393	104	274	403	91	193	140	333
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1834	1900	1900	1792	1863	1900	1810	1900	1827	1900	1863
Adj Flow Rate, veh/h	73	345	38	16	510	135	347	510	115	247	179	427
Adj No. of Lanes	2	2	0	1	1	1	2	1	0	2	1	1
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.79	0.79	0.79	0.78	0.78	0.78
Percent Heavy Veh, %	6	4	0	0	6	2	0	5	5	4	0	2
Cap, veh/h	187	1070	117	40	545	482	404	497	112	282	600	500
Arrive On Green	0.06	0.34	0.34	0.02	0.30	0.30	0.12	0.35	0.35	0.08	0.32	0.32
Sat Flow, veh/h	3312	3161	345	1810	1792	1583	3510	1430	322	3375	1900	1583
Grp Volume(v), veh/h	73	189	194	16	510	135	347	0	625	247	179	427
Grp Sat Flow(s),veh/h/ln	1656	1742	1764	1810	1792	1583	1755	0	1753	1688	1900	1583
Q Serve(g_s), s	1.9	7.1	7.2	0.8	24.5	5.8	8.6	0.0	30.8	6.4	6.3	22.4
Cycle Q Clear(g_c), s	1.9	7.1	7.2	0.8	24.5	5.8	8.6	0.0	30.8	6.4	6.3	22.4
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	187	590	597	40	545	482	404	0	609	282	600	500
V/C Ratio(X)	0.39	0.32	0.32	0.40	0.94	0.28	0.86	0.00	1.03	0.88	0.30	0.85
Avail Cap(c_a), veh/h	224	590	597	122	552	487	404	0	609	282	600	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	21.8	21.8	42.8	30.0	23.5	38.5	0.0	28.9	40.2	22.9	28.4
Incr Delay (d2), s/veh	0.5	0.7	0.7	13.3	24.0	0.7	16.1	0.0	43.5	24.4	0.3	13.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.5	3.6	0.5	15.7	2.6	5.1	0.0	22.1	3.9	3.3	11.7
LnGrp Delay(d),s/veh	40.9	22.4	22.5	56.1	54.1	24.1	54.6	0.0	72.4	64.6	23.2	41.9
LnGrp LOS	D	C	C	E	D	C	D		F	E	C	D
Approach Vol, veh/h		456			661			972			853	
Approach Delay, s/veh		25.4			48.0			66.1			44.6	
Approach LOS		C			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	35.5	14.4	32.6	9.2	32.5	11.6	35.4
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	27.3	* 10	28.0	* 6	27.3	* 7.4	30.8
Max Q Clear Time (g_c+I1), s	2.8	9.2	10.6	24.4	3.9	26.5	8.4	32.8
Green Ext Time (p_c), s	0.0	3.5	0.0	1.0	0.0	0.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.5
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	575	27	41	547	57	58	134	81	129	130	169
Future Volume (veh/h)	68	575	27	41	547	57	58	134	81	129	130	169
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1842	1900	1845	1813	1900	1863	1886	1900	1881	1900	1900
Adj Flow Rate, veh/h	83	701	33	53	701	73	102	235	142	219	220	286
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.82	0.82	0.82	0.78	0.78	0.78	0.57	0.57	0.57	0.59	0.59	0.59
Percent Heavy Veh, %	0	3	6	3	5	3	2	0	2	1	0	0
Cap, veh/h	130	1035	49	100	912	95	167	370	223	270	253	330
Arrive On Green	0.07	0.30	0.30	0.06	0.29	0.29	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1810	3400	160	1757	3148	328	888	1092	660	1009	749	973
Grp Volume(v), veh/h	83	361	373	53	383	391	102	0	377	219	0	506
Grp Sat Flow(s),veh/h/ln	1810	1750	1809	1757	1722	1754	888	0	1753	1009	0	1722
Q Serve(g_s), s	2.9	11.7	11.7	1.9	13.2	13.2	4.1	0.0	11.8	10.2	0.0	17.9
Cycle Q Clear(g_c), s	2.9	11.7	11.7	1.9	13.2	13.2	22.0	0.0	11.8	22.0	0.0	17.9
Prop In Lane	1.00		0.09	1.00		0.19	1.00		0.38	1.00		0.57
Lane Grp Cap(c), veh/h	130	533	551	100	499	508	167	0	593	270	0	583
V/C Ratio(X)	0.64	0.68	0.68	0.53	0.77	0.77	0.61	0.00	0.64	0.81	0.00	0.87
Avail Cap(c_a), veh/h	167	606	626	162	596	607	167	0	593	270	0	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.3	19.8	19.8	29.8	21.1	21.1	31.4	0.0	18.1	28.8	0.0	20.1
Incr Delay (d2), s/veh	5.2	3.0	3.0	4.3	5.7	5.7	6.4	0.0	2.2	17.0	0.0	13.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	6.1	6.3	1.0	7.1	7.2	2.1	0.0	6.0	5.2	0.0	10.6
LnGrp Delay(d),s/veh	34.5	22.8	22.8	34.1	26.8	26.8	37.7	0.0	20.3	45.8	0.0	33.3
LnGrp LOS	C	C	C	C	C	C	D		C	D		C
Approach Vol, veh/h		817			827			479			725	
Approach Delay, s/veh		24.0			27.3			24.0			37.1	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.2	26.3		28.5	11.2	25.3		28.5
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	6.0	22.5		22.0	6.0	22.5		22.0
Max Q Clear Time (g_c+I1), s	13.9	13.7		24.0	4.9	15.2		24.0
Green Ext Time (p_c), s	0.0	3.7		0.0	0.0	3.5		0.0

Intersection Summary			
HCM 2010 Ctrl Delay		28.3	
HCM 2010 LOS		C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	530	18	142	528	133	32	158	164	153	126	41
Future Volume (veh/h)	119	530	18	142	528	133	32	158	164	153	126	41
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1814	1900	1792	1827	1845	1900	1827	1827	1900	1863	1776
Adj Flow Rate, veh/h	155	688	23	163	607	153	56	277	288	232	191	62
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.77	0.77	0.77	0.87	0.87	0.87	0.57	0.57	0.57	0.66	0.66	0.66
Percent Heavy Veh, %	0	4	27	6	4	3	0	4	4	0	2	7
Cap, veh/h	190	920	31	199	938	418	462	728	618	336	742	592
Arrive On Green	0.11	0.27	0.27	0.12	0.27	0.27	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1810	3401	114	1707	3471	1546	1142	1827	1552	859	1863	1485
Grp Volume(v), veh/h	155	348	363	163	607	153	56	277	288	232	191	62
Grp Sat Flow(s),veh/h/ln	1810	1723	1791	1707	1736	1546	1142	1827	1552	859	1863	1485
Q Serve(g_s), s	7.0	15.5	15.6	7.8	13.0	6.7	2.9	9.0	11.5	22.0	5.8	2.2
Cycle Q Clear(g_c), s	7.0	15.5	15.6	7.8	13.0	6.7	8.7	9.0	11.5	31.1	5.8	2.2
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	466	484	199	938	418	462	728	618	336	742	592
V/C Ratio(X)	0.81	0.75	0.75	0.82	0.65	0.37	0.12	0.38	0.47	0.69	0.26	0.10
Avail Cap(c_a), veh/h	215	554	576	325	1322	589	469	739	628	341	754	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	28.0	28.0	36.2	27.1	24.8	19.8	17.9	18.7	28.9	16.9	15.9
Incr Delay (d2), s/veh	19.0	6.5	6.3	8.1	1.6	1.1	0.2	0.7	1.2	7.5	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	8.2	8.5	4.1	6.4	3.0	0.9	4.7	5.1	5.9	3.1	0.9
LnGrp Delay(d),s/veh	55.8	34.5	34.3	44.3	28.7	26.0	20.1	18.6	19.8	36.4	17.3	16.0
LnGrp LOS	E	C	C	D	C	C	C	B	B	D	B	B
Approach Vol, veh/h		866			923			621			485	
Approach Delay, s/veh		38.2			31.0			19.3			26.3	
Approach LOS		D			C			B			C	

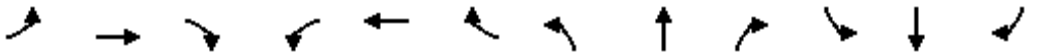
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.8	28.7		39.5	15.8	28.7		39.5
Change Period (Y+Rc), s	6.0	6.0		6.0	7.0	6.0		6.0
Max Green Setting (Gmax), s	10.0	27.0		34.0	10.0	32.0		34.0
Max Q Clear Time (g_c+I1), s	9.8	17.6		33.1	9.0	15.0		13.5
Green Ext Time (p_c), s	0.2	4.5		0.4	0.0	7.0		5.6

Intersection Summary		
HCM 2010 Ctrl Delay	29.9	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	324	34	12	381	28	56	84	16	6	71	207
Future Volume (veh/h)	238	324	34	12	381	28	56	84	16	6	71	207
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1818	1900	1900	1759	1900	1900	1886	1900	1900	1873	1900
Adj Flow Rate, veh/h	283	386	40	14	443	33	76	114	22	9	106	309
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.74	0.74	0.74	0.67	0.67	0.67
Percent Heavy Veh, %	2	5	0	0	8	0	2	0	0	0	0	2
Cap, veh/h	430	1537	158	548	856	783	219	297	48	77	141	388
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	913	3160	326	975	1759	1610	375	916	149	11	434	1198
Grp Volume(v), veh/h	283	210	216	14	443	33	212	0	0	424	0	0
Grp Sat Flow(s),veh/h/ln	913	1727	1759	975	1759	1610	1440	0	0	1644	0	0
Q Serve(g_s), s	15.5	3.6	3.6	0.4	8.7	0.5	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	24.1	3.6	3.6	4.0	8.7	0.5	4.9	0.0	0.0	11.7	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.36		0.10	0.02		0.73
Lane Grp Cap(c), veh/h	430	840	856	548	856	783	564	0	0	606	0	0
V/C Ratio(X)	0.66	0.25	0.25	0.03	0.52	0.04	0.38	0.00	0.00	0.70	0.00	0.00
Avail Cap(c_a), veh/h	430	840	856	548	856	783	837	0	0	926	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.1	7.5	7.5	8.7	8.8	6.8	13.0	0.0	0.0	15.4	0.0	0.0
Incr Delay (d2), s/veh	4.9	0.3	0.3	0.0	1.1	0.0	0.4	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	1.8	1.8	0.1	4.4	0.2	2.3	0.0	0.0	5.5	0.0	0.0
LnGrp Delay(d),s/veh	22.1	7.9	7.9	8.8	9.9	6.8	13.4	0.0	0.0	16.9	0.0	0.0
LnGrp LOS	C	A	A	A	A	A	B			B		
Approach Vol, veh/h		709			490			212			424	
Approach Delay, s/veh		13.5			9.7			13.4			16.9	
Approach LOS		B			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		29.0		21.2		29.0		21.2
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		24.4		26.1		24.4		26.1
Max Q Clear Time (g_c+I1), s		26.1		6.9		10.7		13.7
Green Ext Time (p_c), s		0.0		1.3		4.3		2.4

Intersection Summary		
HCM 2010 Ctrl Delay		13.3
HCM 2010 LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	164	62	9	32	12	185	576	76	32	296	266
Future Volume (vph)	140	164	62	9	32	12	185	576	76	32	296	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.96		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1641	1771		1583	1668		1736	1750		1805	1696	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1641	1771		1583	1668		1736	1750		1805	1696	1468
Peak-hour factor, PHF	0.87	0.87	0.87	0.67	0.67	0.67	0.76	0.76	0.76	0.81	0.81	0.81
Adj. Flow (vph)	161	189	71	13	48	18	243	758	100	40	365	328
RTOR Reduction (vph)	0	16	0	0	15	0	0	5	0	0	0	207
Lane Group Flow (vph)	161	244	0	13	51	0	243	853	0	40	365	121
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	10%	4%	0%	14%	9%	8%	4%	6%	12%	0%	12%	10%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	15.6	15.6		4.5	4.5		14.7	43.7		2.8	31.8	31.8
Effective Green, g (s)	15.6	15.6		4.5	4.5		14.7	43.7		2.8	31.8	31.8
Actuated g/C Ratio	0.18	0.18		0.05	0.05		0.17	0.51		0.03	0.37	0.37
Clearance Time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	297	320		82	87		296	888		58	626	542
v/s Ratio Prot	0.10	c0.14		0.01	c0.03		c0.14	c0.49		0.02	0.22	
v/s Ratio Perm												0.08
v/c Ratio	0.54	0.76		0.16	0.58		0.82	0.96		0.69	0.58	0.22
Uniform Delay, d1	32.0	33.5		39.0	39.9		34.4	20.4		41.2	21.8	18.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.0	10.3		0.9	9.6		16.5	22.0		29.0	3.9	1.0
Delay (s)	34.0	43.8		39.9	49.5		50.9	42.4		70.2	25.8	19.6
Level of Service	C	D		D	D		D	D		E	C	B
Approach Delay (s)		40.1			47.9			44.3			25.4	
Approach LOS		D			D			D			C	

Intersection Summary					
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.90				
Actuated Cycle Length (s)	86.1	Sum of lost time (s)		19.5	
Intersection Capacity Utilization	65.9%	ICU Level of Service		C	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	204	81	462	411	62	197	497	359	72	552	94
Future Volume (veh/h)	35	204	81	462	411	62	197	497	359	72	552	94
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1667	1667	1667	1597	1597	1900
Adj Flow Rate, veh/h	42	243	96	600	534	81	246	621	449	100	767	131
Adj No. of Lanes	1	1	0	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.84	0.84	0.84	0.77	0.77	0.77	0.80	0.80	0.80	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	71	260	103	664	568	86	271	1112	771	121	801	137
Arrive On Green	0.04	0.20	0.20	0.19	0.36	0.36	0.12	0.35	0.35	0.08	0.31	0.31
Sat Flow, veh/h	1774	1272	502	3442	1581	240	1587	3167	1417	1521	2593	443
Grp Volume(v), veh/h	42	0	339	600	0	615	246	621	449	100	449	449
Grp Sat Flow(s),veh/h/ln	1774	0	1774	1721	0	1820	1587	1583	1417	1521	1517	1519
Q Serve(g_s), s	2.5	0.0	20.0	18.2	0.0	34.8	11.0	16.9	5.8	6.9	30.9	30.9
Cycle Q Clear(g_c), s	2.5	0.0	20.0	18.2	0.0	34.8	11.0	16.9	5.8	6.9	30.9	30.9
Prop In Lane	1.00		0.28	1.00		0.13	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	71	0	363	664	0	654	271	1112	771	121	469	469
V/C Ratio(X)	0.59	0.00	0.93	0.90	0.00	0.94	0.91	0.56	0.58	0.83	0.96	0.96
Avail Cap(c_a), veh/h	100	0	363	937	0	769	272	1112	771	186	469	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	0.0	41.6	42.0	0.0	33.0	25.6	27.9	5.7	48.3	36.1	36.1
Incr Delay (d2), s/veh	2.9	0.0	30.3	7.4	0.0	16.8	30.9	0.4	0.8	9.7	30.7	30.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	12.9	9.3	0.0	20.5	9.4	7.4	4.8	3.2	17.0	17.0
LnGrp Delay(d),s/veh	53.1	0.0	72.0	49.4	0.0	49.8	56.5	28.3	6.5	58.0	66.8	66.8
LnGrp LOS	D		E	D		D	E	C	A	E	E	E
Approach Vol, veh/h		381			1215			1316			998	
Approach Delay, s/veh		69.9			49.6			26.1			65.9	
Approach LOS		E			D			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.7	26.0	12.5	42.3	8.3	43.5	17.0	37.8
Change Period (Y+Rc), s	* 5.2	* 4.2	4.0	4.9	4.0	* 5.2	4.0	4.9
Max Green Setting (Gmax), s	* 23	* 22	13.0	32.9	6.0	* 45	13.0	32.9
Max Q Clear Time (g_c+I1), s	20.2	22.0	8.9	18.9	4.5	36.8	13.0	32.9
Green Ext Time (p_c), s	0.4	0.0	0.0	0.6	0.0	1.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.8
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	302	33	171	416	61	89	832	75	300	560	127
Future Volume (veh/h)	136	302	33	171	416	61	89	832	75	300	560	127
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1782	1900	1845	1743	1900	1827	1881	1429	1743	1871	1900
Adj Flow Rate, veh/h	181	403	44	225	547	80	105	979	88	390	727	165
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.75	0.75	0.75	0.76	0.76	0.76	0.85	0.85	0.85	0.77	0.77	0.77
Percent Heavy Veh, %	0	7	3	3	9	0	4	1	33	9	1	4
Cap, veh/h	254	481	52	339	582	525	242	1042	354	471	910	206
Arrive On Green	0.08	0.30	0.30	0.11	0.33	0.33	0.06	0.29	0.29	0.09	0.32	0.32
Sat Flow, veh/h	1810	1577	172	1757	1743	1573	1740	3574	1213	3221	2866	650
Grp Volume(v), veh/h	181	0	447	225	547	80	105	979	88	390	451	441
Grp Sat Flow(s),veh/h/ln	1810	0	1749	1757	1743	1573	1740	1787	1213	1610	1777	1738
Q Serve(g_s), s	5.7	0.0	20.0	7.2	25.5	3.0	3.5	22.4	4.6	7.2	19.4	19.5
Cycle Q Clear(g_c), s	5.7	0.0	20.0	7.2	25.5	3.0	3.5	22.4	4.6	7.2	19.4	19.5
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	254	0	533	339	582	525	242	1042	354	471	564	552
V/C Ratio(X)	0.71	0.00	0.84	0.66	0.94	0.15	0.43	0.94	0.25	0.83	0.80	0.80
Avail Cap(c_a), veh/h	254	0	570	535	813	734	304	1044	354	471	564	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	0.0	27.2	19.5	27.1	19.6	20.9	29.0	22.7	21.9	26.2	26.2
Incr Delay (d2), s/veh	7.7	0.0	9.4	0.8	12.9	0.0	0.5	15.3	0.1	10.9	7.4	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	10.9	3.5	14.4	1.3	1.7	13.2	1.6	3.8	10.7	10.5
LnGrp Delay(d),s/veh	29.1	0.0	36.6	20.3	40.0	19.6	21.4	44.3	22.8	32.9	33.6	33.7
LnGrp LOS	C		D	C	D	B	C	D	C	C	C	C
Approach Vol, veh/h		628			852			1172			1282	
Approach Delay, s/veh		34.4			32.9			40.6			33.4	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	32.6	11.2	29.3	13.1	30.2	9.0	31.5
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	6.7	39.1	7.2	24.5	18.5	27.3	8.0	23.7
Max Q Clear Time (g_c+I1), s	7.7	27.5	9.2	24.4	9.2	22.0	5.5	21.5
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.0	0.4	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	35.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	526	256	11	100	148	113	793	0	285	552	0
Future Volume (veh/h)	0	526	256	11	100	148	113	793	0	285	552	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1667	1667	1667	1597	1597	1900
Adj Flow Rate, veh/h	0	822	400	15	141	208	147	1030	0	407	789	0
Adj No. of Lanes	1	2	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.64	0.64	0.64	0.71	0.71	0.71	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	80	842	376	83	443	376	178	1063	475	405	1487	0
Arrive On Green	0.00	0.24	0.24	0.24	0.24	0.24	0.11	0.34	0.00	0.27	0.49	0.00
Sat Flow, veh/h	1028	3539	1583	455	1863	1583	1587	3167	1417	1521	3113	0
Grp Volume(v), veh/h	0	822	400	15	141	208	147	1030	0	407	789	0
Grp Sat Flow(s),veh/h/ln	1028	1770	1583	455	1863	1583	1587	1583	1417	1521	1517	0
Q Serve(g_s), s	0.0	20.8	21.4	0.6	5.6	10.4	8.2	28.8	0.0	24.0	16.1	0.0
Cycle Q Clear(g_c), s	0.0	20.8	21.4	21.4	5.6	10.4	8.2	28.8	0.0	24.0	16.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	80	842	376	83	443	376	178	1063	475	405	1487	0
V/C Ratio(X)	0.00	0.98	1.06	0.18	0.32	0.55	0.83	0.97	0.00	1.00	0.53	0.00
Avail Cap(c_a), veh/h	80	842	376	83	443	376	293	1063	475	405	1487	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	34.1	34.3	44.9	28.3	30.1	39.1	29.4	0.0	33.0	15.8	0.0
Incr Delay (d2), s/veh	0.0	25.3	63.9	1.0	0.4	1.7	9.5	20.5	0.0	45.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.1	16.1	0.4	2.9	4.7	4.1	15.6	0.0	15.2	6.8	0.0
LnGrp Delay(d),s/veh	0.0	59.4	98.2	46.0	28.7	31.8	48.6	49.9	0.0	78.6	16.2	0.0
LnGrp LOS		E	F	D	C	C	D	D		F	B	
Approach Vol, veh/h		1222			364			1177			1196	
Approach Delay, s/veh		72.1			31.2			49.8			37.4	
Approach LOS		E			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	28.0	36.0		26.0	14.1	49.9		26.0
Change Period (Y+Rc), s	4.0	5.8		4.6	4.0	5.8		4.6
Max Green Setting (Gmax), s	24.0	30.2		21.4	16.6	37.6		21.4
Max Q Clear Time (g_c+I1), s	26.0	30.8		23.4	10.2	18.1		23.4
Green Ext Time (p_c), s	0.0	0.0		0.0	0.2	5.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		51.2
HCM 2010 LOS		D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	159	83	52	272	32	579	39	193	2	1	0
Future Volume (veh/h)	14	159	83	52	272	32	579	39	193	2	1	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1338	1520	1744	1900	1242	1900	1357	1900	1520	1900
Adj Flow Rate, veh/h	20	224	117	75	394	46	998	67	333	3	1	0
Adj No. of Lanes	1	2	1	1	1	0	2	1	1	0	1	0
Peak Hour Factor	0.71	0.71	0.71	0.69	0.69	0.69	0.58	0.58	0.58	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	42	25	10	0	53	0	40	0	100	0
Cap, veh/h	41	860	794	90	425	50	1069	886	537	7	2	0
Arrive On Green	0.02	0.24	0.24	0.06	0.28	0.28	0.47	0.47	0.47	0.01	0.01	0.00
Sat Flow, veh/h	1810	3610	1109	1448	1529	179	2294	1900	1153	1099	366	0
Grp Volume(v), veh/h	20	224	117	75	0	440	998	67	333	4	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1109	1448	0	1708	1147	1900	1153	1465	0	0
Q Serve(g_s), s	0.9	4.0	2.8	4.1	0.0	19.8	32.5	1.5	17.2	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.9	4.0	2.8	4.1	0.0	19.8	32.5	1.5	17.2	0.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	0.75		0.00
Lane Grp Cap(c), veh/h	41	860	794	90	0	474	1069	886	537	9	0	0
V/C Ratio(X)	0.49	0.26	0.15	0.84	0.00	0.93	0.93	0.08	0.62	0.43	0.00	0.00
Avail Cap(c_a), veh/h	114	894	805	141	0	481	1122	929	564	111	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.2	24.5	3.9	36.7	0.0	27.8	20.0	11.7	15.9	39.2	0.0	0.0
Incr Delay (d2), s/veh	8.9	0.2	0.1	21.1	0.0	24.2	13.5	0.0	1.9	28.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.0	2.2	2.2	0.0	12.5	12.3	0.8	5.7	0.2	0.0	0.0
LnGrp Delay(d),s/veh	47.2	24.7	4.0	57.9	0.0	52.0	33.4	11.7	17.8	67.2	0.0	0.0
LnGrp LOS	D	C	A	E		D	C	B	B	E		
Approach Vol, veh/h		361			515			1398			4	
Approach Delay, s/veh		19.2			52.9			28.7			67.2	
Approach LOS		B			D			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		41.4	9.4	23.4		5.0	6.3	26.5
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		38.7	7.7	19.6		6.0	5.0	22.3
Max Q Clear Time (g_c+I1), s		34.5	6.1	6.0		2.2	2.9	21.8
Green Ext Time (p_c), s		2.4	0.0	1.6		0.0	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	52	0	50	427	27	0	790	7	104	481	0
Future Volume (veh/h)	97	52	0	50	427	27	0	790	7	104	481	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1319	1900	1667	1900	1863	1520	1743	1776	1900
Adj Flow Rate, veh/h	388	208	0	79	678	43	0	963	9	196	908	0
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.25	0.25	0.25	0.63	0.63	0.63	0.82	0.82	0.82	0.53	0.53	0.53
Percent Heavy Veh, %	2	2	2	44	0	14	0	2	25	9	7	0
Cap, veh/h	438	946	423	91	768	301	4	1113	500	228	1681	805
Arrive On Green	0.13	0.27	0.00	0.07	0.21	0.21	0.00	0.31	0.31	0.14	0.50	0.00
Sat Flow, veh/h	3442	3539	1583	1257	3610	1417	3510	3539	1292	1660	3374	1615
Grp Volume(v), veh/h	388	208	0	79	678	43	0	963	9	196	908	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1257	1805	1417	1755	1770	1292	1660	1687	1615
Q Serve(g_s), s	9.6	4.0	0.0	5.4	15.7	2.1	0.0	22.2	0.4	10.0	16.0	0.0
Cycle Q Clear(g_c), s	9.6	4.0	0.0	5.4	15.7	2.1	0.0	22.2	0.4	10.0	16.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	438	946	423	91	768	301	4	1113	500	228	1681	805
V/C Ratio(X)	0.89	0.22	0.00	0.86	0.88	0.14	0.00	0.86	0.02	0.86	0.54	0.00
Avail Cap(c_a), veh/h	438	946	423	131	797	313	203	1224	541	230	1681	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.1	24.7	0.0	39.7	33.0	27.6	0.0	27.9	16.3	36.5	14.9	0.0
Incr Delay (d2), s/veh	19.2	0.1	0.0	31.4	11.2	0.2	0.0	6.3	0.0	26.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	2.0	0.0	2.7	9.0	0.9	0.0	11.8	0.1	6.2	7.5	0.0
LnGrp Delay(d),s/veh	56.3	24.8	0.0	71.0	44.2	27.9	0.0	34.2	16.4	62.6	15.2	0.0
LnGrp LOS	E	C		E	D	C		C	B	E	B	
Approach Vol, veh/h		596			800			972			1104	
Approach Delay, s/veh		45.3			45.9			34.0			23.7	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.9	32.3	10.3	28.0	0.0	48.2	15.0	23.3
Change Period (Y+Rc), s	4.0	5.1	4.0	* 4.9	4.0	* 5.1	4.0	4.9
Max Green Setting (Gmax), s	12.0	29.9	9.0	* 21	5.0	* 37	11.0	19.1
Max Q Clear Time (g_c+I1), s	11.6	24.2	7.4	6.0	0.0	18.0	11.6	17.7
Green Ext Time (p_c), s	0.0	3.0	0.0	1.1	0.0	6.8	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	35.4
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	24	39	251	337	178	0	306	63	0	729	49
Future Volume (veh/h)	0	24	39	251	337	178	0	306	63	0	729	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1863	1863	1863	1597	1597	1597	1638	1638	1638
Adj Flow Rate, veh/h	0	96	156	411	552	292	0	369	76	0	1157	78
Adj No. of Lanes	2	2	1	2	1	1	1	3	1	2	2	1
Peak Hour Factor	0.25	0.25	0.25	0.61	0.61	0.61	0.83	0.83	0.83	0.63	0.63	0.63
Percent Heavy Veh, %	5	5	5	2	2	2	19	19	19	16	16	16
Cap, veh/h	224	230	103	1126	610	451	2	1835	571	3	1310	586
Arrive On Green	0.00	0.07	0.07	0.33	0.33	0.33	0.00	0.42	0.42	0.00	0.42	0.42
Sat Flow, veh/h	3343	3438	1538	3442	1863	1583	1521	4359	1357	3026	3112	1392
Grp Volume(v), veh/h	0	96	156	411	552	292	0	369	76	0	1157	78
Grp Sat Flow(s),veh/h/ln	1672	1719	1538	1721	1863	1583	1521	1453	1357	1513	1556	1392
Q Serve(g_s), s	0.0	2.5	6.3	8.6	26.7	19.2	0.0	5.0	3.2	0.0	32.3	3.2
Cycle Q Clear(g_c), s	0.0	2.5	6.3	8.6	26.7	19.2	0.0	5.0	3.2	0.0	32.3	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	224	230	103	1126	610	451	2	1835	571	3	1310	586
V/C Ratio(X)	0.00	0.42	1.52	0.36	0.91	0.65	0.00	0.20	0.13	0.00	0.88	0.13
Avail Cap(c_a), veh/h	224	230	103	1191	645	481	89	1835	571	331	1460	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	42.2	43.9	24.2	30.3	45.4	0.0	17.2	16.7	0.0	25.1	16.7
Incr Delay (d2), s/veh	0.0	1.2	275.6	0.2	15.9	2.8	0.0	0.1	0.1	0.0	6.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.2	10.6	4.1	16.3	8.8	0.0	2.0	1.2	0.0	15.0	1.3
LnGrp Delay(d),s/veh	0.0	43.4	319.6	24.4	46.2	48.2	0.0	17.3	16.8	0.0	31.4	16.8
LnGrp LOS		D	F	C	D	D		B	B		C	B
Approach Vol, veh/h		252			1255			445			1235	
Approach Delay, s/veh		214.4			39.5			17.2			30.4	
Approach LOS		F			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	45.5		12.1	10.0	45.5		36.6
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	10.3	39.4		6.3	5.5	44.2		32.6
Max Q Clear Time (g_c+I1), s	10.6	7.0		8.3	0.0	34.3		28.7
Green Ext Time (p_c), s	0.0	2.7		0.0	0.0	5.4		2.1

Intersection Summary		
HCM 2010 Ctrl Delay	46.7	
HCM 2010 LOS	D	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	79	54	624	370	69	7	566	234	29	623	0
Future Volume (veh/h)	0	79	54	624	370	69	7	566	234	29	623	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1863	1863	1863	1810	1810	1810	1610	1610	1900
Adj Flow Rate, veh/h	0	144	98	1076	638	119	9	726	300	39	831	0
Adj No. of Lanes	1	2	1	2	2	1	1	2	1	1	2	0
Peak Hour Factor	0.55	0.55	0.55	0.58	0.58	0.58	0.78	0.78	0.78	0.75	0.75	0.75
Percent Heavy Veh, %	5	5	5	2	2	2	5	5	5	18	18	18
Cap, veh/h	125	250	112	1214	1248	558	19	962	430	55	931	0
Arrive On Green	0.00	0.07	0.07	0.35	0.35	0.35	0.01	0.28	0.28	0.04	0.30	0.00
Sat Flow, veh/h	1723	3438	1538	3442	3539	1583	1723	3438	1538	1533	3140	0
Grp Volume(v), veh/h	0	144	98	1076	638	119	9	726	300	39	831	0
Grp Sat Flow(s),veh/h/ln	1723	1719	1538	1721	1770	1583	1723	1719	1538	1533	1530	0
Q Serve(g_s), s	0.0	3.3	5.2	24.3	11.8	4.3	0.4	15.9	14.4	2.1	21.4	0.0
Cycle Q Clear(g_c), s	0.0	3.3	5.2	24.3	11.8	4.3	0.4	15.9	14.4	2.1	21.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	125	250	112	1214	1248	558	19	962	430	55	931	0
V/C Ratio(X)	0.00	0.58	0.88	0.89	0.51	0.21	0.46	0.76	0.70	0.71	0.89	0.00
Avail Cap(c_a), veh/h	125	250	112	1259	1295	579	115	1120	501	102	997	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	37.1	37.9	25.2	21.1	18.7	40.6	27.2	26.6	39.4	27.4	0.0
Incr Delay (d2), s/veh	0.0	3.2	49.1	7.8	0.3	0.2	16.1	2.5	3.5	15.5	9.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.7	3.7	12.8	5.8	1.9	0.3	7.9	6.5	1.1	10.3	0.0
LnGrp Delay(d),s/veh	0.0	40.3	87.0	32.9	21.4	18.9	56.7	29.7	30.1	54.9	37.3	0.0
LnGrp LOS		D	F	C	C	B	E	C	C	D	D	
Approach Vol, veh/h		242			1833			1035			870	
Approach Delay, s/veh		59.2			28.0			30.0			38.1	
Approach LOS		E			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	28.9		11.8	4.9	30.9		34.9
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	26.9		6.0	5.5	26.9		30.2
Max Q Clear Time (g_c+I1), s	4.1	17.9		7.2	2.4	23.4		26.3
Green Ext Time (p_c), s	0.0	3.7		0.0	0.0	1.7		2.8

Intersection Summary		
HCM 2010 Ctrl Delay		32.6
HCM 2010 LOS		C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	222	339	1336	291	327	52
Future Volume (veh/h)	222	339	1336	291	327	52
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1638	1638	1624	1624
Adj Flow Rate, veh/h	308	471	1536	334	425	68
Adj No. of Lanes	1	2	2	2	2	1
Peak Hour Factor	0.72	0.72	0.87	0.87	0.77	0.77
Percent Heavy Veh, %	5	5	16	16	17	17
Cap, veh/h	314	1873	1543	2185	469	210
Arrive On Green	0.18	0.18	0.51	0.70	0.15	0.15
Sat Flow, veh/h	1723	2707	3026	3194	3167	1380
Grp Volume(v), veh/h	308	471	1536	334	425	68
Grp Sat Flow(s),veh/h/ln	1723	1354	1513	1556	1543	1380
Q Serve(g_s), s	17.8	6.5	50.5	3.6	13.5	4.4
Cycle Q Clear(g_c), s	17.8	6.5	50.5	3.6	13.5	4.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	314	1873	1543	2185	469	210
V/C Ratio(X)	0.98	0.25	1.00	0.15	0.91	0.32
Avail Cap(c_a), veh/h	314	1873	1543	2185	469	210
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	5.7	24.4	5.0	41.7	37.8
Incr Delay (d2), s/veh	45.8	0.1	21.7	0.0	21.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	8.5	25.6	1.5	7.2	1.7
LnGrp Delay(d),s/veh	86.5	5.8	46.1	5.0	62.8	38.7
LnGrp LOS	F	A	D	A	E	D
Approach Vol, veh/h	779			1870	493	
Approach Delay, s/veh	37.7			38.8	59.5	
Approach LOS	D			D	E	

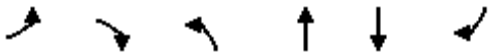
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		76.0		24.0	55.0	21.0		
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8		
Max Green Setting (Gmax), s		70.2		18.2	51.0	15.2		
Max Q Clear Time (g_c+I1), s		5.6		19.8	52.5	15.5		
Green Ext Time (p_c), s		2.2		0.0	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	41.7
HCM 2010 LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	276	313	975	48	23	685
Future Volume (veh/h)	276	313	975	48	23	685
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1473	1473	1638	1900	1624	1624
Adj Flow Rate, veh/h	329	373	1175	58	29	867
Adj No. of Lanes	1	1	2	0	1	2
Peak Hour Factor	0.84	0.84	0.83	0.83	0.79	0.79
Percent Heavy Veh, %	29	29	16	16	17	17
Cap, veh/h	442	394	1338	66	47	1628
Arrive On Green	0.31	0.31	0.44	0.44	0.03	0.53
Sat Flow, veh/h	1403	1252	3101	149	1547	3167
Grp Volume(v), veh/h	329	373	605	628	29	867
Grp Sat Flow(s),veh/h/ln	1403	1252	1556	1612	1547	1543
Q Serve(g_s), s	15.5	21.4	26.1	26.2	1.4	13.6
Cycle Q Clear(g_c), s	15.5	21.4	26.1	26.2	1.4	13.6
Prop In Lane	1.00	1.00		0.09	1.00	
Lane Grp Cap(c), veh/h	442	394	690	714	47	1628
V/C Ratio(X)	0.75	0.95	0.88	0.88	0.62	0.53
Avail Cap(c_a), veh/h	442	394	764	792	105	1892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	24.6	18.7	18.7	35.3	11.4
Incr Delay (d2), s/veh	6.8	31.8	10.6	10.4	12.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	10.9	13.1	13.6	0.7	5.8
LnGrp Delay(d),s/veh	29.4	56.5	29.3	29.1	47.8	11.7
LnGrp LOS	C	E	C	C	D	B
Approach Vol, veh/h	702		1233			896
Approach Delay, s/veh	43.8		29.2			12.9
Approach LOS	D		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	6.2	38.5				44.7		29.0
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8
Max Green Setting (Gmax), s	5.0	36.2				45.2		23.2
Max Q Clear Time (g_c+I1), s	3.4	28.2				15.6		23.4
Green Ext Time (p_c), s	0.0	4.5				6.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	636	15	3	787	515	93
Future Volume (vph)	636	15	3	787	515	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.97		1.00	1.00	0.95	
Frt	1.00		1.00	1.00	0.98	
Flt Protected	0.95		0.95	1.00	1.00	
Satd. Flow (prot)	3335		1556	1638	3015	
Flt Permitted	0.95		0.95	1.00	1.00	
Satd. Flow (perm)	3335		1556	1638	3015	
Peak-hour factor, PHF	0.72	0.72	0.86	0.86	0.77	0.77
Adj. Flow (vph)	883	21	3	915	669	121
RTOR Reduction (vph)	2	0	0	0	14	0
Lane Group Flow (vph)	902	0	3	915	776	0
Heavy Vehicles (%)	5%	5%	16%	16%	17%	17%
Turn Type	Prot		Prot	NA	NA	
Protected Phases	2		3	8	4	
Permitted Phases						
Actuated Green, G (s)	25.4		1.1	53.8	48.7	
Effective Green, g (s)	25.4		1.1	53.8	48.7	
Actuated g/C Ratio	0.28		0.01	0.59	0.54	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	932		18	970	1617	
v/s Ratio Prot	c0.27		0.00	c0.56	0.26	
v/s Ratio Perm						
v/c Ratio	0.97		0.17	0.94	0.48	
Uniform Delay, d1	32.3		44.4	17.1	13.1	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	21.7		4.3	16.8	0.2	
Delay (s)	54.0		48.7	33.9	13.4	
Level of Service	D		D	C	B	
Approach Delay (s)	54.0			34.0	13.4	
Approach LOS	D			C	B	

Intersection Summary			
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.8	Sum of lost time (s)	15.6
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	657	167	6	395	454	64
Future Volume (vph)	657	167	6	395	454	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.97		1.00	1.00	0.98	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	2998		1556	1638	2912	
Flt Permitted	1.00		0.95	1.00	0.96	
Satd. Flow (perm)	2998		1556	1638	2912	
Peak-hour factor, PHF	0.73	0.79	0.95	0.95	0.84	0.84
Adj. Flow (vph)	900	211	6	416	540	76
RTOR Reduction (vph)	32	0	0	0	19	0
Lane Group Flow (vph)	1079	0	6	416	597	0
Heavy Vehicles (%)	17%	17%	16%	16%	19%	19%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases						
Actuated Green, G (s)	22.7		0.8	27.5	14.4	
Effective Green, g (s)	22.7		0.8	27.5	14.4	
Actuated g/C Ratio	0.42		0.01	0.51	0.27	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1272		23	841	783	
v/s Ratio Prot	c0.36		0.00	c0.25	c0.20	
v/s Ratio Perm						
v/c Ratio	0.85		0.26	0.49	0.76	
Uniform Delay, d1	13.9		26.1	8.5	18.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	5.5		6.0	0.5	4.4	
Delay (s)	19.3		32.0	8.9	22.4	
Level of Service	B		C	A	C	
Approach Delay (s)	19.3			9.3	22.4	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	53.5	Sum of lost time (s)	15.6
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	62	43	0	416	21	7	27	0	0	131	11
Future Volume (veh/h)	25	62	43	0	416	21	7	27	0	0	131	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1583	1900	1900	1473	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	33	83	57	0	555	28	9	35	0	0	175	15
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.77	0.77	0.77	0.75	0.75	0.75
Percent Heavy Veh, %	20	20	20	29	29	29	2	2	2	2	2	2
Cap, veh/h	188	334	185	0	704	36	180	292	0	0	317	27
Arrive On Green	0.51	0.51	0.51	0.00	0.51	0.51	0.19	0.19	0.00	0.00	0.19	0.19
Sat Flow, veh/h	82	660	365	0	1390	70	170	1561	0	0	1692	145
Grp Volume(v), veh/h	173	0	0	0	0	583	44	0	0	0	0	190
Grp Sat Flow(s),veh/h/ln	1107	0	0	0	0	1460	1732	0	0	0	0	1837
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0	2.8
Cycle Q Clear(g_c), s	10.1	0.0	0.0	0.0	0.0	9.6	2.8	0.0	0.0	0.0	0.0	2.8
Prop In Lane	0.19		0.33	0.00		0.05	0.20		0.00	0.00		0.08
Lane Grp Cap(c), veh/h	706	0	0	0	0	739	472	0	0	0	0	344
V/C Ratio(X)	0.24	0.00	0.00	0.00	0.00	0.79	0.09	0.00	0.00	0.00	0.00	0.55
Avail Cap(c_a), veh/h	1400	0	0	0	0	1568	1269	0	0	0	0	1221
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	4.2	0.0	0.0	0.0	0.0	6.0	9.9	0.0	0.0	0.0	0.0	10.8
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.0	1.9	0.1	0.0	0.0	0.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.0	0.0	4.1	0.3	0.0	0.0	0.0	0.0	1.5
LnGrp Delay(d),s/veh	4.4	0.0	0.0	0.0	0.0	7.9	10.0	0.0	0.0	0.0	0.0	12.2
LnGrp LOS	A					A	B					B
Approach Vol, veh/h		173			583			44			190	
Approach Delay, s/veh		4.4			7.9			10.0			12.2	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		10.0		19.3		10.0		19.3
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		31.5		19.5		31.5
Max Q Clear Time (g_c+I1), s		4.8		12.1		4.8		11.6
Green Ext Time (p_c), s		0.1		0.8		0.7		3.3

Intersection Summary		
HCM 2010 Ctrl Delay		8.2
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	87	1	4	0	149	299	11	1	20	1
Future Vol, veh/h	10	10	87	1	4	0	149	299	11	1	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	39	39	39	42	42	42	72	72	72	69	69	69
Heavy Vehicles, %	20	20	20	29	29	29	2	2	2	2	2	2
Mvmt Flow	26	26	223	2	10	0	207	415	15	1	29	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	874	876	30	993	869	423	30	0	0	430	0	0
Stage 1	32	32	-	837	837	-	-	-	-	-	-	-
Stage 2	842	844	-	156	32	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.39	6.79	6.49	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.39	5.79	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.761	4.261	3.561	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	251	269	995	200	263	577	1583	-	-	1129	-	-
Stage 1	940	834	-	325	346	-	-	-	-	-	-	-
Stage 2	334	355	-	786	818	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	219	233	995	128	228	577	1583	-	-	1129	-	-
Mov Cap-2 Maneuver	219	233	-	128	228	-	-	-	-	-	-	-
Stage 1	817	833	-	282	301	-	-	-	-	-	-	-
Stage 2	281	308	-	590	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.7	24.4	2.5	0.4
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1583	-	-	608	197	1129	-	-
HCM Lane V/C Ratio	0.131	-	-	0.451	0.06	0.001	-	-
HCM Control Delay (s)	7.6	-	-	15.7	24.4	8.2	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	2.3	0.2	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	600	9	16	601	66	3	31	56	145	95	39
Future Volume (veh/h)	16	600	9	16	601	66	3	31	56	145	95	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	706	11	19	699	77	3	34	62	191	125	51
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.86	0.86	0.86	0.90	0.90	0.90	0.76	0.76	0.76
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	36	880	14	34	739	81	129	43	79	233	165	67
Arrive On Green	0.02	0.51	0.51	0.02	0.51	0.51	0.07	0.07	0.07	0.13	0.13	0.13
Sat Flow, veh/h	1675	1728	27	1560	1450	160	1774	592	1080	1774	1259	514
Grp Volume(v), veh/h	19	0	717	19	0	776	3	0	96	191	0	176
Grp Sat Flow(s),veh/h/ln	1675	0	1755	1560	0	1610	1774	0	1672	1774	0	1772
Q Serve(g_s), s	0.9	0.0	27.4	1.0	0.0	36.9	0.1	0.0	4.6	8.5	0.0	7.7
Cycle Q Clear(g_c), s	0.9	0.0	27.4	1.0	0.0	36.9	0.1	0.0	4.6	8.5	0.0	7.7
Prop In Lane	1.00		0.02	1.00		0.10	1.00		0.65	1.00		0.29
Lane Grp Cap(c), veh/h	36	0	894	34	0	820	129	0	122	233	0	233
V/C Ratio(X)	0.53	0.00	0.80	0.57	0.00	0.95	0.02	0.00	0.79	0.82	0.00	0.76
Avail Cap(c_a), veh/h	104	0	959	96	0	880	175	0	165	250	0	250
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	16.4	39.2	0.0	18.8	34.8	0.0	36.9	34.2	0.0	33.9
Incr Delay (d2), s/veh	11.5	0.0	4.7	14.2	0.0	18.0	0.1	0.0	16.0	18.1	0.0	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	14.3	0.5	0.0	20.3	0.1	0.0	2.6	5.3	0.0	4.5
LnGrp Delay(d),s/veh	50.6	0.0	21.1	53.4	0.0	36.8	34.9	0.0	52.9	52.3	0.0	45.5
LnGrp LOS	D		C	D		D	C		D	D		D
Approach Vol, veh/h		736			795			99			367	
Approach Delay, s/veh		21.9			37.2			52.4			49.0	
Approach LOS		C			D			D			D	

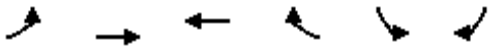
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.7	5.7	47.0		16.4	5.7	47.0
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		8.0	5.0	44.2		11.4	5.0	44.2
Max Q Clear Time (g_c+I1), s		6.6	3.0	29.4		10.5	2.9	38.9
Green Ext Time (p_c), s		0.0	0.0	4.0		0.2	0.0	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	34.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	868	8	23	759	79	10	10	26	156	16	19
Future Volume (veh/h)	4	868	8	23	759	79	10	10	26	156	16	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	5	1033	10	27	883	92	12	12	32	177	18	22
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.82	0.82	0.82	0.88	0.88	0.88
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	11	1073	10	43	931	97	89	88	166	281	21	25
Arrive On Green	0.01	0.62	0.62	0.03	0.64	0.64	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1675	1739	17	1560	1459	152	215	523	984	1202	122	149
Grp Volume(v), veh/h	5	0	1043	27	0	975	56	0	0	217	0	0
Grp Sat Flow(s),veh/h/ln	1675	0	1756	1560	0	1611	1722	0	0	1473	0	0
Q Serve(g_s), s	0.2	0.0	46.8	1.4	0.0	46.4	0.0	0.0	0.0	9.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	46.8	1.4	0.0	46.4	2.4	0.0	0.0	11.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.09	0.21		0.57	0.82		0.10
Lane Grp Cap(c), veh/h	11	0	1083	43	0	1028	343	0	0	327	0	0
V/C Ratio(X)	0.46	0.00	0.96	0.62	0.00	0.95	0.16	0.00	0.00	0.66	0.00	0.00
Avail Cap(c_a), veh/h	100	0	1118	93	0	1028	382	0	0	362	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	41.4	0.0	15.1	40.2	0.0	13.9	29.9	0.0	0.0	33.6	0.0	0.0
Incr Delay (d2), s/veh	26.7	0.0	18.3	13.6	0.0	17.0	0.2	0.0	0.0	3.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	27.8	0.8	0.0	25.2	1.1	0.0	0.0	5.2	0.0	0.0
LnGrp Delay(d),s/veh	68.0	0.0	33.4	53.8	0.0	30.9	30.1	0.0	0.0	37.5	0.0	0.0
LnGrp LOS	E		C	D		C	C			D		
Approach Vol, veh/h		1048			1002			56			217	
Approach Delay, s/veh		33.6			31.5			30.1			37.5	
Approach LOS		C			C			C			D	

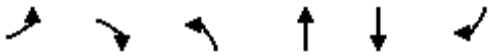
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		19.9	6.3	57.3		19.9	4.5	59.1
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		16.2	5.0	53.2		16.2	5.0	53.2
Max Q Clear Time (g_c+I1), s		4.4	3.4	48.8		13.9	2.2	48.4
Green Ext Time (p_c), s		0.1	0.0	2.7		0.2	0.0	2.8

Intersection Summary		
HCM 2010 Ctrl Delay		33.0
HCM 2010 LOS		C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	487	846	532	3	14	626
Future Volume (vph)	487	846	532	3	14	626
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.8	5.8		5.8	5.8
Lane Util. Factor	1.00	1.00	1.00		1.00	0.95
Frt	1.00	1.00	1.00		0.86	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1626	1712	1665		1592	1504
Flt Permitted	0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1626	1712	1665		1592	1504
Peak-hour factor, PHF	0.88	0.88	0.78	0.78	0.69	0.69
Adj. Flow (vph)	553	961	682	4	20	907
RTOR Reduction (vph)	0	0	0	0	398	415
Lane Group Flow (vph)	553	961	686	0	66	48
Heavy Vehicles (%)	11%	11%	14%	14%	2%	2%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	35.0	83.3	44.3		10.9	10.9
Effective Green, g (s)	35.0	83.3	44.3		10.9	10.9
Actuated g/C Ratio	0.33	0.79	0.42		0.10	0.10
Clearance Time (s)	4.0	5.8	5.8		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	537	1347	697		164	154
v/s Ratio Prot	c0.34	0.56	c0.41		c0.04	
v/s Ratio Perm						0.03
v/c Ratio	1.03	0.71	0.98		0.40	0.31
Uniform Delay, d1	35.4	5.5	30.4		44.4	44.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	46.7	1.8	29.9		1.6	1.1
Delay (s)	82.1	7.3	60.3		46.0	45.1
Level of Service	F	A	E		D	D
Approach Delay (s)		34.6	60.3		45.6	
Approach LOS		C	E		D	

Intersection Summary			
HCM 2000 Control Delay	43.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	105.8	Sum of lost time (s)	15.6
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	75	636	394	518	209	150
Future Volume (vph)	75	636	394	518	209	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	0.97	0.95	0.95	
Frt	0.88	0.85	1.00	1.00	0.94	
Flt Protected	0.99	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1625	1504	3433	3539	3317	
Flt Permitted	0.99	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1625	1504	3433	3539	3317	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	691	428	563	227	163
RTOR Reduction (vph)	201	290	0	0	129	0
Lane Group Flow (vph)	192	90	428	563	261	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	10.5	10.5	11.2	25.0	9.3	
Effective Green, g (s)	10.5	10.5	11.2	25.0	9.3	
Actuated g/C Ratio	0.24	0.24	0.25	0.56	0.21	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	383	354	864	1988	693	
v/s Ratio Prot	c0.12		c0.12	0.16	c0.08	
v/s Ratio Perm		0.06				
v/c Ratio	0.50	0.25	0.50	0.28	0.38	
Uniform Delay, d1	14.7	13.8	14.2	5.1	15.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.4	0.4	0.1	0.3	
Delay (s)	15.8	14.2	14.7	5.2	15.5	
Level of Service	B	B	B	A	B	
Approach Delay (s)	15.0			9.3	15.5	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	44.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	431	120	200	244	100	566	0	280	0	0	0
Future Volume (veh/h)	0	431	120	200	244	100	566	0	280	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	468	130	217	265	109	615	0	304	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	2	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	589	501	273	700	288	918	0	422	0	4	0
Arrive On Green	0.00	0.32	0.32	0.15	0.56	0.56	0.27	0.00	0.27	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1255	516	3442	0	1583	0	1863	0
Grp Volume(v), veh/h	0	468	130	217	0	374	615	0	304	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1772	1721	0	1583	0	1863	0
Q Serve(g_s), s	0.0	11.8	3.1	6.0	0.0	6.1	8.2	0.0	8.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	11.8	3.1	6.0	0.0	6.1	8.2	0.0	8.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.29	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	3	589	501	273	0	988	918	0	422	0	4	0
V/C Ratio(X)	0.00	0.79	0.26	0.79	0.00	0.38	0.67	0.00	0.72	0.00	0.00	0.00
Avail Cap(c_a), veh/h	173	857	729	415	0	1057	1235	0	568	0	654	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	16.0	13.1	20.9	0.0	6.4	16.8	0.0	17.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.3	0.3	6.0	0.0	0.2	0.9	0.0	2.9	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.5	1.4	3.4	0.0	3.0	4.0	0.0	4.2	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	19.3	13.3	26.9	0.0	6.6	17.6	0.0	20.0	0.0	0.0	0.0
LnGrp LOS		B	B	C		A	B		B			
Approach Vol, veh/h		598			591			919			0	
Approach Delay, s/veh		18.0			14.1			18.4			0.0	
Approach LOS		B			B			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		18.2	12.4	20.7		0.0	0.0	33.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.4	12.0	23.6		18.0	5.0	30.6
Max Q Clear Time (g_c+I1), s		10.9	8.0	13.8		0.0	0.0	8.1
Green Ext Time (p_c), s		2.7	0.2	2.4		0.0	0.0	2.4

Intersection Summary	
HCM 2010 Ctrl Delay	17.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	123	71	89	199	289	50	536	712	601	607	13
Future Volume (veh/h)	41	123	71	89	199	289	50	536	712	601	607	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1597	1597	1597	1597	1597	1900
Adj Flow Rate, veh/h	45	134	0	97	216	0	54	583	0	653	660	0
Adj No. of Lanes	1	2	0	2	1	0	1	1	2	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	19	19	19	19	19	19
Cap, veh/h	64	466	0	162	266	0	66	628	1052	724	1806	0
Arrive On Green	0.04	0.13	0.00	0.05	0.14	0.00	0.04	0.39	0.00	0.25	0.60	0.00
Sat Flow, veh/h	1774	3632	0	3442	1863	0	1521	1597	2389	2950	3113	0
Grp Volume(v), veh/h	45	134	0	97	216	0	54	583	0	653	660	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1721	1863	0	1521	1597	1194	1475	1517	0
Q Serve(g_s), s	2.5	3.4	0.0	2.7	11.1	0.0	3.5	34.4	0.0	21.1	11.1	0.0
Cycle Q Clear(g_c), s	2.5	3.4	0.0	2.7	11.1	0.0	3.5	34.4	0.0	21.1	11.1	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	64	466	0	162	266	0	66	628	1052	724	1806	0
V/C Ratio(X)	0.71	0.29	0.00	0.60	0.81	0.00	0.82	0.93	0.00	0.90	0.37	0.00
Avail Cap(c_a), veh/h	92	787	0	618	652	0	168	734	1211	811	1894	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	47.0	38.6	0.0	46.0	40.9	0.0	46.8	28.6	0.0	36.0	10.3	0.0
Incr Delay (d2), s/veh	13.3	0.3	0.0	3.5	5.9	0.0	21.7	16.7	0.0	12.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.7	0.0	1.4	6.1	0.0	1.9	18.0	0.0	9.9	4.6	0.0
LnGrp Delay(d),s/veh	60.3	38.9	0.0	49.5	46.8	0.0	68.5	45.2	0.0	48.5	10.4	0.0
LnGrp LOS	E	D		D	D		E	D		D	B	
Approach Vol, veh/h		179			313			637			1313	
Approach Delay, s/veh		44.3			47.6			47.2			29.4	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.7	43.2	9.1	17.5	8.7	63.1	8.0	18.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	27.1	45.3	17.7	21.9	10.9	61.5	5.1	34.5
Max Q Clear Time (g_c+I1), s	23.1	36.4	4.7	5.4	5.5	13.1	4.5	13.1
Green Ext Time (p_c), s	1.0	2.3	0.2	0.6	0.0	4.7	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	37.5
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	76	505	88	64	93
Future Vol, veh/h	19	76	505	88	64	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	83	549	96	70	101

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	838	597	0	0	645	0
Stage 1	597	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	336	503	-	-	940	-
Stage 1	550	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	309	503	-	-	940	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	736	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.5	0	3.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	447	940	-
HCM Lane V/C Ratio	-	-	0.231	0.074	-
HCM Control Delay (s)	-	-	15.5	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	20	18	10	24	40	55	719	11	98	503	0
Future Volume (veh/h)	0	20	18	10	24	40	55	719	11	98	503	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1557	1557	1900	1557	1557	1900
Adj Flow Rate, veh/h	0	22	20	11	26	43	60	782	12	107	547	0
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	22	22	22	22	22	22
Cap, veh/h	0	86	78	124	57	84	539	1020	16	371	1039	0
Arrive On Green	0.00	0.10	0.10	0.10	0.10	0.10	0.67	0.67	0.67	0.67	0.67	0.00
Sat Flow, veh/h	0	900	818	168	592	884	716	1530	23	569	1557	0
Grp Volume(v), veh/h	0	0	42	80	0	0	60	0	794	107	547	0
Grp Sat Flow(s),veh/h/ln	0	0	1718	1644	0	0	716	0	1553	569	1557	0
Q Serve(g_s), s	0.0	0.0	0.9	0.8	0.0	0.0	1.8	0.0	13.2	6.0	6.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.9	1.7	0.0	0.0	8.6	0.0	13.2	19.2	6.8	0.0
Prop In Lane	0.00		0.48	0.14		0.54	1.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	164	265	0	0	539	0	1036	371	1039	0
V/C Ratio(X)	0.00	0.00	0.26	0.30	0.00	0.00	0.11	0.00	0.77	0.29	0.53	0.00
Avail Cap(c_a), veh/h	0	0	817	883	0	0	780	0	1559	563	1563	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	15.9	16.3	0.0	0.0	5.4	0.0	4.3	10.8	3.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.6	0.0	0.0	0.1	0.0	1.3	0.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.4	0.8	0.0	0.0	0.4	0.0	5.7	1.0	3.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	16.7	16.9	0.0	0.0	5.5	0.0	5.6	11.3	3.7	0.0
LnGrp LOS			B	B			A		A	B	A	
Approach Vol, veh/h		42			80			854			654	
Approach Delay, s/veh		16.7			16.9			5.6			4.9	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		29.8		8.1		29.8		8.1
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		38.0		18.0		38.0		18.0
Max Q Clear Time (g_c+I1), s		15.2		2.9		21.2		3.7
Green Ext Time (p_c), s		6.1		0.1		4.1		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	6.2
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	27	36	144	186	39	85	430	72	32	276	27
Future Volume (veh/h)	8	27	36	144	186	39	85	430	72	32	276	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1557	1557	1900	1557	1557	1900
Adj Flow Rate, veh/h	9	29	0	157	202	0	92	467	0	35	300	0
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	22	22	22	22	22	22
Cap, veh/h	202	464	0	345	304	0	482	651	0	361	651	0
Arrive On Green	0.29	0.29	0.00	0.29	0.29	0.00	0.42	0.42	0.00	0.42	0.42	0.00
Sat Flow, veh/h	202	1581	0	611	1035	0	899	1557	0	771	1557	0
Grp Volume(v), veh/h	38	0	0	359	0	0	92	467	0	35	300	0
Grp Sat Flow(s),veh/h/ln	1783	0	0	1646	0	0	899	1557	0	771	1557	0
Q Serve(g_s), s	0.0	0.0	0.0	4.8	0.0	0.0	2.6	7.8	0.0	1.2	4.3	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.0	6.1	0.0	0.0	6.9	7.8	0.0	9.0	4.3	0.0
Prop In Lane	0.24		0.00	0.44		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	666	0	0	649	0	0	482	651	0	361	651	0
V/C Ratio(X)	0.06	0.00	0.00	0.55	0.00	0.00	0.19	0.72	0.00	0.10	0.46	0.00
Avail Cap(c_a), veh/h	1157	0	0	1133	0	0	1043	1624	0	843	1624	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	9.9	0.0	0.0	9.0	7.5	0.0	11.3	6.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.2	1.5	0.0	0.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	2.8	0.0	0.0	0.6	3.5	0.0	0.3	1.9	0.0
LnGrp Delay(d),s/veh	8.0	0.0	0.0	10.6	0.0	0.0	9.2	9.0	0.0	11.4	7.1	0.0
LnGrp LOS	A			B			A	A		B	A	
Approach Vol, veh/h		38			359			559			335	
Approach Delay, s/veh		8.0			10.6			9.1			7.5	
Approach LOS		A			B			A			A	

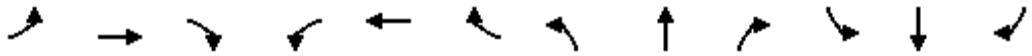
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		17.5		13.6		17.5		13.6
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		32.5		18.5		32.5		18.5
Max Q Clear Time (g_c+I1), s		9.8		2.5		11.0		8.1
Green Ext Time (p_c), s		3.3		0.1		1.8		1.4

Intersection Summary		
HCM 2010 Ctrl Delay		9.1
HCM 2010 LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	302	26	499	462	0	0	0	0	1207	2	60
Future Volume (vph)	0	302	26	499	462	0	0	0	0	1207	2	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1		4.0	4.0					5.1	5.1	
Lane Util. Factor		0.95		0.95	0.95					0.95	0.95	
Frpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.99		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	0.96	
Satd. Flow (prot)		3435		1504	1772					1234	1258	
Flt Permitted		1.00		0.95	1.00					0.95	0.96	
Satd. Flow (perm)		3435		1504	1772					1234	1258	
Peak-hour factor, PHF	0.84	0.84	0.84	0.92	0.92	0.92	0.25	0.25	0.25	0.95	0.95	0.95
Adj. Flow (vph)	0	360	31	542	502	0	0	0	0	1271	2	63
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	387	0	488	556	0	0	0	0	674	660	0
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	0%	4%	0%	14%	0%	0%	0%	0%	0%	39%	4%	2%
Turn Type		NA		Split	NA					Split	NA	
Protected Phases		4		3	3					6	6	
Permitted Phases												
Actuated Green, G (s)		15.9		44.9	44.9					75.0	75.0	
Effective Green, g (s)		15.9		44.9	44.9					75.0	75.0	
Actuated g/C Ratio		0.11		0.30	0.30					0.50	0.50	
Clearance Time (s)		5.1		4.0	4.0					5.1	5.1	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		364		450	530					617	629	
v/s Ratio Prot		c0.11		c0.32	0.31					c0.55	0.52	
v/s Ratio Perm												
v/c Ratio		1.06		1.08	1.05					1.09	1.05	
Uniform Delay, d1		67.0		52.5	52.5					37.5	37.5	
Progression Factor		1.00		0.12	0.12					1.00	1.00	
Incremental Delay, d2		64.5		50.7	36.5					64.0	49.2	
Delay (s)		131.5		56.8	42.6					101.5	86.7	
Level of Service		F		E	D					F	F	
Approach Delay (s)		131.5			49.2			0.0			94.2	
Approach LOS		F			D			A			F	

Intersection Summary			
HCM 2000 Control Delay	82.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

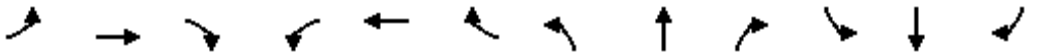
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	1470	0	0	957	938	4	7	449	0	0	0
Future Volume (vph)	39	1470	0	0	957	938	4	7	449	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1	5.1		5.1	5.1			
Lane Util. Factor		0.95			0.95	1.00		1.00	0.88			
Frt		1.00			1.00	0.85		1.00	0.85			
Flt Protected		1.00			1.00	1.00		0.98	1.00			
Satd. Flow (prot)		3337			3282	1335		1402	2369			
Flt Permitted		1.00			1.00	1.00		0.98	1.00			
Satd. Flow (perm)		3337			3282	1335		1402	2369			
Peak-hour factor, PHF	0.95	0.95	0.95	0.94	0.94	0.94	0.90	0.90	0.90	0.25	0.25	0.25
Adj. Flow (vph)	41	1547	0	0	1018	998	4	8	499	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	1588	0	0	1018	998	0	12	482	0	0	0
Heavy Vehicles (%)	10%	8%	0%	0%	10%	21%	0%	50%	20%	0%	0%	0%
Turn Type	Split	NA			NA	custom	Split	NA	custom			
Protected Phases	2!	2			6	2 4!	4	4!	6			
Permitted Phases						6			4			
Actuated Green, G (s)		74.8			47.9	139.8		12.0	59.9			
Effective Green, g (s)		74.8			47.9	139.8		12.0	59.9			
Actuated g/C Ratio		0.50			0.32	0.93		0.08	0.40			
Clearance Time (s)		5.1			5.1			5.1	5.1			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		1664			1048	1335		112	1026			
v/s Ratio Prot		c0.48			c0.31	c0.46		0.01	0.15			
v/s Ratio Perm						0.29			0.05			
v/c Ratio		0.95			0.97	0.75		0.11	0.47			
Uniform Delay, d1		36.0			50.4	1.1		64.0	33.3			
Progression Factor		0.56			1.00	1.00		1.00	1.00			
Incremental Delay, d2		1.9			21.1	2.3		0.4	0.3			
Delay (s)		21.9			71.4	3.5		64.5	33.7			
Level of Service		C			E	A		E	C			
Approach Delay (s)		21.9			37.8			34.4			0.0	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	122.6%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	498	1163	267	113	697	207	278	8	117	457	0	920
Future Volume (vph)	498	1163	267	113	697	207	278	8	117	457	0	920
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.95	0.91	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.86	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3213	3282	1583	1770	3059	1583	3433	1863	1583	1698	1318	1346
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3213	3282	1583	1770	3059	1583	3433	1863	1583	1698	1318	1346
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.88	0.88	0.92	0.92	0.92	0.91	0.92	0.91
Adj. Flow (vph)	535	1251	290	123	792	235	302	9	127	502	0	1011
RTOR Reduction (vph)	0	0	115	0	0	155	0	0	111	0	236	63
Lane Group Flow (vph)	535	1251	175	123	792	80	302	9	16	452	299	463
Heavy Vehicles (%)	9%	10%	2%	2%	18%	2%	2%	2%	2%	1%	2%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	27.5	49.5	49.5	20.7	42.7	42.7	18.0	18.0	18.0	33.3	33.3	60.8
Effective Green, g (s)	27.5	49.5	49.5	20.7	42.7	42.7	18.0	18.0	18.0	33.3	33.3	60.8
Actuated g/C Ratio	0.19	0.34	0.34	0.14	0.29	0.29	0.12	0.12	0.12	0.23	0.23	0.42
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	609	1120	540	252	900	466	426	231	196	389	302	564
v/s Ratio Prot	0.17	c0.38		0.07	c0.26		c0.09	0.00		c0.27	0.23	0.16
v/s Ratio Perm			0.11			0.05			0.01			0.19
v/c Ratio	0.88	1.12	0.32	0.49	0.88	0.17	0.71	0.04	0.08	1.16	0.99	0.82
Uniform Delay, d1	57.1	47.8	35.4	57.3	48.7	38.0	61.0	55.9	56.2	55.9	55.7	37.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.6	65.1	1.6	1.5	12.0	0.8	5.3	0.1	0.2	97.7	49.2	9.3
Delay (s)	70.7	112.8	36.9	58.8	60.7	38.8	66.3	56.0	56.4	153.5	104.9	46.6
Level of Service	E	F	D	E	E	D	E	E	E	F	F	D
Approach Delay (s)		91.4			56.0			63.2			99.1	
Approach LOS		F			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	83.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	596	0	6	405	114	0	0	0	160	0	194
Future Volume (veh/h)	142	596	0	6	405	114	0	0	0	160	0	194
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1173	1743	1900	1900	1827	1496				1473	0	1145
Adj Flow Rate, veh/h	151	634	0	7	450	127				250	0	303
Adj No. of Lanes	2	2	0	2	2	1				1	0	1
Peak Hour Factor	0.94	0.94	0.94	0.90	0.90	0.90				0.64	0.64	0.64
Percent Heavy Veh, %	62	9	0	0	4	27				29	0	66
Cap, veh/h	216	1175	0	39	923	331				506	0	351
Arrive On Green	0.10	0.35	0.00	0.01	0.27	0.27				0.36	0.00	0.36
Sat Flow, veh/h	2167	3399	0	3510	3471	1244				1403	0	973
Grp Volume(v), veh/h	151	634	0	7	450	127				250	0	303
Grp Sat Flow(s),veh/h/ln	1083	1656	0	1755	1736	1244				1403	0	973
Q Serve(g_s), s	3.6	8.2	0.0	0.1	5.9	4.5				7.5	0.0	15.5
Cycle Q Clear(g_c), s	3.6	8.2	0.0	0.1	5.9	4.5				7.5	0.0	15.5
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	216	1175	0	39	923	331				506	0	351
V/C Ratio(X)	0.70	0.54	0.00	0.18	0.49	0.38				0.49	0.00	0.86
Avail Cap(c_a), veh/h	343	2298	0	392	2247	805				965	0	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	23.4	13.8	0.0	26.3	16.6	16.1				13.4	0.0	16.0
Incr Delay (d2), s/veh	4.0	0.8	0.0	2.2	0.9	1.6				0.7	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.8	0.0	0.1	2.9	3.4				3.0	0.0	8.0
LnGrp Delay(d),s/veh	27.4	14.7	0.0	28.5	17.5	17.7				14.1	0.0	22.3
LnGrp LOS	C	B		C	B	B				B		C
Approach Vol, veh/h		785			584						553	
Approach Delay, s/veh		17.1			17.7						18.6	
Approach LOS		B			B						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	5.1	24.8		23.9	9.9	20.0		
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		
Max Green Setting (Gmax), s	6.6	37.3		37.0	8.5	34.8		
Max Q Clear Time (g_c+I1), s	2.1	10.2		17.5	5.6	7.9		
Green Ext Time (p_c), s	0.0	7.9		1.9	0.1	6.4		

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	531	58	18	494	95	181	118	95	438	204	336
Future Volume (veh/h)	104	531	58	18	494	95	181	118	95	438	204	336
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1850	1900	1743	1827	1900	1900	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	114	584	64	20	555	107	232	151	122	548	255	420
Adj No. of Lanes	2	2	0	1	1	1	2	1	0	2	1	1
Peak Hour Factor	0.91	0.91	0.91	0.89	0.89	0.89	0.78	0.78	0.78	0.80	0.80	0.80
Percent Heavy Veh, %	1	3	0	9	4	0	0	0	0	1	0	0
Cap, veh/h	225	1200	131	44	618	546	309	201	162	619	563	478
Arrive On Green	0.06	0.38	0.38	0.03	0.34	0.34	0.09	0.21	0.21	0.18	0.30	0.30
Sat Flow, veh/h	3476	3189	349	1660	1827	1615	3510	974	787	3476	1900	1615
Grp Volume(v), veh/h	114	321	327	20	555	107	232	0	273	548	255	420
Grp Sat Flow(s),veh/h/ln	1738	1757	1780	1660	1827	1615	1755	0	1761	1738	1900	1615
Q Serve(g_s), s	2.8	12.1	12.2	1.0	25.1	4.1	5.6	0.0	12.7	13.4	9.5	21.5
Cycle Q Clear(g_c), s	2.8	12.1	12.2	1.0	25.1	4.1	5.6	0.0	12.7	13.4	9.5	21.5
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	225	661	670	44	618	546	309	0	363	619	563	478
V/C Ratio(X)	0.51	0.49	0.49	0.46	0.90	0.20	0.75	0.00	0.75	0.89	0.45	0.88
Avail Cap(c_a), veh/h	284	661	670	115	660	583	372	0	547	640	739	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	20.7	20.7	41.7	27.3	20.4	38.7	0.0	32.4	34.9	24.9	29.1
Incr Delay (d2), s/veh	0.7	1.2	1.2	15.0	15.9	0.4	5.2	0.0	3.1	13.2	0.6	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	6.1	6.2	0.7	15.4	1.9	2.9	0.0	6.5	7.5	5.0	11.0
LnGrp Delay(d),s/veh	40.0	21.9	21.9	56.7	43.2	20.8	43.9	0.0	35.5	48.0	25.4	39.9
LnGrp LOS	D	C	C	E	D	C	D		D	D	C	D
Approach Vol, veh/h		762			682			505			1223	
Approach Delay, s/veh		24.6			40.1			39.4			40.5	
Approach LOS		C			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	38.2	11.9	30.4	9.8	34.9	19.7	22.5
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	32.5	* 9.2	33.8	* 7.1	31.4	* 16	27.0
Max Q Clear Time (g_c+I1), s	3.0	14.2	7.6	23.5	4.8	27.1	15.4	14.7
Green Ext Time (p_c), s	0.0	6.3	0.1	2.3	0.0	2.3	0.1	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	36.4
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	627	38	71	574	76	28	91	62	65	48	60
Future Volume (veh/h)	99	627	38	71	574	76	28	91	62	65	48	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1848	1900	1900	1847	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	104	660	40	74	598	79	35	114	78	82	61	76
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.80	0.80	0.80	0.79	0.79	0.79
Percent Heavy Veh, %	0	3	0	0	3	2	0	0	0	0	0	0
Cap, veh/h	168	1047	63	141	924	122	329	220	151	286	162	202
Arrive On Green	0.09	0.31	0.31	0.08	0.30	0.30	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1810	3359	203	1810	3117	411	1268	1043	713	1208	768	957
Grp Volume(v), veh/h	104	345	355	74	336	341	35	0	192	82	0	137
Grp Sat Flow(s),veh/h/ln	1810	1755	1807	1810	1754	1773	1268	0	1756	1208	0	1726
Q Serve(g_s), s	2.7	8.2	8.2	1.9	8.1	8.2	1.2	0.0	4.7	3.1	0.0	3.3
Cycle Q Clear(g_c), s	2.7	8.2	8.2	1.9	8.1	8.2	4.5	0.0	4.7	7.9	0.0	3.3
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.41	1.00		0.55
Lane Grp Cap(c), veh/h	168	547	563	141	520	526	329	0	371	286	0	364
V/C Ratio(X)	0.62	0.63	0.63	0.53	0.65	0.65	0.11	0.00	0.52	0.29	0.00	0.38
Avail Cap(c_a), veh/h	241	805	829	226	790	799	632	0	791	575	0	778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.3	14.4	14.4	21.6	14.9	15.0	18.4	0.0	17.1	20.5	0.0	16.5
Incr Delay (d2), s/veh	3.7	1.7	1.7	3.0	1.9	1.9	0.1	0.0	1.1	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.2	4.3	1.1	4.2	4.3	0.4	0.0	2.4	1.1	0.0	1.6
LnGrp Delay(d),s/veh	25.0	16.1	16.1	24.7	16.9	16.9	18.6	0.0	18.2	21.1	0.0	17.1
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		804			751			227			219	
Approach Delay, s/veh		17.2			17.6			18.2			18.6	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.3	21.7		16.8	11.0	21.0		16.8
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	6.1	22.4		22.0	6.5	22.0		22.0
Max Q Clear Time (g_c+I1), s	3.9	10.2		9.9	4.7	10.2		6.7
Green Ext Time (p_c), s	0.0	4.3		0.8	0.0	4.3		1.1

Intersection Summary			
HCM 2010 Ctrl Delay		17.7	
HCM 2010 LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	442	57	291	459	143	68	250	191	125	300	47
Future Volume (veh/h)	166	442	57	291	459	143	68	250	191	125	300	47
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1841	1900	1881	1845	1900	1845	1881	1863	1881	1900	1900
Adj Flow Rate, veh/h	171	456	59	316	499	155	82	301	230	144	345	54
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.83	0.83	0.83	0.87	0.87	0.87
Percent Heavy Veh, %	2	3	5	1	3	0	3	1	2	1	0	0
Cap, veh/h	209	644	83	364	979	443	297	664	558	296	671	557
Arrive On Green	0.12	0.21	0.21	0.20	0.28	0.28	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1774	3111	400	1792	3505	1586	968	1881	1582	878	1900	1578
Grp Volume(v), veh/h	171	255	260	316	499	155	82	301	230	144	345	54
Grp Sat Flow(s),veh/h/ln	1774	1749	1762	1792	1752	1586	968	1881	1582	878	1900	1578
Q Serve(g_s), s	7.2	10.3	10.4	13.0	9.1	5.9	5.6	9.4	8.4	11.5	10.9	1.7
Cycle Q Clear(g_c), s	7.2	10.3	10.4	13.0	9.1	5.9	16.5	9.4	8.4	20.9	10.9	1.7
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	362	365	364	979	443	297	664	558	296	671	557
V/C Ratio(X)	0.82	0.70	0.71	0.87	0.51	0.35	0.28	0.45	0.41	0.49	0.51	0.10
Avail Cap(c_a), veh/h	233	506	510	495	1476	668	389	842	708	379	850	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	28.0	28.0	29.3	23.0	21.9	26.0	18.9	18.6	27.0	19.4	16.5
Incr Delay (d2), s/veh	18.5	5.3	5.5	11.8	0.9	1.0	1.1	1.0	1.0	2.6	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	5.5	5.6	7.6	4.5	2.7	1.6	5.0	3.8	3.0	5.9	0.8
LnGrp Delay(d),s/veh	51.2	33.3	33.5	41.1	23.9	22.9	27.0	20.0	19.7	29.6	20.8	16.6
LnGrp LOS	D	C	C	D	C	C	C	B	B	C	C	B
Approach Vol, veh/h		686			970			613			543	
Approach Delay, s/veh		37.9			29.3			20.8			22.7	
Approach LOS		D			C			C			C	

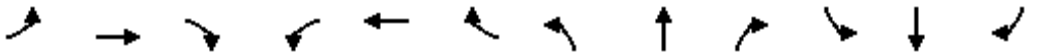
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.4	21.7		32.8	15.9	27.2		32.8
Change Period (Y+Rc), s	6.0	6.0		6.0	7.0	6.0		6.0
Max Green Setting (Gmax), s	21.0	22.0		34.0	10.0	32.0		34.0
Max Q Clear Time (g_c+I1), s	15.0	12.4		22.9	9.2	11.1		18.5
Green Ext Time (p_c), s	0.5	3.3		4.0	0.0	6.6		5.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	377	85	31	487	20	35	34	5	4	75	188
Future Volume (veh/h)	211	377	85	31	487	20	35	34	5	4	75	188
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1811	1900	1900	1827	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	220	393	89	35	547	22	47	46	7	5	85	214
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.74	0.74	0.74	0.88	0.88	0.88
Percent Heavy Veh, %	0	6	0	0	4	0	0	0	0	0	0	0
Cap, veh/h	466	1552	348	600	1015	896	247	213	26	80	119	287
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	855	2794	627	927	1827	1612	555	878	108	9	490	1185
Grp Volume(v), veh/h	220	241	241	35	547	22	100	0	0	304	0	0
Grp Sat Flow(s),veh/h/ln	855	1721	1699	927	1827	1612	1541	0	0	1684	0	0
Q Serve(g_s), s	10.3	3.4	3.5	1.0	8.9	0.3	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	19.3	3.4	3.5	4.4	8.9	0.3	2.0	0.0	0.0	7.8	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.47		0.07	0.02		0.70
Lane Grp Cap(c), veh/h	466	956	944	600	1015	896	486	0	0	486	0	0
V/C Ratio(X)	0.47	0.25	0.26	0.06	0.54	0.02	0.21	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	563	1152	1138	705	1223	1079	860	0	0	935	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.7	5.4	5.4	6.6	6.6	4.7	14.3	0.0	0.0	16.5	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.3	0.3	0.1	1.0	0.0	0.2	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	1.7	1.7	0.3	4.7	0.1	1.1	0.0	0.0	3.8	0.0	0.0
LnGrp Delay(d),s/veh	14.3	5.7	5.7	6.6	7.6	4.7	14.5	0.0	0.0	17.8	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B			B		
Approach Vol, veh/h		702			604			100			304	
Approach Delay, s/veh		8.4			7.4			14.5			17.8	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.7		16.3		30.7		16.3
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		31.5		24.0		31.5		24.0
Max Q Clear Time (g_c+I1), s		21.3		4.0		10.9		9.8
Green Ext Time (p_c), s		4.9		0.5		6.8		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	10.1
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	103	121	14	51	6	240	580	104	36	455	335
Future Volume (vph)	151	103	121	14	51	6	240	580	104	36	455	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1703	1662		1805	1836		1703	1792		1556	1810	1553
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1703	1662		1805	1836		1703	1792		1556	1810	1553
Peak-hour factor, PHF	0.86	0.86	0.86	0.80	0.80	0.80	0.98	0.98	0.98	0.88	0.88	0.88
Adj. Flow (vph)	176	120	141	18	64	8	245	592	106	41	517	381
RTOR Reduction (vph)	0	50	0	0	5	0	0	6	0	0	0	236
Lane Group Flow (vph)	176	211	0	18	67	0	245	692	0	41	517	145
Heavy Vehicles (%)	6%	4%	6%	0%	2%	0%	6%	3%	7%	16%	5%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	14.7	14.7		4.6	4.6		14.4	44.3		2.8	32.7	32.7
Effective Green, g (s)	14.7	14.7		4.6	4.6		14.4	44.3		2.8	32.7	32.7
Actuated g/C Ratio	0.17	0.17		0.05	0.05		0.17	0.52		0.03	0.38	0.38
Clearance Time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	291	284		96	98		285	924		50	689	591
v/s Ratio Prot	0.10	c0.13		0.01	c0.04		c0.14	c0.39		0.03	0.29	
v/s Ratio Perm												0.09
v/c Ratio	0.60	0.74		0.19	0.69		0.86	0.75		0.82	0.75	0.25
Uniform Delay, d1	32.9	33.8		38.9	39.9		34.8	16.4		41.3	23.1	18.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.5	10.1		0.9	18.1		21.8	5.5		63.8	7.4	1.0
Delay (s)	36.4	43.9		39.8	58.0		56.6	21.9		105.1	30.4	19.2
Level of Service	D	D		D	E		E	C		F	C	B
Approach Delay (s)		40.9			54.4			30.9			29.1	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	85.9	Sum of lost time (s)	19.5
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	153	100	291	327	47	108	727	238	174	890	40
Future Volume (veh/h)	21	153	100	291	327	47	108	727	238	174	890	40
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1545	1545	1545	1570	1570	1900
Adj Flow Rate, veh/h	25	180	118	364	409	59	117	790	259	189	967	43
Adj No. of Lanes	1	1	0	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.80	0.80	0.80	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	23	23	23	21	21	21
Cap, veh/h	57	204	133	452	470	68	225	865	559	219	1069	48
Arrive On Green	0.03	0.19	0.19	0.13	0.30	0.30	0.07	0.29	0.29	0.15	0.37	0.37
Sat Flow, veh/h	1774	1052	689	3442	1592	230	1471	2935	1313	1495	2910	129
Grp Volume(v), veh/h	25	0	298	364	0	468	117	790	259	189	496	514
Grp Sat Flow(s),veh/h/ln	1774	0	1741	1721	0	1822	1471	1467	1313	1495	1492	1547
Q Serve(g_s), s	1.1	0.0	13.0	8.0	0.0	19.1	4.3	20.3	3.8	9.7	24.7	24.7
Cycle Q Clear(g_c), s	1.1	0.0	13.0	8.0	0.0	19.1	4.3	20.3	3.8	9.7	24.7	24.7
Prop In Lane	1.00		0.40	1.00		0.13	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	57	0	337	452	0	538	225	865	559	219	548	569
V/C Ratio(X)	0.44	0.00	0.88	0.80	0.00	0.87	0.52	0.91	0.46	0.86	0.90	0.90
Avail Cap(c_a), veh/h	136	0	369	1275	0	926	229	1053	644	248	669	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	0.0	30.7	33.0	0.0	26.2	19.9	26.7	4.9	32.6	23.5	23.5
Incr Delay (d2), s/veh	2.0	0.0	19.3	1.3	0.0	1.9	0.9	9.5	0.2	21.3	12.6	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	8.1	3.9	0.0	9.8	1.7	9.4	1.8	5.3	12.0	12.4
LnGrp Delay(d),s/veh	39.2	0.0	50.0	34.3	0.0	28.1	20.8	36.2	5.1	53.9	36.0	35.7
LnGrp LOS	D		D	C		C	C	D	A	D	D	D
Approach Vol, veh/h		323			832			1166			1199	
Approach Delay, s/veh		49.1			30.8			27.7			38.7	
Approach LOS		D			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	19.4	15.5	28.0	6.5	28.3	9.8	33.7
Change Period (Y+Rc), s	* 5.2	* 4.2	4.0	4.9	4.0	* 5.2	4.0	4.9
Max Green Setting (Gmax), s	* 23	* 17	13.0	28.1	6.0	* 40	6.0	35.1
Max Q Clear Time (g_c+I1), s	10.3	15.0	11.7	22.3	3.1	21.1	6.3	26.7
Green Ext Time (p_c), s	0.3	0.1	0.0	0.7	0.0	1.0	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	205	41	127	328	186	105	760	26	29	919	266
Future Volume (veh/h)	46	205	41	127	328	186	105	760	26	29	919	266
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.97	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1818	1900	1810	1900	1900	1900	1845	1845	1881	1829	1900
Adj Flow Rate, veh/h	51	228	46	140	360	204	115	835	29	38	1194	345
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	5	1	22	5	0	0	0	3	3	1	5	0
Cap, veh/h	199	295	60	275	462	382	182	1737	773	693	1271	360
Arrive On Green	0.04	0.20	0.20	0.08	0.24	0.24	0.05	0.50	0.50	0.03	0.48	0.48
Sat Flow, veh/h	1723	1464	295	1723	1900	1568	1810	3505	1560	3476	2657	753
Grp Volume(v), veh/h	51	0	274	140	360	204	115	835	29	38	773	766
Grp Sat Flow(s),veh/h/ln	1723	0	1760	1723	1900	1568	1810	1752	1560	1738	1738	1673
Q Serve(g_s), s	2.2	0.0	13.7	5.7	16.5	10.5	3.0	14.7	0.9	0.5	38.9	41.0
Cycle Q Clear(g_c), s	2.2	0.0	13.7	5.7	16.5	10.5	3.0	14.7	0.9	0.5	38.9	41.0
Prop In Lane	1.00		0.17	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	199	0	355	275	462	382	182	1737	773	693	831	800
V/C Ratio(X)	0.26	0.00	0.77	0.51	0.78	0.53	0.63	0.48	0.04	0.05	0.93	0.96
Avail Cap(c_a), veh/h	235	0	526	480	833	688	246	2091	931	786	992	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	0.0	35.1	26.1	32.9	30.6	21.5	15.5	12.1	12.2	22.8	23.4
Incr Delay (d2), s/veh	0.2	0.0	2.0	0.5	1.1	0.4	1.3	0.1	0.0	0.0	12.3	17.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	6.8	2.8	8.7	4.6	1.5	7.1	0.4	0.2	21.3	22.5
LnGrp Delay(d),s/veh	28.8	0.0	37.1	26.6	33.9	31.0	22.8	15.6	12.1	12.2	35.1	40.5
LnGrp LOS	C		D	C	C	C	C	B	B	B	D	D
Approach Vol, veh/h		325			704			979			1577	
Approach Delay, s/veh		35.8			31.7			16.4			37.2	
Approach LOS		D			C			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	27.2	7.1	51.0	11.5	23.4	8.7	49.4
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.6	40.8	5.6	55.5	18.6	27.8	8.0	53.1
Max Q Clear Time (g_c+I1), s	4.2	18.5	2.5	16.7	7.7	15.7	5.0	43.0
Green Ext Time (p_c), s	0.0	0.3	0.0	1.0	0.0	0.3	0.0	1.5

Intersection Summary		
HCM 2010 Ctrl Delay		30.3
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	188	280	16	239	73	119	651	0	240	1014	48
Future Volume (veh/h)	0	188	280	16	239	73	119	651	0	240	1014	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1545	1545	1545	1570	1570	1900
Adj Flow Rate, veh/h	0	229	341	20	291	89	129	708	0	264	1114	53
Adj No. of Lanes	1	2	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	23	23	23	21	21	21
Cap, veh/h	105	868	388	267	457	388	155	1002	448	303	1271	60
Arrive On Green	0.00	0.25	0.25	0.25	0.25	0.25	0.11	0.34	0.00	0.20	0.44	0.44
Sat Flow, veh/h	999	3539	1583	838	1863	1583	1471	2935	1313	1495	2900	138
Grp Volume(v), veh/h	0	229	341	20	291	89	129	708	0	264	573	594
Grp Sat Flow(s),veh/h/ln	999	1770	1583	838	1863	1583	1471	1467	1313	1495	1492	1546
Q Serve(g_s), s	0.0	3.6	14.2	1.3	9.6	3.1	5.9	14.3	0.0	11.7	24.0	24.0
Cycle Q Clear(g_c), s	0.0	3.6	14.2	4.9	9.6	3.1	5.9	14.3	0.0	11.7	24.0	24.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	105	868	388	267	457	388	155	1002	448	303	654	678
V/C Ratio(X)	0.00	0.26	0.88	0.07	0.64	0.23	0.83	0.71	0.00	0.87	0.88	0.88
Avail Cap(c_a), veh/h	126	941	421	284	496	421	194	1072	480	380	728	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.8	24.8	22.8	23.1	20.6	30.0	19.6	0.0	26.4	17.5	17.5
Incr Delay (d2), s/veh	0.0	0.2	17.7	0.1	2.4	0.3	21.1	2.0	0.0	16.3	10.8	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	8.0	0.3	5.2	1.4	3.3	6.1	0.0	6.2	11.7	12.1
LnGrp Delay(d),s/veh	0.0	21.0	42.5	22.9	25.5	20.9	51.1	21.5	0.0	42.7	28.3	28.1
LnGrp LOS		C	D	C	C	C	D	C		D	C	C
Approach Vol, veh/h		570			400			837			1431	
Approach Delay, s/veh		33.9			24.3			26.1			30.9	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.9	29.2		21.4	11.2	35.8		21.4
Change Period (Y+Rc), s	4.0	5.8		4.6	4.0	5.8		4.6
Max Green Setting (Gmax), s	13.4	25.0		18.2	9.0	33.4		18.2
Max Q Clear Time (g_c+I1), s	13.7	16.3		16.2	7.9	26.0		11.6
Green Ext Time (p_c), s	0.3	2.9		0.6	0.0	4.0		1.2

Intersection Summary		
HCM 2010 Ctrl Delay	29.4	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	397	145	234	209	8	269	19	150	0	3	1
Future Volume (veh/h)	9	397	145	234	209	8	269	19	150	0	3	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	950	1827	1759	1900	1660	1900	1845	950	1845	1900	950	1900
Adj Flow Rate, veh/h	13	584	213	468	418	16	727	51	405	0	6	2
Adj No. of Lanes	1	2	1	1	1	0	2	1	1	0	1	0
Peak Hour Factor	0.68	0.68	0.68	0.50	0.50	0.50	0.37	0.37	0.37	0.50	0.50	0.50
Percent Heavy Veh, %	100	4	8	0	15	0	3	100	3	0	100	100
Cap, veh/h	14	702	710	514	747	29	940	262	433	0	8	3
Arrive On Green	0.02	0.20	0.20	0.28	0.47	0.47	0.28	0.28	0.28	0.00	0.01	0.01
Sat Flow, veh/h	905	3471	1472	1810	1587	61	3408	950	1568	0	682	227
Grp Volume(v), veh/h	13	584	213	468	0	434	727	51	405	0	0	8
Grp Sat Flow(s),veh/h/ln	905	1736	1472	1810	0	1648	1704	950	1568	0	0	910
Q Serve(g_s), s	1.1	12.9	7.0	19.9	0.0	15.1	15.7	3.3	20.1	0.0	0.0	0.7
Cycle Q Clear(g_c), s	1.1	12.9	7.0	19.9	0.0	15.1	15.7	3.3	20.1	0.0	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.00		0.25
Lane Grp Cap(c), veh/h	14	702	710	514	0	775	940	262	433	0	0	11
V/C Ratio(X)	0.92	0.83	0.30	0.91	0.00	0.56	0.77	0.19	0.94	0.00	0.00	0.72
Avail Cap(c_a), veh/h	62	762	736	601	0	796	940	262	433	0	0	68
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	39.2	30.5	12.7	27.6	0.0	15.2	26.6	22.1	28.2	0.0	0.0	39.2
Incr Delay (d2), s/veh	89.0	7.4	0.2	16.5	0.0	0.8	4.0	0.4	27.9	0.0	0.0	60.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.9	4.4	12.2	0.0	7.1	7.9	0.9	12.0	0.0	0.0	0.4
LnGrp Delay(d),s/veh	128.2	37.9	12.9	44.1	0.0	16.0	30.6	22.4	56.1	0.0	0.0	99.9
LnGrp LOS	F	D	B	D		B	C	C	E			F
Approach Vol, veh/h		810			902			1183			8	
Approach Delay, s/veh		32.8			30.6			39.0			99.9	
Approach LOS		C			C			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		26.5	27.1	20.6		5.5	5.8	42.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		22.0	26.5	17.5		6.0	5.5	38.5
Max Q Clear Time (g_c+I1), s		22.1	21.9	14.9		2.7	3.1	17.1
Green Ext Time (p_c), s		0.0	0.7	1.3		0.0	0.0	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	34.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	427	149	49	303	77	119	623	57	32	540	194
Future Volume (veh/h)	212	427	149	49	303	77	119	623	57	32	540	194
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1484	1900	1827	1900	1557	1496	1827	1681	1900
Adj Flow Rate, veh/h	848	1708	596	71	439	112	138	724	66	44	750	269
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.25	0.25	0.25	0.69	0.69	0.69	0.86	0.86	0.86	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	28	0	4	0	22	27	4	13	0
Cap, veh/h	963	1804	807	82	1040	447	146	728	313	56	756	382
Arrive On Green	0.28	0.51	0.51	0.06	0.29	0.29	0.04	0.25	0.25	0.03	0.24	0.24
Sat Flow, veh/h	3442	3539	1583	1414	3610	1553	3510	2959	1272	1740	3195	1615
Grp Volume(v), veh/h	848	1708	596	71	439	112	138	724	66	44	750	269
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1414	1805	1553	1755	1480	1272	1740	1597	1615
Q Serve(g_s), s	28.3	55.0	35.6	6.0	11.9	6.7	4.7	29.4	5.0	3.0	28.2	18.4
Cycle Q Clear(g_c), s	28.3	55.0	35.6	6.0	11.9	6.7	4.7	29.4	5.0	3.0	28.2	18.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	963	1804	807	82	1040	447	146	728	313	56	756	382
V/C Ratio(X)	0.88	0.95	0.74	0.86	0.42	0.25	0.95	0.99	0.21	0.79	0.99	0.70
Avail Cap(c_a), veh/h	1415	1817	813	82	1040	447	146	728	313	72	756	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	27.9	23.2	56.2	34.7	32.9	57.5	45.3	36.1	57.8	45.8	42.1
Incr Delay (d2), s/veh	4.7	11.0	3.6	56.6	0.3	0.3	58.3	31.7	0.3	33.9	30.5	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	29.6	16.4	3.6	6.0	2.9	3.5	15.2	1.8	2.0	15.6	8.8
LnGrp Delay(d),s/veh	46.1	38.9	26.7	112.9	35.0	33.2	115.9	77.0	36.4	91.7	76.3	47.8
LnGrp LOS	D	D	C	F	C	C	F	E	D	F	E	D
Approach Vol, veh/h		3152			622			928			1063	
Approach Delay, s/veh		38.6			43.6			79.9			69.7	
Approach LOS		D			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	34.7	11.5	66.3	9.0	33.6	38.2	39.6
Change Period (Y+Rc), s	4.0	5.1	4.5	* 4.9	4.0	* 5.1	4.5	4.9
Max Green Setting (Gmax), s	5.0	28.0	7.0	* 62	5.0	* 29	49.5	19.0
Max Q Clear Time (g_c+I1), s	5.0	31.4	8.0	57.0	6.7	30.2	30.3	13.9
Green Ext Time (p_c), s	0.0	0.0	0.0	4.3	0.0	0.0	3.3	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	51.5
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	362	91	209	82	0	1	677	149	206	568	0
Future Volume (veh/h)	214	362	91	209	82	0	1	677	149	206	568	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1759	1759	1759	1610	1610	1610	1638	1638	1638
Adj Flow Rate, veh/h	856	1448	364	243	95	0	1	940	207	286	789	0
Adj No. of Lanes	2	2	1	2	1	1	1	3	1	2	2	1
Peak Hour Factor	0.25	0.25	0.25	0.86	0.86	0.86	0.72	0.72	0.72	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	8	8	8	18	18	18	16	16	16
Cap, veh/h	951	1454	650	261	378	471	2	1012	425	303	1024	458
Arrive On Green	0.28	0.41	0.41	0.08	0.21	0.00	0.00	0.23	0.23	0.10	0.33	0.00
Sat Flow, veh/h	3442	3539	1583	3250	1759	1495	1533	4396	1369	3026	3112	1392
Grp Volume(v), veh/h	856	1448	364	243	95	0	1	940	207	286	789	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1625	1759	1495	1533	1465	1369	1513	1556	1392
Q Serve(g_s), s	28.7	48.9	21.1	8.9	5.4	0.0	0.1	25.1	14.7	11.2	27.3	0.0
Cycle Q Clear(g_c), s	28.7	48.9	21.1	8.9	5.4	0.0	0.1	25.1	14.7	11.2	27.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	951	1454	650	261	378	471	2	1012	425	303	1024	458
V/C Ratio(X)	0.90	1.00	0.56	0.93	0.25	0.00	0.48	0.93	0.49	0.94	0.77	0.00
Avail Cap(c_a), veh/h	1150	1454	650	261	378	471	70	1020	427	303	1024	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.8	35.2	27.0	54.8	39.0	0.0	59.8	45.1	33.6	53.5	36.1	0.0
Incr Delay (d2), s/veh	8.6	22.6	1.1	38.0	0.3	0.0	114.2	14.2	0.9	36.8	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	28.3	9.4	5.4	2.6	0.0	0.1	11.5	5.7	6.2	12.2	0.0
LnGrp Delay(d),s/veh	50.4	57.7	28.1	92.7	39.4	0.0	173.9	59.3	34.4	90.3	39.8	0.0
LnGrp LOS	D	E	C	F	D		F	E	C	F	D	
Approach Vol, veh/h		2668			338			1148			1075	
Approach Delay, s/veh		51.3			77.7			54.9			53.2	
Approach LOS		D			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	33.4	15.4	55.0	4.2	45.2	38.9	31.5
Change Period (Y+Rc), s	4.0	5.8	5.8	5.8	4.0	5.8	5.8	5.8
Max Green Setting (Gmax), s	12.0	27.8	9.6	49.2	5.5	34.3	40.0	18.8
Max Q Clear Time (g_c+I1), s	13.2	27.1	10.9	50.9	2.1	29.3	30.7	7.4
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.0	2.2	2.4	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	54.2
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	784	179	283	217	17	78	749	218	20	850	0
Future Volume (veh/h)	0	784	179	283	217	17	78	749	218	20	850	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1759	1759	1759	1743	1743	1743	1667	1667	1900
Adj Flow Rate, veh/h	0	1089	249	329	252	20	98	936	272	22	924	0
Adj No. of Lanes	1	2	1	2	2	1	1	2	1	1	2	0
Peak Hour Factor	0.72	0.72	0.72	0.86	0.86	0.86	0.80	0.80	0.80	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	8	8	8	9	9	9	14	14	14
Cap, veh/h	554	1104	494	345	354	159	110	1143	511	36	956	0
Arrive On Green	0.00	0.31	0.31	0.11	0.11	0.11	0.07	0.35	0.35	0.02	0.30	0.00
Sat Flow, veh/h	1774	3539	1583	3250	3343	1495	1660	3312	1482	1587	3250	0
Grp Volume(v), veh/h	0	1089	249	329	252	20	98	936	272	22	924	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1625	1671	1495	1660	1656	1482	1587	1583	0
Q Serve(g_s), s	0.0	30.6	12.8	10.1	7.3	1.2	5.9	25.8	14.7	1.4	28.8	0.0
Cycle Q Clear(g_c), s	0.0	30.6	12.8	10.1	7.3	1.2	5.9	25.8	14.7	1.4	28.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	554	1104	494	345	354	159	110	1143	511	36	956	0
V/C Ratio(X)	0.00	0.99	0.50	0.95	0.71	0.13	0.89	0.82	0.53	0.61	0.97	0.00
Avail Cap(c_a), veh/h	554	1104	494	345	354	159	110	1143	511	87	956	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	34.2	28.1	44.5	43.2	40.5	46.4	29.9	26.3	48.4	34.4	0.0
Incr Delay (d2), s/veh	0.0	23.7	0.8	36.6	6.5	0.4	54.2	4.8	1.1	15.2	21.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.5	5.7	6.3	3.7	0.5	4.3	12.5	6.2	0.8	15.4	0.0
LnGrp Delay(d),s/veh	0.0	57.9	28.9	81.1	49.7	40.9	100.6	34.7	27.3	63.6	55.6	0.0
LnGrp LOS		E	C	F	D	D	F	C	C	E	E	
Approach Vol, veh/h		1338			601			1306			946	
Approach Delay, s/veh		52.5			66.6			38.1			55.8	
Approach LOS		D			E			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	40.3		37.0	10.6	36.0		16.4
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	31.3		31.2	6.6	30.2		10.6
Max Q Clear Time (g_c+I1), s	3.4	27.8		32.6	7.9	30.8		12.1
Green Ext Time (p_c), s	0.0	2.2		0.0	0.0	0.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay	50.8	
HCM 2010 LOS	D	

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	241	1154	803	291	544	406
Future Volume (veh/h)	241	1154	803	291	544	406
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1881	1712	1667	1667
Adj Flow Rate, veh/h	339	1625	1057	383	579	432
Adj No. of Lanes	1	2	2	2	2	1
Peak Hour Factor	0.71	0.71	0.76	0.76	0.94	0.94
Percent Heavy Veh, %	2	2	1	11	14	14
Cap, veh/h	410	1559	1141	1994	732	327
Arrive On Green	0.23	0.23	0.33	0.61	0.23	0.23
Sat Flow, veh/h	1774	2787	3476	3338	3250	1417
Grp Volume(v), veh/h	339	1625	1057	383	579	432
Grp Sat Flow(s),veh/h/ln	1774	1393	1738	1626	1583	1417
Q Serve(g_s), s	13.5	17.2	21.9	3.8	12.8	17.2
Cycle Q Clear(g_c), s	13.5	17.2	21.9	3.8	12.8	17.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	410	1559	1141	1994	732	327
V/C Ratio(X)	0.83	1.04	0.93	0.19	0.79	1.32
Avail Cap(c_a), veh/h	410	1559	1167	2019	732	327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	16.4	24.1	6.3	26.9	28.6
Incr Delay (d2), s/veh	13.1	34.8	12.3	0.0	5.9	163.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	30.6	12.4	1.7	6.1	21.5
LnGrp Delay(d),s/veh	40.3	51.2	36.5	6.4	32.8	192.4
LnGrp LOS	D	F	D	A	C	F
Approach Vol, veh/h	1964			1440	1011	
Approach Delay, s/veh	49.3			28.5	101.0	
Approach LOS	D			C	F	

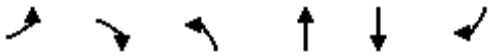
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		51.4		23.0	28.4	23.0		
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8		
Max Green Setting (Gmax), s		46.2		17.2	25.0	17.2		
Max Q Clear Time (g_c+I1), s		5.8		19.2	23.9	19.2		
Green Ext Time (p_c), s		2.5		0.0	0.6	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	54.3
HCM 2010 LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	163	109	752	54	148	1731
Future Volume (veh/h)	163	109	752	54	148	1731
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1743	1712	1900	1667	1667
Adj Flow Rate, veh/h	230	154	977	70	154	1803
Adj No. of Lanes	1	1	2	0	1	2
Peak Hour Factor	0.71	0.71	0.77	0.77	0.96	0.96
Percent Heavy Veh, %	9	9	11	11	14	14
Cap, veh/h	279	249	1413	101	188	2035
Arrive On Green	0.17	0.17	0.46	0.46	0.12	0.64
Sat Flow, veh/h	1660	1482	3164	221	1587	3250
Grp Volume(v), veh/h	230	154	516	531	154	1803
Grp Sat Flow(s),veh/h/ln	1660	1482	1626	1673	1587	1583
Q Serve(g_s), s	8.2	5.9	15.4	15.4	5.8	29.0
Cycle Q Clear(g_c), s	8.2	5.9	15.4	15.4	5.8	29.0
Prop In Lane	1.00	1.00		0.13	1.00	
Lane Grp Cap(c), veh/h	279	249	746	768	188	2035
V/C Ratio(X)	0.82	0.62	0.69	0.69	0.82	0.89
Avail Cap(c_a), veh/h	303	270	773	796	233	2177
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	23.7	13.2	13.2	26.4	9.1
Incr Delay (d2), s/veh	15.6	3.7	2.5	2.5	16.7	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	2.7	7.4	7.6	3.4	13.6
LnGrp Delay(d),s/veh	40.2	27.4	15.7	15.6	43.1	13.7
LnGrp LOS	D	C	B	B	D	B
Approach Vol, veh/h	384		1047			1957
Approach Delay, s/veh	35.1		15.7			16.0
Approach LOS	D		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.3	34.0				45.3		16.1
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8
Max Green Setting (Gmax), s	9.3	29.2				42.2		11.2
Max Q Clear Time (g_c+I1), s	17.4	17.4				31.0		10.2
Green Ext Time (p_c), s	0.0	4.9				8.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	18.1
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	699	65	0	737	1097	123
Future Volume (vph)	699	65	0	737	1097	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8			5.8	5.8	
Lane Util. Factor	0.97			1.00	0.95	
Frt	0.99			1.00	0.98	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	3193			1712	3119	
Flt Permitted	0.96			1.00	1.00	
Satd. Flow (perm)	3193			1712	3119	
Peak-hour factor, PHF	0.90	0.90	0.76	0.76	0.88	0.88
Adj. Flow (vph)	777	72	0	970	1247	140
RTOR Reduction (vph)	8	0	0	0	7	0
Lane Group Flow (vph)	841	0	0	970	1380	0
Heavy Vehicles (%)	9%	9%	1%	11%	14%	14%
Turn Type	Prot		Prot	NA	NA	
Protected Phases	2		3	8	4	
Permitted Phases						
Actuated Green, G (s)	24.6			51.5	51.5	
Effective Green, g (s)	24.6			51.5	51.5	
Actuated g/C Ratio	0.28			0.59	0.59	
Clearance Time (s)	5.8			5.8	5.8	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	895			1005	1831	
v/s Ratio Prot	c0.26			c0.57	0.44	
v/s Ratio Perm						
v/c Ratio	0.94			0.97	0.75	
Uniform Delay, d1	30.8			17.2	13.4	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	17.1			20.3	1.8	
Delay (s)	47.9			37.5	15.2	
Level of Service	D			D	B	
Approach Delay (s)	47.9			37.5	15.2	
Approach LOS	D			D	B	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	87.7	Sum of lost time (s)	15.6
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1257	128	5	284	484	41
Future Volume (vph)	1257	128	5	284	484	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.99		1.00	1.00	0.99	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	3207		1583	1667	2951	
Flt Permitted	1.00		0.95	1.00	0.96	
Satd. Flow (perm)	3207		1583	1667	2951	
Peak-hour factor, PHF	0.89	0.89	0.82	0.82	0.80	0.80
Adj. Flow (vph)	1412	144	6	346	605	51
RTOR Reduction (vph)	8	0	0	0	7	0
Lane Group Flow (vph)	1548	0	6	346	649	0
Heavy Vehicles (%)	11%	11%	14%	14%	18%	18%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases						
Actuated Green, G (s)	44.0		0.9	48.9	21.4	
Effective Green, g (s)	44.0		0.9	48.9	21.4	
Actuated g/C Ratio	0.54		0.01	0.60	0.26	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1722		17	995	771	
v/s Ratio Prot	c0.48		0.00	c0.21	c0.22	
v/s Ratio Perm						
v/c Ratio	0.90		0.35	0.35	0.84	
Uniform Delay, d1	17.0		40.2	8.4	28.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	6.7		12.2	0.2	8.3	
Delay (s)	23.6		52.4	8.6	36.9	
Level of Service	C		D	A	D	
Approach Delay (s)	23.6			9.3	36.9	
Approach LOS	C			A	D	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	81.9	Sum of lost time (s)	15.6
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	222	30	0	144	12	5	96	10	39	310	17
Future Volume (veh/h)	35	222	30	0	144	12	5	96	10	39	310	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1759	1900	1900	1743	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	47	296	40	0	267	22	10	192	20	49	392	22
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.75	0.75	0.75	0.54	0.54	0.54	0.50	0.50	0.50	0.79	0.79	0.79
Percent Heavy Veh, %	8	8	8	9	9	9	2	2	2	2	2	2
Cap, veh/h	180	437	55	0	515	42	143	578	58	179	570	30
Arrive On Green	0.32	0.32	0.32	0.00	0.32	0.32	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	113	1350	171	0	1589	131	28	1617	163	106	1594	85
Grp Volume(v), veh/h	383	0	0	0	0	289	222	0	0	463	0	0
Grp Sat Flow(s),veh/h/ln	1633	0	0	0	0	1720	1808	0	0	1785	0	0
Q Serve(g_s), s	1.9	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0	1.9	0.0	0.0
Cycle Q Clear(g_c), s	5.7	0.0	0.0	0.0	0.0	3.9	2.5	0.0	0.0	6.2	0.0	0.0
Prop In Lane	0.12		0.10	0.00		0.08	0.05		0.09	0.11		0.05
Lane Grp Cap(c), veh/h	672	0	0	0	0	557	779	0	0	779	0	0
V/C Ratio(X)	0.57	0.00	0.00	0.00	0.00	0.52	0.28	0.00	0.00	0.59	0.00	0.00
Avail Cap(c_a), veh/h	1171	0	0	0	0	1097	1273	0	0	1266	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	0.0	0.0	7.8	6.6	0.0	0.0	7.8	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.0	0.0	0.8	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.0	0.0	0.0	1.9	1.3	0.0	0.0	3.2	0.0	0.0
LnGrp Delay(d),s/veh	9.1	0.0	0.0	0.0	0.0	8.5	6.8	0.0	0.0	8.5	0.0	0.0
LnGrp LOS	A					A	A			A		
Approach Vol, veh/h		383			289			222			463	
Approach Delay, s/veh		9.1			8.5			6.8			8.5	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		14.6		13.6		14.6		13.6
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		4.5		7.7		8.2		5.9
Green Ext Time (p_c), s		0.9		1.5		1.9		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	8.4
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	19	235	2	4	1	41	89	41	3	51	1
Future Vol, veh/h	19	19	235	2	4	1	41	89	41	3	51	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	58	58	58	91	91	91	72	72	72
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	28	28	351	3	7	2	45	98	45	4	71	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	295	313	72	480	291	121	72	0	0	143	0	0
Stage 1	80	80	-	211	211	-	-	-	-	-	-	-
Stage 2	215	233	-	269	80	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	645	592	974	485	608	912	1528	-	-	1440	-	-
Stage 1	914	817	-	775	715	-	-	-	-	-	-	-
Stage 2	774	701	-	721	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	622	573	974	291	589	912	1528	-	-	1440	-	-
Mov Cap-2 Maneuver	622	573	-	291	589	-	-	-	-	-	-	-
Stage 1	887	815	-	753	694	-	-	-	-	-	-	-
Stage 2	742	681	-	444	813	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	12.8	1.8	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1528	-	-	895	474	1440	-	-
HCM Lane V/C Ratio	0.029	-	-	0.455	0.025	0.003	-	-
HCM Control Delay (s)	7.4	-	-	12.3	12.8	7.5	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.4	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	384	7	43	658	53	5	26	50	274	132	61
Future Volume (veh/h)	7	384	7	43	658	53	5	26	50	274	132	61
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	8	422	8	47	723	58	6	33	64	308	148	69
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.78	0.78	0.78	0.89	0.89	0.89
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	16	724	14	67	756	61	131	42	81	347	235	110
Arrive On Green	0.01	0.44	0.44	0.04	0.47	0.47	0.07	0.07	0.07	0.20	0.20	0.20
Sat Flow, veh/h	1616	1659	31	1691	1623	130	1774	568	1101	1774	1203	561
Grp Volume(v), veh/h	8	0	430	47	0	781	6	0	97	308	0	217
Grp Sat Flow(s),veh/h/ln	1616	0	1691	1691	0	1753	1774	0	1668	1774	0	1764
Q Serve(g_s), s	0.4	0.0	16.2	2.3	0.0	36.1	0.3	0.0	4.8	14.2	0.0	9.5
Cycle Q Clear(g_c), s	0.4	0.0	16.2	2.3	0.0	36.1	0.3	0.0	4.8	14.2	0.0	9.5
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.66	1.00		0.32
Lane Grp Cap(c), veh/h	16	0	738	67	0	816	131	0	123	347	0	345
V/C Ratio(X)	0.49	0.00	0.58	0.70	0.00	0.96	0.05	0.00	0.79	0.89	0.00	0.63
Avail Cap(c_a), veh/h	96	0	789	121	0	839	131	0	123	363	0	361
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.4	0.0	17.9	39.9	0.0	21.6	36.2	0.0	38.3	32.9	0.0	31.0
Incr Delay (d2), s/veh	20.8	0.0	1.0	12.5	0.0	21.0	0.1	0.0	28.2	21.7	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	7.7	1.3	0.0	22.1	0.1	0.0	3.2	9.0	0.0	4.9
LnGrp Delay(d),s/veh	62.2	0.0	18.9	52.3	0.0	42.6	36.3	0.0	66.5	54.6	0.0	34.2
LnGrp LOS	E		B	D		D	D		E	D		C
Approach Vol, veh/h		438			828			103			525	
Approach Delay, s/veh		19.7			43.1			64.7			46.2	
Approach LOS		B			D			E			D	

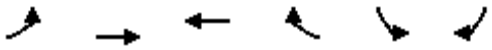
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		12.0	7.3	42.5		22.2	4.9	44.9
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		6.2	6.0	39.2		17.2	5.0	40.2
Max Q Clear Time (g_c+I1), s		6.8	4.3	18.2		16.2	2.4	38.1
Green Ext Time (p_c), s		0.0	0.0	2.4		0.3	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	39.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	534	8	50	805	52	9	12	20	205	54	26
Future Volume (veh/h)	5	534	8	50	805	52	9	12	20	205	54	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	6	593	9	52	830	54	11	15	25	223	59	28
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.79	0.79	0.79	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	13	847	13	75	899	58	114	151	199	338	67	32
Arrive On Green	0.01	0.51	0.51	0.04	0.54	0.54	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1616	1667	25	1691	1649	107	234	636	836	1071	283	134
Grp Volume(v), veh/h	6	0	602	52	0	884	51	0	0	310	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1692	1691	0	1757	1706	0	0	1488	0	0
Q Serve(g_s), s	0.3	0.0	20.2	2.3	0.0	34.3	0.0	0.0	0.0	13.1	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	20.2	2.3	0.0	34.3	1.7	0.0	0.0	14.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.06	0.22		0.49	0.72		0.09
Lane Grp Cap(c), veh/h	13	0	860	75	0	957	464	0	0	437	0	0
V/C Ratio(X)	0.47	0.00	0.70	0.69	0.00	0.92	0.11	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	109	0	1051	114	0	1091	582	0	0	545	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.8	0.0	14.0	35.1	0.0	15.5	22.3	0.0	0.0	27.1	0.0	0.0
Incr Delay (d2), s/veh	25.0	0.0	1.6	10.9	0.0	11.9	0.1	0.0	0.0	3.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	9.7	1.3	0.0	19.6	0.8	0.0	0.0	6.5	0.0	0.0
LnGrp Delay(d),s/veh	61.8	0.0	15.5	46.0	0.0	27.4	22.4	0.0	0.0	30.3	0.0	0.0
LnGrp LOS	E		B	D		C	C			C		
Approach Vol, veh/h		608			936			51			310	
Approach Delay, s/veh		16.0			28.4			22.4			30.3	
Approach LOS		B			C			C			C	

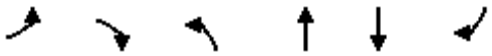
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.5	7.3	43.6		23.5	4.6	46.3
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		23.2	5.0	46.2		23.2	5.0	46.2
Max Q Clear Time (g_c+I1), s		3.7	4.3	22.2		16.8	2.3	36.3
Green Ext Time (p_c), s		0.2	0.0	3.8		0.9	0.0	4.2

Intersection Summary		
HCM 2010 Ctrl Delay		24.6
HCM 2010 LOS		C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	277	984	562	0	9	697
Future Volume (vph)	277	984	562	0	9	697
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.8	5.8		5.8	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	0.95
Frt	1.00	1.00	1.00		0.85	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1626	1712	1810		1588	1504
Flt Permitted	0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1626	1712	1810		1588	1504
Peak-hour factor, PHF	0.89	0.89	0.82	0.82	0.87	0.87
Adj. Flow (vph)	311	1106	685	0	10	801
RTOR Reduction (vph)	0	0	0	0	342	87
Lane Group Flow (vph)	311	1106	685	0	60	322
Heavy Vehicles (%)	11%	11%	5%	5%	2%	2%
Turn Type	Prot	NA	NA		Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases						6
Actuated Green, G (s)	18.5	56.2	33.7		9.9	28.4
Effective Green, g (s)	18.5	56.2	33.7		9.9	28.4
Actuated g/C Ratio	0.24	0.72	0.43		0.13	0.37
Clearance Time (s)	4.0	5.8	5.8		5.8	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	387	1238	785		202	549
v/s Ratio Prot	0.19	c0.65	0.38		0.04	c0.14
v/s Ratio Perm						0.07
v/c Ratio	0.80	0.89	0.87		0.30	0.59
Uniform Delay, d1	27.9	8.4	20.0		30.7	19.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	11.5	8.5	10.5		0.8	1.6
Delay (s)	39.3	16.9	30.6		31.6	21.5
Level of Service	D	B	C		C	C
Approach Delay (s)		21.9	30.6		26.5	
Approach LOS		C	C		C	

Intersection Summary			
HCM 2000 Control Delay	25.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	77.7	Sum of lost time (s)	15.6
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	100	514	433	353	541	358
Future Volume (vph)	100	514	433	353	541	358
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	0.97	0.95	0.95	
Frt	0.90	0.85	1.00	1.00	0.94	
Flt Protected	0.98	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1647	1504	3433	3539	3328	
Flt Permitted	0.98	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1647	1504	3433	3539	3328	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	559	471	384	588	389
RTOR Reduction (vph)	141	259	0	0	183	0
Lane Group Flow (vph)	197	71	471	384	794	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	11.0	11.0	9.6	30.9	16.8	
Effective Green, g (s)	11.0	11.0	9.6	30.9	16.8	
Actuated g/C Ratio	0.22	0.22	0.19	0.61	0.33	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	355	325	647	2148	1098	
v/s Ratio Prot	c0.12		c0.14	0.11	c0.24	
v/s Ratio Perm		0.05				
v/c Ratio	0.55	0.22	0.73	0.18	0.72	
Uniform Delay, d1	17.8	16.4	19.4	4.4	15.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.9	0.3	4.1	0.0	2.4	
Delay (s)	19.6	16.8	23.5	4.4	17.4	
Level of Service	B	B	C	A	B	
Approach Delay (s)	18.2			15.0	17.4	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	50.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	402	559	200	391	200	388	0	212	0	0	0
Future Volume (veh/h)	0	402	559	200	391	200	388	0	212	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	437	608	217	425	217	422	0	230	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	2	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	829	705	269	775	396	676	0	311	0	3	0
Arrive On Green	0.00	0.45	0.45	0.15	0.67	0.67	0.20	0.00	0.20	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1164	594	3442	0	1583	0	1863	0
Grp Volume(v), veh/h	0	437	608	217	0	642	422	0	230	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1758	1721	0	1583	0	1863	0
Q Serve(g_s), s	0.0	11.1	22.6	7.7	0.0	12.6	7.3	0.0	8.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	11.1	22.6	7.7	0.0	12.6	7.3	0.0	8.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	3	829	705	269	0	1170	676	0	311	0	3	0
V/C Ratio(X)	0.00	0.53	0.86	0.81	0.00	0.55	0.62	0.00	0.74	0.00	0.00	0.00
Avail Cap(c_a), veh/h	489	1082	919	484	0	1170	965	0	444	0	514	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	13.1	16.3	26.8	0.0	5.7	24.0	0.0	24.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	6.8	5.7	0.0	0.5	1.0	0.0	3.9	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8	11.1	4.2	0.0	6.1	3.5	0.0	4.2	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	13.6	23.1	32.4	0.0	6.3	25.0	0.0	28.6	0.0	0.0	0.0
LnGrp LOS		B	C	C		A	C		C			
Approach Vol, veh/h		1045			859			652			0	
Approach Delay, s/veh		19.1			12.9			26.2			0.0	
Approach LOS		B			B			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		17.3	14.4	33.6		0.0	0.0	48.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.3	17.8	37.9		18.0	18.0	37.7
Max Q Clear Time (g_c+I1), s		10.9	9.7	24.6		0.0	0.0	14.6
Green Ext Time (p_c), s		1.9	0.4	4.5		0.0	0.0	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	18.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	878	117	233	64	46	103	474	1080	98	896	35
Future Volume (veh/h)	20	878	117	233	64	46	103	474	1080	98	896	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1610	1610	1610	1610	1610	1900
Adj Flow Rate, veh/h	22	954	0	253	70	0	112	515	0	107	974	0
Adj No. of Lanes	1	2	0	2	1	0	1	1	2	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	18	18	18	18	18	18
Cap, veh/h	38	1096	0	325	712	0	133	635	1178	153	1099	0
Arrive On Green	0.02	0.31	0.00	0.09	0.38	0.00	0.09	0.39	0.00	0.05	0.36	0.00
Sat Flow, veh/h	1774	3632	0	3442	1863	0	1533	1610	2409	2975	3140	0
Grp Volume(v), veh/h	22	954	0	253	70	0	112	515	0	107	974	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1721	1863	0	1533	1610	1204	1487	1530	0
Q Serve(g_s), s	1.5	30.6	0.0	8.6	2.9	0.0	8.6	34.2	0.0	4.2	35.9	0.0
Cycle Q Clear(g_c), s	1.5	30.6	0.0	8.6	2.9	0.0	8.6	34.2	0.0	4.2	35.9	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	38	1096	0	325	712	0	133	635	1178	153	1099	0
V/C Ratio(X)	0.57	0.87	0.00	0.78	0.10	0.00	0.84	0.81	0.00	0.70	0.89	0.00
Avail Cap(c_a), veh/h	90	1289	0	732	980	0	152	691	1261	280	1298	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.1	39.1	0.0	53.1	23.8	0.0	54.0	32.3	0.0	56.0	36.1	0.0
Incr Delay (d2), s/veh	12.7	5.9	0.0	4.1	0.1	0.0	29.8	6.7	0.0	5.7	6.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	15.9	0.0	4.3	1.5	0.0	4.8	16.4	0.0	1.9	16.2	0.0
LnGrp Delay(d),s/veh	70.9	45.1	0.0	57.2	23.8	0.0	83.8	39.1	0.0	61.6	43.0	0.0
LnGrp LOS	E	D		E	C		F	D		E	D	
Approach Vol, veh/h		976			323			627			1081	
Approach Delay, s/veh		45.7			50.0			47.1			44.8	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	51.8	15.8	41.6	14.9	47.6	7.1	50.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.3	51.5	25.5	43.7	11.9	50.9	6.1	63.1
Max Q Clear Time (g_c+I1), s	6.2	36.2	10.6	32.6	10.6	37.9	3.5	4.9
Green Ext Time (p_c), s	0.1	2.7	0.7	4.6	0.0	5.2	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	46.1
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	39	546	76	338	269
Future Vol, veh/h	3	39	546	76	338	269
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	42	593	83	367	292

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1661	635	0	0	676	0
Stage 1	635	-	-	-	-	-
Stage 2	1026	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	107	478	-	-	915	-
Stage 1	528	-	-	-	-	-
Stage 2	346	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	56	478	-	-	915	-
Mov Cap-2 Maneuver	56	-	-	-	-	-
Stage 1	528	-	-	-	-	-
Stage 2	180	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.6	0	6.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	311	915	-
HCM Lane V/C Ratio	-	-	0.147	0.402	-
HCM Control Delay (s)	-	-	18.6	11.5	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	0.5	2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	82	118	54	108	227	39	401	21	109	567	17
Future Volume (veh/h)	36	82	118	54	108	227	39	401	21	109	567	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1638	1638	1900	1520	1520	1900
Adj Flow Rate, veh/h	39	89	128	59	117	247	42	436	23	118	616	18
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	16	16	16	25	25	25
Cap, veh/h	132	215	259	131	163	291	252	776	41	385	739	22
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	145	700	845	146	530	949	695	1542	81	758	1469	43
Grp Volume(v), veh/h	256	0	0	423	0	0	42	0	459	118	0	634
Grp Sat Flow(s),veh/h/ln	1690	0	0	1625	0	0	695	0	1624	758	0	1512
Q Serve(g_s), s	0.0	0.0	0.0	5.6	0.0	0.0	2.6	0.0	9.3	6.0	0.0	17.0
Cycle Q Clear(g_c), s	5.8	0.0	0.0	11.4	0.0	0.0	19.6	0.0	9.3	15.3	0.0	17.0
Prop In Lane	0.15		0.50	0.14		0.58	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	606	0	0	585	0	0	252	0	816	385	0	761
V/C Ratio(X)	0.42	0.00	0.00	0.72	0.00	0.00	0.17	0.00	0.56	0.31	0.00	0.83
Avail Cap(c_a), veh/h	735	0	0	717	0	0	380	0	1115	524	0	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	15.2	0.0	0.0	18.5	0.0	8.2	13.5	0.0	10.1
Incr Delay (d2), s/veh	0.5	0.0	0.0	2.8	0.0	0.0	0.3	0.0	0.6	0.4	0.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	5.5	0.0	0.0	0.5	0.0	4.2	1.3	0.0	7.8
LnGrp Delay(d),s/veh	13.8	0.0	0.0	18.0	0.0	0.0	18.8	0.0	8.8	13.9	0.0	14.4
LnGrp LOS	B			B			B		A	B		B
Approach Vol, veh/h		256			423			501			752	
Approach Delay, s/veh		13.8			18.0			9.6			14.4	
Approach LOS		B			B			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		28.3		19.0		28.3		19.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		32.5		18.5		32.5		18.5
Max Q Clear Time (g_c+I1), s		21.6		7.8		19.0		13.4
Green Ext Time (p_c), s		2.2		1.0		4.1		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B

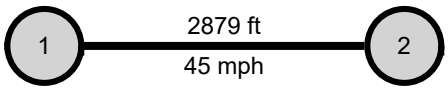
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	53	31	48	31	22	55	316	106	71	595	13
Future Volume (veh/h)	7	53	31	48	31	22	55	316	106	71	595	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1557	1557	1900	1557	1557	1900
Adj Flow Rate, veh/h	8	58	0	52	34	0	60	343	0	77	647	0
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	22	22	22	22	22	22
Cap, veh/h	164	205	0	321	83	0	412	862	0	627	862	0
Arrive On Green	0.12	0.12	0.00	0.12	0.12	0.00	0.55	0.55	0.00	0.55	0.55	0.00
Sat Flow, veh/h	156	1657	0	917	670	0	653	1557	0	864	1557	0
Grp Volume(v), veh/h	66	0	0	86	0	0	60	343	0	77	647	0
Grp Sat Flow(s),veh/h/ln	1813	0	0	1587	0	0	653	1557	0	864	1557	0
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	2.2	3.5	0.0	1.6	8.9	0.0
Cycle Q Clear(g_c), s	0.9	0.0	0.0	1.3	0.0	0.0	11.0	3.5	0.0	5.1	8.9	0.0
Prop In Lane	0.12		0.00	0.60		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	369	0	0	404	0	0	412	862	0	627	862	0
V/C Ratio(X)	0.18	0.00	0.00	0.21	0.00	0.00	0.15	0.40	0.00	0.12	0.75	0.00
Avail Cap(c_a), veh/h	1305	0	0	1193	0	0	820	1835	0	1167	1835	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	0.0	11.3	0.0	0.0	9.0	3.6	0.0	5.0	4.8	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.2	0.3	0.0	0.1	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.6	0.0	0.0	0.4	1.5	0.0	0.4	3.9	0.0
LnGrp Delay(d),s/veh	11.3	0.0	0.0	11.5	0.0	0.0	9.1	3.9	0.0	5.1	6.1	0.0
LnGrp LOS	B			B			A	A		A	A	
Approach Vol, veh/h		66			86			403			724	
Approach Delay, s/veh		11.3			11.5			4.6			6.0	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		20.0		8.0		20.0		8.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		32.9		18.1		32.9		18.1
Max Q Clear Time (g_c+I1), s		13.0		2.9		10.9		3.3
Green Ext Time (p_c), s		2.3		0.2		4.6		0.3

Intersection Summary		
HCM 2010 Ctrl Delay		6.2
HCM 2010 LOS		A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2879	2879	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.26			46.59		
1	Running Time, s	49.78			45.23		
1	Running Speed, mph	39.43			43.40		
1	Through Delay, s/veh	9.96			78.06		
1	Travel Time, s	59.74			123.29		
1	Travel Speed, mph	32.86			15.92		
1	Stop Rate, stops/veh	0.40			1.05		
1	Spatial Stop Rate, stops/mi	0.74			1.92		
1	Through vol/cap Ratio	0.85			0.96		
1	Percent of Base FFS	72.60			34.17		
1	Level of Service	B			E		
1	Auto Traveler Perception Score	2.25			2.43		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	3.98		D
1	Bicycle Segment LOS Score / LOS	4.89		E	4.97		E
1	Transit Segment LOS Score / LOS	6.97		F	6.55		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	59.74	123.29
Facility Travel Speed, mph	32.86	15.92
Facility Base Free Flow Speed, mph	45.26	46.59
Facility Percent of Base FFS	72.60	34.17
Facility Level of Service	B	E
Facility Auto Traveler Perception Score	2.25	2.43

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			3.98	D
Bicycle Facility LOS Score / LOS	4.89	E	4.97	E
Transit Facility LOS Score / LOS	6.97	F	6.55	F

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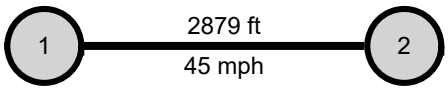
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2879	2879	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	0.31			never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.26			46.59		
1	Running Time, s	52.74			45.09		
1	Running Speed, mph	37.22			43.53		
1	Through Delay, s/veh	158.80			28.00		
1	Travel Time, s	211.54			73.10		
1	Travel Speed, mph	9.28			26.85		
1	Stop Rate, stops/veh	1.56			0.64		
1	Spatial Stop Rate, stops/mi	2.86			1.18		
1	Through vol/cap Ratio	1.31			0.58		
1	Percent of Base FFS	20.50			57.63		
1	Level of Service	F			C		
1	Auto Traveler Perception Score	2.59			2.32		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	3.94		D
1	Bicycle Segment LOS Score / LOS	4.94		E	4.83		E
1	Transit Segment LOS Score / LOS	7.09		F	6.53		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	211.54	73.10
Facility Travel Speed, mph	9.28	26.85
Facility Base Free Flow Speed, mph	45.26	46.59
Facility Percent of Base FFS	20.50	57.63
Facility Level of Service	F	C
Facility Auto Traveler Perception Score	2.59	2.32

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			3.94	D
Bicycle Facility LOS Score / LOS	4.94	E	4.83	E
Transit Facility LOS Score / LOS	7.09	F	6.53	F

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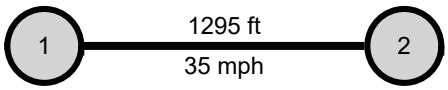
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1295	1295	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	38.00			38.12		
1	Running Time, s	26.58			26.77		
1	Running Speed, mph	33.21			32.99		
1	Through Delay, s/veh	1.49			21.61		
1	Travel Time, s	28.07			48.38		
1	Travel Speed, mph	31.45			18.25		
1	Stop Rate, stops/veh	0.36			0.76		
1	Spatial Stop Rate, stops/mi	1.47			3.09		
1	Through vol/cap Ratio	0.50			0.87		
1	Percent of Base FFS	82.77			47.88		
1	Level of Service	B			D		
1	Auto Traveler Perception Score	2.36			2.63		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.67		D	3.81		D
1	Bicycle Segment LOS Score / LOS	3.83		D	6.97		F
1	Transit Segment LOS Score / LOS	4.54		E	4.52		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	28.07	48.38
Facility Travel Speed, mph	31.45	18.25
Facility Base Free Flow Speed, mph	38.00	38.12
Facility Percent of Base FFS	82.77	47.88
Facility Level of Service	B	D
Facility Auto Traveler Perception Score	2.36	2.63

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.67	D	3.81	D
Bicycle Facility LOS Score / LOS	3.83	D	6.97	F
Transit Facility LOS Score / LOS	4.54	E	4.52	E

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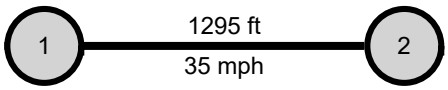
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1295	1295	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		0.17	6.20	
1	Shared Lane Spillback Time, h				0.28		
1	Base Free-Flow Speed, mph	38.00			38.12		
1	Running Time, s	26.12			27.62		
1	Running Speed, mph	33.81			31.97		
1	Through Delay, s/veh	0.36			91.32		
1	Travel Time, s	26.48			118.94		
1	Travel Speed, mph	33.35			7.42		
1	Stop Rate, stops/veh	0.05			1.10		
1	Spatial Stop Rate, stops/mi	0.20			4.48		
1	Through vol/cap Ratio	0.18			1.04		
1	Percent of Base FFS	87.75			19.48		
1	Level of Service	A			F		
1	Auto Traveler Perception Score	2.17			2.87		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.43		C	4.10		D
1	Bicycle Segment LOS Score / LOS	3.78		D	7.02		F
1	Transit Segment LOS Score / LOS	4.41		E	4.66		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	26.48	118.94
Facility Travel Speed, mph	33.35	7.42
Facility Base Free Flow Speed, mph	38.00	38.12
Facility Percent of Base FFS	87.75	19.48
Facility Level of Service	A	F
Facility Auto Traveler Perception Score	2.17	2.87

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	4.10	D
Bicycle Facility LOS Score / LOS	3.78	D	7.02	F
Transit Facility LOS Score / LOS	4.41	E	4.66	E

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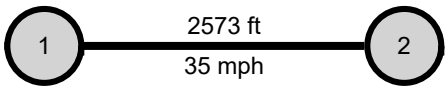
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2573	2573	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.75			40.62		
1	Running Time, s	46.07			45.15		
1	Running Speed, mph	38.08			38.85		
1	Through Delay, s/veh	0.71			0.27		
1	Travel Time, s	46.79			45.42		
1	Travel Speed, mph	37.50			38.62		
1	Stop Rate, stops/veh	0.01			0.01		
1	Spatial Stop Rate, stops/mi	0.03			0.02		
1	Through vol/cap Ratio	0.36			0.13		
1	Percent of Base FFS	92.02			95.08		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.14			2.14		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.81		D	3.47		C
1	Transit Segment LOS Score / LOS	4.63		E	4.44		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	46.79	45.42
Facility Travel Speed, mph	37.50	38.62
Facility Base Free Flow Speed, mph	40.75	40.62
Facility Percent of Base FFS	92.02	95.08
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.14	2.14

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.81	D	3.47	C
Transit Facility LOS Score / LOS	4.63	E	4.44	E

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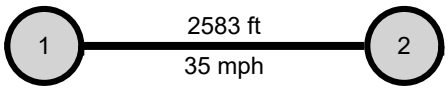
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2583	2583	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.76			40.62		
1	Running Time, s	46.90			47.03		
1	Running Speed, mph	37.55			37.45		
1	Through Delay, s/veh	1.04			0.96		
1	Travel Time, s	47.94			47.99		
1	Travel Speed, mph	36.73			36.70		
1	Stop Rate, stops/veh	0.01			0.01		
1	Spatial Stop Rate, stops/mi	0.03			0.03		
1	Through vol/cap Ratio	0.48			0.46		
1	Percent of Base FFS	90.13			90.33		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.15			2.15		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.84		D	3.60		D
1	Transit Segment LOS Score / LOS	4.71		E	4.67		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	47.94	47.99
Facility Travel Speed, mph	36.73	36.70
Facility Base Free Flow Speed, mph	40.76	40.62
Facility Percent of Base FFS	90.13	90.33
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.15	2.15

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.84	D	3.60	D
Transit Facility LOS Score / LOS	4.71	E	4.67	E

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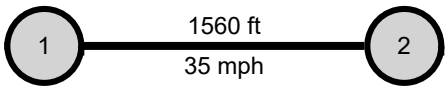
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward /	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	27.77			28.08		
1	Running Speed, mph	38.30			37.87		
1	Through Delay, s/veh	1.16			1.38		
1	Travel Time, s	28.93			29.47		
1	Travel Speed, mph	36.77			36.10		
1	Stop Rate, stops/veh	0.41			0.42		
1	Spatial Stop Rate, stops/mi	1.40			1.43		
1	Through vol/cap Ratio	0.02			0.26		
1	Percent of Base FFS	88.01			86.41		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.57			2.58		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.33		E	4.67		E
1	Transit Segment LOS Score / LOS	6.46		F	6.65		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	28.93	29.47
Facility Travel Speed, mph	36.77	36.10
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	88.01	86.41
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.57	2.58

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.33	E	4.67	E
Transit Facility LOS Score / LOS	6.46	F	6.65	F

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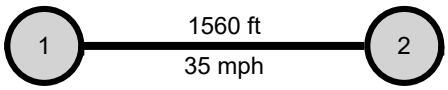
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward /	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	28.27			27.77		
1	Running Speed, mph	37.62			38.31		
1	Through Delay, s/veh	1.56			1.15		
1	Travel Time, s	29.83			28.92		
1	Travel Speed, mph	35.65			36.78		
1	Stop Rate, stops/veh	0.42			0.41		
1	Spatial Stop Rate, stops/mi	1.43			1.40		
1	Through vol/cap Ratio	0.41			0.02		
1	Percent of Base FFS	85.34			88.04		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.58			2.57		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.81		E	4.22		D
1	Transit Segment LOS Score / LOS	6.69		F	6.46		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	29.83	28.92
Facility Travel Speed, mph	35.65	36.78
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	85.34	88.04
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.58	2.57

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.81	E	4.22	D
Transit Facility LOS Score / LOS	6.69	F	6.46	F

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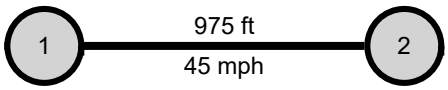
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_A	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	19.08			18.55		
1	Running Speed, mph	34.85			35.83		
1	Through Delay, s/veh	1.61			0.85		
1	Travel Time, s	20.69			19.41		
1	Travel Speed, mph	32.13			34.25		
1	Stop Rate, stops/veh	0.19			0.19		
1	Spatial Stop Rate, stops/mi	1.01			1.01		
1	Through vol/cap Ratio	0.87			0.56		
1	Percent of Base FFS	70.05			74.67		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.51			2.51		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.82		D	3.64		D
1	Transit Segment LOS Score / LOS	6.90		F	6.77		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	20.69	19.41
Facility Travel Speed, mph	32.13	34.25
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	70.05	74.67
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.51	2.51

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.82	D	3.64	D
Transit Facility LOS Score / LOS	6.90	F	6.77	F

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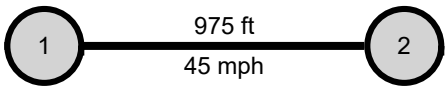
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_P	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	18.76			19.06		
1	Running Speed, mph	35.43			34.87		
1	Through Delay, s/veh	1.08			1.53		
1	Travel Time, s	19.84			20.60		
1	Travel Speed, mph	33.50			32.27		
1	Stop Rate, stops/veh	0.18			0.18		
1	Spatial Stop Rate, stops/mi	1.00			1.00		
1	Through vol/cap Ratio	0.70			0.85		
1	Percent of Base FFS	73.04			70.36		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.50			2.50		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.71		D	3.82		D
1	Transit Segment LOS Score / LOS	6.83		F	6.89		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	19.84	20.60
Facility Travel Speed, mph	33.50	32.27
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	73.04	70.36
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.50	2.50

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.71	D	3.82	D
Transit Facility LOS Score / LOS	6.83	F	6.89	F

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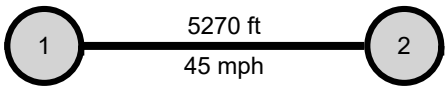
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave_AM.xus	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5270	5270	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.15			45.15		
1	Running Time, s	84.22			83.91		
1	Running Speed, mph	42.67			42.82		
1	Through Delay, s/veh	16.54			22.75		
1	Travel Time, s	100.76			106.65		
1	Travel Speed, mph	35.66			33.69		
1	Stop Rate, stops/veh	0.63			0.72		
1	Spatial Stop Rate, stops/mi	0.63			0.72		
1	Through vol/cap Ratio	0.86			0.93		
1	Percent of Base FFS	78.98			74.62		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.23			2.25		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.99		D	4.34		E
1	Transit Segment LOS Score / LOS	6.77		F	6.75		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	100.76	106.65
Facility Travel Speed, mph	35.66	33.69
Facility Base Free Flow Speed, mph	45.15	45.15
Facility Percent of Base FFS	78.98	74.62
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.23	2.25

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.99	D	4.34	E
Transit Facility LOS Score / LOS	6.77	F	6.75	F

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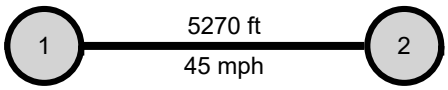
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave, Sycamore &	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5270	5270	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.15			45.15		
1	Running Time, s	83.19			83.86		
1	Running Speed, mph	43.19			42.85		
1	Through Delay, s/veh	18.06			22.39		
1	Travel Time, s	101.25			106.25		
1	Travel Speed, mph	35.49			33.82		
1	Stop Rate, stops/veh	0.68			0.69		
1	Spatial Stop Rate, stops/mi	0.68			0.69		
1	Through vol/cap Ratio	0.82			0.97		
1	Percent of Base FFS	78.60			74.90		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.24			2.24		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.94		D	4.35		E
1	Transit Segment LOS Score / LOS	6.71		F	6.75		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	101.25	106.25
Facility Travel Speed, mph	35.49	33.82
Facility Base Free Flow Speed, mph	45.15	45.15
Facility Percent of Base FFS	78.60	74.90
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.24	2.24

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.94	D	4.35	E
Transit Facility LOS Score / LOS	6.71	F	6.75	F

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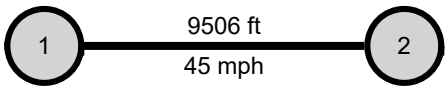
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave, wo Jennings	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9506	9506	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.00			46.01		
1	Running Time, s	149.32			146.87		
1	Running Speed, mph	43.40			44.13		
1	Through Delay, s/veh	3.69			14.52		
1	Travel Time, s	153.02			161.39		
1	Travel Speed, mph	42.36			40.16		
1	Stop Rate, stops/veh	0.24			0.51		
1	Spatial Stop Rate, stops/mi	0.14			0.29		
1	Through vol/cap Ratio	0.51			0.94		
1	Percent of Base FFS	92.07			87.29		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.16			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.06		D	4.05		D
1	Transit Segment LOS Score / LOS	6.80		F	6.73		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	153.02	161.39
Facility Travel Speed, mph	42.36	40.16
Facility Base Free Flow Speed, mph	46.00	46.01
Facility Percent of Base FFS	92.07	87.29
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.16	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.06	D	4.05	D
Transit Facility LOS Score / LOS	6.80	F	6.73	F

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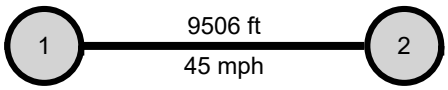
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave, wo Jennings	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9506	9506	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.00			46.01		
1	Running Time, s	146.95			149.37		
1	Running Speed, mph	44.11			43.39		
1	Through Delay, s/veh	10.83			23.05		
1	Travel Time, s	157.78			172.42		
1	Travel Speed, mph	41.08			37.59		
1	Stop Rate, stops/veh	0.40			0.71		
1	Spatial Stop Rate, stops/mi	0.22			0.40		
1	Through vol/cap Ratio	0.56			0.97		
1	Percent of Base FFS	89.29			81.70		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.17			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.02		D	4.07		D
1	Transit Segment LOS Score / LOS	6.72		F	6.82		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	157.78	172.42
Facility Travel Speed, mph	41.08	37.59
Facility Base Free Flow Speed, mph	46.00	46.01
Facility Percent of Base FFS	89.29	81.70
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.17	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.02	D	4.07	D
Transit Facility LOS Score / LOS	6.72	F	6.82	F

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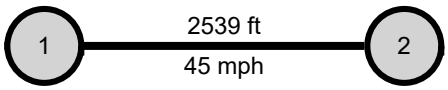
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_AM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2539	2539	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	0.55	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.89			43.54		
1	Running Time, s	40.38			43.36		
1	Running Speed, mph	42.87			39.92		
1	Through Delay, s/veh	3.32			222.59		
1	Travel Time, s	43.70			265.95		
1	Travel Speed, mph	39.61			6.51		
1	Stop Rate, stops/veh	0.22			1.93		
1	Spatial Stop Rate, stops/mi	0.46			4.01		
1	Through vol/cap Ratio	0.42			1.39		
1	Percent of Base FFS	86.32			14.95		
1	Level of Service	A			F		
1	Auto Traveler Perception Score	2.42			3.03		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.30		E	4.79		E
1	Transit Segment LOS Score / LOS	6.64		F	0.66		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	43.70	265.95
Facility Travel Speed, mph	39.61	6.51
Facility Base Free Flow Speed, mph	45.89	43.54
Facility Percent of Base FFS	86.32	14.95
Facility Level of Service	A	F
Facility Auto Traveler Perception Score	2.42	3.03

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.30	E	4.79	E
Transit Facility LOS Score / LOS	6.64	F	0.66	A

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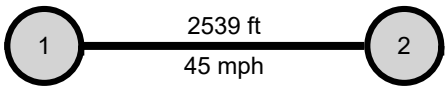
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_PM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2539	2539	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.89			43.54		
1	Running Time, s	40.66			43.39		
1	Running Speed, mph	42.57			39.90		
1	Through Delay, s/veh	13.38			52.42		
1	Travel Time, s	54.04			95.81		
1	Travel Speed, mph	32.03			18.07		
1	Stop Rate, stops/veh	0.32			0.79		
1	Spatial Stop Rate, stops/mi	0.66			1.64		
1	Through vol/cap Ratio	0.80			0.99		
1	Percent of Base FFS	69.81			41.50		
1	Level of Service	B			D		
1	Auto Traveler Perception Score	2.45			2.61		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.25		D	4.84		E
1	Transit Segment LOS Score / LOS	6.69		F	0.66		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	54.04	95.81
Facility Travel Speed, mph	32.03	18.07
Facility Base Free Flow Speed, mph	45.89	43.54
Facility Percent of Base FFS	69.81	41.50
Facility Level of Service	B	D
Facility Auto Traveler Perception Score	2.45	2.61

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.25	D	4.84	E
Transit Facility LOS Score / LOS	6.69	F	0.66	A

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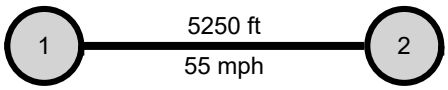
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5250	5250	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.03			45.33		
1	Running Time, s	72.55			81.27		
1	Running Speed, mph	49.34			44.04		
1	Through Delay, s/veh	8.67			0.00		
1	Travel Time, s	81.22			81.27		
1	Travel Speed, mph	44.07			44.04		
1	Stop Rate, stops/veh	0.51			0.00		
1	Spatial Stop Rate, stops/mi	0.52			0.00		
1	Through vol/cap Ratio	0.11			0.00		
1	Percent of Base FFS	88.10			97.17		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.43			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.74		E	6.12		F
1	Transit Segment LOS Score / LOS	6.53		F	0.46		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	81.22	81.27
Facility Travel Speed, mph	44.07	44.04
Facility Base Free Flow Speed, mph	50.03	45.33
Facility Percent of Base FFS	88.10	97.17
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.43	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.74	E	6.12	F
Transit Facility LOS Score / LOS	6.53	F	0.46	A

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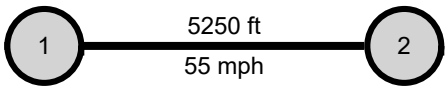
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5250	5250	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.03			45.33		
1	Running Time, s	72.69			80.15		
1	Running Speed, mph	49.24			44.66		
1	Through Delay, s/veh	8.76			0.00		
1	Travel Time, s	81.45			80.15		
1	Travel Speed, mph	43.95			44.66		
1	Stop Rate, stops/veh	0.52			0.00		
1	Spatial Stop Rate, stops/mi	0.53			0.00		
1	Through vol/cap Ratio	0.15			0.00		
1	Percent of Base FFS	87.84			98.53		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.43			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.89		E	6.00		F
1	Transit Segment LOS Score / LOS	6.58		F	0.35		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	81.45	80.15
Facility Travel Speed, mph	43.95	44.66
Facility Base Free Flow Speed, mph	50.03	45.33
Facility Percent of Base FFS	87.84	98.53
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.43	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.89	E	6.00	F
Transit Facility LOS Score / LOS	6.58	F	0.35	A

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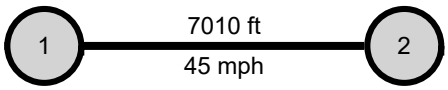
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7010	7010	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	106.16			104.38		
1	Running Speed, mph	45.02			45.79		
1	Through Delay, s/veh	0.00			13.53		
1	Travel Time, s	106.16			117.91		
1	Travel Speed, mph	45.02			40.54		
1	Stop Rate, stops/veh	0.00			0.58		
1	Spatial Stop Rate, stops/mi	0.00			0.44		
1	Through vol/cap Ratio	0.00			0.17		
1	Percent of Base FFS	97.66			87.93		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.34			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.96		D	4.60		E
1	Transit Segment LOS Score / LOS	6.73		F	6.54		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	106.16	117.91
Facility Travel Speed, mph	45.02	40.54
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	97.66	87.93
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.34	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.96	D	4.60	E
Transit Facility LOS Score / LOS	6.73	F	6.54	F

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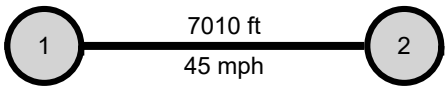
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7010	7010	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	105.67			104.24		
1	Running Speed, mph	45.23			45.85		
1	Through Delay, s/veh	0.00			19.64		
1	Travel Time, s	105.67			123.88		
1	Travel Speed, mph	45.23			38.58		
1	Stop Rate, stops/veh	0.00			0.64		
1	Spatial Stop Rate, stops/mi	0.00			0.48		
1	Through vol/cap Ratio	0.00			0.14		
1	Percent of Base FFS	98.12			83.69		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.34			2.42		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.97		D	4.57		E
1	Transit Segment LOS Score / LOS	6.70		F	6.51		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	105.67	123.88
Facility Travel Speed, mph	45.23	38.58
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	98.12	83.69
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.34	2.42

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.97	D	4.57	E
Transit Facility LOS Score / LOS	6.70	F	6.51	F

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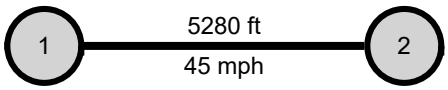
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5280	5280	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.28			46.28		
1	Running Time, s	78.74			78.82		
1	Running Speed, mph	45.72			45.67		
1	Through Delay, s/veh	20.02			23.76		
1	Travel Time, s	98.76			102.58		
1	Travel Speed, mph	36.45			35.09		
1	Stop Rate, stops/veh	0.67			0.83		
1	Spatial Stop Rate, stops/mi	0.67			0.83		
1	Through vol/cap Ratio	0.22			0.47		
1	Percent of Base FFS	78.76			75.84		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.45			2.48		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.38		C	3.63		D
1	Transit Segment LOS Score / LOS	6.54		F	6.56		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	98.76	102.58
Facility Travel Speed, mph	36.45	35.09
Facility Base Free Flow Speed, mph	46.28	46.28
Facility Percent of Base FFS	78.76	75.84
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.45	2.48

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.38	C	3.63	D
Transit Facility LOS Score / LOS	6.54	F	6.56	F

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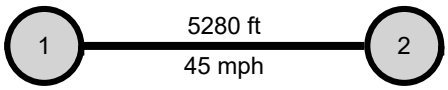
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5280	5280	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.28			46.28		
1	Running Time, s	81.28			79.37		
1	Running Speed, mph	44.29			45.36		
1	Through Delay, s/veh	7.80			18.18		
1	Travel Time, s	89.08			97.55		
1	Travel Speed, mph	40.41			36.90		
1	Stop Rate, stops/veh	0.40			0.29		
1	Spatial Stop Rate, stops/mi	0.40			0.29		
1	Through vol/cap Ratio	0.61			0.66		
1	Percent of Base FFS	87.32			79.75		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.41			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.98		D	3.63		D
1	Transit Segment LOS Score / LOS	6.81		F	6.67		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	89.08	97.55
Facility Travel Speed, mph	40.41	36.90
Facility Base Free Flow Speed, mph	46.28	46.28
Facility Percent of Base FFS	87.32	79.75
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.41	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.98	D	3.63	D
Transit Facility LOS Score / LOS	6.81	F	6.67	F

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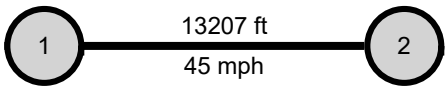
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13207	13207	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.22			46.22		
1	Running Time, s	195.82			200.13		
1	Running Speed, mph	45.98			45.00		
1	Through Delay, s/veh	1.81			17.42		
1	Travel Time, s	197.63			217.55		
1	Travel Speed, mph	45.56			41.39		
1	Stop Rate, stops/veh	0.17			0.70		
1	Spatial Stop Rate, stops/mi	0.07			0.28		
1	Through vol/cap Ratio	0.08			0.80		
1	Percent of Base FFS	98.59			89.56		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.66		E	4.75		E
1	Transit Segment LOS Score / LOS	6.55		F	6.77		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	197.63	217.55
Facility Travel Speed, mph	45.56	41.39
Facility Base Free Flow Speed, mph	46.22	46.22
Facility Percent of Base FFS	98.59	89.56
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.66	E	4.75	E
Transit Facility LOS Score / LOS	6.55	F	6.77	F

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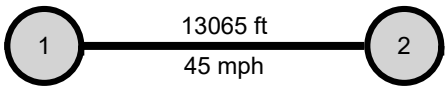
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13065	13065	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			3.12	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.21			46.21		
1	Running Time, s	197.20			200.82		
1	Running Speed, mph	45.17			44.36		
1	Through Delay, s/veh	24.59			833.50		
1	Travel Time, s	221.79			1034.32		
1	Travel Speed, mph	40.16			8.61		
1	Stop Rate, stops/veh	0.72			3.09		
1	Spatial Stop Rate, stops/mi	0.29			1.25		
1	Through vol/cap Ratio	0.72			2.77		
1	Percent of Base FFS	86.91			18.64		
1	Level of Service	A			F		
1	Auto Traveler Perception Score	2.39			2.55		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	5.17		F	4.61		E
1	Transit Segment LOS Score / LOS	6.75		F	6.85		F

Facility Output Data	Eastbound		Westbound	
Facility Travel Time, s	221.79		1034.32	
Facility Travel Speed, mph	40.16		8.61	
Facility Base Free Flow Speed, mph	46.21		46.21	
Facility Percent of Base FFS	86.91		18.64	
Facility Level of Service	A		F	
Facility Auto Traveler Perception Score	2.39		2.55	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	5.17	F	4.61	E
Transit Facility LOS Score / LOS	6.75	F	6.85	F

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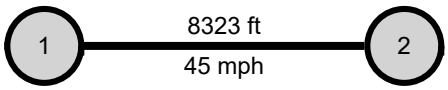
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	123.50			125.45		
1	Running Speed, mph	45.95			45.24		
1	Through Delay, s/veh	15.13			15.39		
1	Travel Time, s	138.64			140.84		
1	Travel Speed, mph	40.93			40.29		
1	Stop Rate, stops/veh	0.51			0.62		
1	Spatial Stop Rate, stops/mi	0.33			0.39		
1	Through vol/cap Ratio	0.41			0.83		
1	Percent of Base FFS	87.93			86.56		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.40			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.24		D	4.22		D
1	Transit Segment LOS Score / LOS	6.59		F	6.68		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	138.64	140.84
Facility Travel Speed, mph	40.93	40.29
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	87.93	86.56
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.40	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.24	D	4.22	D
Transit Facility LOS Score / LOS	6.59	F	6.68	F

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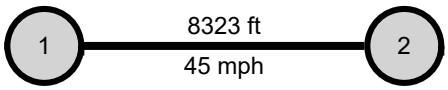
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Existing + Approved + Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	122.92			127.83		
1	Running Speed, mph	46.17			44.39		
1	Through Delay, s/veh	9.91			15.62		
1	Travel Time, s	132.83			143.45		
1	Travel Speed, mph	42.72			39.56		
1	Stop Rate, stops/veh	0.36			0.62		
1	Spatial Stop Rate, stops/mi	0.23			0.40		
1	Through vol/cap Ratio	0.16			0.91		
1	Percent of Base FFS	91.78			84.98		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.38			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.06		D	4.32		E
1	Transit Segment LOS Score / LOS	6.52		F	6.78		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	132.83	143.45
Facility Travel Speed, mph	42.72	39.56
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	91.78	84.98
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.38	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.06	D	4.32	E
Transit Facility LOS Score / LOS	6.52	F	6.78	F

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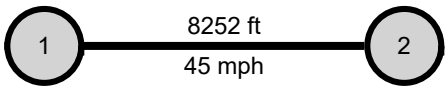
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_A	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	Existing Plus Approved Plus Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	130.77			132.03		
1	Running Speed, mph	43.02			42.62		
1	Through Delay, s/veh	3.82			7.38		
1	Travel Time, s	134.59			139.41		
1	Travel Speed, mph	41.80			40.36		
1	Stop Rate, stops/veh	0.13			0.17		
1	Spatial Stop Rate, stops/mi	0.08			0.11		
1	Through vol/cap Ratio	0.89			0.98		
1	Percent of Base FFS	90.19			87.08		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.63		E	4.70		E
1	Transit Segment LOS Score / LOS	6.98		F	7.02		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	134.59	139.41
Facility Travel Speed, mph	41.80	40.36
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	90.19	87.08
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.63	E	4.70	E
Transit Facility LOS Score / LOS	6.98	F	7.02	F

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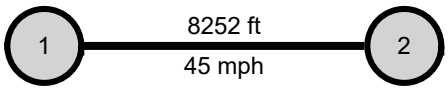
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_A	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	Existing Plus Approved Plus Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	2	2	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	124.82			125.21		
1	Running Speed, mph	45.08			44.94		
1	Through Delay, s/veh	0.43			0.52		
1	Travel Time, s	125.24			125.73		
1	Travel Speed, mph	44.92			44.75		
1	Stop Rate, stops/veh	0.11			0.12		
1	Spatial Stop Rate, stops/mi	0.07			0.08		
1	Through vol/cap Ratio	0.45			0.49		
1	Percent of Base FFS	96.51			96.13		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.48		E	4.53		E
1	Transit Segment LOS Score / LOS	6.78		F	6.80		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	125.24	125.73
Facility Travel Speed, mph	44.92	44.75
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	96.51	96.13
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.48	E	4.53	E
Transit Facility LOS Score / LOS	6.78	F	6.80	F

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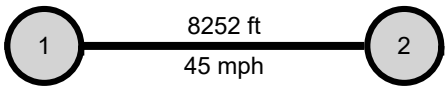
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_F	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	Existing Plus Approved Plus Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	132.63			132.63		
1	Running Speed, mph	42.42			42.42		
1	Through Delay, s/veh	10.17			3.94		
1	Travel Time, s	142.80			136.57		
1	Travel Speed, mph	39.40			41.20		
1	Stop Rate, stops/veh	0.17			0.14		
1	Spatial Stop Rate, stops/mi	0.11			0.09		
1	Through vol/cap Ratio	1.00			0.96		
1	Percent of Base FFS	85.01			88.89		
1	Level of Service	F			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.69		E	4.81		E
1	Transit Segment LOS Score / LOS	7.03		F	7.03		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	142.80	136.57
Facility Travel Speed, mph	39.40	41.20
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	85.01	88.89
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.69	E	4.81	E
Transit Facility LOS Score / LOS	7.03	F	7.03	F

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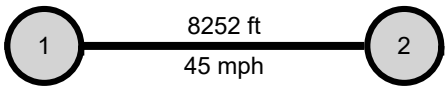
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_F	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	Existing Plus Approved Plus Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	2	2	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	125.39			126.11		
1	Running Speed, mph	44.87			44.62		
1	Through Delay, s/veh	0.47			0.62		
1	Travel Time, s	125.86			126.73		
1	Travel Speed, mph	44.70			44.40		
1	Stop Rate, stops/veh	0.11			0.13		
1	Spatial Stop Rate, stops/mi	0.07			0.08		
1	Through vol/cap Ratio	0.50			0.55		
1	Percent of Base FFS	96.04			95.38		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.50		E	4.56		E
1	Transit Segment LOS Score / LOS	6.81		F	6.84		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	125.86	126.73
Facility Travel Speed, mph	44.70	44.40
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	96.04	95.38
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.50	E	4.56	E
Transit Facility LOS Score / LOS	6.81	F	6.84	F

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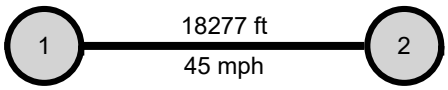
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	Existing Plus Approved Plus Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	279.98			272.98		
1	Running Speed, mph	44.51			45.65		
1	Through Delay, s/veh	0.89			0.40		
1	Travel Time, s	280.86			273.38		
1	Travel Speed, mph	44.37			45.58		
1	Stop Rate, stops/veh	0.11			0.12		
1	Spatial Stop Rate, stops/mi	0.03			0.04		
1	Through vol/cap Ratio	0.60			0.27		
1	Percent of Base FFS	95.55			98.17		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.35			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.49		E	4.45		E
1	Transit Segment LOS Score / LOS	6.84		F	6.69		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	280.86	273.38
Facility Travel Speed, mph	44.37	45.58
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	95.55	98.17
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.35	2.35

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.49	E	4.45	E
Transit Facility LOS Score / LOS	6.84	F	6.69	F

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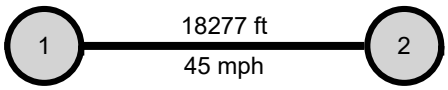
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	Existing Plus Approved Plus Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	275.39			279.98		
1	Running Speed, mph	45.25			44.51		
1	Through Delay, s/veh	0.40			1.07		
1	Travel Time, s	275.80			281.05		
1	Travel Speed, mph	45.18			44.34		
1	Stop Rate, stops/veh	0.11			0.13		
1	Spatial Stop Rate, stops/mi	0.03			0.04		
1	Through vol/cap Ratio	0.37			0.61		
1	Percent of Base FFS	97.31			95.49		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.35			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.43		E	4.55		E
1	Transit Segment LOS Score / LOS	6.75		F	6.84		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	275.80	281.05
Facility Travel Speed, mph	45.18	44.34
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	97.31	95.49
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.35	2.35

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.43	E	4.55	E
Transit Facility LOS Score / LOS	6.75	F	6.84	F

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	EPAPP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	3129	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	832	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1764	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	1764	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	63.1	mi/h
Number of lanes, N	2	
Density, D	27.9	pc/mi/ln
Level of service, LOS	D	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	Existing PM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2018
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	2913	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	775	v
Trucks and buses	17	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.922	
Driver population factor, fp	1.00	
Flow rate, vp	1681	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	1681	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	63.9	mi/h
Number of lanes, N	2	
Density, D	26.3	pc/mi/ln
Level of service, LOS	D	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	EPAPP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	3185	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	847	v
Trucks and buses	22	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.901	
Driver population factor, fp	1.00	
Flow rate, vp	1881	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	61.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	61.0	mi/h

LOS and Performance Measures

Flow rate, vp	1881	pc/h/ln
Free-flow speed, FFS	61.0	mi/h
Average passenger-car speed, S	58.6	mi/h
Number of lanes, N	2	
Density, D	32.1	pc/mi/ln
Level of service, LOS	D	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	EPAPP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	3444	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	916	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	2024	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	2024	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	59.5	mi/h
Number of lanes, N	2	
Density, D	34.0	pc/mi/ln
Level of service, LOS	D	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	EPAPP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	3076	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	818	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	1808	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	1808	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	62.6	mi/h
Number of lanes, N	2	
Density, D	28.9	pc/mi/ln
Level of service, LOS	D	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	EPAPP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	3444	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	916	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	2024	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	2024	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	59.5	mi/h
Number of lanes, N	2	
Density, D	34.0	pc/mi/ln
Level of service, LOS	D	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	EPAPP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	2666	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	709	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	1567	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	1567	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	64.6	mi/h
Number of lanes, N	2	
Density, D	24.3	pc/mi/ln
Level of service, LOS	C	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	EPAPP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	3444	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	916	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	2024	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	2024	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	59.5	mi/h
Number of lanes, N	2	
Density, D	34.0	pc/mi/ln
Level of service, LOS	D	

Travel Demand Modeling for Zacharias/Baldwin Master Plan

This technical memorandum summarizes the travel demand modeling conducted for Zacharias/Baldwin Patterson Master Plan in Patterson, California. It contains the following sections:

1. Study Area
2. Modeling Tool
3. Analysis Scenarios
4. Project Information
5. Project Trip Generation
6. Project Trip Distribution
7. Project Trip Assignment
8. Travel Demand Forecasts

1. Study Area

The approximate project boundary is in the NW of Patterson, shown in Exhibit 1.

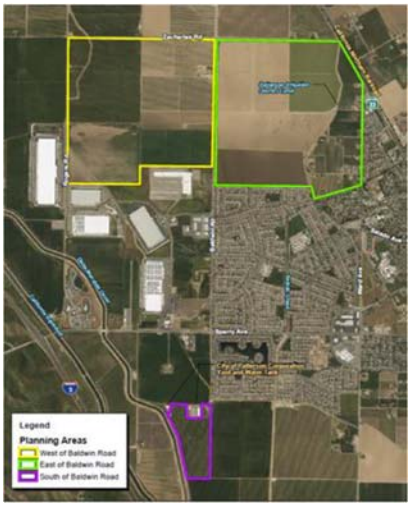


EXHIBIT 1, PROJECT AREA

Study intersections and segments are highlighted in Exhibit 2.

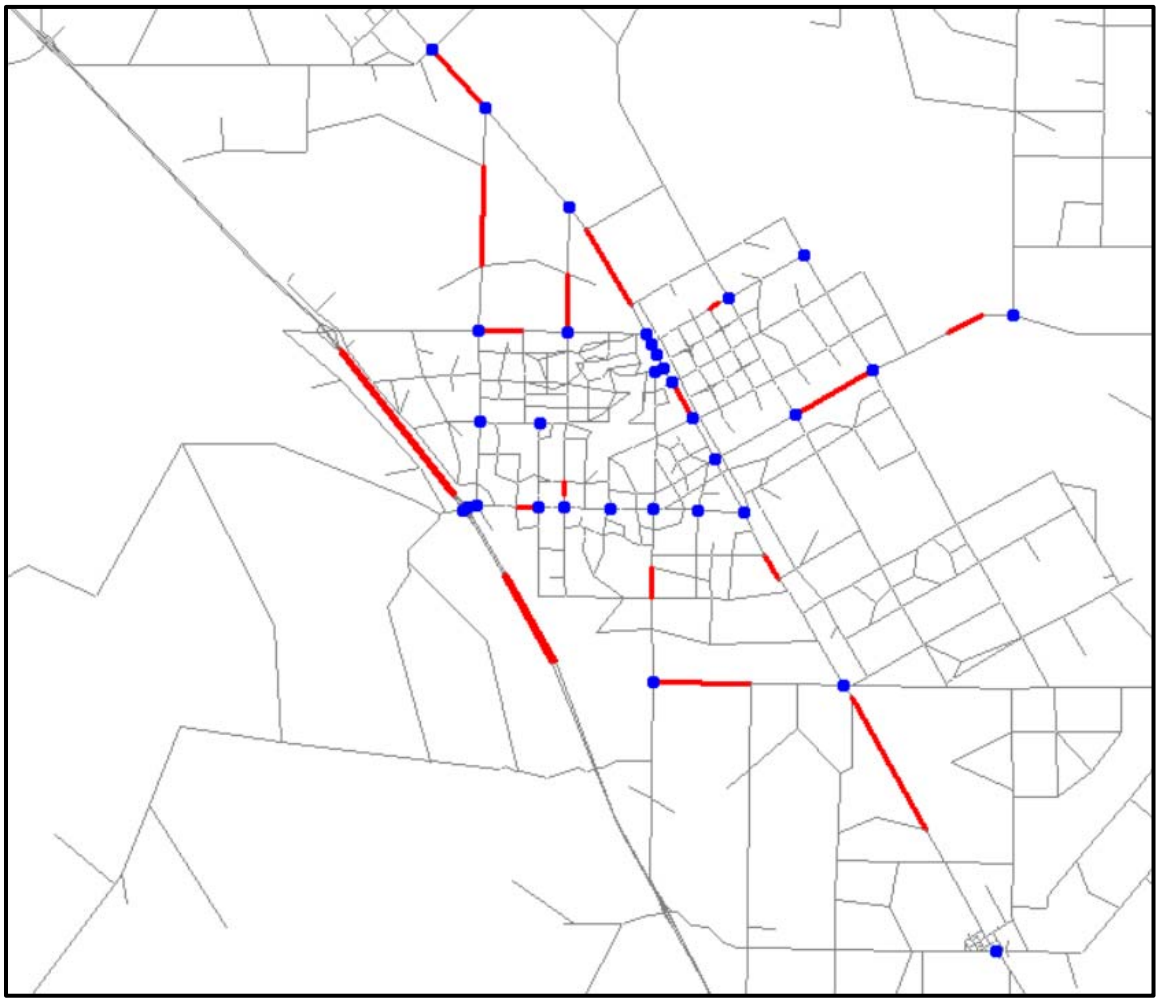


EXHIBIT 2, STUDY INTERSECTIONS AND SEGMENTS

2. Modeling Tool

The travel demand model recently calibrated and utilized for the Sperry Road at Interstate 5 Interchange Improvements Traffic Operations Analysis Report (TOAR) in February 2016 (hereafter, the I-5/Sperry Model) was selected as the modeling tool for this project.

The I-5/Sperry Model was based on the travel demand model developed for the Crows Landing Industrial Business Park Transportation Infrastructure Master Plan (TIMP). The TIMP Model integrated the network and land use information from the Three-County Travel Demand Model and the latest City of Patterson Travel Demand Model. The base year of the TIMP Model is 2012, and the forecast year is 2035. It includes 6,772 Traffic Analysis Zones (TAZs) and 100 gateways.

Base Year Validation

The following base year validation checks were conducted to the TIMP Model for the I-5/Sperry TOAR project,

1. Validation at major regional facilities:
   The calibrated 2012 TIMP model volumes to Caltrans counts were compared at selected locations on I-580, SR-99, and I-5 near the study area. Validation statistics for daily, AM/PM peak hour volumes, were calculated based on criteria from Caltrans forecasting guidelines. The TIMP model met most of the validation targets.
2. Comparison of the K and D factors at key locations:
   The K and D factors were calculated from the 2015 counts, the 2012 Model volumes before and after the calibration, and compared to the K and D factors provided by Caltrans. The K & D factors from the 2015 counts were very consistent with those provided by Caltrans, and the calibration improved the reasonableness of K & D factors from the 2012 model.

After the validation, the TIMP model was deemed appropriate for demand forecasting for I-5/Sperry project, based on "Guide on the Consistent Application of Traffic Analysis Tools and Methods", FHWA 2011.

Year 2035 Trip Table Development

To preserve the enhanced validation results in the Patterson area in the TIMP Model while maintaining consistency with the StanCOG 2014 Regional Transportation Plan/Sustainable Committee Strategy (RTP/SCS) forecasts for the rest of the region, a FRATAR adjustment was applied to the TIMP Model 2035 trip tables using TIMP Model 2035 tripends as targets for Patterson zones, and StanCOG Model 2035 tripends as targets for the other zones. Thus, the 2035 TIMP Model trip tables are consistent with StanCOG 2014 RTP/SCS projections.

Interstate 5 Mainline Traffic Growth

The Interstate 5 traffic forecasts in the project area used an annual growth rate of approximately 1.5% for the design projections to account for additional local trips due to modified land uses in the amended City of Patterson General Plan.

3. Analysis Scenarios

The following scenarios were analyzed for this project:

i. Existing + Approved Projects
ii. Existing + Approved Projects + Proposed Project
iii. 2040 Cumulative No Project
iv. 2040 Cumulative Plus Project (with and without Zacharias Interchange)

4. Project Information

Approved Projects

Three approved projects, as shown in Exhibit 3, were not coded in the 2012 TIMP Model, but should be included in the Existing condition scenario. Thus, a 2012 plus Approved Projects model was created by incorporating the trips from those three approved projects.

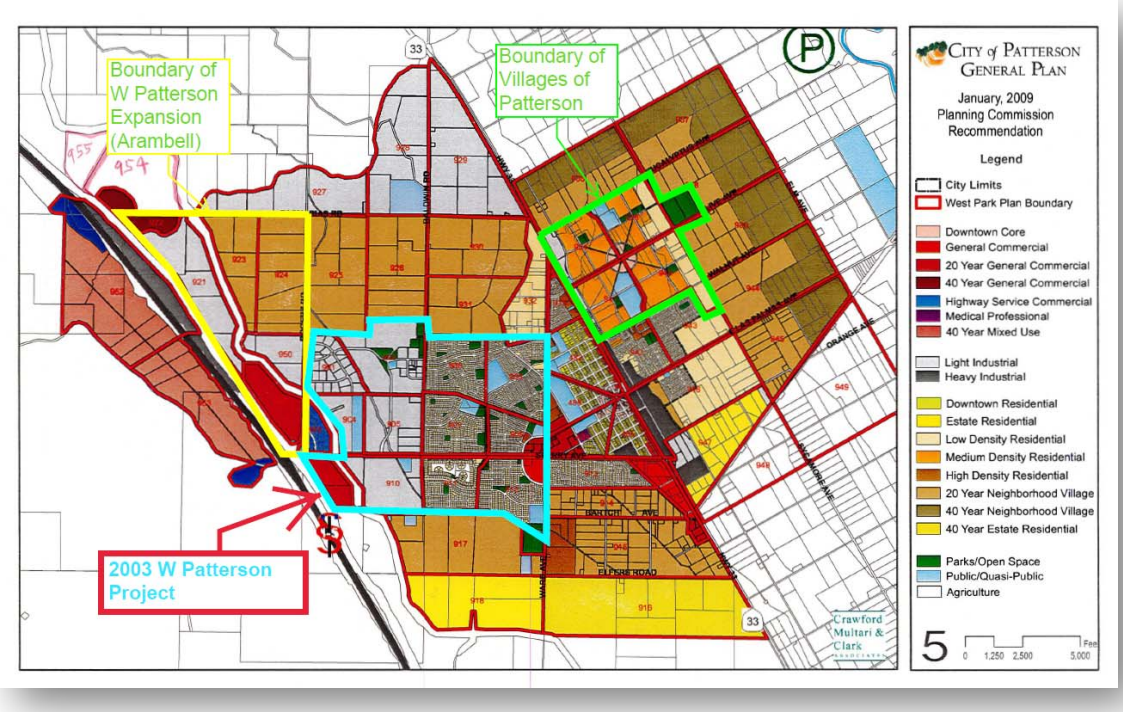


EXHIBIT 3, APPROVED PROJECTS

Those three approved projects were already reflected in the 2035 TIMP Model. Thus, no 2035 plus Approved Projects model was needed.

Proposed Project

The proposed project includes a northern and a southern site. There are 11 TAZs in the northern site and one TAZ in the southern site. The project sites are shown in Exhibit 4.

EXHIBIT 4, PROPOSED PROJECT SITES

5. Project Trip Generation

The project trip generation was calculated based on ITE 2017 trip generation rates, as shown in Table 1.

Patterson NW Annex Project Land Use Trip Generation

9/16/2019

TAZ	Land Use	ITE Code	Size		A.M. Peak				P.M. Peak			
					Rate	In	Out	Total	Rate	In	Out	Total
A	Medium Density Residential	ITE220	343	DU	0.46	36	122	158	0.56	122	71	193
B	Medium Density Residential	ITE220	595	DU	0.46	63	211	274	0.56	210	124	334
C	Medium Density Residential	ITE220	272	DU	0.46	29	97	126	0.56	96	57	153
	High Density Residential	ITE221	147	DU	0.36	14	39	53	0.44	40	25	65
	Mixed Use	ITE 820	315	KSF	Eq.	192	118	310	Eq.	610	661	1,271
D	Medium Density Residential	ITE220	471	DU	0.46	50	167	217	0.56	166	98	264
E	Medium Density Residential	ITE220	340	DU	0.46	36	121	157	0.56	120	71	191
	High Density Residential	ITE221	246	DU	0.36	23	66	89	0.44	66	43	109
	Elem School (K-6)	ITE 520	500	STU	0.67	181	154	335	0.17	41	44	85
	Mixed Use	ITE 820	190	KSF	Eq.	153	94	247	Eq.	420	454	874
F	Medium Density Residential	ITE220	605	DU	0.46	64	215	279	0.56	214	125	339
	High Density Residential	ITE221	216	DU	0.36	20	58	78	0.44	59	37	96
G	Low Density Residential	ITE210	431	DU	0.74	80	239	319	0.99	269	158	427
H	Light Industrial(Warehouse)	ITE 150	2,730	KSF	0.17	358	116	465	0.19	140	379	519
I	Light Industrial	ITE110	4,181	KSF	0.7	2,576	351	2,927	0.63	1,659	975	2,634
J	Medium Density Residential	ITE220	700	DU	0.46	74	248	322	0.56	247	145	392
	Community Commercial	ITE 820	350	KSF	Eq.	203	124	327	Eq.	660	714	1,374
K	Medium Density Residential	ITE220	320	DU	0.46	34	114	148	0.56	113	67	180
	Low Density Residential	ITE210	400	DU	0.74	74	222	296	0.99	249	147	396
	Middle School	ITE 522	900	STU	0.58	282	240	522	0.17	75	78	153
L	Medium Density Residential	ITE220	395	DU	0.46	42	140	182	0.56	140	82	222
	Sub-Total 1					**4,584**	**3,256**	**7,831**		**5,716**	**4,555**	**10,271**
	Pass-By Reductions [A]											
	Mixed Use/Commercial	ITE 820			-	-	-	-	-34%	-575	-622	-1,196
	Sub-Total 2					**4,584**	**3,256**	**7,831**		**5,141**	**3,933**	**9,075**
	Internal Trip Reductions [B]											
	10% Internal Trip Assumption				-10%	-458	-326	-784	-10%	-572	-456	-1,028
	Total New Trips					**4,126**	**2,930**	**7,047**		**4,569**	**3,477**	**8,047**

Note:
A - 34% Ave. Pass-by trips for shopping center (ITE 820, ITE Handbook)
B - Internal trips of 10% used (NCHRP 684) - lower than shown in NCHRP 684 or EPA Study

ITE Source: ITE Trip Generation Manual 10th Edition, 2017

TABLE 1, APPROVED PROJECT TRIP GENERATION

6. Project Trip Distribution

It is a common practice to distribution project trips based on existing model trip distribution from the TAZ(s) in a project area. However, the proposed project includes multiple new TAZs from two disjointed locations. The traditional method does not provide a reasonable means to represent the project trip distribution for this complex proposed project. Thus, ETG devised a new method to

represent project trips at each new project TAZ and account for internal trips among the project TAZs, while keeping their travel patterns consistent with the 2035 TIMP Model forecasts. The new method is outlined below:

i. Identify TAZ(s) in 2035 TIMP Model on which the new project trip travel patterns should be based
ii. Conduct a select zone analysis to extract a trip table from the selected TAZ(s)
iii. Adjust the select zone trip table to match the total in/outbound project trips
iv. Redistribute the adjusted select zone trip table to new project TAZs based on individual project TAZ in/outbound trips.

The resulting in/outbound AM/PM PH trip totals for new project TAZs are shown in Table 2.

TAZ	AM PH In	AM PH Out	PM PH In	PM PH Out	AM PH Tot	PM PH Tot
A	34	123	121	68	157	189
B	62	212	206	122	274	328
C	233	254	735	719	487	1,454
D	51	167	163	93	218	256
E	388	435	637	594	823	1,231
F	83	273	269	158	356	427
G	80	240	265	154	320	419
H	355	116	138	369	471	507
I	2,544	352	1,632	947	2,896	2,579
J	275	373	894	834	648	1,728
K	386	577	432	282	963	714
L	43	140	138	79	183	217
Checksum	4,534	3,262	5,630	4,419	7,796	10,049

TABLE 2, CALCULATED APPROVED PROJECT TRIPS BY TAZ

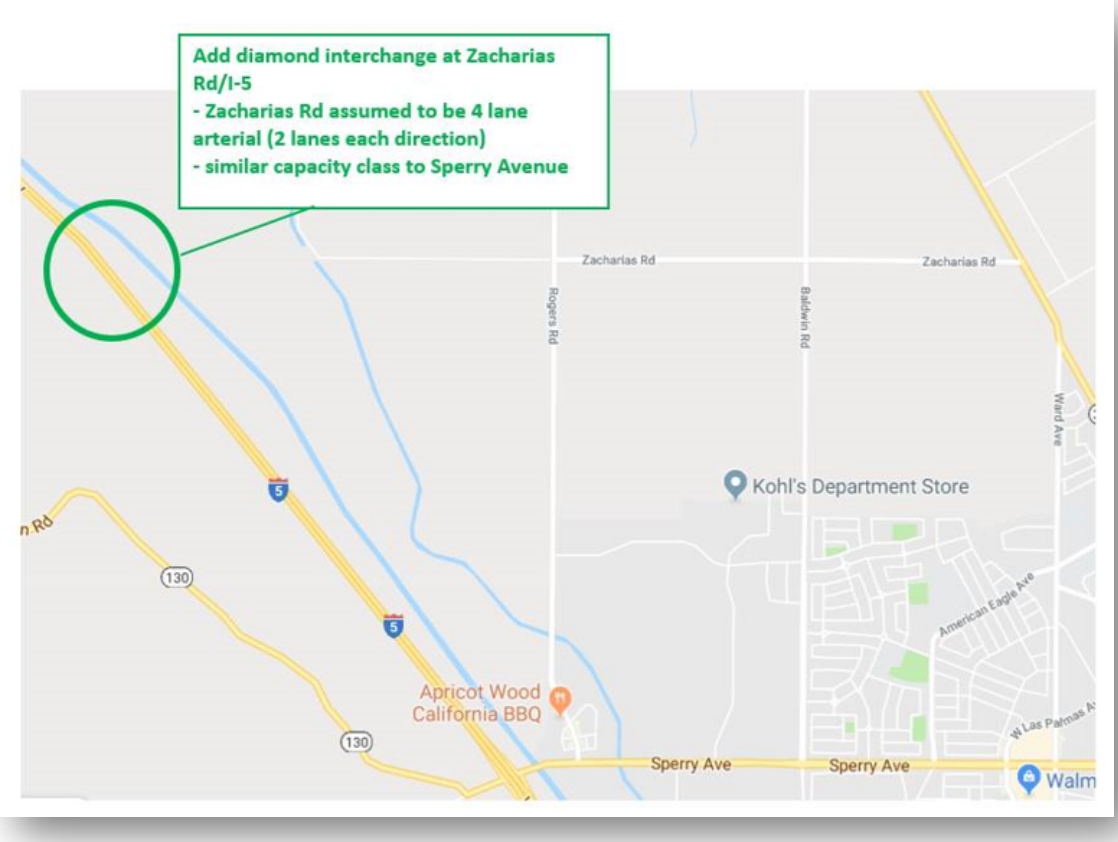
7. Project Trip Assignment

The approved and proposed project trips were assigned along with the original model trip tables to obtain AM/PM PH volumes for the following model scenarios:

i. 2012 + Approved Projects
ii. 2012 + Approved Projects + Proposed Project
iii. 2035 No Project
iv. 2035 Plus Project (with and without Zacharias Interchange)

Zacharias Interchange

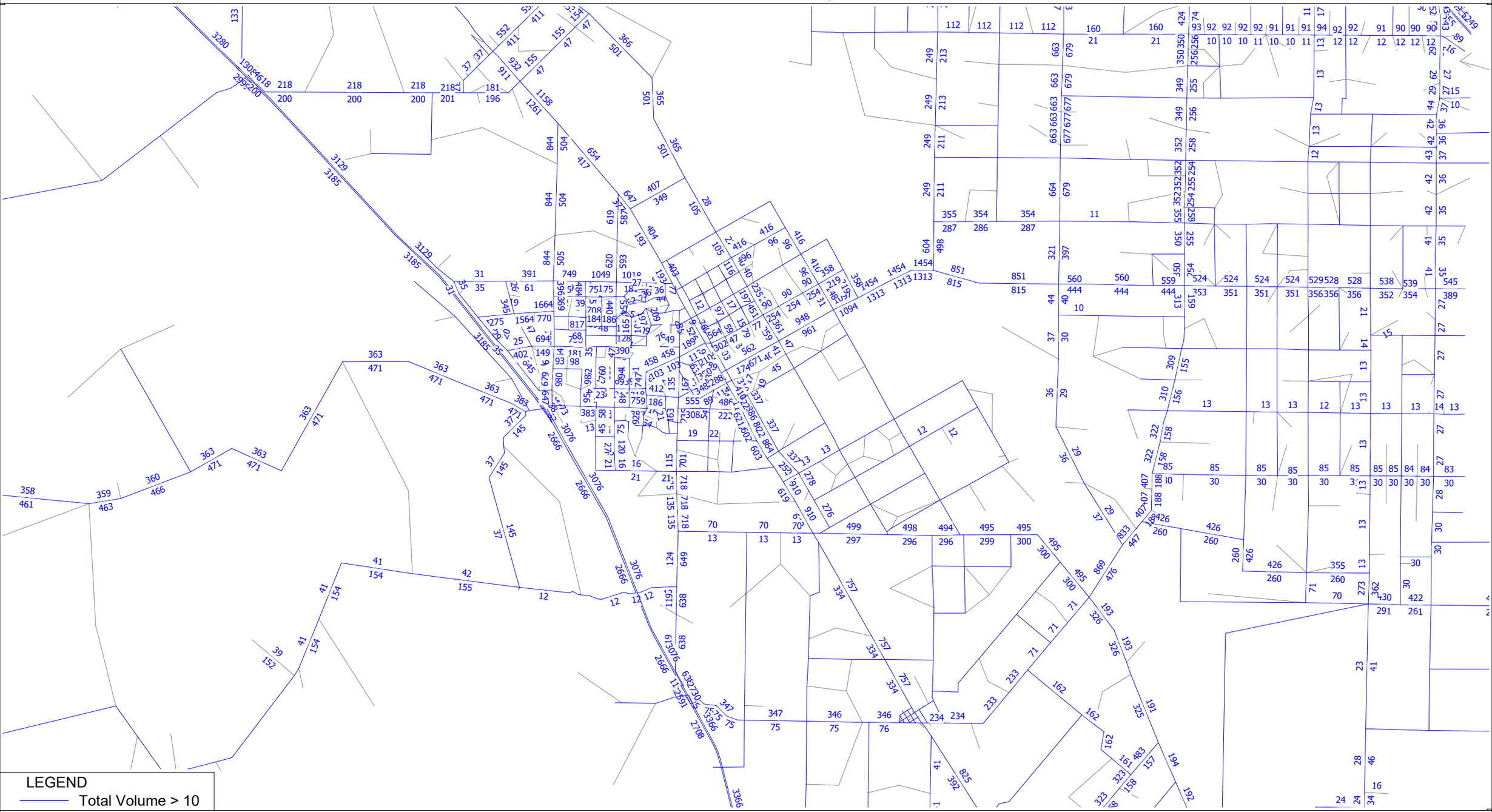
The new interchange at I-5/Zacharias was coded as a diamond interchange. The Zacharias Rd was assumed to be a 4-lane arterial and have similar capacity class as Sperry Ave.



8. Travel Demand Forecasts

The NCHRP 255 Difference Method was applied to calculate the travel demand forecasts for the existing conditions (2019) and the future cumulative conditions (2040). Average annual growth by inbound direction at study intersections and by direction at study segments were first calculated based on 2012 and 2035 TIMP Model forecasts. The total growth from the existing conditions (2019) to the future cumulative conditions (2040) were then added to the observed counts to obtain the forecasts for the existing conditions (2019) and the future cumulative conditions (2040).

2012 with Approved Projects Plus Proposed Project
AM PH Vehicle Trips



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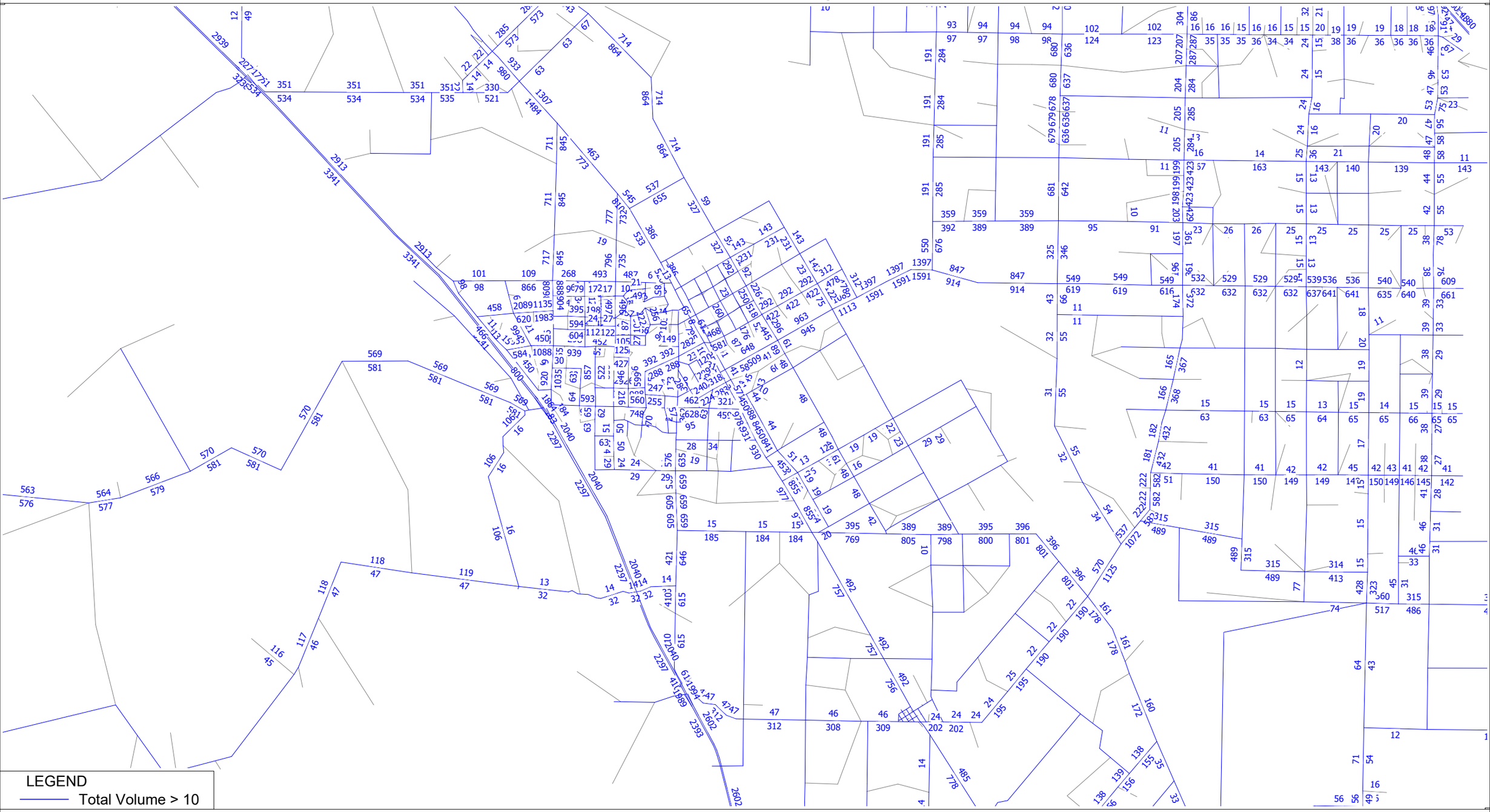
2012 with Approved Projects Plus Proposed Project
PM PH Vehicle Trips



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Appendix E INTERSECTION ANALYSIS: 2040 CUMULATIVE NO PROJECT CONDITIONS LOS CALCULATION SHEETS

Intersection	
Intersection Delay, s/veh	270.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	125	4	234	706	0	0	0	0	338	1	183
Future Vol, veh/h	0	125	4	234	706	0	0	0	0	338	1	183
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	1	20	20	17	0	0	0	0	20	20	17
Mvmt Flow	0	136	4	254	767	0	0	0	0	367	1	199
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	14.2	417	70.3
HCM LOS	B	F	F

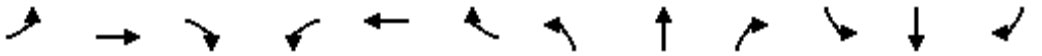
Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	25%	65%
Vol Thru, %	97%	75%	0%
Vol Right, %	3%	0%	35%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	129	940	522
LT Vol	0	234	338
Through Vol	125	706	1
RT Vol	4	0	183
Lane Flow Rate	140	1022	567
Geometry Grp	1	1	1
Degree of Util (X)	0.27	1.875	0.997
Departure Headway (Hd)	8.224	6.605	8.011
Convergence, Y/N	Yes	Yes	Yes
Cap	440	562	460
Service Time	6.224	4.605	6.011
HCM Lane V/C Ratio	0.318	1.819	1.233
HCM Control Delay	14.2	417	70.3
HCM Lane LOS	B	F	F
HCM 95th-tile Q	1.1	65.5	12.9

Intersection	
Intersection Delay, s/veh	419
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	403	0	0	917	545	23	7	90	0	0	0
Future Vol, veh/h	60	403	0	0	917	545	23	7	90	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	16	0	0	20	10	0	0	16	0	0	0
Mvmt Flow	65	438	0	0	997	592	25	8	98	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	24.9	577.1	13.5
HCM LOS	C	F	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	19%	13%	0%
Vol Thru, %	6%	87%	63%
Vol Right, %	75%	0%	37%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	120	463	1462
LT Vol	23	60	0
Through Vol	7	403	917
RT Vol	90	0	545
Lane Flow Rate	130	503	1589
Geometry Grp	1	1	1
Degree of Util (X)	0.225	0.729	2.244
Departure Headway (Hd)	8.157	6.454	5.083
Convergence, Y/N	Yes	Yes	Yes
Cap	443	564	731
Service Time	6.157	4.454	3.138
HCM Lane V/C Ratio	0.293	0.892	2.174
HCM Control Delay	13.5	24.9	577.1
HCM Lane LOS	B	C	F
HCM 95th-tile Q	0.9	6.1	114.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	173	214	76	1029	150	188	3	60	90	0	245
Future Volume (vph)	106	173	214	76	1029	150	188	3	60	90	0	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	3008	1583	1770	1652	1547	1770	1863	1583		1736	2632
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	3008	1583	1770	1652	1547	1770	1863	1583		1736	2632
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	115	188	233	83	1118	163	204	3	65	98	0	266
RTOR Reduction (vph)	0	0	110	0	0	48	0	0	56	0	0	121
Lane Group Flow (vph)	115	188	123	83	1118	115	204	3	9	0	98	145
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	9%	20%	2%	2%	15%	3%	2%	2%	2%	4%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pt+ov
Protected Phases	5	2		1	6		8	8		7	7	7 5
Permitted Phases			2			6			8			
Actuated Green, G (s)	8.5	73.5	73.5	11.2	74.2	74.2	19.7	19.7	19.7		13.4	21.9
Effective Green, g (s)	8.5	73.5	73.5	11.2	74.2	74.2	19.7	19.7	19.7		13.4	21.9
Actuated g/C Ratio	0.06	0.53	0.53	0.08	0.53	0.53	0.14	0.14	0.14		0.10	0.16
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	101	1587	835	142	879	824	250	263	223		166	413
v/s Ratio Prot	c0.07	0.06		0.05	c0.68		c0.12	0.00			c0.06	0.06
v/s Ratio Perm			0.08			0.07			0.01			
v/c Ratio	1.14	0.12	0.15	0.58	1.27	0.14	0.82	0.01	0.04		0.59	0.35
Uniform Delay, d1	65.4	16.6	16.8	61.8	32.6	16.4	58.0	51.4	51.6		60.3	52.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	131.7	0.1	0.2	6.0	131.3	0.1	18.2	0.0	0.1		5.5	0.5
Delay (s)	197.1	16.6	17.0	67.8	163.8	16.5	76.3	51.4	51.7		65.8	52.9
Level of Service	F	B	B	E	F	B	E	D	D		E	D
Approach Delay (s)		55.5			140.4			70.1			56.4	
Approach LOS		E			F			E			E	

Intersection Summary			
HCM 2000 Control Delay	102.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	139.3	Sum of lost time (s)	23.5
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	532	0	7	545	15	60	7	25	24	11	292
Future Volume (veh/h)	66	532	0	7	545	15	60	7	25	24	11	292
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1743	1900	1900	1827	1583	1900	1900	1900	1583	1593	1900
Adj Flow Rate, veh/h	72	578	0	8	592	16	65	8	27	26	12	317
Adj No. of Lanes	2	1	0	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	206	737	0	44	1268	485	227	121	408	472	16	415
Arrive On Green	0.07	0.42	0.00	0.01	0.37	0.37	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	2925	1743	0	3510	3471	1329	1068	382	1290	1163	50	1312
Grp Volume(v), veh/h	72	578	0	8	592	16	65	0	35	26	0	329
Grp Sat Flow(s),veh/h/ln	1463	1743	0	1755	1736	1329	1068	0	1672	1163	0	1362
Q Serve(g_s), s	1.4	16.9	0.0	0.1	7.7	0.5	3.5	0.0	0.9	0.9	0.0	12.9
Cycle Q Clear(g_c), s	1.4	16.9	0.0	0.1	7.7	0.5	16.4	0.0	0.9	1.8	0.0	12.9
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.77	1.00		0.96
Lane Grp Cap(c), veh/h	206	737	0	44	1268	485	227	0	529	472	0	430
V/C Ratio(X)	0.35	0.78	0.00	0.18	0.47	0.03	0.29	0.00	0.07	0.06	0.00	0.76
Avail Cap(c_a), veh/h	301	1098	0	356	2182	835	556	0	1045	831	0	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.2	14.7	0.0	28.9	14.4	12.1	25.6	0.0	14.1	14.8	0.0	18.3
Incr Delay (d2), s/veh	1.0	4.2	0.0	2.0	0.6	0.1	0.7	0.0	0.1	0.0	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	8.9	0.0	0.1	3.8	0.2	1.1	0.0	0.4	0.3	0.0	5.2
LnGrp Delay(d),s/veh	27.2	18.9	0.0	30.9	15.0	12.1	26.3	0.0	14.2	14.8	0.0	21.1
LnGrp LOS	C	B		C	B	B	C		B	B		C
Approach Vol, veh/h		650			616			100			355	
Approach Delay, s/veh		19.8			15.1			22.1			20.6	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	30.7		23.2	8.7	27.3		23.2
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		4.5
Max Green Setting (Gmax), s	6.8	37.3		37.0	6.1	37.2		37.0
Max Q Clear Time (g_c+I1), s	2.1	18.9		14.9	3.4	9.7		18.4
Green Ext Time (p_c), s	0.0	6.1		2.1	0.0	7.4		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	533	45	10	572	83	85	212	20	121	93	93
Future Volume (veh/h)	32	533	45	10	572	83	85	212	20	121	93	93
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1832	1900	1900	1792	1863	1900	1810	1900	1827	1881	1900
Adj Flow Rate, veh/h	35	579	49	11	622	90	92	230	22	132	101	101
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	4	0	0	6	2	0	5	5	4	0	2
Cap, veh/h	142	731	62	30	740	654	133	300	29	277	167	167
Arrive On Green	0.04	0.44	0.44	0.02	0.41	0.41	0.07	0.18	0.18	0.08	0.19	0.19
Sat Flow, veh/h	3312	1663	141	1810	1792	1583	1810	1626	156	3375	864	864
Grp Volume(v), veh/h	35	0	628	11	622	90	92	0	252	132	0	202
Grp Sat Flow(s),veh/h/ln	1656	0	1804	1810	1792	1583	1810	0	1782	1688	0	1729
Q Serve(g_s), s	0.7	0.0	20.0	0.4	20.8	2.4	3.3	0.0	9.0	2.5	0.0	7.1
Cycle Q Clear(g_c), s	0.7	0.0	20.0	0.4	20.8	2.4	3.3	0.0	9.0	2.5	0.0	7.1
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.09	1.00		0.50
Lane Grp Cap(c), veh/h	142	0	793	30	740	654	133	0	328	277	0	333
V/C Ratio(X)	0.25	0.00	0.79	0.37	0.84	0.14	0.69	0.00	0.77	0.48	0.00	0.61
Avail Cap(c_a), veh/h	298	0	872	163	866	765	163	0	722	319	0	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.9	0.0	16.1	32.4	17.6	12.2	30.1	0.0	25.8	29.2	0.0	24.6
Incr Delay (d2), s/veh	0.3	0.0	5.7	15.2	8.0	0.2	5.8	0.0	3.8	0.5	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	11.0	0.3	11.8	1.1	1.9	0.0	4.8	1.2	0.0	3.5
LnGrp Delay(d),s/veh	31.2	0.0	21.8	47.7	25.6	12.4	35.9	0.0	29.6	29.7	0.0	26.4
LnGrp LOS	C		C	D	C	B	D		C	C		C
Approach Vol, veh/h		663			723			344			334	
Approach Delay, s/veh		22.3			24.3			31.3			27.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	34.8	9.1	17.5	7.1	33.0	9.7	16.9
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	32.2	* 6	27.3	* 6	32.2	* 6.3	27.0
Max Q Clear Time (g_c+I1), s	2.4	22.0	5.3	9.1	2.7	22.8	4.5	11.0
Green Ext Time (p_c), s	0.0	4.6	0.0	1.0	0.0	4.7	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	25.4
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	666	32	36	480	50	41	94	57	80	81	105
Future Volume (veh/h)	79	666	32	36	480	50	41	94	57	80	81	105
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1842	1900	1845	1813	1900	1863	1886	1900	1881	1900	1900
Adj Flow Rate, veh/h	86	724	35	39	522	54	45	102	62	87	88	114
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	6	3	5	3	2	0	2	1	0	0
Cap, veh/h	184	1093	53	89	854	88	286	239	145	321	165	213
Arrive On Green	0.10	0.32	0.32	0.05	0.27	0.27	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1810	3395	164	1757	3151	325	1170	1087	661	1222	749	970
Grp Volume(v), veh/h	86	373	386	39	285	291	45	0	164	87	0	202
Grp Sat Flow(s),veh/h/ln	1810	1750	1808	1757	1722	1754	1170	0	1748	1222	0	1719
Q Serve(g_s), s	2.1	8.8	8.8	1.0	6.9	7.0	1.7	0.0	3.9	3.2	0.0	5.0
Cycle Q Clear(g_c), s	2.1	8.8	8.8	1.0	6.9	7.0	6.7	0.0	3.9	7.0	0.0	5.0
Prop In Lane	1.00		0.09	1.00		0.19	1.00		0.38	1.00		0.56
Lane Grp Cap(c), veh/h	184	564	582	89	467	476	286	0	384	321	0	378
V/C Ratio(X)	0.47	0.66	0.66	0.44	0.61	0.61	0.16	0.00	0.43	0.27	0.00	0.53
Avail Cap(c_a), veh/h	246	822	850	220	791	806	567	0	803	613	0	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	14.0	14.0	22.1	15.2	15.2	19.5	0.0	16.1	19.1	0.0	16.5
Incr Delay (d2), s/veh	1.8	1.9	1.8	3.4	1.8	1.8	0.3	0.0	0.8	0.5	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.5	4.7	0.6	3.5	3.6	0.6	0.0	1.9	1.1	0.0	2.5
LnGrp Delay(d),s/veh	22.1	15.9	15.8	25.4	17.1	17.1	19.7	0.0	16.8	19.5	0.0	17.7
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		845			615			209			289	
Approach Delay, s/veh		16.5			17.6			17.4			18.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	21.9		17.0	11.4	19.5		17.0
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	6.0	22.5		22.0	6.5	22.0		22.0
Max Q Clear Time (g_c+I1), s	3.0	10.8		9.0	4.1	9.0		8.7
Green Ext Time (p_c), s	0.0	4.6		1.2	0.0	3.8		0.9

Intersection Summary			
HCM 2010 Ctrl Delay		17.2	
HCM 2010 LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	486	17	81	301	76	31	153	159	118	97	31
Future Volume (veh/h)	109	486	17	81	301	76	31	153	159	118	97	31
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1818	1900	1792	1827	1845	1900	1827	1900	1900	1863	1776
Adj Flow Rate, veh/h	118	528	18	88	327	83	34	166	173	128	105	34
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	20	6	4	3	0	4	4	0	2	7
Cap, veh/h	151	835	28	119	754	336	75	226	235	162	603	480
Arrive On Green	0.08	0.25	0.25	0.07	0.22	0.22	0.04	0.28	0.28	0.09	0.32	0.32
Sat Flow, veh/h	1810	3405	116	1707	3471	1545	1810	820	855	1810	1863	1483
Grp Volume(v), veh/h	118	267	279	88	327	83	34	0	339	128	105	34
Grp Sat Flow(s),veh/h/ln	1810	1727	1795	1707	1736	1545	1810	0	1675	1810	1863	1483
Q Serve(g_s), s	4.5	9.8	9.8	3.6	5.8	3.1	1.3	0.0	13.0	4.9	2.9	1.1
Cycle Q Clear(g_c), s	4.5	9.8	9.8	3.6	5.8	3.1	1.3	0.0	13.0	4.9	2.9	1.1
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	151	423	440	119	754	336	75	0	461	162	603	480
V/C Ratio(X)	0.78	0.63	0.63	0.74	0.43	0.25	0.45	0.00	0.74	0.79	0.17	0.07
Avail Cap(c_a), veh/h	205	802	833	217	1612	717	177	0	806	169	889	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	23.8	23.8	32.2	23.9	22.9	33.1	0.0	23.3	31.5	17.1	16.5
Incr Delay (d2), s/veh	12.6	3.3	3.2	8.6	0.8	0.8	4.3	0.0	4.8	21.0	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.1	5.3	2.0	2.8	1.4	0.7	0.0	6.5	3.4	1.5	0.5
LnGrp Delay(d),s/veh	44.3	27.1	27.0	40.8	24.7	23.7	37.3	0.0	28.1	52.5	17.4	16.7
LnGrp LOS	D	C	C	D	C	C	D		C	D	B	B
Approach Vol, veh/h		664			498			373			267	
Approach Delay, s/veh		30.1			27.4			28.9			34.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	23.3	7.5	28.9	12.9	21.4	10.9	25.5
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	9.0	32.8	6.9	33.7	8.0	32.8	6.6	34.0
Max Q Clear Time (g_c+I1), s	5.6	11.8	3.3	4.9	6.5	7.8	6.9	15.0
Green Ext Time (p_c), s	0.0	5.5	0.0	1.3	0.0	4.3	0.0	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	29.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	243	25	6	189	14	67	100	19	4	44	129
Future Volume (veh/h)	179	243	25	6	189	14	67	100	19	4	44	129
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1818	1900	1900	1759	1900	1900	1886	1900	1900	1873	1900
Adj Flow Rate, veh/h	195	264	27	7	205	15	73	109	21	4	48	140
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	5	0	0	8	0	2	0	0	0	0	2
Cap, veh/h	659	1357	138	667	754	690	274	254	41	131	103	287
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1154	3165	321	1103	1759	1609	432	1060	172	13	431	1197
Grp Volume(v), veh/h	195	143	148	7	205	15	203	0	0	192	0	0
Grp Sat Flow(s),veh/h/ln	1154	1727	1760	1103	1759	1609	1664	0	0	1641	0	0
Q Serve(g_s), s	3.8	1.5	1.5	0.1	2.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.9	1.5	1.5	1.6	2.2	0.2	2.7	0.0	0.0	2.9	0.0	0.0
Prop In Lane	1.00		0.18	1.00		1.00	0.36		0.10	0.02		0.73
Lane Grp Cap(c), veh/h	659	740	755	667	754	690	570	0	0	521	0	0
V/C Ratio(X)	0.30	0.19	0.20	0.01	0.27	0.02	0.36	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	1187	1531	1560	1172	1560	1427	1546	0	0	1560	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.2	5.1	5.1	5.6	5.3	4.7	9.3	0.0	0.0	9.4	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.3	0.0	0.4	0.0	0.4	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.7	0.8	0.0	1.1	0.1	1.4	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	7.7	5.4	5.4	5.6	5.7	4.7	9.7	0.0	0.0	9.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A			A		
Approach Vol, veh/h		486			227			203			192	
Approach Delay, s/veh		6.3			5.6			9.7			9.8	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		16.9		11.8		16.9		11.8
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		25.4		25.1		25.4		25.1
Max Q Clear Time (g_c+I1), s		7.9		4.7		4.2		4.9
Green Ext Time (p_c), s		4.2		1.2		2.1		1.1

Intersection Summary		
HCM 2010 Ctrl Delay		7.4
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	337.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↱		↕			↰	↱
Traffic Vol, veh/h	106	124	47	23	84	32	89	600	37	32	393	263
Future Vol, veh/h	106	124	47	23	84	32	89	600	37	32	393	263
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	4	0	14	9	8	4	6	12	0	12	10
Mvmt Flow	115	135	51	25	91	35	97	652	40	35	427	286

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1427	1383	427	1456	1363	673	427	0	0	692	0	0
Stage 1	497	497	-	866	866	-	-	-	-	-	-	-
Stage 2	930	886	-	590	497	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.54	6.2	7.24	6.59	6.28	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.036	3.3	3.626	4.081	3.372	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 108	142	632	101	143	445	1122	-	-	912	-	0
Stage 1	540	541	-	332	361	-	-	-	-	-	-	0
Stage 2	310	360	-	474	533	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 31	~ 116	632	-	117	445	1122	-	-	912	-	-
Mov Cap-2 Maneuver	~ 31	~ 116	-	-	117	-	-	-	-	-	-	-
Stage 1	463	514	-	285	310	-	-	-	-	-	-	-
Stage 2	173	309	-	305	506	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	1906.3		1	0.7
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	1122	-	-	61	-	445	912	-
HCM Lane V/C Ratio	0.086	-	-	4.936	-	0.078	0.038	-
HCM Control Delay (s)	8.5	0	-	$ 1906.3	-	13.8	9.1	0
HCM Lane LOS	A	A	-	F	-	B	A	A
HCM 95th %tile Q(veh)	0.3	-	-	33.4	-	0.3	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	173	69	165	147	22	56	600	102	64	493	84
Future Volume (veh/h)	30	173	69	165	147	22	56	600	102	64	493	84
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1667	1667	1900	1597	1597	1900
Adj Flow Rate, veh/h	33	188	75	179	160	24	61	652	111	70	536	91
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	295	211	84	215	192	29	75	671	114	85	654	111
Arrive On Green	0.17	0.17	0.17	0.12	0.12	0.12	0.05	0.48	0.48	0.06	0.49	0.49
Sat Flow, veh/h	1774	1268	506	1774	1583	238	1587	1389	236	1521	1331	226
Grp Volume(v), veh/h	33	0	263	179	0	184	61	0	763	70	0	627
Grp Sat Flow(s),veh/h/ln	1774	0	1773	1774	0	1821	1587	0	1625	1521	0	1557
Q Serve(g_s), s	1.7	0.0	15.3	10.4	0.0	10.4	4.0	0.0	48.3	4.8	0.0	36.2
Cycle Q Clear(g_c), s	1.7	0.0	15.3	10.4	0.0	10.4	4.0	0.0	48.3	4.8	0.0	36.2
Prop In Lane	1.00		0.29	1.00		0.13	1.00		0.15	1.00		0.15
Lane Grp Cap(c), veh/h	295	0	295	215	0	221	75	0	785	85	0	766
V/C Ratio(X)	0.11	0.00	0.89	0.83	0.00	0.83	0.81	0.00	0.97	0.82	0.00	0.82
Avail Cap(c_a), veh/h	344	0	344	489	0	502	90	0	925	101	0	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.4	0.0	43.1	45.3	0.0	45.4	49.8	0.0	26.6	49.3	0.0	22.8
Incr Delay (d2), s/veh	0.1	0.0	20.2	3.2	0.0	3.1	30.3	0.0	20.6	30.4	0.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	9.2	5.3	0.0	5.5	2.4	0.0	26.1	2.7	0.0	16.4
LnGrp Delay(d),s/veh	37.5	0.0	63.3	48.5	0.0	48.5	80.1	0.0	47.2	79.7	0.0	27.3
LnGrp LOS	D		E	D		D	F		D	E		C
Approach Vol, veh/h		296			363			824			697	
Approach Delay, s/veh		60.4			48.5			49.6			32.5	
Approach LOS		E			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.7	9.9	55.9		18.0	9.0	56.8
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 21	7.0	60.1		29.1	6.0	61.1
Max Q Clear Time (g_c+I1), s		17.3	6.8	50.3		12.4	6.0	38.2
Green Ext Time (p_c), s		0.2	0.0	0.7		0.4	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	45.4
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	279	6	196	400	145	2	500	301	133	500	3
Future Volume (veh/h)	24	279	6	196	400	145	2	500	301	133	500	3
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1777	1900	1845	1743	1900	1827	1757	1900	1743	1881	1900
Adj Flow Rate, veh/h	26	303	7	213	435	158	2	543	327	145	543	3
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	7	3	3	9	0	4	1	20	9	1	4
Cap, veh/h	246	419	10	393	569	514	339	602	362	266	1377	8
Arrive On Green	0.03	0.24	0.24	0.11	0.33	0.33	0.00	0.30	0.30	0.08	0.38	0.38
Sat Flow, veh/h	1810	1729	40	1757	1743	1572	1740	2005	1206	1660	3644	20
Grp Volume(v), veh/h	26	0	310	213	435	158	2	452	418	145	266	280
Grp Sat Flow(s),veh/h/ln	1810	0	1769	1757	1743	1572	1740	1669	1542	1660	1787	1877
Q Serve(g_s), s	0.7	0.0	10.7	5.6	14.8	5.0	0.1	17.2	17.3	3.7	7.2	7.2
Cycle Q Clear(g_c), s	0.7	0.0	10.7	5.6	14.8	5.0	0.1	17.2	17.3	3.7	7.2	7.2
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.78	1.00		0.01
Lane Grp Cap(c), veh/h	246	0	428	393	569	514	339	501	463	266	675	709
V/C Ratio(X)	0.11	0.00	0.72	0.54	0.76	0.31	0.01	0.90	0.90	0.55	0.39	0.39
Avail Cap(c_a), veh/h	344	0	753	684	1083	977	545	614	567	292	675	709
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	23.1	15.8	20.0	16.7	16.2	22.3	22.3	16.0	15.1	15.1
Incr Delay (d2), s/veh	0.1	0.0	0.9	0.4	0.8	0.1	0.0	13.1	14.1	0.6	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	5.3	2.7	7.3	2.2	0.0	9.7	9.1	1.7	3.6	3.8
LnGrp Delay(d),s/veh	18.6	0.0	24.0	16.2	20.8	16.8	16.2	35.4	36.4	16.7	15.2	15.2
LnGrp LOS	B		C	B	C	B	B	D	D	B	B	B
Approach Vol, veh/h		336			806			872			691	
Approach Delay, s/veh		23.6			18.8			35.8			15.5	
Approach LOS		C			B			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	26.3	9.3	24.8	11.5	20.6	4.2	30.0
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.5	41.2	6.4	24.4	18.5	28.2	8.0	22.8
Max Q Clear Time (g_c+I1), s	2.7	16.8	5.7	19.3	7.6	12.7	2.1	9.2
Green Ext Time (p_c), s	0.0	0.4	0.0	0.6	0.0	0.3	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	24.0
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	46.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	37	26	15	53	138	25	620	7	101	550	10
Future Vol, veh/h	14	37	26	15	53	138	25	620	7	101	550	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	19	19	19
Mvmt Flow	15	40	28	16	58	150	27	674	8	110	598	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1654	1554	598	1590	1561	678	609	0	0	682	0	0
Stage 1	818	818	-	732	732	-	-	-	-	-	-	-
Stage 2	836	736	-	858	829	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.24	-	-	4.29	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.326	-	-	2.371	-	-
Pot Cap-1 Maneuver	78	113	502	87	112	452	914	-	-	836	-	-
Stage 1	370	390	-	413	427	-	-	-	-	-	-	-
Stage 2	362	425	-	352	385	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	20	86	502	43	85	452	914	-	-	836	-	-
Mov Cap-2 Maneuver	20	86	-	43	85	-	-	-	-	-	-	-
Stage 1	352	312	-	393	407	-	-	-	-	-	-	-
Stage 2	198	405	-	232	308	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	238.8	262.7	0.3	1.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	914	-	-	45	502	161	836	-	-
HCM Lane V/C Ratio	0.03	-	-	1.232	0.056	1.391	0.131	-	-
HCM Control Delay (s)	9.1	0	-$	354.1	12.6	262.7	10	0	-
HCM Lane LOS	A	A	-	F	B	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	5.3	0.2	13.9	0.5	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	23	29	8	55	5	21	1	5	2	1	0
Future Vol, veh/h	2	23	29	8	55	5	21	1	5	2	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	20	20	10	0	20	0	20	0	20	0
Mvmt Flow	2	25	32	9	60	5	23	1	5	2	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	65	0	0	57	0	0	126	128	42	130	142	63
Stage 1	-	-	-	-	-	-	45	45	-	81	81	-
Stage 2	-	-	-	-	-	-	81	83	-	49	61	-
Critical Hdwy	4.1	-	-	4.3	-	-	7.3	6.5	6.4	7.1	6.7	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.5	-	6.1	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.5	-	6.1	5.7	-
Follow-up Hdwy	2.2	-	-	2.38	-	-	3.68	4	3.48	3.5	4.18	3.3
Pot Cap-1 Maneuver	1550	-	-	1440	-	-	808	766	980	847	717	1007
Stage 1	-	-	-	-	-	-	925	861	-	932	794	-
Stage 2	-	-	-	-	-	-	885	830	-	969	810	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1550	-	-	1440	-	-	802	761	979	836	712	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	802	761	-	836	712	-
Stage 1	-	-	-	-	-	-	924	860	-	931	789	-
Stage 2	-	-	-	-	-	-	878	825	-	960	809	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.9	9.4	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	802	934	1550	-	-	1440	-	-	790
HCM Lane V/C Ratio	0.028	0.007	0.001	-	-	0.006	-	-	0.004
HCM Control Delay (s)	9.6	8.9	7.3	-	-	7.5	-	-	9.6
HCM Lane LOS	A	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	35	43	16	14	14	19	47	28	32	300	7
Future Vol, veh/h	23	35	43	16	14	14	19	47	28	32	300	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	0	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	20	0	14	0	2	20	9	7	0
Mvmt Flow	25	38	47	17	15	15	21	51	30	35	326	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	523	523	330	536	497	51	334	0	0	81	0	0
Stage 1	400	400	-	93	93	-	-	-	-	-	-	-
Stage 2	123	123	-	443	404	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.3	6.5	6.34	4.1	-	-	4.19	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.68	4	3.426	2.2	-	-	2.281	-	-
Pot Cap-1 Maneuver	465	459	712	429	477	984	1237	-	-	1473	-	-
Stage 1	626	602	-	871	822	-	-	-	-	-	-	-
Stage 2	881	794	-	560	603	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	432	440	712	363	457	984	1237	-	-	1473	-	-
Mov Cap-2 Maneuver	432	440	-	363	457	-	-	-	-	-	-	-
Stage 1	615	588	-	855	807	-	-	-	-	-	-	-
Stage 2	836	780	-	478	589	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	12.3	1.6	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1237	-	-	523	363	984	1473	-	-
HCM Lane V/C Ratio	0.017	-	-	0.21	0.048	0.015	0.024	-	-
HCM Control Delay (s)	8	0	-	13.7	15.4	8.7	7.5	-	-
HCM Lane LOS	A	A	-	B	C	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.1	0	0.1	-	-

Intersection	
Int Delay, s/veh	12.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	37	1	290	100	10	0	46	18	16	87	7
Future Vol, veh/h	15	37	1	290	100	10	0	46	18	16	87	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	2	2	2	19	19	19	16	16	16
Mvmt Flow	16	40	1	315	109	11	0	50	20	17	95	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	253	203	99	214	197	60	103	0	0	70	0	0
Stage 1	133	133	-	60	60	-	-	-	-	-	-	-
Stage 2	120	70	-	154	137	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.29	-	-	4.26	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.371	-	-	2.344	-	-
Pot Cap-1 Maneuver	694	688	949	743	699	1005	1389	-	-	1446	-	-
Stage 1	863	781	-	951	845	-	-	-	-	-	-	-
Stage 2	877	831	-	848	783	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	598	680	949	702	691	1005	1389	-	-	1446	-	-
Mov Cap-2 Maneuver	598	680	-	702	691	-	-	-	-	-	-	-
Stage 1	863	772	-	951	845	-	-	-	-	-	-	-
Stage 2	756	831	-	793	774	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	18	0	1.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1389	-	-	658	705	1446	-	-
HCM Lane V/C Ratio	-	-	-	0.088	0.617	0.012	-	-
HCM Control Delay (s)	0	-	-	11	18	7.5	0	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	4.3	0	-	-

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	20	9	27	271	4	188	87	38	2	43	10
Future Vol, veh/h	2	20	9	27	271	4	188	87	38	2	43	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	5	5	5	2	2	2	5	5	5	18	18	18
Mvmt Flow	2	22	10	29	295	4	204	95	41	2	47	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	12.3	12.6	9.2
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	60%	6%	9%	4%
Vol Thru, %	28%	65%	90%	78%
Vol Right, %	12%	29%	1%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	313	31	302	55
LT Vol	188	2	27	2
Through Vol	87	20	271	43
RT Vol	38	9	4	10
Lane Flow Rate	340	34	328	60
Geometry Grp	1	1	1	1
Degree of Util (X)	0.475	0.051	0.456	0.093
Departure Headway (Hd)	5.029	5.413	5.003	5.594
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	711	665	712	644
Service Time	3.111	3.417	3.084	3.596
HCM Lane V/C Ratio	0.478	0.051	0.461	0.093
HCM Control Delay	12.6	8.7	12.3	9.2
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	2.6	0.2	2.4	0.3

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	111	295	618	688	7
Future Vol, veh/h	0	111	295	618	688	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	0	121	321	672	748	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2066	752	756	0	-	0
Stage 1	752	-	-	-	-	-
Stage 2	1314	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	59	405	795	-	-	-
Stage 1	460	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	21	405	795	-	-	-
Mov Cap-2 Maneuver	21	-	-	-	-	-
Stage 1	164	-	-	-	-	-
Stage 2	248	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	4.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	795	-	405	-	-
HCM Lane V/C Ratio	0.403	-	0.298	-	-
HCM Control Delay (s)	12.6	0	17.6	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	2	-	1.2	-	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	77	7	3	769	650	202
Future Vol, veh/h	77	7	3	769	650	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	8	14	14	19	19
Mvmt Flow	84	8	3	836	707	220

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1659	817	927	0	-	0
Stage 1	817	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Critical Hdwy	6.48	6.28	4.24	-	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.326	-	-	-
Pot Cap-1 Maneuver	104	367	690	-	-	-
Stage 1	424	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	103	367	690	-	-	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	421	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	116.5	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	690	-	110	-	-
HCM Lane V/C Ratio	0.005	-	0.83	-	-
HCM Control Delay (s)	10.2	0	116.5	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	4.8	-	-

Intersection	
Int Delay, s/veh	23

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	72	82	831	15	19	780
Future Vol, veh/h	72	82	831	15	19	780
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	20	20	16	16	17	17
Mvmt Flow	78	89	903	16	21	848

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1801	911	0	0	919	0
Stage 1	911	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Critical Hdwy	6.6	6.4	-	-	4.27	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.68	3.48	-	-	2.353	-
Pot Cap-1 Maneuver	79	308	-	-	684	-
Stage 1	364	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 74	308	-	-	684	-
Mov Cap-2 Maneuver	~ 74	-	-	-	-	-
Stage 1	364	-	-	-	-	-
Stage 2	351	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	267.2	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	124	684	-
HCM Lane V/C Ratio	-	-	1.35	0.03	-
HCM Control Delay (s)	-	-	267.2	10.4	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	11.1	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	87	50	2	628	600	83
Future Vol, veh/h	87	50	2	628	600	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	95	54	2	683	652	90

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1384	697	742	0	-	0
Stage 1	697	-	-	-	-	-
Stage 2	687	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	156	436	805	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	155	436	805	-	-	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	487	-	-	-	-	-
Stage 2	494	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	60	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	805	-	203	-	-
HCM Lane V/C Ratio	0.003	-	0.734	-	-
HCM Control Delay (s)	9.5	0	60	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	4.8	-	-

Intersection	
Int Delay, s/veh	142.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	590	97	6	680	287	40
Future Vol, veh/h	590	97	6	680	287	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	17	17	16	16	19	19
Mvmt Flow	641	105	7	739	312	43

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	746	0	1447	694
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	753	-
Critical Hdwy	-	-	4.26	-	6.59	6.39
Critical Hdwy Stg 1	-	-	-	-	5.59	-
Critical Hdwy Stg 2	-	-	-	-	5.59	-
Follow-up Hdwy	-	-	2.344	-	3.671	3.471
Pot Cap-1 Maneuver	-	-	802	-	~ 133	415
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	436	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	802	-	~ 131	415
Mov Cap-2 Maneuver	-	-	-	-	~ 131	-
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	429	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	$ 738.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	143	-	-	802	-
HCM Lane V/C Ratio	2.486	-	-	0.008	-
HCM Control Delay (s)	$ 738.4	-	-	9.5	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	30.9	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	42	30	0	131	7	74	285	0	0	255	21
Future Vol, veh/h	17	42	30	0	131	7	74	285	0	0	255	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	20	20	20	20	20	2	2	2	2	2	2
Mvmt Flow	18	46	33	0	142	8	80	310	0	0	277	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	834	759	289	798	770	310	300	0	0	310	0	0
Stage 1	289	289	-	470	470	-	-	-	-	-	-	-
Stage 2	545	470	-	328	300	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.3	6.7	6.4	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.68	4.18	3.48	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	268	316	709	284	311	690	1261	-	-	1250	-	-
Stage 1	681	642	-	541	531	-	-	-	-	-	-	-
Stage 2	492	531	-	649	634	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	153	292	709	225	287	690	1261	-	-	1250	-	-
Mov Cap-2 Maneuver	153	292	-	225	287	-	-	-	-	-	-	-
Stage 1	629	642	-	499	490	-	-	-	-	-	-	-
Stage 2	319	490	-	575	634	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.7	29	1.7	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1261	-	-	299	296	1250	-	-
HCM Lane V/C Ratio	0.064	-	-	0.324	0.507	-	-	-
HCM Control Delay (s)	8	0	-	22.7	29	0	-	-
HCM Lane LOS	A	A	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.4	2.7	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	8	70	1	4	0	108	215	8	1	20	1
Future Vol, veh/h	8	8	70	1	4	0	108	215	8	1	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	20	20	20	20	20	2	2	2	2	2	2
Mvmt Flow	9	9	76	1	4	0	117	234	9	1	22	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	500	502	23	540	498	239	23	0	0	243	0	0
Stage 1	25	25	-	473	473	-	-	-	-	-	-	-
Stage 2	475	477	-	67	25	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.3	6.7	6.4	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.68	4.18	3.48	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	453	446	1004	426	449	758	1592	-	-	1323	-	-
Stage 1	948	840	-	539	529	-	-	-	-	-	-	-
Stage 2	538	527	-	900	840	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	420	408	1004	362	410	758	1592	-	-	1323	-	-
Mov Cap-2 Maneuver	420	408	-	362	410	-	-	-	-	-	-	-
Stage 1	867	839	-	493	484	-	-	-	-	-	-	-
Stage 2	488	482	-	822	839	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	14.1	2.4	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1592	-	-	794	399	1323	-	-
HCM Lane V/C Ratio	0.074	-	-	0.118	0.014	0.001	-	-
HCM Control Delay (s)	7.4	0	-	10.1	14.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	528	8	11	403	44	12	120	216	41	27	11
Future Volume (veh/h)	14	528	8	11	403	44	12	120	216	41	27	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	15	574	9	12	438	48	13	130	235	45	29	12
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	31	642	10	23	534	59	29	154	279	77	358	148
Arrive On Green	0.02	0.37	0.37	0.02	0.37	0.37	0.02	0.26	0.26	0.04	0.29	0.29
Sat Flow, veh/h	1675	1727	27	1560	1451	159	1774	596	1077	1774	1253	518
Grp Volume(v), veh/h	15	0	583	12	0	486	13	0	365	45	0	41
Grp Sat Flow(s),veh/h/ln	1675	0	1754	1560	0	1610	1774	0	1673	1774	0	1771
Q Serve(g_s), s	0.6	0.0	19.7	0.5	0.0	17.2	0.5	0.0	13.0	1.6	0.0	1.1
Cycle Q Clear(g_c), s	0.6	0.0	19.7	0.5	0.0	17.2	0.5	0.0	13.0	1.6	0.0	1.1
Prop In Lane	1.00		0.02	1.00		0.10	1.00		0.64	1.00		0.29
Lane Grp Cap(c), veh/h	31	0	652	23	0	593	29	0	433	77	0	506
V/C Ratio(X)	0.49	0.00	0.89	0.51	0.00	0.82	0.45	0.00	0.84	0.59	0.00	0.08
Avail Cap(c_a), veh/h	133	0	764	124	0	701	141	0	611	141	0	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.6	0.0	18.6	30.8	0.0	18.0	30.7	0.0	22.1	29.6	0.0	16.4
Incr Delay (d2), s/veh	11.5	0.0	11.8	16.2	0.0	6.6	10.8	0.0	7.5	6.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	11.5	0.3	0.0	8.7	0.3	0.0	6.9	0.9	0.0	0.5
LnGrp Delay(d),s/veh	42.1	0.0	30.4	47.0	0.0	24.6	41.5	0.0	29.6	36.5	0.0	16.5
LnGrp LOS	D		C	D		C	D		C	D		B
Approach Vol, veh/h		598			498			378			86	
Approach Delay, s/veh		30.7			25.2			30.0			27.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	22.1	4.9	29.2	5.0	23.8	5.2	29.0
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	5.0	23.0	5.0	27.4	5.0	23.0	5.0	27.4
Max Q Clear Time (g_c+I1), s	3.6	15.0	2.5	21.7	2.5	3.1	2.6	19.2
Green Ext Time (p_c), s	0.0	1.3	0.0	1.7	0.0	0.1	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	28.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	440	4	14	472	49	16	16	42	119	12	15
Future Volume (veh/h)	2	440	4	14	472	49	16	16	42	119	12	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	478	4	15	513	53	17	17	46	129	13	16
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	5	731	6	30	637	66	147	76	147	356	19	23
Arrive On Green	0.00	0.42	0.42	0.02	0.44	0.44	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1675	1742	15	1560	1460	151	215	502	970	1219	129	152
Grp Volume(v), veh/h	2	0	482	15	0	566	80	0	0	158	0	0
Grp Sat Flow(s),veh/h/ln	1675	0	1757	1560	0	1611	1686	0	0	1500	0	0
Q Serve(g_s), s	0.0	0.0	8.3	0.4	0.0	11.6	0.0	0.0	0.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	8.3	0.4	0.0	11.6	1.6	0.0	0.0	3.6	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.09	0.21		0.57	0.82		0.10
Lane Grp Cap(c), veh/h	5	0	737	30	0	702	370	0	0	399	0	0
V/C Ratio(X)	0.43	0.00	0.65	0.50	0.00	0.81	0.22	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	220	0	1303	205	0	1195	1013	0	0	963	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	0.0	8.8	18.5	0.0	9.3	14.4	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	53.6	0.0	1.0	12.2	0.0	2.2	0.3	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	4.2	0.3	0.0	5.5	0.8	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	72.5	0.0	9.8	30.7	0.0	11.6	14.7	0.0	0.0	15.8	0.0	0.0
LnGrp LOS	E		A	C		B	B			B		
Approach Vol, veh/h		484			581			80			158	
Approach Delay, s/veh		10.1			12.1			14.7			15.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.5	4.7	21.8		11.5	4.1	22.4
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		21.2	5.0	28.2		21.2	5.0	28.2
Max Q Clear Time (g_c+I1), s		3.6	2.4	10.3		5.6	2.0	13.6
Green Ext Time (p_c), s		0.3	0.0	2.6		0.6	0.0	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	52.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	241	419	352	2	16	728
Future Vol, veh/h	241	419	352	2	16	728
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	11	14	14	2	2
Mvmt Flow	262	455	383	2	17	791

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	385	0	-	0	1363	384
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	979	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1126	-	-	-	163	~ 664
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	364	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1126	-	-	-	125	~ 664
Mov Cap-2 Maneuver	-	-	-	-	125	-
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	364	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	120.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1126	-	-	-	125	664
HCM Lane V/C Ratio	0.233	-	-	-	0.139	1.192
HCM Control Delay (s)	9.2	-	-	-	38.4	122.6
HCM Lane LOS	A	-	-	-	E	F
HCM 95th %tile Q(veh)	0.9	-	-	-	0.5	26.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	316	57	22	258	34	64	84	26	32	58	133
Future Volume (veh/h)	118	316	57	22	258	34	64	84	26	32	58	133
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1832	1900	1743	1820	1900	1863	1827	1900	1845	1836	1900
Adj Flow Rate, veh/h	128	343	62	24	280	37	70	91	28	35	63	145
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	2	9	5	0	2	4	4	3	0	5
Cap, veh/h	165	682	122	55	533	70	352	311	96	421	102	236
Arrive On Green	0.09	0.23	0.23	0.03	0.17	0.17	0.07	0.23	0.23	0.04	0.21	0.21
Sat Flow, veh/h	1810	2939	525	1660	3062	400	1774	1334	411	1757	493	1134
Grp Volume(v), veh/h	128	201	204	24	157	160	70	0	119	35	0	208
Grp Sat Flow(s),veh/h/ln	1810	1741	1723	1660	1729	1733	1774	0	1745	1757	0	1626
Q Serve(g_s), s	4.1	5.9	6.1	0.8	4.9	5.0	1.8	0.0	3.3	0.9	0.0	6.9
Cycle Q Clear(g_c), s	4.1	5.9	6.1	0.8	4.9	5.0	1.8	0.0	3.3	0.9	0.0	6.9
Prop In Lane	1.00		0.30	1.00		0.23	1.00		0.24	1.00		0.70
Lane Grp Cap(c), veh/h	165	404	400	55	301	301	352	0	406	421	0	338
V/C Ratio(X)	0.78	0.50	0.51	0.44	0.52	0.53	0.20	0.00	0.29	0.08	0.00	0.62
Avail Cap(c_a), veh/h	245	885	876	169	820	822	412	0	917	521	0	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.2	19.7	19.7	28.0	22.1	22.2	16.5	0.0	18.6	16.9	0.0	21.2
Incr Delay (d2), s/veh	8.7	1.6	1.7	5.4	2.4	2.5	0.3	0.0	0.6	0.1	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	3.0	3.1	0.5	2.5	2.6	0.9	0.0	1.7	0.4	0.0	3.3
LnGrp Delay(d),s/veh	34.9	21.3	21.4	33.4	24.5	24.7	16.7	0.0	19.2	16.9	0.0	23.8
LnGrp LOS	C	C	C	C	C	C	B		B	B		C
Approach Vol, veh/h		533			341			189			243	
Approach Delay, s/veh		24.6			25.2			18.3			22.8	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	20.2	10.6	19.3	12.4	16.8	9.1	20.7
Change Period (Y+Rc), s	7.0	6.5	6.5	* 7	7.0	6.5	6.5	7.0
Max Green Setting (Gmax), s	6.0	30.0	6.1	* 32	8.0	28.0	6.0	31.0
Max Q Clear Time (g_c+I1), s	2.8	8.1	3.8	8.9	6.1	7.0	2.9	5.3
Green Ext Time (p_c), s	0.0	3.8	0.0	1.8	0.1	2.8	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Notes

Intersection	
Intersection Delay, s/veh	528.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	26	15	145	325	472	28	541	398	380	527	9
Future Vol, veh/h	9	26	15	145	325	472	28	541	398	380	527	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	19	19	19	19	19	19
Mvmt Flow	10	28	16	158	353	513	30	588	433	413	573	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	30.4	492.6	564.1	553.7
HCM LOS	D	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	18%	15%	41%
Vol Thru, %	56%	52%	35%	58%
Vol Right, %	41%	30%	50%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	967	50	942	916
LT Vol	28	9	145	380
Through Vol	541	26	325	527
RT Vol	398	15	472	9
Lane Flow Rate	1051	54	1024	996
Geometry Grp	1	1	1	1
Degree of Util (X)	2.17	0.143	2.024	2.144
Departure Headway (Hd)	12.447	23.512	9.918	12.845
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	305	154	379	299
Service Time	10.447	21.512	7.918	10.845
HCM Lane V/C Ratio	3.446	0.351	2.702	3.331
HCM Control Delay	564.1	30.4	492.6	553.7
HCM Lane LOS	F	D	F	F
HCM 95th-tile Q	47.3	0.5	51.8	45.1

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	49	194	241	42	80	115
Future Vol, veh/h	49	194	241	42	80	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	211	262	46	87	125

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	584	285	0	0	308	0
Stage 1	285	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	474	754	-	-	1253	-
Stage 1	763	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	438	754	-	-	1253	-
Mov Cap-2 Maneuver	438	-	-	-	-	-
Stage 1	763	-	-	-	-	-
Stage 2	696	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	658	1253	-
HCM Lane V/C Ratio	-	-	0.401	0.069	-
HCM Control Delay (s)	-	-	14.1	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.9	0.2	-

Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	23	22	21	50	83	38	600	8	70	358	0
Future Vol, veh/h	0	23	22	21	50	83	38	600	8	70	358	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	0	25	24	23	54	90	41	652	9	76	389	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1352	1284	389	1305	1280	657	389	0	0	661	0	0
Stage 1	541	541	-	739	739	-	-	-	-	-	-	-
Stage 2	811	743	-	566	541	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.38	-	-	2.38	-	-
Pot Cap-1 Maneuver	127	165	659	137	166	465	1078	-	-	848	-	-
Stage 1	525	521	-	409	424	-	-	-	-	-	-	-
Stage 2	373	422	-	509	521	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	62	137	659	99	138	465	1078	-	-	848	-	-
Mov Cap-2 Maneuver	62	137	-	99	138	-	-	-	-	-	-	-
Stage 1	494	462	-	384	399	-	-	-	-	-	-	-
Stage 2	244	397	-	411	462	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.5	71.6	0.5	1.6
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1078	-	-	224	205	848	-	-
HCM Lane V/C Ratio	0.038	-	-	0.218	0.817	0.09	-	-
HCM Control Delay (s)	8.5	0	-	25.5	71.6	9.7	0	-
HCM Lane LOS	A	A	-	D	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	5.9	0.3	-	-

Intersection	
Intersection Delay, s/veh	346.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	38	51	393	507	107	56	450	47	29	251	24
Future Vol, veh/h	11	38	51	393	507	107	56	450	47	29	251	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	12	41	55	427	551	116	61	489	51	32	273	26
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	20	569	167.6	41
HCM LOS	C	F	F	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	11%	39%	10%
Vol Thru, %	81%	38%	50%	83%
Vol Right, %	8%	51%	11%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	553	100	1007	304
LT Vol	56	11	393	29
Through Vol	450	38	507	251
RT Vol	47	51	107	24
Lane Flow Rate	601	109	1095	330
Geometry Grp	1	1	1	1
Degree of Util (X)	1.257	0.26	2.209	0.731
Departure Headway (Hd)	10.469	12.592	7.883	11.769
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	355	288	471	311
Service Time	8.469	10.592	5.883	9.769
HCM Lane V/C Ratio	1.693	0.378	2.325	1.061
HCM Control Delay	167.6	20	569	41
HCM Lane LOS	F	C	F	E
HCM 95th-tile Q	19.4	1	74.1	5.4

Intersection	
Intersection Delay, s/veh	154.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	111	15	414	148	0	0	0	0	599	20	106
Future Vol, veh/h	0	111	15	414	148	0	0	0	0	599	20	106
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	4	0	14	0	0	0	0	0	20	4	2
Mvmt Flow	0	121	16	450	161	0	0	0	0	651	22	115
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	14.3	95.7	224.1
HCM LOS	B	F	F

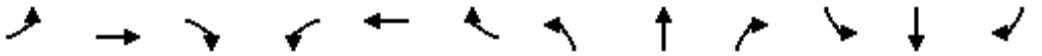
Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	74%	83%
Vol Thru, %	88%	26%	3%
Vol Right, %	12%	0%	15%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	126	562	725
LT Vol	0	414	599
Through Vol	111	148	20
RT Vol	15	0	106
Lane Flow Rate	137	611	788
Geometry Grp	1	1	1
Degree of Util (X)	0.266	1.093	1.431
Departure Headway (Hd)	8.297	7.504	6.782
Convergence, Y/N	Yes	Yes	Yes
Cap	436	489	544
Service Time	6.297	5.504	4.782
HCM Lane V/C Ratio	0.314	1.249	1.449
HCM Control Delay	14.3	95.7	224.1
HCM Lane LOS	B	F	F
HCM 95th-tile Q	1.1	17.1	36.4

Intersection	
Intersection Delay, s/veh	244.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	645	0	0	552	308	10	3	423	0	0	0
Future Vol, veh/h	65	645	0	0	552	308	10	3	423	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	8	0	0	10	20	0	20	20	0	0	0
Mvmt Flow	71	701	0	0	600	335	11	3	460	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	242.7	348.6	40.5
HCM LOS	F	F	E

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	2%	9%	0%
Vol Thru, %	1%	91%	64%
Vol Right, %	97%	0%	36%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	436	710	860
LT Vol	10	65	0
Through Vol	3	645	552
RT Vol	423	0	308
Lane Flow Rate	474	772	935
Geometry Grp	1	1	1
Degree of Util (X)	0.845	1.466	1.715
Departure Headway (Hd)	7.788	7.809	7.269
Convergence, Y/N	Yes	Yes	Yes
Cap	469	471	505
Service Time	5.788	5.809	5.269
HCM Lane V/C Ratio	1.011	1.639	1.851
HCM Control Delay	40.5	242.7	348.6
HCM Lane LOS	E	F	F
HCM 95th-tile Q	8.4	34.3	50.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	525	267	113	400	258	278	8	117	139	0	182
Future Volume (vph)	276	525	267	113	400	258	278	8	117	139	0	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	3282	1583	1770	1610	1583	1770	1863	1583		1787	2493
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	3282	1583	1770	1610	1583	1770	1863	1583		1787	2493
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	300	571	290	123	435	280	302	9	127	151	0	198
RTOR Reduction (vph)	0	0	188	0	0	204	0	0	100	0	0	146
Lane Group Flow (vph)	300	571	102	123	435	76	302	9	27	0	151	53
Heavy Vehicles (%)	9%	10%	2%	2%	18%	2%	2%	2%	2%	1%	2%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	16.5	32.6	32.6	10.9	25.0	25.0	19.4	19.4	19.4		8.0	24.5
Effective Green, g (s)	16.5	32.6	32.6	10.9	25.0	25.0	19.4	19.4	19.4		8.0	24.5
Actuated g/C Ratio	0.18	0.35	0.35	0.12	0.27	0.27	0.21	0.21	0.21		0.09	0.27
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	295	1157	558	208	435	428	371	391	332		154	661
v/s Ratio Prot	c0.18	0.17		0.07	c0.27		c0.17	0.00			c0.08	0.01
v/s Ratio Perm			0.06			0.05			0.02			0.01
v/c Ratio	1.02	0.49	0.18	0.59	1.00	0.18	0.81	0.02	0.08		0.98	0.08
Uniform Delay, d1	38.0	23.4	20.7	38.6	33.7	25.8	34.8	29.0	29.3		42.1	25.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	56.8	0.7	0.3	4.5	43.2	0.2	12.8	0.0	0.1		66.4	0.1
Delay (s)	94.7	24.1	21.0	43.1	76.9	26.0	47.6	29.0	29.4		108.5	25.5
Level of Service	F	C	C	D	E	C	D	C	C		F	C
Approach Delay (s)		41.6			54.9			41.9			61.4	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	48.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	92.4	Sum of lost time (s)	23.5
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	597	45	10	568	70	0	19	17	122	11	246
Future Volume (veh/h)	188	597	45	10	568	70	0	19	17	122	11	246
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1753	1900	1900	1827	1583	1900	1900	1900	1583	1595	1900
Adj Flow Rate, veh/h	204	649	49	11	617	76	0	21	18	133	12	267
Adj No. of Lanes	2	1	0	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	292	782	59	59	1396	541	117	245	210	397	15	338
Arrive On Green	0.10	0.49	0.49	0.02	0.40	0.40	0.00	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	2925	1610	122	3510	3471	1346	1118	946	811	1158	59	1306
Grp Volume(v), veh/h	204	0	698	11	617	76	0	0	39	133	0	279
Grp Sat Flow(s),veh/h/ln	1463	0	1732	1755	1736	1346	1118	0	1757	1158	0	1364
Q Serve(g_s), s	4.1	0.0	21.4	0.2	7.9	2.2	0.0	0.0	1.0	6.0	0.0	11.7
Cycle Q Clear(g_c), s	4.1	0.0	21.4	0.2	7.9	2.2	0.0	0.0	1.0	7.1	0.0	11.7
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.46	1.00		0.96
Lane Grp Cap(c), veh/h	292	0	841	59	1396	541	117	0	455	397	0	353
V/C Ratio(X)	0.70	0.00	0.83	0.19	0.44	0.14	0.00	0.00	0.09	0.33	0.00	0.79
Avail Cap(c_a), veh/h	442	0	1050	343	1919	744	500	0	1057	795	0	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.8	0.0	13.6	29.8	13.4	11.6	0.0	0.0	17.3	20.0	0.0	21.2
Incr Delay (d2), s/veh	3.0	0.0	6.2	1.5	0.5	0.3	0.0	0.0	0.1	0.5	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	11.5	0.1	3.9	0.8	0.0	0.0	0.5	2.0	0.0	4.8
LnGrp Delay(d),s/veh	29.8	0.0	19.8	31.3	13.8	11.9	0.0	0.0	17.4	20.5	0.0	25.2
LnGrp LOS	C		B	C	B	B			B	C		C
Approach Vol, veh/h		902			704			39			412	
Approach Delay, s/veh		22.1			13.9			17.4			23.7	
Approach LOS		C			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	35.6		20.4	10.6	30.4		20.4
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		4.5
Max Green Setting (Gmax), s	6.0	37.3		37.0	9.3	34.0		37.0
Max Q Clear Time (g_c+I1), s	2.2	23.4		13.7	6.1	9.9		3.0
Green Ext Time (p_c), s	0.0	6.5		2.2	0.2	7.9		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	551	143	11	571	57	88	15	12	73	173	56
Future Volume (veh/h)	98	551	143	11	571	57	88	15	12	73	173	56
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1856	1900	1743	1827	1900	1900	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	107	599	155	12	621	62	96	16	13	79	188	61
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	3	0	9	4	0	0	0	0	1	0	0
Cap, veh/h	251	695	180	29	793	701	126	172	140	226	239	77
Arrive On Green	0.07	0.49	0.49	0.02	0.43	0.43	0.07	0.18	0.18	0.07	0.17	0.17
Sat Flow, veh/h	3476	1423	368	1660	1827	1615	1810	965	784	3476	1375	446
Grp Volume(v), veh/h	107	0	754	12	621	62	96	0	29	79	0	249
Grp Sat Flow(s),veh/h/ln	1738	0	1791	1660	1827	1615	1810	0	1749	1738	0	1821
Q Serve(g_s), s	2.2	0.0	27.5	0.5	21.5	1.7	3.9	0.0	1.0	1.6	0.0	9.7
Cycle Q Clear(g_c), s	2.2	0.0	27.5	0.5	21.5	1.7	3.9	0.0	1.0	1.6	0.0	9.7
Prop In Lane	1.00		0.21	1.00		1.00	1.00		0.45	1.00		0.24
Lane Grp Cap(c), veh/h	251	0	875	29	793	701	126	0	312	226	0	316
V/C Ratio(X)	0.43	0.00	0.86	0.41	0.78	0.09	0.76	0.00	0.09	0.35	0.00	0.79
Avail Cap(c_a), veh/h	282	0	1019	135	1040	919	157	0	641	296	0	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.8	0.0	16.7	35.9	17.9	12.3	33.8	0.0	25.4	33.1	0.0	29.2
Incr Delay (d2), s/veh	0.4	0.0	8.2	18.2	4.4	0.1	11.7	0.0	0.1	0.3	0.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	15.4	0.4	11.7	0.8	2.3	0.0	0.5	0.8	0.0	5.2
LnGrp Delay(d),s/veh	33.3	0.0	24.9	54.2	22.4	12.4	45.5	0.0	25.5	33.4	0.0	33.6
LnGrp LOS	C		C	D	C	B	D		C	C		C
Approach Vol, veh/h		861			695			125			328	
Approach Delay, s/veh		25.9			22.0			40.9			33.6	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	41.6	9.4	17.4	9.5	37.6	9.0	17.8
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	42.1	* 6.4	27.0	* 6	42.1	* 6.3	27.1
Max Q Clear Time (g_c+I1), s	2.5	29.5	5.9	11.7	4.2	23.5	3.6	3.0
Green Ext Time (p_c), s	0.0	6.6	0.0	1.2	0.0	7.2	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	558	34	75	607	80	10	32	22	38	28	35
Future Volume (veh/h)	88	558	34	75	607	80	10	32	22	38	28	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1848	1900	1900	1847	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	96	607	37	82	660	87	11	35	24	41	30	38
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0	0	3	2	0	0	0	0	0	0
Cap, veh/h	173	1170	71	158	1059	139	264	112	77	273	81	103
Arrive On Green	0.10	0.35	0.35	0.09	0.34	0.34	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1810	3362	205	1810	3118	410	1348	1050	720	1359	761	964
Grp Volume(v), veh/h	96	317	327	82	371	376	11	0	59	41	0	68
Grp Sat Flow(s),veh/h/ln	1810	1755	1812	1810	1754	1774	1348	0	1769	1359	0	1725
Q Serve(g_s), s	2.2	6.1	6.1	1.8	7.5	7.6	0.3	0.0	1.3	1.2	0.0	1.6
Cycle Q Clear(g_c), s	2.2	6.1	6.1	1.8	7.5	7.6	1.9	0.0	1.3	2.5	0.0	1.6
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.41	1.00		0.56
Lane Grp Cap(c), veh/h	173	611	630	158	596	603	264	0	189	273	0	185
V/C Ratio(X)	0.55	0.52	0.52	0.52	0.62	0.62	0.04	0.00	0.31	0.15	0.00	0.37
Avail Cap(c_a), veh/h	276	820	846	365	906	916	816	0	913	829	0	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	11.1	11.1	18.6	11.8	11.8	18.6	0.0	17.6	18.8	0.0	17.7
Incr Delay (d2), s/veh	2.8	1.0	0.9	2.6	1.5	1.5	0.1	0.0	0.9	0.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.1	3.2	1.0	3.9	3.9	0.1	0.0	0.7	0.5	0.0	0.8
LnGrp Delay(d),s/veh	21.2	12.0	12.0	21.2	13.3	13.3	18.6	0.0	18.5	19.0	0.0	18.9
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		740			829			70			109	
Approach Delay, s/veh		13.2			14.1			18.5			18.9	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.2	21.3		11.1	10.6	21.0		11.1
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	8.6	19.9		22.0	6.5	22.0		22.0
Max Q Clear Time (g_c+I1), s	3.8	8.1		4.5	4.2	9.6		3.9
Green Ext Time (p_c), s	0.1	3.9		0.4	0.0	4.9		0.2

Intersection Summary		
HCM 2010 Ctrl Delay	14.2	
HCM 2010 LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	377	49	243	384	120	29	107	82	154	372	58
Future Volume (veh/h)	142	377	49	243	384	120	29	107	82	154	372	58
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1841	1900	1881	1845	1900	1845	1873	1900	1881	1900	1900
Adj Flow Rate, veh/h	154	410	53	264	417	130	32	116	89	167	404	63
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	5	1	3	0	3	1	2	1	0	0
Cap, veh/h	190	606	78	312	871	399	69	222	170	179	546	451
Arrive On Green	0.11	0.19	0.19	0.17	0.25	0.25	0.04	0.23	0.23	0.10	0.29	0.29
Sat Flow, veh/h	1774	3111	400	1792	3505	1605	1757	978	750	1792	1900	1570
Grp Volume(v), veh/h	154	229	234	264	417	130	32	0	205	167	404	63
Grp Sat Flow(s),veh/h/ln	1774	1749	1762	1792	1752	1605	1757	0	1728	1792	1900	1570
Q Serve(g_s), s	6.3	9.0	9.1	10.6	7.5	4.9	1.3	0.0	7.7	6.9	14.3	2.2
Cycle Q Clear(g_c), s	6.3	9.0	9.1	10.6	7.5	4.9	1.3	0.0	7.7	6.9	14.3	2.2
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	190	341	343	312	871	399	69	0	392	179	546	451
V/C Ratio(X)	0.81	0.67	0.68	0.85	0.48	0.33	0.47	0.00	0.52	0.94	0.74	0.14
Avail Cap(c_a), veh/h	191	518	522	458	1510	692	144	0	791	179	903	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	27.7	27.8	29.7	23.8	22.8	34.9	0.0	25.2	33.2	23.9	19.6
Incr Delay (d2), s/veh	22.3	4.9	5.0	9.3	0.9	1.0	4.9	0.0	2.3	48.9	4.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	4.8	4.9	6.0	3.8	2.3	0.7	0.0	4.0	5.8	8.2	1.0
LnGrp Delay(d),s/veh	54.7	32.6	32.7	39.0	24.7	23.8	39.8	0.0	27.5	82.1	28.1	19.9
LnGrp LOS	D	C	C	D	C	C	D		C	F	C	B
Approach Vol, veh/h		617			811			237			634	
Approach Delay, s/veh		38.2			29.2			29.1			41.5	
Approach LOS		D			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.9	20.5	7.5	27.4	15.0	24.5	12.0	22.9
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	12.9	22.0	6.1	35.3	8.0	32.0	7.4	34.0
Max Q Clear Time (g_c+I1), s	12.6	11.1	3.3	16.3	8.3	9.5	8.9	9.7
Green Ext Time (p_c), s	0.4	3.2	0.0	4.7	0.0	5.6	0.0	2.2

Intersection Summary		
HCM 2010 Ctrl Delay	35.0	
HCM 2010 LOS	D	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	281	63	23	364	15	39	38	6	3	59	148
Future Volume (veh/h)	157	281	63	23	364	15	39	38	6	3	59	148
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1811	1900	1900	1827	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	171	305	68	25	396	16	42	41	7	3	64	161
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	6	0	0	4	0	0	0	0	0	0	0
Cap, veh/h	565	1370	301	657	892	787	280	223	29	114	106	260
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	988	2805	616	1024	1827	1612	535	1019	131	8	487	1189
Grp Volume(v), veh/h	171	185	188	25	396	16	90	0	0	228	0	0
Grp Sat Flow(s),veh/h/ln	988	1721	1701	1024	1827	1612	1685	0	0	1684	0	0
Q Serve(g_s), s	4.4	2.0	2.1	0.5	4.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.0	2.0	2.1	2.5	4.6	0.2	1.3	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.36	1.00		1.00	0.47		0.08	0.01		0.71
Lane Grp Cap(c), veh/h	565	840	831	657	892	787	531	0	0	480	0	0
V/C Ratio(X)	0.30	0.22	0.23	0.04	0.44	0.02	0.17	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	887	1401	1385	991	1488	1313	1296	0	0	1362	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.4	4.8	4.8	5.5	5.4	4.3	10.4	0.0	0.0	11.4	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.3	0.3	0.1	0.7	0.0	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.0	1.0	0.1	2.4	0.1	0.7	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	9.0	5.0	5.1	5.5	6.2	4.3	10.5	0.0	0.0	12.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B			B		
Approach Vol, veh/h		544			437			90			228	
Approach Delay, s/veh		6.3			6.1			10.5			12.2	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		20.4		12.0		20.4		12.0
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		26.4		24.1		26.4		24.1
Max Q Clear Time (g_c+I1), s		11.0		3.3		6.6		6.0
Green Ext Time (p_c), s		4.8		0.4		4.5		1.3

Intersection Summary		
HCM 2010 Ctrl Delay		7.5
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	419.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	158	109	127	15	54	6	111	350	48	19	660	175
Future Vol, veh/h	158	109	127	15	54	6	111	350	48	19	660	175
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	4	6	0	2	0	6	3	7	16	5	4
Mvmt Flow	172	118	138	16	59	7	121	380	52	21	717	190

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1440	1433	717	1535	1407	406	717	0	0	432	0	0
Stage 1	759	759	-	648	648	-	-	-	-	-	-	-
Stage 2	681	674	-	887	759	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.54	6.26	7.1	6.52	6.2	4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.036	3.354	3.5	4.018	3.3	2.254	-	-	2.344	-	-
Pot Cap-1 Maneuver	~ 108	133	423	96	139	649	866	-	-	1057	-	0
Stage 1	393	412	-	462	466	-	-	-	-	-	-	0
Stage 2	434	451	-	341	415	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 53	~ 105	423	-	110	649	866	-	-	1057	-	-
Mov Cap-2 Maneuver	~ 53	~ 105	-	-	110	-	-	-	-	-	-	-
Stage 1	320	398	-	377	380	-	-	-	-	-	-	-
Stage 2	296	368	-	156	401	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	1761.1		2.1	0.2
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	866	-	-	91	-	649	1057	-
HCM Lane V/C Ratio	0.139	-	-	4.706	-	0.01	0.02	-
HCM Control Delay (s)	9.8	0	-	$ 1761.1	-	10.6	8.5	0
HCM Lane LOS	A	A	-	F	-	B	A	A
HCM 95th %tile Q(veh)	0.5	-	-	45.7	-	0	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	93	61	74	83	12	28	454	62	57	763	13
Future Volume (veh/h)	13	93	61	74	83	12	28	454	62	57	763	13
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1583	1583	1900	1583	1583	1900
Adj Flow Rate, veh/h	14	101	66	80	90	13	30	493	67	62	829	14
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	206	122	80	160	144	21	54	725	99	80	852	14
Arrive On Green	0.12	0.12	0.12	0.09	0.09	0.09	0.04	0.53	0.53	0.05	0.55	0.55
Sat Flow, veh/h	1774	1053	688	1774	1592	230	1508	1365	186	1508	1552	26
Grp Volume(v), veh/h	14	0	167	80	0	103	30	0	560	62	0	843
Grp Sat Flow(s),veh/h/ln	1774	0	1741	1774	0	1822	1508	0	1551	1508	0	1579
Q Serve(g_s), s	0.6	0.0	8.2	3.8	0.0	4.8	1.7	0.0	23.2	3.6	0.0	45.3
Cycle Q Clear(g_c), s	0.6	0.0	8.2	3.8	0.0	4.8	1.7	0.0	23.2	3.6	0.0	45.3
Prop In Lane	1.00		0.40	1.00		0.13	1.00		0.12	1.00		0.02
Lane Grp Cap(c), veh/h	206	0	202	160	0	164	54	0	824	80	0	867
V/C Ratio(X)	0.07	0.00	0.82	0.50	0.00	0.63	0.56	0.00	0.68	0.77	0.00	0.97
Avail Cap(c_a), veh/h	263	0	258	591	0	607	103	0	1276	213	0	1415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.5	0.0	37.8	38.0	0.0	38.4	41.6	0.0	15.1	40.9	0.0	19.1
Incr Delay (d2), s/veh	0.1	0.0	12.6	0.9	0.0	1.5	3.4	0.0	0.4	5.7	0.0	10.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	4.7	1.9	0.0	2.5	0.8	0.0	9.9	1.6	0.0	21.9
LnGrp Delay(d),s/veh	34.5	0.0	50.4	38.8	0.0	39.9	44.9	0.0	15.4	46.6	0.0	29.4
LnGrp LOS	C		D	D		D	D		B	D		C
Approach Vol, veh/h		181			183			590			905	
Approach Delay, s/veh		49.2			39.4			16.9			30.6	
Approach LOS		D			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		14.4	8.7	51.4		13.1	7.1	53.0
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 13	12.4	72.1		29.2	6.0	78.5
Max Q Clear Time (g_c+I1), s		10.2	5.6	25.2		6.8	3.7	47.3
Green Ext Time (p_c), s		0.1	0.0	0.5		0.2	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	328	11	281	446	96	18	320	245	116	669	3
Future Volume (veh/h)	25	328	11	281	446	96	18	320	245	116	669	3
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1870	1900	1810	1900	1900	1900	1845	1900	1881	1810	1900
Adj Flow Rate, veh/h	27	357	12	305	485	104	20	348	266	126	727	3
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	20	5	0	0	0	3	3	1	5	0
Cap, veh/h	304	467	16	453	726	603	228	438	329	293	987	4
Arrive On Green	0.03	0.26	0.26	0.15	0.38	0.38	0.02	0.23	0.23	0.07	0.28	0.28
Sat Flow, veh/h	1723	1797	60	1723	1900	1579	1810	1901	1426	1792	3512	14
Grp Volume(v), veh/h	27	0	369	305	485	104	20	320	294	126	356	374
Grp Sat Flow(s),veh/h/ln	1723	0	1857	1723	1900	1579	1810	1752	1575	1792	1719	1807
Q Serve(g_s), s	0.7	0.0	11.3	7.4	13.1	2.7	0.5	10.6	10.9	3.2	11.6	11.6
Cycle Q Clear(g_c), s	0.7	0.0	11.3	7.4	13.1	2.7	0.5	10.6	10.9	3.2	11.6	11.6
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.91	1.00		0.01
Lane Grp Cap(c), veh/h	304	0	483	453	726	603	228	404	363	293	483	508
V/C Ratio(X)	0.09	0.00	0.76	0.67	0.67	0.17	0.09	0.79	0.81	0.43	0.74	0.74
Avail Cap(c_a), veh/h	406	0	812	708	1231	1023	420	704	633	369	669	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	21.1	13.6	15.8	12.6	18.0	22.4	22.5	16.6	20.1	20.1
Incr Delay (d2), s/veh	0.0	0.0	1.0	0.7	0.4	0.0	0.1	1.3	1.7	0.4	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.9	3.5	6.8	1.2	0.3	5.3	4.9	1.6	5.6	5.9
LnGrp Delay(d),s/veh	16.1	0.0	22.1	14.3	16.2	12.7	18.0	23.7	24.1	17.0	21.6	21.5
LnGrp LOS	B		C	B	B	B	B	C	C	B	C	C
Approach Vol, veh/h		396			894			634			856	
Approach Delay, s/veh		21.6			15.2			23.7			20.9	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	28.2	8.6	19.1	13.4	20.6	5.5	22.2
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.5	40.0	7.2	24.8	18.5	27.0	8.0	24.0
Max Q Clear Time (g_c+I1), s	2.7	15.1	5.2	12.9	9.4	13.3	2.5	13.6
Green Ext Time (p_c), s	0.0	0.4	0.0	0.5	0.1	0.4	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	19.8
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	16

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	20	20	13	57	66	51	422	6	46	800	12
Future Vol, veh/h	6	20	20	13	57	66	51	422	6	46	800	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	7	22	22	14	62	72	55	459	7	50	870	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1610	1546	870	1572	1556	463	883	0	0	466	0	0
Stage 1	970	970	-	573	573	-	-	-	-	-	-	-
Stage 2	640	576	-	999	983	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.38	-	-	2.38	-	-
Pot Cap-1 Maneuver	84	114	351	89	113	599	695	-	-	1007	-	-
Stage 1	304	331	-	505	504	-	-	-	-	-	-	-
Stage 2	464	502	-	293	327	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	29	92	351	58	91	599	695	-	-	1007	-	-
Mov Cap-2 Maneuver	29	92	-	58	91	-	-	-	-	-	-	-
Stage 1	271	299	-	451	450	-	-	-	-	-	-	-
Stage 2	315	448	-	230	295	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	67.5	149	1.1	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	695	-	-	61	351	142	1007	-	-
HCM Lane V/C Ratio	0.08	-	-	0.463	0.062	1.041	0.05	-	-
HCM Control Delay (s)	10.6	0	-	107.2	15.9	149	8.8	0	-
HCM Lane LOS	B	A	-	F	C	F	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1.8	0.2	7.8	0.2	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	110	50	29	68	1	67	2	37	0	3	1
Future Vol, veh/h	1	110	50	29	68	1	67	2	37	0	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	4	8	0	15	0	3	20	3	0	20	20
Mvmt Flow	1	120	54	32	74	1	73	2	40	0	3	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	75	0	0	174	0	0	290	288	147	309	315	75
Stage 1	-	-	-	-	-	-	149	149	-	139	139	-
Stage 2	-	-	-	-	-	-	141	139	-	170	176	-
Critical Hdwy	4.3	-	-	4.1	-	-	7.13	6.7	6.23	7.1	6.7	6.4
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.7	-	6.1	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.7	-	6.1	5.7	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.527	4.18	3.327	3.5	4.18	3.48
Pot Cap-1 Maneuver	1418	-	-	1415	-	-	660	593	897	647	572	939
Stage 1	-	-	-	-	-	-	851	741	-	869	748	-
Stage 2	-	-	-	-	-	-	860	748	-	837	721	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1418	-	-	1415	-	-	645	579	897	606	558	939
Mov Cap-2 Maneuver	-	-	-	-	-	-	645	579	-	606	558	-
Stage 1	-	-	-	-	-	-	850	740	-	868	731	-
Stage 2	-	-	-	-	-	-	836	731	-	797	720	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.2	10.6	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	645	872	1418	-	-	1415	-	-	621
HCM Lane V/C Ratio	0.113	0.049	0.001	-	-	0.022	-	-	0.007
HCM Control Delay (s)	11.3	9.3	7.5	-	-	7.6	-	-	10.8
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.2	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	29	58	68	2	450	33	55	250	38
Future Vol, veh/h	0	0	0	29	58	68	2	450	33	55	250	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	0	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	20	0	4	0	20	20	4	13	0
Mvmt Flow	0	0	0	32	63	74	2	489	36	60	272	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	993	942	293	906	926	489	313	0	0	525	0	0
Stage 1	413	413	-	493	493	-	-	-	-	-	-	-
Stage 2	580	529	-	413	433	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.3	6.5	6.24	4.1	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.68	4	3.336	2.2	-	-	2.236	-	-
Pot Cap-1 Maneuver	224	263	746	239	271	575	1259	-	-	1032	-	-
Stage 1	616	594	-	526	550	-	-	-	-	-	-	-
Stage 2	500	527	-	582	585	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	151	247	746	228	255	575	1259	-	-	1032	-	-
Mov Cap-2 Maneuver	151	247	-	228	255	-	-	-	-	-	-	-
Stage 1	615	560	-	525	549	-	-	-	-	-	-	-
Stage 2	385	526	-	548	551	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	15.5	0	1.4
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1259	-	-	-	228	575	1032	-	-
HCM Lane V/C Ratio	0.002	-	-	-	0.138	0.129	0.058	-	-
HCM Control Delay (s)	7.9	0	-	0	23.3	12.2	8.7	-	-
HCM Lane LOS	A	A	-	A	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.4	0.2	-	-

Intersection	
Int Delay, s/veh	13.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	210	0	10	102	16	1	350	100	16	300	12
Future Vol, veh/h	0	210	0	10	102	16	1	350	100	16	300	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	8	8	8	18	18	18	16	16	16
Mvmt Flow	0	228	0	11	111	17	1	380	109	17	326	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	868	858	333	918	810	435	339	0	0	489	0	0
Stage 1	367	367	-	437	437	-	-	-	-	-	-	-
Stage 2	501	491	-	481	373	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.18	6.58	6.28	4.28	-	-	4.26	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.572	4.072	3.372	2.362	-	-	2.344	-	-
Pot Cap-1 Maneuver	273	294	709	246	307	609	1136	-	-	1005	-	-
Stage 1	653	622	-	587	569	-	-	-	-	-	-	-
Stage 2	552	548	-	555	608	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	186	288	709	83	300	609	1136	-	-	1005	-	-
Mov Cap-2 Maneuver	186	288	-	83	300	-	-	-	-	-	-	-
Stage 1	652	609	-	586	568	-	-	-	-	-	-	-
Stage 2	431	547	-	340	595	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	52.3	33.1	0	0.4
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1136	-	-	288	263	1005	-	-
HCM Lane V/C Ratio	0.001	-	-	0.793	0.529	0.017	-	-
HCM Control Delay (s)	8.2	0	-	52.3	33.1	8.6	0	-
HCM Lane LOS	A	A	-	F	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	6.2	2.8	0.1	-	-

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	350	8	17	120	8	5	48	28	17	101	3
Future Vol, veh/h	2	350	8	17	120	8	5	48	28	17	101	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	8	8	8	9	9	9	14	14	14
Mvmt Flow	2	380	9	18	130	9	5	52	30	18	110	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.7	9.7	9.3	10.2
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	1%	12%	14%
Vol Thru, %	59%	97%	83%	83%
Vol Right, %	35%	2%	6%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	81	360	145	121
LT Vol	5	2	17	17
Through Vol	48	350	120	101
RT Vol	28	8	8	3
Lane Flow Rate	88	391	158	132
Geometry Grp	1	1	1	1
Degree of Util (X)	0.134	0.513	0.227	0.208
Departure Headway (Hd)	5.479	4.717	5.196	5.684
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	657	755	695	634
Service Time	3.491	2.802	3.196	3.695
HCM Lane V/C Ratio	0.134	0.518	0.227	0.208
HCM Control Delay	9.3	12.7	9.7	10.2
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.5	3	0.9	0.8

Intersection	
Int Delay, s/veh	20.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	412	135	434	602	10
Future Vol, veh/h	5	412	135	434	602	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	11	14	14
Mvmt Flow	5	448	147	472	654	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1426	660	665	0	-	0
Stage 1	660	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	149	463	929	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	117	463	929	-	-	-
Mov Cap-2 Maneuver	117	-	-	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	459	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	76.9	2.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	929	-	447	-	-
HCM Lane V/C Ratio	0.158	-	1.014	-	-
HCM Control Delay (s)	9.6	0	76.9	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.6	-	13.4	-	-

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	92	5	6	488	853	132
Future Vol, veh/h	92	5	6	488	853	132
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	9	20	20	20	20
Mvmt Flow	100	5	7	530	927	143

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1543	999	1070	0	-	0
Stage 1	999	-	-	-	-	-
Stage 2	544	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.3	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.38	-	-	-
Pot Cap-1 Maneuver	122	287	588	-	-	-
Stage 1	346	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	120	287	588	-	-	-
Mov Cap-2 Maneuver	120	-	-	-	-	-
Stage 1	340	-	-	-	-	-
Stage 2	568	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	111	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	588	-	124	-	-
HCM Lane V/C Ratio	0.011	-	0.85	-	-
HCM Control Delay (s)	11.2	0	111	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	5.2	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	9	560	20	42	972
Future Vol, veh/h	13	9	560	20	42	972
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	9	11	11	14	14
Mvmt Flow	14	10	609	22	46	1057

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1769	620	0	0	631	0
Stage 1	620	-	-	-	-	-
Stage 2	1149	-	-	-	-	-
Critical Hdwy	6.49	6.29	-	-	4.24	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	-	-	2.326	-
Pot Cap-1 Maneuver	88	475	-	-	896	-
Stage 1	523	-	-	-	-	-
Stage 2	292	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	77	475	-	-	896	-
Mov Cap-2 Maneuver	77	-	-	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	256	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	43.5	0	0.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	117	896	-
HCM Lane V/C Ratio	-	-	0.204	0.051	-
HCM Control Delay (s)	-	-	43.5	9.2	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.2	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	43	4	0	401	608	55
Future Vol, veh/h	43	4	0	401	608	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	9	1	11	14	14
Mvmt Flow	47	4	0	436	661	60

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1127	691	721	0	-	0
Stage 1	691	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.11	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.209	-	-	-
Pot Cap-1 Maneuver	219	433	885	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	637	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	219	433	885	-	-	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	637	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.2	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	885	-	229	-	-
HCM Lane V/C Ratio	-	-	0.223	-	-
HCM Control Delay (s)	0	-	25.2	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

Intersection	
Int Delay, s/veh	18.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	650	53	5	430	173	15
Future Vol, veh/h	650	53	5	430	173	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	11	14	14	18	18
Mvmt Flow	707	58	5	467	188	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	765	0	1213	736
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	477	-
Critical Hdwy	-	-	4.24	-	6.58	6.38
Critical Hdwy Stg 1	-	-	-	-	5.58	-
Critical Hdwy Stg 2	-	-	-	-	5.58	-
Follow-up Hdwy	-	-	2.326	-	3.662	3.462
Pot Cap-1 Maneuver	-	-	797	-	~ 186	394
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	592	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	797	-	~ 185	394
Mov Cap-2 Maneuver	-	-	-	-	~ 185	-
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	587	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	132.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	193	-	-	797	-
HCM Lane V/C Ratio	1.059	-	-	0.007	-
HCM Control Delay (s)	132.1	-	-	9.5	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	9.5	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	13.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	34	211	29	0	66	5	1	19	2	51	409	22
Future Vol, veh/h	34	211	29	0	66	5	1	19	2	51	409	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	37	229	32	0	72	5	1	21	2	55	445	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	630	592	457	722	603	22	469	0	0	23	0	0
Stage 1	567	567	-	24	24	-	-	-	-	-	-	-
Stage 2	63	25	-	698	579	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	386	411	591	333	404	1035	1093	-	-	1592	-	-
Stage 1	498	497	-	976	861	-	-	-	-	-	-	-
Stage 2	933	863	-	420	490	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	317	391	591	163	385	1035	1093	-	-	1592	-	-
Mov Cap-2 Maneuver	317	391	-	163	385	-	-	-	-	-	-	-
Stage 1	498	474	-	975	860	-	-	-	-	-	-	-
Stage 2	850	862	-	196	467	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37.5	16	0.4	0.8
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1093	-	-	394	403	1592	-	-
HCM Lane V/C Ratio	0.001	-	-	0.756	0.191	0.035	-	-
HCM Control Delay (s)	8.3	0	-	37.5	16	7.3	0	-
HCM Lane LOS	A	A	-	E	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	6.1	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	25	309	2	4	1	21	45	21	7	112	2
Future Vol, veh/h	25	25	309	2	4	1	21	45	21	7	112	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	27	27	336	2	4	1	23	49	23	8	122	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	248	257	123	428	247	61	124	0	0	72	0	0
Stage 1	139	139	-	107	107	-	-	-	-	-	-	-
Stage 2	109	118	-	321	140	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	693	637	912	525	644	985	1463	-	-	1528	-	-
Stage 1	850	770	-	882	793	-	-	-	-	-	-	-
Stage 2	882	787	-	676	768	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	677	623	912	316	630	985	1463	-	-	1528	-	-
Mov Cap-2 Maneuver	677	623	-	316	630	-	-	-	-	-	-	-
Stage 1	836	765	-	868	780	-	-	-	-	-	-	-
Stage 2	862	774	-	409	763	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	12.2	1.8	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1463	-	-	863	511	1528	-	-
HCM Lane V/C Ratio	0.016	-	-	0.452	0.015	0.005	-	-
HCM Control Delay (s)	7.5	0	-	12.6	12.2	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.4	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	565	10	29	446	36	5	26	50	54	26	12
Future Volume (veh/h)	10	565	10	29	446	36	5	26	50	54	26	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	614	11	32	485	39	5	28	54	59	28	13
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	23	727	13	60	744	60	12	55	107	98	175	81
Arrive On Green	0.01	0.44	0.44	0.04	0.46	0.46	0.01	0.10	0.10	0.06	0.15	0.15
Sat Flow, veh/h	1616	1661	30	1691	1622	130	1774	570	1099	1774	1205	559
Grp Volume(v), veh/h	11	0	625	32	0	524	5	0	82	59	0	41
Grp Sat Flow(s),veh/h/ln	1616	0	1691	1691	0	1753	1774	0	1669	1774	0	1764
Q Serve(g_s), s	0.4	0.0	17.2	1.0	0.0	12.1	0.1	0.0	2.4	1.7	0.0	1.1
Cycle Q Clear(g_c), s	0.4	0.0	17.2	1.0	0.0	12.1	0.1	0.0	2.4	1.7	0.0	1.1
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.66	1.00		0.32
Lane Grp Cap(c), veh/h	23	0	740	60	0	804	12	0	162	98	0	256
V/C Ratio(X)	0.48	0.00	0.84	0.53	0.00	0.65	0.42	0.00	0.51	0.60	0.00	0.16
Avail Cap(c_a), veh/h	155	0	1204	162	0	1248	170	0	741	170	0	783
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.6	0.0	13.1	24.8	0.0	10.9	25.9	0.0	22.4	24.1	0.0	19.5
Incr Delay (d2), s/veh	14.9	0.0	3.1	7.1	0.0	0.9	21.9	0.0	2.4	5.9	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	8.6	0.6	0.0	5.9	0.1	0.0	1.2	1.0	0.0	0.5
LnGrp Delay(d),s/veh	40.5	0.0	16.2	31.9	0.0	11.8	47.8	0.0	24.9	30.0	0.0	19.8
LnGrp LOS	D		B	C		B	D		C	C		B
Approach Vol, veh/h		636			556			87			100	
Approach Delay, s/veh		16.7			13.0			26.2			25.8	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	10.9	5.9	28.7	4.4	13.4	4.7	29.8
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	5.0	23.2	5.0	37.2	5.0	23.2	5.0	37.2
Max Q Clear Time (g_c+I1), s	3.7	4.4	3.0	19.2	2.1	3.1	2.4	14.1
Green Ext Time (p_c), s	0.0	0.3	0.0	3.6	0.0	0.1	0.0	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	472	7	29	466	30	9	12	20	162	43	21
Future Volume (veh/h)	4	472	7	29	466	30	9	12	20	162	43	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	513	8	32	507	33	10	13	22	176	47	23
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	9	655	10	62	700	46	139	147	178	360	71	30
Arrive On Green	0.01	0.39	0.39	0.04	0.42	0.42	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1616	1666	26	1691	1649	107	181	689	833	1023	332	140
Grp Volume(v), veh/h	4	0	521	32	0	540	45	0	0	246	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1692	1691	0	1757	1703	0	0	1495	0	0
Q Serve(g_s), s	0.1	0.0	11.8	0.8	0.0	11.2	0.0	0.0	0.0	5.8	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	11.8	0.8	0.0	11.2	0.9	0.0	0.0	6.7	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.06	0.22		0.49	0.72		0.09
Lane Grp Cap(c), veh/h	9	0	665	62	0	746	464	0	0	460	0	0
V/C Ratio(X)	0.46	0.00	0.78	0.51	0.00	0.72	0.10	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	185	0	2675	193	0	2777	857	0	0	823	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.7	0.0	11.6	20.7	0.0	10.5	13.9	0.0	0.0	16.1	0.0	0.0
Incr Delay (d2), s/veh	32.9	0.0	2.1	6.4	0.0	1.4	0.1	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	5.7	0.5	0.0	5.5	0.4	0.0	0.0	2.9	0.0	0.0
LnGrp Delay(d),s/veh	54.6	0.0	13.7	27.1	0.0	11.8	14.0	0.0	0.0	17.1	0.0	0.0
LnGrp LOS	D		B	C		B	B			B		
Approach Vol, veh/h		525			572			45			246	
Approach Delay, s/veh		14.0			12.7			14.0			17.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		15.1	5.6	23.0		15.1	4.2	24.4
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		20.2	5.0	69.2		20.2	5.0	69.2
Max Q Clear Time (g_c+I1), s		2.9	2.8	13.8		8.7	2.1	13.2
Green Ext Time (p_c), s		0.1	0.0	3.4		0.9	0.0	3.6

Intersection Summary		
HCM 2010 Ctrl Delay		14.0
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	197	700	487	0	3	217
Future Vol, veh/h	197	700	487	0	3	217
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	11	5	5	2	2
Mvmt Flow	214	761	529	0	3	236

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	529	0	-	0	1718	529
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	1189	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	994	-	-	-	99	550
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	289	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	994	-	-	-	78	550
Mov Cap-2 Maneuver	-	-	-	-	78	-
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	289	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	994	-	-	-	78	550
HCM Lane V/C Ratio	0.215	-	-	-	0.042	0.429
HCM Control Delay (s)	9.6	-	-	-	53.2	16.4
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile Q(veh)	0.8	-	-	-	0.1	2.1

Intersection	
Intersection Delay, s/veh	393.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	715	96	321	88	63	28	280	294	11	285	4
Future Vol, veh/h	16	715	96	321	88	63	28	280	294	11	285	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	18	18	18	18	18	18
Mvmt Flow	17	777	104	349	96	68	30	304	320	12	310	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	628	219	360.1	87.4
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	2%	68%	4%
Vol Thru, %	47%	86%	19%	95%
Vol Right, %	49%	12%	13%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	602	827	472	300
LT Vol	28	16	321	11
Through Vol	280	715	88	285
RT Vol	294	96	63	4
Lane Flow Rate	654	899	513	326
Geometry Grp	1	1	1	1
Degree of Util (X)	1.695	2.314	1.338	0.897
Departure Headway (Hd)	13.774	12.469	15.934	18.372
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	268	306	236	202
Service Time	11.774	10.469	13.934	16.372
HCM Lane V/C Ratio	2.44	2.938	2.174	1.614
HCM Control Delay	360.1	628	219	87.4
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	28.5	52.2	16.4	7

Intersection	
Int Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	69	50	7	289	230
Future Vol, veh/h	5	69	50	7	289	230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	75	54	8	314	250

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	936	58	0	0	62	0
Stage 1	58	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	294	1008	-	-	1541	-
Stage 1	965	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	224	1008	-	-	1541	-
Mov Cap-2 Maneuver	224	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	310	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	4.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	815	1541	-
HCM Lane V/C Ratio	-	-	0.099	0.204	-
HCM Control Delay (s)	-	-	9.9	7.9	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.8	-

Intersection	
Int Delay, s/veh	152.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	82	119	46	91	192	13	332	7	33	680	5
Future Vol, veh/h	37	82	119	46	91	192	13	332	7	33	680	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	16	16	16	25	25	25
Mvmt Flow	40	89	129	50	99	209	14	361	8	36	739	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1361	1211	742	1316	1209	365	744	0	0	369	0	0
Stage 1	814	814	-	393	393	-	-	-	-	-	-	-
Stage 2	547	397	-	923	816	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.26	-	-	4.35	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.344	-	-	2.425	-	-
Pot Cap-1 Maneuver	125	182	416	135	183	680	803	-	-	1074	-	-
Stage 1	372	391	-	632	606	-	-	-	-	-	-	-
Stage 2	521	603	-	323	391	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	44	168	416	51	169	680	803	-	-	1074	-	-
Mov Cap-2 Maneuver	44	168	-	51	169	-	-	-	-	-	-	-
Stage 1	364	369	-	618	593	-	-	-	-	-	-	-
Stage 2	294	590	-	159	369	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 421	$ 453.4	0.4	0.4
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	803	-	-	147	191	1074	-	-
HCM Lane V/C Ratio	0.018	-	-	1.76	1.872	0.033	-	-
HCM Control Delay (s)	9.6	0	-	$ 421	$ 453.4	8.5	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	19.1	26	0.1	-	-

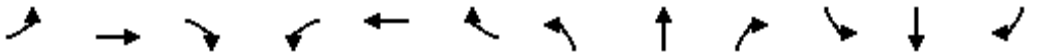
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	274.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	247	144	62	40	28	66	374	125	46	720	8
Future Vol, veh/h	33	247	144	62	40	28	66	374	125	46	720	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	36	268	157	67	43	30	72	407	136	50	783	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

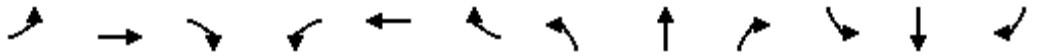
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	79.9	24.3	225.4	458.3
HCM LOS	F	C	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	8%	48%	6%
Vol Thru, %	66%	58%	31%	93%
Vol Right, %	22%	34%	22%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	565	424	130	774
LT Vol	66	33	62	46
Through Vol	374	247	40	720
RT Vol	125	144	28	8
Lane Flow Rate	614	461	141	841
Geometry Grp	1	1	1	1
Degree of Util (X)	1.405	0.995	0.373	1.951
Departure Headway (Hd)	10.086	10.257	13.477	9.23
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	368	359	270	404
Service Time	8.086	8.257	11.477	7.23
HCM Lane V/C Ratio	1.668	1.284	0.522	2.082
HCM Control Delay	225.4	79.9	24.3	458.3
HCM Lane LOS	F	F	C	F
HCM 95th-tile Q	25.5	11.3	1.7	51.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	125	4	234	706	0	0	0	0	338	1	183
Future Volume (vph)	0	125	4	234	706	0	0	0	0	338	1	183
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1		4.0	4.0					5.1	5.1	
Lane Util. Factor		0.95		0.95	0.95					0.95	0.95	
Frpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		1.00		1.00	1.00					1.00	0.89	
Flt Protected		1.00		0.95	1.00					0.95	0.99	
Satd. Flow (prot)		3538		1429	1539					1429	1346	
Flt Permitted		1.00		0.95	1.00					0.95	0.99	
Satd. Flow (perm)		3538		1429	1539					1429	1346	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	136	4	254	767	0	0	0	0	367	1	199
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	101	0
Lane Group Flow (vph)	0	138	0	229	792	0	0	0	0	297	169	0
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	0%	1%	20%	20%	17%	0%	0%	0%	0%	20%	20%	17%
Turn Type		NA		Split	NA					Split	NA	
Protected Phases		4		3	3					6	6	
Permitted Phases												
Actuated Green, G (s)		12.0		52.0	52.0					21.8	21.8	
Effective Green, g (s)		12.0		52.0	52.0					21.8	21.8	
Actuated g/C Ratio		0.12		0.52	0.52					0.22	0.22	
Clearance Time (s)		5.1		4.0	4.0					5.1	5.1	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		424		743	800					311	293	
v/s Ratio Prot		c0.04		0.16	c0.51					c0.21	0.13	
v/s Ratio Perm												
v/c Ratio		0.33		0.31	0.99					0.95	0.58	
Uniform Delay, d1		40.3		13.7	23.7					38.6	35.0	
Progression Factor		1.00		0.11	0.58					1.00	1.00	
Incremental Delay, d2		0.5		0.2	23.8					40.8	8.0	
Delay (s)		40.7		1.6	37.6					79.4	43.0	
Level of Service		D		A	D					E	D	
Approach Delay (s)		40.7			29.5			0.0			62.1	
Approach LOS		D			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	403	0	0	917	545	23	7	90	0	0	0
Future Volume (vph)	60	403	0	0	917	545	23	7	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1	5.1		5.1	5.1			
Lane Util. Factor		0.95			0.95	1.00		1.00	0.88			
Frt		1.00			1.00	0.85		1.00	0.85			
Flt Protected		0.99			1.00	1.00		0.96	1.00			
Satd. Flow (prot)		3148			3008	1468		1831	2450			
Flt Permitted		0.99			1.00	1.00		0.96	1.00			
Satd. Flow (perm)		3148			3008	1468		1831	2450			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	438	0	0	997	592	25	8	98	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	133	0	0	51	0	0	0
Lane Group Flow (vph)	0	503	0	0	997	459	0	33	47	0	0	0
Heavy Vehicles (%)	0%	16%	0%	0%	20%	10%	0%	0%	16%	0%	0%	0%
Turn Type	Split	NA			NA	custom	Split	NA	custom			
Protected Phases	2!	2			6	2!	4	4	6			
Permitted Phases						6			4			
Actuated Green, G (s)		36.8			40.7	77.5		7.2	47.9			
Effective Green, g (s)		36.8			40.7	77.5		7.2	47.9			
Actuated g/C Ratio		0.37			0.41	0.78		0.07	0.48			
Clearance Time (s)		5.1			5.1	5.1		5.1	5.1			
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)		1158			1224	1212		131	1298			
v/s Ratio Prot		c0.16			c0.33	0.14		c0.02	0.01			
v/s Ratio Perm						0.17			0.00			
v/c Ratio		0.43			0.81	0.38		0.25	0.04			
Uniform Delay, d1		23.8			26.3	3.6		43.9	13.8			
Progression Factor		0.14			0.59	0.04		1.00	1.00			
Incremental Delay, d2		0.8			3.4	0.2		1.0	0.0			
Delay (s)		4.0			19.0	0.3		44.9	13.8			
Level of Service		A			B	A		D	B			
Approach Delay (s)		4.0			12.0			21.6			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	173	214	76	1029	150	188	3	60	90	0	245
Future Volume (vph)	106	173	214	76	1029	150	188	3	60	90	0	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.95	0.91	0.95
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.86	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3213	3008	1583	1770	3139	1547	3433	1863	1583	1649	1377	1421
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3213	3008	1583	1770	3139	1547	3433	1863	1583	1649	1377	1421
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	115	188	233	83	1118	163	204	3	65	98	0	266
RTOR Reduction (vph)	0	0	116	0	0	83	0	0	58	0	126	114
Lane Group Flow (vph)	115	188	117	83	1118	80	204	3	7	88	12	24
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	9%	20%	2%	2%	15%	3%	2%	2%	2%	4%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		4	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	8.0	50.1	50.1	8.8	48.9	48.9	11.2	11.2	11.2	8.4	8.4	16.4
Effective Green, g (s)	8.0	50.1	50.1	8.8	48.9	48.9	11.2	11.2	11.2	8.4	8.4	16.4
Actuated g/C Ratio	0.08	0.50	0.50	0.09	0.49	0.49	0.11	0.11	0.11	0.08	0.08	0.16
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	1507	793	155	1534	756	384	208	177	138	115	325
v/s Ratio Prot	c0.04	0.06		0.05	c0.36		c0.06	0.00		c0.05	0.01	0.01
v/s Ratio Perm			0.07			0.05			0.00			0.01
v/c Ratio	0.45	0.12	0.15	0.54	0.73	0.11	0.53	0.01	0.04	0.64	0.10	0.07
Uniform Delay, d1	43.9	13.3	13.4	43.6	20.3	13.8	41.9	39.5	39.6	44.3	42.3	35.4
Progression Factor	0.78	0.27	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.2	0.4	3.5	3.1	0.3	1.4	0.0	0.1	9.3	0.4	0.1
Delay (s)	35.4	3.7	9.0	47.2	23.4	14.0	43.3	39.5	39.7	53.6	42.7	35.5
Level of Service	D	A	A	D	C	B	D	D	D	D	D	D
Approach Delay (s)		12.8			23.7			42.4			42.6	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	532	0	7	545	15	60	7	25	24	11	292
Future Volume (veh/h)	66	532	0	7	545	15	60	7	25	24	11	292
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1743	1900	1900	1827	1583	1900	1900	1900	1583	1593	1900
Adj Flow Rate, veh/h	72	578	0	8	592	16	65	8	27	26	12	317
Adj No. of Lanes	2	2	0	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	219	1269	0	44	1114	426	250	122	413	495	16	420
Arrive On Green	0.07	0.38	0.00	0.01	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	2925	3399	0	3510	3471	1329	1068	382	1290	1163	50	1312
Grp Volume(v), veh/h	72	578	0	8	592	16	65	0	35	26	0	329
Grp Sat Flow(s),veh/h/ln	1463	1656	0	1755	1736	1329	1068	0	1672	1163	0	1362
Q Serve(g_s), s	1.2	6.8	0.0	0.1	7.2	0.4	3.0	0.0	0.8	0.8	0.0	11.2
Cycle Q Clear(g_c), s	1.2	6.8	0.0	0.1	7.2	0.4	14.2	0.0	0.8	1.6	0.0	11.2
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.77	1.00		0.96
Lane Grp Cap(c), veh/h	219	1269	0	44	1114	426	250	0	536	495	0	436
V/C Ratio(X)	0.33	0.46	0.00	0.18	0.53	0.04	0.26	0.00	0.07	0.05	0.00	0.75
Avail Cap(c_a), veh/h	367	2354	0	407	2434	932	681	0	1211	964	0	986
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	11.9	0.0	25.3	14.4	12.1	22.1	0.0	12.2	12.8	0.0	15.8
Incr Delay (d2), s/veh	0.9	0.5	0.0	1.9	0.8	0.1	0.5	0.0	0.1	0.0	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.1	0.0	0.1	3.6	0.2	0.9	0.0	0.3	0.3	0.0	4.5
LnGrp Delay(d),s/veh	23.6	12.5	0.0	27.2	15.2	12.2	22.7	0.0	12.3	12.8	0.0	18.4
LnGrp LOS	C	B		C	B	B	C		B	B		B
Approach Vol, veh/h		650			616			100			355	
Approach Delay, s/veh		13.7			15.3			19.0			18.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	25.5		21.1	8.4	22.3		21.1
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		4.5
Max Green Setting (Gmax), s	6.0	36.8		37.5	6.5	36.3		37.5
Max Q Clear Time (g_c+I1), s	2.1	8.8		13.2	3.2	9.2		16.2
Green Ext Time (p_c), s	0.0	7.2		2.2	0.0	7.4		0.4

Intersection Summary		
HCM 2010 Ctrl Delay	15.5	
HCM 2010 LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	533	45	10	572	83	85	212	20	121	93	93
Future Volume (veh/h)	32	533	45	10	572	83	85	212	20	121	93	93
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1832	1900	1900	1792	1863	1900	1810	1900	1827	1900	1863
Adj Flow Rate, veh/h	35	579	49	11	622	90	92	230	22	132	101	101
Adj No. of Lanes	2	2	0	1	1	1	2	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	4	0	0	6	2	0	5	5	4	0	2
Cap, veh/h	142	1399	118	30	726	641	256	299	29	166	391	326
Arrive On Green	0.04	0.43	0.43	0.02	0.41	0.41	0.07	0.18	0.18	0.10	0.21	0.21
Sat Flow, veh/h	3312	3244	274	1810	1792	1583	3510	1626	156	1740	1900	1583
Grp Volume(v), veh/h	35	310	318	11	622	90	92	0	252	132	101	101
Grp Sat Flow(s),veh/h/ln	1656	1741	1777	1810	1792	1583	1755	0	1782	1740	1900	1583
Q Serve(g_s), s	0.7	8.3	8.4	0.4	21.4	2.4	1.7	0.0	9.1	5.0	3.0	3.7
Cycle Q Clear(g_c), s	0.7	8.3	8.4	0.4	21.4	2.4	1.7	0.0	9.1	5.0	3.0	3.7
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	142	751	766	30	726	641	256	0	327	166	391	326
V/C Ratio(X)	0.25	0.41	0.41	0.37	0.86	0.14	0.36	0.00	0.77	0.80	0.26	0.31
Avail Cap(c_a), veh/h	294	798	814	160	821	725	311	0	711	193	800	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	13.3	13.3	32.9	18.3	12.7	29.9	0.0	26.3	30.0	22.5	22.8
Incr Delay (d2), s/veh	0.3	0.8	0.8	15.3	9.5	0.2	0.3	0.0	3.8	15.3	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.1	4.2	0.3	12.5	1.1	0.8	0.0	4.8	3.1	1.6	1.6
LnGrp Delay(d),s/veh	31.7	14.1	14.1	48.2	27.9	12.9	30.2	0.0	30.1	45.3	22.9	23.3
LnGrp LOS	C	B	B	D	C	B	C		C	D	C	C
Approach Vol, veh/h		663			723			344			334	
Approach Delay, s/veh		15.0			26.3			30.1			31.9	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	34.7	9.1	18.5	7.1	32.9	10.6	17.0
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	31.0	* 6	28.5	* 6	31.0	* 7.5	27.0
Max Q Clear Time (g_c+I1), s	2.4	10.4	3.7	5.7	2.7	23.4	7.0	11.1
Green Ext Time (p_c), s	0.0	6.4	0.0	0.8	0.0	4.0	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	666	32	36	480	50	41	94	57	80	81	105
Future Volume (veh/h)	79	666	32	36	480	50	41	94	57	80	81	105
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1842	1900	1845	1813	1900	1863	1886	1900	1881	1900	1900
Adj Flow Rate, veh/h	86	724	35	39	522	54	45	102	62	87	88	114
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	6	3	5	3	2	0	2	1	0	0
Cap, veh/h	184	1093	53	89	854	88	286	239	145	321	165	213
Arrive On Green	0.10	0.32	0.32	0.05	0.27	0.27	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1810	3395	164	1757	3151	325	1170	1087	661	1222	749	970
Grp Volume(v), veh/h	86	373	386	39	285	291	45	0	164	87	0	202
Grp Sat Flow(s),veh/h/ln	1810	1750	1808	1757	1722	1754	1170	0	1748	1222	0	1719
Q Serve(g_s), s	2.1	8.8	8.8	1.0	6.9	7.0	1.7	0.0	3.9	3.2	0.0	5.0
Cycle Q Clear(g_c), s	2.1	8.8	8.8	1.0	6.9	7.0	6.7	0.0	3.9	7.0	0.0	5.0
Prop In Lane	1.00		0.09	1.00		0.19	1.00		0.38	1.00		0.56
Lane Grp Cap(c), veh/h	184	564	582	89	467	476	286	0	384	321	0	378
V/C Ratio(X)	0.47	0.66	0.66	0.44	0.61	0.61	0.16	0.00	0.43	0.27	0.00	0.53
Avail Cap(c_a), veh/h	246	822	850	220	791	806	567	0	803	613	0	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	14.0	14.0	22.1	15.2	15.2	19.5	0.0	16.1	19.1	0.0	16.5
Incr Delay (d2), s/veh	1.8	1.9	1.8	3.4	1.8	1.8	0.3	0.0	0.8	0.5	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.5	4.7	0.6	3.5	3.6	0.6	0.0	1.9	1.1	0.0	2.5
LnGrp Delay(d),s/veh	22.1	15.9	15.8	25.4	17.1	17.1	19.7	0.0	16.8	19.5	0.0	17.7
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		845			615			209			289	
Approach Delay, s/veh		16.5			17.6			17.4			18.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	21.9		17.0	11.4	19.5		17.0
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	6.0	22.5		22.0	6.5	22.0		22.0
Max Q Clear Time (g_c+I1), s	3.0	10.8		9.0	4.1	9.0		8.7
Green Ext Time (p_c), s	0.0	4.6		1.2	0.0	3.8		0.9

Intersection Summary			
HCM 2010 Ctrl Delay		17.2	
HCM 2010 LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	486	17	81	301	76	31	153	159	118	97	31
Future Volume (veh/h)	109	486	17	81	301	76	31	153	159	118	97	31
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1818	1900	1792	1827	1845	1900	1827	1827	1900	1863	1776
Adj Flow Rate, veh/h	118	528	18	88	327	83	34	166	173	128	105	34
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	20	6	4	3	0	4	4	0	2	7
Cap, veh/h	173	976	33	143	886	395	436	505	429	357	515	410
Arrive On Green	0.10	0.29	0.29	0.08	0.26	0.26	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1810	3406	116	1707	3471	1546	1264	1827	1551	1057	1863	1482
Grp Volume(v), veh/h	118	267	279	88	327	83	34	166	173	128	105	34
Grp Sat Flow(s),veh/h/ln	1810	1727	1795	1707	1736	1546	1264	1827	1551	1057	1863	1482
Q Serve(g_s), s	3.2	6.7	6.7	2.5	3.9	2.2	1.1	3.7	4.6	5.6	2.2	0.9
Cycle Q Clear(g_c), s	3.2	6.7	6.7	2.5	3.9	2.2	3.3	3.7	4.6	9.3	2.2	0.9
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	173	495	515	143	886	395	436	505	429	357	515	410
V/C Ratio(X)	0.68	0.54	0.54	0.61	0.37	0.21	0.08	0.33	0.40	0.36	0.20	0.08
Avail Cap(c_a), veh/h	355	1118	1162	335	2179	970	930	1218	1035	770	1242	988
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	15.3	15.4	22.6	15.6	14.9	15.4	14.7	15.0	18.4	14.1	13.7
Incr Delay (d2), s/veh	4.7	2.0	1.9	4.2	0.5	0.6	0.2	0.8	1.3	1.3	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.4	3.5	1.4	1.9	1.0	0.4	2.0	2.1	1.8	1.2	0.4
LnGrp Delay(d),s/veh	27.0	17.3	17.2	26.8	16.2	15.5	15.6	15.5	16.3	19.7	14.6	13.8
LnGrp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		664			498			373			267	
Approach Delay, s/veh		19.0			17.9			15.9			16.9	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.3	20.6		20.1	11.9	19.0		20.1
Change Period (Y+Rc), s	6.0	6.0		6.0	7.0	6.0		6.0
Max Green Setting (Gmax), s	10.0	33.0		34.0	10.0	32.0		34.0
Max Q Clear Time (g_c+I1), s	4.5	8.7		11.3	5.2	5.9		6.6
Green Ext Time (p_c), s	0.1	5.9		2.4	0.1	4.3		3.5

Intersection Summary			
HCM 2010 Ctrl Delay		17.7	
HCM 2010 LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	243	25	6	189	14	67	100	19	4	44	129
Future Volume (veh/h)	179	243	25	6	189	14	67	100	19	4	44	129
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1818	1900	1900	1759	1900	1900	1886	1900	1900	1873	1900
Adj Flow Rate, veh/h	195	264	27	7	205	15	73	109	21	4	48	140
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	5	0	0	8	0	2	0	0	0	0	2
Cap, veh/h	659	1357	138	667	754	690	274	254	41	131	103	287
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1154	3165	321	1103	1759	1609	432	1060	172	13	431	1197
Grp Volume(v), veh/h	195	143	148	7	205	15	203	0	0	192	0	0
Grp Sat Flow(s),veh/h/ln	1154	1727	1760	1103	1759	1609	1664	0	0	1641	0	0
Q Serve(g_s), s	3.8	1.5	1.5	0.1	2.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.9	1.5	1.5	1.6	2.2	0.2	2.7	0.0	0.0	2.9	0.0	0.0
Prop In Lane	1.00		0.18	1.00		1.00	0.36		0.10	0.02		0.73
Lane Grp Cap(c), veh/h	659	740	755	667	754	690	570	0	0	521	0	0
V/C Ratio(X)	0.30	0.19	0.20	0.01	0.27	0.02	0.36	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	1187	1531	1560	1172	1560	1427	1546	0	0	1560	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.2	5.1	5.1	5.6	5.3	4.7	9.3	0.0	0.0	9.4	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.3	0.0	0.4	0.0	0.4	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.7	0.8	0.0	1.1	0.1	1.4	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	7.7	5.4	5.4	5.6	5.7	4.7	9.7	0.0	0.0	9.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A			A		
Approach Vol, veh/h		486			227			203			192	
Approach Delay, s/veh		6.3			5.6			9.7			9.8	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		16.9		11.8		16.9		11.8
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		25.4		25.1		25.4		25.1
Max Q Clear Time (g_c+I1), s		7.9		4.7		4.2		4.9
Green Ext Time (p_c), s		4.2		1.2		2.1		1.1

Intersection Summary		
HCM 2010 Ctrl Delay		7.4
HCM 2010 LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	124	47	23	84	32	89	600	37	32	393	263
Future Volume (vph)	106	124	47	23	84	32	89	600	37	32	393	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1641	1770		1583	1668		1736	1771		1805	1696	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1641	1770		1583	1668		1736	1771		1805	1696	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	115	135	51	25	91	35	97	652	40	35	427	286
RTOR Reduction (vph)	0	16	0	0	15	0	0	2	0	0	0	155
Lane Group Flow (vph)	115	170	0	25	111	0	97	690	0	35	427	131
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	10%	4%	0%	14%	9%	8%	4%	6%	12%	0%	12%	10%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	13.1	13.1		7.5	7.5		5.4	41.2		2.9	38.7	38.7
Effective Green, g (s)	13.1	13.1		7.5	7.5		5.4	41.2		2.9	38.7	38.7
Actuated g/C Ratio	0.16	0.16		0.09	0.09		0.06	0.49		0.03	0.46	0.46
Clearance Time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	255	275		141	148		111	866		62	779	674
v/s Ratio Prot	0.07	c0.10		0.02	c0.07		c0.06	c0.39		0.02	0.25	
v/s Ratio Perm												0.09
v/c Ratio	0.45	0.62		0.18	0.75		0.87	0.80		0.56	0.55	0.20
Uniform Delay, d1	32.3	33.2		35.5	37.4		39.1	18.0		40.0	16.4	13.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.3	4.1		0.6	18.4		48.1	7.5		11.2	2.8	0.6
Delay (s)	33.6	37.3		36.1	55.8		87.2	25.5		51.3	19.2	14.2
Level of Service	C	D		D	E		F	C		D	B	B
Approach Delay (s)		35.9			52.6			33.1			18.8	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	84.2	Sum of lost time (s)	19.5
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	173	69	165	147	22	56	600	102	64	493	84
Future Volume (veh/h)	30	173	69	165	147	22	56	600	102	64	493	84
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1667	1667	1667	1597	1597	1900
Adj Flow Rate, veh/h	33	188	75	179	160	24	61	652	111	70	536	91
Adj No. of Lanes	1	1	0	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	78	218	87	500	439	66	292	782	556	113	657	111
Arrive On Green	0.04	0.17	0.17	0.15	0.28	0.28	0.07	0.25	0.25	0.07	0.25	0.25
Sat Flow, veh/h	1774	1268	506	3442	1583	238	1587	3167	1417	1521	2597	439
Grp Volume(v), veh/h	33	0	263	179	0	184	61	652	111	70	312	315
Grp Sat Flow(s),veh/h/ln	1774	0	1773	1721	0	1821	1587	1583	1417	1521	1517	1519
Q Serve(g_s), s	0.9	0.0	7.3	2.4	0.0	4.1	1.4	9.9	0.7	2.3	9.8	9.9
Cycle Q Clear(g_c), s	0.9	0.0	7.3	2.4	0.0	4.1	1.4	9.9	0.7	2.3	9.8	9.9
Prop In Lane	1.00		0.29	1.00		0.13	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	78	0	305	500	0	505	292	782	556	113	384	384
V/C Ratio(X)	0.42	0.00	0.86	0.36	0.00	0.36	0.21	0.83	0.20	0.62	0.81	0.82
Avail Cap(c_a), veh/h	210	0	305	1972	0	1148	371	1189	738	301	689	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	0.0	20.4	19.5	0.0	14.7	13.3	18.1	2.4	22.7	17.8	17.8
Incr Delay (d2), s/veh	1.3	0.0	20.7	0.2	0.0	0.2	0.1	1.9	0.1	2.1	1.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	5.3	1.1	0.0	2.1	0.6	4.5	0.5	1.0	4.2	4.3
LnGrp Delay(d),s/veh	24.9	0.0	41.1	19.7	0.0	14.9	13.5	20.0	2.5	24.8	19.4	19.5
LnGrp LOS	C		D	B		B	B	B	A	C	B	B
Approach Vol, veh/h		296			363			824			697	
Approach Delay, s/veh		39.3			17.2			17.1			20.0	
Approach LOS		D			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	12.9	7.8	17.4	6.2	19.2	7.5	17.7
Change Period (Y+Rc), s	* 5.2	* 4.2	4.0	4.9	4.0	* 5.2	4.0	4.9
Max Green Setting (Gmax), s	* 23	* 8.7	10.0	19.0	6.0	* 32	6.0	23.0
Max Q Clear Time (g_c+I1), s	11.4	9.3	4.3	11.9	2.9	6.1	3.4	11.9
Green Ext Time (p_c), s	0.1	0.0	0.0	0.6	0.0	0.4	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	279	6	196	400	145	2	500	301	133	500	3
Future Volume (veh/h)	24	279	6	196	400	145	2	500	301	133	500	3
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1777	1900	1845	1743	1900	1827	1881	1583	1743	1881	1900
Adj Flow Rate, veh/h	26	303	7	213	435	158	2	543	327	145	543	3
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	7	3	3	9	0	4	1	20	9	1	4
Cap, veh/h	263	428	10	411	579	523	319	985	370	646	1268	7
Arrive On Green	0.03	0.25	0.25	0.11	0.33	0.33	0.00	0.28	0.28	0.08	0.35	0.35
Sat Flow, veh/h	1810	1729	40	1757	1743	1573	1740	3574	1344	3221	3643	20
Grp Volume(v), veh/h	26	0	310	213	435	158	2	543	327	145	266	280
Grp Sat Flow(s),veh/h/ln	1810	0	1769	1757	1743	1573	1740	1787	1344	1610	1787	1877
Q Serve(g_s), s	0.6	0.0	9.7	5.1	13.5	4.5	0.1	7.9	14.2	1.8	6.9	6.9
Cycle Q Clear(g_c), s	0.6	0.0	9.7	5.1	13.5	4.5	0.1	7.9	14.2	1.8	6.9	6.9
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	263	0	438	411	579	523	319	985	370	646	622	653
V/C Ratio(X)	0.10	0.00	0.71	0.52	0.75	0.30	0.01	0.55	0.88	0.22	0.43	0.43
Avail Cap(c_a), veh/h	374	0	838	759	1212	1094	544	1416	533	701	638	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	20.9	14.1	18.1	15.1	15.9	18.8	21.1	13.0	15.2	15.2
Incr Delay (d2), s/veh	0.1	0.0	0.8	0.4	0.7	0.1	0.0	0.2	9.0	0.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	4.8	2.4	6.5	2.0	0.0	3.9	6.1	0.8	3.4	3.6
LnGrp Delay(d),s/veh	16.8	0.0	21.7	14.5	18.8	15.2	15.9	19.0	30.1	13.1	15.4	15.4
LnGrp LOS	B		C	B	B	B	B	B	C	B	B	B
Approach Vol, veh/h		336			806			872			691	
Approach Delay, s/veh		21.3			17.0			23.2			14.9	
Approach LOS		C			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	24.8	8.6	21.7	10.9	19.7	4.2	26.1
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.5	42.3	5.6	24.1	19.0	28.8	8.0	21.7
Max Q Clear Time (g_c+I1), s	2.6	15.5	3.8	16.2	7.1	11.7	2.1	8.9
Green Ext Time (p_c), s	0.0	0.4	0.0	0.5	0.0	0.3	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	19.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	37	26	15	53	138	25	620	7	101	550	10
Future Volume (veh/h)	14	37	26	15	53	138	25	620	7	101	550	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1667	1667	1667	1597	1597	1900
Adj Flow Rate, veh/h	15	40	28	16	58	150	27	674	8	110	598	11
Adj No. of Lanes	1	2	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	364	576	258	409	303	258	52	1052	471	143	1198	22
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.03	0.33	0.33	0.09	0.39	0.39
Sat Flow, veh/h	1169	3539	1583	1328	1863	1583	1587	3167	1417	1521	3048	56
Grp Volume(v), veh/h	15	40	28	16	58	150	27	674	8	110	298	311
Grp Sat Flow(s),veh/h/ln	1169	1770	1583	1328	1863	1583	1587	1583	1417	1521	1517	1587
Q Serve(g_s), s	0.4	0.3	0.5	0.4	0.9	3.1	0.6	6.3	0.1	2.5	5.2	5.2
Cycle Q Clear(g_c), s	1.3	0.3	0.5	0.7	0.9	3.1	0.6	6.3	0.1	2.5	5.2	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	364	576	258	409	303	258	52	1052	471	143	596	624
V/C Ratio(X)	0.04	0.07	0.11	0.04	0.19	0.58	0.52	0.64	0.02	0.77	0.50	0.50
Avail Cap(c_a), veh/h	775	1819	814	875	957	814	249	1826	817	321	957	1001
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	12.4	12.5	12.7	12.7	13.6	16.7	9.9	7.8	15.5	8.0	8.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	0.3	2.1	7.6	0.7	0.0	8.5	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.2	0.1	0.5	1.5	0.4	2.8	0.1	1.4	2.3	2.4
LnGrp Delay(d),s/veh	13.3	12.5	12.7	12.8	13.0	15.6	24.3	10.6	7.9	24.0	8.7	8.6
LnGrp LOS	B	B	B	B	B	B	C	B	A	C	A	A
Approach Vol, veh/h		83			224			709			719	
Approach Delay, s/veh		12.7			14.7			11.1			11.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.3	17.4		10.3	5.2	19.6		10.3
Change Period (Y+Rc), s	4.0	5.8		4.6	4.0	5.8		4.6
Max Green Setting (Gmax), s	7.4	20.2		18.0	5.5	22.1		18.0
Max Q Clear Time (g_c+I1), s	4.5	8.3		3.3	2.6	7.2		5.1
Green Ext Time (p_c), s	0.1	3.3		0.2	0.0	2.9		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	23	29	8	55	5	21	1	5	2	1	0
Future Volume (veh/h)	2	23	29	8	55	5	21	1	5	2	1	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1583	1583	1739	1900	1583	1900	1583	1900	1781	1900
Adj Flow Rate, veh/h	2	25	32	9	60	5	23	1	5	2	1	0
Adj No. of Lanes	1	2	1	1	1	0	2	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	20	20	10	0	20	0	20	0	20	0
Cap, veh/h	7	1044	438	18	472	39	127	82	58	6	3	0
Arrive On Green	0.00	0.29	0.29	0.01	0.30	0.30	0.04	0.04	0.04	0.00	0.00	0.00
Sat Flow, veh/h	1810	3610	1314	1508	1581	132	2925	1900	1344	1149	575	0
Grp Volume(v), veh/h	2	25	32	9	0	65	23	1	5	3	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1314	1508	0	1713	1463	1900	1344	1724	0	0
Q Serve(g_s), s	0.0	0.1	0.5	0.2	0.0	0.8	0.2	0.0	0.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.1	0.5	0.2	0.0	0.8	0.2	0.0	0.1	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	0.67		0.00
Lane Grp Cap(c), veh/h	7	1044	438	18	0	511	127	82	58	9	0	0
V/C Ratio(X)	0.31	0.02	0.07	0.49	0.00	0.13	0.18	0.01	0.09	0.35	0.00	0.00
Avail Cap(c_a), veh/h	327	1044	438	300	0	526	793	515	364	374	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	7.0	6.3	13.6	0.0	7.1	12.8	12.7	12.7	13.7	0.0	0.0
Incr Delay (d2), s/veh	24.3	0.0	0.1	19.2	0.0	0.1	0.7	0.1	0.6	23.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.2	0.2	0.0	0.4	0.1	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	38.1	7.0	6.4	32.8	0.0	7.2	13.4	12.7	13.3	36.7	0.0	0.0
LnGrp LOS	D	A	A	C		A	B	B	B	D		
Approach Vol, veh/h		59			74			29			3	
Approach Delay, s/veh		7.7			10.3			13.4			36.7	
Approach LOS		A			B			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		5.7	4.8	12.5		4.6	4.6	12.8
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		7.5	5.5	8.0		6.0	5.0	8.5
Max Q Clear Time (g_c+I1), s		2.2	2.2	2.5		2.0	2.0	2.8
Green Ext Time (p_c), s		0.0	0.0	0.1		0.0	0.0	0.1

Intersection Summary		
HCM 2010 Ctrl Delay		10.4
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	35	43	16	14	14	19	47	28	32	300	7
Future Volume (veh/h)	23	35	43	16	14	14	19	47	28	32	300	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1583	1900	1667	1900	1863	1583	1743	1776	1900
Adj Flow Rate, veh/h	25	38	47	17	15	15	21	51	30	35	326	8
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	20	0	14	0	2	20	9	7	0
Cap, veh/h	106	624	279	33	604	237	93	828	344	69	840	402
Arrive On Green	0.03	0.18	0.18	0.02	0.17	0.17	0.03	0.23	0.23	0.04	0.25	0.25
Sat Flow, veh/h	3442	3539	1583	1508	3610	1417	3510	3539	1346	1660	3374	1615
Grp Volume(v), veh/h	25	38	47	17	15	15	21	51	30	35	326	8
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1508	1805	1417	1755	1770	1346	1660	1687	1615
Q Serve(g_s), s	0.2	0.3	0.9	0.4	0.1	0.3	0.2	0.4	0.6	0.7	2.7	0.1
Cycle Q Clear(g_c), s	0.2	0.3	0.9	0.4	0.1	0.3	0.2	0.4	0.6	0.7	2.7	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	624	279	33	604	237	93	828	344	69	840	402
V/C Ratio(X)	0.24	0.06	0.17	0.52	0.02	0.06	0.23	0.06	0.09	0.51	0.39	0.02
Avail Cap(c_a), veh/h	503	2008	899	221	2017	791	513	2267	891	291	2309	1105
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.2	11.7	12.0	16.5	11.9	12.0	16.3	10.2	9.7	16.0	10.7	9.7
Incr Delay (d2), s/veh	1.1	0.0	0.3	12.0	0.0	0.1	1.2	0.0	0.1	5.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.4	0.3	0.1	0.1	0.1	0.2	0.2	0.4	1.3	0.1
LnGrp Delay(d),s/veh	17.3	11.8	12.2	28.5	11.9	12.1	17.5	10.2	9.8	21.8	11.0	9.7
LnGrp LOS	B	B	B	C	B	B	B	B	A	C	B	A
Approach Vol, veh/h		110			47			102			369	
Approach Delay, s/veh		13.2			18.0			11.6			12.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	13.1	4.7	10.9	4.9	13.6	5.1	10.6
Change Period (Y+Rc), s	4.0	5.1	4.0	* 4.9	4.0	* 5.1	4.0	4.9
Max Green Setting (Gmax), s	6.0	21.9	5.0	* 19	5.0	* 23	5.0	19.1
Max Q Clear Time (g_c+I1), s	2.7	2.6	2.4	2.9	2.2	4.7	2.2	2.3
Green Ext Time (p_c), s	0.0	0.3	0.0	0.3	0.0	2.1	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	37	1	290	100	10	0	46	18	16	87	7
Future Volume (veh/h)	15	37	1	290	100	10	0	46	18	16	87	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1863	1863	1863	1597	1597	1597	1638	1638	1638
Adj Flow Rate, veh/h	16	40	1	315	109	11	0	50	20	17	95	8
Adj No. of Lanes	2	2	1	2	1	1	1	3	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	19	19	19	16	16	16
Cap, veh/h	237	244	109	525	284	276	4	895	279	65	1026	459
Arrive On Green	0.07	0.07	0.07	0.15	0.15	0.15	0.00	0.21	0.21	0.02	0.33	0.33
Sat Flow, veh/h	3343	3438	1538	3442	1863	1583	1521	4359	1357	3026	3112	1392
Grp Volume(v), veh/h	16	40	1	315	109	11	0	50	20	17	95	8
Grp Sat Flow(s),veh/h/ln	1672	1719	1538	1721	1863	1583	1521	1453	1357	1513	1556	1392
Q Serve(g_s), s	0.2	0.4	0.0	3.3	2.1	0.2	0.0	0.4	0.5	0.2	0.8	0.2
Cycle Q Clear(g_c), s	0.2	0.4	0.0	3.3	2.1	0.2	0.0	0.4	0.5	0.2	0.8	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	237	244	109	525	284	276	4	895	279	65	1026	459
V/C Ratio(X)	0.07	0.16	0.01	0.60	0.38	0.04	0.00	0.06	0.07	0.26	0.09	0.02
Avail Cap(c_a), veh/h	515	530	237	786	426	396	215	918	286	427	1026	459
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	17.0	16.8	15.4	14.9	13.4	0.0	12.4	12.5	18.7	9.0	8.8
Incr Delay (d2), s/veh	0.1	0.3	0.0	1.1	0.8	0.1	0.0	0.0	0.1	2.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.0	1.7	1.1	0.1	0.0	0.1	0.2	0.1	0.3	0.1
LnGrp Delay(d),s/veh	17.0	17.3	16.9	16.5	15.7	13.4	0.0	12.5	12.6	20.8	9.1	8.8
LnGrp LOS	B	B	B	B	B	B		B	B	C	A	A
Approach Vol, veh/h		57			435			70			120	
Approach Delay, s/veh		17.2			16.2			12.5			10.7	
Approach LOS		B			B			B			B	

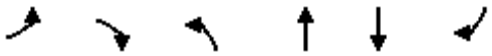
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	13.8		8.6	0.0	18.6		11.7
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	8.2		6.0	5.5	8.2		8.9
Max Q Clear Time (g_c+I1), s	2.2	2.5		2.4	0.0	2.8		5.3
Green Ext Time (p_c), s	0.0	0.1		0.0	0.0	0.2		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	20	9	27	271	4	188	87	38	2	43	10
Future Volume (veh/h)	2	20	9	27	271	4	188	87	38	2	43	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1863	1863	1863	1810	1810	1810	1610	1610	1900
Adj Flow Rate, veh/h	2	22	10	29	295	4	204	95	41	2	47	11
Adj No. of Lanes	1	2	1	2	2	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	5	5	5	18	18	18
Cap, veh/h	79	158	71	585	602	269	258	1098	491	4	428	97
Arrive On Green	0.05	0.05	0.05	0.17	0.17	0.17	0.15	0.32	0.32	0.00	0.17	0.17
Sat Flow, veh/h	1723	3438	1538	3442	3539	1583	1723	3438	1538	1533	2480	561
Grp Volume(v), veh/h	2	22	10	29	295	4	204	95	41	2	28	30
Grp Sat Flow(s),veh/h/ln	1723	1719	1538	1721	1770	1583	1723	1719	1538	1533	1530	1511
Q Serve(g_s), s	0.1	0.3	0.3	0.3	3.5	0.1	5.3	0.9	0.9	0.1	0.7	0.8
Cycle Q Clear(g_c), s	0.1	0.3	0.3	0.3	3.5	0.1	5.3	0.9	0.9	0.1	0.7	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	79	158	71	585	602	269	258	1098	491	4	264	261
V/C Ratio(X)	0.03	0.14	0.14	0.05	0.49	0.01	0.79	0.09	0.08	0.48	0.11	0.11
Avail Cap(c_a), veh/h	223	445	199	609	626	280	409	1098	491	182	277	274
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	21.2	21.2	16.1	17.4	16.0	19.0	11.0	11.0	23.1	16.2	16.2
Incr Delay (d2), s/veh	0.1	0.4	0.9	0.0	0.6	0.0	5.4	0.0	0.1	65.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.1	0.2	1.7	0.0	2.9	0.4	0.4	0.1	0.3	0.3
LnGrp Delay(d),s/veh	21.2	21.6	22.1	16.1	18.0	16.0	24.4	11.1	11.1	88.7	16.3	16.4
LnGrp LOS	C	C	C	B	B	B	C	B	B	F	B	B
Approach Vol, veh/h		34			328			340			60	
Approach Delay, s/veh		21.8			17.8			19.1			18.8	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.1	20.6		7.9	10.9	13.8		13.7
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	13.9		6.0	11.0	8.4		8.2
Max Q Clear Time (g_c+I1), s	2.1	2.9		2.3	7.3	2.8		5.5
Green Ext Time (p_c), s	0.0	0.4		0.0	0.2	0.1		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.6
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	111	295	618	688	7
Future Volume (vph)	0	111	295	618	688	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	4.0	5.8	5.8	5.8
Lane Util. Factor	0.97	0.91	0.97	0.95	0.95	1.00
Frt	0.85	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	2984	1400	3019	3112	3085	1380
Flt Permitted	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	2984	1400	3019	3112	3085	1380
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	121	321	672	748	8
RTOR Reduction (vph)	57	56	0	0	0	5
Lane Group Flow (vph)	4	4	321	672	748	3
Heavy Vehicles (%)	5%	5%	16%	16%	17%	17%
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	3.1	3.1	8.6	30.0	17.4	17.4
Effective Green, g (s)	3.1	3.1	8.6	30.0	17.4	17.4
Actuated g/C Ratio	0.07	0.07	0.19	0.67	0.39	0.39
Clearance Time (s)	5.8	5.8	4.0	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	206	97	580	2088	1200	537
v/s Ratio Prot	0.00		c0.11	0.22	c0.24	
v/s Ratio Perm		c0.00				0.00
v/c Ratio	0.02	0.04	0.55	0.32	0.62	0.01
Uniform Delay, d1	19.4	19.4	16.3	3.1	11.0	8.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.2	1.1	0.1	1.0	0.0
Delay (s)	19.4	19.6	17.5	3.2	12.0	8.4
Level of Service	B	B	B	A	B	A
Approach Delay (s)	19.5			7.8	12.0	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	44.7	Sum of lost time (s)	15.6
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	77	7	3	769	650	202
Future Volume (veh/h)	77	7	3	769	650	202
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1667	1667	1597	1597
Adj Flow Rate, veh/h	84	8	3	836	707	220
Adj No. of Lanes	1	1	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	14	14	19	19
Cap, veh/h	214	191	7	1001	1508	674
Arrive On Green	0.13	0.13	0.00	0.60	0.50	0.50
Sat Flow, veh/h	1675	1495	1587	1667	3113	1357
Grp Volume(v), veh/h	84	8	3	836	707	220
Grp Sat Flow(s),veh/h/ln	1675	1495	1587	1667	1517	1357
Q Serve(g_s), s	1.8	0.2	0.1	16.1	6.1	3.9
Cycle Q Clear(g_c), s	1.8	0.2	0.1	16.1	6.1	3.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	214	191	7	1001	1508	674
V/C Ratio(X)	0.39	0.04	0.46	0.84	0.47	0.33
Avail Cap(c_a), veh/h	334	298	198	1706	2425	1085
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	15.4	19.9	6.4	6.6	6.1
Incr Delay (d2), s/veh	1.2	0.1	43.4	1.9	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.2	0.1	7.7	2.6	1.5
LnGrp Delay(d),s/veh	17.2	15.4	63.4	8.3	6.9	6.3
LnGrp LOS	B	B	E	A	A	A
Approach Vol, veh/h	92			839	927	
Approach Delay, s/veh	17.1			8.5	6.7	
Approach LOS	B			A	A	

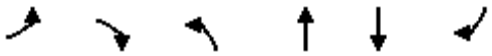
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		29.9		10.2	4.2	25.8		
Change Period (Y+Rc), s		5.8		5.1	4.0	5.8		
Max Green Setting (Gmax), s		41.1		8.0	5.0	32.1		
Max Q Clear Time (g_c+I1), s		18.1		3.8	2.1	8.1		
Green Ext Time (p_c), s		6.0		0.1	0.0	5.5		

Intersection Summary	
HCM 2010 Ctrl Delay	8.1
HCM 2010 LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	72	82	831	15	19	780
Future Volume (veh/h)	72	82	831	15	19	780
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1583	1638	1900	1624	1624
Adj Flow Rate, veh/h	78	89	903	16	21	848
Adj No. of Lanes	1	1	2	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	20	16	16	17	17
Cap, veh/h	261	233	1236	22	40	1621
Arrive On Green	0.17	0.17	0.40	0.40	0.03	0.53
Sat Flow, veh/h	1508	1346	3211	55	1547	3167
Grp Volume(v), veh/h	78	89	449	470	21	848
Grp Sat Flow(s),veh/h/ln	1508	1346	1556	1628	1547	1543
Q Serve(g_s), s	1.7	2.3	9.4	9.4	0.5	6.9
Cycle Q Clear(g_c), s	1.7	2.3	9.4	9.4	0.5	6.9
Prop In Lane	1.00	1.00		0.03	1.00	
Lane Grp Cap(c), veh/h	261	233	615	643	40	1621
V/C Ratio(X)	0.30	0.38	0.73	0.73	0.52	0.52
Avail Cap(c_a), veh/h	322	287	858	898	201	2423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	14.1	9.9	9.9	18.5	6.0
Incr Delay (d2), s/veh	0.6	1.0	2.0	1.9	10.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.9	4.3	4.5	0.3	2.9
LnGrp Delay(d),s/veh	14.5	15.1	11.9	11.8	28.4	6.2
LnGrp LOS	B	B	B	B	C	A
Approach Vol, veh/h	167		919			869
Approach Delay, s/veh	14.8		11.8			6.8
Approach LOS	B		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	5.0	21.0				26.0		12.5
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8
Max Green Setting (Gmax), s	5.0	21.2				30.2		8.2
Max Q Clear Time (g_c+I1), s	2.5	11.4				8.9		4.3
Green Ext Time (p_c), s	0.0	3.8				5.6		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	9.8
HCM 2010 LOS	A



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	87	50	2	628	600	83
Future Volume (vph)	87	50	2	628	600	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frt	0.95		1.00	1.00	0.98	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	3217		1556	3112	3029	
Flt Permitted	0.97		0.95	1.00	1.00	
Satd. Flow (perm)	3217		1556	3112	3029	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	95	54	2	683	652	90
RTOR Reduction (vph)	46	0	0	0	19	0
Lane Group Flow (vph)	103	0	2	683	723	0
Heavy Vehicles (%)	5%	5%	16%	16%	17%	17%
Turn Type	Prot		Prot	NA	NA	
Protected Phases	2		3	8	4	
Permitted Phases						
Actuated Green, G (s)	6.2		1.0	24.3	19.3	
Effective Green, g (s)	6.2		1.0	24.3	19.3	
Actuated g/C Ratio	0.15		0.02	0.58	0.46	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	473		36	1796	1388	
v/s Ratio Prot	c0.03		0.00	c0.22	c0.24	
v/s Ratio Perm						
v/c Ratio	0.22		0.06	0.38	0.52	
Uniform Delay, d1	15.8		20.1	4.8	8.1	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.2		0.6	0.1	0.4	
Delay (s)	16.0		20.7	5.0	8.5	
Level of Service	B		C	A	A	
Approach Delay (s)	16.0			5.0	8.5	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	42.1	Sum of lost time (s)	15.6
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	590	97	6	680	287	40
Future Volume (vph)	590	97	6	680	287	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.98		1.00	1.00	0.98	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	3020		1556	1638	2913	
Flt Permitted	1.00		0.95	1.00	0.96	
Satd. Flow (perm)	3020		1556	1638	2913	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	641	105	7	739	312	43
RTOR Reduction (vph)	22	0	0	0	20	0
Lane Group Flow (vph)	724	0	7	739	335	0
Heavy Vehicles (%)	17%	17%	16%	16%	19%	19%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases						
Actuated Green, G (s)	24.3		0.9	29.2	9.3	
Effective Green, g (s)	24.3		0.9	29.2	9.3	
Actuated g/C Ratio	0.49		0.02	0.58	0.19	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1464		27	954	540	
v/s Ratio Prot	0.24		0.00	c0.45	c0.11	
v/s Ratio Perm						
v/c Ratio	0.49		0.26	0.77	0.62	
Uniform Delay, d1	8.7		24.3	7.9	18.8	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.3		5.1	4.0	2.1	
Delay (s)	9.0		29.3	11.9	20.9	
Level of Service	A		C	B	C	
Approach Delay (s)	9.0			12.1	20.9	
Approach LOS	A			B	C	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	50.1	Sum of lost time (s)	15.6
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	42	30	0	131	7	74	285	0	0	255	21
Future Volume (veh/h)	17	42	30	0	131	7	74	285	0	0	255	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1583	1900	1900	1583	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	18	46	33	0	142	8	80	310	0	0	277	23
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	20	20	20	20	20	2	2	2	2	2	2
Cap, veh/h	237	117	73	0	276	16	296	538	0	0	624	52
Arrive On Green	0.19	0.19	0.19	0.00	0.19	0.19	0.37	0.37	0.00	0.00	0.37	0.37
Sat Flow, veh/h	136	627	394	0	1485	84	221	1462	0	0	1697	141
Grp Volume(v), veh/h	97	0	0	0	0	150	390	0	0	0	0	300
Grp Sat Flow(s),veh/h/ln	1157	0	0	0	0	1569	1683	0	0	0	0	1838
Q Serve(g_s), s	0.1	0.0	0.0	0.0	0.0	1.7	1.2	0.0	0.0	0.0	0.0	2.5
Cycle Q Clear(g_c), s	1.9	0.0	0.0	0.0	0.0	1.7	3.7	0.0	0.0	0.0	0.0	2.5
Prop In Lane	0.19		0.34	0.00		0.05	0.21		0.00	0.00		0.08
Lane Grp Cap(c), veh/h	427	0	0	0	0	291	835	0	0	0	0	676
V/C Ratio(X)	0.23	0.00	0.00	0.00	0.00	0.51	0.47	0.00	0.00	0.00	0.00	0.44
Avail Cap(c_a), veh/h	1395	0	0	0	0	1400	1684	0	0	0	0	1640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	0.0	0.0	0.0	0.0	7.4	5.1	0.0	0.0	0.0	0.0	4.8
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.0	1.4	0.4	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.0	0.0	0.9	1.8	0.0	0.0	0.0	0.0	1.3
LnGrp Delay(d),s/veh	7.5	0.0	0.0	0.0	0.0	8.8	5.5	0.0	0.0	0.0	0.0	5.3
LnGrp LOS	A					A	A					A
Approach Vol, veh/h		97			150			390			300	
Approach Delay, s/veh		7.5			8.8			5.5			5.3	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		11.9		8.2		11.9		8.2
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		5.7		3.9		4.5		3.7
Green Ext Time (p_c), s		1.8		0.3		1.3		0.5

Intersection Summary		
HCM 2010 Ctrl Delay		6.2
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	8	70	1	4	0	108	215	8	1	20	1
Future Vol, veh/h	8	8	70	1	4	0	108	215	8	1	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	20	20	20	20	20	2	2	2	2	2	2
Mvmt Flow	9	9	76	1	4	0	117	234	9	1	22	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	500	502	23	540	498	239	23	0	0	243	0	0
Stage 1	25	25	-	473	473	-	-	-	-	-	-	-
Stage 2	475	477	-	67	25	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.3	6.7	6.4	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.68	4.18	3.48	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	453	446	1004	426	449	758	1592	-	-	1323	-	-
Stage 1	948	840	-	539	529	-	-	-	-	-	-	-
Stage 2	538	527	-	900	840	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	420	408	1004	362	410	758	1592	-	-	1323	-	-
Mov Cap-2 Maneuver	420	408	-	362	410	-	-	-	-	-	-	-
Stage 1	867	839	-	493	484	-	-	-	-	-	-	-
Stage 2	488	482	-	822	839	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	14.1	2.4	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1592	-	-	794	399	1323	-	-
HCM Lane V/C Ratio	0.074	-	-	0.118	0.014	0.001	-	-
HCM Control Delay (s)	7.4	0	-	10.1	14.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	528	8	11	403	44	12	120	216	41	27	11
Future Volume (veh/h)	14	528	8	11	403	44	12	120	216	41	27	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	15	574	9	12	438	48	13	130	235	45	29	12
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	30	628	10	23	523	57	437	147	265	123	87	36
Arrive On Green	0.02	0.36	0.36	0.01	0.36	0.36	0.25	0.25	0.25	0.07	0.07	0.07
Sat Flow, veh/h	1675	1727	27	1560	1451	159	1774	596	1077	1774	1253	518
Grp Volume(v), veh/h	15	0	583	12	0	486	13	0	365	45	0	41
Grp Sat Flow(s),veh/h/ln	1675	0	1754	1560	0	1610	1774	0	1673	1774	0	1771
Q Serve(g_s), s	0.6	0.0	22.2	0.5	0.0	19.4	0.4	0.0	14.7	1.7	0.0	1.5
Cycle Q Clear(g_c), s	0.6	0.0	22.2	0.5	0.0	19.4	0.4	0.0	14.7	1.7	0.0	1.5
Prop In Lane	1.00		0.02	1.00		0.10	1.00		0.64	1.00		0.29
Lane Grp Cap(c), veh/h	30	0	638	23	0	580	437	0	412	123	0	123
V/C Ratio(X)	0.50	0.00	0.91	0.52	0.00	0.84	0.03	0.00	0.89	0.36	0.00	0.33
Avail Cap(c_a), veh/h	120	0	706	111	0	648	489	0	461	154	0	154
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.1	0.0	21.2	34.3	0.0	20.5	20.0	0.0	25.4	31.1	0.0	31.0
Incr Delay (d2), s/veh	12.0	0.0	15.5	16.7	0.0	8.7	0.0	0.0	17.1	1.8	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	13.4	0.3	0.0	9.9	0.2	0.0	8.8	0.9	0.0	0.8
LnGrp Delay(d),s/veh	46.1	0.0	36.7	51.0	0.0	29.2	20.1	0.0	42.6	32.9	0.0	32.6
LnGrp LOS	D		D	D		C	C		D	C		C
Approach Vol, veh/h		598			498			378			86	
Approach Delay, s/veh		37.0			29.7			41.8			32.8	
Approach LOS		D			C			D			C	

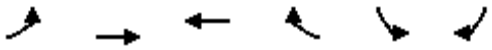
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.1	5.0	31.3		10.7	5.3	31.1
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		19.3	5.0	28.2		6.1	5.0	28.2
Max Q Clear Time (g_c+I1), s		16.7	2.5	24.2		3.7	2.6	21.4
Green Ext Time (p_c), s		0.5	0.0	1.3		0.0	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	35.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	440	4	14	472	49	16	16	42	119	12	15
Future Volume (veh/h)	2	440	4	14	472	49	16	16	42	119	12	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	478	4	15	513	53	17	17	46	129	13	16
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	5	720	6	30	628	65	150	74	144	357	18	22
Arrive On Green	0.00	0.41	0.41	0.02	0.43	0.43	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1675	1742	15	1560	1460	151	221	498	973	1227	124	152
Grp Volume(v), veh/h	2	0	482	15	0	566	80	0	0	158	0	0
Grp Sat Flow(s),veh/h/ln	1675	0	1757	1560	0	1611	1693	0	0	1503	0	0
Q Serve(g_s), s	0.0	0.0	8.2	0.4	0.0	11.5	0.0	0.0	0.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	8.2	0.4	0.0	11.5	1.6	0.0	0.0	3.6	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.09	0.21		0.57	0.82		0.10
Lane Grp Cap(c), veh/h	5	0	726	30	0	693	367	0	0	398	0	0
V/C Ratio(X)	0.43	0.00	0.66	0.50	0.00	0.82	0.22	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	225	0	1134	210	0	1040	577	0	0	581	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.5	0.0	8.8	18.0	0.0	9.3	14.2	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	53.5	0.0	1.0	12.2	0.0	3.2	0.3	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	4.1	0.3	0.0	5.6	0.8	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	72.0	0.0	9.9	30.2	0.0	12.5	14.5	0.0	0.0	15.6	0.0	0.0
LnGrp LOS	E		A	C		B	B			B		
Approach Vol, veh/h		484			581			80			158	
Approach Delay, s/veh		10.1			12.9			14.5			15.6	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.3	4.7	21.2		11.3	4.1	21.8
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		10.4	5.0	24.0		10.4	5.0	24.0
Max Q Clear Time (g_c+I1), s		3.6	2.4	10.2		5.6	2.0	13.5
Green Ext Time (p_c), s		0.1	0.0	2.3		0.3	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	241	419	352	2	16	728
Future Volume (vph)	241	419	352	2	16	728
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.8	5.8		5.8	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	0.95
Frt	1.00	1.00	1.00		0.86	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1626	3252	3164		1592	1504
Flt Permitted	0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1626	3252	3164		1592	1504
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	455	383	2	17	791
RTOR Reduction (vph)	0	0	1	0	313	60
Lane Group Flow (vph)	262	455	384	0	92	343
Heavy Vehicles (%)	11%	11%	14%	14%	2%	2%
Turn Type	Prot	NA	NA		Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases						6
Actuated Green, G (s)	13.3	29.0	11.7		9.8	23.1
Effective Green, g (s)	13.3	29.0	11.7		9.8	23.1
Actuated g/C Ratio	0.26	0.58	0.23		0.19	0.46
Clearance Time (s)	4.0	5.8	5.8		5.8	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	429	1871	734		309	689
v/s Ratio Prot	c0.16	0.14	c0.12		0.06	c0.13
v/s Ratio Perm						0.10
v/c Ratio	0.61	0.24	0.52		0.30	0.50
Uniform Delay, d1	16.3	5.3	16.9		17.4	9.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.6	0.1	0.7		0.5	0.6
Delay (s)	18.8	5.4	17.6		17.9	10.1
Level of Service	B	A	B		B	B
Approach Delay (s)		10.3	17.6		14.0	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	50.4	Sum of lost time (s)	15.6
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	26	15	145	325	472	28	541	398	380	527	9
Future Volume (veh/h)	9	26	15	145	325	472	28	541	398	380	527	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1597	1597	1597	1597	1597	1900
Adj Flow Rate, veh/h	10	28	0	158	353	0	30	588	0	413	573	0
Adj No. of Lanes	1	2	0	2	1	0	1	1	2	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	19	19	19	19	19	19
Cap, veh/h	22	611	0	242	430	0	46	575	1028	502	1516	0
Arrive On Green	0.01	0.17	0.00	0.07	0.23	0.00	0.03	0.36	0.00	0.17	0.50	0.00
Sat Flow, veh/h	1774	3632	0	3442	1863	0	1521	1597	2389	2950	3113	0
Grp Volume(v), veh/h	10	28	0	158	353	0	30	588	0	413	573	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1721	1863	0	1521	1597	1194	1475	1517	0
Q Serve(g_s), s	0.4	0.5	0.0	3.6	14.3	0.0	1.6	28.6	0.0	10.7	9.3	0.0
Cycle Q Clear(g_c), s	0.4	0.5	0.0	3.6	14.3	0.0	1.6	28.6	0.0	10.7	9.3	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	22	611	0	242	430	0	46	575	1028	502	1516	0
V/C Ratio(X)	0.45	0.05	0.00	0.65	0.82	0.00	0.65	1.02	0.00	0.82	0.38	0.00
Avail Cap(c_a), veh/h	112	2361	0	507	1400	0	140	575	1028	694	1528	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.0	27.4	0.0	36.0	29.0	0.0	38.1	25.4	0.0	31.8	12.3	0.0
Incr Delay (d2), s/veh	13.8	0.0	0.0	2.9	4.0	0.0	14.1	43.5	0.0	5.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.0	1.8	7.8	0.0	0.8	19.4	0.0	4.8	3.9	0.0
LnGrp Delay(d),s/veh	52.7	27.4	0.0	38.9	33.0	0.0	52.2	68.9	0.0	37.5	12.4	0.0
LnGrp LOS	D	C		D	C		D	F		D	B	
Approach Vol, veh/h		38			511			618			986	
Approach Delay, s/veh		34.1			34.8			68.1			22.9	
Approach LOS		C			C			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	33.1	10.1	18.2	6.9	44.2	5.5	22.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	28.6	11.7	53.0	7.3	40.0	5.0	59.7
Max Q Clear Time (g_c+I1), s	12.7	30.6	5.6	2.5	3.6	11.3	2.4	16.3
Green Ext Time (p_c), s	0.8	0.0	0.2	0.1	0.0	3.8	0.0	2.0

Intersection Summary		
HCM 2010 Ctrl Delay		38.9
HCM 2010 LOS		D

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	49	194	241	42	80	115
Future Vol, veh/h	49	194	241	42	80	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	211	262	46	87	125

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	584	285	0	0	308	0
Stage 1	285	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	474	754	-	-	1253	-
Stage 1	763	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	438	754	-	-	1253	-
Mov Cap-2 Maneuver	438	-	-	-	-	-
Stage 1	763	-	-	-	-	-
Stage 2	696	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	658	1253	-
HCM Lane V/C Ratio	-	-	0.401	0.069	-
HCM Control Delay (s)	-	-	14.1	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.9	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	23	22	21	50	83	38	600	8	70	358	0
Future Volume (veh/h)	0	23	22	21	50	83	38	600	8	70	358	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1583	1583	1900	1583	1583	1900
Adj Flow Rate, veh/h	0	25	24	23	54	90	41	652	9	76	389	0
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	0	132	127	154	92	134	582	876	12	391	890	0
Arrive On Green	0.00	0.15	0.15	0.15	0.15	0.15	0.56	0.56	0.56	0.56	0.56	0.00
Sat Flow, veh/h	0	875	840	154	605	888	842	1558	22	655	1583	0
Grp Volume(v), veh/h	0	0	49	167	0	0	41	0	661	76	389	0
Grp Sat Flow(s),veh/h/ln	0	0	1715	1648	0	0	842	0	1580	655	1583	0
Q Serve(g_s), s	0.0	0.0	0.8	1.5	0.0	0.0	0.9	0.0	9.9	3.1	4.5	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.8	3.0	0.0	0.0	5.4	0.0	9.9	13.0	4.5	0.0
Prop In Lane	0.00		0.49	0.14		0.54	1.00		0.01	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	259	380	0	0	582	0	888	391	890	0
V/C Ratio(X)	0.00	0.00	0.19	0.44	0.00	0.00	0.07	0.00	0.74	0.19	0.44	0.00
Avail Cap(c_a), veh/h	0	0	989	1070	0	0	992	0	1656	709	1660	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	11.6	12.6	0.0	0.0	5.6	0.0	5.2	10.1	4.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.8	0.0	0.0	0.1	0.0	1.3	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.4	1.4	0.0	0.0	0.2	0.0	4.5	0.6	1.9	0.0
LnGrp Delay(d),s/veh	0.0	0.0	12.0	13.4	0.0	0.0	5.6	0.0	6.4	10.3	4.3	0.0
LnGrp LOS			B	B			A		A	B	A	
Approach Vol, veh/h		49			167			702			465	
Approach Delay, s/veh		12.0			13.4			6.4			5.3	
Approach LOS		B			B			A			A	

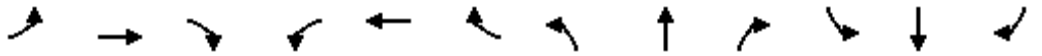
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		22.1		9.3		22.1		9.3
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		32.9		18.1		32.9		18.1
Max Q Clear Time (g_c+I1), s		11.9		2.8		15.0		5.0
Green Ext Time (p_c), s		4.4		0.1		2.6		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	7.1
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	38	51	393	507	107	56	450	47	29	251	24
Future Volume (veh/h)	11	38	51	393	507	107	56	450	47	29	251	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1583	1583	1900	1583	1583	1900
Adj Flow Rate, veh/h	12	41	0	427	551	0	61	489	0	32	273	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	27	178	0	498	673	0	364	600	0	208	600	0
Arrive On Green	0.02	0.10	0.00	0.28	0.36	0.00	0.38	0.38	0.00	0.38	0.38	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	936	1583	0	768	1583	0
Grp Volume(v), veh/h	12	41	0	427	551	0	61	489	0	32	273	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	936	1583	0	768	1583	0
Q Serve(g_s), s	0.4	1.1	0.0	12.6	14.8	0.0	2.9	15.3	0.0	2.2	7.1	0.0
Cycle Q Clear(g_c), s	0.4	1.1	0.0	12.6	14.8	0.0	10.0	15.3	0.0	17.5	7.1	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	27	178	0	498	673	0	364	600	0	208	600	0
V/C Ratio(X)	0.44	0.23	0.00	0.86	0.82	0.00	0.17	0.82	0.00	0.15	0.46	0.00
Avail Cap(c_a), veh/h	161	608	0	760	1237	0	602	1002	0	404	1002	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.9	23.0	0.0	18.8	16.0	0.0	16.6	15.4	0.0	23.2	12.9	0.0
Incr Delay (d2), s/veh	11.0	0.6	0.0	6.2	2.5	0.0	0.2	2.8	0.0	0.3	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.6	0.0	6.9	8.0	0.0	0.8	7.1	0.0	0.5	3.2	0.0
LnGrp Delay(d),s/veh	37.9	23.7	0.0	25.0	18.5	0.0	16.8	18.2	0.0	23.6	13.4	0.0
LnGrp LOS	D	C		C	B		B	B		C	B	
Approach Vol, veh/h		53			978			550			305	
Approach Delay, s/veh		26.9			21.3			18.0			14.5	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		25.4	20.0	9.8		25.4	5.3	24.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		34.9	23.6	18.0		34.9	5.0	36.6
Max Q Clear Time (g_c+I1), s		17.3	14.6	3.1		19.5	2.4	16.8
Green Ext Time (p_c), s		3.0	0.9	0.1		1.4	0.0	3.1

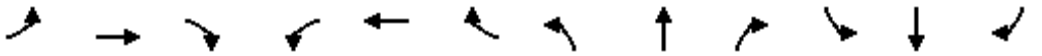
Intersection Summary	
HCM 2010 Ctrl Delay	19.4
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	111	15	414	148	0	0	0	0	599	20	106
Future Volume (vph)	0	111	15	414	148	0	0	0	0	599	20	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1		4.0	4.0					5.1	5.1	
Lane Util. Factor		0.95		0.95	0.95					0.95	0.95	
Frpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.98		1.00	1.00					1.00	0.96	
Flt Protected		1.00		0.95	0.98					0.95	0.97	
Satd. Flow (prot)		3419		1504	1652					1429	1469	
Flt Permitted		1.00		0.95	0.98					0.95	0.97	
Satd. Flow (perm)		3419		1504	1652					1429	1469	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	121	16	450	161	0	0	0	0	651	22	115
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	126	0	301	310	0	0	0	0	404	368	0
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	0%	4%	0%	14%	0%	0%	0%	0%	0%	20%	4%	2%
Turn Type		NA		Split	NA					Split	NA	
Protected Phases		4		3	3					6	6	
Permitted Phases												
Actuated Green, G (s)		12.0		22.5	22.5					41.3	41.3	
Effective Green, g (s)		12.0		22.5	22.5					41.3	41.3	
Actuated g/C Ratio		0.13		0.25	0.25					0.46	0.46	
Clearance Time (s)		5.1		4.0	4.0					5.1	5.1	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		455		376	413					655	674	
v/s Ratio Prot		c0.04		c0.20	0.19					c0.28	0.25	
v/s Ratio Perm												
v/c Ratio		0.28		0.80	0.75					0.62	0.55	
Uniform Delay, d1		35.1		31.6	31.2					18.4	17.6	
Progression Factor		1.00		0.09	0.07					1.00	1.00	
Incremental Delay, d2		0.3		9.7	6.2					4.3	3.2	
Delay (s)		35.4		12.4	8.5					22.7	20.8	
Level of Service		D		B	A					C	C	
Approach Delay (s)		35.4			10.4			0.0			21.7	
Approach LOS		D			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

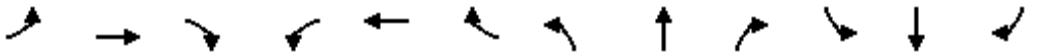
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	645	0	0	552	308	10	3	423	0	0	0
Future Volume (vph)	65	645	0	0	552	308	10	3	423	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1	5.1		5.1	5.1			
Lane Util. Factor		0.95			0.95	1.00		1.00	0.88			
Frt		1.00			1.00	0.85		1.00	0.85			
Flt Protected		1.00			1.00	1.00		0.96	1.00			
Satd. Flow (prot)		3322			3282	1346		1753	2369			
Flt Permitted		1.00			1.00	1.00		0.96	1.00			
Satd. Flow (perm)		3322			3282	1346		1753	2369			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	701	0	0	600	335	11	3	460	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	105	0	0	0
Lane Group Flow (vph)	0	772	0	0	600	335	0	14	355	0	0	0
Heavy Vehicles (%)	10%	8%	0%	0%	10%	20%	0%	20%	20%	0%	0%	0%
Turn Type	Split	NA			NA	custom	Split	NA	custom			
Protected Phases	2!	2			6	2 4!	4	4!	6			
Permitted Phases						6			4			
Actuated Green, G (s)		39.2			23.5	79.8		12.0	35.5			
Effective Green, g (s)		39.2			23.5	79.8		12.0	35.5			
Actuated g/C Ratio		0.44			0.26	0.89		0.13	0.39			
Clearance Time (s)		5.1			5.1			5.1	5.1			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		1446			856	1346		233	1068			
v/s Ratio Prot		c0.23			c0.18	0.16		0.01	c0.09			
v/s Ratio Perm						0.09			0.06			
v/c Ratio		0.53			0.70	0.25		0.06	0.33			
Uniform Delay, d1		18.7			30.1	0.7		34.1	19.0			
Progression Factor		0.37			0.55	1.00		1.00	1.00			
Incremental Delay, d2		1.2			2.5	0.1		0.1	0.2			
Delay (s)		8.1			19.1	0.8		34.2	19.2			
Level of Service		A			B	A		C	B			
Approach Delay (s)		8.1			12.6			19.6			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	525	267	113	400	258	278	8	117	139	0	182
Future Volume (vph)	276	525	267	113	400	258	278	8	117	139	0	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.95	0.91	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)	3213	3282	1583	1770	3059	1583	3433	1863	1583	1698	1372	1346
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)	3213	3282	1583	1770	3059	1583	3433	1863	1583	1698	1372	1346
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	300	571	290	123	435	280	302	9	127	151	0	198
RTOR Reduction (vph)	0	0	179	0	0	191	0	0	108	0	104	82
Lane Group Flow (vph)	300	571	111	123	435	89	302	9	19	121	12	31
Heavy Vehicles (%)	9%	10%	2%	2%	18%	2%	2%	2%	2%	1%	2%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	15.3	34.3	34.3	11.5	28.5	28.5	13.7	13.7	13.7	9.0	9.0	24.3
Effective Green, g (s)	15.3	34.3	34.3	11.5	28.5	28.5	13.7	13.7	13.7	9.0	9.0	24.3
Actuated g/C Ratio	0.17	0.38	0.38	0.13	0.32	0.32	0.15	0.15	0.15	0.10	0.10	0.27
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	546	1250	603	226	968	501	522	283	240	169	137	460
v/s Ratio Prot	c0.09	c0.17		c0.07	0.14		c0.09	0.00		c0.07	0.01	0.01
v/s Ratio Perm			0.07			0.06			0.01			0.01
v/c Ratio	0.55	0.46	0.18	0.54	0.45	0.18	0.58	0.03	0.08	0.72	0.08	0.07
Uniform Delay, d1	34.2	20.9	18.5	36.8	24.5	22.3	35.5	32.5	32.7	39.3	36.8	24.4
Progression Factor	0.78	0.67	1.17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	1.1	0.6	2.7	1.5	0.8	1.6	0.0	0.1	13.5	0.3	0.1
Delay (s)	27.7	15.1	22.2	39.5	26.0	23.0	37.0	32.5	32.9	52.7	37.0	24.5
Level of Service	C	B	C	D	C	C	D	C	C	D	D	C
Approach Delay (s)		20.1			27.0			35.7			38.4	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	597	45	10	568	70	0	19	17	122	11	246
Future Volume (veh/h)	188	597	45	10	568	70	0	19	17	122	11	246
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1753	1900	1900	1827	1583	1900	1900	1900	1583	1595	1900
Adj Flow Rate, veh/h	204	649	49	11	617	76	0	21	18	133	12	267
Adj No. of Lanes	2	2	0	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	322	1346	102	60	1167	447	139	255	218	432	16	352
Arrive On Green	0.11	0.43	0.43	0.02	0.34	0.34	0.00	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	2925	3137	237	3510	3471	1329	1118	946	811	1158	59	1306
Grp Volume(v), veh/h	204	344	354	11	617	76	0	0	39	133	0	279
Grp Sat Flow(s),veh/h/ln	1463	1666	1708	1755	1736	1329	1118	0	1757	1158	0	1364
Q Serve(g_s), s	3.4	7.7	7.7	0.2	7.4	2.1	0.0	0.0	0.9	5.0	0.0	9.7
Cycle Q Clear(g_c), s	3.4	7.7	7.7	0.2	7.4	2.1	0.0	0.0	0.9	5.9	0.0	9.7
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.46	1.00		0.96
Lane Grp Cap(c), veh/h	322	715	733	60	1167	447	139	0	473	432	0	368
V/C Ratio(X)	0.63	0.48	0.48	0.18	0.53	0.17	0.00	0.00	0.08	0.31	0.00	0.76
Avail Cap(c_a), veh/h	527	1203	1233	408	2285	875	639	0	1259	950	0	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	10.6	10.6	25.0	13.8	12.1	0.0	0.0	14.1	16.3	0.0	17.3
Incr Delay (d2), s/veh	2.1	1.1	1.1	1.5	0.8	0.4	0.0	0.0	0.1	0.4	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.7	3.8	0.1	3.6	0.8	0.0	0.0	0.4	1.6	0.0	4.0
LnGrp Delay(d),s/veh	24.1	11.7	11.7	26.5	14.6	12.5	0.0	0.0	14.2	16.7	0.0	20.6
LnGrp LOS	C	B	B	C	B	B			B	B		C
Approach Vol, veh/h		902			704			39			412	
Approach Delay, s/veh		14.5			14.6			14.2			19.3	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.4	27.9		18.4	10.2	23.1		18.4
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		4.5
Max Green Setting (Gmax), s	6.9	37.3		37.0	9.3	34.0		37.0
Max Q Clear Time (g_c+I1), s	2.2	9.7		11.7	5.4	9.4		2.9
Green Ext Time (p_c), s	0.0	8.3		2.3	0.2	7.9		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	551	143	11	571	57	88	15	12	73	173	56
Future Volume (veh/h)	98	551	143	11	571	57	88	15	12	73	173	56
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1856	1900	1743	1827	1900	1900	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	107	599	155	12	621	62	96	16	13	79	188	61
Adj No. of Lanes	2	2	0	1	1	1	2	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	3	0	9	4	0	0	0	0	1	0	0
Cap, veh/h	280	1294	334	30	741	655	272	145	118	128	272	231
Arrive On Green	0.08	0.47	0.47	0.02	0.41	0.41	0.08	0.15	0.15	0.07	0.14	0.14
Sat Flow, veh/h	3476	2762	713	1660	1827	1615	3510	971	789	1792	1900	1615
Grp Volume(v), veh/h	107	382	372	12	621	62	96	0	29	79	188	61
Grp Sat Flow(s),veh/h/ln	1738	1763	1712	1660	1827	1615	1755	0	1761	1792	1900	1615
Q Serve(g_s), s	1.8	9.3	9.3	0.5	19.3	1.5	1.6	0.0	0.9	2.7	5.9	2.1
Cycle Q Clear(g_c), s	1.8	9.3	9.3	0.5	19.3	1.5	1.6	0.0	0.9	2.7	5.9	2.1
Prop In Lane	1.00		0.42	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	280	826	802	30	741	655	272	0	263	128	272	231
V/C Ratio(X)	0.38	0.46	0.46	0.40	0.84	0.09	0.35	0.00	0.11	0.62	0.69	0.26
Avail Cap(c_a), veh/h	430	886	860	158	866	765	334	0	753	193	837	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	11.4	11.4	30.6	16.9	11.6	27.6	0.0	23.2	28.5	25.7	24.1
Incr Delay (d2), s/veh	0.3	0.9	0.9	17.5	7.9	0.1	0.3	0.0	0.2	1.8	3.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.7	4.5	0.4	11.3	0.7	0.8	0.0	0.4	1.4	3.3	1.0
LnGrp Delay(d),s/veh	27.8	12.2	12.3	48.1	24.7	11.7	27.9	0.0	23.4	30.3	28.9	24.7
LnGrp LOS	C	B	B	D	C	B	C		C	C	C	C
Approach Vol, veh/h		861			695			125			328	
Approach Delay, s/veh		14.2			24.0			26.9			28.4	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	35.1	9.1	13.6	9.3	31.1	8.7	14.0
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	31.7	* 6	27.8	* 7.8	29.9	* 6.8	27.0
Max Q Clear Time (g_c+I1), s	2.5	11.3	3.6	7.9	3.8	21.3	4.7	2.9
Green Ext Time (p_c), s	0.0	7.9	0.0	1.1	0.0	4.3	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	558	34	75	607	80	10	32	22	38	28	35
Future Volume (veh/h)	88	558	34	75	607	80	10	32	22	38	28	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	0.99		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1848	1900	1900	1847	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	96	607	37	82	660	87	11	35	24	41	30	38
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0	0	3	2	0	0	0	0	0	0
Cap, veh/h	173	1168	71	158	1059	139	263	111	76	272	81	103
Arrive On Green	0.10	0.35	0.35	0.09	0.34	0.34	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1810	3357	204	1810	3118	410	1345	1039	713	1359	760	962
Grp Volume(v), veh/h	96	317	327	82	371	376	11	0	59	41	0	68
Grp Sat Flow(s),veh/h/ln	1810	1755	1807	1810	1754	1774	1345	0	1752	1359	0	1722
Q Serve(g_s), s	2.2	6.1	6.1	1.8	7.5	7.6	0.3	0.0	1.3	1.2	0.0	1.6
Cycle Q Clear(g_c), s	2.2	6.1	6.1	1.8	7.5	7.6	1.9	0.0	1.3	2.6	0.0	1.6
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.41	1.00		0.56
Lane Grp Cap(c), veh/h	173	611	629	158	596	603	263	0	188	272	0	184
V/C Ratio(X)	0.55	0.52	0.52	0.52	0.62	0.62	0.04	0.00	0.31	0.15	0.00	0.37
Avail Cap(c_a), veh/h	276	820	844	365	906	916	814	0	905	828	0	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	11.1	11.1	18.6	11.8	11.8	18.6	0.0	17.6	18.8	0.0	17.7
Incr Delay (d2), s/veh	2.8	1.0	1.0	2.6	1.5	1.5	0.1	0.0	0.9	0.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.1	3.2	1.0	3.9	3.9	0.1	0.0	0.7	0.5	0.0	0.8
LnGrp Delay(d),s/veh	21.2	12.0	12.0	21.2	13.3	13.3	18.6	0.0	18.5	19.0	0.0	18.9
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		740			829			70			109	
Approach Delay, s/veh		13.2			14.1			18.5			19.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.2	21.3		11.1	10.6	21.0		11.1
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	8.6	19.9		22.0	6.5	22.0		22.0
Max Q Clear Time (g_c+I1), s	3.8	8.1		4.6	4.2	9.6		3.9
Green Ext Time (p_c), s	0.1	3.9		0.4	0.0	4.9		0.2

Intersection Summary			
HCM 2010 Ctrl Delay		14.2	
HCM 2010 LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	377	49	243	384	120	29	107	82	154	372	58
Future Volume (veh/h)	142	377	49	243	384	120	29	107	82	154	372	58
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1841	1900	1881	1845	1900	1845	1881	1863	1881	1900	1900
Adj Flow Rate, veh/h	154	410	53	264	417	130	32	116	89	167	404	63
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	5	1	3	0	3	1	2	1	0	0
Cap, veh/h	195	644	83	324	918	415	243	608	511	445	614	509
Arrive On Green	0.11	0.21	0.21	0.18	0.26	0.26	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3111	400	1792	3505	1585	909	1881	1582	1183	1900	1577
Grp Volume(v), veh/h	154	229	234	264	417	130	32	116	89	167	404	63
Grp Sat Flow(s),veh/h/ln	1774	1749	1762	1792	1752	1585	909	1881	1582	1183	1900	1577
Q Serve(g_s), s	5.3	7.5	7.6	8.8	6.2	4.1	2.0	2.8	2.5	7.4	11.4	1.8
Cycle Q Clear(g_c), s	5.3	7.5	7.6	8.8	6.2	4.1	13.3	2.8	2.5	10.2	11.4	1.8
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	195	362	365	324	918	415	243	608	511	445	614	509
V/C Ratio(X)	0.79	0.63	0.64	0.81	0.45	0.31	0.13	0.19	0.17	0.38	0.66	0.12
Avail Cap(c_a), veh/h	285	562	566	662	1801	815	446	1027	864	709	1038	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	22.5	22.6	24.5	19.3	18.5	23.9	15.2	15.1	18.9	18.1	14.9
Incr Delay (d2), s/veh	8.8	3.9	4.0	5.0	0.8	0.9	0.5	0.3	0.3	1.1	2.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.0	4.0	4.8	3.1	1.9	0.5	1.5	1.1	2.6	6.4	0.8
LnGrp Delay(d),s/veh	35.8	26.4	26.6	29.5	20.0	19.4	24.4	15.5	15.5	20.0	20.7	15.1
LnGrp LOS	D	C	C	C	C	B	C	B	B	B	C	B
Approach Vol, veh/h		617			811			237			634	
Approach Delay, s/veh		28.8			23.0			16.7			19.9	
Approach LOS		C			C			B			B	

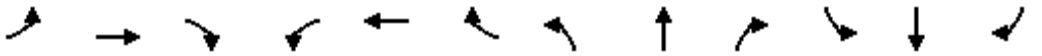
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.3	18.9		26.1	13.8	22.3		26.1
Change Period (Y+Rc), s	6.0	6.0		6.0	7.0	6.0		6.0
Max Green Setting (Gmax), s	23.0	20.0		34.0	10.0	32.0		34.0
Max Q Clear Time (g_c+I1), s	10.8	9.6		13.4	7.3	8.2		15.3
Green Ext Time (p_c), s	0.6	3.1		6.3	0.1	5.7		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	23.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	281	63	23	364	15	39	38	6	3	59	148
Future Volume (veh/h)	157	281	63	23	364	15	39	38	6	3	59	148
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1811	1900	1900	1827	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	171	305	68	25	396	16	42	41	7	3	64	161
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	6	0	0	4	0	0	0	0	0	0	0
Cap, veh/h	565	1370	301	657	892	787	280	222	29	114	106	260
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	988	2805	616	1024	1827	1612	534	1018	131	8	487	1189
Grp Volume(v), veh/h	171	185	188	25	396	16	90	0	0	228	0	0
Grp Sat Flow(s),veh/h/ln	988	1721	1701	1024	1827	1612	1683	0	0	1684	0	0
Q Serve(g_s), s	4.4	2.0	2.1	0.5	4.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.0	2.0	2.1	2.5	4.6	0.2	1.3	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.36	1.00		1.00	0.47		0.08	0.01		0.71
Lane Grp Cap(c), veh/h	565	840	831	657	892	787	531	0	0	480	0	0
V/C Ratio(X)	0.30	0.22	0.23	0.04	0.44	0.02	0.17	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	887	1401	1385	991	1488	1313	1294	0	0	1362	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.4	4.8	4.8	5.5	5.4	4.3	10.4	0.0	0.0	11.4	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.3	0.3	0.1	0.7	0.0	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.0	1.0	0.1	2.4	0.1	0.7	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	9.0	5.0	5.1	5.5	6.2	4.3	10.5	0.0	0.0	12.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B			B		
Approach Vol, veh/h		544			437			90			228	
Approach Delay, s/veh		6.3			6.1			10.5			12.2	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		20.4		12.0		20.4		12.0
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		26.4		24.1		26.4		24.1
Max Q Clear Time (g_c+I1), s		11.0		3.3		6.6		6.0
Green Ext Time (p_c), s		4.8		0.4		4.5		1.3

Intersection Summary		
HCM 2010 Ctrl Delay		7.5
HCM 2010 LOS		A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	109	127	15	54	6	111	350	48	19	660	175
Future Volume (vph)	158	109	127	15	54	6	111	350	48	19	660	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1703	1662		1805	1837		1703	1803		1556	1810	1553
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1703	1662		1805	1837		1703	1803		1556	1810	1553
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	172	118	138	16	59	7	121	380	52	21	717	190
RTOR Reduction (vph)	0	49	0	0	5	0	0	5	0	0	0	100
Lane Group Flow (vph)	172	207	0	16	61	0	121	427	0	21	717	90
Heavy Vehicles (%)	6%	4%	6%	0%	2%	0%	6%	3%	7%	16%	5%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	14.7	14.7		4.6	4.6		7.1	46.7		1.9	41.5	41.5
Effective Green, g (s)	14.7	14.7		4.6	4.6		7.1	46.7		1.9	41.5	41.5
Actuated g/C Ratio	0.17	0.17		0.05	0.05		0.08	0.53		0.02	0.47	0.47
Clearance Time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	286	279		95	96		138	963		33	859	737
v/s Ratio Prot	0.10	c0.12		0.01	c0.03		c0.07	0.24		0.01	c0.40	
v/s Ratio Perm												0.06
v/c Ratio	0.60	0.74		0.17	0.64		0.88	0.44		0.64	0.83	0.12
Uniform Delay, d1	33.6	34.5		39.6	40.6		39.7	12.4		42.4	20.0	12.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.5	10.2		0.8	13.1		41.9	1.5		33.9	9.4	0.3
Delay (s)	37.2	44.7		40.4	53.7		81.6	13.9		76.3	29.4	13.1
Level of Service	D	D		D	D		F	B		E	C	B
Approach Delay (s)		41.7			51.1			28.7			27.1	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	87.4	Sum of lost time (s)	19.5
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	93	61	74	83	12	28	454	62	57	763	13
Future Volume (veh/h)	13	93	61	74	83	12	28	454	62	57	763	13
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1583	1583	1583	1583	1583	1900
Adj Flow Rate, veh/h	14	101	66	80	90	13	30	493	67	62	829	14
Adj No. of Lanes	1	1	0	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	38	158	103	378	386	56	245	858	531	106	952	16
Arrive On Green	0.02	0.15	0.15	0.11	0.24	0.24	0.04	0.29	0.29	0.07	0.31	0.31
Sat Flow, veh/h	1774	1053	688	3442	1592	230	1508	3008	1346	1508	3027	51
Grp Volume(v), veh/h	14	0	167	80	0	103	30	493	67	62	412	431
Grp Sat Flow(s),veh/h/ln	1774	0	1741	1721	0	1822	1508	1504	1346	1508	1504	1574
Q Serve(g_s), s	0.4	0.0	4.3	1.0	0.0	2.2	0.7	6.7	0.4	1.9	12.3	12.3
Cycle Q Clear(g_c), s	0.4	0.0	4.3	1.0	0.0	2.2	0.7	6.7	0.4	1.9	12.3	12.3
Prop In Lane	1.00		0.40	1.00		0.13	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	38	0	261	378	0	442	245	858	531	106	473	495
V/C Ratio(X)	0.37	0.00	0.64	0.21	0.00	0.23	0.12	0.57	0.13	0.58	0.87	0.87
Avail Cap(c_a), veh/h	224	0	300	2099	0	1203	373	1424	785	222	743	778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	0.0	19.0	19.3	0.0	14.5	12.3	14.5	2.0	21.4	15.4	15.4
Incr Delay (d2), s/veh	2.2	0.0	2.2	0.1	0.0	0.1	0.1	0.2	0.0	1.9	4.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.2	0.5	0.0	1.1	0.3	2.8	0.3	0.8	5.6	5.8
LnGrp Delay(d),s/veh	25.2	0.0	21.2	19.4	0.0	14.6	12.4	14.8	2.1	23.3	19.7	19.5
LnGrp LOS	C		C	B		B	B	B	A	C	B	B
Approach Vol, veh/h		181			183			590			905	
Approach Delay, s/veh		21.5			16.7			13.2			19.9	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	11.3	7.4	18.5	5.0	16.7	6.0	19.8
Change Period (Y+Rc), s	* 5.2	* 4.2	4.0	4.9	4.0	* 5.2	4.0	4.9
Max Green Setting (Gmax), s	* 23	* 8.2	7.0	22.5	6.0	* 31	6.0	23.5
Max Q Clear Time (g_c+I1), s	13.0	6.3	3.9	8.7	2.4	4.2	2.7	14.3
Green Ext Time (p_c), s	0.0	0.1	0.0	0.5	0.0	0.2	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	17.6
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	328	11	281	446	96	18	320	245	116	669	3
Future Volume (veh/h)	25	328	11	281	446	96	18	320	245	116	669	3
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1870	1900	1810	1900	1900	1900	1845	1845	1881	1810	1900
Adj Flow Rate, veh/h	27	357	12	305	485	104	20	348	266	126	727	3
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	20	5	0	0	0	3	3	1	5	0
Cap, veh/h	312	472	16	462	731	607	219	757	336	703	934	4
Arrive On Green	0.03	0.26	0.26	0.15	0.38	0.38	0.02	0.22	0.22	0.07	0.27	0.27
Sat Flow, veh/h	1723	1798	60	1723	1900	1578	1810	3505	1557	3476	3512	14
Grp Volume(v), veh/h	27	0	369	305	485	104	20	348	266	126	356	374
Grp Sat Flow(s),veh/h/ln	1723	0	1858	1723	1900	1578	1810	1752	1557	1738	1719	1807
Q Serve(g_s), s	0.7	0.0	10.8	7.0	12.5	2.6	0.5	5.1	9.6	1.5	11.3	11.3
Cycle Q Clear(g_c), s	0.7	0.0	10.8	7.0	12.5	2.6	0.5	5.1	9.6	1.5	11.3	11.3
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	312	0	488	462	731	607	219	757	336	703	457	481
V/C Ratio(X)	0.09	0.00	0.76	0.66	0.66	0.17	0.09	0.46	0.79	0.18	0.78	0.78
Avail Cap(c_a), veh/h	420	0	847	738	1283	1066	421	1568	697	769	697	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.3	0.0	20.1	12.9	15.1	12.0	17.9	20.2	22.0	15.1	20.1	20.1
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.6	0.4	0.0	0.1	0.2	1.6	0.0	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.7	3.4	6.5	1.1	0.3	2.5	4.2	0.7	5.5	5.8
LnGrp Delay(d),s/veh	15.3	0.0	21.0	13.5	15.4	12.1	18.0	20.4	23.6	15.2	21.5	21.4
LnGrp LOS	B		C	B	B	B	B	C	C	B	C	C
Approach Vol, veh/h		396			894			634			856	
Approach Delay, s/veh		20.6			14.4			21.6			20.5	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	27.4	8.4	17.7	13.0	20.1	5.4	20.7
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.5	40.0	5.5	26.5	18.5	27.0	8.0	24.0
Max Q Clear Time (g_c+I1), s	2.7	14.5	3.5	11.6	9.0	12.8	2.5	13.3
Green Ext Time (p_c), s	0.0	0.4	0.0	0.3	0.1	0.4	0.0	0.5

Intersection Summary		
HCM 2010 Ctrl Delay		18.8
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	20	20	13	57	66	51	422	6	46	800	12
Future Volume (veh/h)	6	20	20	13	57	66	51	422	6	46	800	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1583	1583	1583	1583	1583	1900
Adj Flow Rate, veh/h	7	22	22	14	62	72	55	459	7	50	870	13
Adj No. of Lanes	1	2	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	339	505	226	384	266	226	88	1225	548	82	1223	18
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.06	0.41	0.41	0.05	0.40	0.40
Sat Flow, veh/h	1250	3539	1583	1357	1863	1583	1508	3008	1346	1508	3034	45
Grp Volume(v), veh/h	7	22	22	14	62	72	55	459	7	50	431	452
Grp Sat Flow(s),veh/h/ln	1250	1770	1583	1357	1863	1583	1508	1504	1346	1508	1504	1575
Q Serve(g_s), s	0.2	0.2	0.4	0.3	1.1	1.5	1.3	3.9	0.1	1.2	8.7	8.7
Cycle Q Clear(g_c), s	1.3	0.2	0.4	0.5	1.1	1.5	1.3	3.9	0.1	1.2	8.7	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	339	505	226	384	266	226	88	1225	548	82	606	635
V/C Ratio(X)	0.02	0.04	0.10	0.04	0.23	0.32	0.62	0.37	0.01	0.61	0.71	0.71
Avail Cap(c_a), veh/h	779	1750	783	862	921	783	232	1719	769	282	909	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	13.5	13.6	13.7	13.8	14.0	16.7	7.6	6.4	16.8	9.1	9.1
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	0.4	0.8	7.0	0.2	0.0	7.1	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.2	0.1	0.6	0.7	0.7	1.6	0.0	0.6	3.9	4.0
LnGrp Delay(d),s/veh	14.4	13.5	13.7	13.7	14.3	14.8	23.7	7.7	6.4	23.9	10.7	10.6
LnGrp LOS	B	B	B	B	B	B	C	A	A	C	B	B
Approach Vol, veh/h		51			148			521			933	
Approach Delay, s/veh		13.7			14.5			9.4			11.3	
Approach LOS		B			B			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	20.6		9.8	6.1	20.5		9.8
Change Period (Y+Rc), s	4.0	5.8		4.6	4.0	5.8		4.6
Max Green Setting (Gmax), s	6.8	20.8		18.0	5.6	22.0		18.0
Max Q Clear Time (g_c+I1), s	3.2	5.9		3.3	3.3	10.7		3.5
Green Ext Time (p_c), s	0.0	2.4		0.1	0.0	3.9		0.5

Intersection Summary		
HCM 2010 Ctrl Delay	11.1	
HCM 2010 LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	110	50	29	68	1	67	2	37	0	3	1
Future Volume (veh/h)	1	110	50	29	68	1	67	2	37	0	3	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1827	1759	1900	1655	1900	1845	1583	1845	1900	1583	1900
Adj Flow Rate, veh/h	1	120	54	32	74	1	73	2	40	0	3	1
Adj No. of Lanes	1	2	1	1	1	0	2	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	4	8	0	15	0	3	20	3	0	20	20
Cap, veh/h	5	890	556	70	479	6	414	192	190	0	7	2
Arrive On Green	0.00	0.26	0.26	0.04	0.29	0.29	0.12	0.12	0.12	0.00	0.01	0.01
Sat Flow, veh/h	1508	3471	1459	1810	1629	22	3408	1583	1568	0	1137	379
Grp Volume(v), veh/h	1	120	54	32	0	75	73	2	40	0	0	4
Grp Sat Flow(s),veh/h/ln	1508	1736	1459	1810	0	1651	1704	1583	1568	0	0	1516
Q Serve(g_s), s	0.0	0.8	0.7	0.5	0.0	1.0	0.6	0.0	0.7	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	0.8	0.7	0.5	0.0	1.0	0.6	0.0	0.7	0.0	0.0	0.1
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.00		0.25
Lane Grp Cap(c), veh/h	5	890	556	70	0	485	414	192	190	0	0	10
V/C Ratio(X)	0.21	0.13	0.10	0.46	0.00	0.15	0.18	0.01	0.21	0.00	0.00	0.40
Avail Cap(c_a), veh/h	242	946	579	290	0	485	819	381	377	0	0	292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	8.9	6.3	14.7	0.0	8.1	12.3	12.1	12.4	0.0	0.0	15.4
Incr Delay (d2), s/veh	19.9	0.1	0.1	4.5	0.0	0.1	0.2	0.0	0.5	0.0	0.0	24.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.4	0.4	0.0	0.5	0.3	0.0	0.3	0.0	0.0	0.1
LnGrp Delay(d),s/veh	35.4	9.0	6.3	19.2	0.0	8.3	12.5	12.1	12.9	0.0	0.0	39.6
LnGrp LOS	D	A	A	B		A	B	B	B			D
Approach Vol, veh/h		175			107			115			4	
Approach Delay, s/veh		8.3			11.6			12.6			39.6	
Approach LOS		A			B			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		8.3	5.7	12.5		4.7	4.5	13.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		7.5	5.0	8.5		6.0	5.0	8.5
Max Q Clear Time (g_c+I1), s		2.7	2.5	2.8		2.1	2.0	3.0
Green Ext Time (p_c), s		0.1	0.0	0.4		0.0	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	29	58	68	2	450	33	55	250	38
Future Volume (veh/h)	0	0	0	29	58	68	2	450	33	55	250	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1583	1900	1827	1900	1583	1583	1827	1681	1900
Adj Flow Rate, veh/h	0	0	0	32	63	74	2	489	36	60	272	41
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	20	0	4	0	20	20	4	13	0
Cap, veh/h	11	107	48	58	709	305	11	882	394	113	1135	574
Arrive On Green	0.00	0.00	0.00	0.04	0.20	0.20	0.00	0.29	0.29	0.06	0.36	0.36
Sat Flow, veh/h	3442	3539	1583	1508	3610	1553	3510	3008	1346	1740	3195	1615
Grp Volume(v), veh/h	0	0	0	32	63	74	2	489	36	60	272	41
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1508	1805	1553	1755	1504	1346	1740	1597	1615
Q Serve(g_s), s	0.0	0.0	0.0	0.7	0.4	1.3	0.0	4.3	0.6	1.0	1.9	0.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.7	0.4	1.3	0.0	4.3	0.6	1.0	1.9	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	11	107	48	58	709	305	11	882	394	113	1135	574
V/C Ratio(X)	0.00	0.00	0.00	0.55	0.09	0.24	0.18	0.55	0.09	0.53	0.24	0.07
Avail Cap(c_a), veh/h	548	2141	958	288	2264	974	559	2040	913	332	2319	1172
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	14.8	10.3	10.6	15.6	9.4	8.1	14.2	7.1	6.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	7.7	0.1	0.4	7.4	0.5	0.1	3.8	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.4	0.2	0.6	0.0	1.8	0.2	0.6	0.8	0.2
LnGrp Delay(d),s/veh	0.0	0.0	0.0	22.6	10.4	11.1	23.1	9.9	8.2	18.1	7.2	6.8
LnGrp LOS				C	B	B	C	A	A	B	A	A
Approach Vol, veh/h		0			169			527			373	
Approach Delay, s/veh		0.0			13.0			9.9			8.9	
Approach LOS					B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	14.3	5.2	5.9	4.1	16.3	0.0	11.1
Change Period (Y+Rc), s	4.0	5.1	4.0	* 4.9	4.0	* 5.1	4.0	4.9
Max Green Setting (Gmax), s	6.0	21.3	6.0	* 19	5.0	* 23	5.0	19.7
Max Q Clear Time (g_c+I1), s	3.0	6.3	2.7	0.0	2.0	3.9	0.0	3.3
Green Ext Time (p_c), s	0.0	2.9	0.0	0.0	0.0	1.8	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	10.0
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	210	0	10	102	16	1	350	100	16	300	12
Future Volume (veh/h)	0	210	0	10	102	16	1	350	100	16	300	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1759	1759	1759	1610	1610	1610	1638	1638	1638
Adj Flow Rate, veh/h	0	228	0	11	111	17	1	380	109	17	326	13
Adj No. of Lanes	2	2	1	2	1	1	1	3	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	8	8	8	18	18	18	16	16	16
Cap, veh/h	470	483	216	380	206	207	4	867	270	65	676	303
Arrive On Green	0.00	0.14	0.00	0.12	0.12	0.12	0.00	0.20	0.20	0.02	0.22	0.22
Sat Flow, veh/h	3442	3539	1583	3250	1759	1495	1533	4396	1369	3026	3112	1392
Grp Volume(v), veh/h	0	228	0	11	111	17	1	380	109	17	326	13
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1625	1759	1495	1533	1465	1369	1513	1556	1392
Q Serve(g_s), s	0.0	2.4	0.0	0.1	2.4	0.4	0.0	3.1	2.8	0.2	3.7	0.3
Cycle Q Clear(g_c), s	0.0	2.4	0.0	0.1	2.4	0.4	0.0	3.1	2.8	0.2	3.7	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	470	483	216	380	206	207	4	867	270	65	676	303
V/C Ratio(X)	0.00	0.47	0.00	0.03	0.54	0.08	0.26	0.44	0.40	0.26	0.48	0.04
Avail Cap(c_a), veh/h	526	541	242	577	312	298	208	1051	327	410	744	333
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	16.2	0.0	15.9	16.9	15.2	20.2	14.3	14.2	19.5	13.9	12.5
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	2.2	0.2	33.6	0.3	1.0	2.1	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.2	0.0	0.1	1.3	0.2	0.0	1.3	1.1	0.1	1.6	0.1
LnGrp Delay(d),s/veh	0.0	16.9	0.0	15.9	19.1	15.4	53.8	14.7	15.2	21.6	14.4	12.6
LnGrp LOS		B		B	B	B	D	B	B	C	B	B
Approach Vol, veh/h		228			139			490			356	
Approach Delay, s/veh		16.9			18.4			14.8			14.7	
Approach LOS		B			B			B			B	

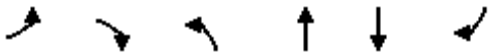
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	13.8		11.3	4.1	14.6		10.5
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	9.7		6.2	5.5	9.7		7.2
Max Q Clear Time (g_c+I1), s	2.2	5.1		4.4	2.0	5.7		4.4
Green Ext Time (p_c), s	0.0	1.1		0.2	0.0	0.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	350	8	17	120	8	5	48	28	17	101	3
Future Volume (veh/h)	2	350	8	17	120	8	5	48	28	17	101	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1759	1759	1759	1743	1743	1743	1667	1667	1900
Adj Flow Rate, veh/h	2	380	9	18	130	9	5	52	30	18	110	3
Adj No. of Lanes	1	2	1	2	2	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	8	8	8	9	9	9	14	14	14
Cap, veh/h	261	520	233	507	522	233	11	608	272	36	628	17
Arrive On Green	0.15	0.15	0.15	0.16	0.16	0.16	0.01	0.18	0.18	0.02	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3250	3343	1495	1660	3312	1482	1587	3149	86
Grp Volume(v), veh/h	2	380	9	18	130	9	5	52	30	18	55	58
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1625	1671	1495	1660	1656	1482	1587	1583	1652
Q Serve(g_s), s	0.0	4.5	0.2	0.2	1.5	0.2	0.1	0.6	0.7	0.5	1.3	1.3
Cycle Q Clear(g_c), s	0.0	4.5	0.2	0.2	1.5	0.2	0.1	0.6	0.7	0.5	1.3	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	261	520	233	507	522	233	11	608	272	36	316	329
V/C Ratio(X)	0.01	0.73	0.04	0.04	0.25	0.04	0.45	0.09	0.11	0.50	0.17	0.18
Avail Cap(c_a), veh/h	261	520	233	597	614	274	209	661	296	200	316	330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	17.8	16.0	15.6	16.1	15.6	21.6	14.8	14.8	21.1	14.5	14.5
Incr Delay (d2), s/veh	0.0	5.2	0.1	0.0	0.2	0.1	25.5	0.1	0.2	10.6	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	0.1	0.1	0.7	0.1	0.1	0.3	0.3	0.3	0.6	0.6
LnGrp Delay(d),s/veh	15.9	23.0	16.0	15.6	16.4	15.7	47.1	14.8	15.0	31.7	14.7	14.7
LnGrp LOS	B	C	B	B	B	B	D	B	B	C	B	B
Approach Vol, veh/h		391			157			87			131	
Approach Delay, s/veh		22.8			16.3			16.7			17.1	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	13.8		12.2	4.3	14.5		12.6
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	8.7		6.4	5.5	8.7		8.0
Max Q Clear Time (g_c+I1), s	2.5	2.7		6.5	2.1	3.3		3.5
Green Ext Time (p_c), s	0.0	0.1		0.0	0.0	0.2		0.3

Intersection Summary		
HCM 2010 Ctrl Delay		19.8
HCM 2010 LOS		B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	412	135	434	602	10
Future Volume (vph)	5	412	135	434	602	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	4.0	5.8	5.8	5.8
Lane Util. Factor	0.97	0.91	0.97	0.95	0.95	1.00
Frt	0.85	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3080	1441	3467	3252	3167	1417
Flt Permitted	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3080	1441	3467	3252	3167	1417
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	448	147	472	654	11
RTOR Reduction (vph)	189	189	0	0	0	7
Lane Group Flow (vph)	40	35	147	472	654	4
Heavy Vehicles (%)	2%	2%	1%	11%	14%	14%
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	6.5	6.5	5.1	23.9	14.8	14.8
Effective Green, g (s)	6.5	6.5	5.1	23.9	14.8	14.8
Actuated g/C Ratio	0.15	0.15	0.12	0.57	0.35	0.35
Clearance Time (s)	5.8	5.8	4.0	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	476	223	420	1850	1115	499
v/s Ratio Prot	0.01		c0.04	0.15	c0.21	
v/s Ratio Perm		c0.02				0.00
v/c Ratio	0.08	0.16	0.35	0.26	0.59	0.01
Uniform Delay, d1	15.2	15.4	16.9	4.6	11.1	8.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.3	0.5	0.1	0.8	0.0
Delay (s)	15.3	15.7	17.4	4.6	11.9	8.8
Level of Service	B	B	B	A	B	A
Approach Delay (s)	15.5			7.7	11.8	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	42.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	92	5	6	488	853	132
Future Volume (veh/h)	92	5	6	488	853	132
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1743	1583	1583	1583	1583
Adj Flow Rate, veh/h	100	5	7	530	927	143
Adj No. of Lanes	1	1	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	9	9	20	20	20	20
Cap, veh/h	239	213	14	882	1318	589
Arrive On Green	0.14	0.14	0.01	0.56	0.44	0.44
Sat Flow, veh/h	1660	1482	1508	1583	3088	1346
Grp Volume(v), veh/h	100	5	7	530	927	143
Grp Sat Flow(s),veh/h/ln	1660	1482	1508	1583	1504	1346
Q Serve(g_s), s	2.0	0.1	0.2	8.1	9.1	2.4
Cycle Q Clear(g_c), s	2.0	0.1	0.2	8.1	9.1	2.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	239	213	14	882	1318	589
V/C Ratio(X)	0.42	0.02	0.49	0.60	0.70	0.24
Avail Cap(c_a), veh/h	364	325	207	1351	1825	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	13.4	18.0	5.4	8.3	6.4
Incr Delay (d2), s/veh	1.2	0.0	24.3	0.7	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.1	0.2	3.5	3.9	0.9
LnGrp Delay(d),s/veh	15.4	13.4	42.3	6.0	9.1	6.6
LnGrp LOS	B	B	D	A	A	A
Approach Vol, veh/h	105			537	1070	
Approach Delay, s/veh	15.3			6.5	8.7	
Approach LOS	B			A	A	

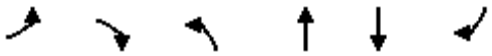
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		26.1		10.3	4.3	21.8		
Change Period (Y+Rc), s		5.8		5.1	4.0	5.8		
Max Green Setting (Gmax), s		31.1		8.0	5.0	22.1		
Max Q Clear Time (g_c+I1), s		10.1		4.0	2.2	11.1		
Green Ext Time (p_c), s		3.1		0.1	0.0	4.8		

Intersection Summary	
HCM 2010 Ctrl Delay	8.4
HCM 2010 LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	13	9	560	20	42	972
Future Volume (veh/h)	13	9	560	20	42	972
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1743	1712	1900	1667	1667
Adj Flow Rate, veh/h	14	10	609	22	46	1057
Adj No. of Lanes	1	1	2	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	9	9	11	11	14	14
Cap, veh/h	81	72	1005	36	86	1639
Arrive On Green	0.05	0.05	0.31	0.31	0.05	0.52
Sat Flow, veh/h	1660	1482	3287	116	1587	3250
Grp Volume(v), veh/h	14	10	309	322	46	1057
Grp Sat Flow(s),veh/h/ln	1660	1482	1626	1691	1587	1583
Q Serve(g_s), s	0.2	0.2	4.3	4.3	0.8	6.5
Cycle Q Clear(g_c), s	0.2	0.2	4.3	4.3	0.8	6.5
Prop In Lane	1.00	1.00		0.07	1.00	
Lane Grp Cap(c), veh/h	81	72	510	531	86	1639
V/C Ratio(X)	0.17	0.14	0.61	0.61	0.54	0.64
Avail Cap(c_a), veh/h	496	443	693	721	297	2415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.2	12.2	7.8	7.8	12.3	4.7
Incr Delay (d2), s/veh	1.0	0.9	1.2	1.1	5.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	2.1	2.1	0.4	2.9
LnGrp Delay(d),s/veh	13.2	13.0	8.9	8.9	17.4	5.1
LnGrp LOS	B	B	A	A	B	A
Approach Vol, veh/h	24		631			1103
Approach Delay, s/veh	13.1		8.9			5.6
Approach LOS	B		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	5.4	14.2				19.6		7.1
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8
Max Green Setting (Gmax), s	5.6	11.4				20.4		8.0
Max Q Clear Time (g_c+I1), s	2.8	6.3				8.5		2.2
Green Ext Time (p_c), s	0.0	1.6				5.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	6.9
HCM 2010 LOS	A



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	43	4	0	401	608	55
Future Volume (vph)	43	4	0	401	608	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8			5.8	5.8	
Lane Util. Factor	0.97			0.95	0.95	
Frt	0.99			1.00	0.99	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	3195			3252	3127	
Flt Permitted	0.96			1.00	1.00	
Satd. Flow (perm)	3195			3252	3127	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	4	0	436	661	60
RTOR Reduction (vph)	4	0	0	0	8	0
Lane Group Flow (vph)	47	0	0	436	713	0
Heavy Vehicles (%)	9%	9%	1%	11%	14%	14%
Turn Type	Prot		Prot	NA	NA	
Protected Phases	2		3	8	4	
Permitted Phases						
Actuated Green, G (s)	2.6			24.5	24.5	
Effective Green, g (s)	2.6			24.5	24.5	
Actuated g/C Ratio	0.07			0.63	0.63	
Clearance Time (s)	5.8			5.8	5.8	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	214			2058	1979	
v/s Ratio Prot	c0.01			0.13	c0.23	
v/s Ratio Perm						
v/c Ratio	0.22			0.21	0.36	
Uniform Delay, d1	17.1			3.0	3.4	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.5			0.1	0.1	
Delay (s)	17.6			3.1	3.5	
Level of Service	B			A	A	
Approach Delay (s)	17.6			3.1	3.5	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	38.7	Sum of lost time (s)	15.6
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	650	53	5	430	173	15
Future Volume (vph)	650	53	5	430	173	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.99		1.00	1.00	0.99	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	3215		1583	1667	2951	
Flt Permitted	1.00		0.95	1.00	0.96	
Satd. Flow (perm)	3215		1583	1667	2951	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	707	58	5	467	188	16
RTOR Reduction (vph)	12	0	0	0	14	0
Lane Group Flow (vph)	753	0	5	467	190	0
Heavy Vehicles (%)	11%	11%	14%	14%	18%	18%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases						
Actuated Green, G (s)	17.1		0.9	22.0	5.5	
Effective Green, g (s)	17.1		0.9	22.0	5.5	
Actuated g/C Ratio	0.44		0.02	0.56	0.14	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1406		36	937	415	
v/s Ratio Prot	0.23		0.00	c0.28	c0.06	
v/s Ratio Perm						
v/c Ratio	0.54		0.14	0.50	0.46	
Uniform Delay, d1	8.1		18.7	5.2	15.4	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.4		1.8	0.4	0.8	
Delay (s)	8.5		20.5	5.6	16.2	
Level of Service	A		C	A	B	
Approach Delay (s)	8.5			5.8	16.2	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	39.1	Sum of lost time (s)	15.6
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	211	29	0	66	5	1	19	2	51	409	22
Future Volume (veh/h)	34	211	29	0	66	5	1	19	2	51	409	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1759	1900	1900	1743	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	37	229	32	0	72	5	1	21	2	55	445	24
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	9	9	9	2	2	2	2	2	2
Cap, veh/h	182	353	46	0	415	29	146	675	62	191	663	34
Arrive On Green	0.26	0.26	0.26	0.00	0.26	0.26	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	124	1372	180	0	1611	112	16	1652	152	107	1621	83
Grp Volume(v), veh/h	298	0	0	0	0	77	24	0	0	524	0	0
Grp Sat Flow(s),veh/h/ln	1676	0	0	0	0	1723	1819	0	0	1811	0	0
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	4.3	0.0	0.0	0.0	0.0	0.9	0.2	0.0	0.0	6.4	0.0	0.0
Prop In Lane	0.12		0.11	0.00		0.06	0.04		0.08	0.10		0.05
Lane Grp Cap(c), veh/h	582	0	0	0	0	443	883	0	0	888	0	0
V/C Ratio(X)	0.51	0.00	0.00	0.00	0.00	0.17	0.03	0.00	0.00	0.59	0.00	0.00
Avail Cap(c_a), veh/h	1263	0	0	0	0	1158	1660	0	0	1675	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.0	0.0	0.0	0.0	0.0	7.8	4.8	0.0	0.0	6.6	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	0.0	0.0	0.5	0.1	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	9.7	0.0	0.0	0.0	0.0	8.0	4.8	0.0	0.0	7.2	0.0	0.0
LnGrp LOS	A					A	A			A		
Approach Vol, veh/h		298			77			24			524	
Approach Delay, s/veh		9.7			8.0			4.8			7.2	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		15.5		11.4		15.5		11.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		22.9		18.1		22.9		18.1
Max Q Clear Time (g_c+I1), s		2.2		6.3		8.4		2.9
Green Ext Time (p_c), s		0.0		1.1		2.6		0.2

Intersection Summary		
HCM 2010 Ctrl Delay		8.0
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	25	309	2	4	1	21	45	21	7	112	2
Future Vol, veh/h	25	25	309	2	4	1	21	45	21	7	112	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	27	27	336	2	4	1	23	49	23	8	122	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	248	257	123	428	247	61	124	0	0	72	0	0
Stage 1	139	139	-	107	107	-	-	-	-	-	-	-
Stage 2	109	118	-	321	140	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	693	637	912	525	644	985	1463	-	-	1528	-	-
Stage 1	850	770	-	882	793	-	-	-	-	-	-	-
Stage 2	882	787	-	676	768	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	677	623	912	316	630	985	1463	-	-	1528	-	-
Mov Cap-2 Maneuver	677	623	-	316	630	-	-	-	-	-	-	-
Stage 1	836	765	-	868	780	-	-	-	-	-	-	-
Stage 2	862	774	-	409	763	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	12.2	1.8	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1463	-	-	863	511	1528	-	-
HCM Lane V/C Ratio	0.016	-	-	0.452	0.015	0.005	-	-
HCM Control Delay (s)	7.5	0	-	12.6	12.2	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.4	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	565	10	29	446	36	5	26	50	54	26	12
Future Volume (veh/h)	10	565	10	29	446	36	5	26	50	54	26	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	614	11	32	485	39	5	28	54	59	28	13
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	23	680	12	59	698	56	142	46	88	152	103	48
Arrive On Green	0.01	0.41	0.41	0.04	0.43	0.43	0.08	0.08	0.08	0.09	0.09	0.09
Sat Flow, veh/h	1616	1661	30	1691	1622	130	1774	570	1099	1774	1205	559
Grp Volume(v), veh/h	11	0	625	32	0	524	5	0	82	59	0	41
Grp Sat Flow(s),veh/h/ln	1616	0	1691	1691	0	1753	1774	0	1669	1774	0	1764
Q Serve(g_s), s	0.4	0.0	19.0	1.0	0.0	13.3	0.1	0.0	2.6	1.7	0.0	1.2
Cycle Q Clear(g_c), s	0.4	0.0	19.0	1.0	0.0	13.3	0.1	0.0	2.6	1.7	0.0	1.2
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.66	1.00		0.32
Lane Grp Cap(c), veh/h	23	0	692	59	0	754	142	0	134	152	0	151
V/C Ratio(X)	0.48	0.00	0.90	0.54	0.00	0.69	0.04	0.00	0.61	0.39	0.00	0.27
Avail Cap(c_a), veh/h	147	0	776	154	0	804	236	0	222	197	0	196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.9	0.0	15.2	26.1	0.0	12.7	23.3	0.0	24.4	23.8	0.0	23.5
Incr Delay (d2), s/veh	15.1	0.0	12.9	7.4	0.0	2.4	0.1	0.0	4.5	1.6	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	11.2	0.6	0.0	6.9	0.1	0.0	1.4	0.9	0.0	0.6
LnGrp Delay(d),s/veh	42.0	0.0	28.1	33.4	0.0	15.1	23.4	0.0	28.9	25.4	0.0	24.5
LnGrp LOS	D		C	C		B	C		C	C		C
Approach Vol, veh/h		636			556			87			100	
Approach Delay, s/veh		28.4			16.2			28.6			25.0	
Approach LOS		C			B			C			C	

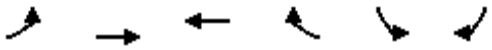
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		10.2	5.9	28.3		10.5	4.8	29.4
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		7.3	5.0	25.2		6.1	5.0	25.2
Max Q Clear Time (g_c+I1), s		4.6	3.0	21.0		3.7	2.4	15.3
Green Ext Time (p_c), s		0.1	0.0	1.5		0.1	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	472	7	29	466	30	9	12	20	162	43	21
Future Volume (veh/h)	4	472	7	29	466	30	9	12	20	162	43	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	513	8	32	507	33	10	13	22	176	47	23
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	9	630	10	63	677	44	142	146	175	364	69	29
Arrive On Green	0.01	0.38	0.38	0.04	0.41	0.41	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1616	1666	26	1691	1649	107	176	696	834	1028	328	140
Grp Volume(v), veh/h	4	0	521	32	0	540	45	0	0	246	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1692	1691	0	1757	1705	0	0	1496	0	0
Q Serve(g_s), s	0.1	0.0	11.5	0.8	0.0	10.9	0.0	0.0	0.0	5.5	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	11.5	0.8	0.0	10.9	0.9	0.0	0.0	6.4	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.06	0.22		0.49	0.72		0.09
Lane Grp Cap(c), veh/h	9	0	640	63	0	721	464	0	0	462	0	0
V/C Ratio(X)	0.46	0.00	0.81	0.51	0.00	0.75	0.10	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	194	0	982	203	0	1020	709	0	0	688	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.7	0.0	11.6	19.7	0.0	10.5	13.4	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	32.8	0.0	3.1	6.3	0.0	1.9	0.1	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	5.9	0.5	0.0	5.6	0.4	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	53.4	0.0	14.8	25.9	0.0	12.4	13.4	0.0	0.0	16.4	0.0	0.0
LnGrp LOS	D		B	C		B	B			B		
Approach Vol, veh/h		525			572			45			246	
Approach Delay, s/veh		15.0			13.2			13.4			16.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		14.6	5.5	21.6		14.6	4.2	22.9
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		15.2	5.0	24.2		15.2	5.0	24.2
Max Q Clear Time (g_c+I1), s		2.9	2.8	13.5		8.4	2.1	12.9
Green Ext Time (p_c), s		0.1	0.0	2.2		0.7	0.0	2.4

Intersection Summary		
HCM 2010 Ctrl Delay		14.5
HCM 2010 LOS		B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	197	700	487	0	3	217
Future Volume (vph)	197	700	487	0	3	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.8	5.8		5.8	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	0.95
Frt	1.00	1.00	1.00		0.85	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1626	3252	3438		1588	1504
Flt Permitted	0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1626	3252	3438		1588	1504
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	214	761	529	0	3	236
RTOR Reduction (vph)	0	0	0	0	101	78
Lane Group Flow (vph)	214	761	529	0	18	42
Heavy Vehicles (%)	11%	11%	5%	5%	2%	2%
Turn Type	Prot	NA	NA		Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases						6
Actuated Green, G (s)	10.5	30.6	16.1		6.4	16.9
Effective Green, g (s)	10.5	30.6	16.1		6.4	16.9
Actuated g/C Ratio	0.22	0.63	0.33		0.13	0.35
Clearance Time (s)	4.0	5.8	5.8		5.8	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	351	2047	1138		209	522
v/s Ratio Prot	c0.13	0.23	c0.15		c0.01	0.02
v/s Ratio Perm						0.01
v/c Ratio	0.61	0.37	0.46		0.09	0.08
Uniform Delay, d1	17.2	4.4	12.8		18.5	10.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.0	0.1	0.3		0.2	0.1
Delay (s)	20.2	4.5	13.1		18.7	10.7
Level of Service	C	A	B		B	B
Approach Delay (s)		7.9	13.1		14.7	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	48.6	Sum of lost time (s)	15.6
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	715	96	321	88	63	28	280	294	11	285	4
Future Volume (veh/h)	16	715	96	321	88	63	28	280	294	11	285	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1610	1610	1610	1610	1610	1900
Adj Flow Rate, veh/h	17	777	0	349	96	0	30	304	0	12	310	0
Adj No. of Lanes	1	2	0	2	1	0	1	1	2	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	18	18	18	18	18	18
Cap, veh/h	37	996	0	471	740	0	51	376	892	45	659	0
Arrive On Green	0.02	0.28	0.00	0.14	0.40	0.00	0.03	0.23	0.00	0.02	0.22	0.00
Sat Flow, veh/h	1774	3632	0	3442	1863	0	1533	1610	2409	2975	3140	0
Grp Volume(v), veh/h	17	777	0	349	96	0	30	304	0	12	310	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1721	1863	0	1533	1610	1204	1487	1530	0
Q Serve(g_s), s	0.5	10.9	0.0	5.3	1.8	0.0	1.0	9.6	0.0	0.2	4.8	0.0
Cycle Q Clear(g_c), s	0.5	10.9	0.0	5.3	1.8	0.0	1.0	9.6	0.0	0.2	4.8	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	37	996	0	471	740	0	51	376	892	45	659	0
V/C Ratio(X)	0.46	0.78	0.00	0.74	0.13	0.00	0.58	0.81	0.00	0.26	0.47	0.00
Avail Cap(c_a), veh/h	164	1211	0	541	758	0	142	596	1220	275	1132	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.2	17.9	0.0	22.4	10.3	0.0	25.8	19.6	0.0	26.3	18.5	0.0
Incr Delay (d2), s/veh	8.6	2.7	0.0	4.7	0.1	0.0	10.0	4.5	0.0	3.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.7	0.0	2.8	0.9	0.0	0.6	4.7	0.0	0.1	2.1	0.0
LnGrp Delay(d),s/veh	34.8	20.6	0.0	27.1	10.4	0.0	35.8	24.0	0.0	29.4	19.1	0.0
LnGrp LOS	C	C		C	B		D	C		C	B	
Approach Vol, veh/h		794			445			334			322	
Approach Delay, s/veh		20.9			23.5			25.1			19.4	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	17.1	11.9	19.7	6.3	16.1	5.6	26.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	20.0	8.5	18.5	5.0	20.0	5.0	22.0
Max Q Clear Time (g_c+I1), s	2.2	11.6	7.3	12.9	3.0	6.8	2.5	3.8
Green Ext Time (p_c), s	0.0	1.0	0.2	2.3	0.0	1.4	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	22.0
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	69	50	7	289	230
Future Vol, veh/h	5	69	50	7	289	230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	75	54	8	314	250

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	936	58	0	0	62	0
Stage 1	58	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	294	1008	-	-	1541	-
Stage 1	965	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	224	1008	-	-	1541	-
Mov Cap-2 Maneuver	224	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	310	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	4.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	815	1541	-
HCM Lane V/C Ratio	-	-	0.099	0.204	-
HCM Control Delay (s)	-	-	9.9	7.9	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.8	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	82	119	46	91	192	13	332	7	33	680	5
Future Volume (veh/h)	37	82	119	46	91	192	13	332	7	33	680	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1638	1638	1900	1520	1520	1900
Adj Flow Rate, veh/h	40	89	129	50	99	209	14	361	8	36	739	5
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	16	16	16	25	25	25
Cap, veh/h	128	183	225	124	143	254	222	877	19	493	828	6
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	157	694	851	146	540	962	627	1596	35	823	1508	10
Grp Volume(v), veh/h	258	0	0	358	0	0	14	0	369	36	0	744
Grp Sat Flow(s),veh/h/ln	1702	0	0	1649	0	0	627	0	1632	823	0	1518
Q Serve(g_s), s	0.0	0.0	0.0	3.4	0.0	0.0	1.0	0.0	6.4	1.3	0.0	20.9
Cycle Q Clear(g_c), s	6.2	0.0	0.0	9.7	0.0	0.0	21.9	0.0	6.4	7.6	0.0	20.9
Prop In Lane	0.16		0.50	0.14		0.58	1.00		0.02	1.00		0.01
Lane Grp Cap(c), veh/h	536	0	0	521	0	0	222	0	896	493	0	834
V/C Ratio(X)	0.48	0.00	0.00	0.69	0.00	0.00	0.06	0.00	0.41	0.07	0.00	0.89
Avail Cap(c_a), veh/h	707	0	0	694	0	0	305	0	1112	602	0	1035
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	0.0	16.6	0.0	0.0	19.3	0.0	6.3	8.6	0.0	9.6
Incr Delay (d2), s/veh	0.7	0.0	0.0	1.8	0.0	0.0	0.1	0.0	0.3	0.1	0.0	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	4.6	0.0	0.0	0.2	0.0	2.8	0.3	0.0	10.4
LnGrp Delay(d),s/veh	16.0	0.0	0.0	18.4	0.0	0.0	19.4	0.0	6.6	8.6	0.0	18.1
LnGrp LOS	B			B			B		A	A		B
Approach Vol, veh/h		258			358			383			780	
Approach Delay, s/veh		16.0			18.4			7.1			17.7	
Approach LOS		B			B			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		31.0		17.2		31.0		17.2
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		32.9		18.1		32.9		18.1
Max Q Clear Time (g_c+I1), s		23.9		8.2		22.9		11.7
Green Ext Time (p_c), s		1.4		1.0		3.6		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B

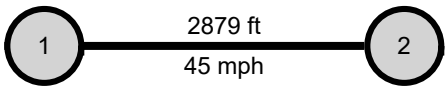
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	247	144	62	40	28	66	374	125	46	720	8
Future Volume (veh/h)	33	247	144	62	40	28	66	374	125	46	720	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1557	1557	1900	1557	1557	1900
Adj Flow Rate, veh/h	36	268	0	67	43	0	72	407	0	50	783	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	22	22	22	22	22	22
Cap, veh/h	63	331	0	90	359	0	197	916	0	458	916	0
Arrive On Green	0.04	0.18	0.00	0.05	0.19	0.00	0.59	0.59	0.00	0.59	0.59	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	575	1557	0	815	1557	0
Grp Volume(v), veh/h	36	268	0	67	43	0	72	407	0	50	783	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	575	1557	0	815	1557	0
Q Serve(g_s), s	1.5	10.2	0.0	2.7	1.4	0.0	8.7	10.7	0.0	2.7	30.6	0.0
Cycle Q Clear(g_c), s	1.5	10.2	0.0	2.7	1.4	0.0	39.4	10.7	0.0	13.4	30.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	63	331	0	90	359	0	197	916	0	458	916	0
V/C Ratio(X)	0.57	0.81	0.00	0.75	0.12	0.00	0.37	0.44	0.00	0.11	0.85	0.00
Avail Cap(c_a), veh/h	147	544	0	123	519	0	248	1056	0	531	1056	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.0	29.1	0.0	34.5	24.5	0.0	28.8	8.4	0.0	12.2	12.5	0.0
Incr Delay (d2), s/veh	8.0	4.7	0.0	14.9	0.1	0.0	1.1	0.3	0.0	0.1	6.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.6	0.0	1.7	0.7	0.0	1.4	4.6	0.0	0.6	14.6	0.0
LnGrp Delay(d),s/veh	42.9	33.8	0.0	49.3	24.7	0.0	30.0	8.8	0.0	12.3	18.8	0.0
LnGrp LOS	D	C		D	C		C	A		B	B	
Approach Vol, veh/h		304			110			479			833	
Approach Delay, s/veh		34.9			39.7			12.0			18.4	
Approach LOS		C			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		47.8	8.2	17.6		47.8	7.1	18.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		49.9	5.1	21.5		49.9	6.1	20.5
Max Q Clear Time (g_c+I1), s		41.4	4.7	12.2		32.6	3.5	3.4
Green Ext Time (p_c), s		1.9	0.0	0.9		5.2	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.9
HCM 2010 LOS	C

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2879	2879	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	never
1	Shared Lane Spillback Time, h	never			never		never
1	Base Free-Flow Speed, mph	45.26			46.59		
1	Running Time, s	45.63			46.06		
1	Running Speed, mph	43.02			42.62		
1	Through Delay, s/veh	11.76			50.05		
1	Travel Time, s	57.39			96.11		
1	Travel Speed, mph	34.20			20.43		
1	Stop Rate, stops/veh	0.64			0.89		
1	Spatial Stop Rate, stops/mi	1.17			1.64		
1	Through vol/cap Ratio	0.45			0.96		
1	Percent of Base FFS	75.58			43.84		
1	Level of Service	B			D		
1	Auto Traveler Perception Score	2.32			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	4.22		D
1	Bicycle Segment LOS Score / LOS	4.87		E	5.60		F
1	Transit Segment LOS Score / LOS	6.58		F	6.64		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	57.39	96.11
Facility Travel Speed, mph	34.20	20.43
Facility Base Free Flow Speed, mph	45.26	46.59
Facility Percent of Base FFS	75.58	43.84
Facility Level of Service	B	D
Facility Auto Traveler Perception Score	2.32	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			4.22	D
Bicycle Facility LOS Score / LOS	4.87	E	5.60	F
Transit Facility LOS Score / LOS	6.58	F	6.64	F

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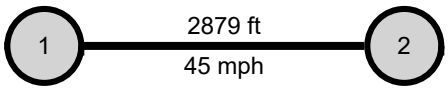
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2879	2879	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.26			46.59		
1	Running Time, s	46.90			45.70		
1	Running Speed, mph	41.85			42.95		
1	Through Delay, s/veh	11.75			37.42		
1	Travel Time, s	58.65			83.13		
1	Travel Speed, mph	33.47			23.61		
1	Stop Rate, stops/veh	0.53			0.83		
1	Spatial Stop Rate, stops/mi	0.98			1.53		
1	Through vol/cap Ratio	0.71			0.78		
1	Percent of Base FFS	73.96			50.68		
1	Level of Service	B			C		
1	Auto Traveler Perception Score	2.29			2.37		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	4.12		D
1	Bicycle Segment LOS Score / LOS	4.99		E	4.98		E
1	Transit Segment LOS Score / LOS	6.74		F	6.61		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	58.65	83.13
Facility Travel Speed, mph	33.47	23.61
Facility Base Free Flow Speed, mph	45.26	46.59
Facility Percent of Base FFS	73.96	50.68
Facility Level of Service	B	C
Facility Auto Traveler Perception Score	2.29	2.37

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			4.12	D
Bicycle Facility LOS Score / LOS	4.99	E	4.98	E
Transit Facility LOS Score / LOS	6.74	F	6.61	F

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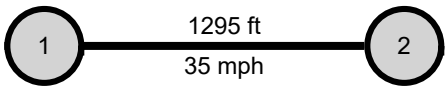
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1295	1295	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	38.00			38.12		
1	Running Time, s	26.13			25.89		
1	Running Speed, mph	33.79			34.11		
1	Through Delay, s/veh	1.43			23.98		
1	Travel Time, s	27.56			49.87		
1	Travel Speed, mph	32.04			17.71		
1	Stop Rate, stops/veh	0.42			0.82		
1	Spatial Stop Rate, stops/mi	1.72			3.35		
1	Through vol/cap Ratio	0.32			0.54		
1	Percent of Base FFS	84.31			46.45		
1	Level of Service	B			D		
1	Auto Traveler Perception Score	2.40			2.67		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.45		C	3.39		C
1	Bicycle Segment LOS Score / LOS	3.78		D	6.90		F
1	Transit Segment LOS Score / LOS	4.44		E	4.34		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	27.56	49.87
Facility Travel Speed, mph	32.04	17.71
Facility Base Free Flow Speed, mph	38.00	38.12
Facility Percent of Base FFS	84.31	46.45
Facility Level of Service	B	D
Facility Auto Traveler Perception Score	2.40	2.67

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.45	C	3.39	C
Bicycle Facility LOS Score / LOS	3.78	D	6.90	F
Transit Facility LOS Score / LOS	4.44	E	4.34	E

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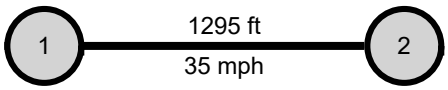
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1295	1295	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	38.00			38.12		
1	Running Time, s	25.88			26.04		
1	Running Speed, mph	34.12			33.91		
1	Through Delay, s/veh	1.28			33.59		
1	Travel Time, s	27.15			59.62		
1	Travel Speed, mph	32.52			14.81		
1	Stop Rate, stops/veh	0.42			0.86		
1	Spatial Stop Rate, stops/mi	1.72			3.53		
1	Through vol/cap Ratio	0.17			0.81		
1	Percent of Base FFS	85.57			38.85		
1	Level of Service	A			E		
1	Auto Traveler Perception Score	2.40			2.70		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.32		C	3.48		C
1	Bicycle Segment LOS Score / LOS	3.72		D	6.91		F
1	Transit Segment LOS Score / LOS	4.38		E	4.37		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	27.15	59.62
Facility Travel Speed, mph	32.52	14.81
Facility Base Free Flow Speed, mph	38.00	38.12
Facility Percent of Base FFS	85.57	38.85
Facility Level of Service	A	E
Facility Auto Traveler Perception Score	2.40	2.70

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.32	C	3.48	C
Bicycle Facility LOS Score / LOS	3.72	D	6.91	F
Transit Facility LOS Score / LOS	4.38	E	4.37	E

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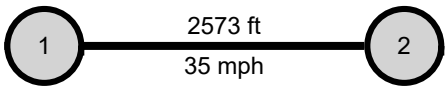
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2573	2573	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.75			40.62		
1	Running Time, s	47.05			45.17		
1	Running Speed, mph	37.28			38.84		
1	Through Delay, s/veh	1.20			0.27		
1	Travel Time, s	48.25			45.44		
1	Travel Speed, mph	36.36			38.61		
1	Stop Rate, stops/veh	0.02			0.01		
1	Spatial Stop Rate, stops/mi	0.03			0.02		
1	Through vol/cap Ratio	0.53			0.13		
1	Percent of Base FFS	89.22			95.05		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.15			2.14		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.86		D	3.47		C
1	Transit Segment LOS Score / LOS	4.75		E	4.44		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	48.25	45.44
Facility Travel Speed, mph	36.36	38.61
Facility Base Free Flow Speed, mph	40.75	40.62
Facility Percent of Base FFS	89.22	95.05
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.15	2.14

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.86	D	3.47	C
Transit Facility LOS Score / LOS	4.75	E	4.44	E

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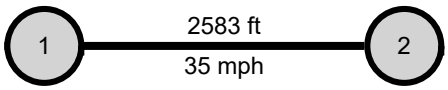
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2583	2583	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.76			40.62		
1	Running Time, s	45.59			47.55		
1	Running Speed, mph	38.63			37.04		
1	Through Delay, s/veh	0.44			1.21		
1	Travel Time, s	46.03			48.76		
1	Travel Speed, mph	38.26			36.12		
1	Stop Rate, stops/veh	0.01			0.02		
1	Spatial Stop Rate, stops/mi	0.02			0.03		
1	Through vol/cap Ratio	0.23			0.54		
1	Percent of Base FFS	93.89			88.92		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.14			2.15		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.76		D	3.63		D
1	Transit Segment LOS Score / LOS	4.54		E	4.72		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	46.03	48.76
Facility Travel Speed, mph	38.26	36.12
Facility Base Free Flow Speed, mph	40.76	40.62
Facility Percent of Base FFS	93.89	88.92
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.14	2.15

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.76	D	3.63	D
Transit Facility LOS Score / LOS	4.54	E	4.72	E

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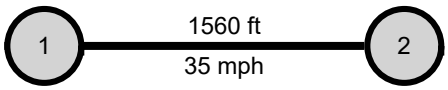
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward /	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	27.80			28.24		
1	Running Speed, mph	38.25			37.67		
1	Through Delay, s/veh	1.18			1.51		
1	Travel Time, s	28.98			29.74		
1	Travel Speed, mph	36.70			35.76		
1	Stop Rate, stops/veh	0.42			0.42		
1	Spatial Stop Rate, stops/mi	1.41			1.43		
1	Through vol/cap Ratio	0.05			0.37		
1	Percent of Base FFS	87.84			85.59		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.57			2.58		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.42		E	4.72		E
1	Transit Segment LOS Score / LOS	6.48		F	6.68		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	28.98	29.74
Facility Travel Speed, mph	36.70	35.76
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	87.84	85.59
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.57	2.58

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.42	E	4.72	E
Transit Facility LOS Score / LOS	6.48	F	6.68	F

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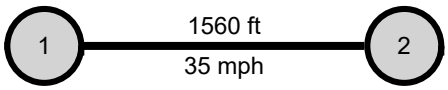
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward /	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Cumulative No Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	28.20			27.84		
1	Running Speed, mph	37.72			38.21		
1	Through Delay, s/veh	1.49			1.20		
1	Travel Time, s	29.69			29.03		
1	Travel Speed, mph	35.83			36.63		
1	Stop Rate, stops/veh	0.42			0.42		
1	Spatial Stop Rate, stops/mi	1.43			1.42		
1	Through vol/cap Ratio	0.35			0.07		
1	Percent of Base FFS	85.75			87.69		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.58			2.57		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.79		E	4.41		E
1	Transit Segment LOS Score / LOS	6.68		F	6.50		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	29.69	29.03
Facility Travel Speed, mph	35.83	36.63
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	85.75	87.69
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.58	2.57

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.79	E	4.41	E
Transit Facility LOS Score / LOS	6.68	F	6.50	F

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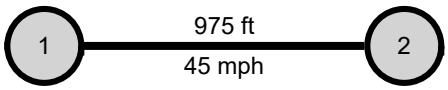
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_A	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	19.06			18.92		
1	Running Speed, mph	34.88			35.14		
1	Through Delay, s/veh	1.50			1.23		
1	Travel Time, s	20.56			20.15		
1	Travel Speed, mph	32.33			32.99		
1	Stop Rate, stops/veh	0.18			0.18		
1	Spatial Stop Rate, stops/mi	0.97			0.96		
1	Through vol/cap Ratio	0.85			0.77		
1	Percent of Base FFS	70.49			71.93		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.50			2.50		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.82		D	3.77		D
1	Transit Segment LOS Score / LOS	6.89		F	6.86		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	20.56	20.15
Facility Travel Speed, mph	32.33	32.99
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	70.49	71.93
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.50	2.50

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.82	D	3.77	D
Transit Facility LOS Score / LOS	6.89	F	6.86	F

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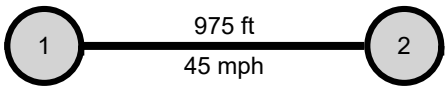
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_P	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	18.69			19.10		
1	Running Speed, mph	35.58			34.81		
1	Through Delay, s/veh	0.97			1.57		
1	Travel Time, s	19.66			20.67		
1	Travel Speed, mph	33.82			32.16		
1	Stop Rate, stops/veh	0.18			0.18		
1	Spatial Stop Rate, stops/mi	0.98			0.98		
1	Through vol/cap Ratio	0.65			0.87		
1	Percent of Base FFS	73.73			70.11		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.50			2.50		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.69		D	3.83		D
1	Transit Segment LOS Score / LOS	6.81		F	6.90		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	19.66	20.67
Facility Travel Speed, mph	33.82	32.16
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	73.73	70.11
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.50	2.50

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.69	D	3.83	D
Transit Facility LOS Score / LOS	6.81	F	6.90	F

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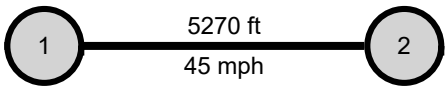
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave_AM.xus	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5270	5270	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.15			45.15		
1	Running Time, s	84.11			82.33		
1	Running Speed, mph	42.72			43.64		
1	Through Delay, s/veh	19.99			27.06		
1	Travel Time, s	104.10			109.40		
1	Travel Speed, mph	34.52			32.85		
1	Stop Rate, stops/veh	0.56			0.77		
1	Spatial Stop Rate, stops/mi	0.56			0.77		
1	Through vol/cap Ratio	0.95			0.86		
1	Percent of Base FFS	76.45			72.75		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.22			2.25		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.95		D	4.30		E
1	Transit Segment LOS Score / LOS	6.76		F	6.65		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	104.10	109.40
Facility Travel Speed, mph	34.52	32.85
Facility Base Free Flow Speed, mph	45.15	45.15
Facility Percent of Base FFS	76.45	72.75
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.22	2.25

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.95	D	4.30	E
Transit Facility LOS Score / LOS	6.76	F	6.65	F

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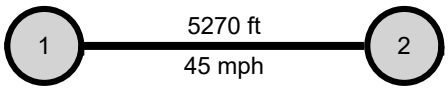
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave, Sycamore &	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Cumulative No Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5270	5270	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.15			45.15		
1	Running Time, s	83.39			82.30		
1	Running Speed, mph	43.09			43.66		
1	Through Delay, s/veh	14.57			11.88		
1	Travel Time, s	97.96			94.18		
1	Travel Speed, mph	36.68			38.15		
1	Stop Rate, stops/veh	0.59			0.56		
1	Spatial Stop Rate, stops/mi	0.59			0.56		
1	Through vol/cap Ratio	0.85			0.67		
1	Percent of Base FFS	81.24			84.50		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.23			2.22		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.94		D	4.30		E
1	Transit Segment LOS Score / LOS	6.72		F	6.65		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	97.96	94.18
Facility Travel Speed, mph	36.68	38.15
Facility Base Free Flow Speed, mph	45.15	45.15
Facility Percent of Base FFS	81.24	84.50
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.23	2.22

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.94	D	4.30	E
Transit Facility LOS Score / LOS	6.72	F	6.65	F

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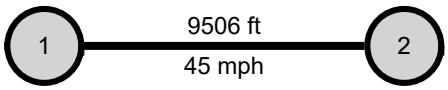
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave, wo Jennings	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9506	9506	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.00			46.01		
1	Running Time, s	145.52			147.11		
1	Running Speed, mph	44.54			44.06		
1	Through Delay, s/veh	8.80			12.11		
1	Travel Time, s	154.31			159.22		
1	Travel Speed, mph	42.00			40.71		
1	Stop Rate, stops/veh	0.33			0.47		
1	Spatial Stop Rate, stops/mi	0.18			0.26		
1	Through vol/cap Ratio	0.36			0.92		
1	Percent of Base FFS	91.30			88.48		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.17			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.90		D	4.03		D
1	Transit Segment LOS Score / LOS	6.67		F	6.74		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	154.31	159.22
Facility Travel Speed, mph	42.00	40.71
Facility Base Free Flow Speed, mph	46.00	46.01
Facility Percent of Base FFS	91.30	88.48
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.17	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.90	D	4.03	D
Transit Facility LOS Score / LOS	6.67	F	6.74	F

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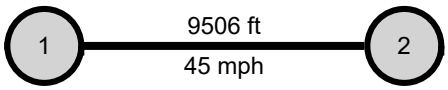
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave, wo Jennings	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Cumulative No Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9506	9506	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.00			46.01		
1	Running Time, s	145.98			146.57		
1	Running Speed, mph	44.40			44.22		
1	Through Delay, s/veh	9.84			13.93		
1	Travel Time, s	155.82			160.50		
1	Travel Speed, mph	41.59			40.38		
1	Stop Rate, stops/veh	0.36			0.55		
1	Spatial Stop Rate, stops/mi	0.20			0.31		
1	Through vol/cap Ratio	0.48			0.86		
1	Percent of Base FFS	90.41			87.78		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.17			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.93		D	4.03		D
1	Transit Segment LOS Score / LOS	6.69		F	6.72		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	155.82	160.50
Facility Travel Speed, mph	41.59	40.38
Facility Base Free Flow Speed, mph	46.00	46.01
Facility Percent of Base FFS	90.41	87.78
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.17	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.93	D	4.03	D
Transit Facility LOS Score / LOS	6.69	F	6.72	F

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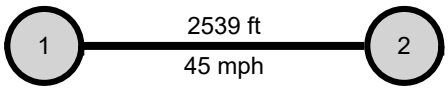
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_AM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2539	2539	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.89			43.54		
1	Running Time, s	39.85			43.08		
1	Running Speed, mph	43.44			40.18		
1	Through Delay, s/veh	31.75			31.98		
1	Travel Time, s	71.61			75.06		
1	Travel Speed, mph	24.18			23.06		
1	Stop Rate, stops/veh	0.64			0.82		
1	Spatial Stop Rate, stops/mi	1.33			1.71		
1	Through vol/cap Ratio	0.34			0.96		
1	Percent of Base FFS	52.68			52.96		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.34			2.40		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.04		D	4.78		E
1	Transit Segment LOS Score / LOS	6.56		F	0.61		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	71.61	75.06
Facility Travel Speed, mph	24.18	23.06
Facility Base Free Flow Speed, mph	45.89	43.54
Facility Percent of Base FFS	52.68	52.96
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.34	2.40

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.04	D	4.78	E
Transit Facility LOS Score / LOS	6.56	F	0.61	A

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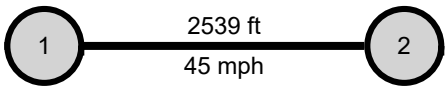
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_PM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Cumulative No Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2539	2539	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.89			43.54		
1	Running Time, s	39.90			42.19		
1	Running Speed, mph	43.39			41.03		
1	Through Delay, s/veh	8.60			18.77		
1	Travel Time, s	48.49			60.96		
1	Travel Speed, mph	35.70			28.40		
1	Stop Rate, stops/veh	0.34			0.75		
1	Spatial Stop Rate, stops/mi	0.71			1.57		
1	Through vol/cap Ratio	0.24			0.86		
1	Percent of Base FFS	77.79			65.22		
1	Level of Service	B			C		
1	Auto Traveler Perception Score	2.46			2.60		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.04		D	4.72		E
1	Transit Segment LOS Score / LOS	6.57		F	0.45		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	48.49	60.96
Facility Travel Speed, mph	35.70	28.40
Facility Base Free Flow Speed, mph	45.89	43.54
Facility Percent of Base FFS	77.79	65.22
Facility Level of Service	B	C
Facility Auto Traveler Perception Score	2.46	2.60

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.04	D	4.72	E
Transit Facility LOS Score / LOS	6.57	F	0.45	A

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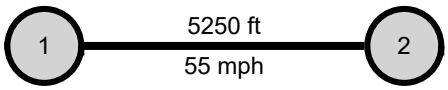
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5250	5250	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.03			45.33		
1	Running Time, s	72.49			80.39		
1	Running Speed, mph	49.38			44.53		
1	Through Delay, s/veh	8.38			0.00		
1	Travel Time, s	80.87			80.39		
1	Travel Speed, mph	44.26			44.53		
1	Stop Rate, stops/veh	0.51			0.00		
1	Spatial Stop Rate, stops/mi	0.51			0.00		
1	Through vol/cap Ratio	0.05			0.00		
1	Percent of Base FFS	88.48			98.24		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.43			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.66		E	6.00		F
1	Transit Segment LOS Score / LOS	6.51		F	0.37		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	80.87	80.39
Facility Travel Speed, mph	44.26	44.53
Facility Base Free Flow Speed, mph	50.03	45.33
Facility Percent of Base FFS	88.48	98.24
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.43	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.66	E	6.00	F
Transit Facility LOS Score / LOS	6.51	F	0.37	A

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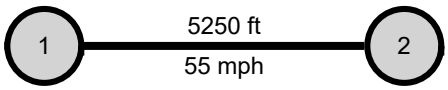
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Cumulative No Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5250	5250	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.03			45.33		
1	Running Time, s	72.58			79.85		
1	Running Speed, mph	49.32			44.83		
1	Through Delay, s/veh	8.55			0.00		
1	Travel Time, s	81.12			79.85		
1	Travel Speed, mph	44.13			44.83		
1	Stop Rate, stops/veh	0.52			0.00		
1	Spatial Stop Rate, stops/mi	0.52			0.00		
1	Through vol/cap Ratio	0.09			0.00		
1	Percent of Base FFS	88.20			98.90		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.43			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.79		E	5.79		F
1	Transit Segment LOS Score / LOS	6.54		F	0.24		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	81.12	79.85
Facility Travel Speed, mph	44.13	44.83
Facility Base Free Flow Speed, mph	50.03	45.33
Facility Percent of Base FFS	88.20	98.90
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.43	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.79	E	5.79	F
Transit Facility LOS Score / LOS	6.54	F	0.24	A

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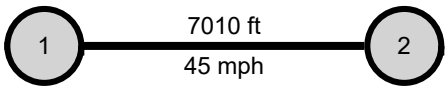
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7010	7010	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	104.38			104.32		
1	Running Speed, mph	45.79			45.82		
1	Through Delay, s/veh	0.00			5.57		
1	Travel Time, s	104.38			109.89		
1	Travel Speed, mph	45.79			43.49		
1	Stop Rate, stops/veh	0.00			0.62		
1	Spatial Stop Rate, stops/mi	0.00			0.47		
1	Through vol/cap Ratio	0.00			0.13		
1	Percent of Base FFS	99.33			94.34		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.34			2.42		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.59		D	4.49		E
1	Transit Segment LOS Score / LOS	6.54		F	6.53		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	104.38	109.89
Facility Travel Speed, mph	45.79	43.49
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	99.33	94.34
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.34	2.42

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.59	D	4.49	E
Transit Facility LOS Score / LOS	6.54	F	6.53	F

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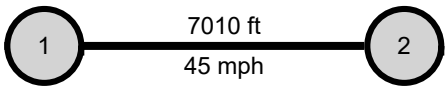
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative No Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7010	7010	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	104.20			104.17		
1	Running Speed, mph	45.87			45.88		
1	Through Delay, s/veh	0.00			5.65		
1	Travel Time, s	104.20			109.83		
1	Travel Speed, mph	45.87			43.52		
1	Stop Rate, stops/veh	0.00			0.65		
1	Spatial Stop Rate, stops/mi	0.00			0.49		
1	Through vol/cap Ratio	0.00			0.09		
1	Percent of Base FFS	99.50			94.40		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.34			2.42		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.48		C	4.40		E
1	Transit Segment LOS Score / LOS	6.50		F	6.50		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	104.20	109.83
Facility Travel Speed, mph	45.87	43.52
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	99.50	94.40
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.34	2.42

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.48	C	4.40	E
Transit Facility LOS Score / LOS	6.50	F	6.50	F

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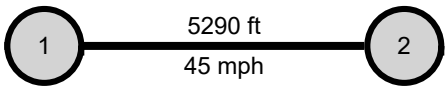
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5290	5290	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.28			46.28		
1	Running Time, s	78.82			79.48		
1	Running Speed, mph	45.76			45.38		
1	Through Delay, s/veh	9.11			8.26		
1	Travel Time, s	87.93			87.74		
1	Travel Speed, mph	41.02			41.11		
1	Stop Rate, stops/veh	0.78			0.72		
1	Spatial Stop Rate, stops/mi	0.77			0.72		
1	Through vol/cap Ratio	0.19			0.45		
1	Percent of Base FFS	88.64			88.83		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.47			2.46		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.32		C	3.59		D
1	Transit Segment LOS Score / LOS	6.52		F	6.66		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	87.93	87.74
Facility Travel Speed, mph	41.02	41.11
Facility Base Free Flow Speed, mph	46.28	46.28
Facility Percent of Base FFS	88.64	88.83
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.47	2.46

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.32	C	3.59	D
Transit Facility LOS Score / LOS	6.52	F	6.66	F

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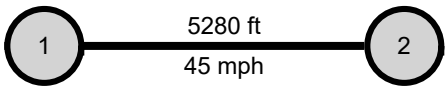
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative No Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5280	5280	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.28			46.28		
1	Running Time, s	78.63			78.51		
1	Running Speed, mph	45.78			45.85		
1	Through Delay, s/veh	7.91			8.77		
1	Travel Time, s	86.54			87.28		
1	Travel Speed, mph	41.60			41.25		
1	Stop Rate, stops/veh	0.78			0.86		
1	Spatial Stop Rate, stops/mi	0.78			0.86		
1	Through vol/cap Ratio	0.16			0.10		
1	Percent of Base FFS	89.89			89.13		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.47			2.48		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.28		C	3.15		C
1	Transit Segment LOS Score / LOS	6.51		F	6.48		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	86.54	87.28
Facility Travel Speed, mph	41.60	41.25
Facility Base Free Flow Speed, mph	46.28	46.28
Facility Percent of Base FFS	89.89	89.13
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.47	2.48

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.28	C	3.15	C
Transit Facility LOS Score / LOS	6.51	F	6.48	F

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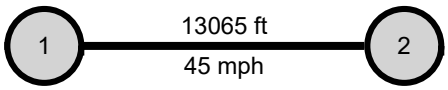
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13065	13065	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.21			46.21		
1	Running Time, s	193.58			199.76		
1	Running Speed, mph	46.02			44.59		
1	Through Delay, s/veh	13.84			13.16		
1	Travel Time, s	207.43			212.93		
1	Travel Speed, mph	42.94			41.84		
1	Stop Rate, stops/veh	0.48			0.54		
1	Spatial Stop Rate, stops/mi	0.19			0.22		
1	Through vol/cap Ratio	0.12			0.80		
1	Percent of Base FFS	92.93			90.53		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.37			2.38		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.54		E	4.56		E
1	Transit Segment LOS Score / LOS	6.54		F	6.82		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	207.43	212.93
Facility Travel Speed, mph	42.94	41.84
Facility Base Free Flow Speed, mph	46.21	46.21
Facility Percent of Base FFS	92.93	90.53
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.37	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.54	E	4.56	E
Transit Facility LOS Score / LOS	6.54	F	6.82	F

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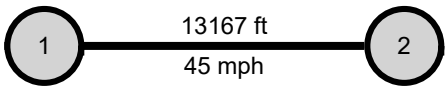
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Cumulative No Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13167	13167	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.22			46.22		
1	Running Time, s	194.96			198.75		
1	Running Speed, mph	46.05			45.17		
1	Through Delay, s/veh	13.70			9.44		
1	Travel Time, s	208.67			208.19		
1	Travel Speed, mph	43.02			43.12		
1	Stop Rate, stops/veh	0.48			0.63		
1	Spatial Stop Rate, stops/mi	0.19			0.25		
1	Through vol/cap Ratio	0.10			0.66		
1	Percent of Base FFS	93.09			93.30		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.37			2.38		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.53		E	4.53		E
1	Transit Segment LOS Score / LOS	6.52		F	6.75		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	208.67	208.19
Facility Travel Speed, mph	43.02	43.12
Facility Base Free Flow Speed, mph	46.22	46.22
Facility Percent of Base FFS	93.09	93.30
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.37	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.53	E	4.53	E
Transit Facility LOS Score / LOS	6.52	F	6.75	F

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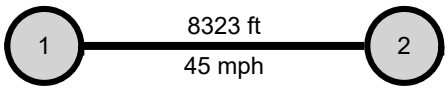
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative No project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	123.82			124.98		
1	Running Speed, mph	45.83			45.41		
1	Through Delay, s/veh	15.63			14.47		
1	Travel Time, s	139.46			139.45		
1	Travel Speed, mph	40.69			40.69		
1	Stop Rate, stops/veh	0.53			0.62		
1	Spatial Stop Rate, stops/mi	0.33			0.39		
1	Through vol/cap Ratio	0.43			0.71		
1	Percent of Base FFS	87.41			87.42		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.40			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.23		D	4.23		D
1	Transit Segment LOS Score / LOS	6.61		F	6.65		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	139.46	139.45
Facility Travel Speed, mph	40.69	40.69
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	87.41	87.42
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.40	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.23	D	4.23	D
Transit Facility LOS Score / LOS	6.61	F	6.65	F

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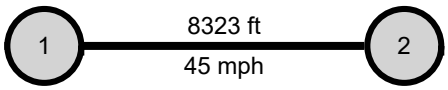
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative No Project Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	123.63			125.19		
1	Running Speed, mph	45.90			45.33		
1	Through Delay, s/veh	15.31			15.42		
1	Travel Time, s	138.94			140.60		
1	Travel Speed, mph	40.84			40.36		
1	Stop Rate, stops/veh	0.58			0.63		
1	Spatial Stop Rate, stops/mi	0.37			0.40		
1	Through vol/cap Ratio	0.41			0.75		
1	Percent of Base FFS	87.74			86.70		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.40			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.20		D	4.23		D
1	Transit Segment LOS Score / LOS	6.60		F	6.66		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	138.94	140.60
Facility Travel Speed, mph	40.84	40.36
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	87.74	86.70
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.40	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.20	D	4.23	D
Transit Facility LOS Score / LOS	6.60	F	6.66	F

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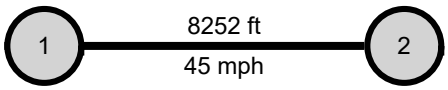
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_A	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative No Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	128.00			127.79		
1	Running Speed, mph	43.96			44.03		
1	Through Delay, s/veh	1.39			1.39		
1	Travel Time, s	129.40			129.18		
1	Travel Speed, mph	43.48			43.56		
1	Stop Rate, stops/veh	0.11			0.13		
1	Spatial Stop Rate, stops/mi	0.07			0.08		
1	Through vol/cap Ratio	0.69			0.67		
1	Percent of Base FFS	93.82			93.97		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.56		E	4.58		E
1	Transit Segment LOS Score / LOS	6.89		F	6.88		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	129.40	129.18
Facility Travel Speed, mph	43.48	43.56
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	93.82	93.97
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.56	E	4.58	E
Transit Facility LOS Score / LOS	6.89	F	6.88	F

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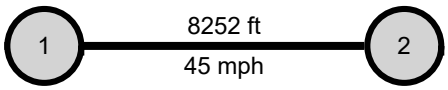
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_F	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative No Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	126.73			128.06		
1	Running Speed, mph	44.40			43.94		
1	Through Delay, s/veh	0.77			1.24		
1	Travel Time, s	127.50			129.29		
1	Travel Speed, mph	44.13			43.52		
1	Stop Rate, stops/veh	0.11			0.13		
1	Spatial Stop Rate, stops/mi	0.07			0.08		
1	Through vol/cap Ratio	0.57			0.66		
1	Percent of Base FFS	95.21			93.89		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.52		E	4.59		E
1	Transit Segment LOS Score / LOS	6.84		F	6.89		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	127.50	129.29
Facility Travel Speed, mph	44.13	43.52
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	95.21	93.89
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.52	E	4.59	E
Transit Facility LOS Score / LOS	6.84	F	6.89	F

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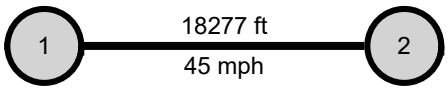
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative No Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	278.37			274.51		
1	Running Speed, mph	44.77			45.40		
1	Through Delay, s/veh	0.60			0.45		
1	Travel Time, s	278.98			274.97		
1	Travel Speed, mph	44.67			45.32		
1	Stop Rate, stops/veh	0.11			0.12		
1	Spatial Stop Rate, stops/mi	0.03			0.04		
1	Through vol/cap Ratio	0.53			0.35		
1	Percent of Base FFS	96.20			97.60		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.35			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.47		E	4.47		E
1	Transit Segment LOS Score / LOS	6.81		F	6.73		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	278.98	274.97
Facility Travel Speed, mph	44.67	45.32
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	96.20	97.60
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.35	2.35

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.47	E	4.47	E
Transit Facility LOS Score / LOS	6.81	F	6.73	F

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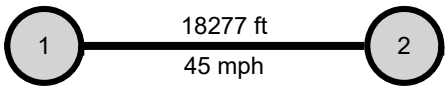
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative No Project				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	272.64			279.33		
1	Running Speed, mph	45.71			44.61		
1	Through Delay, s/veh	0.33			0.92		
1	Travel Time, s	272.97			280.25		
1	Travel Speed, mph	45.65			44.47		
1	Stop Rate, stops/veh	0.11			0.13		
1	Spatial Stop Rate, stops/mi	0.03			0.04		
1	Through vol/cap Ratio	0.23			0.58		
1	Percent of Base FFS	98.32			95.76		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.35			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.38		E	4.54		E
1	Transit Segment LOS Score / LOS	6.68		F	6.83		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	272.97	280.25
Facility Travel Speed, mph	45.65	44.47
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	98.32	95.76
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.35	2.35

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.38	E	4.54	E
Transit Facility LOS Score / LOS	6.68	F	6.83	F

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040NP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	5525	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1469	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	3115	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	3115	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	23.3	mi/h
Number of lanes, N	2	
Density, D	133.7	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040NP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	4439	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1181	v
Trucks and buses	17	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.922	
Driver population factor, fp	1.00	
Flow rate, vp	2562	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	2562	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	45.9	mi/h
Number of lanes, N	2	
Density, D	55.9	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040NP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	4953	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1317	v
Trucks and buses	22	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.901	
Driver population factor, fp	1.00	
Flow rate, vp	2924	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	61.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	61.0	mi/h

LOS and Performance Measures

Flow rate, vp	2924	pc/h/ln
Free-flow speed, FFS	61.0	mi/h
Average passenger-car speed, S	28.2	mi/h
Number of lanes, N	2	
Density, D	103.8	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040NP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	5311	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1413	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2995	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	2995	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	19.7	mi/h
Number of lanes, N	2	
Density, D	151.7	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040NP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	5117	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1361	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	3008	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	3008	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	28.3	mi/h
Number of lanes, N	2	
Density, D	106.2	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040NP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	4246	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1129	v
Trucks and buses	16	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.926	
Driver population factor, fp	1.00	
Flow rate, vp	2439	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	58.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	58.0	mi/h

LOS and Performance Measures

Flow rate, vp	2439	pc/h/ln
Free-flow speed, FFS	58.0	mi/h
Average passenger-car speed, S	47.2	mi/h
Number of lanes, N	2	
Density, D	51.7	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040NP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	4512	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1200	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	2652	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	2652	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	42.8	mi/h
Number of lanes, N	2	
Density, D	62.0	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040NP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	5060	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1346	v
Trucks and buses	19	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.913	
Driver population factor, fp	1.00	
Flow rate, vp	2947	pc/h/ln

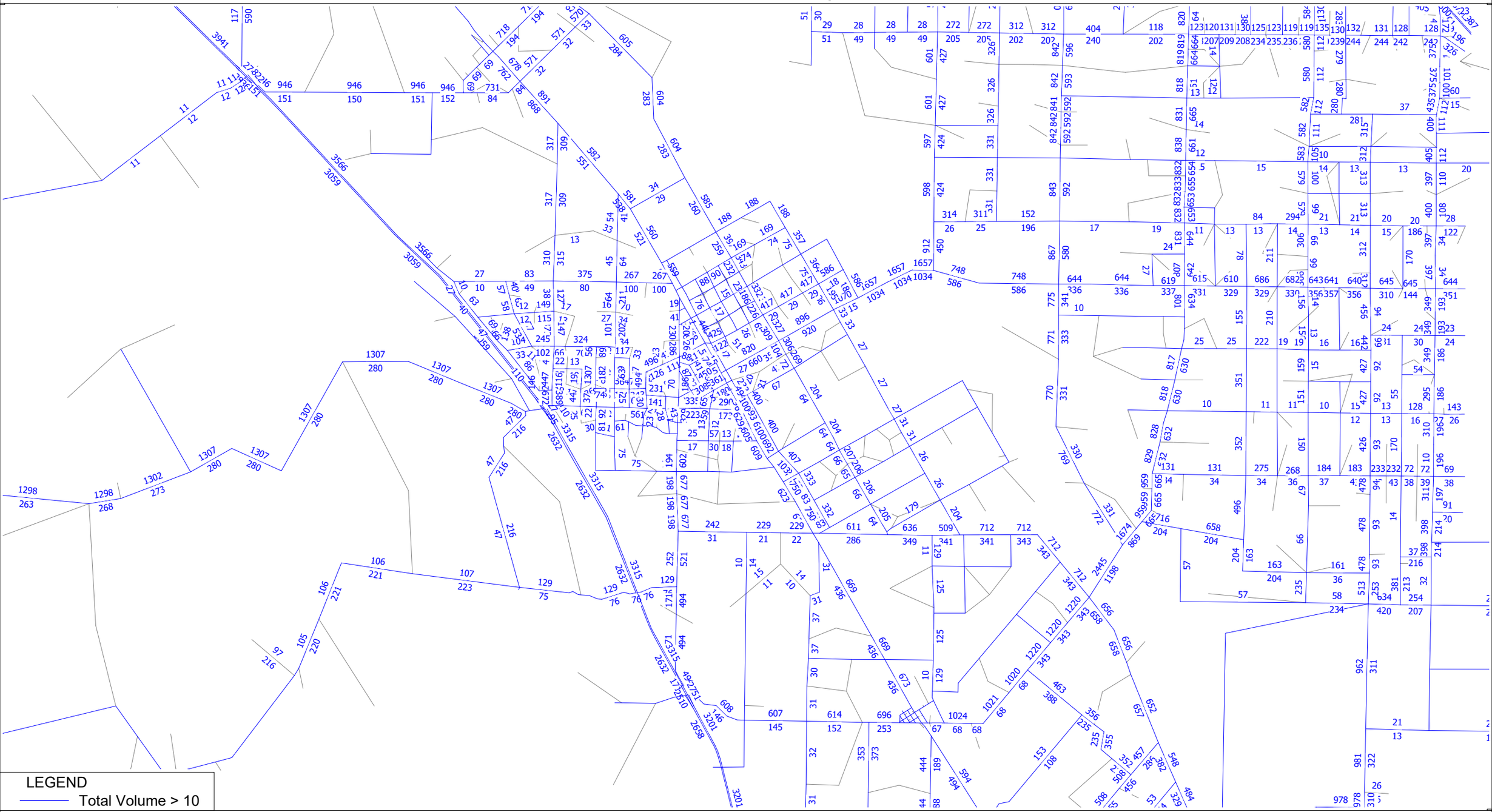
Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	61.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	61.0	mi/h

LOS and Performance Measures

Flow rate, vp	2947	pc/h/ln
Free-flow speed, FFS	61.0	mi/h
Average passenger-car speed, S	27.1	mi/h
Number of lanes, N	2	
Density, D	108.9	pc/mi/ln
Level of service, LOS	F	

2035 (incl.Approved Projects)
AM PH Vehicle Trips



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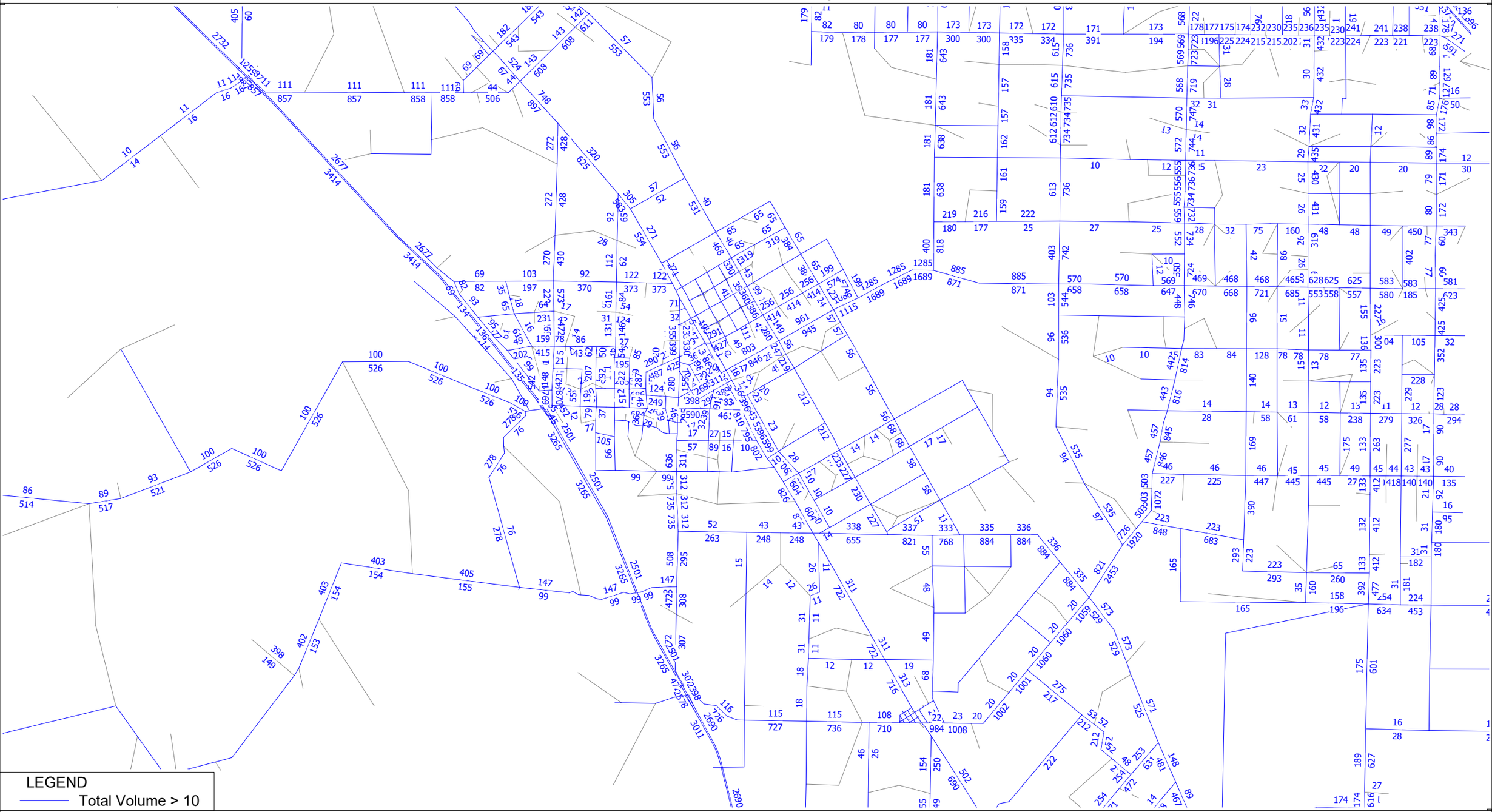
2035 (incl.Approved Projects)
PM PH Vehicle Trips



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Appendix F INTERSECTION ANALYSIS: 2040 CUMULATIVE PLUS PROJECT CONDITIONS LOS CALCULATION SHEETS

Intersection	
Intersection Delay, s/veh	353.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	363	6	242	710	0	0	0	0	590	3	211
Future Vol, veh/h	0	363	6	242	710	0	0	0	0	590	3	211
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	4	0	14	0	0	0	0	0	20	4	2
Mvmt Flow	0	395	7	263	772	0	0	0	0	641	3	229
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	42.8	479.6	346.3
HCM LOS	E	F	F

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	25%	73%
Vol Thru, %	98%	75%	0%
Vol Right, %	2%	0%	26%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	369	952	804
LT Vol	0	242	590
Through Vol	363	710	3
RT Vol	6	0	211
Lane Flow Rate	401	1035	874
Geometry Grp	1	1	1
Degree of Util (X)	0.786	2.002	1.7
Departure Headway (Hd)	10.435	8.78	8.613
Convergence, Y/N	Yes	Yes	Yes
Cap	353	424	428
Service Time	8.435	6.78	6.613
HCM Lane V/C Ratio	1.136	2.441	2.042
HCM Control Delay	42.8	479.6	346.3
HCM Lane LOS	E	F	F
HCM 95th-tile Q	6.5	56.8	42.8

Intersection	
Int Delay, s/veh	2.1

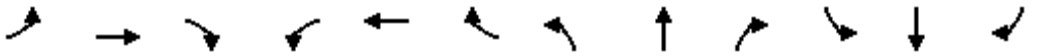
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	143	810	0	0	930	771	22	6	58	0	0	0
Future Vol, veh/h	143	810	0	0	930	771	22	6	58	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	8	0	0	10	20	0	20	20	0	0	0
Mvmt Flow	155	880	0	0	1011	838	24	7	63	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1849	0	-	-	-	0	2620	3039	880
Stage 1	-	-	-	-	-	-	1190	1190	-
Stage 2	-	-	-	-	-	-	1430	1849	-
Critical Hdwy	4.2	-	-	-	-	-	6.4	6.7	6.4
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.7	-
Follow-up Hdwy	2.29	-	-	-	-	-	3.5	4.18	3.48
Pot Cap-1 Maneuver	309	-	0	0	-	-	27	11	321
Stage 1	-	-	0	0	-	-	291	241	-
Stage 2	-	-	0	0	-	-	223	112	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	309	-	-	-	-	-	0	0	321
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	0	-
Stage 1	-	-	-	-	-	-	~ 5	0	-
Stage 2	-	-	-	-	-	-	223	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.2	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	321	309	-	-	-
HCM Lane V/C Ratio	0.291	0.503	-	-	-
HCM Control Delay (s)	20.8	27.9	0	-	-
HCM Lane LOS	C	D	A	-	-
HCM 95th %tile Q(veh)	1.2	2.7	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	254	400	214	76	1105	164	188	3	60	238	0	408
Future Volume (vph)	254	400	214	76	1105	164	188	3	60	238	0	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	3282	1583	1770	1610	1583	1770	1863	1583		1787	2493
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	3282	1583	1770	1610	1583	1770	1863	1583		1787	2493
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	276	435	233	83	1201	178	204	3	65	259	0	443
RTOR Reduction (vph)	0	0	107	0	0	45	0	0	56	0	0	106
Lane Group Flow (vph)	276	435	126	83	1201	133	204	3	9	0	259	337
Heavy Vehicles (%)	9%	10%	2%	2%	18%	2%	2%	2%	2%	1%	2%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	15.5	77.3	77.3	11.2	71.0	71.0	19.9	19.9	19.9		13.0	28.5
Effective Green, g (s)	15.5	77.3	77.3	11.2	71.0	71.0	19.9	19.9	19.9		13.0	28.5
Actuated g/C Ratio	0.11	0.54	0.54	0.08	0.50	0.50	0.14	0.14	0.14		0.09	0.20
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	179	1775	856	138	799	786	246	259	220		162	497
v/s Ratio Prot	c0.17	c0.13		0.05	c0.75		c0.12	0.00			c0.14	0.07
v/s Ratio Perm			0.08			0.08			0.01			0.06
v/c Ratio	1.54	0.25	0.15	0.60	1.50	0.17	0.83	0.01	0.04		1.60	0.68
Uniform Delay, d1	63.7	17.4	16.4	63.7	36.0	19.7	59.8	53.0	53.2		65.0	53.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	269.7	0.2	0.2	7.2	232.9	0.1	20.1	0.0	0.1		296.4	3.7
Delay (s)	333.4	17.5	16.5	70.9	268.9	19.8	79.9	53.0	53.3		361.4	56.6
Level of Service	F	B	B	E	F	B	E	D	D		F	E
Approach Delay (s)		109.6			227.3			73.3			169.1	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	170.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	142.9	Sum of lost time (s)	23.5
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	613	0	7	1203	20	60	7	25	15	11	245
Future Volume (veh/h)	99	613	0	7	1203	20	60	7	25	15	11	245
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1743	1900	1900	1827	1583	1900	1900	1900	1583	1595	1900
Adj Flow Rate, veh/h	108	666	0	8	1308	22	65	8	27	16	12	266
Adj No. of Lanes	2	1	0	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	208	908	0	43	1605	622	192	104	352	394	16	356
Arrive On Green	0.07	0.52	0.00	0.01	0.46	0.46	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	2925	1743	0	3510	3471	1346	1119	382	1290	1163	59	1306
Grp Volume(v), veh/h	108	666	0	8	1308	22	65	0	35	16	0	278
Grp Sat Flow(s),veh/h/ln	1463	1743	0	1755	1736	1346	1119	0	1672	1163	0	1364
Q Serve(g_s), s	2.7	22.5	0.0	0.2	24.7	0.7	4.3	0.0	1.2	0.8	0.0	14.1
Cycle Q Clear(g_c), s	2.7	22.5	0.0	0.2	24.7	0.7	18.4	0.0	1.2	2.0	0.0	14.1
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.77	1.00		0.96
Lane Grp Cap(c), veh/h	208	908	0	43	1605	622	192	0	456	394	0	372
V/C Ratio(X)	0.52	0.73	0.00	0.19	0.81	0.04	0.34	0.00	0.08	0.04	0.00	0.75
Avail Cap(c_a), veh/h	231	908	0	278	1706	661	432	0	815	644	0	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.0	14.1	0.0	37.1	17.6	11.1	33.6	0.0	20.5	21.2	0.0	25.2
Incr Delay (d2), s/veh	2.0	3.8	0.0	2.0	3.5	0.0	1.0	0.0	0.1	0.0	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	11.7	0.0	0.1	12.6	0.3	1.4	0.0	0.6	0.3	0.0	5.6
LnGrp Delay(d),s/veh	36.0	17.9	0.0	39.2	21.1	11.2	34.6	0.0	20.6	21.3	0.0	28.2
LnGrp LOS	D	B		D	C	B	C		C	C		C
Approach Vol, veh/h		774			1338			100			294	
Approach Delay, s/veh		20.4			21.1			29.7			27.8	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.4	45.2		25.2	9.9	40.8		25.2
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		4.5
Max Green Setting (Gmax), s	6.0	37.3		37.0	6.0	37.3		37.0
Max Q Clear Time (g_c+I1), s	2.2	24.5		16.1	4.7	26.7		20.4
Green Ext Time (p_c), s	0.0	5.8		1.7	0.0	8.4		0.3

Intersection Summary		
HCM 2010 Ctrl Delay	22.0	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	609	53	12	642	102	255	462	76	260	194	333
Future Volume (veh/h)	48	609	53	12	642	102	255	462	76	260	194	333
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1849	1900	1743	1827	1900	1900	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	52	662	58	13	698	111	277	502	83	283	211	362
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	3	0	9	4	0	0	0	0	1	0	0
Cap, veh/h	130	697	61	28	722	639	271	542	90	321	179	307
Arrive On Green	0.04	0.42	0.42	0.02	0.40	0.40	0.15	0.34	0.34	0.09	0.28	0.28
Sat Flow, veh/h	3476	1676	147	1660	1827	1615	1810	1587	262	3476	629	1080
Grp Volume(v), veh/h	52	0	720	13	698	111	277	0	585	283	0	573
Grp Sat Flow(s),veh/h/ln	1738	0	1823	1660	1827	1615	1810	0	1850	1738	0	1709
Q Serve(g_s), s	2.0	0.0	52.9	1.1	51.9	6.2	20.8	0.0	42.3	11.2	0.0	39.4
Cycle Q Clear(g_c), s	2.0	0.0	52.9	1.1	51.9	6.2	20.8	0.0	42.3	11.2	0.0	39.4
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.14	1.00		0.63
Lane Grp Cap(c), veh/h	130	0	758	28	722	639	271	0	632	321	0	485
V/C Ratio(X)	0.40	0.00	0.95	0.46	0.97	0.17	1.02	0.00	0.93	0.88	0.00	1.18
Avail Cap(c_a), veh/h	150	0	758	72	728	644	271	0	632	321	0	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	65.3	0.0	39.1	67.6	41.0	27.2	59.0	0.0	44.0	62.2	0.0	49.7
Incr Delay (d2), s/veh	0.7	0.0	21.7	22.9	25.5	0.3	60.2	0.0	19.7	23.0	0.0	100.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	31.2	0.7	31.3	2.8	14.9	0.0	25.1	6.4	0.0	32.1
LnGrp Delay(d),s/veh	66.0	0.0	60.9	90.4	66.5	27.5	119.2	0.0	63.7	85.3	0.0	150.4
LnGrp LOS	E		E	F	E	C	F		E	F		F
Approach Vol, veh/h		772			822			862			856	
Approach Delay, s/veh		61.2			61.6			81.6			128.9	
Approach LOS		E			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	63.2	25.0	44.0	9.4	60.4	17.0	52.0
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	55.3	* 21	39.4	* 6	55.3	* 13	47.4
Max Q Clear Time (g_c+I1), s	3.1	54.9	22.8	41.4	4.0	53.9	13.2	44.3
Green Ext Time (p_c), s	0.0	0.3	0.0	0.0	0.0	1.0	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	84.1
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	826	39	45	595	62	53	123	74	97	97	127
Future Volume (veh/h)	98	826	39	45	595	62	53	123	74	97	97	127
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1847	1900	1900	1846	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	107	898	42	49	647	67	58	134	80	105	105	138
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0	0	3	2	0	0	0	0	0	0
Cap, veh/h	203	1175	55	104	928	96	273	276	165	301	184	242
Arrive On Green	0.11	0.34	0.34	0.06	0.29	0.29	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1810	3414	160	1810	3209	332	1153	1115	666	1184	745	979
Grp Volume(v), veh/h	107	462	478	49	353	361	58	0	214	105	0	243
Grp Sat Flow(s),veh/h/ln	1810	1755	1819	1810	1754	1787	1153	0	1781	1184	0	1724
Q Serve(g_s), s	3.1	13.0	13.0	1.5	10.0	10.0	2.6	0.0	5.7	4.6	0.0	6.9
Cycle Q Clear(g_c), s	3.1	13.0	13.0	1.5	10.0	10.0	9.4	0.0	5.7	10.3	0.0	6.9
Prop In Lane	1.00		0.09	1.00		0.19	1.00		0.37	1.00		0.57
Lane Grp Cap(c), veh/h	203	604	626	104	507	517	273	0	440	301	0	427
V/C Ratio(X)	0.53	0.76	0.76	0.47	0.70	0.70	0.21	0.00	0.49	0.35	0.00	0.57
Avail Cap(c_a), veh/h	212	708	734	199	695	708	444	0	705	477	0	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.3	16.2	16.2	25.4	17.6	17.6	22.4	0.0	17.9	22.3	0.0	18.3
Incr Delay (d2), s/veh	2.2	4.8	4.6	3.3	2.6	2.5	0.4	0.0	0.8	0.7	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.1	7.3	0.8	5.2	5.3	0.9	0.0	2.9	1.6	0.0	3.4
LnGrp Delay(d),s/veh	25.4	21.0	20.8	28.7	20.1	20.1	22.8	0.0	18.7	23.0	0.0	19.5
LnGrp LOS	C	C	C	C	C	C	C		B	C		B
Approach Vol, veh/h		1047			763			272			348	
Approach Delay, s/veh		21.4			20.7			19.6			20.6	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	25.6		20.2	12.7	22.6		20.2
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	6.1	22.4		22.0	6.5	22.0		22.0
Max Q Clear Time (g_c+I1), s	3.5	15.0		12.3	5.1	12.0		11.4
Green Ext Time (p_c), s	0.0	4.1		1.3	0.0	4.0		1.1

Intersection Summary			
HCM 2010 Ctrl Delay		20.8	
HCM 2010 LOS		C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	643	22	105	617	99	34	171	177	141	116	38
Future Volume (veh/h)	144	643	22	105	617	99	34	171	177	141	116	38
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1843	1900	1881	1845	1900	1845	1872	1900	1881	1900	1900
Adj Flow Rate, veh/h	157	699	24	114	671	108	37	186	192	153	126	41
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	5	1	3	0	3	1	2	1	0	0
Cap, veh/h	142	1011	35	144	987	452	71	239	246	151	624	516
Arrive On Green	0.08	0.29	0.29	0.08	0.28	0.28	0.04	0.28	0.28	0.08	0.33	0.33
Sat Flow, veh/h	1774	3453	119	1792	3505	1606	1757	839	866	1792	1900	1573
Grp Volume(v), veh/h	157	354	369	114	671	108	37	0	378	153	126	41
Grp Sat Flow(s),veh/h/ln	1774	1751	1820	1792	1752	1606	1757	0	1705	1792	1900	1573
Q Serve(g_s), s	7.0	15.7	15.7	5.5	14.9	4.5	1.8	0.0	17.9	7.4	4.2	1.6
Cycle Q Clear(g_c), s	7.0	15.7	15.7	5.5	14.9	4.5	1.8	0.0	17.9	7.4	4.2	1.6
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	142	512	533	144	987	452	71	0	485	151	624	516
V/C Ratio(X)	1.11	0.69	0.69	0.79	0.68	0.24	0.52	0.00	0.78	1.01	0.20	0.08
Avail Cap(c_a), veh/h	142	640	665	184	1321	605	130	0	662	151	757	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	27.5	27.5	39.5	27.9	24.2	41.2	0.0	28.8	40.1	21.2	20.3
Incr Delay (d2), s/veh	107.1	4.0	3.8	16.3	1.8	0.6	5.7	0.0	6.6	75.9	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	8.1	8.5	3.4	7.4	2.1	1.0	0.0	9.3	6.8	2.3	0.7
LnGrp Delay(d),s/veh	147.4	31.4	31.3	55.8	29.7	24.8	46.9	0.0	35.4	116.0	21.5	20.4
LnGrp LOS	F	C	C	E	C	C	D		D	F	C	C
Approach Vol, veh/h		880			893			415			320	
Approach Delay, s/veh		52.1			32.5			36.5			66.6	
Approach LOS		D			C			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	31.6	8.2	34.7	14.0	30.7	12.0	30.9
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	9.0	32.0	6.5	34.9	7.0	33.0	7.4	34.0
Max Q Clear Time (g_c+I1), s	11.5	17.7	3.8	6.2	9.0	16.9	9.4	19.9
Green Ext Time (p_c), s	0.0	6.1	0.0	1.6	0.0	7.1	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	44.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	550	34	7	581	17	67	100	19	5	59	173
Future Volume (veh/h)	239	550	34	7	581	17	67	100	19	5	59	173
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1798	1900	1900	1827	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	260	598	37	8	632	18	73	109	21	5	64	188
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	6	0	0	4	0	0	0	0	0	0	0
Cap, veh/h	473	2064	128	568	1153	1018	174	205	34	67	89	247
Arrive On Green	0.63	0.63	0.63	0.63	0.63	0.63	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	794	3269	202	805	1827	1612	437	1013	167	11	439	1225
Grp Volume(v), veh/h	260	312	323	8	632	18	203	0	0	257	0	0
Grp Sat Flow(s),veh/h/ln	794	1708	1762	805	1827	1612	1617	0	0	1674	0	0
Q Serve(g_s), s	15.6	4.7	4.7	0.3	11.1	0.2	0.0	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	26.7	4.7	4.7	5.0	11.1	0.2	6.2	0.0	0.0	8.2	0.0	0.0
Prop In Lane	1.00		0.11	1.00		1.00	0.36		0.10	0.02		0.73
Lane Grp Cap(c), veh/h	473	1079	1113	568	1153	1018	412	0	0	402	0	0
V/C Ratio(X)	0.55	0.29	0.29	0.01	0.55	0.02	0.49	0.00	0.00	0.64	0.00	0.00
Avail Cap(c_a), veh/h	550	1245	1285	647	1332	1175	745	0	0	768	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.5	4.7	4.7	5.9	5.9	3.9	20.5	0.0	0.0	21.4	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.3	0.3	0.0	0.9	0.0	0.9	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	2.3	2.3	0.1	5.7	0.1	3.0	0.0	0.0	4.0	0.0	0.0
LnGrp Delay(d),s/veh	15.6	5.0	5.0	5.9	6.8	3.9	21.4	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C			C		
Approach Vol, veh/h		895			658			203			257	
Approach Delay, s/veh		8.1			6.7			21.4			23.1	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.5		16.4		40.5		16.4
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		41.5		24.0		41.5		24.0
Max Q Clear Time (g_c+I1), s		28.7		8.2		13.1		10.2
Green Ext Time (p_c), s		7.2		1.1		9.1		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	153	180	68	25	90	34	148	1200	61	44	650	367
Future Vol, veh/h	153	180	68	25	90	34	148	1200	61	44	650	367
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	4	6	0	2	0	6	3	7	16	5	4
Mvmt Flow	166	196	74	27	98	37	161	1304	66	48	707	399

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2530	2495	707	2597	2462	1337	707	0	0	1370	0	0
Stage 1	803	803	-	1659	1659	-	-	-	-	-	-	-
Stage 2	1727	1692	-	938	803	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.54	6.26	7.1	6.52	6.2	4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.036	3.354	3.5	4.018	3.3	2.254	-	-	2.344	-	-
Pot Cap-1 Maneuver	~ 18	~ 29	429	~ 17	~ 30	189	873	-	-	459	-	0
Stage 1	371	393	-	125	155	-	-	-	-	-	-	0
Stage 2	~ 110	~ 147	-	320	396	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	~ 5	429	-	~ 5	189	873	-	-	459	-	-
Mov Cap-2 Maneuver	-	~ 5	-	-	~ 5	-	-	-	-	-	-	-
Stage 1	~ 75	325	-	~ 25	~ 31	-	-	-	-	-	-	-
Stage 2	-	~ 30	-	87	328	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.1	0.9
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	873	-	-	-	-	189	459	-
HCM Lane V/C Ratio	0.184	-	-	-	-	0.196	0.104	-
HCM Control Delay (s)	10.1	0	-	-	-	28.6	13.8	0
HCM Lane LOS	B	A	-	-	-	D	B	A
HCM 95th %tile Q(veh)	0.7	-	-	-	-	0.7	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	144	57	168	149	23	125	1250	228	111	1050	145
Future Volume (veh/h)	25	144	57	168	149	23	125	1250	228	111	1050	145
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1583	1583	1900	1583	1583	1900
Adj Flow Rate, veh/h	27	157	62	183	162	25	136	1359	248	121	1141	158
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	192	138	54	213	189	29	118	717	131	118	749	104
Arrive On Green	0.11	0.11	0.11	0.12	0.12	0.12	0.08	0.55	0.55	0.08	0.55	0.55
Sat Flow, veh/h	1774	1272	502	1774	1577	243	1508	1303	238	1508	1362	189
Grp Volume(v), veh/h	27	0	219	183	0	187	136	0	1607	121	0	1299
Grp Sat Flow(s),veh/h/ln	1774	0	1774	1774	0	1820	1508	0	1541	1508	0	1550
Q Serve(g_s), s	1.8	0.0	13.8	12.9	0.0	12.8	10.0	0.0	70.1	10.0	0.0	70.1
Cycle Q Clear(g_c), s	1.8	0.0	13.8	12.9	0.0	12.8	10.0	0.0	70.1	10.0	0.0	70.1
Prop In Lane	1.00		0.28	1.00		0.13	1.00		0.15	1.00		0.12
Lane Grp Cap(c), veh/h	192	0	192	213	0	218	118	0	847	118	0	852
V/C Ratio(X)	0.14	0.00	1.14	0.86	0.00	0.86	1.15	0.00	1.90	1.02	0.00	1.52
Avail Cap(c_a), veh/h	192	0	192	456	0	468	118	0	847	118	0	852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.5	0.0	56.8	55.0	0.0	55.0	58.7	0.0	28.7	58.7	0.0	28.7
Incr Delay (d2), s/veh	0.1	0.0	107.8	3.9	0.0	3.7	128.7	0.0	407.7	89.1	0.0	241.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	12.5	6.5	0.0	6.7	8.4	0.0	125.6	7.1	0.0	87.1
LnGrp Delay(d),s/veh	51.6	0.0	164.7	59.0	0.0	58.7	187.4	0.0	436.4	148.1	0.0	270.6
LnGrp LOS	D		F	E		E	F		F	F		F
Approach Vol, veh/h		246			370			1743			1420	
Approach Delay, s/veh		152.3			58.9			417.0			260.1	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		18.0	14.0	75.0		20.5	14.0	75.0
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 14	10.0	70.1		32.8	10.0	70.1
Max Q Clear Time (g_c+I1), s		15.8	12.0	72.1		14.9	12.0	72.1
Green Ext Time (p_c), s		0.0	0.0	0.0		0.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	305.8
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	156	30	205	485	86	89	1250	92	218	850	125
Future Volume (veh/h)	123	156	30	205	485	86	89	1250	92	218	850	125
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.97	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1825	1900	1810	1900	1900	1900	1845	1900	1881	1821	1900
Adj Flow Rate, veh/h	134	170	33	223	527	93	97	1359	100	237	924	136
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	20	5	0	0	0	3	3	1	5	0
Cap, veh/h	161	345	67	397	550	456	269	1378	101	249	1445	213
Arrive On Green	0.05	0.23	0.23	0.11	0.29	0.29	0.04	0.42	0.42	0.11	0.48	0.48
Sat Flow, veh/h	1723	1478	287	1723	1900	1574	1810	3310	243	1792	3015	444
Grp Volume(v), veh/h	134	0	203	223	527	93	97	718	741	237	530	530
Grp Sat Flow(s),veh/h/ln	1723	0	1765	1723	1900	1574	1810	1752	1800	1792	1730	1729
Q Serve(g_s), s	7.2	0.0	13.2	12.6	36.1	5.9	4.0	53.5	54.1	13.1	30.4	30.5
Cycle Q Clear(g_c), s	7.2	0.0	13.2	12.6	36.1	5.9	4.0	53.5	54.1	13.1	30.4	30.5
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.13	1.00		0.26
Lane Grp Cap(c), veh/h	161	0	412	397	550	456	269	730	750	249	829	829
V/C Ratio(X)	0.83	0.00	0.49	0.56	0.96	0.20	0.36	0.98	0.99	0.95	0.64	0.64
Avail Cap(c_a), veh/h	161	0	412	447	589	488	312	730	750	249	829	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	0.0	43.9	32.3	46.2	35.5	22.6	38.2	38.3	42.3	25.9	25.9
Incr Delay (d2), s/veh	27.6	0.0	0.3	0.5	25.6	0.1	0.3	29.0	30.0	42.8	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	6.5	6.1	22.8	2.6	2.0	31.8	33.0	11.6	14.7	14.7
LnGrp Delay(d),s/veh	69.6	0.0	44.3	32.8	71.8	35.6	22.9	67.1	68.3	85.1	27.1	27.2
LnGrp LOS	E		D	C	E	D	C	E	E	F	C	C
Approach Vol, veh/h		337			843			1556			1297	
Approach Delay, s/veh		54.3			57.5			64.9			37.7	
Approach LOS		D			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	42.9	18.2	60.0	18.6	35.5	9.9	68.3
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	7.2	41.0	14.2	55.1	18.5	29.7	9.0	60.3
Max Q Clear Time (g_c+I1), s	9.2	38.1	15.1	56.1	14.6	15.2	6.0	32.5
Green Ext Time (p_c), s	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.9

Intersection Summary		
HCM 2010 Ctrl Delay		53.7
HCM 2010 LOS		D

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	357	137	20	130	225	87	1269	7	344	1187	6
Future Vol, veh/h	14	357	137	20	130	225	87	1269	7	344	1187	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	15	388	149	22	141	245	95	1379	8	374	1290	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3804	3615	1290	3883	3618	1383	1297	0	0	1387	0	0
Stage 1	2038	2038	-	1573	1573	-	-	-	-	-	-	-
Stage 2	1766	1577	-	2310	2045	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.38	-	-	2.38	-	-
Pot Cap-1 Maneuver	~ 2	~ 5	200	~ 2	~ 5	~ 176	479	-	-	441	-	-
Stage 1	74	~ 100	-	138	170	-	-	-	-	-	-	-
Stage 2	107	~ 170	-	51	~ 99	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	200	-	0	~ 176	479	-	-	441	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 10	0	-	~ 18	~ 23	-	-	-	-	-	-	-
Stage 2	29	~ 23	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.9	9.9
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	479	-	-	-	200	-	441	-	-
HCM Lane V/C Ratio	0.197	-	-	-	0.745	-	0.848	-	-
HCM Control Delay (s)	14.4	0	-	-	62.1	-	44.4	0	-
HCM Lane LOS	B	A	-	-	F	-	E	A	-
HCM 95th %tile Q(veh)	0.7	-	-	-	4.9	-	8.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	10.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	98	68	8	55	5	381	19	92	2	1	0
Future Vol, veh/h	9	98	68	8	55	5	381	19	92	2	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	4	8	0	15	0	3	20	3	0	20	20
Mvmt Flow	10	107	74	9	60	5	414	21	100	2	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	65	0	0	181	0	0	245	247	144	306	282	63
Stage 1	-	-	-	-	-	-	164	164	-	81	81	-
Stage 2	-	-	-	-	-	-	81	83	-	225	201	-
Critical Hdwy	4.3	-	-	4.1	-	-	7.13	6.7	6.23	7.1	6.7	6.4
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.7	-	6.1	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.7	-	6.1	5.7	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.527	4.18	3.327	3.5	4.18	3.48
Pot Cap-1 Maneuver	1430	-	-	1407	-	-	707	626	901	650	598	953
Stage 1	-	-	-	-	-	-	836	730	-	932	794	-
Stage 2	-	-	-	-	-	-	925	792	-	782	702	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1430	-	-	1407	-	-	699	618	901	558	590	953
Mov Cap-2 Maneuver	-	-	-	-	-	-	699	618	-	558	590	-
Stage 1	-	-	-	-	-	-	830	725	-	925	789	-
Stage 2	-	-	-	-	-	-	918	787	-	671	697	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.9	15.7	11.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	699	836	1430	-	-	1407	-	-	568
HCM Lane V/C Ratio	0.592	0.144	0.007	-	-	0.006	-	-	0.006
HCM Control Delay (s)	17.4	10	7.5	-	-	7.6	-	-	11.4
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	3.9	0.5	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	86	43	65	152	150	19	450	7	150	700	7
Future Vol, veh/h	120	86	43	65	152	150	19	450	7	150	700	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	0	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	20	0	4	0	20	20	4	13	0
Mvmt Flow	130	93	47	71	165	163	21	489	8	163	761	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1790	1630	765	1692	1626	489	769	0	0	497	0	0
Stage 1	1091	1091	-	531	531	-	-	-	-	-	-	-
Stage 2	699	539	-	1161	1095	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.3	6.5	6.24	4.1	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.68	4	3.336	2.2	-	-	2.236	-	-
Pot Cap-1 Maneuver	~ 63	102	403	~ 67	~ 103	575	854	-	-	1057	-	-
Stage 1	260	291	-	501	529	-	-	-	-	-	-	-
Stage 2	430	522	-	219	292	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 83	403	-	~ 84	575	854	-	-	1057	-	-
Mov Cap-2 Maneuver	-	~ 83	-	-	~ 84	-	-	-	-	-	-	-
Stage 1	251	246	-	484	511	-	-	-	-	-	-	-
Stage 2	201	504	-	102	247	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.4	1.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	854	-	-	-	-	575	1057	-	-
HCM Lane V/C Ratio	0.024	-	-	-	-	0.284	0.154	-	-
HCM Control Delay (s)	9.3	0	-	-	-	13.7	9	-	-
HCM Lane LOS	A	A	-	-	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	1.2	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	161	39	290	248	188	0	550	100	0	667	53
Future Vol, veh/h	14	161	39	290	248	188	0	550	100	0	667	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	8	8	8	18	18	18	16	16	16
Mvmt Flow	15	175	42	315	270	204	0	598	109	0	725	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1644	1461	754	1516	1436	653	783	0	0	707	0	0
Stage 1	754	754	-	653	653	-	-	-	-	-	-	-
Stage 2	890	707	-	863	783	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.18	6.58	6.28	4.28	-	-	4.26	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.572	4.072	3.372	2.362	-	-	2.344	-	-
Pot Cap-1 Maneuver	80	~ 129	409	~ 95	~ 130	457	768	-	-	830	-	-
Stage 1	401	417	-	446	454	-	-	-	-	-	-	-
Stage 2	337	438	-	341	396	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 129	409	-	~ 130	457	768	-	-	830	-	-
Mov Cap-2 Maneuver	-	~ 129	-	-	~ 130	-	-	-	-	-	-	-
Stage 1	401	417	-	446	454	-	-	-	-	-	-	-
Stage 2	76	438	-	~ 177	396	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	0
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	768	-	-	-	-	830	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	-	0	-	-
HCM Lane LOS	A	-	-	-	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	612.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	240	54	424	471	4	194	506	236	29	586	9
Future Vol, veh/h	2	240	54	424	471	4	194	506	236	29	586	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	8	8	8	9	9	9	14	14	14
Mvmt Flow	2	261	59	461	512	4	211	550	257	32	637	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	105.4	746.4	773.2	417.3
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	1%	47%	5%
Vol Thru, %	54%	81%	52%	94%
Vol Right, %	25%	18%	0%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	936	296	899	624
LT Vol	194	2	424	29
Through Vol	506	240	471	586
RT Vol	236	54	4	9
Lane Flow Rate	1017	322	977	678
Geometry Grp	1	1	1	1
Degree of Util (X)	2.615	0.851	2.562	1.78
Departure Headway (Hd)	16.973	27.653	15.668	20.864
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	224	135	244	183
Service Time	14.973	25.653	13.668	18.864
HCM Lane V/C Ratio	4.54	2.385	4.004	3.705
HCM Control Delay	773.2	105.4	746.4	417.3
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	47.2	5.3	49.3	22

Intersection	
Int Delay, s/veh	130.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	222	297	800	550	902	52
Future Vol, veh/h	222	297	800	550	902	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	11	14	14
Mvmt Flow	241	323	870	598	980	57

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3347	1009	1037	0	-	0
Stage 1	1009	-	-	-	-	-
Stage 2	2338	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	~ 9	~ 292	~ 674	-	-	-
Stage 1	352	-	-	-	-	-
Stage 2	~ 77	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	~ 292	~ 674	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	~ 77	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 460.9	95.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 674	-	292	-	-
HCM Lane V/C Ratio	1.29	-	1.932	-	-
HCM Control Delay (s)	161.4	0	$ 460.9	-	-
HCM Lane LOS	F	A	F	-	-
HCM 95th %tile Q(veh)	34	-	39.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5133.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	253	287	1044	10	150	1064
Future Vol, veh/h	253	287	1044	10	150	1064
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	9	11	11	14	14
Mvmt Flow	275	312	1135	11	163	1157

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2624	1141	0	0	1146	0
Stage 1	1141	-	-	-	-	-
Stage 2	1483	-	-	-	-	-
Critical Hdwy	6.49	6.29	-	-	4.24	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	-	-	2.326	-
Pot Cap-1 Maneuver	~ 25	~ 236	-	-	568	-
Stage 1	295	-	-	-	-	-
Stage 2	~ 200	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 5	~ 236	-	-	568	-
Mov Cap-2 Maneuver	~ 5	-	-	-	-	-
Stage 1	295	-	-	-	-	-
Stage 2	~ 39	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 26689.3	0	1.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	10	568	-
HCM Lane V/C Ratio	-	-	58.696	0.287	-
HCM Control Delay (s)	-	-	$ 26689.3	13.9	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	75.1	1.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	930.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	612	62	4	768	813	103
Future Vol, veh/h	612	62	4	768	813	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	9	1	11	14	14
Mvmt Flow	665	67	4	835	884	112

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1783	940	996	0	-	0
Stage 1	940	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.11	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.209	-	-	-
Pot Cap-1 Maneuver	~ 86	310	699	-	-	-
Stage 1	~ 369	-	-	-	-	-
Stage 2	~ 411	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 85	310	699	-	-	-
Mov Cap-2 Maneuver	~ 85	-	-	-	-	-
Stage 1	~ 365	-	-	-	-	-
Stage 2	~ 411	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, $	3261.9	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	699	-	91	-	-
HCM Lane V/C Ratio	0.006	-	8.051	-	-
HCM Control Delay (s)	10.2	$	3261.9	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	83.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2585.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	868	168	6	1380	587	82
Future Vol, veh/h	868	168	6	1380	587	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	11	14	14	18	18
Mvmt Flow	943	183	7	1500	638	89

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1126	0	2549	1035
Stage 1	-	-	-	-	1035	-
Stage 2	-	-	-	-	1514	-
Critical Hdwy	-	-	4.24	-	6.58	6.38
Critical Hdwy Stg 1	-	-	-	-	5.58	-
Critical Hdwy Stg 2	-	-	-	-	5.58	-
Follow-up Hdwy	-	-	2.326	-	3.662	3.462
Pot Cap-1 Maneuver	-	-	578	-	~ 26	262
Stage 1	-	-	-	-	~ 320	-
Stage 2	-	-	-	-	~ 184	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	578	-	~ 24	262
Mov Cap-2 Maneuver	-	-	-	-	~ 24	-
Stage 1	-	-	-	-	~ 320	-
Stage 2	-	-	-	-	~ 171	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	$ 11944.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	27	-	-	578	-
HCM Lane V/C Ratio	26.932	-	-	0.011	-
HCM Control Delay (s)	$ 11944.8	-	-	11.3	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	90.5	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	179.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	35	86	60	0	477	24	74	285	0	0	332	28
Future Vol, veh/h	35	86	60	0	477	24	74	285	0	0	332	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	38	93	65	0	518	26	80	310	0	0	361	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1118	846	376	925	861	310	391	0	0	310	0	0
Stage 1	376	376	-	470	470	-	-	-	-	-	-	-
Stage 2	742	470	-	455	391	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	179	293	657	242	~ 286	714	1168	-	-	1250	-	-
Stage 1	633	606	-	561	548	-	-	-	-	-	-	-
Stage 2	398	550	-	572	595	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	269	657	150	~ 262	714	1168	-	-	1250	-	-
Mov Cap-2 Maneuver	-	269	-	150	~ 262	-	-	-	-	-	-	-
Stage 1	580	606	-	514	~ 503	-	-	-	-	-	-	-
Stage 2	-	504	-	436	595	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 501	1.7	0
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1168	-	-	-	270	1250	-	-
HCM Lane V/C Ratio	0.069	-	-	-	2.017	-	-	-
HCM Control Delay (s)	8.3	0	-	-	$ 501	0	-	-
HCM Lane LOS	A	A	-	-	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	39.5	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	80.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	17	17	148	1	275	0	221	441	16	1	20	1
Future Vol, veh/h	17	17	148	1	275	0	221	441	16	1	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	18	18	161	1	299	0	240	479	17	1	22	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1142	1001	23	1082	993	488	23	0	0	496	0	0
Stage 1	25	25	-	968	968	-	-	-	-	-	-	-
Stage 2	1117	976	-	114	25	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	173	237	1037	189	~ 239	566	1592	-	-	1068	-	-
Stage 1	978	863	-	296	323	-	-	-	-	-	-	-
Stage 2	245	322	-	874	861	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	187	1037	124	~ 189	566	1592	-	-	1068	-	-
Mov Cap-2 Maneuver	-	187	-	124	~ 189	-	-	-	-	-	-	-
Stage 1	774	862	-	234	~ 255	-	-	-	-	-	-	-
Stage 2	-	255	-	722	860	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 332.4	2.5	0.4
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1592	-	-	-	189	1068	-	-
HCM Lane V/C Ratio	0.151	-	-	-	1.587	0.001	-	-
HCM Control Delay (s)	7.7	0	-	-	$ 332.4	8.4	0	-
HCM Lane LOS	A	A	-	-	F	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	-	19.6	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	436	11	11	700	46	12	120	216	41	27	11
Future Volume (veh/h)	19	436	11	11	700	46	12	120	216	41	27	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	21	474	12	12	761	50	13	130	235	45	29	12
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	37	769	19	25	755	50	28	145	261	69	333	138
Arrive On Green	0.02	0.47	0.47	0.01	0.46	0.46	0.02	0.24	0.24	0.04	0.27	0.27
Sat Flow, veh/h	1616	1647	42	1691	1648	108	1774	596	1077	1774	1253	518
Grp Volume(v), veh/h	21	0	486	12	0	811	13	0	365	45	0	41
Grp Sat Flow(s),veh/h/ln	1616	0	1689	1691	0	1757	1774	0	1673	1774	0	1771
Q Serve(g_s), s	1.1	0.0	17.8	0.6	0.0	37.9	0.6	0.0	17.5	2.1	0.0	1.4
Cycle Q Clear(g_c), s	1.1	0.0	17.8	0.6	0.0	37.9	0.6	0.0	17.5	2.1	0.0	1.4
Prop In Lane	1.00		0.02	1.00		0.06	1.00		0.64	1.00		0.29
Lane Grp Cap(c), veh/h	37	0	788	25	0	805	28	0	406	69	0	471
V/C Ratio(X)	0.56	0.00	0.62	0.49	0.00	1.01	0.47	0.00	0.90	0.65	0.00	0.09
Avail Cap(c_a), veh/h	98	0	788	102	0	805	107	0	455	107	0	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.0	0.0	16.5	40.5	0.0	22.4	40.4	0.0	30.3	39.2	0.0	22.8
Incr Delay (d2), s/veh	12.5	0.0	1.5	14.1	0.0	33.6	11.8	0.0	19.1	9.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	8.6	0.4	0.0	25.6	0.4	0.0	10.2	1.2	0.0	0.7
LnGrp Delay(d),s/veh	52.5	0.0	18.0	54.6	0.0	56.0	52.2	0.0	49.5	49.1	0.0	22.9
LnGrp LOS	D		B	D		F	D		D	D		C
Approach Vol, veh/h		507			823			378			86	
Approach Delay, s/veh		19.4			56.0			49.6			36.6	
Approach LOS		B			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	25.9	5.2	44.4	5.3	27.8	5.9	43.7
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	5.0	22.5	5.0	37.9	5.0	22.5	5.0	37.9
Max Q Clear Time (g_c+I1), s	4.1	19.5	2.6	19.8	2.6	3.4	3.1	39.9
Green Ext Time (p_c), s	0.0	0.6	0.0	2.6	0.0	0.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	43.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	650	4	16	650	55	16	16	42	226	23	28
Future Volume (veh/h)	2	650	4	16	650	55	16	16	42	226	23	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	707	4	17	707	60	17	17	46	246	25	30
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	4	812	5	35	807	68	124	125	242	397	30	36
Arrive On Green	0.00	0.48	0.48	0.02	0.50	0.50	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1616	1685	10	1691	1615	137	217	510	984	1184	120	144
Grp Volume(v), veh/h	2	0	711	17	0	767	80	0	0	301	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1695	1691	0	1752	1711	0	0	1449	0	0
Q Serve(g_s), s	0.1	0.0	23.2	0.6	0.0	24.2	0.0	0.0	0.0	9.8	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	23.2	0.6	0.0	24.2	2.3	0.0	0.0	12.1	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.08	0.21		0.57	0.82		0.10
Lane Grp Cap(c), veh/h	4	0	817	35	0	875	491	0	0	462	0	0
V/C Ratio(X)	0.45	0.00	0.87	0.49	0.00	0.88	0.16	0.00	0.00	0.65	0.00	0.00
Avail Cap(c_a), veh/h	130	0	1207	136	0	1248	743	0	0	684	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.9	0.0	14.3	30.1	0.0	13.8	18.5	0.0	0.0	21.9	0.0	0.0
Incr Delay (d2), s/veh	59.0	0.0	4.9	10.4	0.0	5.3	0.2	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	11.8	0.4	0.0	12.8	1.1	0.0	0.0	5.0	0.0	0.0
LnGrp Delay(d),s/veh	89.9	0.0	19.2	40.4	0.0	19.1	18.7	0.0	0.0	23.5	0.0	0.0
LnGrp LOS	F		B	D		B	B			C		
Approach Vol, veh/h		713			784			80			301	
Approach Delay, s/veh		19.4			19.5			18.7			23.5	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.1	5.3	35.7		21.1	4.2	36.8
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		25.2	5.0	44.2		25.2	5.0	44.2
Max Q Clear Time (g_c+I1), s		4.3	2.6	25.2		14.1	2.1	26.2
Green Ext Time (p_c), s		0.3	0.0	4.4		1.2	0.0	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	191

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	393	683	435	2	24	1066
Future Vol, veh/h	393	683	435	2	24	1066
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	11	5	5	2	2
Mvmt Flow	427	742	473	2	26	1159

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	475	0	-	0	2070	474
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	1596	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1042	-	-	-	59	~ 590
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	183	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1042	-	-	-	35	~ 590
Mov Cap-2 Maneuver	-	-	-	-	35	-
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	183	-

Approach	EB	WB	SB
HCM Control Delay, s	4	0	$ 452.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1042	-	-	-	35	590
HCM Lane V/C Ratio	0.41	-	-	-	0.745	1.964
HCM Control Delay (s)	10.8	-	-	-	244.9	$ 456.9
HCM Lane LOS	B	-	-	-	F	F
HCM 95th %tile Q(veh)	2	-	-	-	2.6	76.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	782.3
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	250	375	674	834	1162	104
Future Vol, veh/h	250	375	674	834	1162	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	272	408	733	907	1263	113
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	169.4	1036.7	781.9
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	45%	40%	0%
Vol Thru, %	55%	0%	92%
Vol Right, %	0%	60%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	1508	625	1266
LT Vol	674	250	0
Through Vol	834	0	1162
RT Vol	0	375	104
Lane Flow Rate	1639	679	1376
Geometry Grp	1	1	1
Degree of Util (X)	3.242	1.274	2.669
Departure Headway (Hd)	10.218	9.26	10.859
Convergence, Y/N	Yes	Yes	Yes
Cap	377	401	358
Service Time	8.218	7.26	8.859
HCM Lane V/C Ratio	4.347	1.693	3.844
HCM Control Delay	1036.7	169.4	781.9
HCM Lane LOS	F	F	F
HCM 95th-tile Q	102.9	21.8	73.7

Intersection	
Intersection Delay, s/veh	260.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	363	398	103	675	0	340	0	255	0	0	0
Future Vol, veh/h	0	363	398	103	675	0	340	0	255	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	395	433	112	734	0	370	0	277	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	277.3	327.7	151	0
HCM LOS	F	F	F	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	57%	0%	13%	0%
Vol Thru, %	0%	48%	87%	100%
Vol Right, %	43%	52%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	595	761	778	0
LT Vol	340	0	103	0
Through Vol	0	363	675	0
RT Vol	255	398	0	0
Lane Flow Rate	647	827	846	0
Geometry Grp	1	1	1	1
Degree of Util (X)	1.237	1.543	1.658	0
Departure Headway (Hd)	8.288	8.302	8.503	14.225
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	446	447	440	0
Service Time	6.288	6.302	6.503	12.225
HCM Lane V/C Ratio	1.451	1.85	1.923	0
HCM Control Delay	151	277.3	327.7	17.2
HCM Lane LOS	F	F	F	N
HCM 95th-tile Q	22	36.3	41.2	0

Intersection	
Intersection Delay, s/veh	1889.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	146	83	136	306	445	40	1350	572	426	750	10
Future Vol, veh/h	49	146	83	136	306	445	40	1350	572	426	750	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	19	19	19	19	19	19
Mvmt Flow	53	159	90	148	333	484	43	1467	622	463	815	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	170.7	675.3	2038.6	1136.6
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	18%	15%	36%
Vol Thru, %	69%	53%	34%	63%
Vol Right, %	29%	30%	50%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1962	278	887	1186
LT Vol	40	49	136	426
Through Vol	1350	146	306	750
RT Vol	572	83	445	10
Lane Flow Rate	2133	302	964	1289
Geometry Grp	1	1	1	1
Degree of Util (X)	5.414	0.796	2.343	3.357
Departure Headway (Hd)	22.309	59.987	25.815	30.777
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	192	63	154	142
Service Time	20.309	57.987	23.815	28.777
HCM Lane V/C Ratio	11.109	4.794	6.26	9.077
HCM Control Delay	2038.6	170.7	675.3	1136.6
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	92.6	3.5	27.8	38.3

Intersection	
Int Delay, s/veh	26

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	425	203	35	150	216
Future Vol, veh/h	106	425	203	35	150	216
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	462	221	38	163	235

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	801	240	0	0	259	0
Stage 1	240	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	354	799	-	-	1306	-
Stage 1	800	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	303	799	-	-	1306	-
Mov Cap-2 Maneuver	303	-	-	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	489	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	53.3	0	3.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	602	1306	-
HCM Lane V/C Ratio	-	-	0.959	0.125	-
HCM Control Delay (s)	-	-	53.3	8.1	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	13.2	0.4	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	106	98	30	74	122	63	1217	13	79	600	0
Future Vol, veh/h	0	106	98	30	74	122	63	1217	13	79	600	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	0	115	107	33	80	133	68	1323	14	86	652	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2397	2297	652	2401	2290	1330	652	0	0	1337	0	0
Stage 1	824	824	-	1466	1466	-	-	-	-	-	-	-
Stage 2	1573	1473	-	935	824	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.38	-	-	2.38	-	-
Pot Cap-1 Maneuver	23	~ 39	468	~ 23	~ 39	189	855	-	-	461	-	-
Stage 1	367	387	-	159	192	-	-	-	-	-	-	-
Stage 2	138	191	-	318	387	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 19	468	-	~ 19	189	855	-	-	461	-	-
Mov Cap-2 Maneuver	-	~ 19	-	-	~ 19	-	-	-	-	-	-	-
Stage 1	253	274	-	110	132	-	-	-	-	-	-	-
Stage 2	11	132	-	101	274	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.5	1.7
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	855	-	-	-	-	461	-	-
HCM Lane V/C Ratio	0.08	-	-	-	-	0.186	-	-
HCM Control Delay (s)	9.6	0	-	-	-	14.6	0	-
HCM Lane LOS	A	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0.3	-	-	-	-	0.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	767.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	61	81	397	513	108	80	1150	68	33	600	27
Future Vol, veh/h	18	61	81	397	513	108	80	1150	68	33	600	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	20	66	88	432	558	117	87	1250	74	36	652	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	57.1	725.8	1086	377.9
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	11%	39%	5%
Vol Thru, %	89%	38%	50%	91%
Vol Right, %	5%	51%	11%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1298	160	1018	660
LT Vol	80	18	397	33
Through Vol	1150	61	513	600
RT Vol	68	81	108	27
Lane Flow Rate	1411	174	1107	717
Geometry Grp	1	1	1	1
Degree of Util (X)	3.328	0.452	2.527	1.693
Departure Headway (Hd)	14.759	30.821	13.704	20.048
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	268	120	277	194
Service Time	12.759	28.821	11.704	18.048
HCM Lane V/C Ratio	5.265	1.45	3.996	3.696
HCM Control Delay	1086	57.1	725.8	377.9
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	75	2	54.7	21

Intersection	
Intersection Delay, s/veh	406.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	123	16	467	197	0	0	0	0	986	20	125
Future Vol, veh/h	0	123	16	467	197	0	0	0	0	986	20	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	1	20	20	17	0	0	0	0	20	20	17
Mvmt Flow	0	134	17	508	214	0	0	0	0	1072	22	136
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	17.9	189.2	581.9
HCM LOS	C	F	F

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	70%	87%
Vol Thru, %	88%	30%	2%
Vol Right, %	12%	0%	11%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	139	664	1131
LT Vol	0	467	986
Through Vol	123	197	20
RT Vol	16	0	125
Lane Flow Rate	151	722	1229
Geometry Grp	1	1	1
Degree of Util (X)	0.291	1.323	2.242
Departure Headway (Hd)	10.634	9.347	7.248
Convergence, Y/N	Yes	Yes	Yes
Cap	341	397	516
Service Time	8.634	7.347	5.248
HCM Lane V/C Ratio	0.443	1.819	2.382
HCM Control Delay	17.9	189.2	581.9
HCM Lane LOS	C	F	F
HCM 95th-tile Q	1.2	23.6	82.2

Intersection	
Int Delay, s/veh	305.6

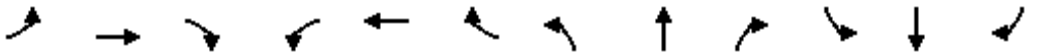
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	74	1035	0	0	653	769	11	6	706	0	0	0
Future Vol, veh/h	74	1035	0	0	653	769	11	6	706	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	16	0	0	20	10	0	0	16	0	0	0
Mvmt Flow	80	1125	0	0	710	836	12	7	767	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1546	0	-	-	-	0	2413	2831	1125
Stage 1	-	-	-	-	-	-	1285	1285	-
Stage 2	-	-	-	-	-	-	1128	1546	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.36
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.444
Pot Cap-1 Maneuver	435	-	0	0	-	-	37	18	~ 234
Stage 1	-	-	0	0	-	-	262	237	-
Stage 2	-	-	0	0	-	-	312	178	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	435	-	-	-	-	-	19	0	~ 234
Mov Cap-2 Maneuver	-	-	-	-	-	-	19	0	-
Stage 1	-	-	-	-	-	-	134	0	-
Stage 2	-	-	-	-	-	-	312	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1	0	$ 1374
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	199	435	-	-	-
HCM Lane V/C Ratio	3.949	0.185	-	-	-
HCM Control Delay (s)	$ 1374	15.1	0	-	-
HCM Lane LOS	F	C	A	-	-
HCM 95th %tile Q(veh)	77.2	0.7	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	1119	267	113	862	339	278	8	117	303	0	282
Future Volume (vph)	355	1119	267	113	862	339	278	8	117	303	0	282
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	3008	1583	1770	1652	1546	1770	1863	1583		1736	2632
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	3008	1583	1770	1652	1546	1770	1863	1583		1736	2632
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	386	1216	290	123	937	368	302	9	127	329	0	307
RTOR Reduction (vph)	0	0	122	0	0	107	0	0	107	0	0	76
Lane Group Flow (vph)	386	1216	168	123	937	261	302	9	20	0	329	231
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	9%	20%	2%	2%	15%	3%	2%	2%	2%	4%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	22.5	71.0	71.0	13.0	59.5	59.5	22.5	22.5	22.5		17.0	39.5
Effective Green, g (s)	22.5	71.0	71.0	13.0	59.5	59.5	22.5	22.5	22.5		17.0	39.5
Actuated g/C Ratio	0.16	0.49	0.49	0.09	0.41	0.41	0.16	0.16	0.16		0.12	0.27
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	256	1472	775	158	677	634	274	289	245		203	716
v/s Ratio Prot	c0.23	0.40		0.07	c0.57		c0.17	0.00			c0.19	0.05
v/s Ratio Perm			0.11			0.17			0.01			0.04
v/c Ratio	1.51	0.83	0.22	0.78	1.38	0.41	1.10	0.03	0.08		1.62	0.32
Uniform Delay, d1	61.2	31.7	21.1	64.6	42.8	30.3	61.2	52.0	52.4		64.0	42.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	247.8	4.4	0.3	21.1	181.9	0.4	84.5	0.0	0.1		300.8	0.3
Delay (s)	309.0	36.1	21.4	85.7	224.7	30.8	145.8	52.0	52.5		364.8	42.3
Level of Service	F	D	C	F	F	C	F	D	D		F	D
Approach Delay (s)		89.5			162.7			116.8			209.2	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	133.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	1150	45	11	1065	98	0	19	17	210	11	353
Future Volume (veh/h)	199	1150	45	11	1065	98	0	19	17	210	11	353
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1749	1900	1900	1827	1583	1900	1900	1900	1583	1591	1900
Adj Flow Rate, veh/h	216	1250	49	12	1158	107	0	21	18	228	12	384
Adj No. of Lanes	2	1	0	2	2	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	260	1032	40	56	1892	724	51	248	212	335	11	345
Arrive On Green	0.09	0.62	0.62	0.02	0.54	0.54	0.00	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	2925	1670	65	3510	3471	1329	1004	946	811	1158	41	1318
Grp Volume(v), veh/h	216	0	1299	12	1158	107	0	0	39	228	0	396
Grp Sat Flow(s),veh/h/ln	1463	0	1735	1755	1736	1329	1004	0	1757	1158	0	1359
Q Serve(g_s), s	10.3	0.0	87.3	0.5	32.2	5.6	0.0	0.0	2.4	26.1	0.0	37.0
Cycle Q Clear(g_c), s	10.3	0.0	87.3	0.5	32.2	5.6	0.0	0.0	2.4	28.5	0.0	37.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.46	1.00		0.97
Lane Grp Cap(c), veh/h	260	0	1073	56	1892	724	51	0	460	335	0	356
V/C Ratio(X)	0.83	0.00	1.21	0.21	0.61	0.15	0.00	0.00	0.08	0.68	0.00	1.11
Avail Cap(c_a), veh/h	367	0	1073	149	1892	724	51	0	460	335	0	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.3	0.0	27.0	68.6	21.9	15.9	0.0	0.0	39.3	50.1	0.0	52.1
Incr Delay (d2), s/veh	10.5	0.0	103.8	1.9	0.9	0.2	0.0	0.0	0.1	5.5	0.0	81.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	72.3	0.2	15.5	2.1	0.0	0.0	1.2	8.9	0.0	21.9
LnGrp Delay(d),s/veh	73.8	0.0	130.8	70.5	22.8	16.1	0.0	0.0	39.4	55.6	0.0	133.8
LnGrp LOS	E		F	E	C	B			D	E		F
Approach Vol, veh/h		1515			1277			39			624	
Approach Delay, s/veh		122.7			22.7			39.4			105.2	
Approach LOS		F			C			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	93.0		41.5	17.1	82.7		41.5
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		4.5
Max Green Setting (Gmax), s	6.3	87.3		37.0	17.7	75.6		37.0
Max Q Clear Time (g_c+I1), s	12.5	89.3		39.0	12.3	34.2		4.4
Green Ext Time (p_c), s	0.0	0.0		0.0	0.3	21.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	81.6
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	1050	142	17	732	88	229	107	86	376	314	289
Future Volume (veh/h)	98	1050	142	17	732	88	229	107	86	376	314	289
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1835	1900	1900	1792	1863	1900	1810	1900	1827	1882	1900
Adj Flow Rate, veh/h	107	1141	154	18	796	96	249	116	93	409	341	314
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	4	0	0	6	2	0	5	5	4	0	2
Cap, veh/h	135	776	105	38	846	747	170	211	169	454	242	223
Arrive On Green	0.04	0.49	0.49	0.02	0.47	0.47	0.09	0.23	0.23	0.13	0.27	0.27
Sat Flow, veh/h	3312	1579	213	1810	1792	1583	1810	931	747	3375	903	832
Grp Volume(v), veh/h	107	0	1295	18	796	96	249	0	209	409	0	655
Grp Sat Flow(s),veh/h/ln	1656	0	1792	1810	1792	1583	1810	0	1678	1688	0	1735
Q Serve(g_s), s	4.7	0.0	72.3	1.4	62.1	5.0	13.8	0.0	16.2	17.6	0.0	39.4
Cycle Q Clear(g_c), s	4.7	0.0	72.3	1.4	62.1	5.0	13.8	0.0	16.2	17.6	0.0	39.4
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.44	1.00		0.48
Lane Grp Cap(c), veh/h	135	0	881	38	846	747	170	0	381	454	0	465
V/C Ratio(X)	0.79	0.00	1.47	0.47	0.94	0.13	1.47	0.00	0.55	0.90	0.00	1.41
Avail Cap(c_a), veh/h	135	0	881	74	881	778	170	0	381	507	0	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.9	0.0	37.4	71.2	36.9	21.8	66.7	0.0	50.2	62.7	0.0	53.9
Incr Delay (d2), s/veh	24.8	0.0	217.8	17.8	18.1	0.2	239.4	0.0	1.7	16.8	0.0	196.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	89.0	0.9	34.8	2.2	18.2	0.0	7.7	9.2	0.0	44.2
LnGrp Delay(d),s/veh	94.8	0.0	255.2	88.9	55.0	22.0	306.1	0.0	51.9	79.4	0.0	250.7
LnGrp LOS	F		F	F	E	C	F		D	E		F
Approach Vol, veh/h		1402			910			458			1064	
Approach Delay, s/veh		243.0			52.2			190.1			184.8	
Approach LOS		F			D			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	77.8	18.0	44.0	10.2	74.9	24.0	38.0
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	72.3	* 14	39.4	* 6	72.3	* 22	31.1
Max Q Clear Time (g_c+I1), s	3.4	74.3	15.8	41.4	6.7	64.1	19.6	18.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	5.3	0.3	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	175.2
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	1250	39	89	713	94	20	67	45	51	38	47
Future Volume (veh/h)	101	1250	39	89	713	94	20	67	45	51	38	47
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	0.99		0.97	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1843	1900	1845	1814	1900	1863	1885	1900	1881	1900	1900
Adj Flow Rate, veh/h	110	1359	42	97	775	102	22	73	49	55	41	51
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	6	3	5	3	2	0	2	1	0	0
Cap, veh/h	404	1747	54	128	1082	142	226	150	101	204	111	138
Arrive On Green	0.22	0.50	0.50	0.07	0.35	0.35	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1810	3465	107	1757	3061	403	1287	1037	696	1266	766	952
Grp Volume(v), veh/h	110	686	715	97	436	441	22	0	122	55	0	92
Grp Sat Flow(s),veh/h/ln	1810	1751	1821	1757	1723	1741	1287	0	1734	1266	0	1718
Q Serve(g_s), s	3.5	22.3	22.4	3.8	15.3	15.3	1.1	0.0	4.5	2.9	0.0	3.4
Cycle Q Clear(g_c), s	3.5	22.3	22.4	3.8	15.3	15.3	4.5	0.0	4.5	7.5	0.0	3.4
Prop In Lane	1.00		0.06	1.00		0.23	1.00		0.40	1.00		0.55
Lane Grp Cap(c), veh/h	404	883	918	128	609	615	226	0	250	204	0	248
V/C Ratio(X)	0.27	0.78	0.78	0.76	0.72	0.72	0.10	0.00	0.49	0.27	0.00	0.37
Avail Cap(c_a), veh/h	404	1023	1064	188	894	903	447	0	548	421	0	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.5	14.1	14.2	31.8	19.6	19.6	29.1	0.0	27.5	31.0	0.0	27.1
Incr Delay (d2), s/veh	0.4	3.7	3.6	9.8	2.3	2.2	0.2	0.0	1.5	0.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	11.6	12.1	2.2	7.7	7.7	0.4	0.0	2.3	1.1	0.0	1.7
LnGrp Delay(d),s/veh	22.8	17.9	17.8	41.6	21.8	21.8	29.3	0.0	29.0	31.7	0.0	28.0
LnGrp LOS	C	B	B	D	C	C	C		C	C		C
Approach Vol, veh/h		1511			974			144			147	
Approach Delay, s/veh		18.2			23.8			29.1			29.4	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.6	41.8		16.6	22.1	31.2		16.6
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	7.5	40.9		22.1	12.1	36.3		22.1
Max Q Clear Time (g_c+I1), s	5.8	24.4		9.5	5.5	17.3		6.5
Green Ext Time (p_c), s	0.0	10.8		0.5	0.1	7.4		0.6

Intersection Summary		
HCM 2010 Ctrl Delay	21.3	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	850	52	302	550	149	100	127	100	172	414	65
Future Volume (veh/h)	152	850	52	302	550	149	100	127	100	172	414	65
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1811	1900	1792	1827	1845	1900	1827	1900	1900	1863	1776
Adj Flow Rate, veh/h	165	924	57	328	598	162	109	138	109	187	450	71
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	20	6	4	3	0	4	4	0	2	7
Cap, veh/h	193	972	60	327	1295	577	133	216	170	202	496	395
Arrive On Green	0.11	0.30	0.30	0.19	0.37	0.37	0.07	0.23	0.23	0.11	0.27	0.27
Sat Flow, veh/h	1810	3288	203	1707	3471	1547	1810	946	747	1810	1863	1482
Grp Volume(v), veh/h	165	483	498	328	598	162	109	0	247	187	450	71
Grp Sat Flow(s),veh/h/ln	1810	1720	1771	1707	1736	1547	1810	0	1694	1810	1863	1482
Q Serve(g_s), s	11.7	35.9	35.9	25.0	17.0	9.6	7.8	0.0	17.2	13.4	30.5	4.8
Cycle Q Clear(g_c), s	11.7	35.9	35.9	25.0	17.0	9.6	7.8	0.0	17.2	13.4	30.5	4.8
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	193	509	523	327	1295	577	133	0	386	202	496	395
V/C Ratio(X)	0.86	0.95	0.95	1.00	0.46	0.28	0.82	0.00	0.64	0.92	0.91	0.18
Avail Cap(c_a), veh/h	291	511	526	327	1295	577	147	0	441	202	542	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.4	45.1	45.1	52.8	31.0	28.7	59.6	0.0	45.6	57.4	46.3	36.9
Incr Delay (d2), s/veh	14.6	28.2	27.7	50.7	0.6	0.6	27.5	0.0	4.2	42.5	19.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	21.0	21.6	16.3	8.2	4.2	4.9	0.0	8.5	9.1	18.3	2.0
LnGrp Delay(d),s/veh	72.0	73.3	72.8	103.5	31.6	29.2	87.2	0.0	49.8	100.0	66.0	37.4
LnGrp LOS	E	E	E	F	C	C	F		D	F	E	D
Approach Vol, veh/h		1146			1088			356			708	
Approach Delay, s/veh		72.9			52.9			61.2			72.1	
Approach LOS		E			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.0	44.6	14.2	40.8	20.9	54.7	19.2	35.8
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	25.0	38.8	10.6	38.0	21.0	41.8	14.6	34.0
Max Q Clear Time (g_c+I1), s	27.0	37.9	9.8	32.5	13.7	19.0	15.4	19.2
Green Ext Time (p_c), s	0.0	0.7	0.0	2.3	0.2	8.1	0.0	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	64.9
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	650	76	29	750	19	39	38	6	2	41	103
Future Volume (veh/h)	190	650	76	29	750	19	39	38	6	2	41	103
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.94	0.97		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1819	1900	1900	1759	1900	1900	1882	1900	1900	1874	1900
Adj Flow Rate, veh/h	207	707	83	32	815	21	42	41	7	2	45	112
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	5	0	0	8	0	2	0	0	0	0	2
Cap, veh/h	415	2220	260	549	1254	1148	165	138	19	57	67	163
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	654	3115	365	697	1759	1612	595	984	133	7	478	1155
Grp Volume(v), veh/h	207	392	398	32	815	21	90	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	654	1728	1753	697	1759	1612	1711	0	0	1640	0	0
Q Serve(g_s), s	16.0	5.5	5.5	1.2	16.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	32.1	5.5	5.5	6.6	16.1	0.2	2.9	0.0	0.0	6.0	0.0	0.0
Prop In Lane	1.00		0.21	1.00		1.00	0.47		0.08	0.01		0.70
Lane Grp Cap(c), veh/h	415	1231	1249	549	1254	1148	322	0	0	287	0	0
V/C Ratio(X)	0.50	0.32	0.32	0.06	0.65	0.02	0.28	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	520	1507	1529	660	1535	1406	663	0	0	663	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.6	3.5	3.5	4.7	5.0	2.7	25.1	0.0	0.0	26.5	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.3	0.3	0.1	1.3	0.0	0.5	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	2.6	2.7	0.2	7.9	0.1	1.5	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	15.6	3.8	3.8	4.8	6.3	2.7	25.6	0.0	0.0	28.1	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C			C		
Approach Vol, veh/h		997			868			90			159	
Approach Delay, s/veh		6.2			6.2			25.6			28.1	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		50.8		14.0		50.8		14.0
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		56.5		24.0		56.5		24.0
Max Q Clear Time (g_c+I1), s		34.1		4.9		18.1		8.0
Green Ext Time (p_c), s		12.0		0.4		15.3		0.8

Intersection Summary		
HCM 2010 Ctrl Delay		8.7
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	204	140	210	15	55	6	224	1010	97	21	687	450
Future Vol, veh/h	204	140	210	15	55	6	224	1010	97	21	687	450
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	4	0	14	9	8	4	6	12	0	12	10
Mvmt Flow	222	152	228	16	60	7	243	1098	105	23	747	489

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2464	2482	747	2620	2430	1152	747	0	0	1203	0	0
Stage 1	793	793	-	1637	1637	-	-	-	-	-	-	-
Stage 2	1671	1689	-	983	793	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.54	6.2	7.24	6.59	6.28	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.036	3.3	3.626	4.081	3.372	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 20	~ 29	416	~ 15	~ 30	234	852	-	-	587	-	0
Stage 1	370	397	-	119	153	-	-	-	-	-	-	0
Stage 2	~ 116	~ 148	-	285	390	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	~ 3	416	-	~ 3	234	852	-	-	587	-	-
Mov Cap-2 Maneuver	-	~ 3	-	-	~ 3	-	-	-	-	-	-	-
Stage 1	~ 40	370	-	~ 13	~ 17	-	-	-	-	-	-	-
Stage 2	-	~ 16	-	71	364	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.8	0.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	852	-	-	-	-	234	587	-
HCM Lane V/C Ratio	0.286	-	-	-	-	0.028	0.039	-
HCM Control Delay (s)	10.9	0	-	-	-	20.8	11.4	0
HCM Lane LOS	B	A	-	-	-	C	B	A
HCM 95th %tile Q(veh)	1.2	-	-	-	-	0.1	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	27	18	61	69	10	87	1350	191	120	1150	28
Future Volume (veh/h)	4	27	18	61	69	10	87	1350	191	120	1150	28
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1667	1667	1900	1597	1597	1900
Adj Flow Rate, veh/h	4	29	20	66	75	11	95	1467	208	130	1250	30
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	100	58	40	121	108	16	109	905	128	130	1011	24
Arrive On Green	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.63	0.63	0.09	0.65	0.65
Sat Flow, veh/h	1774	1028	709	1774	1589	233	1587	1428	203	1521	1553	37
Grp Volume(v), veh/h	4	0	49	66	0	86	95	0	1675	130	0	1280
Grp Sat Flow(s),veh/h/ln	1774	0	1738	1774	0	1822	1587	0	1631	1521	0	1590
Q Serve(g_s), s	0.2	0.0	3.2	4.2	0.0	5.4	6.9	0.0	74.1	10.0	0.0	76.1
Cycle Q Clear(g_c), s	0.2	0.0	3.2	4.2	0.0	5.4	6.9	0.0	74.1	10.0	0.0	76.1
Prop In Lane	1.00		0.41	1.00		0.13	1.00		0.12	1.00		0.02
Lane Grp Cap(c), veh/h	100	0	98	121	0	124	109	0	1034	130	0	1035
V/C Ratio(X)	0.04	0.00	0.50	0.55	0.00	0.69	0.87	0.00	1.62	1.00	0.00	1.24
Avail Cap(c_a), veh/h	191	0	187	455	0	467	109	0	1034	130	0	1035
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.2	0.0	53.6	52.7	0.0	53.3	54.0	0.0	21.4	53.5	0.0	20.4
Incr Delay (d2), s/veh	0.1	0.0	1.5	1.4	0.0	2.6	48.0	0.0	283.7	78.7	0.0	114.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.6	2.1	0.0	2.8	4.5	0.0	114.5	7.0	0.0	66.1
LnGrp Delay(d),s/veh	52.2	0.0	55.1	54.2	0.0	55.9	102.0	0.0	305.1	132.2	0.0	135.3
LnGrp LOS	D		E	D		E	F		F	F		F
Approach Vol, veh/h		53			152			1770			1410	
Approach Delay, s/veh		54.8			55.2			294.2			135.1	
Approach LOS		D			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		10.8	14.0	79.0		13.1	12.0	81.0
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 13	10.0	74.1		30.0	8.0	76.1
Max Q Clear Time (g_c+I1), s		5.2	12.0	76.1		7.4	8.9	78.1
Green Ext Time (p_c), s		0.0	0.0	0.0		0.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	213.4
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	270	43	207	455	213	103	1250	6	116	936	261
Future Volume (veh/h)	51	270	43	207	455	213	103	1250	6	116	936	261
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1785	1900	1845	1743	1900	1827	1879	1900	1743	1869	1900
Adj Flow Rate, veh/h	55	293	47	225	495	232	112	1359	7	126	1017	284
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	7	3	3	9	0	4	1	20	9	1	4
Cap, veh/h	184	356	57	336	541	488	193	1414	7	193	1074	298
Arrive On Green	0.04	0.24	0.24	0.11	0.31	0.31	0.06	0.39	0.39	0.06	0.39	0.39
Sat Flow, veh/h	1810	1498	240	1757	1743	1571	1740	3643	19	1660	2732	758
Grp Volume(v), veh/h	55	0	340	225	495	232	112	666	700	126	659	642
Grp Sat Flow(s),veh/h/ln	1810	0	1738	1757	1743	1571	1740	1785	1876	1660	1776	1715
Q Serve(g_s), s	2.0	0.0	16.4	8.1	24.2	10.6	3.4	32.2	32.3	4.0	31.7	32.2
Cycle Q Clear(g_c), s	2.0	0.0	16.4	8.1	24.2	10.6	3.4	32.2	32.3	4.0	31.7	32.2
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.01	1.00		0.44
Lane Grp Cap(c), veh/h	184	0	413	336	541	488	193	693	728	193	698	674
V/C Ratio(X)	0.30	0.00	0.82	0.67	0.91	0.48	0.58	0.96	0.96	0.65	0.94	0.95
Avail Cap(c_a), veh/h	223	0	567	502	823	742	251	698	733	193	698	674
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	0.0	32.0	22.3	29.4	24.7	21.1	26.4	26.5	21.1	25.9	26.1
Incr Delay (d2), s/veh	0.3	0.0	5.0	0.9	7.9	0.3	1.0	24.5	23.8	6.0	21.1	23.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	8.4	4.0	12.7	4.6	1.6	20.4	21.4	2.1	19.5	19.5
LnGrp Delay(d),s/veh	26.0	0.0	37.0	23.2	37.3	25.0	22.1	51.0	50.3	27.1	47.0	49.4
LnGrp LOS	C		D	C	D	C	C	D	D	C	D	D
Approach Vol, veh/h		395			952			1478			1427	
Approach Delay, s/veh		35.4			31.0			48.5			46.3	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	32.1	9.5	39.3	14.1	25.7	9.0	39.7
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.6	41.8	5.5	34.6	18.5	28.9	8.0	32.1
Max Q Clear Time (g_c+I1), s	4.0	26.2	6.0	34.3	10.1	18.4	5.4	34.2
Green Ext Time (p_c), s	0.0	0.4	0.0	0.1	0.0	0.4	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay	42.6	
HCM 2010 LOS	D	

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	81	173	18	249	85	123	1392	1	198	993	37
Future Vol, veh/h	6	81	173	18	249	85	123	1392	1	198	993	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	19	19	19
Mvmt Flow	7	88	188	20	271	92	134	1513	1	215	1079	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3472	3291	1079	3449	3331	1514	1119	0	0	1514	0	0
Stage 1	1509	1509	-	1782	1782	-	-	-	-	-	-	-
Stage 2	1963	1782	-	1667	1549	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.24	-	-	4.29	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.326	-	-	2.371	-	-
Pot Cap-1 Maneuver	~ 4	~ 9	265	~ 4	~ 8	147	582	-	-	395	-	-
Stage 1	150	183	-	104	~ 134	-	-	-	-	-	-	-
Stage 2	82	134	-	122	~ 175	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	265	-	0	147	582	-	-	395	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	150	0	-	104	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.1	4
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	582	-	-	-	265	-	395	-	-
HCM Lane V/C Ratio	0.23	-	-	-	0.71	-	0.545	-	-
HCM Control Delay (s)	13	0	-	-	46	-	24.5	0	-
HCM Lane LOS	B	A	-	-	E	-	C	A	-
HCM 95th %tile Q(veh)	0.9	-	-	-	4.9	-	3.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	37.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	200	108	221	240	8	187	11	190	0	3	1
Future Vol, veh/h	2	200	108	221	240	8	187	11	190	0	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	20	20	10	0	20	0	20	0	20	0
Mvmt Flow	2	217	117	240	261	9	203	12	207	0	3	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	270	0	0	334	0	0	1028	1030	277	1136	1084	266
Stage 1	-	-	-	-	-	-	280	280	-	746	746	-
Stage 2	-	-	-	-	-	-	748	750	-	390	338	-
Critical Hdwy	4.1	-	-	4.3	-	-	7.3	6.5	6.4	7.1	6.7	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.5	-	6.1	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.5	-	6.1	5.7	-
Follow-up Hdwy	2.2	-	-	2.38	-	-	3.68	4	3.48	3.5	4.18	3.3
Pot Cap-1 Maneuver	1305	-	-	1131	-	-	~ 197	235	721	181	201	778
Stage 1	-	-	-	-	-	-	689	683	-	409	395	-
Stage 2	-	-	-	-	-	-	378	422	-	638	610	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1305	-	-	1131	-	-	~ 162	185	720	103	158	778
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 162	185	-	103	158	-
Stage 1	-	-	-	-	-	-	688	682	-	408	311	-
Stage 2	-	-	-	-	-	-	294	333	-	446	609	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	4.3	108.6	23.7
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	162	622	1305	-	-	1131	-	-	197
HCM Lane V/C Ratio	1.255	0.351	0.002	-	-	0.212	-	-	0.022
HCM Control Delay (s)	210.4	13.9	7.8	-	-	9	-	-	23.7
HCM Lane LOS	F	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	11.7	1.6	0	-	-	0.8	-	-	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	212	331	0	49	230	68	2	880	57	55	569	132
Future Vol, veh/h	212	331	0	49	230	68	2	880	57	55	569	132
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	0	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	20	0	14	0	2	20	9	7	0
Mvmt Flow	230	360	0	53	250	74	2	957	62	60	618	143

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1964	1833	690	1951	1842	957	761	0	0	1019	0	0
Stage 1	810	810	-	961	961	-	-	-	-	-	-	-
Stage 2	1154	1023	-	990	881	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.3	6.5	6.34	4.1	-	-	4.19	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.68	4	3.426	2.2	-	-	2.281	-	-
Pot Cap-1 Maneuver	~ 47	~ 76	445	~ 43	~ 76	297	860	-	-	654	-	-
Stage 1	374	393	-	286	337	-	-	-	-	-	-	-
Stage 2	240	~ 313	-	275	367	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 69	445	-	~ 69	297	860	-	-	654	-	-
Mov Cap-2 Maneuver	-	~ 69	-	-	~ 69	-	-	-	-	-	-	-
Stage 1	372	~ 357	-	285	335	-	-	-	-	-	-	-
Stage 2	~ 46	~ 311	-	-	333	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	0.8
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	860	-	-	-	-	297	654	-	-
HCM Lane V/C Ratio	0.003	-	-	-	-	0.249	0.091	-	-
HCM Control Delay (s)	9.2	0	-	-	-	21.1	11.1	-	-
HCM Lane LOS	A	A	-	-	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	1	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	37	428	91	350	500	16	1	850	100	222	644	12
Future Vol, veh/h	37	428	91	350	500	16	1	850	100	222	644	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	2	2	2	19	19	19	16	16	16
Mvmt Flow	40	465	99	380	543	17	1	924	109	241	700	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2450	2224	707	2452	2176	979	713	0	0	1033	0	0
Stage 1	1189	1189	-	981	981	-	-	-	-	-	-	-
Stage 2	1261	1035	-	1471	1195	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.29	-	-	4.26	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.371	-	-	2.344	-	-
Pot Cap-1 Maneuver	~ 21	~ 42	430	~ 21	~ 46	303	813	-	-	621	-	-
Stage 1	226	~ 258	-	~ 300	~ 328	-	-	-	-	-	-	-
Stage 2	206	~ 305	-	~ 158	~ 260	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 15	430	-	~ 16	303	813	-	-	621	-	-
Mov Cap-2 Maneuver	-	~ 15	-	-	~ 16	-	-	-	-	-	-	-
Stage 1	225	~ 92	-	~ 299	~ 327	-	-	-	-	-	-	-
Stage 2	-	~ 304	-	-	~ 93	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	3.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	813	-	-	-	-	621	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	0.389	-	-
HCM Control Delay (s)	9.4	0	-	-	-	14.4	0	-
HCM Lane LOS	A	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-	1.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	859.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	650	179	283	750	24	78	632	232	35	801	3
Future Vol, veh/h	2	650	179	283	750	24	78	632	232	35	801	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	5	5	5	2	2	2	5	5	5	18	18	18
Mvmt Flow	2	707	195	308	815	26	85	687	252	38	871	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	731.8	1020.2	862.8	778.2
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	0%	27%	4%
Vol Thru, %	67%	78%	71%	95%
Vol Right, %	25%	22%	2%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	942	831	1057	839
LT Vol	78	2	283	35
Through Vol	632	650	750	801
RT Vol	232	179	24	3
Lane Flow Rate	1024	903	1149	912
Geometry Grp	1	1	1	1
Degree of Util (X)	2.716	2.397	3.086	2.51
Departure Headway (Hd)	35.307	39.076	32.571	37.795
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	113	108	126	109
Service Time	33.307	37.076	30.571	35.795
HCM Lane V/C Ratio	9.062	8.361	9.119	8.367
HCM Control Delay	862.8	731.8	1020.2	778.2
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	25.9	20.2	32.7	22

Intersection	
Int Delay, s/veh	260.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	207	760	893	550	450	404
Future Vol, veh/h	207	760	893	550	450	404
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	225	826	971	598	489	439

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3249	709	928	0	-	0
Stage 1	709	-	-	-	-	-
Stage 2	2540	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	~ 10	~ 429	~ 682	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	~ 59	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	~ 429	~ 682	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	~ 59	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 679.8	134.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 682	-	429	-	-
HCM Lane V/C Ratio	1.423	-	2.45	-	-
HCM Control Delay (s)	217.1	0	$ 679.8	-	-
HCM Lane LOS	F	A	F	-	-
HCM 95th %tile Q(veh)	44.3	-	82.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	48.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	95	164	1267	200	150	1064
Future Vol, veh/h	95	164	1267	200	150	1064
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	20	20	16	16	17	17
Mvmt Flow	103	178	1377	217	163	1157

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2969	1486	0	0	1594	0
Stage 1	1486	-	-	-	-	-
Stage 2	1483	-	-	-	-	-
Critical Hdwy	6.6	6.4	-	-	4.27	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.68	3.48	-	-	2.353	-
Pot Cap-1 Maneuver	~ 13	~ 139	-	-	372	-
Stage 1	189	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	~ 139	-	-	372	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	189	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 538.8	0	2.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	139	372	-
HCM Lane V/C Ratio	-	-	2.025	0.438	-
HCM Control Delay (s)	-	-	$ 538.8	22	0
HCM Lane LOS	-	-	F	C	A
HCM 95th %tile Q(veh)	-	-	22.5	2.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	921.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	609	57	0	799	850	70
Future Vol, veh/h	609	57	0	799	850	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	662	62	0	868	924	76

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1830	962	1000	0	-	0
Stage 1	962	-	-	-	-	-
Stage 2	868	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	~ 83	306	640	-	-	-
Stage 1	~ 366	-	-	-	-	-
Stage 2	~ 406	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 83	306	640	-	-	-
Mov Cap-2 Maneuver	~ 83	-	-	-	-	-
Stage 1	~ 366	-	-	-	-	-
Stage 2	~ 406	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 3301.2	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	640	-	89	-	-
HCM Lane V/C Ratio	-	-	8.134	-	-
HCM Control Delay (s)	0	-	$ 3301.2	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	82.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	803.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	850	72	5	1310	360	31
Future Vol, veh/h	850	72	5	1310	360	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	17	17	16	16	19	19
Mvmt Flow	924	78	5	1424	391	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1002	0	2397	963
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	1434	-
Critical Hdwy	-	-	4.26	-	6.59	6.39
Critical Hdwy Stg 1	-	-	-	-	5.59	-
Critical Hdwy Stg 2	-	-	-	-	5.59	-
Follow-up Hdwy	-	-	2.344	-	3.671	3.471
Pot Cap-1 Maneuver	-	-	639	-	~ 33	288
Stage 1	-	-	-	-	~ 345	-
Stage 2	-	-	-	-	~ 201	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	639	-	~ 32	288
Mov Cap-2 Maneuver	-	-	-	-	~ 32	-
Stage 1	-	-	-	-	~ 345	-
Stage 2	-	-	-	-	~ 194	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	$ 5398.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	34	-	-	639	-
HCM Lane V/C Ratio	12.5	-	-	0.009	-
HCM Control Delay (s)	$ 5398.5	-	-	10.7	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	51.9	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	62	389	53	0	191	15	3	67	7	80	642	35
Future Vol, veh/h	62	389	53	0	191	15	3	67	7	80	642	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	20	20	20	20	20	2	2	2	2	2	2
Mvmt Flow	67	423	58	0	208	16	3	73	8	87	698	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1086	978	717	1215	993	77	736	0	0	81	0	0
Stage 1	891	891	-	83	83	-	-	-	-	-	-	-
Stage 2	195	87	-	1132	910	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.3	6.7	6.4	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.68	4.18	3.48	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	179	~ 233	401	145	229	936	870	-	-	1517	-	-
Stage 1	313	~ 337	-	882	792	-	-	-	-	-	-	-
Stage 2	767	789	-	228	330	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 209	401	-	~ 206	936	870	-	-	1517	-	-
Mov Cap-2 Maneuver	-	~ 209	-	-	~ 206	-	-	-	-	-	-	-
Stage 1	312	~ 304	-	878	789	-	-	-	-	-	-	-
Stage 2	553	786	-	-	298	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.4	0.8
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	870	-	-	-	-	1517	-	-
HCM Lane V/C Ratio	0.004	-	-	-	-	0.057	-	-
HCM Control Delay (s)	9.2	0	-	-	-	7.5	0	-
HCM Lane LOS	A	A	-	-	-	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	16.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	41	41	504	2	4	1	53	115	53	7	112	2
Future Vol, veh/h	41	41	504	2	4	1	53	115	53	7	112	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	20	20	20	20	20	2	2	2	2	2	2
Mvmt Flow	45	45	548	2	4	1	58	125	58	8	122	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	412	438	123	706	410	154	124	0	0	183	0	0
Stage 1	139	139	-	270	270	-	-	-	-	-	-	-
Stage 2	273	299	-	436	140	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.3	6.7	6.4	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.68	4.18	3.48	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	520	486	882	328	505	847	1463	-	-	1392	-	-
Stage 1	823	748	-	698	654	-	-	-	-	-	-	-
Stage 2	695	635	-	565	748	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	496	462	882	111	480	847	1463	-	-	1392	-	-
Mov Cap-2 Maneuver	496	462	-	111	480	-	-	-	-	-	-	-
Stage 1	787	744	-	667	625	-	-	-	-	-	-	-
Stage 2	659	607	-	200	744	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.7	19.6	1.8	0.4
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1463	-	-	789	254	1392	-	-
HCM Lane V/C Ratio	0.039	-	-	0.807	0.03	0.005	-	-
HCM Control Delay (s)	7.6	0	-	25.7	19.6	7.6	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	8.6	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	565	10	30	650	38	5	26	50	144	69	32
Future Volume (veh/h)	10	565	10	30	650	38	5	26	50	144	69	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	614	11	33	707	41	5	28	54	157	75	35
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	23	839	15	53	777	45	12	48	93	196	227	106
Arrive On Green	0.01	0.49	0.49	0.03	0.51	0.51	0.01	0.08	0.08	0.11	0.19	0.19
Sat Flow, veh/h	1675	1723	31	1560	1533	89	1774	570	1099	1774	1203	561
Grp Volume(v), veh/h	11	0	625	33	0	748	5	0	82	157	0	110
Grp Sat Flow(s),veh/h/ln	1675	0	1754	1560	0	1622	1774	0	1669	1774	0	1764
Q Serve(g_s), s	0.4	0.0	19.6	1.4	0.0	29.1	0.2	0.0	3.3	6.0	0.0	3.7
Cycle Q Clear(g_c), s	0.4	0.0	19.6	1.4	0.0	29.1	0.2	0.0	3.3	6.0	0.0	3.7
Prop In Lane	1.00		0.02	1.00		0.05	1.00		0.66	1.00		0.32
Lane Grp Cap(c), veh/h	23	0	854	53	0	822	12	0	142	196	0	333
V/C Ratio(X)	0.48	0.00	0.73	0.62	0.00	0.91	0.43	0.00	0.58	0.80	0.00	0.33
Avail Cap(c_a), veh/h	121	0	1098	113	0	1016	129	0	561	231	0	695
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.8	0.0	14.1	32.9	0.0	15.6	34.1	0.0	30.4	30.0	0.0	24.2
Incr Delay (d2), s/veh	14.5	0.0	1.8	11.4	0.0	10.3	22.6	0.0	3.7	15.8	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	9.8	0.8	0.0	15.2	0.2	0.0	1.6	3.8	0.0	1.9
LnGrp Delay(d),s/veh	48.2	0.0	16.0	44.2	0.0	25.9	56.7	0.0	34.1	45.7	0.0	24.8
LnGrp LOS	D		B	D		C	E		C	D		C
Approach Vol, veh/h		636			781			87			267	
Approach Delay, s/veh		16.5			26.6			35.4			37.1	
Approach LOS		B			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	11.7	6.3	39.4	4.5	18.8	5.0	40.8
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	9.0	23.2	5.0	43.2	5.0	27.2	5.0	43.2
Max Q Clear Time (g_c+I1), s	8.0	5.3	3.4	21.6	2.2	5.7	2.4	31.1
Green Ext Time (p_c), s	0.0	0.3	0.0	3.8	0.0	0.5	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	25.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	650	6	26	650	27	9	12	20	210	55	27
Future Volume (veh/h)	4	650	6	26	650	27	9	12	20	210	55	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	707	7	28	707	29	10	13	22	228	60	29
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	9	835	8	48	789	32	127	159	209	363	70	34
Arrive On Green	0.01	0.48	0.48	0.03	0.51	0.51	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1675	1739	17	1560	1563	64	237	635	834	1069	282	136
Grp Volume(v), veh/h	4	0	714	28	0	736	45	0	0	317	0	0
Grp Sat Flow(s),veh/h/ln	1675	0	1756	1560	0	1627	1705	0	0	1487	0	0
Q Serve(g_s), s	0.2	0.0	23.2	1.2	0.0	26.7	0.0	0.0	0.0	11.9	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	23.2	1.2	0.0	26.7	1.3	0.0	0.0	13.2	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.04	0.22		0.49	0.72		0.09
Lane Grp Cap(c), veh/h	9	0	843	48	0	822	494	0	0	467	0	0
V/C Ratio(X)	0.45	0.00	0.85	0.59	0.00	0.90	0.09	0.00	0.00	0.68	0.00	0.00
Avail Cap(c_a), veh/h	128	0	1189	120	0	1102	708	0	0	665	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.4	0.0	14.9	31.2	0.0	14.6	18.8	0.0	0.0	23.2	0.0	0.0
Incr Delay (d2), s/veh	31.0	0.0	4.2	11.0	0.0	7.7	0.1	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	12.1	0.6	0.0	13.6	0.6	0.0	0.0	5.6	0.0	0.0
LnGrp Delay(d),s/veh	63.3	0.0	19.0	42.3	0.0	22.3	18.9	0.0	0.0	24.9	0.0	0.0
LnGrp LOS	E		B	D		C	B			C		
Approach Vol, veh/h		718			764			45			317	
Approach Delay, s/veh		19.3			23.1			18.9			24.9	
Approach LOS		B			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.1	6.0	37.1		22.1	4.3	38.8
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		25.2	5.0	44.2		25.2	5.0	44.2
Max Q Clear Time (g_c+I1), s		3.3	3.2	25.2		15.2	2.2	28.7
Green Ext Time (p_c), s		0.1	0.0	4.4		1.2	0.0	4.3

Intersection Summary		
HCM 2010 Ctrl Delay		21.8
HCM 2010 LOS		C

Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	250	890	522	0	6	424
Future Vol, veh/h	250	890	522	0	6	424
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	11	14	14	2	2
Mvmt Flow	272	967	567	0	7	461

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	567	0	-	0	2078	567
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	1511	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	962	-	-	-	59	523
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	201	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	962	-	-	-	42	523
Mov Cap-2 Maneuver	-	-	-	-	42	-
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	201	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	44.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	962	-	-	-	42	523
HCM Lane V/C Ratio	0.282	-	-	-	0.155	0.881
HCM Control Delay (s)	10.2	-	-	-	105.9	43.8
HCM Lane LOS	B	-	-	-	F	E
HCM 95th %tile Q(veh)	1.2	-	-	-	0.5	9.8

Intersection	
Intersection Delay, s/veh	751.7
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	534	369	550	933	859	300
Future Vol, veh/h	534	369	550	933	859	300
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	580	401	598	1014	934	326
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	428.7	1012.8	669.4
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	37%	59%	0%
Vol Thru, %	63%	0%	74%
Vol Right, %	0%	41%	26%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	1483	903	1159
LT Vol	550	534	0
Through Vol	933	0	859
RT Vol	0	369	300
Lane Flow Rate	1612	982	1260
Geometry Grp	1	1	1
Degree of Util (X)	3.181	1.882	2.406
Departure Headway (Hd)	11.665	9.478	12.684
Convergence, Y/N	Yes	Yes	Yes
Cap	339	393	302
Service Time	9.665	7.478	10.684
HCM Lane V/C Ratio	4.755	2.499	4.172
HCM Control Delay	1012.8	428.7	669.4
HCM Lane LOS	F	F	F
HCM 95th-tile Q	88.3	47.5	54.6

Intersection	
Intersection Delay, s/veh	400.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	698	346	302	548	0	351	0	205	0	0	0
Future Vol, veh/h	0	698	346	302	548	0	351	0	205	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	759	376	328	596	0	382	0	223	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	546.1	401.8	126.5	0
HCM LOS	F	F	F	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	63%	0%	36%	0%
Vol Thru, %	0%	67%	64%	100%
Vol Right, %	37%	33%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	556	1044	850	0
LT Vol	351	0	302	0
Through Vol	0	698	548	0
RT Vol	205	346	0	0
Lane Flow Rate	604	1135	924	0
Geometry Grp	1	1	1	1
Degree of Util (X)	1.164	2.154	1.823	0
Departure Headway (Hd)	8.918	8.446	9.17	16.375
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	411	443	407	0
Service Time	6.918	6.446	7.17	14.375
HCM Lane V/C Ratio	1.47	2.562	2.27	0
HCM Control Delay	126.5	546.1	401.8	19.4
HCM Lane LOS	F	F	F	N
HCM 95th-tile Q	18	66.7	46.2	0

Intersection	
Intersection Delay, s/veh	1089.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	845	113	376	103	74	37	1150	386	18	413	6
Future Vol, veh/h	19	845	113	376	103	74	37	1150	386	18	413	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	18	18	18	18	18	18
Mvmt Flow	21	918	123	409	112	80	40	1250	420	20	449	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	887.9	395	1681.9	287.9
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	2%	68%	4%
Vol Thru, %	73%	86%	19%	95%
Vol Right, %	25%	12%	13%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1573	977	553	437
LT Vol	37	19	376	18
Through Vol	1150	845	103	413
RT Vol	386	113	74	6
Lane Flow Rate	1710	1062	601	475
Geometry Grp	1	1	1	1
Degree of Util (X)	4.636	2.822	1.617	1.307
Departure Headway (Hd)	18.94	26.226	37.455	42.81
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	222	149	102	90
Service Time	16.94	24.226	35.455	40.81
HCM Lane V/C Ratio	7.703	7.128	5.892	5.278
HCM Control Delay	1681.9	887.9	395	287.9
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	90.1	35.4	12.2	8.2

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	163	241	34	359	285
Future Vol, veh/h	13	163	241	34	359	285
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	177	262	37	390	310

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1371	281	0	0	299	0
Stage 1	281	-	-	-	-	-
Stage 2	1090	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	161	758	-	-	1262	-
Stage 1	767	-	-	-	-	-
Stage 2	322	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	101	758	-	-	1262	-
Mov Cap-2 Maneuver	101	-	-	-	-	-
Stage 1	767	-	-	-	-	-
Stage 2	202	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	5.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	512	1262	-
HCM Lane V/C Ratio	-	-	0.374	0.309	-
HCM Control Delay (s)	-	-	16.2	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.7	1.3	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	59	132	191	74	148	311	25	950	13	52	950	8
Future Vol, veh/h	59	132	191	74	148	311	25	950	13	52	950	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	16	16	16	25	25	25
Mvmt Flow	64	143	208	80	161	338	27	1033	14	57	1033	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2496	2253	1038	2421	2250	1040	1042	0	0	1047	0	0
Stage 1	1152	1152	-	1094	1094	-	-	-	-	-	-	-
Stage 2	1344	1101	-	1327	1156	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.26	-	-	4.35	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.344	-	-	2.425	-	-
Pot Cap-1 Maneuver	~ 20	~ 41	280	~ 22	~ 42	~ 280	616	-	-	584	-	-
Stage 1	241	272	-	259	290	-	-	-	-	-	-	-
Stage 2	187	288	-	191	271	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 28	280	-	~ 29	~ 280	616	-	-	584	-	-
Mov Cap-2 Maneuver	-	~ 28	-	-	~ 29	-	-	-	-	-	-	-
Stage 1	216	209	-	232	260	-	-	-	-	-	-	-
Stage 2	-	258	-	~ 12	208	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.3	0.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	616	-	-	-	-	584	-	-
HCM Lane V/C Ratio	0.044	-	-	-	-	0.097	-	-
HCM Control Delay (s)	11.1	0	-	-	-	11.8	0	-
HCM Lane LOS	B	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	811
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	271	159	166	107	75	73	800	140	63	1050	12
Future Vol, veh/h	36	271	159	166	107	75	73	800	140	63	1050	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	39	295	173	180	116	82	79	870	152	68	1141	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

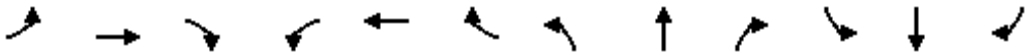
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	237.6	143.2	961.4	1119.7
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	8%	48%	6%
Vol Thru, %	79%	58%	31%	93%
Vol Right, %	14%	34%	22%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1013	466	348	1125
LT Vol	73	36	166	63
Through Vol	800	271	107	1050
RT Vol	140	159	75	12
Lane Flow Rate	1101	507	378	1223
Geometry Grp	1	1	1	1
Degree of Util (X)	3.029	1.328	1.008	3.389
Departure Headway (Hd)	18.497	22.768	27.229	17.448
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	209	167	136	220
Service Time	16.497	20.768	25.229	15.448
HCM Lane V/C Ratio	5.268	3.036	2.779	5.559
HCM Control Delay	961.4	237.6	143.2	1119.7
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	53.5	12.7	7.1	65.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	363	6	242	710	0	0	0	0	590	3	211
Future Volume (vph)	0	363	6	242	710	0	0	0	0	590	3	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1		4.0	4.0					5.1	5.1	
Lane Util. Factor		0.95		0.95	0.95					0.95	0.95	
Frpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		1.00		1.00	1.00					1.00	0.92	
Flt Protected		1.00		0.95	1.00					0.95	0.98	
Satd. Flow (prot)		3463		1504	1794					1429	1472	
Flt Permitted		1.00		0.95	1.00					0.95	0.98	
Satd. Flow (perm)		3463		1504	1794					1429	1472	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	395	7	263	772	0	0	0	0	641	3	229
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	38	0
Lane Group Flow (vph)	0	401	0	237	798	0	0	0	0	449	386	0
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	0%	4%	0%	14%	0%	0%	0%	0%	0%	20%	4%	2%
Turn Type		NA		Split	NA					Split	NA	
Protected Phases		4		3	3					6	6	
Permitted Phases												
Actuated Green, G (s)		13.0		48.0	48.0					34.8	34.8	
Effective Green, g (s)		13.0		48.0	48.0					34.8	34.8	
Actuated g/C Ratio		0.12		0.44	0.44					0.32	0.32	
Clearance Time (s)		5.1		4.0	4.0					5.1	5.1	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		409		656	782					452	465	
v/s Ratio Prot		c0.12		0.16	c0.44					c0.31	0.26	
v/s Ratio Perm												
v/c Ratio		0.98		0.36	1.02					0.99	0.83	
Uniform Delay, d1		48.4		20.7	31.0					37.5	34.9	
Progression Factor		1.00		0.01	0.26					1.00	1.00	
Incremental Delay, d2		39.2		0.1	23.6					40.7	15.6	
Delay (s)		87.6		0.2	31.6					78.2	50.5	
Level of Service		F		A	C					E	D	
Approach Delay (s)		87.6			24.4			0.0			64.7	
Approach LOS		F			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	50.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	810	0	0	930	771	22	6	58	0	0	0
Future Volume (vph)	143	810	0	0	930	771	22	6	58	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1	5.1		5.1	5.1			
Lane Util. Factor		0.95			0.95	1.00		1.00	0.88			
Frt		1.00			1.00	0.85		1.00	0.85			
Flt Protected		0.99			1.00	1.00		0.96	1.00			
Satd. Flow (prot)		3309			3282	1346		1750	2369			
Flt Permitted		0.99			1.00	1.00		0.96	1.00			
Satd. Flow (perm)		3309			3282	1346		1750	2369			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	155	880	0	0	1011	838	24	7	63	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	171	0	0	39	0	0	0
Lane Group Flow (vph)	0	1035	0	0	1011	667	0	31	24	0	0	0
Heavy Vehicles (%)	10%	8%	0%	0%	10%	20%	0%	20%	20%	0%	0%	0%
Turn Type	Split	NA			NA	custom	Split	NA	custom			
Protected Phases	2!	2			6	2!	4	4	6			
Permitted Phases						6			4			
Actuated Green, G (s)		52.6			34.9	87.5		7.2	42.1			
Effective Green, g (s)		52.6			34.9	87.5		7.2	42.1			
Actuated g/C Ratio		0.48			0.32	0.80		0.07	0.38			
Clearance Time (s)		5.1			5.1	5.1		5.1	5.1			
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)		1582			1041	1133		114	1016			
v/s Ratio Prot		c0.31			c0.31	0.28		c0.02	0.01			
v/s Ratio Perm						0.21			0.00			
v/c Ratio		0.65			0.97	0.59		0.27	0.02			
Uniform Delay, d1		21.8			37.1	4.3		48.9	21.1			
Progression Factor		0.32			0.75	18.56		1.00	1.00			
Incremental Delay, d2		0.7			15.6	0.5		1.3	0.0			
Delay (s)		7.7			43.5	80.8		50.2	21.2			
Level of Service		A			D	F		D	C			
Approach Delay (s)		7.7			60.4			30.7			0.0	
Approach LOS		A			E			C			A	

Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	254	400	214	76	1105	164	188	3	60	238	0	408
Future Volume (vph)	254	400	214	76	1105	164	188	3	60	238	0	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.95	0.91	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.87	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)	3213	3282	1583	1770	3059	1583	3433	1863	1583	1698	1324	1346
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)	3213	3282	1583	1770	3059	1583	3433	1863	1583	1698	1324	1346
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	276	435	233	83	1201	178	204	3	65	259	0	443
RTOR Reduction (vph)	0	0	131	0	0	91	0	0	58	0	168	92
Lane Group Flow (vph)	276	435	102	83	1201	87	204	3	7	233	66	143
Heavy Vehicles (%)	9%	10%	2%	2%	18%	2%	2%	2%	2%	1%	2%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	8.4	48.0	48.0	8.6	46.2	46.2	11.8	11.8	11.8	20.1	20.1	28.5
Effective Green, g (s)	8.4	48.0	48.0	8.6	46.2	46.2	11.8	11.8	11.8	20.1	20.1	28.5
Actuated g/C Ratio	0.08	0.44	0.44	0.08	0.42	0.42	0.11	0.11	0.11	0.18	0.18	0.26
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	245	1432	690	138	1284	664	368	199	169	310	241	348
v/s Ratio Prot	c0.09	0.13		0.05	c0.39		c0.06	0.00		c0.14	0.05	0.03
v/s Ratio Perm			0.06			0.05			0.00			0.08
v/c Ratio	1.13	0.30	0.15	0.60	0.94	0.13	0.55	0.02	0.04	0.75	0.27	0.41
Uniform Delay, d1	50.8	20.1	18.7	49.0	30.5	19.6	46.6	43.9	44.0	42.6	38.7	33.8
Progression Factor	0.66	0.28	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	90.3	0.4	0.4	7.2	13.8	0.4	1.8	0.0	0.1	9.8	0.6	0.8
Delay (s)	123.7	6.0	18.1	56.2	44.2	20.0	48.4	43.9	44.1	52.4	39.3	34.6
Level of Service	F	A	B	E	D	B	D	D	D	D	D	C
Approach Delay (s)		43.4			42.0			47.3			42.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	613	0	7	1203	20	60	7	25	15	11	245
Future Volume (veh/h)	99	613	0	7	1203	20	60	7	25	15	11	245
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1743	1900	1900	1827	1583	1900	1900	1900	1583	1595	1900
Adj Flow Rate, veh/h	108	666	0	8	1308	22	65	8	27	16	12	266
Adj No. of Lanes	2	2	0	2	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	208	1727	0	43	1606	615	191	518	440	408	16	356
Arrive On Green	0.07	0.52	0.00	0.01	0.46	0.46	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	2925	3399	0	3510	3471	1329	1119	1900	1615	1163	59	1306
Grp Volume(v), veh/h	108	666	0	8	1308	22	65	8	27	16	0	278
Grp Sat Flow(s),veh/h/ln	1463	1656	0	1755	1736	1329	1119	1900	1615	1163	0	1364
Q Serve(g_s), s	2.7	9.1	0.0	0.2	24.6	0.7	4.3	0.2	0.9	0.8	0.0	14.1
Cycle Q Clear(g_c), s	2.7	9.1	0.0	0.2	24.6	0.7	18.4	0.2	0.9	1.0	0.0	14.1
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		0.96
Lane Grp Cap(c), veh/h	208	1727	0	43	1606	615	191	518	440	408	0	372
V/C Ratio(X)	0.52	0.39	0.00	0.19	0.81	0.04	0.34	0.02	0.06	0.04	0.00	0.75
Avail Cap(c_a), veh/h	231	1727	0	278	1708	654	433	927	788	659	0	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.0	10.9	0.0	37.1	17.6	11.1	33.6	20.2	20.4	20.5	0.0	25.2
Incr Delay (d2), s/veh	2.0	0.3	0.0	2.0	3.5	0.1	1.0	0.0	0.1	0.0	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.2	0.0	0.1	12.4	0.3	1.4	0.1	0.4	0.3	0.0	5.6
LnGrp Delay(d),s/veh	36.0	11.2	0.0	39.1	21.1	11.2	34.6	20.2	20.5	20.6	0.0	28.2
LnGrp LOS	D	B		D	C	B	C	C	C	C		C
Approach Vol, veh/h		774			1338			100			294	
Approach Delay, s/veh		14.6			21.0			29.7			27.8	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.4	45.2		25.2	9.9	40.8		25.2
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		4.5
Max Green Setting (Gmax), s	6.0	37.3		37.0	6.0	37.3		37.0
Max Q Clear Time (g_c+I1), s	2.2	11.1		16.1	4.7	26.6		20.4
Green Ext Time (p_c), s	0.0	8.2		1.7	0.0	8.4		0.3

Intersection Summary		
HCM 2010 Ctrl Delay	20.2	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	609	53	12	642	102	255	462	76	260	194	333
Future Volume (veh/h)	48	609	53	12	642	102	255	462	76	260	194	333
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1849	1900	1743	1827	1900	1900	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	52	662	58	13	698	111	277	502	83	283	211	362
Adj No. of Lanes	2	2	0	1	2	1	2	1	0	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	3	0	9	4	0	0	0	0	1	0	0
Cap, veh/h	184	967	85	32	911	424	282	561	93	293	225	385
Arrive On Green	0.05	0.30	0.30	0.02	0.26	0.26	0.08	0.35	0.35	0.08	0.36	0.36
Sat Flow, veh/h	3476	3262	286	1660	3471	1615	3510	1591	263	3476	629	1080
Grp Volume(v), veh/h	52	356	364	13	698	111	277	0	585	283	0	573
Grp Sat Flow(s),veh/h/ln	1738	1757	1791	1660	1736	1615	1755	0	1854	1738	0	1709
Q Serve(g_s), s	1.1	13.4	13.4	0.6	13.9	4.1	5.9	0.0	22.3	6.1	0.0	24.2
Cycle Q Clear(g_c), s	1.1	13.4	13.4	0.6	13.9	4.1	5.9	0.0	22.3	6.1	0.0	24.2
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.14	1.00		0.63
Lane Grp Cap(c), veh/h	184	521	531	32	911	424	282	0	654	293	0	610
V/C Ratio(X)	0.28	0.68	0.69	0.41	0.77	0.26	0.98	0.00	0.89	0.97	0.00	0.94
Avail Cap(c_a), veh/h	279	522	532	133	1031	480	282	0	670	293	0	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.0	23.2	23.2	36.2	25.4	21.8	34.3	0.0	22.9	34.1	0.0	23.3
Incr Delay (d2), s/veh	0.3	4.8	4.7	17.4	4.1	0.7	48.6	0.0	14.4	43.0	0.0	22.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	7.1	7.3	0.4	7.1	1.9	4.7	0.0	14.0	4.6	0.0	15.0
LnGrp Delay(d),s/veh	34.3	28.0	27.9	53.6	29.5	22.5	82.9	0.0	37.3	77.1	0.0	45.3
LnGrp LOS	C	C	C	D	C	C	F		D	E		D
Approach Vol, veh/h		772			822			862			856	
Approach Delay, s/veh		28.4			29.0			51.9			55.8	
Approach LOS		C			C			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	27.7	10.2	31.3	8.2	25.1	10.5	31.0
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	22.2	* 6	27.3	* 6	22.2	* 6.3	27.0
Max Q Clear Time (g_c+I1), s	2.6	15.4	7.9	26.2	3.1	15.9	8.1	24.3
Green Ext Time (p_c), s	0.0	3.5	0.0	0.4	0.0	3.7	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	41.7
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	826	39	45	595	62	53	123	74	97	97	127
Future Volume (veh/h)	98	826	39	45	595	62	53	123	74	97	97	127
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1847	1900	1900	1846	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	107	898	42	49	647	67	58	134	80	105	105	138
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0	0	3	2	0	0	0	0	0	0
Cap, veh/h	203	1173	55	104	928	96	273	274	164	300	185	243
Arrive On Green	0.11	0.34	0.34	0.06	0.29	0.29	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1810	3410	159	1810	3209	332	1153	1107	661	1184	745	979
Grp Volume(v), veh/h	107	462	478	49	353	361	58	0	214	105	0	243
Grp Sat Flow(s),veh/h/ln	1810	1755	1815	1810	1754	1787	1153	0	1768	1184	0	1724
Q Serve(g_s), s	3.1	13.0	13.0	1.5	10.0	10.0	2.6	0.0	5.8	4.6	0.0	6.9
Cycle Q Clear(g_c), s	3.1	13.0	13.0	1.5	10.0	10.0	9.4	0.0	5.8	10.4	0.0	6.9
Prop In Lane	1.00		0.09	1.00		0.19	1.00		0.37	1.00		0.57
Lane Grp Cap(c), veh/h	203	604	624	104	507	517	273	0	438	300	0	428
V/C Ratio(X)	0.53	0.77	0.77	0.47	0.70	0.70	0.21	0.00	0.49	0.35	0.00	0.57
Avail Cap(c_a), veh/h	212	707	731	198	694	707	444	0	699	475	0	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.3	16.2	16.2	25.4	17.6	17.6	22.4	0.0	17.9	22.3	0.0	18.3
Incr Delay (d2), s/veh	2.2	4.8	4.7	3.3	2.6	2.6	0.4	0.0	0.8	0.7	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.1	7.3	0.8	5.2	5.3	0.9	0.0	2.9	1.6	0.0	3.4
LnGrp Delay(d),s/veh	25.5	21.1	20.9	28.7	20.2	20.2	22.8	0.0	18.7	23.0	0.0	19.5
LnGrp LOS	C	C	C	C	C	C	C		B	C		B
Approach Vol, veh/h		1047			763			272			348	
Approach Delay, s/veh		21.5			20.7			19.6			20.6	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	25.6		20.3	12.7	22.6		20.3
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	6.1	22.4		22.0	6.5	22.0		22.0
Max Q Clear Time (g_c+I1), s	3.5	15.0		12.4	5.1	12.0		11.4
Green Ext Time (p_c), s	0.0	4.1		1.3	0.0	4.0		1.1

Intersection Summary			
HCM 2010 Ctrl Delay		20.9	
HCM 2010 LOS		C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	643	22	105	617	99	34	171	177	141	116	38
Future Volume (veh/h)	144	643	22	105	617	99	34	171	177	141	116	38
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	0.99		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1843	1900	1881	1845	1900	1845	1881	1863	1881	1900	1900
Adj Flow Rate, veh/h	157	699	24	114	671	108	37	186	192	153	126	41
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	5	1	3	0	3	1	2	1	0	0
Cap, veh/h	197	1242	43	148	1110	503	396	552	464	324	558	462
Arrive On Green	0.11	0.36	0.36	0.08	0.32	0.32	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1774	3453	119	1792	3505	1587	1191	1881	1582	1010	1900	1575
Grp Volume(v), veh/h	157	354	369	114	671	108	37	186	192	153	126	41
Grp Sat Flow(s),veh/h/ln	1774	1751	1821	1792	1752	1587	1191	1881	1582	1010	1900	1575
Q Serve(g_s), s	5.9	11.1	11.1	4.2	11.0	3.4	1.7	5.3	6.6	9.5	3.4	1.3
Cycle Q Clear(g_c), s	5.9	11.1	11.1	4.2	11.0	3.4	5.1	5.3	6.6	14.8	3.4	1.3
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	197	630	655	148	1110	503	396	552	464	324	558	462
V/C Ratio(X)	0.80	0.56	0.56	0.77	0.60	0.21	0.09	0.34	0.41	0.47	0.23	0.09
Avail Cap(c_a), veh/h	260	797	829	316	1647	746	641	939	790	532	949	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	17.5	17.5	30.6	19.7	17.1	20.1	18.9	19.3	24.7	18.2	17.5
Incr Delay (d2), s/veh	12.1	1.7	1.6	8.2	1.1	0.5	0.2	0.8	1.3	2.3	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	5.6	5.8	2.4	5.5	1.5	0.6	2.9	3.0	2.8	1.9	0.6
LnGrp Delay(d),s/veh	41.6	19.2	19.1	38.8	20.8	17.5	20.3	19.6	20.6	26.9	18.6	17.6
LnGrp LOS	D	B	B	D	C	B	C	B	C	C	B	B
Approach Vol, veh/h		880			893			415			320	
Approach Delay, s/veh		23.2			22.7			20.1			22.5	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.6	30.5		26.0	14.5	27.6		26.0
Change Period (Y+Rc), s	6.0	6.0		6.0	7.0	6.0		6.0
Max Green Setting (Gmax), s	12.0	31.0		34.0	10.0	32.0		34.0
Max Q Clear Time (g_c+I1), s	6.2	13.1		16.8	7.9	13.0		8.6
Green Ext Time (p_c), s	0.1	7.0		2.6	0.1	7.8		3.8

Intersection Summary			
HCM 2010 Ctrl Delay		22.4	
HCM 2010 LOS		C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	550	34	7	581	17	67	100	19	5	59	173
Future Volume (veh/h)	239	550	34	7	581	17	67	100	19	5	59	173
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1798	1900	1900	1827	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	260	598	37	8	632	18	73	109	21	5	64	188
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	6	0	0	4	0	0	0	0	0	0	0
Cap, veh/h	473	2064	128	568	1153	1018	174	204	34	67	89	247
Arrive On Green	0.63	0.63	0.63	0.63	0.63	0.63	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	794	3269	202	805	1827	1612	436	1012	167	11	439	1225
Grp Volume(v), veh/h	260	312	323	8	632	18	203	0	0	257	0	0
Grp Sat Flow(s),veh/h/ln	794	1708	1762	805	1827	1612	1615	0	0	1674	0	0
Q Serve(g_s), s	15.6	4.7	4.7	0.3	11.1	0.2	0.0	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	26.7	4.7	4.7	5.0	11.1	0.2	6.2	0.0	0.0	8.2	0.0	0.0
Prop In Lane	1.00		0.11	1.00		1.00	0.36		0.10	0.02		0.73
Lane Grp Cap(c), veh/h	473	1079	1113	568	1153	1018	412	0	0	402	0	0
V/C Ratio(X)	0.55	0.29	0.29	0.01	0.55	0.02	0.49	0.00	0.00	0.64	0.00	0.00
Avail Cap(c_a), veh/h	550	1245	1285	647	1332	1175	743	0	0	768	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.5	4.7	4.7	5.9	5.9	3.9	20.5	0.0	0.0	21.4	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.3	0.3	0.0	0.9	0.0	0.9	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	2.3	2.3	0.1	5.7	0.1	3.0	0.0	0.0	4.0	0.0	0.0
LnGrp Delay(d),s/veh	15.6	5.0	5.0	5.9	6.8	3.9	21.4	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C			C		
Approach Vol, veh/h		895			658			203			257	
Approach Delay, s/veh		8.1			6.7			21.4			23.1	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.5		16.4		40.5		16.4
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		41.5		24.0		41.5		24.0
Max Q Clear Time (g_c+I1), s		28.7		8.2		13.1		10.2
Green Ext Time (p_c), s		7.2		1.1		9.1		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	180	68	25	90	34	148	1200	61	44	650	367
Future Volume (veh/h)	153	180	68	25	90	34	148	1200	61	44	650	367
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1817	1900	1900	1873	1900	1792	1841	1900	1638	1816	1900
Adj Flow Rate, veh/h	166	196	74	27	98	37	161	1304	66	48	707	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	4	6	0	2	0	6	3	7	16	5	4
Cap, veh/h	210	236	89	61	119	45	195	1680	85	64	1458	0
Arrive On Green	0.12	0.19	0.19	0.03	0.09	0.09	0.11	0.50	0.50	0.04	0.42	0.00
Sat Flow, veh/h	1707	1258	475	1810	1297	490	1707	3389	171	1560	3541	0
Grp Volume(v), veh/h	166	0	270	27	0	135	161	672	698	48	707	0
Grp Sat Flow(s),veh/h/ln	1707	0	1734	1810	0	1786	1707	1749	1811	1560	1725	0
Q Serve(g_s), s	7.6	0.0	12.1	1.2	0.0	6.0	7.4	25.3	25.4	2.5	12.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	12.1	1.2	0.0	6.0	7.4	25.3	25.4	2.5	12.0	0.0
Prop In Lane	1.00		0.27	1.00		0.27	1.00		0.09	1.00		0.00
Lane Grp Cap(c), veh/h	210	0	325	61	0	164	195	867	898	64	1458	0
V/C Ratio(X)	0.79	0.00	0.83	0.44	0.00	0.82	0.83	0.78	0.78	0.75	0.49	0.00
Avail Cap(c_a), veh/h	405	0	442	135	0	164	212	867	898	97	1458	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.3	0.0	31.5	38.1	0.0	35.9	34.9	16.6	16.6	38.2	16.9	0.0
Incr Delay (d2), s/veh	6.6	0.0	9.5	4.9	0.0	27.2	21.4	6.7	6.6	16.2	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	6.6	0.7	0.0	4.2	4.6	13.8	14.2	1.3	5.9	0.0
LnGrp Delay(d),s/veh	40.9	0.0	41.0	43.1	0.0	63.1	56.3	23.3	23.2	54.4	18.0	0.0
LnGrp LOS	D		D	D		E	E	C	C	D	B	
Approach Vol, veh/h		436			162			1531			755	
Approach Delay, s/veh		41.0			59.7			26.7			20.3	
Approach LOS		D			E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	45.7	7.3	20.2	13.2	39.8	15.0	12.5
Change Period (Y+Rc), s	4.0	5.8	4.6	5.1	4.0	5.8	5.1	* 5.1
Max Green Setting (Gmax), s	5.0	39.0	6.0	20.5	10.0	34.0	19.1	* 7.4
Max Q Clear Time (g_c+I1), s	14.5	27.4	3.2	14.1	9.4	14.0	9.6	8.0
Green Ext Time (p_c), s	0.0	6.4	0.0	0.8	0.0	4.3	0.3	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	144	57	168	149	23	125	1250	228	111	1050	145
Future Volume (veh/h)	25	144	57	168	149	23	125	1250	228	111	1050	145
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1583	1583	1583	1583	1583	1900
Adj Flow Rate, veh/h	27	157	62	183	162	25	136	1359	248	121	1141	158
Adj No. of Lanes	1	1	0	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	59	183	72	326	327	51	217	1340	727	145	1255	173
Arrive On Green	0.03	0.14	0.14	0.09	0.21	0.21	0.07	0.45	0.45	0.10	0.47	0.47
Sat Flow, veh/h	1774	1272	502	3442	1577	243	1508	3008	1346	1508	2656	367
Grp Volume(v), veh/h	27	0	219	183	0	187	136	1359	248	121	645	654
Grp Sat Flow(s),veh/h/ln	1774	0	1774	1721	0	1820	1508	1504	1346	1508	1504	1519
Q Serve(g_s), s	1.2	0.0	10.0	4.2	0.0	7.6	4.0	37.1	2.7	6.6	33.0	33.2
Cycle Q Clear(g_c), s	1.2	0.0	10.0	4.2	0.0	7.6	4.0	37.1	2.7	6.6	33.0	33.2
Prop In Lane	1.00		0.28	1.00		0.13	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	59	0	256	326	0	378	217	1340	727	145	711	718
V/C Ratio(X)	0.45	0.00	0.86	0.56	0.00	0.49	0.63	1.01	0.34	0.84	0.91	0.91
Avail Cap(c_a), veh/h	128	0	268	1198	0	782	221	1340	727	145	711	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	0.0	34.8	36.0	0.0	29.1	18.5	23.1	3.0	37.0	20.3	20.4
Incr Delay (d2), s/veh	2.0	0.0	21.0	0.6	0.0	0.4	3.9	28.1	0.1	31.0	15.1	15.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	6.4	2.0	0.0	3.8	1.9	20.5	1.4	4.0	16.6	16.9
LnGrp Delay(d),s/veh	41.5	0.0	55.8	36.6	0.0	29.5	22.4	51.2	3.1	68.0	35.4	35.9
LnGrp LOS	D		E	D		C	C	F	A	E	D	D
Approach Vol, veh/h		246			370			1743			1420	
Approach Delay, s/veh		54.3			33.0			42.1			38.4	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	16.2	12.0	42.0	6.8	22.5	9.7	44.3
Change Period (Y+Rc), s	* 5.2	* 4.2	4.0	4.9	4.0	* 5.2	4.0	4.9
Max Green Setting (Gmax), s	* 23	* 13	8.0	37.1	6.0	* 36	6.0	39.1
Max Q Clear Time (g_c+I1), s	6.2	12.0	8.6	39.1	3.2	9.6	6.0	35.2
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	40.6
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	156	30	205	485	86	89	1250	92	218	850	125
Future Volume (veh/h)	123	156	30	205	485	86	89	1250	92	218	850	125
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1825	1900	1810	1900	1900	1900	1845	1845	1881	1821	1900
Adj Flow Rate, veh/h	134	170	33	223	527	93	97	1359	100	237	924	136
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	20	5	0	0	0	3	3	1	5	0
Cap, veh/h	168	345	67	405	555	459	265	1405	626	258	1387	204
Arrive On Green	0.05	0.23	0.23	0.11	0.29	0.29	0.05	0.40	0.40	0.11	0.46	0.46
Sat Flow, veh/h	1723	1482	288	1723	1900	1573	1810	3505	1562	1792	3014	444
Grp Volume(v), veh/h	134	0	203	223	527	93	97	1359	100	237	530	530
Grp Sat Flow(s),veh/h/ln	1723	0	1770	1723	1900	1573	1810	1752	1562	1792	1730	1728
Q Serve(g_s), s	6.2	0.0	11.7	11.2	31.9	5.2	3.7	44.6	4.8	10.8	28.0	28.1
Cycle Q Clear(g_c), s	6.2	0.0	11.7	11.2	31.9	5.2	3.7	44.6	4.8	10.8	28.0	28.1
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	168	0	412	405	555	459	265	1405	626	258	796	795
V/C Ratio(X)	0.80	0.00	0.49	0.55	0.95	0.20	0.37	0.97	0.16	0.92	0.67	0.67
Avail Cap(c_a), veh/h	168	0	429	483	659	546	304	1434	639	258	796	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	0.0	39.1	28.5	40.8	31.3	21.3	34.5	22.5	33.9	24.7	24.7
Incr Delay (d2), s/veh	21.6	0.0	0.3	0.4	20.4	0.1	0.3	16.2	0.0	34.4	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	5.7	5.3	19.8	2.3	1.8	24.7	2.1	10.0	13.8	13.8
LnGrp Delay(d),s/veh	59.6	0.0	39.4	28.9	61.2	31.4	21.6	50.7	22.6	68.3	26.4	26.4
LnGrp LOS	E		D	C	E	C	C	D	C	E	C	C
Approach Vol, veh/h		337			843			1556			1297	
Approach Delay, s/veh		47.4			49.4			47.1			34.1	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	38.9	16.4	52.0	17.2	31.9	9.4	59.0
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	6.2	40.8	12.4	48.1	18.5	28.5	8.0	52.5
Max Q Clear Time (g_c+I1), s	8.2	33.9	12.8	46.6	13.2	13.7	5.7	30.1
Green Ext Time (p_c), s	0.0	0.4	0.0	0.5	0.0	0.2	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	43.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	357	137	20	130	225	87	1269	7	344	1187	6
Future Volume (veh/h)	14	357	137	20	130	225	87	1269	7	344	1187	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1583	1583	1583	1583	1583	1900
Adj Flow Rate, veh/h	15	388	149	22	141	245	95	1379	8	374	1290	7
Adj No. of Lanes	1	2	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	160	579	259	118	305	259	115	1384	619	370	1929	10
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.08	0.46	0.46	0.25	0.63	0.63
Sat Flow, veh/h	993	3539	1583	864	1863	1583	1508	3008	1346	1508	3068	17
Grp Volume(v), veh/h	15	388	149	22	141	245	95	1379	8	374	632	665
Grp Sat Flow(s),veh/h/ln	993	1770	1583	864	1863	1583	1508	1504	1346	1508	1504	1580
Q Serve(g_s), s	1.5	11.3	9.6	2.7	7.5	16.8	6.8	50.3	0.4	27.0	29.6	29.6
Cycle Q Clear(g_c), s	9.1	11.3	9.6	14.0	7.5	16.8	6.8	50.3	0.4	27.0	29.6	29.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	160	579	259	118	305	259	115	1384	619	370	946	994
V/C Ratio(X)	0.09	0.67	0.58	0.19	0.46	0.95	0.82	1.00	0.01	1.01	0.67	0.67
Avail Cap(c_a), veh/h	160	579	259	118	305	259	199	1384	619	370	946	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	43.2	42.5	49.8	41.6	45.5	50.1	29.6	16.1	41.5	13.1	13.1
Incr Delay (d2), s/veh	0.3	3.0	3.1	0.8	1.1	41.2	13.4	23.3	0.0	49.4	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.8	4.4	0.7	4.0	10.3	3.3	25.2	0.1	16.3	12.6	13.2
LnGrp Delay(d),s/veh	46.0	46.2	45.6	50.6	42.7	86.7	63.4	52.9	16.1	91.0	14.9	14.8
LnGrp LOS	D	D	D	D	D	F	E	D	B	F	B	B
Approach Vol, veh/h		552			408			1482			1671	
Approach Delay, s/veh		46.0			69.6			53.4			31.9	
Approach LOS		D			E			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	31.0	56.4		22.6	12.4	75.0		22.6
Change Period (Y+Rc), s	4.0	5.8		4.6	4.0	5.8		4.6
Max Green Setting (Gmax), s	27.0	50.6		18.0	14.5	63.1		18.0
Max Q Clear Time (g_c+I1), s	29.0	52.3		13.3	8.8	31.6		18.8
Green Ext Time (p_c), s	0.0	0.0		1.4	0.1	10.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay	45.3	
HCM 2010 LOS	D	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	98	68	8	55	5	381	19	92	2	1	0
Future Volume (veh/h)	9	98	68	8	55	5	381	19	92	2	1	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1827	1759	1900	1669	1900	1845	1583	1845	1900	1781	1900
Adj Flow Rate, veh/h	10	107	74	9	60	5	414	21	100	2	1	0
Adj No. of Lanes	1	2	1	1	1	0	2	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	4	8	0	15	0	3	20	3	0	20	20
Cap, veh/h	20	853	639	22	371	31	640	297	294	6	3	0
Arrive On Green	0.01	0.25	0.25	0.01	0.24	0.24	0.19	0.19	0.19	0.00	0.00	0.00
Sat Flow, veh/h	1508	3471	1459	1810	1517	126	3408	1583	1568	1149	575	0
Grp Volume(v), veh/h	10	107	74	9	0	65	414	21	100	3	0	0
Grp Sat Flow(s),veh/h/ln	1508	1736	1459	1810	0	1643	1704	1583	1568	1724	0	0
Q Serve(g_s), s	0.2	0.8	1.0	0.2	0.0	1.0	3.7	0.4	1.8	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.8	1.0	0.2	0.0	1.0	3.7	0.4	1.8	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	0.67		0.00
Lane Grp Cap(c), veh/h	20	853	639	22	0	402	640	297	294	9	0	0
V/C Ratio(X)	0.50	0.13	0.12	0.41	0.00	0.16	0.65	0.07	0.34	0.35	0.00	0.00
Avail Cap(c_a), veh/h	230	853	639	276	0	402	833	387	383	316	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.0	9.6	5.5	16.1	0.0	9.7	12.3	10.9	11.5	16.2	0.0	0.0
Incr Delay (d2), s/veh	18.0	0.1	0.1	12.1	0.0	0.2	1.1	0.1	0.7	23.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.4	0.5	0.2	0.0	0.5	1.8	0.2	0.8	0.1	0.0	0.0
LnGrp Delay(d),s/veh	34.0	9.7	5.6	28.2	0.0	9.9	13.4	11.0	12.2	39.3	0.0	0.0
LnGrp LOS	C	A	A	C		A	B	B	B	D		
Approach Vol, veh/h		191			74			535			3	
Approach Delay, s/veh		9.4			12.1			13.1			39.3	
Approach LOS		A			B			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		10.6	4.9	12.5		4.7	4.9	12.5
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		8.0	5.0	8.0		6.0	5.0	8.0
Max Q Clear Time (g_c+I1), s		5.7	2.2	3.0		2.1	2.2	3.0
Green Ext Time (p_c), s		0.5	0.0	0.3		0.0	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	86	43	65	152	150	19	450	7	150	700	7
Future Volume (veh/h)	120	86	43	65	152	150	19	450	7	150	700	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1583	1900	1827	1900	1583	1583	1827	1681	1900
Adj Flow Rate, veh/h	130	93	47	71	165	163	21	489	8	163	761	8
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	20	0	4	0	20	20	4	13	0
Cap, veh/h	168	708	317	97	613	264	46	743	419	185	1047	529
Arrive On Green	0.09	0.20	0.20	0.06	0.17	0.17	0.03	0.25	0.25	0.11	0.33	0.33
Sat Flow, veh/h	1774	3539	1583	1508	3610	1553	1810	3008	1346	1740	3195	1615
Grp Volume(v), veh/h	130	93	47	71	165	163	21	489	8	163	761	8
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1508	1805	1553	1810	1504	1346	1740	1597	1615
Q Serve(g_s), s	3.4	1.0	1.2	2.2	1.9	4.6	0.5	6.9	0.2	4.3	9.9	0.2
Cycle Q Clear(g_c), s	3.4	1.0	1.2	2.2	1.9	4.6	0.5	6.9	0.2	4.3	9.9	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	168	708	317	97	613	264	46	743	419	185	1047	529
V/C Ratio(X)	0.78	0.13	0.15	0.73	0.27	0.62	0.46	0.66	0.02	0.88	0.73	0.02
Avail Cap(c_a), veh/h	302	1451	649	256	1457	627	192	1278	658	185	1391	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	15.5	15.5	21.6	17.0	18.1	22.6	15.9	11.2	20.7	14.0	10.7
Incr Delay (d2), s/veh	7.4	0.1	0.2	10.2	0.2	2.4	6.8	1.0	0.0	35.5	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.5	0.5	1.2	0.9	2.1	0.4	3.0	0.1	3.9	4.5	0.1
LnGrp Delay(d),s/veh	28.3	15.5	15.7	31.8	17.2	20.5	29.5	16.9	11.2	56.3	15.3	10.7
LnGrp LOS	C	B	B	C	B	C	C	B	B	E	B	B
Approach Vol, veh/h		270			399			518			932	
Approach Delay, s/veh		21.7			21.1			17.4			22.4	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	16.7	7.0	14.3	5.2	20.5	8.4	12.9
Change Period (Y+Rc), s	4.0	5.1	4.0	* 4.9	4.0	* 5.1	4.0	4.9
Max Green Setting (Gmax), s	5.0	20.0	8.0	* 19	5.0	* 21	8.0	19.0
Max Q Clear Time (g_c+I1), s	6.3	8.9	4.2	3.2	2.5	11.9	5.4	6.6
Green Ext Time (p_c), s	0.0	2.4	0.0	0.6	0.0	3.5	0.1	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	20.8
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	161	39	290	248	188	0	550	100	0	667	53
Future Volume (veh/h)	14	161	39	290	248	188	0	550	100	0	667	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1759	1759	1759	1610	1610	1610	1638	1638	1638
Adj Flow Rate, veh/h	15	175	42	315	270	204	0	598	109	0	725	58
Adj No. of Lanes	2	2	1	2	1	1	1	3	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	8	8	8	18	18	18	16	16	16
Cap, veh/h	79	525	235	472	476	271	3	1390	433	7	984	440
Arrive On Green	0.02	0.15	0.15	0.15	0.27	0.27	0.00	0.32	0.32	0.00	0.32	0.32
Sat Flow, veh/h	3442	3539	1583	3250	1759	1495	1533	4396	1369	3026	3112	1392
Grp Volume(v), veh/h	15	175	42	315	270	204	0	598	109	0	725	58
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1625	1759	1495	1533	1465	1369	1513	1556	1392
Q Serve(g_s), s	0.2	2.0	1.0	4.1	5.9	9.8	0.0	4.8	2.6	0.0	9.3	1.3
Cycle Q Clear(g_c), s	0.2	2.0	1.0	4.1	5.9	9.8	0.0	4.8	2.6	0.0	9.3	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	79	525	235	472	476	271	3	1390	433	7	984	440
V/C Ratio(X)	0.19	0.33	0.18	0.67	0.57	0.75	0.00	0.43	0.25	0.00	0.74	0.13
Avail Cap(c_a), veh/h	463	603	270	845	521	308	189	1735	540	461	1319	590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	17.0	16.6	18.0	14.0	42.5	0.0	12.1	11.3	0.0	13.6	10.9
Incr Delay (d2), s/veh	1.2	0.4	0.4	1.6	1.2	8.8	0.0	0.2	0.3	0.0	1.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.0	0.5	1.9	3.0	6.7	0.0	2.0	1.0	0.0	4.1	0.5
LnGrp Delay(d),s/veh	22.6	17.4	17.0	19.7	15.2	51.3	0.0	12.3	11.6	0.0	15.1	11.0
LnGrp LOS	C	B	B	B	B	D		B	B		B	B
Approach Vol, veh/h		232			789			707			783	
Approach Delay, s/veh		17.6			26.3			12.2			14.8	
Approach LOS		B			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	19.9	12.3	12.4	10.0	19.9	6.8	17.9
Change Period (Y+Rc), s	4.0	5.8	5.8	5.8	4.0	5.8	5.8	5.8
Max Green Setting (Gmax), s	6.0	17.6	11.6	7.6	6.0	18.9	6.0	13.2
Max Q Clear Time (g_c+I1), s	11.3	6.8	6.1	4.0	0.0	11.3	2.2	11.8
Green Ext Time (p_c), s	0.0	3.1	0.5	0.3	0.0	2.8	0.0	0.3

Intersection Summary		
HCM 2010 Ctrl Delay		17.9
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	240	54	424	471	4	194	506	236	29	586	9
Future Volume (veh/h)	2	240	54	424	471	4	194	506	236	29	586	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1759	1759	1759	1743	1743	1743	1667	1667	1900
Adj Flow Rate, veh/h	2	261	59	461	512	4	211	550	257	32	637	10
Adj No. of Lanes	1	2	1	2	2	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	8	8	8	9	9	9	14	14	14
Cap, veh/h	180	359	160	623	641	287	251	1195	535	53	775	12
Arrive On Green	0.10	0.10	0.10	0.19	0.19	0.19	0.15	0.36	0.36	0.03	0.24	0.24
Sat Flow, veh/h	1774	3539	1583	3250	3343	1495	1660	3312	1482	1587	3191	50
Grp Volume(v), veh/h	2	261	59	461	512	4	211	550	257	32	316	331
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1625	1671	1495	1660	1656	1482	1587	1583	1658
Q Serve(g_s), s	0.1	4.9	2.4	9.1	10.0	0.1	8.5	8.7	9.2	1.4	12.9	12.9
Cycle Q Clear(g_c), s	0.1	4.9	2.4	9.1	10.0	0.1	8.5	8.7	9.2	1.4	12.9	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	180	359	160	623	641	287	251	1195	535	53	384	402
V/C Ratio(X)	0.01	0.73	0.37	0.74	0.80	0.01	0.84	0.46	0.48	0.61	0.82	0.82
Avail Cap(c_a), veh/h	187	373	167	675	694	310	291	1259	563	144	468	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	29.8	28.7	26.0	26.4	22.4	28.2	16.8	16.9	32.6	24.5	24.5
Incr Delay (d2), s/veh	0.0	6.7	1.4	4.0	6.2	0.0	17.2	0.3	0.7	10.6	9.5	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	1.1	4.4	5.2	0.1	5.1	4.0	3.8	0.8	6.6	6.9
LnGrp Delay(d),s/veh	27.7	36.5	30.1	30.0	32.6	22.4	45.4	17.0	17.6	43.3	34.0	33.7
LnGrp LOS	C	D	C	C	C	C	D	B	B	D	C	C
Approach Vol, veh/h		322			977			1018			679	
Approach Delay, s/veh		35.3			31.3			23.1			34.3	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	30.5		12.7	14.3	22.4		18.9
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	6.3	26.0		7.2	12.0	20.2		14.2
Max Q Clear Time (g_c+I1), s	3.4	11.2		6.9	10.5	14.9		12.0
Green Ext Time (p_c), s	0.0	3.7		0.1	0.1	1.7		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	29.6
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	222	297	800	550	902	52
Future Volume (veh/h)	222	297	800	550	902	52
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1881	1712	1667	1667
Adj Flow Rate, veh/h	241	323	870	598	980	57
Adj No. of Lanes	1	2	2	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	1	11	14	14
Cap, veh/h	286	1225	968	2179	1057	473
Arrive On Green	0.16	0.16	0.28	0.67	0.33	0.33
Sat Flow, veh/h	1774	2787	3476	3338	3250	1417
Grp Volume(v), veh/h	241	323	870	598	980	57
Grp Sat Flow(s),veh/h/ln	1774	1393	1738	1626	1583	1417
Q Serve(g_s), s	9.1	5.1	16.6	5.1	20.6	1.9
Cycle Q Clear(g_c), s	9.1	5.1	16.6	5.1	20.6	1.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	286	1225	968	2179	1057	473
V/C Ratio(X)	0.84	0.26	0.90	0.27	0.93	0.12
Avail Cap(c_a), veh/h	289	1229	1010	2230	1067	477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	12.2	23.9	4.6	22.1	15.9
Incr Delay (d2), s/veh	19.5	0.1	10.5	0.1	13.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	4.8	9.3	2.3	11.0	0.8
LnGrp Delay(d),s/veh	47.5	12.3	34.5	4.7	35.6	16.0
LnGrp LOS	D	B	C	A	D	B
Approach Vol, veh/h	564			1468	1037	
Approach Delay, s/veh	27.4			22.3	34.5	
Approach LOS	C			C	C	

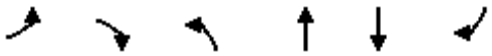
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		51.9		16.9	23.2	28.8		
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8		
Max Green Setting (Gmax), s		47.2		11.2	20.0	23.2		
Max Q Clear Time (g_c+I1), s		7.1		11.1	18.6	22.6		
Green Ext Time (p_c), s		4.1		0.0	0.6	0.4		

Intersection Summary	
HCM 2010 Ctrl Delay	27.4
HCM 2010 LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	253	287	1044	10	150	1064
Future Volume (veh/h)	253	287	1044	10	150	1064
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1743	1712	1900	1667	1667
Adj Flow Rate, veh/h	275	312	1135	11	163	1157
Adj No. of Lanes	1	1	2	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	9	9	11	11	14	14
Cap, veh/h	356	503	1434	14	198	1954
Arrive On Green	0.21	0.21	0.43	0.43	0.12	0.62
Sat Flow, veh/h	1660	1482	3386	32	1587	3250
Grp Volume(v), veh/h	275	312	559	587	163	1157
Grp Sat Flow(s),veh/h/ln	1660	1482	1626	1706	1587	1583
Q Serve(g_s), s	10.7	12.2	20.4	20.4	6.9	15.2
Cycle Q Clear(g_c), s	10.7	12.2	20.4	20.4	6.9	15.2
Prop In Lane	1.00	1.00		0.02	1.00	
Lane Grp Cap(c), veh/h	356	503	706	741	198	1954
V/C Ratio(X)	0.77	0.62	0.79	0.79	0.82	0.59
Avail Cap(c_a), veh/h	414	554	1090	1143	253	2811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	19.1	16.8	16.8	29.4	8.0
Incr Delay (d2), s/veh	7.5	1.8	2.2	2.1	15.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	5.2	9.4	9.9	3.9	6.7
LnGrp Delay(d),s/veh	33.0	20.9	19.0	18.9	45.1	8.3
LnGrp LOS	C	C	B	B	D	A
Approach Vol, veh/h	587		1146			1320
Approach Delay, s/veh	26.6		19.0			12.8
Approach LOS	C		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.6	35.8				48.3		20.6
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8
Max Green Setting (Gmax), s	11.0	46.2				61.2		17.2
Max Q Clear Time (g_c+I1), s	8.9	22.4				17.2		14.2
Green Ext Time (p_c), s	0.1	7.5				10.1		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	612	62	4	768	813	103
Future Volume (vph)	612	62	4	768	813	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frt	0.99		1.00	1.00	0.98	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	3190		1787	3252	3113	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	3190		1787	3252	3113	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	665	67	4	835	884	112
RTOR Reduction (vph)	13	0	0	0	15	0
Lane Group Flow (vph)	719	0	4	835	981	0
Heavy Vehicles (%)	9%	9%	1%	11%	14%	14%
Turn Type	Prot		Prot	NA	NA	
Protected Phases	2		3	8	4	
Permitted Phases						
Actuated Green, G (s)	15.3		0.9	25.1	20.2	
Effective Green, g (s)	15.3		0.9	25.1	20.2	
Actuated g/C Ratio	0.29		0.02	0.48	0.39	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	938		30	1569	1209	
v/s Ratio Prot	c0.23		0.00	c0.26	c0.32	
v/s Ratio Perm						
v/c Ratio	0.77		0.13	0.53	0.81	
Uniform Delay, d1	16.7		25.2	9.4	14.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	3.8		2.0	0.3	4.2	
Delay (s)	20.5		27.2	9.7	18.4	
Level of Service	C		C	A	B	
Approach Delay (s)	20.5			9.8	18.4	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	52.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	868	168	6	1380	587	82
Future Volume (vph)	868	168	6	1380	587	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.95		1.00	0.95	0.97	
Frt	0.98		1.00	1.00	0.98	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	3173		1583	3167	2937	
Flt Permitted	1.00		0.95	1.00	0.96	
Satd. Flow (perm)	3173		1583	3167	2937	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	943	183	7	1500	638	89
RTOR Reduction (vph)	16	0	0	0	12	0
Lane Group Flow (vph)	1110	0	7	1500	715	0
Heavy Vehicles (%)	11%	11%	14%	14%	18%	18%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases						
Actuated Green, G (s)	45.6		0.9	50.5	23.0	
Effective Green, g (s)	45.6		0.9	50.5	23.0	
Actuated g/C Ratio	0.54		0.01	0.59	0.27	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1700		16	1879	793	
v/s Ratio Prot	0.35		0.00	c0.47	c0.24	
v/s Ratio Perm						
v/c Ratio	0.65		0.44	0.80	0.90	
Uniform Delay, d1	14.1		41.8	13.4	30.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.9		18.0	2.5	13.4	
Delay (s)	15.0		59.8	15.8	43.3	
Level of Service	B		E	B	D	
Approach Delay (s)	15.0			16.0	43.3	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	85.1	Sum of lost time (s)	15.6
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	35	86	60	0	477	24	74	285	0	0	332	28
Future Volume (veh/h)	35	86	60	0	477	24	74	285	0	0	332	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1759	1900	1900	1743	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	38	93	65	0	518	26	80	310	0	0	361	30
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	9	9	9	2	2	2	2	2	2
Cap, veh/h	148	279	155	0	660	33	176	444	0	0	609	51
Arrive On Green	0.40	0.40	0.40	0.00	0.40	0.40	0.36	0.36	0.00	0.00	0.36	0.36
Sat Flow, veh/h	83	697	387	0	1646	83	167	1237	0	0	1697	141
Grp Volume(v), veh/h	196	0	0	0	0	544	390	0	0	0	0	391
Grp Sat Flow(s),veh/h/ln	1167	0	0	0	0	1729	1404	0	0	0	0	1838
Q Serve(g_s), s	0.6	0.0	0.0	0.0	0.0	10.3	3.4	0.0	0.0	0.0	0.0	6.5
Cycle Q Clear(g_c), s	10.9	0.0	0.0	0.0	0.0	10.3	9.9	0.0	0.0	0.0	0.0	6.5
Prop In Lane	0.19		0.33	0.00		0.05	0.21		0.00	0.00		0.08
Lane Grp Cap(c), veh/h	583	0	0	0	0	693	620	0	0	0	0	660
V/C Ratio(X)	0.34	0.00	0.00	0.00	0.00	0.78	0.63	0.00	0.00	0.00	0.00	0.59
Avail Cap(c_a), veh/h	1095	0	0	0	0	1341	974	0	0	0	0	1073
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	7.8	0.0	0.0	0.0	0.0	9.8	10.5	0.0	0.0	0.0	0.0	9.8
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.0	2.0	1.1	0.0	0.0	0.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.0	0.0	5.2	3.8	0.0	0.0	0.0	0.0	3.4
LnGrp Delay(d),s/veh	8.2	0.0	0.0	0.0	0.0	11.8	11.6	0.0	0.0	0.0	0.0	10.6
LnGrp LOS	A					B	B					B
Approach Vol, veh/h		196			544			390			391	
Approach Delay, s/veh		8.2			11.8			11.6			10.6	
Approach LOS		A			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		18.0		19.5		18.0		19.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		21.9		29.1		21.9		29.1
Max Q Clear Time (g_c+I1), s		11.9		12.9		8.5		12.3
Green Ext Time (p_c), s		1.6		0.9		1.8		2.7

Intersection Summary		
HCM 2010 Ctrl Delay		11.0
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	17	148	1	275	0	221	441	16	1	20	1
Future Volume (veh/h)	17	17	148	1	275	0	221	441	16	1	20	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1759	1759	1900	1743	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	18	18	161	1	299	0	240	479	17	1	22	1
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	9	9	9	2	2	2	2	2	2
Cap, veh/h	347	264	393	137	457	0	824	710	25	149	690	30
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.00	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	544	1005	1495	2	1740	0	1383	1788	63	17	1738	76
Grp Volume(v), veh/h	36	0	161	300	0	0	240	0	496	24	0	0
Grp Sat Flow(s),veh/h/ln	1549	0	1495	1742	0	0	1383	0	1852	1831	0	0
Q Serve(g_s), s	0.0	0.0	2.4	0.0	0.0	0.0	3.1	0.0	5.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	2.4	4.1	0.0	0.0	3.3	0.0	5.8	0.2	0.0	0.0
Prop In Lane	0.50		1.00	0.00		0.00	1.00		0.03	0.04		0.04
Lane Grp Cap(c), veh/h	611	0	393	594	0	0	824	0	735	868	0	0
V/C Ratio(X)	0.06	0.00	0.41	0.50	0.00	0.00	0.29	0.00	0.68	0.03	0.00	0.00
Avail Cap(c_a), veh/h	1125	0	990	1289	0	0	1243	0	1296	1405	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.3	0.0	8.1	8.7	0.0	0.0	5.8	0.0	6.6	4.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.7	0.0	0.0	0.2	0.0	1.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.0	2.0	0.0	0.0	1.3	0.0	3.1	0.1	0.0	0.0
LnGrp Delay(d),s/veh	7.4	0.0	8.7	9.3	0.0	0.0	6.0	0.0	7.7	4.9	0.0	0.0
LnGrp LOS	A		A	A			A		A	A		
Approach Vol, veh/h		197			300			736			24	
Approach Delay, s/veh		8.5			9.3			7.1			4.9	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		15.0		11.4		15.0		11.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.5		17.5		18.5		17.5
Max Q Clear Time (g_c+I1), s		7.8		4.4		2.2		6.1
Green Ext Time (p_c), s		2.7		0.5		0.0		1.1

Intersection Summary		
HCM 2010 Ctrl Delay		7.8
HCM 2010 LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	436	11	11	700	46	12	120	216	41	27	11
Future Volume (veh/h)	19	436	11	11	700	46	12	120	216	41	27	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	21	474	12	12	761	50	13	130	235	45	29	12
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	37	783	20	25	770	51	356	120	216	108	76	32
Arrive On Green	0.02	0.48	0.48	0.01	0.47	0.47	0.20	0.20	0.20	0.06	0.06	0.06
Sat Flow, veh/h	1616	1647	42	1691	1648	108	1774	596	1077	1774	1253	518
Grp Volume(v), veh/h	21	0	486	12	0	811	13	0	365	45	0	41
Grp Sat Flow(s),veh/h/ln	1616	0	1689	1691	0	1757	1774	0	1673	1774	0	1771
Q Serve(g_s), s	1.1	0.0	18.3	0.6	0.0	39.4	0.5	0.0	17.3	2.1	0.0	1.9
Cycle Q Clear(g_c), s	1.1	0.0	18.3	0.6	0.0	39.4	0.5	0.0	17.3	2.1	0.0	1.9
Prop In Lane	1.00		0.02	1.00		0.06	1.00		0.64	1.00		0.29
Lane Grp Cap(c), veh/h	37	0	803	25	0	820	356	0	336	108	0	108
V/C Ratio(X)	0.57	0.00	0.61	0.49	0.00	0.99	0.04	0.00	1.09	0.42	0.00	0.38
Avail Cap(c_a), veh/h	94	0	803	98	0	820	356	0	336	126	0	125
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.6	0.0	16.6	42.1	0.0	22.7	27.7	0.0	34.4	39.0	0.0	38.9
Incr Delay (d2), s/veh	12.9	0.0	1.3	14.3	0.0	28.6	0.0	0.0	74.1	2.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	8.8	0.4	0.0	25.4	0.3	0.0	14.9	1.1	0.0	1.0
LnGrp Delay(d),s/veh	54.5	0.0	17.9	56.5	0.0	51.3	27.7	0.0	108.5	41.5	0.0	41.1
LnGrp LOS	D		B	E		D	C		F	D		D
Approach Vol, veh/h		507			823			378			86	
Approach Delay, s/veh		19.5			51.4			105.7			41.3	
Approach LOS		B			D			F			D	

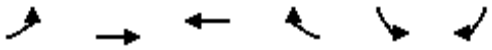
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.1	5.2	46.7		11.0	6.0	46.0
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		17.3	5.0	40.2		6.1	5.0	40.2
Max Q Clear Time (g_c+I1), s		19.3	2.6	20.3		4.1	3.1	41.4
Green Ext Time (p_c), s		0.0	0.0	2.7		0.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		53.3
HCM 2010 LOS		D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	650	4	16	650	55	16	16	42	226	23	28
Future Volume (veh/h)	2	650	4	16	650	55	16	16	42	226	23	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	707	4	17	707	60	17	17	46	246	25	30
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	4	812	5	35	807	68	124	125	242	397	30	36
Arrive On Green	0.00	0.48	0.48	0.02	0.50	0.50	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1616	1685	10	1691	1615	137	217	510	984	1184	120	144
Grp Volume(v), veh/h	2	0	711	17	0	767	80	0	0	301	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1695	1691	0	1752	1711	0	0	1449	0	0
Q Serve(g_s), s	0.1	0.0	23.2	0.6	0.0	24.2	0.0	0.0	0.0	9.8	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	23.2	0.6	0.0	24.2	2.3	0.0	0.0	12.1	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.08	0.21		0.57	0.82		0.10
Lane Grp Cap(c), veh/h	4	0	817	35	0	875	491	0	0	462	0	0
V/C Ratio(X)	0.45	0.00	0.87	0.49	0.00	0.88	0.16	0.00	0.00	0.65	0.00	0.00
Avail Cap(c_a), veh/h	130	0	1207	136	0	1248	743	0	0	684	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.9	0.0	14.3	30.1	0.0	13.8	18.5	0.0	0.0	21.9	0.0	0.0
Incr Delay (d2), s/veh	59.0	0.0	4.9	10.4	0.0	5.3	0.2	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	11.8	0.4	0.0	12.8	1.1	0.0	0.0	5.0	0.0	0.0
LnGrp Delay(d),s/veh	89.9	0.0	19.2	40.4	0.0	19.1	18.7	0.0	0.0	23.5	0.0	0.0
LnGrp LOS	F		B	D		B	B			C		
Approach Vol, veh/h		713			784			80			301	
Approach Delay, s/veh		19.4			19.5			18.7			23.5	
Approach LOS		B			B			B			C	

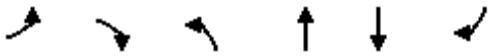
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.1	5.3	35.7		21.1	4.2	36.8
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		25.2	5.0	44.2		25.2	5.0	44.2
Max Q Clear Time (g_c+I1), s		4.3	2.6	25.2		14.1	2.1	26.2
Green Ext Time (p_c), s		0.3	0.0	4.4		1.2	0.0	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	393	683	435	2	24	1066
Future Volume (vph)	393	683	435	2	24	1066
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.8	5.8		5.8	5.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.95
Frt	1.00	1.00	1.00		0.86	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1626	3252	3436		1592	1504
Flt Permitted	0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1626	3252	3436		1592	1504
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	427	742	473	2	26	1159
RTOR Reduction (vph)	0	0	1	0	452	470
Lane Group Flow (vph)	427	742	474	0	142	121
Heavy Vehicles (%)	11%	11%	5%	5%	2%	2%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	16.1	28.8	8.7		10.4	10.4
Effective Green, g (s)	16.1	28.8	8.7		10.4	10.4
Actuated g/C Ratio	0.32	0.57	0.17		0.20	0.20
Clearance Time (s)	4.0	5.8	5.8		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	515	1843	588		325	307
v/s Ratio Prot	c0.26	0.23	c0.14		c0.09	
v/s Ratio Perm						0.08
v/c Ratio	0.83	0.40	0.81		0.44	0.39
Uniform Delay, d1	16.1	6.2	20.2		17.6	17.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	10.6	0.1	7.9		0.9	0.8
Delay (s)	26.7	6.3	28.2		18.6	18.3
Level of Service	C	A	C		B	B
Approach Delay (s)		13.8	28.2		18.5	
Approach LOS		B	C		B	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	50.8	Sum of lost time (s)	15.6
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	250	375	674	834	1162	104
Future Volume (vph)	250	375	674	834	1162	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	0.97	0.95	0.95	1.00
Frt	0.97	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.96	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1732	1504	3433	3539	3539	1583
Flt Permitted	0.96	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1732	1504	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	408	733	907	1263	113
RTOR Reduction (vph)	12	256	0	0	0	68
Lane Group Flow (vph)	342	70	733	907	1263	45
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	19.0	19.0	20.3	60.0	35.2	35.2
Effective Green, g (s)	19.0	19.0	20.3	60.0	35.2	35.2
Actuated g/C Ratio	0.22	0.22	0.23	0.68	0.40	0.40
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	373	324	791	2412	1415	633
v/s Ratio Prot	c0.20		c0.21	0.26	c0.36	
v/s Ratio Perm		0.05				0.03
v/c Ratio	0.92	0.22	0.93	0.38	0.89	0.07
Uniform Delay, d1	33.7	28.4	33.1	6.0	24.6	16.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.7	0.3	16.7	0.1	7.5	0.0
Delay (s)	60.5	28.7	49.8	6.1	32.2	16.4
Level of Service	E	C	D	A	C	B
Approach Delay (s)	45.2			25.6	30.9	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	88.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	363	398	103	675	0	340	0	255	0	0	0
Future Volume (veh/h)	0	363	398	103	675	0	340	0	255	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	395	433	112	734	0	370	0	277	0	0	0
Adj No. of Lanes	1	2	1	1	2	0	2	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1211	542	152	1886	0	885	0	407	0	4	0
Arrive On Green	0.00	0.34	0.34	0.09	0.53	0.00	0.26	0.00	0.26	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	3442	0	1583	0	1863	0
Grp Volume(v), veh/h	0	395	433	112	734	0	370	0	277	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1721	0	1583	0	1863	0
Q Serve(g_s), s	0.0	3.5	10.6	2.6	5.2	0.0	3.8	0.0	6.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.5	10.6	2.6	5.2	0.0	3.8	0.0	6.8	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	4	1211	542	152	1886	0	885	0	407	0	4	0
V/C Ratio(X)	0.00	0.33	0.80	0.74	0.39	0.00	0.42	0.00	0.68	0.00	0.00	0.00
Avail Cap(c_a), veh/h	207	1485	664	323	1886	0	1460	0	672	0	781	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.4	12.8	19.1	5.9	0.0	13.3	0.0	14.3	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	5.6	6.7	0.1	0.0	0.3	0.0	2.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.7	5.4	1.6	2.6	0.0	1.8	0.0	3.2	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.6	18.4	25.8	6.0	0.0	13.6	0.0	16.3	0.0	0.0	0.0
LnGrp LOS		B	B	C	A		B		B			
Approach Vol, veh/h		828			846			647			0	
Approach Delay, s/veh		14.7			8.7			14.8			0.0	
Approach LOS		B			A			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		15.5	8.2	19.2		0.0	0.0	27.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.2	7.8	18.0		18.0	5.0	20.8
Max Q Clear Time (g_c+I1), s		8.8	4.6	12.6		0.0	0.0	7.2
Green Ext Time (p_c), s		2.3	0.1	2.1		0.0	0.0	4.3

Intersection Summary		
HCM 2010 Ctrl Delay		12.5
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	146	83	136	306	445	40	1350	572	426	750	10
Future Volume (veh/h)	49	146	83	136	306	445	40	1350	572	426	750	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1597	1597	1597	1597	1597	1900
Adj Flow Rate, veh/h	53	159	0	148	333	0	43	1467	0	463	815	0
Adj No. of Lanes	1	2	0	2	2	0	1	2	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	19	19	19	19	19	19
Cap, veh/h	68	349	0	205	424	0	52	1612	802	502	2024	0
Arrive On Green	0.04	0.10	0.00	0.06	0.12	0.00	0.03	0.53	0.00	0.17	0.67	0.00
Sat Flow, veh/h	1774	3632	0	3442	3632	0	1521	3034	1357	2950	3113	0
Grp Volume(v), veh/h	53	159	0	148	333	0	43	1467	0	463	815	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1721	1770	0	1521	1517	1357	1475	1517	0
Q Serve(g_s), s	3.8	5.4	0.0	5.4	11.7	0.0	3.6	56.3	0.0	19.8	15.7	0.0
Cycle Q Clear(g_c), s	3.8	5.4	0.0	5.4	11.7	0.0	3.6	56.3	0.0	19.8	15.7	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	68	349	0	205	424	0	52	1612	802	502	2024	0
V/C Ratio(X)	0.78	0.46	0.00	0.72	0.79	0.00	0.82	0.91	0.00	0.92	0.40	0.00
Avail Cap(c_a), veh/h	71	511	0	416	798	0	126	1801	886	504	2068	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	61.1	54.5	0.0	59.2	54.8	0.0	61.5	27.3	0.0	52.3	9.7	0.0
Incr Delay (d2), s/veh	40.4	0.9	0.0	4.8	3.3	0.0	26.0	6.9	0.0	22.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.7	0.0	2.7	5.9	0.0	1.9	25.0	0.0	9.7	6.6	0.0
LnGrp Delay(d),s/veh	101.5	55.5	0.0	64.0	58.1	0.0	87.5	34.1	0.0	74.9	9.8	0.0
LnGrp LOS	F	E		E	E		F	C		E	A	
Approach Vol, veh/h		212			481			1510			1278	
Approach Delay, s/veh		67.0			59.9			35.7			33.4	
Approach LOS		E			E			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.3	72.6	12.1	17.1	8.9	90.0	9.4	19.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	21.8	76.1	15.5	18.5	10.6	87.4	5.1	28.9
Max Q Clear Time (g_c+I1), s	21.8	58.3	7.4	7.4	5.6	17.7	5.8	13.7
Green Ext Time (p_c), s	0.0	9.8	0.2	0.5	0.0	6.3	0.0	1.6

Intersection Summary		
HCM 2010 Ctrl Delay	40.1	
HCM 2010 LOS	D	

Intersection	
Intersection Delay, s/veh	17.4
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	425	203	35	150	216
Future Vol, veh/h	106	425	203	35	150	216
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	462	221	38	163	235
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	20.8	15.1	13.9
HCM LOS	C	C	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	85%	0%	0%	0%	100%
Vol Right, %	15%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	238	106	425	150	216
LT Vol	0	106	0	150	0
Through Vol	203	0	0	0	216
RT Vol	35	0	425	0	0
Lane Flow Rate	259	115	462	163	235
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.466	0.223	0.738	0.324	0.433
Departure Headway (Hd)	6.484	6.969	5.752	7.152	6.642
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	554	514	628	501	540
Service Time	4.549	4.729	3.512	4.92	4.41
HCM Lane V/C Ratio	0.468	0.224	0.736	0.325	0.435
HCM Control Delay	15.1	11.7	23.1	13.3	14.4
HCM Lane LOS	C	B	C	B	B
HCM 95th-tile Q	2.5	0.8	6.4	1.4	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	106	98	30	74	122	63	1217	13	79	600	0
Future Volume (veh/h)	0	106	98	30	74	122	63	1217	13	79	600	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1583	1583	1900	1583	1583	1900
Adj Flow Rate, veh/h	0	115	107	33	80	133	68	1323	14	86	652	0
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	0	194	181	97	122	169	469	1879	20	244	1854	0
Arrive On Green	0.00	0.22	0.22	0.22	0.22	0.22	0.62	0.62	0.62	0.62	0.62	0.00
Sat Flow, veh/h	0	889	827	99	557	773	660	3050	32	346	3088	0
Grp Volume(v), veh/h	0	0	222	246	0	0	68	652	685	86	652	0
Grp Sat Flow(s),veh/h/ln	0	0	1717	1430	0	0	660	1504	1578	346	1504	0
Q Serve(g_s), s	0.0	0.0	6.3	2.9	0.0	0.0	3.1	16.0	16.0	12.2	5.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	6.3	9.2	0.0	0.0	8.8	16.0	16.0	28.2	5.8	0.0
Prop In Lane	0.00		0.48	0.13		0.54	1.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	375	387	0	0	469	927	972	244	1854	0
V/C Ratio(X)	0.00	0.00	0.59	0.64	0.00	0.00	0.14	0.70	0.70	0.35	0.35	0.00
Avail Cap(c_a), veh/h	0	0	569	566	0	0	524	1052	1103	273	2103	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	19.1	19.9	0.0	0.0	7.3	7.1	7.1	16.6	5.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.5	1.7	0.0	0.0	0.1	1.8	1.8	0.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.1	3.7	0.0	0.0	0.6	7.0	7.3	1.2	2.4	0.0
LnGrp Delay(d),s/veh	0.0	0.0	20.6	21.7	0.0	0.0	7.4	8.9	8.8	17.5	5.2	0.0
LnGrp LOS			C	C			A	A	A	B	A	
Approach Vol, veh/h		222			246			1405			738	
Approach Delay, s/veh		20.6			21.7			8.8			6.7	
Approach LOS		C			C			A			A	

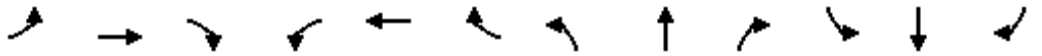
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		38.0		16.4		38.0		16.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		38.0		18.0		38.0		18.0
Max Q Clear Time (g_c+I1), s		18.0		8.3		30.2		11.2
Green Ext Time (p_c), s		9.3		0.7		3.3		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	61	81	397	513	108	80	1150	68	33	600	27
Future Volume (veh/h)	18	61	81	397	513	108	80	1150	68	33	600	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1583	1583	1900	1583	1583	1900
Adj Flow Rate, veh/h	20	66	0	432	558	0	87	1250	0	36	652	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	39	174	0	468	624	0	311	1469	0	129	1469	0
Arrive On Green	0.02	0.09	0.00	0.26	0.34	0.00	0.49	0.49	0.00	0.49	0.49	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	660	3088	0	376	3088	0
Grp Volume(v), veh/h	20	66	0	432	558	0	87	1250	0	36	652	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	660	1504	0	376	1504	0
Q Serve(g_s), s	1.0	2.9	0.0	20.7	24.8	0.0	8.7	31.8	0.0	8.1	12.4	0.0
Cycle Q Clear(g_c), s	1.0	2.9	0.0	20.7	24.8	0.0	21.0	31.8	0.0	39.9	12.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	39	174	0	468	624	0	311	1469	0	129	1469	0
V/C Ratio(X)	0.51	0.38	0.00	0.92	0.89	0.00	0.28	0.85	0.00	0.28	0.44	0.00
Avail Cap(c_a), veh/h	104	384	0	505	806	0	318	1501	0	133	1501	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.3	37.2	0.0	31.3	27.6	0.0	21.5	19.6	0.0	37.0	14.6	0.0
Incr Delay (d2), s/veh	10.0	1.4	0.0	21.9	10.3	0.0	0.5	4.8	0.0	1.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	0.0	12.9	14.5	0.0	1.6	14.0	0.0	0.9	5.1	0.0
LnGrp Delay(d),s/veh	52.3	38.6	0.0	53.2	37.9	0.0	22.0	24.4	0.0	38.2	14.8	0.0
LnGrp LOS	D	D		D	D		C	C		D	B	
Approach Vol, veh/h		86			990			1337			688	
Approach Delay, s/veh		41.8			44.6			24.2			16.0	
Approach LOS		D			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		47.2	27.6	12.7		47.2	6.4	33.8
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		43.6	24.9	18.0		43.6	5.1	37.8
Max Q Clear Time (g_c+I1), s		33.8	22.7	4.9		41.9	3.0	26.8
Green Ext Time (p_c), s		6.0	0.3	0.2		0.8	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	29.4
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	123	16	467	197	0	0	0	0	986	20	125
Future Volume (vph)	0	123	16	467	197	0	0	0	0	986	20	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1		4.0	4.0					5.1	5.1	
Lane Util. Factor		0.95		0.95	0.95					0.95	0.95	
Frpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.98		1.00	1.00					1.00	0.97	
Flt Protected		1.00		0.95	0.98					0.95	0.96	
Satd. Flow (prot)		3434		1429	1495					1429	1410	
Flt Permitted		1.00		0.95	0.98					0.95	0.96	
Satd. Flow (perm)		3434		1429	1495					1429	1410	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	134	17	508	214	0	0	0	0	1072	22	136
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	140	0	356	366	0	0	0	0	622	597	0
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	0%	1%	20%	20%	17%	0%	0%	0%	0%	20%	20%	17%
Turn Type		NA		Split	NA					Split	NA	
Protected Phases		4		3	3					6	6	
Permitted Phases												
Actuated Green, G (s)		12.0		24.8	24.8					39.0	39.0	
Effective Green, g (s)		12.0		24.8	24.8					39.0	39.0	
Actuated g/C Ratio		0.13		0.28	0.28					0.43	0.43	
Clearance Time (s)		5.1		4.0	4.0					5.1	5.1	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		457		393	411					619	611	
v/s Ratio Prot		c0.04		c0.25	0.24					c0.44	0.42	
v/s Ratio Perm												
v/c Ratio		0.31		0.91	0.89					1.00	0.98	
Uniform Delay, d1		35.2		31.5	31.3					25.5	25.1	
Progression Factor		1.00		0.05	0.05					1.00	1.00	
Incremental Delay, d2		0.4		15.3	13.0					37.4	31.1	
Delay (s)		35.6		17.0	14.7					62.9	56.1	
Level of Service		D		B	B					E	E	
Approach Delay (s)		35.6			15.8			0.0			59.5	
Approach LOS		D			B			A			E	

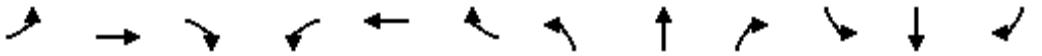
Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	1035	0	0	653	769	11	6	706	0	0	0
Future Volume (vph)	74	1035	0	0	653	769	11	6	706	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1	5.1		5.1	5.1			
Lane Util. Factor		0.95			0.95	1.00		1.00	0.88			
Frt		1.00			1.00	0.85		1.00	0.85			
Flt Protected		1.00			1.00	1.00		0.97	1.00			
Satd. Flow (prot)		3130			3008	1468		1842	2450			
Flt Permitted		1.00			1.00	1.00		0.97	1.00			
Satd. Flow (perm)		3130			3008	1468		1842	2450			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	1125	0	0	710	836	12	7	767	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	27	0	0	0
Lane Group Flow (vph)	0	1205	0	0	710	836	0	19	740	0	0	0
Heavy Vehicles (%)	0%	16%	0%	0%	20%	10%	0%	0%	16%	0%	0%	0%
Turn Type	Split	NA			NA	custom	Split	NA	custom			
Protected Phases	2!	2			6	2 4!	4	4!	6			
Permitted Phases						6			4			
Actuated Green, G (s)		37.4			25.3	79.8		12.0	37.3			
Effective Green, g (s)		37.4			25.3	79.8		12.0	37.3			
Actuated g/C Ratio		0.42			0.28	0.89		0.13	0.41			
Clearance Time (s)		5.1			5.1			5.1	5.1			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		1300			845	1468		245	1154			
v/s Ratio Prot		c0.38			c0.24	c0.34		0.01	0.18			
v/s Ratio Perm						0.22			0.12			
v/c Ratio		0.93			0.84	0.57		0.08	0.64			
Uniform Delay, d1		25.0			30.4	1.2		34.2	21.0			
Progression Factor		0.51			0.54	1.00		1.00	1.00			
Incremental Delay, d2		5.7			5.6	0.4		0.1	1.2			
Delay (s)		18.5			22.0	1.5		34.3	22.2			
Level of Service		B			C	A		C	C			
Approach Delay (s)		18.5			10.9			22.5			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	1119	267	113	862	339	278	8	117	303	0	282
Future Volume (vph)	355	1119	267	113	862	339	278	8	117	303	0	282
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.95	0.91	0.95
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (prot)	3213	3008	1583	1770	3139	1547	3433	1863	1583	1649	1475	1421
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (perm)	3213	3008	1583	1770	3139	1547	3433	1863	1583	1649	1475	1421
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	386	1216	290	123	937	368	302	9	127	329	0	307
RTOR Reduction (vph)	0	0	169	0	0	239	0	0	108	0	196	116
Lane Group Flow (vph)	386	1216	121	123	937	129	302	9	19	220	17	87
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	9%	20%	2%	2%	15%	3%	2%	2%	2%	4%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	14.3	36.3	36.3	11.5	31.5	31.5	13.7	13.7	13.7	7.0	7.0	21.3
Effective Green, g (s)	14.3	36.3	36.3	11.5	31.5	31.5	13.7	13.7	13.7	7.0	7.0	21.3
Actuated g/C Ratio	0.16	0.40	0.40	0.13	0.35	0.35	0.15	0.15	0.15	0.08	0.08	0.24
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	510	1213	638	226	1098	541	522	283	240	128	114	438
v/s Ratio Prot	0.12	c0.40		0.07	c0.30		c0.09	0.00		c0.13	0.01	0.03
v/s Ratio Perm			0.08			0.08			0.01			0.03
v/c Ratio	0.76	1.00	0.19	0.54	0.85	0.24	0.58	0.03	0.08	1.72	0.15	0.20
Uniform Delay, d1	36.2	26.9	17.3	36.8	27.1	20.7	35.5	32.5	32.7	41.5	38.7	27.5
Progression Factor	0.88	0.82	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	19.7	0.4	2.7	8.5	1.0	1.6	0.0	0.1	354.1	0.6	0.2
Delay (s)	35.5	41.8	13.7	39.5	35.6	21.8	37.0	32.5	32.9	395.6	39.3	27.7
Level of Service	D	D	B	D	D	C	D	C	C	F	D	C
Approach Delay (s)		36.2			32.3			35.7			158.9	
Approach LOS		D			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	52.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	1150	45	11	1065	98	0	19	17	210	11	353
Future Volume (veh/h)	199	1150	45	11	1065	98	0	19	17	210	11	353
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1749	1900	1900	1827	1583	1900	1900	1900	1583	1591	1900
Adj Flow Rate, veh/h	216	1250	49	12	1158	107	0	21	18	228	12	384
Adj No. of Lanes	2	2	0	2	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	280	1563	61	61	1394	534	87	189	161	258	13	429
Arrive On Green	0.10	0.48	0.48	0.02	0.40	0.40	0.00	0.10	0.10	0.17	0.33	0.33
Sat Flow, veh/h	2925	3258	128	3510	3471	1329	1004	1900	1615	1508	41	1318
Grp Volume(v), veh/h	216	637	662	12	1158	107	0	21	18	228	0	396
Grp Sat Flow(s),veh/h/ln	1463	1661	1724	1755	1736	1329	1004	1900	1615	1508	0	1359
Q Serve(g_s), s	6.0	26.8	26.9	0.3	24.8	4.3	0.0	0.8	0.8	12.2	0.0	23.0
Cycle Q Clear(g_c), s	6.0	26.8	26.9	0.3	24.8	4.3	0.0	0.8	0.8	12.2	0.0	23.0
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		0.97
Lane Grp Cap(c), veh/h	280	797	827	61	1394	534	87	189	161	258	0	442
V/C Ratio(X)	0.77	0.80	0.80	0.20	0.83	0.20	0.00	0.11	0.11	0.88	0.00	0.90
Avail Cap(c_a), veh/h	282	797	827	254	1471	563	205	413	351	268	0	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.6	18.2	18.2	40.1	22.3	16.1	0.0	34.0	34.0	33.5	0.0	26.6
Incr Delay (d2), s/veh	12.3	6.6	6.4	1.5	4.6	0.4	0.0	0.3	0.3	26.8	0.0	12.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	13.7	14.2	0.1	12.6	1.7	0.0	0.5	0.4	7.0	0.0	10.1
LnGrp Delay(d),s/veh	48.9	24.7	24.6	41.7	26.9	16.5	0.0	34.2	34.3	60.3	0.0	39.1
LnGrp LOS	D	C	C	D	C	B		C	C	E		D
Approach Vol, veh/h		1515			1277			39			624	
Approach Delay, s/veh		28.1			26.1			34.2			46.8	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	45.5		31.4	12.4	39.0	18.7	12.8
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7	4.5	4.5
Max Green Setting (Gmax), s	6.0	37.1		37.2	8.0	35.1	14.7	18.0
Max Q Clear Time (g_c+I1), s	2.3	28.9		25.0	8.0	26.8	14.2	2.8
Green Ext Time (p_c), s	0.0	6.6		2.0	0.0	6.5	0.0	0.1

Intersection Summary		
HCM 2010 Ctrl Delay	30.8	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	1050	142	17	732	88	229	107	86	376	314	289
Future Volume (veh/h)	98	1050	142	17	732	88	229	107	86	376	314	289
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1835	1900	1900	1792	1863	1900	1810	1900	1827	1900	1863
Adj Flow Rate, veh/h	107	1141	154	18	796	96	249	116	93	409	341	314
Adj No. of Lanes	2	2	0	1	2	1	2	1	0	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	4	0	0	6	2	0	5	5	4	0	2
Cap, veh/h	217	1296	174	44	1293	601	330	179	144	481	458	381
Arrive On Green	0.07	0.42	0.42	0.02	0.38	0.38	0.09	0.19	0.19	0.14	0.24	0.24
Sat Flow, veh/h	3312	3081	415	1810	3406	1583	3510	931	747	3375	1900	1583
Grp Volume(v), veh/h	107	644	651	18	796	96	249	0	209	409	341	314
Grp Sat Flow(s),veh/h/ln	1656	1744	1752	1810	1703	1583	1755	0	1678	1688	1900	1583
Q Serve(g_s), s	2.6	28.5	28.8	0.8	15.9	3.4	5.8	0.0	9.7	9.9	14.0	15.8
Cycle Q Clear(g_c), s	2.6	28.5	28.8	0.8	15.9	3.4	5.8	0.0	9.7	9.9	14.0	15.8
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	217	733	737	44	1293	601	330	0	323	481	458	381
V/C Ratio(X)	0.49	0.88	0.88	0.41	0.62	0.16	0.76	0.00	0.65	0.85	0.75	0.82
Avail Cap(c_a), veh/h	280	753	757	129	1426	663	409	0	539	490	665	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	22.4	22.4	40.4	21.1	17.2	37.1	0.0	31.3	35.2	29.5	30.2
Incr Delay (d2), s/veh	0.6	12.3	12.6	12.3	1.2	0.3	4.5	0.0	2.2	12.5	2.7	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	16.1	16.3	0.6	7.6	1.5	3.0	0.0	4.7	5.4	7.6	7.6
LnGrp Delay(d),s/veh	38.6	34.7	35.1	52.7	22.3	17.5	41.6	0.0	33.5	47.7	32.2	36.7
LnGrp LOS	D	C	D	D	C	B	D		C	D	C	D
Approach Vol, veh/h		1402			910			458			1064	
Approach Delay, s/veh		35.2			22.4			37.9			39.5	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	40.8	12.1	24.8	9.7	37.4	16.2	20.8
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	36.3	* 9.8	29.4	* 7.1	35.2	* 12	27.0
Max Q Clear Time (g_c+I1), s	2.8	30.8	7.8	17.8	4.6	17.9	11.9	11.7
Green Ext Time (p_c), s	0.0	4.6	0.1	2.5	0.0	8.8	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	33.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	1250	39	89	713	94	20	67	45	51	38	47
Future Volume (veh/h)	101	1250	39	89	713	94	20	67	45	51	38	47
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	0.99		0.97	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1843	1900	1845	1814	1900	1863	1885	1900	1881	1900	1900
Adj Flow Rate, veh/h	110	1359	42	97	775	102	22	73	49	55	41	51
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	6	3	5	3	2	0	2	1	0	0
Cap, veh/h	404	1747	54	128	1082	142	226	150	101	204	111	138
Arrive On Green	0.22	0.50	0.50	0.07	0.35	0.35	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1810	3465	107	1757	3061	403	1287	1037	696	1266	766	952
Grp Volume(v), veh/h	110	686	715	97	436	441	22	0	122	55	0	92
Grp Sat Flow(s),veh/h/ln	1810	1751	1821	1757	1723	1741	1287	0	1734	1266	0	1718
Q Serve(g_s), s	3.5	22.3	22.4	3.8	15.3	15.3	1.1	0.0	4.5	2.9	0.0	3.4
Cycle Q Clear(g_c), s	3.5	22.3	22.4	3.8	15.3	15.3	4.5	0.0	4.5	7.5	0.0	3.4
Prop In Lane	1.00		0.06	1.00		0.23	1.00		0.40	1.00		0.55
Lane Grp Cap(c), veh/h	404	883	918	128	609	615	226	0	250	204	0	248
V/C Ratio(X)	0.27	0.78	0.78	0.76	0.72	0.72	0.10	0.00	0.49	0.27	0.00	0.37
Avail Cap(c_a), veh/h	404	1023	1064	188	894	903	447	0	548	421	0	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.5	14.1	14.2	31.8	19.6	19.6	29.1	0.0	27.5	31.0	0.0	27.1
Incr Delay (d2), s/veh	0.4	3.7	3.6	9.8	2.3	2.2	0.2	0.0	1.5	0.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	11.6	12.1	2.2	7.7	7.7	0.4	0.0	2.3	1.1	0.0	1.7
LnGrp Delay(d),s/veh	22.8	17.9	17.8	41.6	21.8	21.8	29.3	0.0	29.0	31.7	0.0	28.0
LnGrp LOS	C	B	B	D	C	C	C		C	C		C
Approach Vol, veh/h		1511			974			144			147	
Approach Delay, s/veh		18.2			23.8			29.1			29.4	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.6	41.8		16.6	22.1	31.2		16.6
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	7.5	40.9		22.1	12.1	36.3		22.1
Max Q Clear Time (g_c+I1), s	5.8	24.4		9.5	5.5	17.3		6.5
Green Ext Time (p_c), s	0.0	10.8		0.5	0.1	7.4		0.6

Intersection Summary		
HCM 2010 Ctrl Delay	21.3	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	850	52	302	550	149	100	127	100	172	414	65
Future Volume (veh/h)	152	850	52	302	550	149	100	127	100	172	414	65
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1811	1900	1792	1827	1845	1900	1827	1827	1900	1863	1776
Adj Flow Rate, veh/h	165	924	57	328	598	162	109	138	109	187	450	71
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	20	6	4	3	0	4	4	0	2	7
Cap, veh/h	198	1017	63	328	1326	591	169	596	506	381	608	484
Arrive On Green	0.11	0.31	0.31	0.19	0.38	0.38	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1810	3288	203	1707	3471	1547	895	1827	1551	1150	1863	1483
Grp Volume(v), veh/h	165	483	498	328	598	162	109	138	109	187	450	71
Grp Sat Flow(s),veh/h/ln	1810	1720	1771	1707	1736	1547	895	1827	1551	1150	1863	1483
Q Serve(g_s), s	9.3	28.1	28.1	20.0	13.4	7.5	11.6	5.7	5.3	14.8	22.4	3.5
Cycle Q Clear(g_c), s	9.3	28.1	28.1	20.0	13.4	7.5	34.0	5.7	5.3	20.5	22.4	3.5
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	198	532	548	328	1326	591	169	596	506	381	608	484
V/C Ratio(X)	0.83	0.91	0.91	1.00	0.45	0.27	0.65	0.23	0.22	0.49	0.74	0.15
Avail Cap(c_a), veh/h	295	545	561	328	1326	591	169	596	506	381	608	484
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	34.6	34.6	42.1	24.0	22.2	46.8	25.6	25.5	33.1	31.2	24.9
Incr Delay (d2), s/veh	12.1	19.9	19.5	50.1	0.5	0.5	11.2	0.4	0.5	2.1	5.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	16.2	16.6	13.9	6.5	3.3	3.6	2.9	2.3	4.9	12.5	1.5
LnGrp Delay(d),s/veh	57.6	54.5	54.1	92.2	24.6	22.8	58.0	26.0	25.9	35.2	37.0	25.1
LnGrp LOS	E	D	D	F	C	C	E	C	C	D	D	C
Approach Vol, veh/h		1146			1088			356			708	
Approach Delay, s/veh		54.8			44.7			35.8			35.3	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	26.0	38.2		40.0	18.4	45.8		40.0
Change Period (Y+Rc), s	6.0	6.0		6.0	7.0	6.0		6.0
Max Green Setting (Gmax), s	20.0	33.0		34.0	17.0	35.0		34.0
Max Q Clear Time (g_c+I1), s	22.0	30.1		24.4	11.3	15.4		36.0
Green Ext Time (p_c), s	0.0	2.1		4.5	0.2	7.5		0.0

Intersection Summary		
HCM 2010 Ctrl Delay	45.2	
HCM 2010 LOS	D	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	650	76	29	750	19	39	38	6	2	41	103
Future Volume (veh/h)	190	650	76	29	750	19	39	38	6	2	41	103
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.94	0.97		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1819	1900	1900	1759	1900	1900	1882	1900	1900	1874	1900
Adj Flow Rate, veh/h	207	707	83	32	815	21	42	41	7	2	45	112
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	5	0	0	8	0	2	0	0	0	0	2
Cap, veh/h	415	2220	260	549	1254	1148	165	138	19	57	67	163
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	654	3115	365	697	1759	1612	595	984	133	7	478	1155
Grp Volume(v), veh/h	207	392	398	32	815	21	90	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	654	1728	1753	697	1759	1612	1711	0	0	1640	0	0
Q Serve(g_s), s	16.0	5.5	5.5	1.2	16.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	32.1	5.5	5.5	6.6	16.1	0.2	2.9	0.0	0.0	6.0	0.0	0.0
Prop In Lane	1.00		0.21	1.00		1.00	0.47		0.08	0.01		0.70
Lane Grp Cap(c), veh/h	415	1231	1249	549	1254	1148	322	0	0	287	0	0
V/C Ratio(X)	0.50	0.32	0.32	0.06	0.65	0.02	0.28	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	520	1507	1529	660	1535	1406	663	0	0	663	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.6	3.5	3.5	4.7	5.0	2.7	25.1	0.0	0.0	26.5	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.3	0.3	0.1	1.3	0.0	0.5	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	2.6	2.7	0.2	7.9	0.1	1.5	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	15.6	3.8	3.8	4.8	6.3	2.7	25.6	0.0	0.0	28.1	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C			C		
Approach Vol, veh/h		997			868			90			159	
Approach Delay, s/veh		6.2			6.2			25.6			28.1	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		50.8		14.0		50.8		14.0
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		56.5		24.0		56.5		24.0
Max Q Clear Time (g_c+I1), s		34.1		4.9		18.1		8.0
Green Ext Time (p_c), s		12.0		0.4		15.3		0.8

Intersection Summary		
HCM 2010 Ctrl Delay		8.7
HCM 2010 LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	140	210	15	55	6	224	1010	97	21	687	450
Future Volume (veh/h)	204	140	210	15	55	6	224	1010	97	21	687	450
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1727	1870	1900	1667	1745	1900	1827	1784	1900	1900	1708	1900
Adj Flow Rate, veh/h	222	152	228	16	60	7	243	1098	105	23	747	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	4	0	14	9	8	4	6	12	0	12	10
Cap, veh/h	260	150	226	35	123	14	263	1576	151	44	1224	0
Arrive On Green	0.16	0.22	0.22	0.02	0.08	0.08	0.15	0.50	0.50	0.02	0.38	0.00
Sat Flow, veh/h	1645	676	1015	1587	1534	179	1740	3127	299	1810	3332	0
Grp Volume(v), veh/h	222	0	380	16	0	67	243	595	608	23	747	0
Grp Sat Flow(s),veh/h/ln	1645	0	1691	1587	0	1712	1740	1694	1731	1810	1623	0
Q Serve(g_s), s	11.3	0.0	19.1	0.9	0.0	3.2	11.8	23.0	23.1	1.1	16.0	0.0
Cycle Q Clear(g_c), s	11.3	0.0	19.1	0.9	0.0	3.2	11.8	23.0	23.1	1.1	16.0	0.0
Prop In Lane	1.00		0.60	1.00		0.10	1.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	260	0	376	35	0	138	263	854	872	44	1224	0
V/C Ratio(X)	0.85	0.00	1.01	0.45	0.00	0.49	0.92	0.70	0.70	0.52	0.61	0.00
Avail Cap(c_a), veh/h	366	0	376	111	0	138	263	854	872	105	1224	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.2	0.0	33.4	41.5	0.0	37.8	36.0	16.3	16.3	41.4	21.6	0.0
Incr Delay (d2), s/veh	12.9	0.0	49.1	8.9	0.0	2.6	35.5	4.7	4.6	9.0	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	13.9	0.5	0.0	1.6	8.3	11.8	12.1	0.6	7.5	0.0
LnGrp Delay(d),s/veh	48.1	0.0	82.6	50.4	0.0	40.4	71.5	21.0	20.9	50.4	23.9	0.0
LnGrp LOS	D		F	D		D	E	C	C	D	C	
Approach Vol, veh/h		602			83			1446			770	
Approach Delay, s/veh		69.9			42.3			29.4			24.7	
Approach LOS		E			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	49.1	6.5	24.2	17.0	38.2	18.7	12.0
Change Period (Y+Rc), s	4.0	5.8	4.6	5.1	4.0	5.8	5.1	* 5.1
Max Green Setting (Gmax), s	5.0	40.4	6.0	19.1	13.0	32.4	19.1	* 6
Max Q Clear Time (g_c+I1), s	13.1	25.1	2.9	21.1	13.8	18.0	13.3	5.2
Green Ext Time (p_c), s	0.0	6.6	0.0	0.0	0.0	4.1	0.3	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	36.9
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	27	18	61	69	10	87	1350	191	120	1150	28
Future Volume (veh/h)	4	27	18	61	69	10	87	1350	191	120	1150	28
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1667	1667	1667	1597	1597	1900
Adj Flow Rate, veh/h	4	29	20	66	75	11	95	1467	208	130	1250	30
Adj No. of Lanes	1	1	0	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	11	71	49	279	233	34	286	1562	814	157	1593	38
Arrive On Green	0.01	0.07	0.07	0.08	0.15	0.15	0.07	0.49	0.49	0.10	0.53	0.53
Sat Flow, veh/h	1774	1028	709	3442	1589	233	1587	3167	1417	1521	3028	73
Grp Volume(v), veh/h	4	0	49	66	0	86	95	1467	208	130	626	654
Grp Sat Flow(s),veh/h/ln	1774	0	1738	1721	0	1822	1587	1583	1417	1521	1517	1584
Q Serve(g_s), s	0.2	0.0	2.0	1.3	0.0	3.1	2.0	31.7	2.0	6.1	24.1	24.1
Cycle Q Clear(g_c), s	0.2	0.0	2.0	1.3	0.0	3.1	2.0	31.7	2.0	6.1	24.1	24.1
Prop In Lane	1.00		0.41	1.00		0.13	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	11	0	120	279	0	267	286	1562	814	157	798	833
V/C Ratio(X)	0.35	0.00	0.41	0.24	0.00	0.32	0.33	0.94	0.26	0.83	0.78	0.78
Avail Cap(c_a), veh/h	147	0	206	1379	0	800	305	2541	1252	231	1322	1381
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	0.0	32.3	31.2	0.0	27.7	11.7	17.3	1.8	31.8	13.8	13.8
Incr Delay (d2), s/veh	6.7	0.0	0.8	0.2	0.0	0.3	0.3	3.5	0.1	9.5	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.0	0.6	0.0	1.5	0.9	14.4	1.2	2.9	10.1	10.5
LnGrp Delay(d),s/veh	42.5	0.0	33.1	31.3	0.0	27.9	11.9	20.8	1.8	41.3	14.5	14.5
LnGrp LOS	D		C	C		C	B	C	A	D	B	B
Approach Vol, veh/h		53			152			1770			1410	
Approach Delay, s/veh		33.8			29.4			18.1			17.0	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	9.2	11.5	40.6	4.5	15.8	9.1	43.0
Change Period (Y+Rc), s	* 5.2	* 4.2	4.0	4.9	4.0	* 5.2	4.0	4.9
Max Green Setting (Gmax), s	* 23	* 8.6	11.0	58.1	6.0	* 32	6.0	63.1
Max Q Clear Time (g_c+I1), s	13.3	4.0	8.1	33.7	2.2	5.1	4.0	26.1
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	0.1	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	270	43	207	455	213	103	1250	6	116	936	261
Future Volume (veh/h)	51	270	43	207	455	213	103	1250	6	116	936	261
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1785	1900	1845	1743	1900	1827	1881	1583	1743	1869	1900
Adj Flow Rate, veh/h	55	293	47	225	495	232	112	1359	7	126	1017	284
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	7	3	3	9	0	4	1	20	9	1	4
Cap, veh/h	181	354	57	332	539	486	194	1409	530	189	1090	302
Arrive On Green	0.04	0.24	0.24	0.11	0.31	0.31	0.06	0.39	0.39	0.06	0.40	0.40
Sat Flow, veh/h	1810	1498	240	1757	1743	1571	1740	3574	1344	1660	2732	758
Grp Volume(v), veh/h	55	0	340	225	495	232	112	1359	7	126	659	642
Grp Sat Flow(s),veh/h/ln	1810	0	1738	1757	1743	1571	1740	1787	1344	1660	1776	1715
Q Serve(g_s), s	2.0	0.0	16.7	8.3	24.7	10.8	3.4	33.5	0.3	4.0	32.0	32.5
Cycle Q Clear(g_c), s	2.0	0.0	16.7	8.3	24.7	10.8	3.4	33.5	0.3	4.0	32.0	32.5
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	181	0	411	332	539	486	194	1409	530	189	708	684
V/C Ratio(X)	0.30	0.00	0.83	0.68	0.92	0.48	0.58	0.96	0.01	0.67	0.93	0.94
Avail Cap(c_a), veh/h	216	0	538	492	791	713	250	1411	531	189	708	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	0.0	32.7	22.8	30.0	25.2	21.3	26.7	16.6	21.4	25.9	26.1
Incr Delay (d2), s/veh	0.3	0.0	6.3	0.9	9.3	0.3	1.0	16.1	0.0	6.9	18.6	20.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	8.7	4.1	13.2	4.7	1.7	19.6	0.1	2.2	19.2	19.3
LnGrp Delay(d),s/veh	26.6	0.0	39.0	23.7	39.4	25.5	22.3	42.8	16.6	28.3	44.5	46.6
LnGrp LOS	C		D	C	D	C	C	D	B	C	D	D
Approach Vol, veh/h		395			952			1478			1427	
Approach Delay, s/veh		37.2			32.3			41.1			44.0	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	32.5	9.5	40.4	14.3	25.9	9.1	40.9
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.5	40.9	5.5	35.6	18.5	27.9	8.0	33.1
Max Q Clear Time (g_c+I1), s	4.0	26.7	6.0	35.5	10.3	18.7	5.4	34.5
Green Ext Time (p_c), s	0.0	0.4	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	39.8
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	81	173	18	249	85	123	1392	1	198	993	37
Future Volume (veh/h)	6	81	173	18	249	85	123	1392	1	198	993	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1667	1667	1667	1597	1597	1900
Adj Flow Rate, veh/h	7	88	188	20	271	92	134	1513	1	215	1079	40
Adj No. of Lanes	1	2	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	118	618	277	252	325	277	162	1601	716	232	1659	62
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.10	0.51	0.51	0.15	0.56	0.56
Sat Flow, veh/h	1015	3539	1583	1099	1863	1583	1587	3167	1417	1521	2983	111
Grp Volume(v), veh/h	7	88	188	20	271	92	134	1513	1	215	549	570
Grp Sat Flow(s),veh/h/ln	1015	1770	1583	1099	1863	1583	1587	1583	1417	1521	1517	1577
Q Serve(g_s), s	0.6	1.8	9.6	1.4	12.1	4.4	7.1	39.1	0.0	12.0	21.7	21.7
Cycle Q Clear(g_c), s	12.7	1.8	9.6	3.2	12.1	4.4	7.1	39.1	0.0	12.0	21.7	21.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	118	618	277	252	325	277	162	1601	716	232	844	877
V/C Ratio(X)	0.06	0.14	0.68	0.08	0.83	0.33	0.83	0.94	0.00	0.92	0.65	0.65
Avail Cap(c_a), veh/h	152	738	330	289	388	330	206	1628	728	232	844	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	30.2	33.4	31.5	34.4	31.2	38.0	20.2	10.6	36.1	13.3	13.3
Incr Delay (d2), s/veh	0.2	0.1	4.4	0.1	12.4	0.7	19.0	11.7	0.0	39.1	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.9	4.5	0.4	7.4	2.0	4.0	19.4	0.0	7.6	9.4	9.8
LnGrp Delay(d),s/veh	40.8	30.3	37.7	31.6	46.8	31.9	57.0	31.9	10.6	75.1	15.1	15.0
LnGrp LOS	D	C	D	C	D	C	E	C	B	E	B	B
Approach Vol, veh/h		283			383			1648			1334	
Approach Delay, s/veh		35.5			42.5			33.9			24.7	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.2	49.5		19.7	12.8	53.8		19.7
Change Period (Y+Rc), s	4.0	5.8		4.6	4.0	5.8		4.6
Max Green Setting (Gmax), s	13.2	44.4		18.0	11.2	46.4		18.0
Max Q Clear Time (g_c+I1), s	14.0	41.1		14.7	9.1	23.7		14.1
Green Ext Time (p_c), s	0.0	2.6		0.4	0.1	7.3		0.7

Intersection Summary		
HCM 2010 Ctrl Delay	31.6	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	200	108	221	240	8	187	11	190	0	3	1
Future Volume (veh/h)	2	200	108	221	240	8	187	11	190	0	3	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1583	1583	1733	1900	1583	1900	1583	1900	1652	1900
Adj Flow Rate, veh/h	2	217	117	240	261	9	203	12	207	0	3	1
Adj No. of Lanes	1	2	1	1	1	0	2	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	20	20	10	0	20	0	20	0	20	0
Cap, veh/h	5	661	511	297	627	22	589	383	271	0	8	3
Arrive On Green	0.00	0.18	0.18	0.20	0.38	0.38	0.20	0.20	0.20	0.00	0.01	0.01
Sat Flow, veh/h	1810	3610	1311	1508	1664	57	2925	1900	1344	0	1186	395
Grp Volume(v), veh/h	2	217	117	240	0	270	203	12	207	0	0	4
Grp Sat Flow(s),veh/h/ln	1810	1805	1311	1508	0	1721	1463	1900	1344	0	0	1581
Q Serve(g_s), s	0.0	2.3	2.6	6.6	0.0	5.1	2.6	0.2	6.4	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	2.3	2.6	6.6	0.0	5.1	2.6	0.2	6.4	0.0	0.0	0.1
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	0.00		0.25
Lane Grp Cap(c), veh/h	5	661	511	297	0	649	589	383	271	0	0	10
V/C Ratio(X)	0.40	0.33	0.23	0.81	0.00	0.42	0.34	0.03	0.76	0.00	0.00	0.39
Avail Cap(c_a), veh/h	207	661	511	570	0	768	770	500	354	0	0	217
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	15.5	9.1	16.8	0.0	10.0	15.0	14.0	16.5	0.0	0.0	21.6
Incr Delay (d2), s/veh	45.2	0.3	0.2	5.2	0.0	0.4	0.3	0.0	7.1	0.0	0.0	22.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.1	1.3	3.2	0.0	2.5	1.1	0.1	2.9	0.0	0.0	0.1
LnGrp Delay(d),s/veh	66.9	15.8	9.3	22.0	0.0	10.5	15.3	14.0	23.5	0.0	0.0	43.8
LnGrp LOS	E	B	A	C		B	B	B	C			D
Approach Vol, veh/h		336			510			422			4	
Approach Delay, s/veh		13.8			15.9			19.3			43.8	
Approach LOS		B			B			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		13.3	13.1	12.5		4.8	4.6	21.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		11.5	16.5	8.0		6.0	5.0	19.5
Max Q Clear Time (g_c+I1), s		8.4	8.6	4.6		2.1	2.0	7.1
Green Ext Time (p_c), s		0.5	0.4	0.6		0.0	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	331	0	49	230	68	2	880	57	55	569	132
Future Volume (veh/h)	212	331	0	49	230	68	2	880	57	55	569	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1583	1900	1667	1900	1863	1583	1743	1776	1900
Adj Flow Rate, veh/h	230	360	0	53	250	74	2	957	62	60	618	143
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	20	0	14	0	2	20	9	7	0
Cap, veh/h	281	863	386	74	486	191	5	1244	473	88	1355	648
Arrive On Green	0.16	0.24	0.00	0.05	0.13	0.13	0.00	0.35	0.35	0.05	0.40	0.40
Sat Flow, veh/h	1774	3539	1583	1508	3610	1417	1810	3539	1346	1660	3374	1615
Grp Volume(v), veh/h	230	360	0	53	250	74	2	957	62	60	618	143
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1508	1805	1417	1810	1770	1346	1660	1687	1615
Q Serve(g_s), s	7.5	5.1	0.0	2.1	3.8	2.8	0.1	14.3	1.9	2.1	8.0	3.5
Cycle Q Clear(g_c), s	7.5	5.1	0.0	2.1	3.8	2.8	0.1	14.3	1.9	2.1	8.0	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	281	863	386	74	486	191	5	1244	473	88	1355	648
V/C Ratio(X)	0.82	0.42	0.00	0.72	0.51	0.39	0.40	0.77	0.13	0.68	0.46	0.22
Avail Cap(c_a), veh/h	358	1447	647	178	1154	453	152	1548	589	140	1504	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	18.9	0.0	27.9	23.9	23.5	29.6	17.1	13.1	27.7	13.0	11.7
Incr Delay (d2), s/veh	11.2	0.3	0.0	12.1	0.8	1.3	45.6	1.9	0.1	9.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	2.5	0.0	1.1	2.0	1.2	0.1	7.2	0.7	1.2	3.7	1.6
LnGrp Delay(d),s/veh	35.4	19.2	0.0	40.0	24.8	24.8	75.2	19.0	13.2	36.6	13.3	11.8
LnGrp LOS	D	B		D	C	C	E	B	B	D	B	B
Approach Vol, veh/h		590			377			1021			821	
Approach Delay, s/veh		25.5			26.9			18.8			14.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	26.0	6.9	19.4	4.2	29.0	13.4	12.9
Change Period (Y+Rc), s	4.0	5.1	4.0	* 4.9	4.0	* 5.1	4.0	4.9
Max Green Setting (Gmax), s	5.0	26.0	7.0	* 24	5.0	* 27	12.0	19.0
Max Q Clear Time (g_c+I1), s	4.1	16.3	4.1	7.1	2.1	10.0	9.5	5.8
Green Ext Time (p_c), s	0.0	4.6	0.0	2.2	0.0	4.6	0.2	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	428	91	350	500	16	1	850	100	222	644	12
Future Volume (veh/h)	37	428	91	350	500	16	1	850	100	222	644	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1863	1863	1863	1597	1597	1597	1638	1638	1638
Adj Flow Rate, veh/h	40	465	99	380	543	17	1	924	109	241	700	13
Adj No. of Lanes	2	2	1	2	1	1	1	3	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	19	19	19	16	16	16
Cap, veh/h	148	783	350	483	603	676	2	1135	353	312	1127	504
Arrive On Green	0.04	0.23	0.23	0.14	0.32	0.32	0.00	0.26	0.26	0.10	0.36	0.36
Sat Flow, veh/h	3343	3438	1538	3442	1863	1583	1521	4359	1357	3026	3112	1392
Grp Volume(v), veh/h	40	465	99	380	543	17	1	924	109	241	700	13
Grp Sat Flow(s),veh/h/ln	1672	1719	1538	1721	1863	1583	1521	1453	1357	1513	1556	1392
Q Serve(g_s), s	0.9	9.6	4.2	8.5	22.2	0.5	0.1	15.9	5.1	6.2	14.8	0.5
Cycle Q Clear(g_c), s	0.9	9.6	4.2	8.5	22.2	0.5	0.1	15.9	5.1	6.2	14.8	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	148	783	350	483	603	676	2	1135	353	312	1127	504
V/C Ratio(X)	0.27	0.59	0.28	0.79	0.90	0.03	0.48	0.81	0.31	0.77	0.62	0.03
Avail Cap(c_a), veh/h	252	858	384	704	706	763	105	1280	398	342	1127	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	27.5	25.4	33.1	25.7	13.2	39.8	27.7	23.7	34.8	20.9	16.4
Incr Delay (d2), s/veh	1.0	0.9	0.4	3.7	13.2	0.0	114.8	3.8	0.5	9.6	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.7	1.8	4.3	13.5	0.2	0.1	6.7	2.0	3.0	6.5	0.2
LnGrp Delay(d),s/veh	37.8	28.4	25.8	36.8	38.9	13.2	154.6	31.4	24.2	44.5	22.0	16.4
LnGrp LOS	D	C	C	D	D	B	F	C	C	D	C	B
Approach Vol, veh/h		604			940			1034			954	
Approach Delay, s/veh		28.6			37.6			30.8			27.6	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	26.6	17.0	24.0	4.1	34.7	9.3	31.6
Change Period (Y+Rc), s	4.0	5.8	5.8	5.8	4.0	5.8	5.8	5.8
Max Green Setting (Gmax), s	8.0	23.4	16.3	19.9	5.5	26.9	6.0	30.2
Max Q Clear Time (g_c+I1), s	10.2	17.9	10.5	11.6	2.1	16.8	2.9	24.2
Green Ext Time (p_c), s	0.1	2.9	0.7	2.0	0.0	3.2	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	31.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	650	179	283	750	24	78	632	232	35	801	3
Future Volume (veh/h)	2	650	179	283	750	24	78	632	232	35	801	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1863	1863	1863	1810	1810	1810	1610	1610	1900
Adj Flow Rate, veh/h	2	707	195	308	815	26	85	687	252	38	871	3
Adj No. of Lanes	1	2	1	2	2	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	5	5	5	18	18	18
Cap, veh/h	368	734	328	798	821	367	98	1121	502	48	940	3
Arrive On Green	0.21	0.21	0.21	0.23	0.23	0.23	0.06	0.33	0.33	0.03	0.30	0.30
Sat Flow, veh/h	1723	3438	1538	3442	3539	1583	1723	3438	1538	1533	3127	11
Grp Volume(v), veh/h	2	707	195	308	815	26	85	687	252	38	426	448
Grp Sat Flow(s),veh/h/ln	1723	1719	1538	1721	1770	1583	1723	1719	1538	1533	1530	1608
Q Serve(g_s), s	0.1	22.1	12.4	8.2	25.0	1.4	5.3	18.3	14.3	2.7	29.3	29.3
Cycle Q Clear(g_c), s	0.1	22.1	12.4	8.2	25.0	1.4	5.3	18.3	14.3	2.7	29.3	29.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	368	734	328	798	821	367	98	1121	502	48	460	483
V/C Ratio(X)	0.01	0.96	0.59	0.39	0.99	0.07	0.86	0.61	0.50	0.79	0.93	0.93
Avail Cap(c_a), veh/h	368	734	328	798	821	367	98	1121	502	79	479	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	42.3	38.5	35.2	41.6	32.6	50.8	30.8	29.5	52.3	36.8	36.8
Incr Delay (d2), s/veh	0.0	24.4	2.9	0.3	29.6	0.1	50.3	1.0	0.8	24.1	23.8	23.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.0	5.5	3.9	15.5	0.6	3.9	8.8	6.2	1.5	15.3	16.0
LnGrp Delay(d),s/veh	33.6	66.7	41.3	35.5	71.2	32.7	101.1	31.8	30.3	76.4	60.7	59.8
LnGrp LOS	C	E	D	D	E	C	F	C	C	E	E	E
Approach Vol, veh/h		904			1149			1024			912	
Approach Delay, s/veh		61.2			60.8			37.2			60.9	
Approach LOS		E			E			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	41.2		29.0	10.2	38.5		31.0
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.6	34.6		23.2	6.2	34.0		25.2
Max Q Clear Time (g_c+I1), s	4.7	20.3		24.1	7.3	31.3		27.0
Green Ext Time (p_c), s	0.0	4.5		0.0	0.0	1.3		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		54.8
HCM 2010 LOS		D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	207	760	893	550	450	404
Future Volume (veh/h)	207	760	893	550	450	404
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1638	1638	1624	1624
Adj Flow Rate, veh/h	225	826	971	598	489	439
Adj No. of Lanes	1	2	2	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	16	16	17	17
Cap, veh/h	304	1437	1072	1995	690	309
Arrive On Green	0.18	0.18	0.35	0.64	0.22	0.22
Sat Flow, veh/h	1723	2707	3026	3194	3167	1380
Grp Volume(v), veh/h	225	826	971	598	489	439
Grp Sat Flow(s),veh/h/ln	1723	1354	1513	1556	1543	1380
Q Serve(g_s), s	7.9	11.2	19.4	5.4	9.3	14.2
Cycle Q Clear(g_c), s	7.9	11.2	19.4	5.4	9.3	14.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	304	1437	1072	1995	690	309
V/C Ratio(X)	0.74	0.57	0.91	0.30	0.71	1.42
Avail Cap(c_a), veh/h	304	1437	1144	2068	690	309
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.8	10.1	19.5	5.1	22.7	24.7
Incr Delay (d2), s/veh	9.3	0.6	9.9	0.1	3.4	208.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	10.8	9.4	2.3	4.3	23.1
LnGrp Delay(d),s/veh	34.0	10.6	29.4	5.1	26.1	232.6
LnGrp LOS	C	B	C	A	C	F
Approach Vol, veh/h	1051			1569	928	
Approach Delay, s/veh	15.6			20.2	123.8	
Approach LOS	B			C	F	

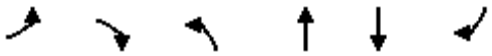
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		46.5		17.0	26.5	20.0		
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8		
Max Green Setting (Gmax), s		42.2		11.2	24.0	14.2		
Max Q Clear Time (g_c+I1), s		7.4		13.2	21.4	16.2		
Green Ext Time (p_c), s		4.1		0.0	1.1	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	45.9
HCM 2010 LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	95	164	1267	200	150	1064
Future Volume (veh/h)	95	164	1267	200	150	1064
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1583	1638	1900	1624	1624
Adj Flow Rate, veh/h	103	178	1377	217	163	1157
Adj No. of Lanes	1	1	2	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	20	16	16	17	17
Cap, veh/h	167	317	1558	243	193	2315
Arrive On Green	0.11	0.11	0.58	0.58	0.12	0.75
Sat Flow, veh/h	1508	1346	2781	421	1547	3167
Grp Volume(v), veh/h	103	178	788	806	163	1157
Grp Sat Flow(s),veh/h/ln	1508	1346	1556	1564	1547	1543
Q Serve(g_s), s	5.4	9.2	36.1	37.5	8.6	12.5
Cycle Q Clear(g_c), s	5.4	9.2	36.1	37.5	8.6	12.5
Prop In Lane	1.00	1.00		0.27	1.00	
Lane Grp Cap(c), veh/h	167	317	899	903	193	2315
V/C Ratio(X)	0.62	0.56	0.88	0.89	0.84	0.50
Avail Cap(c_a), veh/h	167	317	994	999	223	2563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	28.1	15.1	15.4	35.7	4.2
Incr Delay (d2), s/veh	6.8	2.3	8.3	9.7	22.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.8	17.4	18.3	4.9	5.2
LnGrp Delay(d),s/veh	42.1	30.3	23.4	25.0	57.9	4.3
LnGrp LOS	D	C	C	C	E	A
Approach Vol, veh/h	281		1594			1320
Approach Delay, s/veh	34.7		24.2			10.9
Approach LOS	C		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.4	53.9				68.3		15.0
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8
Max Green Setting (Gmax), s	12.6	53.2				69.2		9.2
Max Q Clear Time (g_c+I1), s	10.6	39.5				14.5		11.2
Green Ext Time (p_c), s	0.1	8.6				10.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.7
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	609	57	0	799	850	70
Future Volume (vph)	609	57	0	799	850	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8			5.8	5.8	
Lane Util. Factor	0.97			0.95	0.95	
Frt	0.99			1.00	0.99	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	3314			3112	3050	
Flt Permitted	0.96			1.00	1.00	
Satd. Flow (perm)	3314			3112	3050	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	662	62	0	868	924	76
RTOR Reduction (vph)	12	0	0	0	9	0
Lane Group Flow (vph)	712	0	0	868	991	0
Heavy Vehicles (%)	5%	5%	16%	16%	17%	17%
Turn Type	Prot		Prot	NA	NA	
Protected Phases	2		3	8	4	
Permitted Phases						
Actuated Green, G (s)	14.7			21.6	21.6	
Effective Green, g (s)	14.7			21.6	21.6	
Actuated g/C Ratio	0.31			0.45	0.45	
Clearance Time (s)	5.8			5.8	5.8	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1017			1403	1375	
v/s Ratio Prot	c0.21			0.28	c0.32	
v/s Ratio Perm						
v/c Ratio	0.70			0.62	0.72	
Uniform Delay, d1	14.7			10.0	10.7	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	2.2			0.8	1.9	
Delay (s)	16.9			10.8	12.6	
Level of Service	B			B	B	
Approach Delay (s)	16.9			10.8	12.6	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	47.9	Sum of lost time (s)	15.6
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	850	72	5	1310	360	31
Future Volume (vph)	850	72	5	1310	360	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.95		1.00	0.95	0.97	
Frt	0.99		1.00	1.00	0.99	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	3049		1556	3112	2926	
Flt Permitted	1.00		0.95	1.00	0.96	
Satd. Flow (perm)	3049		1556	3112	2926	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	924	78	5	1424	391	34
RTOR Reduction (vph)	9	0	0	0	11	0
Lane Group Flow (vph)	993	0	5	1424	414	0
Heavy Vehicles (%)	17%	17%	16%	16%	19%	19%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases						
Actuated Green, G (s)	29.5		0.9	34.4	12.2	
Effective Green, g (s)	29.5		0.9	34.4	12.2	
Actuated g/C Ratio	0.51		0.02	0.59	0.21	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1545		24	1839	613	
v/s Ratio Prot	0.33		0.00	c0.46	c0.14	
v/s Ratio Perm						
v/c Ratio	0.64		0.21	0.77	0.68	
Uniform Delay, d1	10.5		28.3	9.0	21.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.9		4.3	2.1	2.9	
Delay (s)	11.4		32.6	11.1	24.1	
Level of Service	B		C	B	C	
Approach Delay (s)	11.4			11.1	24.1	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	15.6
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	62	389	53	0	191	15	3	67	7	80	642	35
Future Volume (veh/h)	62	389	53	0	191	15	3	67	7	80	642	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1583	1900	1900	1583	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	67	423	58	0	208	16	3	73	8	87	698	38
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	20	20	20	20	20	2	2	2	2	2	2
Cap, veh/h	103	469	61	0	571	44	58	795	85	123	763	40
Arrive On Green	0.39	0.39	0.39	0.00	0.39	0.39	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	128	1192	156	0	1452	112	18	1627	173	144	1561	83
Grp Volume(v), veh/h	548	0	0	0	0	224	84	0	0	823	0	0
Grp Sat Flow(s),veh/h/ln	1477	0	0	0	0	1564	1818	0	0	1788	0	0
Q Serve(g_s), s	18.9	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	24.6	0.0	0.0
Cycle Q Clear(g_c), s	27.2	0.0	0.0	0.0	0.0	7.7	1.9	0.0	0.0	33.1	0.0	0.0
Prop In Lane	0.12		0.11	0.00		0.07	0.04		0.10	0.11		0.05
Lane Grp Cap(c), veh/h	633	0	0	0	0	615	938	0	0	926	0	0
V/C Ratio(X)	0.87	0.00	0.00	0.00	0.00	0.36	0.09	0.00	0.00	0.89	0.00	0.00
Avail Cap(c_a), veh/h	663	0	0	0	0	647	989	0	0	979	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	0.0	0.0	16.4	10.4	0.0	0.0	18.3	0.0	0.0
Incr Delay (d2), s/veh	11.2	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	9.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	0.0	0.0	0.0	0.0	3.4	0.9	0.0	0.0	18.7	0.0	0.0
LnGrp Delay(d),s/veh	33.3	0.0	0.0	0.0	0.0	16.7	10.5	0.0	0.0	28.0	0.0	0.0
LnGrp LOS	C					B	B			C		
Approach Vol, veh/h		548			224			84			823	
Approach Delay, s/veh		33.3			16.7			10.5			28.0	
Approach LOS		C			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.7		34.4		41.7		34.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		39.5		31.5		39.5		31.5
Max Q Clear Time (g_c+I1), s		3.9		29.2		35.1		9.7
Green Ext Time (p_c), s		0.4		0.7		2.1		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	41	504	2	4	1	53	115	53	7	112	2
Future Volume (veh/h)	41	41	504	2	4	1	53	115	53	7	112	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1583	1583	1900	1583	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	45	45	548	2	4	1	58	125	58	8	122	2
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	20	20	20	20	20	2	2	2	2	2	2
Cap, veh/h	484	400	660	278	431	89	538	211	98	151	273	4
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	579	816	1346	216	879	182	1262	1205	559	50	1559	25
Grp Volume(v), veh/h	90	0	548	7	0	0	58	0	183	132	0	0
Grp Sat Flow(s),veh/h/ln	1395	0	1346	1277	0	0	1262	0	1764	1633	0	0
Q Serve(g_s), s	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	9.4	0.1	0.0	0.0	0.7	0.0	2.6	2.6	0.0	0.0
Prop In Lane	0.50		1.00	0.29		0.14	1.00		0.32	0.06		0.02
Lane Grp Cap(c), veh/h	885	0	660	798	0	0	538	0	309	428	0	0
V/C Ratio(X)	0.10	0.00	0.83	0.01	0.00	0.00	0.11	0.00	0.59	0.31	0.00	0.00
Avail Cap(c_a), veh/h	1307	0	1077	1152	0	0	764	0	624	749	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.7	0.0	5.9	3.5	0.0	0.0	9.5	0.0	10.2	9.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	3.0	0.0	0.0	0.0	0.1	0.0	1.8	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.9	0.0	0.0	0.0	0.4	0.0	1.4	0.9	0.0	0.0
LnGrp Delay(d),s/veh	3.8	0.0	8.9	3.5	0.0	0.0	9.5	0.0	12.0	10.3	0.0	0.0
LnGrp LOS	A		A	A			A		B	B		
Approach Vol, veh/h		638			7			241			132	
Approach Delay, s/veh		8.1			3.5			11.4			10.3	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		9.2		17.7		9.2		17.7
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		9.5		21.5		9.5		21.5
Max Q Clear Time (g_c+I1), s		4.6		11.4		4.6		2.1
Green Ext Time (p_c), s		0.5		1.9		0.2		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	9.2
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	565	10	30	650	38	5	26	50	144	69	32
Future Volume (veh/h)	10	565	10	30	650	38	5	26	50	144	69	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	614	11	33	707	41	5	28	54	157	75	35
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	23	837	15	52	775	45	122	39	75	205	139	65
Arrive On Green	0.01	0.49	0.49	0.03	0.51	0.51	0.07	0.07	0.07	0.12	0.12	0.12
Sat Flow, veh/h	1675	1723	31	1560	1533	89	1774	570	1099	1774	1203	561
Grp Volume(v), veh/h	11	0	625	33	0	748	5	0	82	157	0	110
Grp Sat Flow(s),veh/h/ln	1675	0	1754	1560	0	1622	1774	0	1669	1774	0	1764
Q Serve(g_s), s	0.5	0.0	20.6	1.5	0.0	30.5	0.2	0.0	3.5	6.2	0.0	4.2
Cycle Q Clear(g_c), s	0.5	0.0	20.6	1.5	0.0	30.5	0.2	0.0	3.5	6.2	0.0	4.2
Prop In Lane	1.00		0.02	1.00		0.05	1.00		0.66	1.00		0.32
Lane Grp Cap(c), veh/h	23	0	852	52	0	820	122	0	114	205	0	204
V/C Ratio(X)	0.48	0.00	0.73	0.63	0.00	0.91	0.04	0.00	0.72	0.76	0.00	0.54
Avail Cap(c_a), veh/h	116	0	1098	108	0	1016	201	0	190	251	0	249
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.4	0.0	14.8	34.5	0.0	16.4	31.4	0.0	32.9	31.0	0.0	30.1
Incr Delay (d2), s/veh	14.6	0.0	1.9	11.9	0.0	10.5	0.1	0.0	8.1	10.7	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	10.3	0.8	0.0	15.9	0.1	0.0	1.9	3.7	0.0	2.2
LnGrp Delay(d),s/veh	50.0	0.0	16.7	46.3	0.0	26.9	31.5	0.0	41.0	41.7	0.0	32.3
LnGrp LOS	D		B	D		C	C		D	D		C
Approach Vol, veh/h		636			781			87			267	
Approach Delay, s/veh		17.3			27.7			40.5			37.8	
Approach LOS		B			C			D			D	

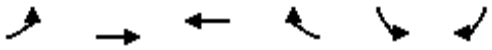
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		10.8	6.4	40.9		14.2	5.0	42.3
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		8.2	5.0	45.2		10.2	5.0	45.2
Max Q Clear Time (g_c+I1), s		5.5	3.5	22.6		8.2	2.5	32.5
Green Ext Time (p_c), s		0.1	0.0	3.9		0.2	0.0	4.0

Intersection Summary		
HCM 2010 Ctrl Delay		26.1
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	650	6	26	650	27	9	12	20	210	55	27
Future Volume (veh/h)	4	650	6	26	650	27	9	12	20	210	55	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	707	7	28	707	29	10	13	22	228	60	29
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	9	835	8	48	789	32	127	159	209	363	70	34
Arrive On Green	0.01	0.48	0.48	0.03	0.51	0.51	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1675	1739	17	1560	1563	64	237	635	834	1069	282	136
Grp Volume(v), veh/h	4	0	714	28	0	736	45	0	0	317	0	0
Grp Sat Flow(s),veh/h/ln	1675	0	1756	1560	0	1627	1705	0	0	1487	0	0
Q Serve(g_s), s	0.2	0.0	23.2	1.2	0.0	26.7	0.0	0.0	0.0	11.9	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	23.2	1.2	0.0	26.7	1.3	0.0	0.0	13.2	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.04	0.22		0.49	0.72		0.09
Lane Grp Cap(c), veh/h	9	0	843	48	0	822	494	0	0	467	0	0
V/C Ratio(X)	0.45	0.00	0.85	0.59	0.00	0.90	0.09	0.00	0.00	0.68	0.00	0.00
Avail Cap(c_a), veh/h	128	0	1189	120	0	1102	708	0	0	665	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.4	0.0	14.9	31.2	0.0	14.6	18.8	0.0	0.0	23.2	0.0	0.0
Incr Delay (d2), s/veh	31.0	0.0	4.2	11.0	0.0	7.7	0.1	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	12.1	0.6	0.0	13.6	0.6	0.0	0.0	5.6	0.0	0.0
LnGrp Delay(d),s/veh	63.3	0.0	19.0	42.3	0.0	22.3	18.9	0.0	0.0	24.9	0.0	0.0
LnGrp LOS	E		B	D		C	B			C		
Approach Vol, veh/h		718			764			45			317	
Approach Delay, s/veh		19.3			23.1			18.9			24.9	
Approach LOS		B			C			B			C	

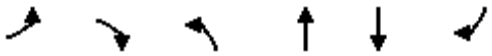
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.1	6.0	37.1		22.1	4.3	38.8
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		25.2	5.0	44.2		25.2	5.0	44.2
Max Q Clear Time (g_c+I1), s		3.3	3.2	25.2		15.2	2.2	28.7
Green Ext Time (p_c), s		0.1	0.0	4.4		1.2	0.0	4.3

Intersection Summary	
HCM 2010 Ctrl Delay	21.8
HCM 2010 LOS	C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	250	890	522	0	6	424
Future Volume (vph)	250	890	522	0	6	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.8	5.8		5.8	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	0.95
Frt	1.00	1.00	1.00		0.85	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1626	3252	3167		1589	1504
Flt Permitted	0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1626	3252	3167		1589	1504
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	967	567	0	7	461
RTOR Reduction (vph)	0	0	0	0	187	33
Lane Group Flow (vph)	272	967	567	0	46	202
Heavy Vehicles (%)	11%	11%	14%	14%	2%	2%
Turn Type	Prot	NA	NA		Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases						6
Actuated Green, G (s)	12.3	29.1	12.8		8.5	20.8
Effective Green, g (s)	12.3	29.1	12.8		8.5	20.8
Actuated g/C Ratio	0.25	0.59	0.26		0.17	0.42
Clearance Time (s)	4.0	5.8	5.8		5.8	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	406	1923	823		274	635
v/s Ratio Prot	c0.17	0.30	c0.18		0.03	c0.08
v/s Ratio Perm						0.05
v/c Ratio	0.67	0.50	0.69		0.17	0.32
Uniform Delay, d1	16.6	5.8	16.4		17.3	9.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.2	0.2	2.4		0.3	0.3
Delay (s)	20.8	6.1	18.8		17.6	9.8
Level of Service	C	A	B		B	A
Approach Delay (s)		9.3	18.8		13.7	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	49.2	Sum of lost time (s)	15.6
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	534	369	550	933	859	300
Future Volume (vph)	534	369	550	933	859	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	0.97	0.95	0.95	1.00
Frt	0.99	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.96	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1762	1504	3433	3539	3539	1583
Flt Permitted	0.96	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1762	1504	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	580	401	598	1014	934	326
RTOR Reduction (vph)	3	232	0	0	0	208
Lane Group Flow (vph)	617	129	598	1014	934	118
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	28.5	28.5	15.1	42.5	22.9	22.9
Effective Green, g (s)	28.5	28.5	15.1	42.5	22.9	22.9
Actuated g/C Ratio	0.36	0.36	0.19	0.53	0.29	0.29
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	627	535	647	1880	1013	453
v/s Ratio Prot	c0.35		c0.17	0.29	c0.26	
v/s Ratio Perm		0.09				0.07
v/c Ratio	0.98	0.24	0.92	0.54	0.92	0.26
Uniform Delay, d1	25.5	18.1	31.9	12.3	27.7	22.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	31.6	0.2	19.0	0.3	13.3	0.3
Delay (s)	57.1	18.4	50.9	12.6	41.0	22.3
Level of Service	E	B	D	B	D	C
Approach Delay (s)	42.9			26.8	36.1	
Approach LOS	D			C	D	

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	698	346	302	548	0	351	0	205	0	0	0
Future Volume (veh/h)	0	698	346	302	548	0	351	0	205	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	759	376	328	596	0	382	0	223	0	0	0
Adj No. of Lanes	1	2	1	1	2	0	2	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1124	503	392	2208	0	709	0	326	0	4	0
Arrive On Green	0.00	0.32	0.32	0.22	0.62	0.00	0.21	0.00	0.21	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	3442	0	1583	0	1863	0
Grp Volume(v), veh/h	0	759	376	328	596	0	382	0	223	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1721	0	1583	0	1863	0
Q Serve(g_s), s	0.0	9.8	11.2	9.3	4.0	0.0	5.2	0.0	6.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.8	11.2	9.3	4.0	0.0	5.2	0.0	6.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	3	1124	503	392	2208	0	709	0	326	0	4	0
V/C Ratio(X)	0.00	0.68	0.75	0.84	0.27	0.00	0.54	0.00	0.68	0.00	0.00	0.00
Avail Cap(c_a), veh/h	604	1339	599	537	2208	0	1172	0	539	0	634	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	15.7	16.1	19.7	4.5	0.0	18.8	0.0	19.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	4.3	8.2	0.1	0.0	0.6	0.0	2.5	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.9	5.5	5.4	1.9	0.0	2.6	0.0	3.2	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	16.7	20.4	27.9	4.6	0.0	19.4	0.0	21.9	0.0	0.0	0.0
LnGrp LOS		B	C	C	A		B		C			
Approach Vol, veh/h		1135			924			605			0	
Approach Delay, s/veh		17.9			12.8			20.3			0.0	
Approach LOS		B			B			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		15.4	16.2	21.3		0.0	0.0	37.5
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	16.0	20.0		18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s		8.9	11.3	13.2		0.0	0.0	6.0
Green Ext Time (p_c), s		2.0	0.4	3.6		0.0	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	845	113	376	103	74	37	1150	386	18	413	6
Future Volume (veh/h)	19	845	113	376	103	74	37	1150	386	18	413	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1610	1610	1610	1610	1610	1900
Adj Flow Rate, veh/h	21	918	0	409	112	0	40	1250	0	20	449	0
Adj No. of Lanes	1	2	0	2	2	0	1	2	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	18	18	18	18	18	18
Cap, veh/h	37	995	0	447	1381	0	48	1302	760	60	1266	0
Arrive On Green	0.02	0.28	0.00	0.13	0.39	0.00	0.03	0.43	0.00	0.02	0.41	0.00
Sat Flow, veh/h	1774	3632	0	3442	3632	0	1533	3059	1369	2975	3140	0
Grp Volume(v), veh/h	21	918	0	409	112	0	40	1250	0	20	449	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1721	1770	0	1533	1530	1369	1487	1530	0
Q Serve(g_s), s	1.5	31.6	0.0	14.7	2.5	0.0	3.3	49.8	0.0	0.8	12.6	0.0
Cycle Q Clear(g_c), s	1.5	31.6	0.0	14.7	2.5	0.0	3.3	49.8	0.0	0.8	12.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	37	995	0	447	1381	0	48	1302	760	60	1266	0
V/C Ratio(X)	0.57	0.92	0.00	0.91	0.08	0.00	0.83	0.96	0.00	0.34	0.35	0.00
Avail Cap(c_a), veh/h	82	1036	0	447	1381	0	99	1317	767	119	1266	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	60.9	43.8	0.0	53.9	24.1	0.0	60.4	35.0	0.0	60.6	25.2	0.0
Incr Delay (d2), s/veh	13.3	13.0	0.0	23.2	0.0	0.0	28.2	16.2	0.0	3.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	17.2	0.0	8.4	1.2	0.0	1.8	23.9	0.0	0.4	5.4	0.0
LnGrp Delay(d),s/veh	74.1	56.7	0.0	77.1	24.1	0.0	88.5	51.2	0.0	63.9	25.4	0.0
LnGrp LOS	E	E		E	C		F	D		E	C	
Approach Vol, veh/h		939			521			1290			469	
Approach Delay, s/veh		57.1			65.7			52.3			27.1	
Approach LOS		E			E			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	57.9	20.8	39.7	8.5	56.4	7.1	53.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	54.0	16.3	36.7	8.1	50.9	5.8	47.2
Max Q Clear Time (g_c+I1), s	2.8	51.8	16.7	33.6	5.3	14.6	3.5	4.5
Green Ext Time (p_c), s	0.0	1.6	0.0	1.7	0.0	2.9	0.0	0.6

Intersection Summary		
HCM 2010 Ctrl Delay		52.2
HCM 2010 LOS		D

Intersection	
Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	163	241	34	359	285
Future Vol, veh/h	13	163	241	34	359	285
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	177	262	37	390	310
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	11.5	13.7	16.7
HCM LOS	B	B	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	88%	0%	0%	0%	100%
Vol Right, %	12%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	275	13	163	359	285
LT Vol	0	13	0	359	0
Through Vol	241	0	0	0	285
RT Vol	34	0	163	0	0
Lane Flow Rate	299	14	177	390	310
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.471	0.029	0.305	0.653	0.475
Departure Headway (Hd)	5.672	7.42	6.199	6.028	5.523
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	637	483	579	601	654
Service Time	3.696	5.156	3.935	3.75	3.244
HCM Lane V/C Ratio	0.469	0.029	0.306	0.649	0.474
HCM Control Delay	13.7	10.4	11.6	19.4	13.2
HCM Lane LOS	B	B	B	C	B
HCM 95th-tile Q	2.5	0.1	1.3	4.8	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	132	191	74	148	311	25	950	13	52	950	8
Future Volume (veh/h)	59	132	191	74	148	311	25	950	13	52	950	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1638	1638	1900	1520	1520	1900
Adj Flow Rate, veh/h	64	143	208	80	161	338	27	1033	14	57	1033	9
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	16	16	16	25	25	25
Cap, veh/h	136	240	300	138	200	366	205	1411	19	213	1316	11
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	152	628	784	159	522	955	474	3144	43	438	2934	26
Grp Volume(v), veh/h	415	0	0	579	0	0	27	511	536	57	508	534
Grp Sat Flow(s),veh/h/ln	1564	0	0	1636	0	0	474	1556	1630	438	1444	1515
Q Serve(g_s), s	0.0	0.0	0.0	6.5	0.0	0.0	2.7	14.4	14.4	6.6	16.0	16.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0	17.8	0.0	0.0	18.8	14.4	14.4	21.0	16.0	16.0
Prop In Lane	0.15		0.50	0.14		0.58	1.00		0.03	1.00		0.02
Lane Grp Cap(c), veh/h	676	0	0	703	0	0	205	698	732	213	648	680
V/C Ratio(X)	0.61	0.00	0.00	0.82	0.00	0.00	0.13	0.73	0.73	0.27	0.78	0.78
Avail Cap(c_a), veh/h	705	0	0	733	0	0	210	713	748	217	662	695
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	0.0	15.5	0.0	0.0	20.5	12.1	12.1	20.7	12.5	12.5
Incr Delay (d2), s/veh	1.5	0.0	0.0	7.3	0.0	0.0	0.3	3.8	3.6	0.7	6.1	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	0.0	9.5	0.0	0.0	0.4	6.8	7.1	0.8	7.3	7.6
LnGrp Delay(d),s/veh	15.0	0.0	0.0	22.8	0.0	0.0	20.8	15.9	15.7	21.4	18.6	18.3
LnGrp LOS	B			C			C	B	B	C	B	B
Approach Vol, veh/h		415			579			1074			1099	
Approach Delay, s/veh		15.0			22.8			15.9			18.6	
Approach LOS		B			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		28.5		25.0		28.5		25.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		24.5		21.5		24.5		21.5
Max Q Clear Time (g_c+I1), s		20.8		13.3		23.0		19.8
Green Ext Time (p_c), s		2.2		1.6		1.0		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	18.0
HCM 2010 LOS	B

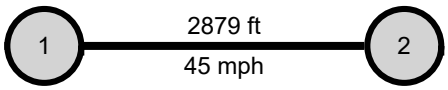
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	271	159	166	107	75	73	800	140	63	1050	12
Future Volume (veh/h)	36	271	159	166	107	75	73	800	140	63	1050	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1557	1557	1900	1557	1557	1900
Adj Flow Rate, veh/h	39	295	0	180	116	0	79	870	0	68	1141	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	22	22	22	22	22	22
Cap, veh/h	66	358	0	218	517	0	175	1478	0	253	1478	0
Arrive On Green	0.04	0.19	0.00	0.12	0.28	0.00	0.50	0.50	0.00	0.50	0.50	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	411	3037	0	530	3037	0
Grp Volume(v), veh/h	39	295	0	180	116	0	79	870	0	68	1141	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	411	1480	0	530	1480	0
Q Serve(g_s), s	1.6	11.1	0.0	7.2	3.5	0.0	13.5	15.2	0.0	7.6	22.9	0.0
Cycle Q Clear(g_c), s	1.6	11.1	0.0	7.2	3.5	0.0	36.4	15.2	0.0	22.8	22.9	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	66	358	0	218	517	0	175	1478	0	253	1478	0
V/C Ratio(X)	0.59	0.82	0.00	0.82	0.22	0.00	0.45	0.59	0.00	0.27	0.77	0.00
Avail Cap(c_a), veh/h	146	534	0	224	616	0	175	1478	0	253	1478	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.5	28.3	0.0	31.2	20.3	0.0	29.9	12.9	0.0	21.0	14.9	0.0
Incr Delay (d2), s/veh	8.0	6.5	0.0	21.1	0.2	0.0	1.8	0.6	0.0	0.6	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	6.3	0.0	4.8	1.8	0.0	1.6	6.3	0.0	1.2	9.7	0.0
LnGrp Delay(d),s/veh	42.5	34.8	0.0	52.3	20.5	0.0	31.7	13.5	0.0	21.6	17.4	0.0
LnGrp LOS	D	C		D	C		C	B		C	B	
Approach Vol, veh/h		334			296			949			1209	
Approach Delay, s/veh		35.7			39.8			15.1			17.7	
Approach LOS		D			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		40.9	13.5	18.5		40.9	7.2	24.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		36.4	9.2	20.9		36.4	6.0	24.1
Max Q Clear Time (g_c+I1), s		38.4	9.2	13.1		24.9	3.6	5.5
Green Ext Time (p_c), s		0.0	0.0	0.9		6.2	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	21.3
HCM 2010 LOS	C

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2879	2879	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.26			46.59		
1	Running Time, s	46.13			45.70		
1	Running Speed, mph	42.56			42.95		
1	Through Delay, s/veh	10.98			47.21		
1	Travel Time, s	57.11			92.91		
1	Travel Speed, mph	34.37			21.13		
1	Stop Rate, stops/veh	0.59			0.80		
1	Spatial Stop Rate, stops/mi	1.07			1.46		
1	Through vol/cap Ratio	0.56			0.90		
1	Percent of Base FFS	75.95			45.34		
1	Level of Service	B			D		
1	Auto Traveler Perception Score	2.30			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	4.12		D
1	Bicycle Segment LOS Score / LOS	4.91		E	5.38		F
1	Transit Segment LOS Score / LOS	6.65		F	6.61		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	57.11	92.91
Facility Travel Speed, mph	34.37	21.13
Facility Base Free Flow Speed, mph	45.26	46.59
Facility Percent of Base FFS	75.95	45.34
Facility Level of Service	B	D
Facility Auto Traveler Perception Score	2.30	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			4.12	D
Bicycle Facility LOS Score / LOS	4.91	E	5.38	F
Transit Facility LOS Score / LOS	6.65	F	6.61	F

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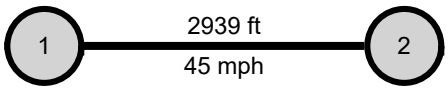
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2939	2939	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.28			46.60		
1	Running Time, s	47.78			46.68		
1	Running Speed, mph	41.94			42.93		
1	Through Delay, s/veh	15.16			67.11		
1	Travel Time, s	62.95			113.79		
1	Travel Speed, mph	31.83			17.61		
1	Stop Rate, stops/veh	0.62			0.90		
1	Spatial Stop Rate, stops/mi	1.12			1.62		
1	Through vol/cap Ratio	0.75			0.92		
1	Percent of Base FFS	70.30			37.79		
1	Level of Service	B			E		
1	Auto Traveler Perception Score	2.31			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	4.15		D
1	Bicycle Segment LOS Score / LOS	4.99		E	4.99		E
1	Transit Segment LOS Score / LOS	6.74		F	6.62		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	62.95	113.79
Facility Travel Speed, mph	31.83	17.61
Facility Base Free Flow Speed, mph	45.28	46.60
Facility Percent of Base FFS	70.30	37.79
Facility Level of Service	B	E
Facility Auto Traveler Perception Score	2.31	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			4.15	D
Bicycle Facility LOS Score / LOS	4.99	E	4.99	E
Transit Facility LOS Score / LOS	6.74	F	6.62	F

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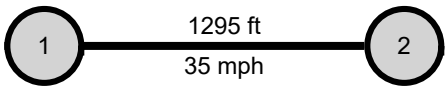
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1295	1295	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		0.20	never	
1	Shared Lane Spillback Time, h				0.40		
1	Base Free-Flow Speed, mph	38.00			38.12		
1	Running Time, s	27.03			26.66		
1	Running Speed, mph	32.67			33.12		
1	Through Delay, s/veh	0.69			19.54		
1	Travel Time, s	27.71			46.20		
1	Travel Speed, mph	31.86			19.11		
1	Stop Rate, stops/veh	0.01			0.54		
1	Spatial Stop Rate, stops/mi	0.04			2.22		
1	Through vol/cap Ratio	0.43			0.45		
1	Percent of Base FFS	83.84			50.14		
1	Level of Service	B			C		
1	Auto Traveler Perception Score	2.15			2.48		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.82		D	3.77		D
1	Bicycle Segment LOS Score / LOS	3.87		D	6.96		F
1	Transit Segment LOS Score / LOS	4.60		E	4.50		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	27.71	46.20
Facility Travel Speed, mph	31.86	19.11
Facility Base Free Flow Speed, mph	38.00	38.12
Facility Percent of Base FFS	83.84	50.14
Facility Level of Service	B	C
Facility Auto Traveler Perception Score	2.15	2.48

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.82	D	3.77	D
Bicycle Facility LOS Score / LOS	3.87	D	6.96	F
Transit Facility LOS Score / LOS	4.60	E	4.50	E

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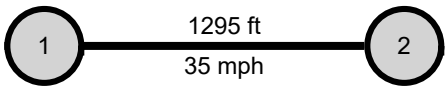
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1295	1295	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		0.33	never	
1	Shared Lane Spillback Time, h				0.43		
1	Base Free-Flow Speed, mph	38.00			38.12		
1	Running Time, s	26.80			27.13		
1	Running Speed, mph	32.95			32.55		
1	Through Delay, s/veh	0.82			59.39		
1	Travel Time, s	27.62			86.52		
1	Travel Speed, mph	31.97			10.21		
1	Stop Rate, stops/veh	0.08			0.95		
1	Spatial Stop Rate, stops/mi	0.32			3.88		
1	Through vol/cap Ratio	0.39			0.95		
1	Percent of Base FFS	84.14			26.77		
1	Level of Service	B			F		
1	Auto Traveler Perception Score	2.19			2.76		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.74		D	3.95		D
1	Bicycle Segment LOS Score / LOS	3.85		D	6.99		F
1	Transit Segment LOS Score / LOS	4.56		E	4.58		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	27.62	86.52
Facility Travel Speed, mph	31.97	10.21
Facility Base Free Flow Speed, mph	38.00	38.12
Facility Percent of Base FFS	84.14	26.77
Facility Level of Service	B	F
Facility Auto Traveler Perception Score	2.19	2.76

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.74	D	3.95	D
Bicycle Facility LOS Score / LOS	3.85	D	6.99	F
Transit Facility LOS Score / LOS	4.56	E	4.58	E

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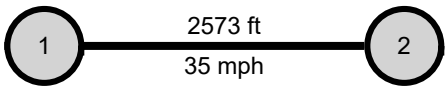
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2573	2573	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.75			40.62		
1	Running Time, s	47.05			45.59		
1	Running Speed, mph	37.28			38.48		
1	Through Delay, s/veh	1.20			0.43		
1	Travel Time, s	48.25			46.01		
1	Travel Speed, mph	36.36			38.13		
1	Stop Rate, stops/veh	0.02			0.01		
1	Spatial Stop Rate, stops/mi	0.03			0.02		
1	Through vol/cap Ratio	0.53			0.22		
1	Percent of Base FFS	89.22			93.86		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.15			2.14		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.86		D	3.52		D
1	Transit Segment LOS Score / LOS	4.75		E	4.51		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	48.25	46.01
Facility Travel Speed, mph	36.36	38.13
Facility Base Free Flow Speed, mph	40.75	40.62
Facility Percent of Base FFS	89.22	93.86
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.15	2.14

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.86	D	3.52	D
Transit Facility LOS Score / LOS	4.75	E	4.51	E

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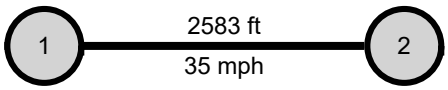
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2583	2583	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.76			40.62		
1	Running Time, s	46.56			47.52		
1	Running Speed, mph	37.82			37.06		
1	Through Delay, s/veh	0.87			1.19		
1	Travel Time, s	47.43			48.71		
1	Travel Speed, mph	37.13			36.15		
1	Stop Rate, stops/veh	0.01			0.02		
1	Spatial Stop Rate, stops/mi	0.03			0.03		
1	Through vol/cap Ratio	0.42			0.54		
1	Percent of Base FFS	91.10			89.00		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.15			2.15		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.82		D	3.63		D
1	Transit Segment LOS Score / LOS	4.67		E	4.72		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	47.43	48.71
Facility Travel Speed, mph	37.13	36.15
Facility Base Free Flow Speed, mph	40.76	40.62
Facility Percent of Base FFS	91.10	89.00
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.15	2.15

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.82	D	3.63	D
Transit Facility LOS Score / LOS	4.67	E	4.72	E

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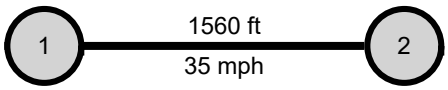
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward /	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	27.94			29.00		
1	Running Speed, mph	38.06			36.68		
1	Through Delay, s/veh	1.08			1.98		
1	Travel Time, s	29.02			30.97		
1	Travel Speed, mph	36.65			34.34		
1	Stop Rate, stops/veh	0.36			0.36		
1	Spatial Stop Rate, stops/mi	1.21			1.21		
1	Through vol/cap Ratio	0.14			0.73		
1	Percent of Base FFS	87.72			82.20		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.54			2.54		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.65		E	4.91		E
1	Transit Segment LOS Score / LOS	6.58		F	6.82		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	29.02	30.97
Facility Travel Speed, mph	36.65	34.34
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	87.72	82.20
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.54	2.54

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.65	E	4.91	E
Transit Facility LOS Score / LOS	6.58	F	6.82	F

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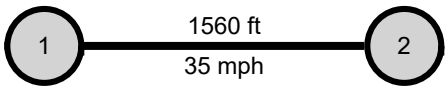
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward /	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	28.49			28.01		
1	Running Speed, mph	37.34			37.98		
1	Through Delay, s/veh	1.78			1.32		
1	Travel Time, s	30.26			29.33		
1	Travel Speed, mph	35.14			36.27		
1	Stop Rate, stops/veh	0.42			0.42		
1	Spatial Stop Rate, stops/mi	1.43			1.43		
1	Through vol/cap Ratio	0.55			0.20		
1	Percent of Base FFS	84.12			86.81		
1	Level of Service	B			A		
1	Auto Traveler Perception Score	2.58			2.58		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.87		E	4.65		E
1	Transit Segment LOS Score / LOS	6.73		F	6.63		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	30.26	29.33
Facility Travel Speed, mph	35.14	36.27
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	84.12	86.81
Facility Level of Service	B	A
Facility Auto Traveler Perception Score	2.58	2.58

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.87	E	4.65	E
Transit Facility LOS Score / LOS	6.73	F	6.63	F

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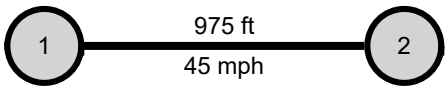
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_A	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	19.35			18.91		
1	Running Speed, mph	34.35			35.16		
1	Through Delay, s/veh	1.69			0.90		
1	Travel Time, s	21.04			19.80		
1	Travel Speed, mph	31.59			33.57		
1	Stop Rate, stops/veh	0.13			0.13		
1	Spatial Stop Rate, stops/mi	0.69			0.69		
1	Through vol/cap Ratio	0.92			0.72		
1	Percent of Base FFS	68.87			73.18		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.45			2.45		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.93		D	3.76		D
1	Transit Segment LOS Score / LOS	6.95		F	6.86		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	21.04	19.80
Facility Travel Speed, mph	31.59	33.57
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	68.87	73.18
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.45	2.45

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.93	D	3.76	D
Transit Facility LOS Score / LOS	6.95	F	6.86	F

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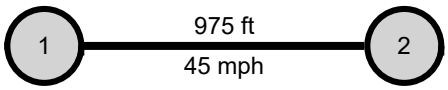
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_P	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	18.92			19.23		
1	Running Speed, mph	35.14			34.57		
1	Through Delay, s/veh	1.07			1.58		
1	Travel Time, s	19.99			20.81		
1	Travel Speed, mph	33.25			31.94		
1	Stop Rate, stops/veh	0.15			0.15		
1	Spatial Stop Rate, stops/mi	0.82			0.82		
1	Through vol/cap Ratio	0.75			0.89		
1	Percent of Base FFS	72.50			69.64		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.47			2.48		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.77		D	3.88		D
1	Transit Segment LOS Score / LOS	6.86		F	6.93		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	19.99	20.81
Facility Travel Speed, mph	33.25	31.94
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	72.50	69.64
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.47	2.48

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.77	D	3.88	D
Transit Facility LOS Score / LOS	6.86	F	6.93	F

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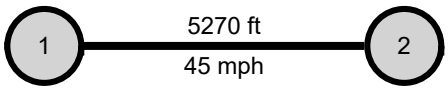
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave_AM.xus	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5270	5270	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.15			45.15		
1	Running Time, s	84.27			83.03		
1	Running Speed, mph	42.64			43.28		
1	Through Delay, s/veh	30.25			23.89		
1	Travel Time, s	114.52			106.92		
1	Travel Speed, mph	31.38			33.61		
1	Stop Rate, stops/veh	0.79			0.67		
1	Spatial Stop Rate, stops/mi	0.79			0.67		
1	Through vol/cap Ratio	0.95			0.79		
1	Percent of Base FFS	69.49			74.43		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.26			2.24		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.96		D	4.31		E
1	Transit Segment LOS Score / LOS	6.77		F	6.70		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	114.52	106.92
Facility Travel Speed, mph	31.38	33.61
Facility Base Free Flow Speed, mph	45.15	45.15
Facility Percent of Base FFS	69.49	74.43
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.26	2.24

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.96	D	4.31	E
Transit Facility LOS Score / LOS	6.77	F	6.70	F

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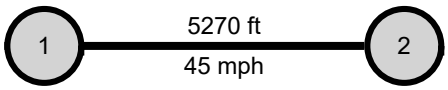
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave, Sycamore &	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5270	5270	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.15			45.15		
1	Running Time, s	83.26			82.39		
1	Running Speed, mph	43.15			43.61		
1	Through Delay, s/veh	44.78			15.86		
1	Travel Time, s	128.04			98.26		
1	Travel Speed, mph	28.06			36.57		
1	Stop Rate, stops/veh	0.91			0.62		
1	Spatial Stop Rate, stops/mi	0.91			0.62		
1	Through vol/cap Ratio	0.99			0.81		
1	Percent of Base FFS	62.15			81.00		
1	Level of Service	C			B		
1	Auto Traveler Perception Score	2.28			2.23		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.94		D	4.30		E
1	Transit Segment LOS Score / LOS	6.71		F	6.65		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	128.04	98.26
Facility Travel Speed, mph	28.06	36.57
Facility Base Free Flow Speed, mph	45.15	45.15
Facility Percent of Base FFS	62.15	81.00
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.28	2.23

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.94	D	4.30	E
Transit Facility LOS Score / LOS	6.71	F	6.65	F

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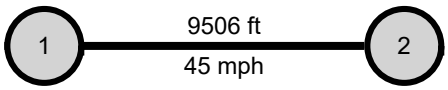
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave, wo Jennings	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9506	9506	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.00			46.01		
1	Running Time, s	147.36			148.08		
1	Running Speed, mph	43.98			43.77		
1	Through Delay, s/veh	9.47			22.17		
1	Travel Time, s	156.83			170.24		
1	Travel Speed, mph	41.33			38.07		
1	Stop Rate, stops/veh	0.34			0.71		
1	Spatial Stop Rate, stops/mi	0.19			0.39		
1	Through vol/cap Ratio	0.47			0.96		
1	Percent of Base FFS	89.83			82.75		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.17			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.00		D	4.04		D
1	Transit Segment LOS Score / LOS	6.74		F	6.78		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	156.83	170.24
Facility Travel Speed, mph	41.33	38.07
Facility Base Free Flow Speed, mph	46.00	46.01
Facility Percent of Base FFS	89.83	82.75
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.17	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.00	D	4.04	D
Transit Facility LOS Score / LOS	6.74	F	6.78	F

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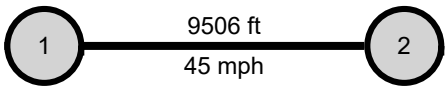
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave, wo Jennings	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9506	9506	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.00			46.01		
1	Running Time, s	147.45			148.06		
1	Running Speed, mph	43.96			43.77		
1	Through Delay, s/veh	8.58			28.81		
1	Travel Time, s	156.03			176.87		
1	Travel Speed, mph	41.54			36.64		
1	Stop Rate, stops/veh	0.34			0.77		
1	Spatial Stop Rate, stops/mi	0.19			0.43		
1	Through vol/cap Ratio	0.56			0.98		
1	Percent of Base FFS	90.30			79.65		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.17			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.98		D	4.04		D
1	Transit Segment LOS Score / LOS	6.74		F	6.77		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	156.03	176.87
Facility Travel Speed, mph	41.54	36.64
Facility Base Free Flow Speed, mph	46.00	46.01
Facility Percent of Base FFS	90.30	79.65
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.17	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.98	D	4.04	D
Transit Facility LOS Score / LOS	6.74	F	6.77	F

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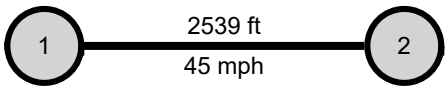
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_AM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2539	2539	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.89			43.54		
1	Running Time, s	40.10			43.64		
1	Running Speed, mph	43.17			39.67		
1	Through Delay, s/veh	9.31			31.00		
1	Travel Time, s	49.41			74.64		
1	Travel Speed, mph	35.04			23.19		
1	Stop Rate, stops/veh	0.36			0.81		
1	Spatial Stop Rate, stops/mi	0.76			1.69		
1	Through vol/cap Ratio	0.39			0.98		
1	Percent of Base FFS	76.35			53.27		
1	Level of Service	B			C		
1	Auto Traveler Perception Score	2.46			2.62		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.10		D	4.80		E
1	Transit Segment LOS Score / LOS	6.60		F	0.70		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	49.41	74.64
Facility Travel Speed, mph	35.04	23.19
Facility Base Free Flow Speed, mph	45.89	43.54
Facility Percent of Base FFS	76.35	53.27
Facility Level of Service	B	C
Facility Auto Traveler Perception Score	2.46	2.62

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.10	D	4.80	E
Transit Facility LOS Score / LOS	6.60	F	0.70	A

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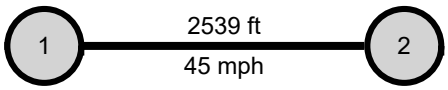
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_PM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2539	2539	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.89			43.54		
1	Running Time, s	40.42			43.90		
1	Running Speed, mph	42.83			39.43		
1	Through Delay, s/veh	10.77			23.99		
1	Travel Time, s	51.19			67.89		
1	Travel Speed, mph	33.82			25.50		
1	Stop Rate, stops/veh	0.38			0.74		
1	Spatial Stop Rate, stops/mi	0.79			1.54		
1	Through vol/cap Ratio	0.74			0.98		
1	Percent of Base FFS	73.69			58.56		
1	Level of Service	B			C		
1	Auto Traveler Perception Score	2.47			2.59		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.20		D	4.79		E
1	Transit Segment LOS Score / LOS	6.65		F	0.74		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	51.19	67.89
Facility Travel Speed, mph	33.82	25.50
Facility Base Free Flow Speed, mph	45.89	43.54
Facility Percent of Base FFS	73.69	58.56
Facility Level of Service	B	C
Facility Auto Traveler Perception Score	2.47	2.59

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.20	D	4.79	E
Transit Facility LOS Score / LOS	6.65	F	0.74	A

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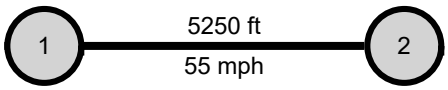
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5250	5250	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.03			45.33		
1	Running Time, s	73.06			82.33		
1	Running Speed, mph	49.00			43.48		
1	Through Delay, s/veh	11.04			0.00		
1	Travel Time, s	84.09			82.33		
1	Travel Speed, mph	42.57			43.48		
1	Stop Rate, stops/veh	0.60			0.00		
1	Spatial Stop Rate, stops/mi	0.60			0.00		
1	Through vol/cap Ratio	0.58			0.00		
1	Percent of Base FFS	85.08			95.92		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.44			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	5.06		F	6.14		F
1	Transit Segment LOS Score / LOS	6.69		F	0.57		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	84.09	82.33
Facility Travel Speed, mph	42.57	43.48
Facility Base Free Flow Speed, mph	50.03	45.33
Facility Percent of Base FFS	85.08	95.92
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.44	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	5.06	F	6.14	F
Transit Facility LOS Score / LOS	6.69	F	0.57	A

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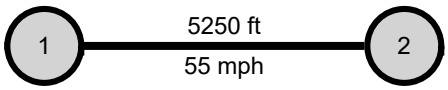
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5250	5250	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.03			45.33		
1	Running Time, s	72.87			80.99		
1	Running Speed, mph	49.13			44.20		
1	Through Delay, s/veh	9.12			0.00		
1	Travel Time, s	81.99			80.99		
1	Travel Speed, mph	43.66			44.20		
1	Stop Rate, stops/veh	0.54			0.00		
1	Spatial Stop Rate, stops/mi	0.54			0.00		
1	Through vol/cap Ratio	0.23			0.00		
1	Percent of Base FFS	87.27			97.50		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.43			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	5.12		F	6.07		F
1	Transit Segment LOS Score / LOS	6.67		F	0.44		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	81.99	80.99
Facility Travel Speed, mph	43.66	44.20
Facility Base Free Flow Speed, mph	50.03	45.33
Facility Percent of Base FFS	87.27	97.50
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.43	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	5.12	F	6.07	F
Transit Facility LOS Score / LOS	6.67	F	0.44	A

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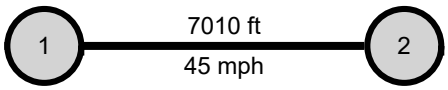
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7010	7010	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	106.66			104.32		
1	Running Speed, mph	44.81			45.82		
1	Through Delay, s/veh	0.00			4.89		
1	Travel Time, s	106.66			109.22		
1	Travel Speed, mph	44.81			43.76		
1	Stop Rate, stops/veh	0.00			0.44		
1	Spatial Stop Rate, stops/mi	0.00			0.33		
1	Through vol/cap Ratio	0.00			0.10		
1	Percent of Base FFS	97.21			94.93		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.34			2.40		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.93		D	4.53		E
1	Transit Segment LOS Score / LOS	6.76		F	6.53		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	106.66	109.22
Facility Travel Speed, mph	44.81	43.76
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	97.21	94.93
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.34	2.40

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.93	D	4.53	E
Transit Facility LOS Score / LOS	6.76	F	6.53	F

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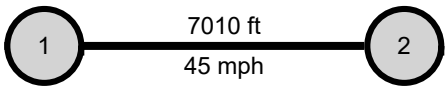
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7010	7010	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	106.94			104.24		
1	Running Speed, mph	44.69			45.85		
1	Through Delay, s/veh	0.00			9.92		
1	Travel Time, s	106.94			114.16		
1	Travel Speed, mph	44.69			41.87		
1	Stop Rate, stops/veh	0.00			0.55		
1	Spatial Stop Rate, stops/mi	0.00			0.41		
1	Through vol/cap Ratio	0.00			0.10		
1	Percent of Base FFS	96.95			90.82		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.34			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.91		D	4.51		E
1	Transit Segment LOS Score / LOS	6.77		F	6.51		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	106.94	114.16
Facility Travel Speed, mph	44.69	41.87
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	96.95	90.82
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.34	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.91	D	4.51	E
Transit Facility LOS Score / LOS	6.77	F	6.51	F

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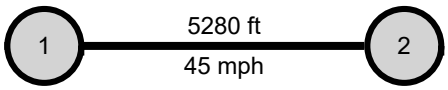
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5280	5280	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.28			46.28		
1	Running Time, s	78.72			79.37		
1	Running Speed, mph	45.73			45.36		
1	Through Delay, s/veh	24.16			14.33		
1	Travel Time, s	102.87			93.70		
1	Travel Speed, mph	34.99			38.42		
1	Stop Rate, stops/veh	0.85			0.75		
1	Spatial Stop Rate, stops/mi	0.85			0.75		
1	Through vol/cap Ratio	0.38			0.57		
1	Percent of Base FFS	75.62			83.02		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.48			2.46		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.35		C	3.59		D
1	Transit Segment LOS Score / LOS	6.53		F	6.67		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	102.87	93.70
Facility Travel Speed, mph	34.99	38.42
Facility Base Free Flow Speed, mph	46.28	46.28
Facility Percent of Base FFS	75.62	83.02
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.48	2.46

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.35	C	3.59	D
Transit Facility LOS Score / LOS	6.53	F	6.67	F

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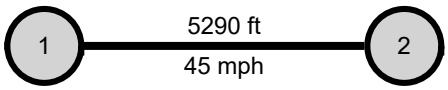
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5290	5290	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.28			46.28		
1	Running Time, s	79.11			79.62		
1	Running Speed, mph	45.59			45.30		
1	Through Delay, s/veh	20.76			15.19		
1	Travel Time, s	99.87			94.81		
1	Travel Speed, mph	36.12			38.04		
1	Stop Rate, stops/veh	0.69			0.75		
1	Spatial Stop Rate, stops/mi	0.68			0.75		
1	Through vol/cap Ratio	0.30			0.62		
1	Percent of Base FFS	78.04			82.21		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.45			2.46		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.55		D	3.60		D
1	Transit Segment LOS Score / LOS	6.63		F	6.68		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	99.87	94.81
Facility Travel Speed, mph	36.12	38.04
Facility Base Free Flow Speed, mph	46.28	46.28
Facility Percent of Base FFS	78.04	82.21
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.45	2.46

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.55	D	3.60	D
Transit Facility LOS Score / LOS	6.63	F	6.68	F

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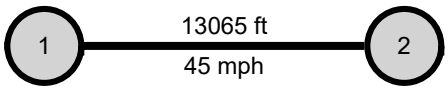
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13065	13065	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			9.02	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.21			46.21		
1	Running Time, s	193.68			201.53		
1	Running Speed, mph	45.99			44.20		
1	Through Delay, s/veh	13.96			189.83		
1	Travel Time, s	207.64			391.36		
1	Travel Speed, mph	42.90			22.76		
1	Stop Rate, stops/veh	0.48			1.76		
1	Spatial Stop Rate, stops/mi	0.19			0.71		
1	Through vol/cap Ratio	0.13			1.36		
1	Percent of Base FFS	92.84			49.25		
1	Level of Service	A			F		
1	Auto Traveler Perception Score	2.38			2.46		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.61		E	4.57		E
1	Transit Segment LOS Score / LOS	6.55		F	6.87		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	207.64	391.36
Facility Travel Speed, mph	42.90	22.76
Facility Base Free Flow Speed, mph	46.21	46.21
Facility Percent of Base FFS	92.84	49.25
Facility Level of Service	A	D
Facility Auto Traveler Perception Score	2.38	2.46

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.61	E	4.57	E
Transit Facility LOS Score / LOS	6.55	F	6.87	F

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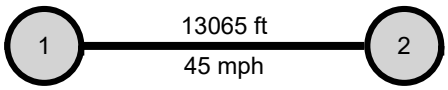
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13065	13065	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.21			46.21		
1	Running Time, s	194.23			199.00		
1	Running Speed, mph	45.86			44.76		
1	Through Delay, s/veh	14.52			23.66		
1	Travel Time, s	208.75			222.66		
1	Travel Speed, mph	42.67			40.01		
1	Stop Rate, stops/veh	0.50			0.77		
1	Spatial Stop Rate, stops/mi	0.20			0.31		
1	Through vol/cap Ratio	0.22			0.85		
1	Percent of Base FFS	92.34			86.57		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.38			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.71		E	4.56		E
1	Transit Segment LOS Score / LOS	6.61		F	6.80		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	208.75	222.66
Facility Travel Speed, mph	42.67	40.01
Facility Base Free Flow Speed, mph	46.21	46.21
Facility Percent of Base FFS	92.34	86.57
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.38	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.71	E	4.56	E
Transit Facility LOS Score / LOS	6.61	F	6.80	F

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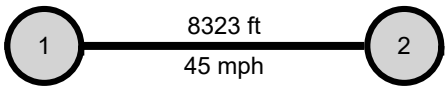
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	123.09			125.00		
1	Running Speed, mph	46.10			45.40		
1	Through Delay, s/veh	14.26			14.73		
1	Travel Time, s	137.35			139.73		
1	Travel Speed, mph	41.32			40.61		
1	Stop Rate, stops/veh	0.52			0.63		
1	Spatial Stop Rate, stops/mi	0.33			0.40		
1	Through vol/cap Ratio	0.25			0.72		
1	Percent of Base FFS	88.75			87.24		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.40			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.23		D	4.22		D
1	Transit Segment LOS Score / LOS	6.56		F	6.65		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	137.35	139.73
Facility Travel Speed, mph	41.32	40.61
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	88.75	87.24
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.40	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.23	D	4.22	D
Transit Facility LOS Score / LOS	6.56	F	6.65	F

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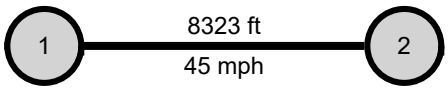
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (No Zacharias IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	122.22			125.84		
1	Running Speed, mph	46.43			45.10		
1	Through Delay, s/veh	12.85			17.75		
1	Travel Time, s	135.07			143.58		
1	Travel Speed, mph	42.01			39.52		
1	Stop Rate, stops/veh	0.51			0.63		
1	Spatial Stop Rate, stops/mi	0.32			0.40		
1	Through vol/cap Ratio	0.03			0.92		
1	Percent of Base FFS	90.25			84.90		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.40			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.41		C	4.25		D
1	Transit Segment LOS Score / LOS	6.41		F	6.69		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	135.07	143.58
Facility Travel Speed, mph	42.01	39.52
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	90.25	84.90
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.40	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.41	C	4.25	D
Transit Facility LOS Score / LOS	6.41	F	6.69	F

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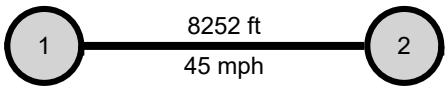
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_A	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative Plus Project (No Zach IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	131.75			131.28		
1	Running Speed, mph	42.70			42.86		
1	Through Delay, s/veh	5.68			5.00		
1	Travel Time, s	137.43			136.28		
1	Travel Speed, mph	40.94			41.28		
1	Stop Rate, stops/veh	0.14			0.16		
1	Spatial Stop Rate, stops/mi	0.09			0.10		
1	Through vol/cap Ratio	0.96			0.93		
1	Percent of Base FFS	88.33			89.07		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.66		E	4.68		E
1	Transit Segment LOS Score / LOS	7.01		F	7.00		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	137.43	136.28
Facility Travel Speed, mph	40.94	41.28
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	88.33	89.07
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.66	E	4.68	E
Transit Facility LOS Score / LOS	7.01	F	7.00	F

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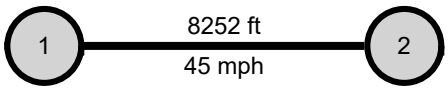
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_F	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative Plus Project (No Zach IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	129.69			132.63		
1	Running Speed, mph	43.38			42.42		
1	Through Delay, s/veh	2.55			3.94		
1	Travel Time, s	132.24			136.57		
1	Travel Speed, mph	42.55			41.20		
1	Stop Rate, stops/veh	0.12			0.14		
1	Spatial Stop Rate, stops/mi	0.08			0.09		
1	Through vol/cap Ratio	0.81			0.96		
1	Percent of Base FFS	91.80			88.89		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.60		E	4.76		E
1	Transit Segment LOS Score / LOS	6.95		F	7.03		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	132.24	136.57
Facility Travel Speed, mph	42.55	41.20
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	91.80	88.89
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.60	E	4.76	E
Transit Facility LOS Score / LOS	6.95	F	7.03	F

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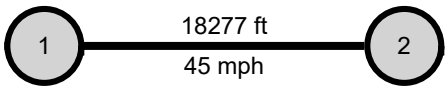
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative Plus Project (No ZachIC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	280.64			275.20		
1	Running Speed, mph	44.40			45.28		
1	Through Delay, s/veh	1.02			0.48		
1	Travel Time, s	281.66			275.68		
1	Travel Speed, mph	44.24			45.20		
1	Stop Rate, stops/veh	0.11			0.12		
1	Spatial Stop Rate, stops/mi	0.03			0.04		
1	Through vol/cap Ratio	0.63			0.39		
1	Percent of Base FFS	95.28			97.35		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.35			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.50		E	4.48		E
1	Transit Segment LOS Score / LOS	6.85		F	6.74		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	281.66	275.68
Facility Travel Speed, mph	44.24	45.20
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	95.28	97.35
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.35	2.35

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.50	E	4.48	E
Transit Facility LOS Score / LOS	6.85	F	6.74	F

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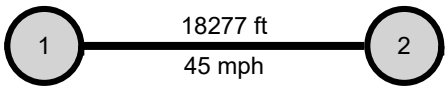
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Crows Landing Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative Plus Project (No ZachIC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	275.03			283.79		
1	Running Speed, mph	45.31			43.91		
1	Through Delay, s/veh	0.39			2.38		
1	Travel Time, s	275.42			286.17		
1	Travel Speed, mph	45.25			43.55		
1	Stop Rate, stops/veh	0.11			0.14		
1	Spatial Stop Rate, stops/mi	0.03			0.04		
1	Through vol/cap Ratio	0.35			0.77		
1	Percent of Base FFS	97.44			93.78		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.35			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.42		E	4.59		E
1	Transit Segment LOS Score / LOS	6.74		F	6.91		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	275.42	286.17
Facility Travel Speed, mph	45.25	43.55
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	97.44	93.78
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.35	2.35

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.42	E	4.59	E
Transit Facility LOS Score / LOS	6.74	F	6.91	F

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040PP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	5641	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1500	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	3181	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	3181	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	20.0	mi/h
Number of lanes, N	2	
Density, D	158.9	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040PP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	4616	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1228	v
Trucks and buses	17	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.922	
Driver population factor, fp	1.00	
Flow rate, vp	2664	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	2664	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	42.3	mi/h
Number of lanes, N	2	
Density, D	62.9	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040PP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	5117	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1361	v
Trucks and buses	22	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.901	
Driver population factor, fp	1.00	
Flow rate, vp	3021	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	61.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	61.0	mi/h

LOS and Performance Measures

Flow rate, vp	3021	pc/h/ln
Free-flow speed, FFS	61.0	mi/h
Average passenger-car speed, S	23.3	mi/h
Number of lanes, N	2	
Density, D	129.5	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040PP
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	5562	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1479	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	3136	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	3136	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	10.9	mi/h
Number of lanes, N	2	
Density, D	286.9	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040PP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	5255	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1398	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	3089	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	3089	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	24.5	mi/h
Number of lanes, N	2	
Density, D	125.8	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040PP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	4409	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1173	v
Trucks and buses	16	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.926	
Driver population factor, fp	1.00	
Flow rate, vp	2533	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	58.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	58.0	mi/h

LOS and Performance Measures

Flow rate, vp	2533	pc/h/ln
Free-flow speed, FFS	58.0	mi/h
Average passenger-car speed, S	44.2	mi/h
Number of lanes, N	2	
Density, D	57.3	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040PP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	4510	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1199	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	2651	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	2651	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	42.8	mi/h
Number of lanes, N	2	
Density, D	61.9	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040PP
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	5137	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1366	v
Trucks and buses	19	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.913	
Driver population factor, fp	1.00	
Flow rate, vp	2992	pc/h/ln

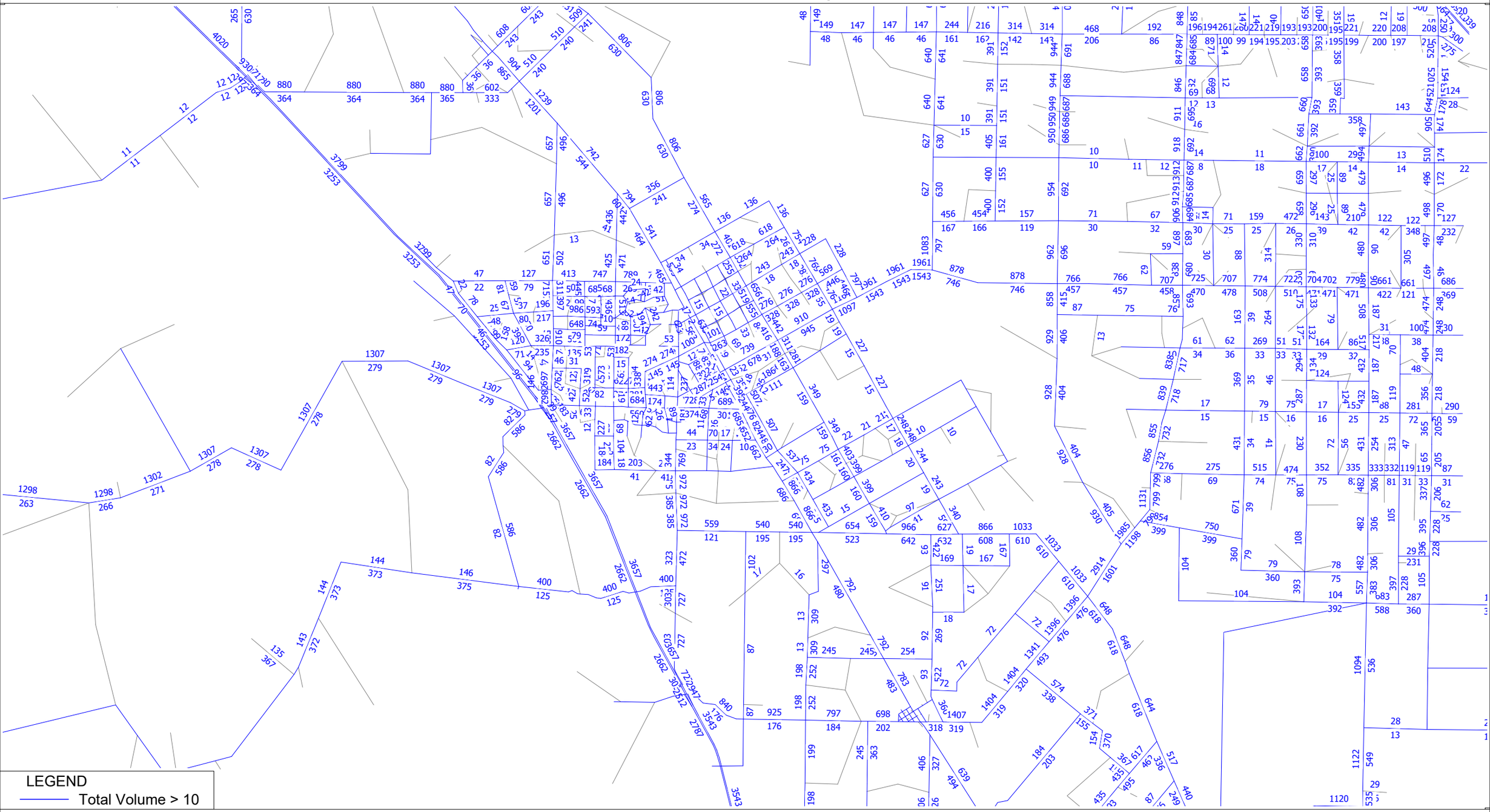
Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	61.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	61.0	mi/h

LOS and Performance Measures

Flow rate, vp	2992	pc/h/ln
Free-flow speed, FFS	61.0	mi/h
Average passenger-car speed, S	24.8	mi/h
Number of lanes, N	2	
Density, D	120.6	pc/mi/ln
Level of service, LOS	F	

2035 Plus Propose Projects
AM PH Vehicle Trips



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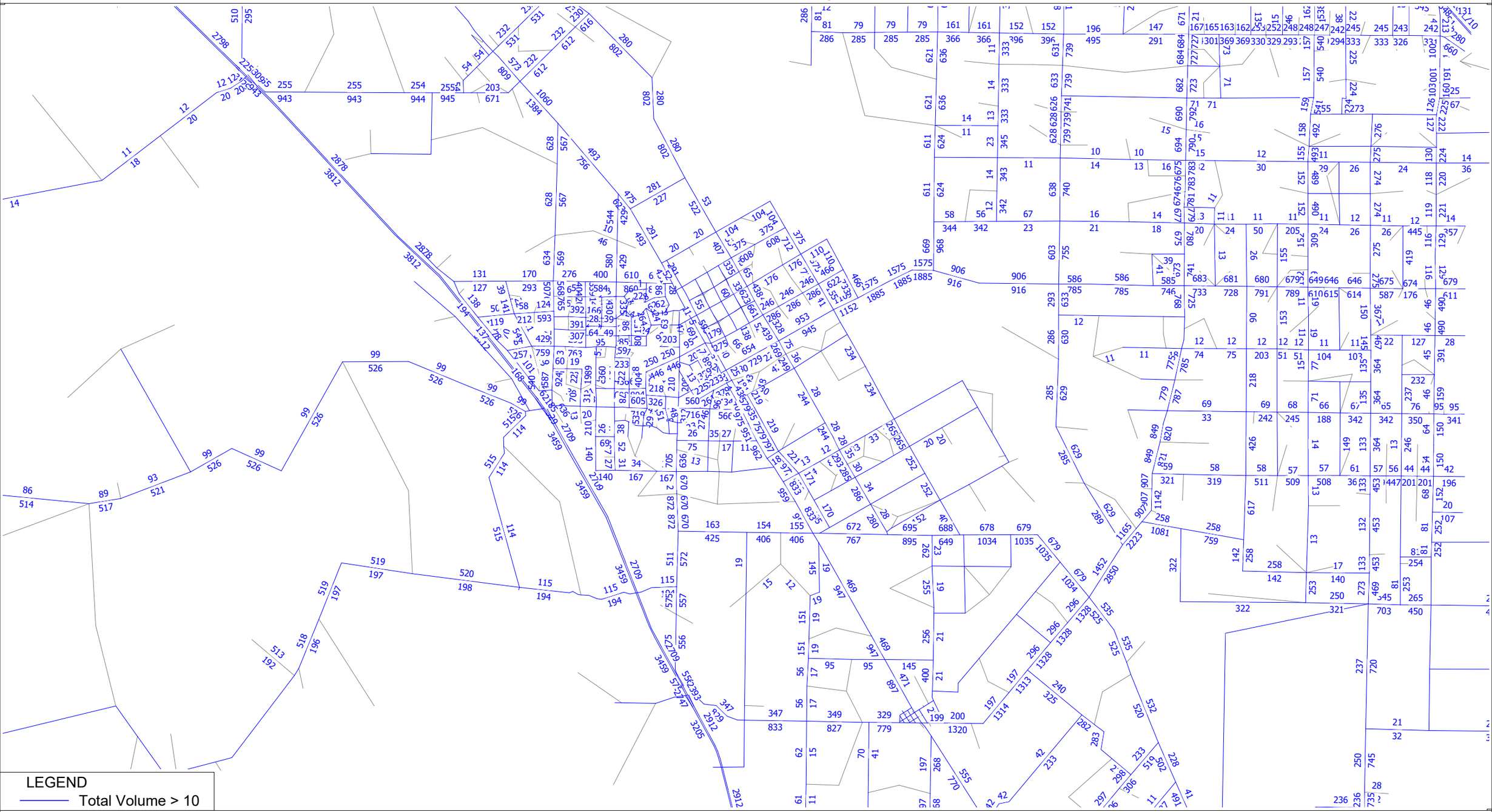
2035 Plus Propose Projects
PM PH Vehicle Trips



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Appendix G INTERSECTION ANALYSIS: 2040 CUMULATIVE PLUS PROJECT CONDITIONS (WITH NEW ZACHARIAS INTERCHANGE) LOS CALCULATION SHEETS

Intersection	
Intersection Delay, s/veh	170
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	354	16	174	678	0	0	0	0	138	1	148
Future Vol, veh/h	0	354	16	174	678	0	0	0	0	138	1	148
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	1	20	20	17	0	0	0	0	20	20	17
Mvmt Flow	0	385	17	189	737	0	0	0	0	150	1	161
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	21.9	284.6	20.5
HCM LOS	C	F	C

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	20%	48%
Vol Thru, %	96%	80%	0%
Vol Right, %	4%	0%	52%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	370	852	287
LT Vol	0	174	138
Through Vol	354	678	1
RT Vol	16	0	148
Lane Flow Rate	402	926	312
Geometry Grp	1	1	1
Degree of Util (X)	0.661	1.577	0.574
Departure Headway (Hd)	6.722	6.132	7.689
Convergence, Y/N	Yes	Yes	Yes
Cap	543	602	474
Service Time	4.722	4.132	5.689
HCM Lane V/C Ratio	0.74	1.538	0.658
HCM Control Delay	21.9	284.6	20.5
HCM Lane LOS	C	F	C
HCM 95th-tile Q	4.8	49.4	3.5

Intersection	
Int Delay, s/veh	119.6

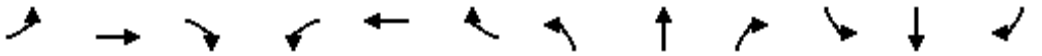
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	393	0	0	726	418	126	1	285	0	0	0
Future Vol, veh/h	99	393	0	0	726	418	126	1	285	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	16	0	0	20	10	0	0	16	0	0	0
Mvmt Flow	108	427	0	0	789	454	137	1	310	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1243	0	-	-	-	0	1659	1886	427
Stage 1	-	-	-	-	-	-	643	643	-
Stage 2	-	-	-	-	-	-	1016	1243	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.36
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.444
Pot Cap-1 Maneuver	567	-	0	0	-	-	~ 109	71	599
Stage 1	-	-	0	0	-	-	527	472	-
Stage 2	-	-	0	0	-	-	353	249	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	567	-	-	-	-	-	~ 82	0	599
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 82	0	-
Stage 1	-	-	-	-	-	-	395	0	-
Stage 2	-	-	-	-	-	-	353	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.6	0	$ 591.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	204	567	-	-	-
HCM Lane V/C Ratio	2.195	0.19	-	-	-
HCM Control Delay (s)	$ 591.2	12.8	0	-	-
HCM Lane LOS	F	B	A	-	-
HCM 95th %tile Q(veh)	35.2	0.7	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	299	214	76	750	214	188	3	60	90	0	206
Future Volume (vph)	165	299	214	76	750	214	188	3	60	90	0	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	3008	1583	1770	1652	1547	1770	1863	1583		1736	2632
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	3008	1583	1770	1652	1547	1770	1863	1583		1736	2632
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	325	233	83	815	233	204	3	65	98	0	224
RTOR Reduction (vph)	0	0	105	0	0	82	0	0	56	0	0	185
Lane Group Flow (vph)	179	325	128	83	815	151	204	3	9	0	98	39
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	9%	20%	2%	2%	15%	3%	2%	2%	2%	4%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	14.9	72.8	72.8	10.8	66.7	66.7	19.0	19.0	19.0		8.0	22.9
Effective Green, g (s)	14.9	72.8	72.8	10.8	66.7	66.7	19.0	19.0	19.0		8.0	22.9
Actuated g/C Ratio	0.11	0.55	0.55	0.08	0.50	0.50	0.14	0.14	0.14		0.06	0.17
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	186	1657	872	144	834	781	254	267	227		105	456
v/s Ratio Prot	c0.11	c0.11		0.05	c0.49		c0.12	0.00			c0.06	0.01
v/s Ratio Perm			0.08			0.10			0.01			0.01
v/c Ratio	0.96	0.20	0.15	0.58	0.98	0.19	0.80	0.01	0.04		0.93	0.09
Uniform Delay, d1	58.3	14.9	14.5	58.4	32.0	17.9	54.7	48.5	48.7		61.8	45.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	54.7	0.1	0.2	5.5	25.4	0.1	16.6	0.0	0.1		66.4	0.1
Delay (s)	113.1	15.0	14.6	63.9	57.3	18.1	71.3	48.5	48.8		128.1	45.9
Level of Service	F	B	B	E	E	B	E	D	D		F	D
Approach Delay (s)		38.7			49.7			65.7			70.9	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	51.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	132.1	Sum of lost time (s)	23.5
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	493	8	9	490	15	173	90	26	14	15	74
Future Volume (veh/h)	66	493	8	9	490	15	173	90	26	14	15	74
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1745	1900	1900	1827	1583	1900	1900	1900	1583	1629	1900
Adj Flow Rate, veh/h	72	536	9	10	533	16	188	98	28	15	16	80
Adj No. of Lanes	2	1	0	2	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	224	736	12	55	1280	490	410	481	409	375	60	299
Arrive On Green	0.08	0.43	0.43	0.02	0.37	0.37	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	2925	1711	29	3510	3471	1329	1320	1900	1615	1071	237	1183
Grp Volume(v), veh/h	72	0	545	10	533	16	188	98	28	15	0	96
Grp Sat Flow(s),veh/h/ln	1463	0	1740	1755	1736	1329	1320	1900	1615	1071	0	1420
Q Serve(g_s), s	1.1	0.0	12.7	0.1	5.6	0.4	6.5	2.0	0.6	0.5	0.0	2.6
Cycle Q Clear(g_c), s	1.1	0.0	12.7	0.1	5.6	0.4	9.1	2.0	0.6	2.5	0.0	2.6
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.83
Lane Grp Cap(c), veh/h	224	0	748	55	1280	490	410	481	409	375	0	359
V/C Ratio(X)	0.32	0.00	0.73	0.18	0.42	0.03	0.46	0.20	0.07	0.04	0.00	0.27
Avail Cap(c_a), veh/h	366	0	1331	432	2647	1013	1078	1441	1225	916	0	1077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.3	0.0	11.5	23.7	11.5	9.8	18.2	14.3	13.8	15.3	0.0	14.6
Incr Delay (d2), s/veh	0.8	0.0	2.9	1.6	0.5	0.1	0.8	0.2	0.1	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	6.7	0.1	2.7	0.1	2.4	1.1	0.3	0.2	0.0	1.1
LnGrp Delay(d),s/veh	22.1	0.0	14.5	25.3	11.9	9.9	19.0	14.6	13.9	15.4	0.0	15.0
LnGrp LOS	C		B	C	B	A	B	B	B	B		B
Approach Vol, veh/h		617			559			314			111	
Approach Delay, s/veh		15.4			12.1			17.2			15.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	26.7		16.8	8.2	23.7		16.8
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		4.5
Max Green Setting (Gmax), s	6.8	37.3		37.0	6.1	37.2		37.0
Max Q Clear Time (g_c+I1), s	2.1	14.7		4.6	3.1	7.6		11.1
Green Ext Time (p_c), s	0.0	6.3		0.6	0.0	6.8		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	335	46	10	406	165	181	417	20	335	205	93
Future Volume (veh/h)	131	335	46	10	406	165	181	417	20	335	205	93
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1835	1900	1900	1792	1863	1900	1810	1900	1827	1888	1900
Adj Flow Rate, veh/h	142	364	50	11	441	179	197	453	22	364	223	101
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	4	0	0	6	2	0	5	5	4	0	2
Cap, veh/h	229	534	73	29	513	453	234	503	24	436	362	164
Arrive On Green	0.07	0.34	0.34	0.02	0.29	0.29	0.13	0.29	0.29	0.13	0.29	0.29
Sat Flow, veh/h	3312	1575	216	1810	1792	1583	1810	1712	83	3375	1232	558
Grp Volume(v), veh/h	142	0	414	11	441	179	197	0	475	364	0	324
Grp Sat Flow(s),veh/h/ln	1656	0	1792	1810	1792	1583	1810	0	1795	1688	0	1790
Q Serve(g_s), s	3.5	0.0	16.6	0.5	19.5	7.6	8.9	0.0	21.2	8.8	0.0	13.0
Cycle Q Clear(g_c), s	3.5	0.0	16.6	0.5	19.5	7.6	8.9	0.0	21.2	8.8	0.0	13.0
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.05	1.00		0.31
Lane Grp Cap(c), veh/h	229	0	608	29	513	453	234	0	528	436	0	526
V/C Ratio(X)	0.62	0.00	0.68	0.38	0.86	0.40	0.84	0.00	0.90	0.83	0.00	0.62
Avail Cap(c_a), veh/h	238	0	608	130	573	506	256	0	602	437	0	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.8	0.0	23.7	40.7	28.2	24.0	35.5	0.0	28.3	35.5	0.0	25.4
Incr Delay (d2), s/veh	3.2	0.0	4.1	16.2	13.4	1.2	18.7	0.0	15.3	12.4	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	8.8	0.4	11.5	3.5	5.7	0.0	12.7	4.8	0.0	6.6
LnGrp Delay(d),s/veh	41.0	0.0	27.8	56.8	41.6	25.2	54.3	0.0	43.7	47.9	0.0	27.1
LnGrp LOS	D		C	E	D	C	D		D	D		C
Approach Vol, veh/h		556			631			672			688	
Approach Delay, s/veh		31.2			37.2			46.8			38.1	
Approach LOS		C			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	33.8	15.0	29.1	10.0	29.4	15.0	29.2
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	26.7	* 12	27.0	* 6	26.7	* 11	28.0
Max Q Clear Time (g_c+I1), s	2.5	18.6	10.9	15.0	5.5	21.5	10.8	23.2
Green Ext Time (p_c), s	0.0	2.5	0.0	1.5	0.0	2.4	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	38.7
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	654	31	39	522	54	54	124	75	80	81	105
Future Volume (veh/h)	77	654	31	39	522	54	54	124	75	80	81	105
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1842	1900	1845	1813	1900	1863	1886	1900	1881	1900	1900
Adj Flow Rate, veh/h	84	711	34	42	567	59	59	135	82	87	88	114
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	6	3	5	3	2	0	2	1	0	0
Cap, veh/h	149	1063	51	93	893	93	312	266	161	304	183	237
Arrive On Green	0.08	0.31	0.31	0.05	0.28	0.28	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1810	3397	162	1757	3149	327	1170	1088	661	1166	749	971
Grp Volume(v), veh/h	84	366	379	42	310	316	59	0	217	87	0	202
Grp Sat Flow(s),veh/h/ln	1810	1750	1809	1757	1722	1754	1170	0	1749	1166	0	1720
Q Serve(g_s), s	2.2	9.1	9.1	1.2	7.9	7.9	2.3	0.0	5.4	3.5	0.0	5.0
Cycle Q Clear(g_c), s	2.2	9.1	9.1	1.2	7.9	7.9	7.3	0.0	5.4	8.8	0.0	5.0
Prop In Lane	1.00		0.09	1.00		0.19	1.00		0.38	1.00		0.56
Lane Grp Cap(c), veh/h	149	548	566	93	488	497	312	0	427	304	0	420
V/C Ratio(X)	0.56	0.67	0.67	0.45	0.63	0.64	0.19	0.00	0.51	0.29	0.00	0.48
Avail Cap(c_a), veh/h	217	787	814	211	775	789	541	0	769	532	0	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	14.9	14.9	23.0	15.7	15.7	19.3	0.0	16.3	20.1	0.0	16.2
Incr Delay (d2), s/veh	3.3	2.0	2.0	3.4	1.9	1.9	0.3	0.0	0.9	0.5	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.7	4.8	0.6	4.0	4.0	0.8	0.0	2.7	1.2	0.0	2.5
LnGrp Delay(d),s/veh	25.4	16.9	16.9	26.4	17.6	17.6	19.6	0.0	17.3	20.6	0.0	17.0
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		829			668			276			289	
Approach Delay, s/veh		17.8			18.2			17.8			18.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.2	22.2		18.7	10.6	20.7		18.7
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	6.0	22.5		22.0	6.0	22.5		22.0
Max Q Clear Time (g_c+I1), s	3.2	11.1		10.8	4.2	9.9		9.3
Green Ext Time (p_c), s	0.0	4.5		1.2	0.0	4.1		1.2

Intersection Summary		
HCM 2010 Ctrl Delay	17.9	
HCM 2010 LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	580	20	137	508	128	19	93	97	146	120	39
Future Volume (veh/h)	130	580	20	137	508	128	19	93	97	146	120	39
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1817	1900	1792	1827	1845	1900	1827	1900	1900	1863	1776
Adj Flow Rate, veh/h	141	630	22	149	552	139	21	101	105	159	130	42
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	20	6	4	3	0	4	4	0	2	7
Cap, veh/h	155	910	32	188	964	429	52	157	163	198	506	403
Arrive On Green	0.09	0.27	0.27	0.11	0.28	0.28	0.03	0.19	0.19	0.11	0.27	0.27
Sat Flow, veh/h	1810	3402	119	1707	3471	1546	1810	821	854	1810	1863	1482
Grp Volume(v), veh/h	141	320	332	149	552	139	21	0	206	159	130	42
Grp Sat Flow(s),veh/h/ln	1810	1727	1794	1707	1736	1546	1810	0	1675	1810	1863	1482
Q Serve(g_s), s	5.4	11.7	11.7	6.0	9.6	5.0	0.8	0.0	8.0	6.0	3.8	1.5
Cycle Q Clear(g_c), s	5.4	11.7	11.7	6.0	9.6	5.0	0.8	0.0	8.0	6.0	3.8	1.5
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	155	462	480	188	964	429	52	0	320	198	506	403
V/C Ratio(X)	0.91	0.69	0.69	0.79	0.57	0.32	0.40	0.00	0.64	0.80	0.26	0.10
Avail Cap(c_a), veh/h	155	610	634	365	1623	723	155	0	812	222	972	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	23.1	23.1	30.4	21.8	20.1	33.5	0.0	26.2	30.5	20.0	19.1
Incr Delay (d2), s/veh	47.1	4.1	4.0	7.4	1.2	0.9	5.0	0.0	4.6	17.2	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	6.0	6.3	3.2	4.8	2.2	0.5	0.0	4.1	4.0	2.0	0.6
LnGrp Delay(d),s/veh	78.9	27.2	27.1	37.8	22.9	21.0	38.5	0.0	30.8	47.7	20.6	19.4
LnGrp LOS	E	C	C	D	C	C	D		C	D	C	B
Approach Vol, veh/h		793			840			227			331	
Approach Delay, s/veh		36.4			25.3			31.5			33.5	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	24.8	6.6	25.1	13.0	25.5	12.3	19.4
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	15.0	24.8	6.0	36.6	6.0	32.8	8.6	34.0
Max Q Clear Time (g_c+I1), s	10.0	13.7	2.8	5.8	7.4	11.6	8.0	10.0
Green Ext Time (p_c), s	0.2	4.6	0.0	1.7	0.0	7.1	0.0	2.2

Intersection Summary		
HCM 2010 Ctrl Delay		31.2
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	306	32	14	444	33	65	97	19	4	44	129
Future Volume (veh/h)	225	306	32	14	444	33	65	97	19	4	44	129
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1818	1900	1900	1759	1900	1900	1886	1900	1900	1873	1900
Adj Flow Rate, veh/h	245	333	35	15	483	36	71	105	21	4	48	140
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	5	0	0	8	0	2	0	0	0	0	2
Cap, veh/h	528	1755	183	705	978	896	219	208	36	98	85	236
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	878	3156	329	1029	1759	1611	465	1053	181	13	431	1194
Grp Volume(v), veh/h	245	181	187	15	483	36	197	0	0	192	0	0
Grp Sat Flow(s),veh/h/ln	878	1727	1759	1029	1759	1611	1700	0	0	1637	0	0
Q Serve(g_s), s	9.1	2.0	2.0	0.3	6.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.6	2.0	2.0	2.3	6.5	0.4	3.7	0.0	0.0	4.1	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.36		0.11	0.02		0.73
Lane Grp Cap(c), veh/h	528	960	978	705	978	896	463	0	0	419	0	0
V/C Ratio(X)	0.46	0.19	0.19	0.02	0.49	0.04	0.43	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	641	1184	1205	838	1206	1104	1118	0	0	1116	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.0	4.2	4.2	4.8	5.2	3.9	13.9	0.0	0.0	14.0	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.2	0.2	0.0	0.8	0.0	0.6	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.0	1.0	0.1	3.3	0.2	1.9	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	11.4	4.4	4.4	4.8	6.1	3.9	14.5	0.0	0.0	14.8	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B			B		
Approach Vol, veh/h		613			534			197			192	
Approach Delay, s/veh		7.2			5.9			14.5			14.8	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		26.0		12.5		26.0		12.5
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		26.4		24.1		26.4		24.1
Max Q Clear Time (g_c+I1), s		17.6		5.7		8.5		6.1
Green Ext Time (p_c), s		3.8		1.1		5.5		1.1

Intersection Summary		
HCM 2010 Ctrl Delay		8.6
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	935.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	143	167	63	36	135	52	134	418	55	30	275	247
Future Vol, veh/h	143	167	63	36	135	52	134	418	55	30	275	247
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	4	0	14	9	8	4	6	12	0	12	10
Mvmt Flow	155	182	68	39	147	57	146	454	60	33	299	268

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1244	1171	299	1266	1141	485	299	0	0	514	0	0
Stage 1	365	365	-	776	776	-	-	-	-	-	-	-
Stage 2	879	806	-	490	365	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.54	6.2	7.24	6.59	6.28	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.54	-	6.24	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.036	3.3	3.626	4.081	3.372	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 145	191	745	138	195	570	1251	-	-	1062	-	0
Stage 1	638	620	-	373	397	-	-	-	-	-	-	0
Stage 2	331	392	-	538	611	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 20	~ 154	745	-	157	569	1251	-	-	1062	-	-
Mov Cap-2 Maneuver	~ 20	~ 154	-	-	157	-	-	-	-	-	-	-
Stage 1	533	597	-	311	331	-	-	-	-	-	-	-
Stage 2	~ 138	327	-	327	588	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	3777.2		1.8	0.8
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	1251	-	-	45	-	569	1062	-
HCM Lane V/C Ratio	0.116	-	-	9.01	-	0.099	0.031	-
HCM Control Delay (s)	8.3	0	-	$ 3777.2	-	12	8.5	0
HCM Lane LOS	A	A	-	F	-	B	A	A
HCM 95th %tile Q(veh)	0.4	-	-	48.2	-	0.3	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	173	69	165	147	22	101	255	184	74	567	96
Future Volume (veh/h)	30	173	69	165	147	22	101	255	184	74	567	96
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1667	1667	1900	1597	1597	1900
Adj Flow Rate, veh/h	33	188	75	179	160	24	110	277	200	80	616	104
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	220	158	63	223	199	30	128	428	309	97	611	103
Arrive On Green	0.12	0.12	0.12	0.13	0.13	0.13	0.08	0.48	0.48	0.06	0.46	0.46
Sat Flow, veh/h	1774	1268	506	1774	1583	238	1587	901	651	1521	1332	225
Grp Volume(v), veh/h	33	0	263	179	0	184	110	0	477	80	0	720
Grp Sat Flow(s),veh/h/ln	1774	0	1773	1774	0	1821	1587	0	1552	1521	0	1557
Q Serve(g_s), s	1.4	0.0	10.8	8.5	0.0	8.5	6.0	0.0	20.2	4.5	0.0	39.9
Cycle Q Clear(g_c), s	1.4	0.0	10.8	8.5	0.0	8.5	6.0	0.0	20.2	4.5	0.0	39.9
Prop In Lane	1.00		0.29	1.00		0.13	1.00		0.42	1.00		0.14
Lane Grp Cap(c), veh/h	220	0	220	223	0	229	128	0	738	97	0	715
V/C Ratio(X)	0.15	0.00	1.19	0.80	0.00	0.80	0.86	0.00	0.65	0.82	0.00	1.01
Avail Cap(c_a), veh/h	220	0	220	592	0	607	128	0	738	105	0	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.0	0.0	38.1	37.0	0.0	37.0	39.5	0.0	17.3	40.2	0.0	23.5
Incr Delay (d2), s/veh	0.1	0.0	122.8	2.6	0.0	2.5	39.6	0.0	1.5	33.5	0.0	35.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	12.8	4.3	0.0	4.5	4.0	0.0	8.9	2.8	0.0	24.1
LnGrp Delay(d),s/veh	34.1	0.0	160.9	39.5	0.0	39.5	79.1	0.0	18.8	73.7	0.0	59.0
LnGrp LOS	C		F	D		D	E		B	E		F
Approach Vol, veh/h		296			363			587			800	
Approach Delay, s/veh		146.8			39.5			30.1			60.5	
Approach LOS		F			D			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		15.0	9.6	46.2		16.1	11.0	44.8
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 11	6.0	40.9		29.0	7.0	39.9
Max Q Clear Time (g_c+I1), s		12.8	6.5	22.2		10.5	8.0	41.9
Green Ext Time (p_c), s		0.0	0.0	0.5		0.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	60.5
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	279	6	221	452	164	2	302	331	201	339	4
Future Volume (veh/h)	24	279	6	221	452	164	2	302	331	201	339	4
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1777	1900	1845	1743	1900	1827	1713	1900	1743	1881	1900
Adj Flow Rate, veh/h	26	303	7	240	491	178	2	328	360	218	368	4
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	7	3	3	9	0	4	1	20	9	1	4
Cap, veh/h	225	421	10	416	591	534	389	451	403	281	1305	14
Arrive On Green	0.03	0.24	0.24	0.12	0.34	0.34	0.00	0.28	0.28	0.09	0.36	0.36
Sat Flow, veh/h	1810	1729	40	1757	1743	1573	1740	1627	1453	1660	3620	39
Grp Volume(v), veh/h	26	0	310	240	491	178	2	328	360	218	181	191
Grp Sat Flow(s),veh/h/ln	1810	0	1769	1757	1743	1573	1740	1627	1453	1660	1787	1873
Q Serve(g_s), s	0.7	0.0	10.5	6.2	16.9	5.5	0.1	11.9	15.5	5.6	4.7	4.7
Cycle Q Clear(g_c), s	0.7	0.0	10.5	6.2	16.9	5.5	0.1	11.9	15.5	5.6	4.7	4.7
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	225	0	430	416	591	534	389	451	403	281	644	675
V/C Ratio(X)	0.12	0.00	0.72	0.58	0.83	0.33	0.01	0.73	0.89	0.78	0.28	0.28
Avail Cap(c_a), veh/h	326	0	823	696	1158	1045	598	577	515	281	644	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	0.0	22.6	15.2	19.8	16.0	16.9	21.3	22.6	17.4	14.8	14.8
Incr Delay (d2), s/veh	0.1	0.0	0.9	0.5	1.2	0.1	0.0	2.2	13.1	11.7	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.2	3.1	8.2	2.4	0.0	5.6	7.7	2.3	2.3	2.5
LnGrp Delay(d),s/veh	18.5	0.0	23.5	15.7	21.0	16.2	16.9	23.5	35.7	29.2	14.9	14.9
LnGrp LOS	B		C	B	C	B	B	C	D	C	B	B
Approach Vol, veh/h		336			909			690			590	
Approach Delay, s/veh		23.1			18.6			29.8			20.2	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	26.7	9.6	23.0	12.1	20.4	4.2	28.4
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.5	43.3	5.6	23.1	18.5	30.3	8.0	20.7
Max Q Clear Time (g_c+I1), s	2.7	18.9	7.6	17.5	8.2	12.5	2.1	6.7
Green Ext Time (p_c), s	0.0	0.4	0.0	0.5	0.0	0.4	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	217	153	31	113	292	42	378	11	173	828	18
Future Vol, veh/h	82	217	153	31	113	292	42	378	11	173	828	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	19	19	19
Mvmt Flow	89	236	166	34	123	317	46	411	12	188	900	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2005	1791	900	1996	1805	417	920	0	0	423	0	0
Stage 1	1276	1276	-	509	509	-	-	-	-	-	-	-
Stage 2	729	515	-	1487	1296	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.24	-	-	4.29	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.326	-	-	2.371	-	-
Pot Cap-1 Maneuver	~ 44	~ 81	337	45	~ 79	636	695	-	-	1051	-	-
Stage 1	205	238	-	547	538	-	-	-	-	-	-	-
Stage 2	414	535	-	155	232	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 47	337	-	~ 46	636	695	-	-	1051	-	-
Mov Cap-2 Maneuver	-	~ 47	-	-	~ 46	-	-	-	-	-	-	-
Stage 1	187	~ 151	-	499	491	-	-	-	-	-	-	-
Stage 2	142	488	-	-	147	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1	1.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	695	-	-	-	337	-	1051	-	-
HCM Lane V/C Ratio	0.066	-	-	-	0.493	-	0.179	-	-
HCM Control Delay (s)	10.5	0	-	-	25.7	-	9.2	0	-
HCM Lane LOS	B	A	-	-	D	-	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	-	2.6	-	0.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	105	21	8	55	5	91	1	6	2	1	0
Future Vol, veh/h	2	105	21	8	55	5	91	1	6	2	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	20	20	10	0	20	0	20	0	20	0
Mvmt Flow	2	114	23	9	60	5	99	1	7	2	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	65	0	0	137	0	0	211	213	127	216	222	63
Stage 1	-	-	-	-	-	-	130	130	-	81	81	-
Stage 2	-	-	-	-	-	-	81	83	-	135	141	-
Critical Hdwy	4.1	-	-	4.3	-	-	7.3	6.5	6.4	7.1	6.7	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.5	-	6.1	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.5	-	6.1	5.7	-
Follow-up Hdwy	2.2	-	-	2.38	-	-	3.68	4	3.48	3.5	4.18	3.3
Pot Cap-1 Maneuver	1550	-	-	1343	-	-	709	688	877	745	646	1007
Stage 1	-	-	-	-	-	-	832	792	-	932	794	-
Stage 2	-	-	-	-	-	-	885	830	-	873	747	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1550	-	-	1343	-	-	704	682	876	733	641	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	704	682	-	733	641	-
Stage 1	-	-	-	-	-	-	831	791	-	931	788	-
Stage 2	-	-	-	-	-	-	878	824	-	863	746	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.9	10.8	10.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	704	842	1550	-	-	1343	-	-	700
HCM Lane V/C Ratio	0.141	0.009	0.001	-	-	0.006	-	-	0.005
HCM Control Delay (s)	10.9	9.3	7.3	-	-	7.7	-	-	10.2
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	103	26	16	17	14	3	67	28	32	37	8
Future Vol, veh/h	120	103	26	16	17	14	3	67	28	32	37	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	200	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	20	0	14	0	2	20	9	7	0
Mvmt Flow	130	112	28	17	18	15	3	73	30	35	40	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	226	224	45	264	198	73	49	0	0	103	0	0
Stage 1	115	115	-	79	79	-	-	-	-	-	-	-
Stage 2	111	109	-	185	119	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.3	6.5	6.34	4.1	-	-	4.19	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.68	4	3.426	2.2	-	-	2.281	-	-
Pot Cap-1 Maneuver	729	675	1025	654	701	956	1571	-	-	1446	-	-
Stage 1	890	800	-	887	833	-	-	-	-	-	-	-
Stage 2	894	805	-	777	801	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	689	657	1025	542	683	956	1571	-	-	1446	-	-
Mov Cap-2 Maneuver	689	657	-	542	683	-	-	-	-	-	-	-
Stage 1	888	781	-	885	831	-	-	-	-	-	-	-
Stage 2	858	803	-	632	782	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	10.4	0.2	3.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1571	-	-	699	542	683	956	1446	-	-
HCM Lane V/C Ratio	0.002	-	-	0.387	0.032	0.027	0.016	0.024	-	-
HCM Control Delay (s)	7.3	0	-	13.4	11.9	10.4	8.8	7.6	-	-
HCM Lane LOS	A	A	-	B	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.8	0.1	0.1	0	0.1	-	-

Intersection	
Int Delay, s/veh	18.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	224	125	14	122	20	21	151	10	16	243	8
Future Vol, veh/h	26	224	125	14	122	20	21	151	10	16	243	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	2	2	2	19	19	19	16	16	16
Mvmt Flow	28	243	136	15	133	22	23	164	11	17	264	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	596	524	269	708	523	170	273	0	0	175	0	0
Stage 1	303	303	-	216	216	-	-	-	-	-	-	-
Stage 2	293	221	-	492	307	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.29	-	-	4.26	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.371	-	-	2.344	-	-
Pot Cap-1 Maneuver	411	454	762	350	459	874	1198	-	-	1321	-	-
Stage 1	700	658	-	786	724	-	-	-	-	-	-	-
Stage 2	709	715	-	558	661	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	300	438	762	157	442	874	1198	-	-	1321	-	-
Mov Cap-2 Maneuver	300	438	-	157	442	-	-	-	-	-	-	-
Stage 1	685	648	-	769	709	-	-	-	-	-	-	-
Stage 2	550	700	-	282	651	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	38.7	20.3	0.9	0.5
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1198	-	-	492	402	1321	-	-
HCM Lane V/C Ratio	0.019	-	-	0.828	0.422	0.013	-	-
HCM Control Delay (s)	8.1	0	-	38.7	20.3	7.8	0	-
HCM Lane LOS	A	A	-	E	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	8.2	2	0	-	-

Intersection	
Intersection Delay, s/veh	130.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	84	81	27	51	14	294	391	148	2	259	55
Future Vol, veh/h	7	84	81	27	51	14	294	391	148	2	259	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	5	5	5	2	2	2	5	5	5	18	18	18
Mvmt Flow	8	91	88	29	55	15	320	425	161	2	282	60
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.5	13.1	210	18.9
HCM LOS	B	B	F	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	35%	4%	29%	1%
Vol Thru, %	47%	49%	55%	82%
Vol Right, %	18%	47%	15%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	833	172	92	316
LT Vol	294	7	27	2
Through Vol	391	84	51	259
RT Vol	148	81	14	55
Lane Flow Rate	905	187	100	343
Geometry Grp	1	1	1	1
Degree of Util (X)	1.408	0.347	0.199	0.587
Departure Headway (Hd)	5.599	7.54	8.107	6.732
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	652	480	446	539
Service Time	3.64	5.54	6.107	4.732
HCM Lane V/C Ratio	1.388	0.39	0.224	0.636
HCM Control Delay	210	14.5	13.1	18.9
HCM Lane LOS	F	B	B	C
HCM 95th-tile Q	40.8	1.5	0.7	3.8

Intersection	
Int Delay, s/veh	86.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	330	314	291	498	16
Future Vol, veh/h	60	330	314	291	498	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	65	359	341	316	541	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1548	550	558	0	-	0
Stage 1	550	-	-	-	-	-
Stage 2	998	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	124	529	946	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	70	529	946	-	-	-
Mov Cap-2 Maneuver	70	-	-	-	-	-
Stage 1	322	-	-	-	-	-
Stage 2	352	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 326.3	5.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	946	-	263	-	-
HCM Lane V/C Ratio	0.361	-	1.612	-	-
HCM Control Delay (s)	10.9	0	$ 326.3	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	1.7	-	26.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	29.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	625	283	35	273	544
Future Vol, veh/h	4	625	283	35	273	544
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	20	20	16	16	17	17
Mvmt Flow	4	679	308	38	297	591

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1512	327	0	0	346	0
Stage 1	327	-	-	-	-	-
Stage 2	1185	-	-	-	-	-
Critical Hdwy	6.6	6.4	-	-	4.27	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.68	3.48	-	-	2.353	-
Pot Cap-1 Maneuver	120	~ 675	-	-	1134	-
Stage 1	692	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	73	~ 675	-	-	1134	-
Mov Cap-2 Maneuver	73	-	-	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	163	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	79.6	0	3.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	641	1134	-
HCM Lane V/C Ratio	-	-	1.067	0.262	-
HCM Control Delay (s)	-	-	79.6	9.3	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	18.9	1.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	198.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	393	9	2	751	466	84
Future Vol, veh/h	393	9	2	751	466	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	16	16	17	17
Mvmt Flow	427	10	2	816	507	91

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1373	553	598	0	-	0
Stage 1	553	-	-	-	-	-
Stage 2	820	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.26	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.344	-	-	-
Pot Cap-1 Maneuver	~ 158	527	914	-	-	-
Stage 1	570	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 157	527	914	-	-	-
Mov Cap-2 Maneuver	~ 157	-	-	-	-	-
Stage 1	568	-	-	-	-	-
Stage 2	428	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 840.5	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	914	-	160	-	-
HCM Lane V/C Ratio	0.002	-	2.731	-	-
HCM Control Delay (s)	8.9	0	$ 840.5	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	38.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	127.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	498	126	6	395	368	52
Future Vol, veh/h	498	126	6	395	368	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	17	17	16	16	19	19
Mvmt Flow	541	137	7	429	400	57

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	678	0	1053	610
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	443	-
Critical Hdwy	-	-	4.26	-	6.59	6.39
Critical Hdwy Stg 1	-	-	-	-	5.59	-
Critical Hdwy Stg 2	-	-	-	-	5.59	-
Follow-up Hdwy	-	-	2.344	-	3.671	3.471
Pot Cap-1 Maneuver	-	-	852	-	~ 233	465
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	613	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	852	-	~ 230	465
Mov Cap-2 Maneuver	-	-	-	-	~ 230	-
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	$ 437.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	245	-	-	852	-
HCM Lane V/C Ratio	1.863	-	-	0.008	-
HCM Control Delay (s)	$ 437.7	-	-	9.3	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	31.8	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	276.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	53	132	93	0	580	29	84	322	0	0	262	22
Future Vol, veh/h	53	132	93	0	580	29	84	322	0	0	262	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	20	20	20	20	20	2	2	2	2	2	2
Mvmt Flow	58	143	101	0	630	32	91	350	0	0	285	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1160	829	297	951	841	350	309	0	0	350	0	0
Stage 1	297	297	-	532	532	-	-	-	-	-	-	-
Stage 2	863	532	-	419	309	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.3	6.7	6.4	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.68	4.18	3.48	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	159	287	702	222	~ 282	654	1252	-	-	1209	-	-
Stage 1	675	636	-	500	~ 497	-	-	-	-	-	-	-
Stage 2	325	497	-	578	~ 628	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	261	702	101	~ 257	654	1252	-	-	1209	-	-
Mov Cap-2 Maneuver	-	261	-	101	~ 257	-	-	-	-	-	-	-
Stage 1	614	636	-	455	~ 452	-	-	-	-	-	-	-
Stage 2	-	452	-	383	~ 628	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 714.6	1.7	0
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1252	-	-	-	265	1209	-	-
HCM Lane V/C Ratio	0.073	-	-	-	2.498	-	-	-
HCM Control Delay (s)	8.1	0	-	-	$ 714.6	0	-	-
HCM Lane LOS	A	A	-	-	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	54.2	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	23	23	205	1	4	0	244	489	17	1	20	1
Future Vol, veh/h	23	23	205	1	4	0	244	489	17	1	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	20	20	20	20	20	2	2	2	2	2	2
Mvmt Flow	25	25	223	1	4	0	265	532	18	1	22	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1098	1105	23	1220	1096	541	23	0	0	550	0	0
Stage 1	25	25	-	1071	1071	-	-	-	-	-	-	-
Stage 2	1073	1080	-	149	25	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.4	7.3	6.7	6.4	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	6.3	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.48	3.68	4.18	3.48	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	176	196	1004	144	198	508	1592	-	-	1020	-	-
Stage 1	948	840	-	247	276	-	-	-	-	-	-	-
Stage 2	246	273	-	813	840	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	140	149	1004	80	150	508	1592	-	-	1020	-	-
Mov Cap-2 Maneuver	140	149	-	80	150	-	-	-	-	-	-	-
Stage 1	720	839	-	188	210	-	-	-	-	-	-	-
Stage 2	183	207	-	613	839	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.9	34.4	2.5	0.4
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1592	-	-	480	128	1020	-	-
HCM Lane V/C Ratio	0.167	-	-	0.568	0.042	0.001	-	-
HCM Control Delay (s)	7.7	0	-	21.9	34.4	8.5	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	3.5	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	533	8	11	403	44	13	137	248	65	43	17
Future Volume (veh/h)	14	533	8	11	403	44	13	137	248	65	43	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	15	579	9	12	438	48	14	149	270	71	47	18
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	30	639	10	23	532	58	30	170	309	94	414	159
Arrive On Green	0.02	0.37	0.37	0.01	0.37	0.37	0.02	0.29	0.29	0.05	0.32	0.32
Sat Flow, veh/h	1675	1728	27	1560	1451	159	1774	595	1078	1774	1284	492
Grp Volume(v), veh/h	15	0	588	12	0	486	14	0	419	71	0	65
Grp Sat Flow(s),veh/h/ln	1675	0	1755	1560	0	1610	1774	0	1673	1774	0	1776
Q Serve(g_s), s	0.6	0.0	22.6	0.5	0.0	19.5	0.6	0.0	17.0	2.8	0.0	1.8
Cycle Q Clear(g_c), s	0.6	0.0	22.6	0.5	0.0	19.5	0.6	0.0	17.0	2.8	0.0	1.8
Prop In Lane	1.00		0.02	1.00		0.10	1.00		0.64	1.00		0.28
Lane Grp Cap(c), veh/h	30	0	649	23	0	590	30	0	479	94	0	573
V/C Ratio(X)	0.50	0.00	0.91	0.52	0.00	0.82	0.46	0.00	0.87	0.75	0.00	0.11
Avail Cap(c_a), veh/h	118	0	745	110	0	684	125	0	616	225	0	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	21.2	34.8	0.0	20.4	34.6	0.0	24.1	33.2	0.0	16.9
Incr Delay (d2), s/veh	12.1	0.0	13.6	16.8	0.0	7.1	10.7	0.0	10.9	11.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	13.4	0.3	0.0	9.8	0.4	0.0	9.2	1.7	0.0	0.9
LnGrp Delay(d),s/veh	46.6	0.0	34.8	51.5	0.0	27.6	45.3	0.0	35.0	44.7	0.0	17.0
LnGrp LOS	D		C	D		C	D		D	D		B
Approach Vol, veh/h		603			498			433			136	
Approach Delay, s/veh		35.1			28.1			35.3			31.5	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	26.2	5.1	32.1	5.2	28.7	5.3	31.9
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	9.0	26.2	5.0	30.2	5.0	30.2	5.0	30.2
Max Q Clear Time (g_c+I1), s	4.8	19.0	2.5	24.6	2.6	3.8	2.6	21.5
Green Ext Time (p_c), s	0.0	1.4	0.0	1.7	0.0	0.3	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	32.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	464	5	17	568	59	66	66	170	188	19	23
Future Volume (veh/h)	2	464	5	17	568	59	66	66	170	188	19	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	504	5	18	617	64	72	72	185	204	21	25
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	5	758	8	34	664	69	152	130	266	341	36	29
Arrive On Green	0.00	0.44	0.44	0.02	0.45	0.45	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1675	1739	17	1560	1460	151	280	475	969	832	132	107
Grp Volume(v), veh/h	2	0	509	18	0	681	329	0	0	250	0	0
Grp Sat Flow(s),veh/h/ln	1675	0	1756	1560	0	1611	1724	0	0	1071	0	0
Q Serve(g_s), s	0.1	0.0	13.4	0.7	0.0	23.2	0.0	0.0	0.0	3.4	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	13.4	0.7	0.0	23.2	9.8	0.0	0.0	13.3	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.09	0.22		0.56	0.82		0.10
Lane Grp Cap(c), veh/h	5	0	765	34	0	733	548	0	0	406	0	0
V/C Ratio(X)	0.44	0.00	0.67	0.53	0.00	0.93	0.60	0.00	0.00	0.62	0.00	0.00
Avail Cap(c_a), veh/h	144	0	851	134	0	781	690	0	0	514	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.0	0.0	13.0	28.2	0.0	15.0	18.9	0.0	0.0	20.2	0.0	0.0
Incr Delay (d2), s/veh	54.2	0.0	1.7	12.3	0.0	16.9	1.1	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	6.7	0.4	0.0	13.7	4.8	0.0	0.0	4.0	0.0	0.0
LnGrp Delay(d),s/veh	83.2	0.0	14.7	40.5	0.0	31.9	20.0	0.0	0.0	21.7	0.0	0.0
LnGrp LOS	F		B	D		C	B			C		
Approach Vol, veh/h		511			699			329			250	
Approach Delay, s/veh		15.0			32.1			20.0			21.7	
Approach LOS		B			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.8	5.3	31.1		21.8	4.2	32.3
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		21.2	5.0	28.2		21.2	5.0	28.2
Max Q Clear Time (g_c+I1), s		11.8	2.7	15.4		15.3	2.1	25.2
Green Ext Time (p_c), s		1.2	0.0	2.4		0.7	0.0	1.2

Intersection Summary		
HCM 2010 Ctrl Delay		23.5
HCM 2010 LOS		C

Intersection	
Int Delay, s/veh	125.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	423	736	445	3	20	906
Future Vol, veh/h	423	736	445	3	20	906
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	11	14	14	2	2
Mvmt Flow	460	800	484	3	22	985

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	487	0	-	0	2206	486
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	1720	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1031	-	-	-	49	~ 581
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	159	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1031	-	-	-	27	~ 581
Mov Cap-2 Maneuver	-	-	-	-	27	-
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	159	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	$ 338
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1031	-	-	-	27	581
HCM Lane V/C Ratio	0.446	-	-	-	0.805	1.695
HCM Control Delay (s)	11.3	-	-	-	$ 318.6	$ 338.4
HCM Lane LOS	B	-	-	-	F	F
HCM 95th %tile Q(veh)	2.3	-	-	-	2.5	57

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	291.7
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	558	674	258	469	104
Future Vol, veh/h	60	558	674	258	469	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	607	733	280	510	113
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	141.4	485.2	139
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	72%	10%	0%
Vol Thru, %	28%	0%	82%
Vol Right, %	0%	90%	18%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	932	618	573
LT Vol	674	60	0
Through Vol	258	0	469
RT Vol	0	558	104
Lane Flow Rate	1013	672	623
Geometry Grp	1	1	1
Degree of Util (X)	2.019	1.215	1.198
Departure Headway (Hd)	8.101	8.017	8.946
Convergence, Y/N	Yes	Yes	Yes
Cap	456	457	411
Service Time	6.101	6.017	6.946
HCM Lane V/C Ratio	2.221	1.47	1.516
HCM Control Delay	485.2	141.4	139
HCM Lane LOS	F	F	F
HCM 95th-tile Q	62	21.6	19.3

Intersection	
Intersection Delay, s/veh	260.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	363	398	103	675	0	340	0	255	0	0	0
Future Vol, veh/h	0	363	398	103	675	0	340	0	255	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	395	433	112	734	0	370	0	277	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	277.3	327.7	151	0
HCM LOS	F	F	F	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	57%	0%	13%	0%
Vol Thru, %	0%	48%	87%	100%
Vol Right, %	43%	52%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	595	761	778	0
LT Vol	340	0	103	0
Through Vol	0	363	675	0
RT Vol	255	398	0	0
Lane Flow Rate	647	827	846	0
Geometry Grp	1	1	1	1
Degree of Util (X)	1.237	1.543	1.658	0
Departure Headway (Hd)	8.288	8.302	8.503	14.225
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	446	447	440	0
Service Time	6.288	6.302	6.503	12.225
HCM Lane V/C Ratio	1.451	1.85	1.923	0
HCM Control Delay	151	277.3	327.7	17.2
HCM Lane LOS	F	F	F	N
HCM 95th-tile Q	22	36.3	41.2	0

Intersection	
Intersection Delay, s/veh	555.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	68	39	147	329	478	36	389	517	420	424	9
Future Vol, veh/h	23	68	39	147	329	478	36	389	517	420	424	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	19	19	19	19	19	19
Mvmt Flow	25	74	42	160	358	520	39	423	562	457	461	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	42.5	577.9	602.6	557.8
HCM LOS	E	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	18%	15%	49%
Vol Thru, %	41%	52%	34%	50%
Vol Right, %	55%	30%	50%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	942	130	954	853
LT Vol	36	23	147	420
Through Vol	389	68	329	424
RT Vol	517	39	478	9
Lane Flow Rate	1024	141	1037	927
Geometry Grp	1	1	1	1
Degree of Util (X)	2.246	0.372	2.206	2.14
Departure Headway (Hd)	14.259	25.242	11.658	15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	266	144	321	250
Service Time	12.259	23.242	9.658	13
HCM Lane V/C Ratio	3.85	0.979	3.231	3.708
HCM Control Delay	602.6	42.5	577.9	557.8
HCM Lane LOS	F	E	F	F
HCM 95th-tile Q	44.1	1.6	51.5	39.1

Intersection	
Int Delay, s/veh	29

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	109	434	210	37	147	210
Future Vol, veh/h	109	434	210	37	147	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	118	472	228	40	160	228

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	796	248	0	0	268	0
Stage 1	248	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	356	791	-	-	1296	-
Stage 1	793	-	-	-	-	-
Stage 2	579	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	306	791	-	-	1296	-
Mov Cap-2 Maneuver	306	-	-	-	-	-
Stage 1	793	-	-	-	-	-
Stage 2	497	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	59	0	3.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	600	1296	-
HCM Lane V/C Ratio	-	-	0.984	0.123	-
HCM Control Delay (s)	-	-	59	8.2	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	14.3	0.4	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	109	101	35	85	140	63	820	13	76	386	0
Future Vol, veh/h	0	109	101	35	85	140	63	820	13	76	386	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	0	118	110	38	92	152	68	891	14	83	420	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1742	1627	420	1734	1620	898	420	0	0	905	0	0
Stage 1	586	586	-	1034	1034	-	-	-	-	-	-	-
Stage 2	1156	1041	-	700	586	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.38	-	-	2.38	-	-
Pot Cap-1 Maneuver	68	~ 102	633	69	103	338	1049	-	-	682	-	-
Stage 1	496	497	-	280	309	-	-	-	-	-	-	-
Stage 2	239	307	-	430	497	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 75	633	-	~ 75	338	1049	-	-	682	-	-
Mov Cap-2 Maneuver	-	~ 75	-	-	~ 75	-	-	-	-	-	-	-
Stage 1	431	418	-	243	269	-	-	-	-	-	-	-
Stage 2	75	267	-	214	418	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.6	1.8
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1049	-	-	-	-	682	-	-
HCM Lane V/C Ratio	0.065	-	-	-	-	0.121	-	-
HCM Control Delay (s)	8.7	0	-	-	-	11	0	-
HCM Lane LOS	A	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0.2	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	391.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	62	82	394	508	107	78	395	66	34	292	28
Future Vol, veh/h	18	62	82	394	508	107	78	395	66	34	292	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	20	67	89	428	552	116	85	429	72	37	317	30
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	28.1	663.2	201.4	70.3
HCM LOS	D	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	11%	39%	10%
Vol Thru, %	73%	38%	50%	82%
Vol Right, %	12%	51%	11%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	539	162	1009	354
LT Vol	78	18	394	34
Through Vol	395	62	508	292
RT Vol	66	82	107	28
Lane Flow Rate	586	176	1097	385
Geometry Grp	1	1	1	1
Degree of Util (X)	1.33	0.441	2.415	0.9
Departure Headway (Hd)	11.866	14.304	8.796	13.218
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	311	254	428	277
Service Time	9.866	12.304	6.796	11.218
HCM Lane V/C Ratio	1.884	0.693	2.563	1.39
HCM Control Delay	201.4	28.1	663.2	70.3
HCM Lane LOS	F	D	F	F
HCM 95th-tile Q	20.1	2.1	77.2	8

Intersection	
Intersection Delay, s/veh	145
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	200	40	426	184	0	0	0	0	499	1	153
Future Vol, veh/h	0	200	40	426	184	0	0	0	0	499	1	153
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	4	0	14	0	0	0	0	0	20	4	2
Mvmt Flow	0	217	43	463	200	0	0	0	0	542	1	166
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	19.4	152.4	184.2
HCM LOS	C	F	F

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	70%	76%
Vol Thru, %	83%	30%	0%
Vol Right, %	17%	0%	23%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	240	610	653
LT Vol	0	426	499
Through Vol	200	184	1
RT Vol	40	0	153
Lane Flow Rate	261	663	710
Geometry Grp	1	1	1
Degree of Util (X)	0.505	1.248	1.331
Departure Headway (Hd)	8.24	7.623	7.255
Convergence, Y/N	Yes	Yes	Yes
Cap	441	484	504
Service Time	6.24	5.623	5.255
HCM Lane V/C Ratio	0.592	1.37	1.409
HCM Control Delay	19.4	152.4	184.2
HCM Lane LOS	C	F	F
HCM 95th-tile Q	2.8	23.9	29.1

Intersection	
Int Delay, s/veh	105.4

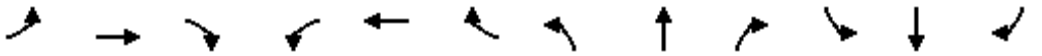
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	157	542	0	0	591	350	19	3	608	0	0	0
Future Vol, veh/h	157	542	0	0	591	350	19	3	608	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	8	0	0	10	20	0	20	20	0	0	0
Mvmt Flow	171	589	0	0	642	380	21	3	661	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1022	0	-	-	-	0	1763	1953	589
Stage 1	-	-	-	-	-	-	931	931	-
Stage 2	-	-	-	-	-	-	832	1022	-
Critical Hdwy	4.2	-	-	-	-	-	6.4	6.7	6.4
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.7	-
Follow-up Hdwy	2.29	-	-	-	-	-	3.5	4.18	3.48
Pot Cap-1 Maneuver	649	-	0	0	-	-	94	57	~ 476
Stage 1	-	-	0	0	-	-	387	323	-
Stage 2	-	-	0	0	-	-	431	292	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	649	-	-	-	-	-	57	0	~ 476
Mov Cap-2 Maneuver	-	-	-	-	-	-	57	0	-
Stage 1	-	-	-	-	-	-	235	0	-
Stage 2	-	-	-	-	-	-	431	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.8	0	$ 376.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	389	649	-	-	-
HCM Lane V/C Ratio	1.76	0.263	-	-	-
HCM Control Delay (s)	$ 376.6	12.5	0	-	-
HCM Lane LOS	F	B	A	-	-
HCM 95th %tile Q(veh)	43	1.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	315	568	267	113	474	227	278	8	117	139	0	189
Future Volume (vph)	315	568	267	113	474	227	278	8	117	139	0	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	3282	1583	1770	1610	1583	1770	1863	1583		1787	2493
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	3282	1583	1770	1610	1583	1770	1863	1583		1787	2493
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	342	617	290	123	515	247	302	9	127	151	0	205
RTOR Reduction (vph)	0	0	166	0	0	165	0	0	103	0	0	145
Lane Group Flow (vph)	342	617	124	123	515	82	302	9	24	0	151	60
Heavy Vehicles (%)	9%	10%	2%	2%	18%	2%	2%	2%	2%	1%	2%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	23.6	48.9	48.9	12.6	35.9	35.9	21.3	21.3	21.3		10.0	33.6
Effective Green, g (s)	23.6	48.9	48.9	12.6	35.9	35.9	21.3	21.3	21.3		10.0	33.6
Actuated g/C Ratio	0.21	0.43	0.43	0.11	0.31	0.31	0.19	0.19	0.19		0.09	0.29
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5		6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	341	1404	677	195	505	497	329	347	294		156	732
v/s Ratio Prot	c0.21	0.19		0.07	c0.32		c0.17	0.00			c0.08	0.02
v/s Ratio Perm			0.08			0.05			0.01			0.01
v/c Ratio	1.00	0.44	0.18	0.63	1.02	0.17	0.92	0.03	0.08		0.97	0.08
Uniform Delay, d1	45.3	23.0	20.3	48.6	39.2	28.4	45.6	38.0	38.4		52.0	29.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	49.5	0.5	0.3	6.5	45.1	0.2	29.2	0.0	0.1		61.8	0.0
Delay (s)	94.8	23.5	20.6	55.1	84.3	28.5	74.9	38.0	38.5		113.7	29.2
Level of Service	F	C	C	E	F	C	E	D	D		F	C
Approach Delay (s)		42.4			64.7			63.6			65.1	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	55.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	114.3	Sum of lost time (s)	23.5
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	515	101	8	582	70	22	51	44	122	83	265
Future Volume (veh/h)	123	515	101	8	582	70	22	51	44	122	83	265
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1767	1900	1900	1827	1583	1900	1900	1900	1583	1649	1900
Adj Flow Rate, veh/h	134	560	110	9	633	76	24	55	48	133	90	288
Adj No. of Lanes	2	1	0	2	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	238	657	129	48	1355	525	178	593	504	425	108	345
Arrive On Green	0.08	0.46	0.46	0.01	0.39	0.39	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	2925	1435	282	3510	3471	1346	1021	1900	1615	1093	346	1107
Grp Volume(v), veh/h	134	0	670	9	633	76	24	55	48	133	0	378
Grp Sat Flow(s),veh/h/ln	1463	0	1717	1755	1736	1346	1021	1900	1615	1093	0	1453
Q Serve(g_s), s	3.0	0.0	23.6	0.2	9.2	2.5	1.5	1.4	1.4	6.7	0.0	16.4
Cycle Q Clear(g_c), s	3.0	0.0	23.6	0.2	9.2	2.5	17.9	1.4	1.4	8.1	0.0	16.4
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	238	0	786	48	1355	525	178	593	504	425	0	453
V/C Ratio(X)	0.56	0.00	0.85	0.19	0.47	0.14	0.14	0.09	0.10	0.31	0.00	0.83
Avail Cap(c_a), veh/h	401	0	943	310	1738	674	415	1035	880	679	0	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.0	0.0	16.4	33.1	15.4	13.4	30.1	16.6	16.6	19.4	0.0	21.7
Incr Delay (d2), s/veh	2.1	0.0	8.1	1.8	0.5	0.3	0.3	0.1	0.1	0.4	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	12.7	0.1	4.5	0.9	0.4	0.7	0.6	2.0	0.0	7.0
LnGrp Delay(d),s/veh	32.1	0.0	24.5	34.9	16.0	13.6	30.4	16.6	16.7	19.8	0.0	25.8
LnGrp LOS	C		C	C	B	B	C	B	B	B		C
Approach Vol, veh/h		804			718			127			511	
Approach Delay, s/veh		25.7			16.0			19.2			24.3	
Approach LOS		C			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.4	36.8		25.7	10.0	32.2		25.7
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		4.5
Max Green Setting (Gmax), s	6.3	37.3		37.0	9.3	34.0		37.0
Max Q Clear Time (g_c+I1), s	2.2	25.6		18.4	5.0	11.2		19.9
Green Ext Time (p_c), s	0.0	5.5		2.8	0.1	7.9		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	21.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	502	139	11	461	186	96	278	12	235	430	119
Future Volume (veh/h)	144	502	139	11	461	186	96	278	12	235	430	119
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1856	1900	1743	1827	1900	1900	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	157	546	151	12	501	202	104	302	13	255	467	129
Adj No. of Lanes	2	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	3	0	9	4	0	0	0	0	1	0	0
Cap, veh/h	219	574	159	28	664	587	126	553	24	318	470	130
Arrive On Green	0.06	0.41	0.41	0.02	0.36	0.36	0.07	0.31	0.31	0.09	0.33	0.33
Sat Flow, veh/h	3476	1401	387	1660	1827	1615	1810	1807	78	3476	1434	396
Grp Volume(v), veh/h	157	0	697	12	501	202	104	0	315	255	0	596
Grp Sat Flow(s),veh/h/ln	1738	0	1788	1660	1827	1615	1810	0	1885	1738	0	1830
Q Serve(g_s), s	4.7	0.0	39.6	0.8	25.2	9.5	6.0	0.0	14.6	7.5	0.0	34.1
Cycle Q Clear(g_c), s	4.7	0.0	39.6	0.8	25.2	9.5	6.0	0.0	14.6	7.5	0.0	34.1
Prop In Lane	1.00		0.22	1.00		1.00	1.00		0.04	1.00		0.22
Lane Grp Cap(c), veh/h	219	0	732	28	664	587	126	0	576	318	0	600
V/C Ratio(X)	0.72	0.00	0.95	0.43	0.75	0.34	0.83	0.00	0.55	0.80	0.00	0.99
Avail Cap(c_a), veh/h	245	0	746	95	738	653	126	0	576	361	0	600
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.3	0.0	30.0	51.1	29.3	24.3	48.2	0.0	30.4	46.7	0.0	35.2
Incr Delay (d2), s/veh	6.7	0.0	22.3	20.6	5.2	0.7	32.6	0.0	1.1	9.4	0.0	35.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	23.9	0.5	13.6	4.4	4.1	0.0	7.8	4.0	0.0	23.1
LnGrp Delay(d),s/veh	55.0	0.0	52.3	71.7	34.5	25.0	80.8	0.0	31.4	56.2	0.0	70.2
LnGrp LOS	D		D	E	C	C	F		C	E		E
Approach Vol, veh/h		854			715			419			851	
Approach Delay, s/veh		52.8			32.5			43.7			66.0	
Approach LOS		D			C			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	48.5	11.5	39.0	10.8	43.6	13.8	36.7
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	43.8	* 7.3	34.4	* 7.4	42.4	* 11	30.8
Max Q Clear Time (g_c+I1), s	2.8	41.6	8.0	36.1	6.7	27.2	9.5	16.6
Green Ext Time (p_c), s	0.0	1.4	0.0	0.0	0.0	6.0	0.1	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	50.3
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	556	34	84	686	91	10	32	22	38	28	35
Future Volume (veh/h)	88	556	34	84	686	91	10	32	22	38	28	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1848	1900	1900	1847	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	96	604	37	91	746	99	11	35	24	41	30	38
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0	0	3	2	0	0	0	0	0	0
Cap, veh/h	170	1227	75	165	1129	150	254	110	75	263	80	101
Arrive On Green	0.09	0.36	0.36	0.09	0.36	0.36	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1810	3361	206	1810	3114	413	1348	1050	720	1359	761	964
Grp Volume(v), veh/h	96	315	326	91	420	425	11	0	59	41	0	68
Grp Sat Flow(s),veh/h/ln	1810	1755	1811	1810	1754	1773	1348	0	1769	1359	0	1725
Q Serve(g_s), s	2.3	6.2	6.2	2.1	8.9	8.9	0.3	0.0	1.4	1.3	0.0	1.6
Cycle Q Clear(g_c), s	2.3	6.2	6.2	2.1	8.9	8.9	2.0	0.0	1.4	2.7	0.0	1.6
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.41	1.00		0.56
Lane Grp Cap(c), veh/h	170	641	661	165	636	643	254	0	185	263	0	181
V/C Ratio(X)	0.57	0.49	0.49	0.55	0.66	0.66	0.04	0.00	0.32	0.16	0.00	0.38
Avail Cap(c_a), veh/h	265	854	881	281	869	878	780	0	876	793	0	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.3	10.9	10.9	19.3	11.9	11.9	19.4	0.0	18.4	19.6	0.0	18.5
Incr Delay (d2), s/veh	2.9	0.8	0.8	2.9	1.7	1.7	0.1	0.0	1.0	0.3	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.1	3.2	1.2	4.6	4.7	0.1	0.0	0.7	0.5	0.0	0.8
LnGrp Delay(d),s/veh	22.2	11.7	11.7	22.2	13.6	13.5	19.5	0.0	19.4	19.9	0.0	19.8
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		737			936			70			109	
Approach Delay, s/veh		13.1			14.4			19.4			19.9	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	22.7		11.2	10.7	22.6		11.2
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	6.3	21.6		22.0	6.5	22.0		22.0
Max Q Clear Time (g_c+I1), s	4.1	8.2		4.7	4.3	10.9		4.0
Green Ext Time (p_c), s	0.0	4.2		0.4	0.0	5.1		0.2

Intersection Summary		
HCM 2010 Ctrl Delay	14.4	
HCM 2010 LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	355	46	275	435	135	32	118	90	166	400	62
Future Volume (veh/h)	134	355	46	275	435	135	32	118	90	166	400	62
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1841	1900	1881	1845	1900	1845	1873	1900	1881	1900	1900
Adj Flow Rate, veh/h	146	386	50	299	473	147	35	128	98	180	435	67
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	5	1	3	0	3	1	2	1	0	0
Cap, veh/h	158	582	75	339	963	441	72	238	182	168	563	465
Arrive On Green	0.09	0.19	0.19	0.19	0.27	0.27	0.04	0.24	0.24	0.09	0.30	0.30
Sat Flow, veh/h	1774	3111	400	1792	3505	1606	1757	979	749	1792	1900	1570
Grp Volume(v), veh/h	146	216	220	299	473	147	35	0	226	180	435	67
Grp Sat Flow(s),veh/h/ln	1774	1749	1762	1792	1752	1606	1757	0	1728	1792	1900	1570
Q Serve(g_s), s	6.4	9.0	9.2	12.8	8.9	5.8	1.5	0.0	9.0	7.4	16.5	2.5
Cycle Q Clear(g_c), s	6.4	9.0	9.2	12.8	8.9	5.8	1.5	0.0	9.0	7.4	16.5	2.5
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	158	327	330	339	963	441	72	0	420	168	563	465
V/C Ratio(X)	0.93	0.66	0.67	0.88	0.49	0.33	0.49	0.00	0.54	1.07	0.77	0.14
Avail Cap(c_a), veh/h	158	555	559	364	1467	672	136	0	745	168	851	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	29.7	29.8	31.1	24.0	22.8	37.0	0.0	26.0	35.7	25.3	20.4
Incr Delay (d2), s/veh	50.5	4.8	4.9	20.7	0.8	0.9	5.1	0.0	2.3	89.3	4.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	4.7	4.9	8.3	4.4	2.7	0.8	0.0	4.5	7.8	9.3	1.1
LnGrp Delay(d),s/veh	86.2	34.5	34.7	51.8	24.8	23.8	42.1	0.0	28.2	125.0	30.2	20.7
LnGrp LOS	F	C	C	D	C	C	D		C	F	C	C
Approach Vol, veh/h		582			919			261			682	
Approach Delay, s/veh		47.5			33.4			30.1			54.3	
Approach LOS		D			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.9	20.8	7.8	29.4	14.0	27.7	12.0	25.2
Change Period (Y+Rc), s	6.0	6.0	4.6	6.0	7.0	6.0	4.6	6.0
Max Green Setting (Gmax), s	16.0	25.0	6.1	35.3	7.0	33.0	7.4	34.0
Max Q Clear Time (g_c+I1), s	14.8	11.2	3.5	18.5	8.4	10.9	9.4	11.0
Green Ext Time (p_c), s	0.1	3.5	0.0	4.8	0.0	6.3	0.0	2.4

Intersection Summary	
HCM 2010 Ctrl Delay	42.3
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	359	81	31	483	20	39	38	6	3	59	148
Future Volume (veh/h)	201	359	81	31	483	20	39	38	6	3	59	148
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1811	1900	1900	1827	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	218	390	88	34	525	22	42	41	7	3	64	161
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	6	0	0	4	0	0	0	0	0	0	0
Cap, veh/h	517	1557	348	638	1017	898	247	201	26	96	95	233
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	873	2796	625	930	1827	1612	561	1022	134	8	487	1189
Grp Volume(v), veh/h	218	239	239	34	525	22	90	0	0	228	0	0
Grp Sat Flow(s),veh/h/ln	873	1721	1700	930	1827	1612	1717	0	0	1683	0	0
Q Serve(g_s), s	8.0	2.7	2.8	0.8	6.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.8	2.7	2.8	3.5	6.9	0.2	1.6	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.47		0.08	0.01		0.71
Lane Grp Cap(c), veh/h	517	958	947	638	1017	898	474	0	0	425	0	0
V/C Ratio(X)	0.42	0.25	0.25	0.05	0.52	0.02	0.19	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	630	1181	1167	758	1254	1106	1101	0	0	1147	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.9	4.4	4.4	5.3	5.3	3.8	13.1	0.0	0.0	14.4	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.3	0.3	0.1	0.9	0.0	0.2	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.3	1.3	0.2	3.6	0.1	0.8	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	11.1	4.7	4.7	5.4	6.2	3.9	13.2	0.0	0.0	15.4	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B			B		
Approach Vol, veh/h		696			581			90			228	
Approach Delay, s/veh		6.7			6.0			13.2			15.4	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		26.0		12.4		26.0		12.4
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		26.4		24.1		26.4		24.1
Max Q Clear Time (g_c+I1), s		16.8		3.6		8.9		6.8
Green Ext Time (p_c), s		4.6		0.4		6.0		1.3

Intersection Summary		
HCM 2010 Ctrl Delay		8.1
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	502.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	216	148	173	21	76	9	158	383	69	20	251	184
Future Vol, veh/h	216	148	173	21	76	9	158	383	69	20	251	184
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	25	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	4	6	0	2	0	6	3	7	16	5	4
Mvmt Flow	235	161	188	23	83	10	172	416	75	22	273	200

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1161	1152	273	1290	1115	454	273	0	0	491	0	0
Stage 1	317	317	-	798	798	-	-	-	-	-	-	-
Stage 2	844	835	-	492	317	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.54	6.26	7.1	6.52	6.2	4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.54	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.036	3.354	3.5	4.018	3.3	2.254	-	-	2.344	-	-
Pot Cap-1 Maneuver	~ 169	196	756	142	208	610	1267	-	-	1004	-	0
Stage 1	686	651	-	382	398	-	-	-	-	-	-	0
Stage 2	352	380	-	562	654	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 86	~ 155	756	-	164	610	1267	-	-	1004	-	-
Mov Cap-2 Maneuver	~ 86	~ 155	-	-	164	-	-	-	-	-	-	-
Stage 1	556	634	-	310	323	-	-	-	-	-	-	-
Stage 2	~ 209	308	-	307	637	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	1423.6		2.1	0.6
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	1267	-	-	145	-	610	1004	-
HCM Lane V/C Ratio	0.136	-	-	4.025	-	0.016	0.022	-
HCM Control Delay (s)	8.3	0	-	$ 1423.6	-	11	8.7	0
HCM Lane LOS	A	A	-	F	-	B	A	A
HCM 95th %tile Q(veh)	0.5	-	-	58.6	-	0	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	87	57	74	83	12	61	411	135	95	484	22
Future Volume (veh/h)	12	87	57	74	83	12	61	411	135	95	484	22
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1583	1583	1900	1583	1583	1900
Adj Flow Rate, veh/h	13	95	62	80	90	13	66	447	147	103	526	24
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	219	130	85	221	199	29	100	423	139	125	582	27
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.07	0.37	0.37	0.08	0.39	0.39
Sat Flow, veh/h	1774	1054	688	1774	1592	230	1508	1142	375	1508	1503	69
Grp Volume(v), veh/h	13	0	157	80	0	103	66	0	594	103	0	550
Grp Sat Flow(s),veh/h/ln	1774	0	1741	1774	0	1822	1508	0	1517	1508	0	1571
Q Serve(g_s), s	0.4	0.0	5.3	2.5	0.0	3.2	2.6	0.0	22.7	4.1	0.0	20.2
Cycle Q Clear(g_c), s	0.4	0.0	5.3	2.5	0.0	3.2	2.6	0.0	22.7	4.1	0.0	20.2
Prop In Lane	1.00		0.39	1.00		0.13	1.00		0.25	1.00		0.04
Lane Grp Cap(c), veh/h	219	0	215	221	0	227	100	0	562	125	0	608
V/C Ratio(X)	0.06	0.00	0.73	0.36	0.00	0.45	0.66	0.00	1.06	0.83	0.00	0.90
Avail Cap(c_a), veh/h	232	0	227	860	0	883	148	0	562	155	0	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	25.9	24.6	0.0	24.9	27.9	0.0	19.3	27.7	0.0	17.7
Incr Delay (d2), s/veh	0.0	0.0	9.1	0.4	0.0	0.5	2.8	0.0	53.8	20.8	0.0	16.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.1	1.3	0.0	1.6	1.2	0.0	17.8	2.4	0.0	11.5
LnGrp Delay(d),s/veh	23.8	0.0	35.0	24.9	0.0	25.4	30.7	0.0	73.1	48.5	0.0	34.3
LnGrp LOS	C		C	C		C	C		F	D		C
Approach Vol, veh/h		170			183			660			653	
Approach Delay, s/veh		34.1			25.2			68.8			36.6	
Approach LOS		C			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.8	9.1	27.6		12.8	8.0	28.6
Change Period (Y+Rc), s		* 4.2	4.0	4.9		5.2	4.0	4.9
Max Green Setting (Gmax), s		* 8	6.3	22.7		29.7	6.0	23.0
Max Q Clear Time (g_c+I1), s		7.3	6.1	24.7		5.2	4.6	22.2
Green Ext Time (p_c), s		0.0	0.0	0.0		0.2	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	47.9
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	290	10	238	378	82	27	279	372	161	324	4
Future Volume (veh/h)	22	290	10	238	378	82	27	279	372	161	324	4
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.98	0.99		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1869	1900	1810	1900	1900	1900	1845	1900	1881	1810	1900
Adj Flow Rate, veh/h	24	315	11	259	411	89	29	303	404	175	352	4
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	20	5	0	0	0	3	3	1	5	0
Cap, veh/h	289	420	15	409	651	541	444	506	449	294	1211	14
Arrive On Green	0.03	0.23	0.23	0.14	0.34	0.34	0.03	0.29	0.29	0.09	0.35	0.35
Sat Flow, veh/h	1723	1794	63	1723	1900	1577	1810	1752	1554	1792	3483	40
Grp Volume(v), veh/h	24	0	326	259	411	89	29	303	404	175	174	182
Grp Sat Flow(s),veh/h/ln	1723	0	1856	1723	1900	1577	1810	1752	1554	1792	1720	1802
Q Serve(g_s), s	0.7	0.0	11.3	7.4	12.6	2.7	0.8	10.3	17.3	4.5	5.1	5.1
Cycle Q Clear(g_c), s	0.7	0.0	11.3	7.4	12.6	2.7	0.8	10.3	17.3	4.5	5.1	5.1
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	289	0	435	409	651	541	444	506	449	294	598	627
V/C Ratio(X)	0.08	0.00	0.75	0.63	0.63	0.16	0.07	0.60	0.90	0.60	0.29	0.29
Avail Cap(c_a), veh/h	379	0	778	635	1152	956	596	583	517	308	598	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	0.0	24.7	16.5	19.1	15.9	16.3	21.2	23.7	16.8	16.4	16.4
Incr Delay (d2), s/veh	0.0	0.0	1.0	0.6	0.4	0.1	0.0	0.6	15.9	1.8	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.9	3.5	6.7	1.2	0.4	5.1	9.4	2.3	2.4	2.5
LnGrp Delay(d),s/veh	19.5	0.0	25.7	17.1	19.5	16.0	16.4	21.8	39.7	18.6	16.5	16.5
LnGrp LOS	B		C	B	B	B	B	C	D	B	B	B
Approach Vol, veh/h		350			759			736			531	
Approach Delay, s/veh		25.2			18.3			31.4			17.2	
Approach LOS		C			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	28.4	10.2	25.0	13.4	20.9	6.1	29.0
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.5	42.1	6.8	23.1	18.5	29.1	8.0	21.9
Max Q Clear Time (g_c+I1), s	2.7	14.6	6.5	19.3	9.4	13.3	2.8	7.1
Green Ext Time (p_c), s	0.0	0.3	0.0	0.4	0.0	0.4	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	23.1
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	159	159	28	120	138	121	561	13	119	846	31
Future Vol, veh/h	48	159	159	28	120	138	121	561	13	119	846	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	52	173	173	30	130	150	132	610	14	129	920	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2199	2066	920	2249	2093	617	954	0	0	624	0	0
Stage 1	1178	1178	-	881	881	-	-	-	-	-	-	-
Stage 2	1021	888	-	1368	1212	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.38	-	-	2.38	-	-
Pot Cap-1 Maneuver	~ 32	~ 54	328	~ 30	~ 52	490	653	-	-	876	-	-
Stage 1	233	265	-	341	365	-	-	-	-	-	-	-
Stage 2	285	362	-	181	255	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 25	328	-	~ 25	490	653	-	-	876	-	-
Mov Cap-2 Maneuver	-	~ 25	-	-	~ 25	-	-	-	-	-	-	-
Stage 1	161	181	-	235	252	-	-	-	-	-	-	-
Stage 2	66	250	-	~ 3	174	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			2.1	1.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	653	-	-	-	328	-	876	-	-
HCM Lane V/C Ratio	0.201	-	-	-	0.527	-	0.148	-	-
HCM Control Delay (s)	11.9	0	-	-	27.6	-	9.8	0	-
HCM Lane LOS	B	A	-	-	D	-	A	A	-
HCM 95th %tile Q(veh)	0.7	-	-	-	2.9	-	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	80	50	44	462	1	67	2	37	0	3	1
Future Vol, veh/h	1	80	50	44	462	1	67	2	37	0	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	110	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	4	8	0	15	0	3	20	3	0	20	20
Mvmt Flow	1	87	54	48	502	1	73	2	40	0	3	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	503	0	0	141	0	0	717	715	114	736	742	503
Stage 1	-	-	-	-	-	-	116	116	-	599	599	-
Stage 2	-	-	-	-	-	-	601	599	-	137	143	-
Critical Hdwy	4.3	-	-	4.1	-	-	7.13	6.7	6.23	7.1	6.7	6.4
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.7	-	6.1	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.7	-	6.1	5.7	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.527	4.18	3.327	3.5	4.18	3.48
Pot Cap-1 Maneuver	975	-	-	1455	-	-	343	335	936	337	323	534
Stage 1	-	-	-	-	-	-	886	766	-	492	463	-
Stage 2	-	-	-	-	-	-	485	463	-	871	745	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	975	-	-	1455	-	-	331	324	936	312	312	534
Mov Cap-2 Maneuver	-	-	-	-	-	-	331	324	-	312	312	-
Stage 1	-	-	-	-	-	-	885	765	-	492	448	-
Stage 2	-	-	-	-	-	-	465	448	-	830	744	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.7	15.4	15.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	331	853	975	-	-	1455	-	-	348
HCM Lane V/C Ratio	0.22	0.05	0.001	-	-	0.033	-	-	0.012
HCM Control Delay (s)	18.9	9.4	8.7	-	-	7.6	-	-	15.5
HCM Lane LOS	C	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0.2	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	52	4	29	69	68	1	49	33	55	66	29
Future Vol, veh/h	36	52	4	29	69	68	1	49	33	55	66	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	200	-	-	170	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	20	0	4	0	20	20	4	13	0
Mvmt Flow	39	57	4	32	75	74	1	53	36	60	72	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	356	299	88	294	279	53	104	0	0	89	0	0
Stage 1	208	208	-	55	55	-	-	-	-	-	-	-
Stage 2	148	91	-	239	224	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.3	6.5	6.24	4.1	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.3	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.68	4	3.336	2.2	-	-	2.236	-	-
Pot Cap-1 Maneuver	599	613	970	624	632	1009	1500	-	-	1494	-	-
Stage 1	794	730	-	914	853	-	-	-	-	-	-	-
Stage 2	855	820	-	726	722	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	487	588	970	558	606	1009	1500	-	-	1494	-	-
Mov Cap-2 Maneuver	487	588	-	558	606	-	-	-	-	-	-	-
Stage 1	793	701	-	913	852	-	-	-	-	-	-	-
Stage 2	722	819	-	638	693	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	10.6	0.1	2.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1500	-	-	553	558	606	1009	1494	-	-
HCM Lane V/C Ratio	0.001	-	-	0.181	0.056	0.124	0.073	0.04	-	-
HCM Control Delay (s)	7.4	0	-	12.9	11.8	11.8	8.9	7.5	-	-
HCM Lane LOS	A	A	-	B	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.2	0.4	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	90.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	486	47	23	205	23	13	118	20	30	228	17
Future Vol, veh/h	26	486	47	23	205	23	13	118	20	30	228	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	8	8	8	18	18	18	16	16	16
Mvmt Flow	28	528	51	25	223	25	14	128	22	33	248	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	614	501	257	780	499	139	266	0	0	150	0	0
Stage 1	323	323	-	167	167	-	-	-	-	-	-	-
Stage 2	291	178	-	613	332	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.18	6.58	6.28	4.28	-	-	4.26	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.572	4.072	3.372	2.362	-	-	2.344	-	-
Pot Cap-1 Maneuver	404	~ 472	782	306	465	893	1211	-	-	1350	-	-
Stage 1	689	650	-	821	749	-	-	-	-	-	-	-
Stage 2	717	752	-	470	634	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	231	~ 452	782	-	445	893	1211	-	-	1350	-	-
Mov Cap-2 Maneuver	231	~ 452	-	-	445	-	-	-	-	-	-	-
Stage 1	680	631	-	810	739	-	-	-	-	-	-	-
Stage 2	480	742	-	69	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	199.6		0.7	0.8
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1211	-	-	448	-	1350	-	-
HCM Lane V/C Ratio	0.012	-	-	1.356	-	0.024	-	-
HCM Control Delay (s)	8	0	-	199.6	-	7.7	0	-
HCM Lane LOS	A	A	-	F	-	A	A	-
HCM 95th %tile Q(veh)	0	-	-	28.1	-	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	189.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	104	77	17	198	135	143	227	365	17	366	49
Future Vol, veh/h	2	104	77	17	198	135	143	227	365	17	366	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	8	8	8	9	9	9	14	14	14
Mvmt Flow	2	113	84	18	215	147	155	247	397	18	398	53
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	24.6	51	354.7	92.2
HCM LOS	C	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	1%	5%	4%
Vol Thru, %	31%	57%	57%	85%
Vol Right, %	50%	42%	39%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	735	183	350	432
LT Vol	143	2	17	17
Through Vol	227	104	198	366
RT Vol	365	77	135	49
Lane Flow Rate	799	199	380	470
Geometry Grp	1	1	1	1
Degree of Util (X)	1.723	0.496	0.862	1.05
Departure Headway (Hd)	8.083	11.109	9.867	9.614
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	455	326	369	380
Service Time	6.083	9.109	7.867	7.614
HCM Lane V/C Ratio	1.756	0.61	1.03	1.237
HCM Control Delay	354.7	24.6	51	92.2
HCM Lane LOS	F	C	F	F
HCM 95th-tile Q	46.4	2.6	8.2	13.4

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	174	562	255	475	54
Future Vol, veh/h	4	174	562	255	475	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	11	14	14
Mvmt Flow	4	189	611	277	516	59

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2045	546	575	0	-	0
Stage 1	546	-	-	-	-	-
Stage 2	1499	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	62	538	1003	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	204	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	17	538	1003	-	-	-
Mov Cap-2 Maneuver	17	-	-	-	-	-
Stage 1	162	-	-	-	-	-
Stage 2	204	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.2	9.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1003	-	319	-	-
HCM Lane V/C Ratio	0.609	-	0.607	-	-
HCM Control Delay (s)	14	0	32.2	-	-
HCM Lane LOS	B	A	D	-	-
HCM 95th %tile Q(veh)	4.3	-	3.7	-	-

Intersection	
Int Delay, s/veh	94.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	65	346	503	13	315	217
Future Vol, veh/h	65	346	503	13	315	217
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	9	11	11	14	14
Mvmt Flow	71	376	547	14	342	236

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1474	554	0	0	561	0
Stage 1	554	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Critical Hdwy	6.49	6.29	-	-	4.24	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	-	-	2.326	-
Pot Cap-1 Maneuver	134	519	-	-	953	-
Stage 1	562	-	-	-	-	-
Stage 2	377	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	79	519	-	-	953	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	221	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 327.2	0	6.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	276	953	-
HCM Lane V/C Ratio	-	-	1.619	0.359	-
HCM Control Delay (s)	-	-	$ 327.2	10.9	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	27.4	1.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	16.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	171	16	0	582	525	59
Future Vol, veh/h	171	16	0	582	525	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	9	1	11	14	14
Mvmt Flow	186	17	0	633	571	64

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1236	603	635	0	-	0
Stage 1	603	-	-	-	-	-
Stage 2	633	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.11	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.209	-	-	-
Pot Cap-1 Maneuver	188	486	953	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	188	486	953	-	-	-
Mov Cap-2 Maneuver	188	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	516	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	121	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	953	-	198	-	-
HCM Lane V/C Ratio	-	-	1.027	-	-
HCM Control Delay (s)	0	-	121	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	9.1	-	-

Intersection	
Int Delay, s/veh	21

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	522	53	5	284	244	21
Future Vol, veh/h	522	53	5	284	244	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	11	14	14	18	18
Mvmt Flow	567	58	5	309	265	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	625	0	915	596
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	319	-
Critical Hdwy	-	-	4.24	-	6.58	6.38
Critical Hdwy Stg 1	-	-	-	-	5.58	-
Critical Hdwy Stg 2	-	-	-	-	5.58	-
Follow-up Hdwy	-	-	2.326	-	3.662	3.462
Pot Cap-1 Maneuver	-	-	901	-	284	475
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	702	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	901	-	282	475
Mov Cap-2 Maneuver	-	-	-	-	282	-
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	697	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	89.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	291	-	-	901	-
HCM Lane V/C Ratio	0.99	-	-	0.006	-
HCM Control Delay (s)	89.4	-	-	9	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	10.2	-	-	0	-

Intersection	
Int Delay, s/veh	203.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	76	481	66	0	267	22	2	40	4	44	349	19
Future Vol, veh/h	76	481	66	0	267	22	2	40	4	44	349	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	83	523	72	0	290	24	2	43	4	48	379	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	692	537	390	832	545	45	400	0	0	47	0	0
Stage 1	486	486	-	49	49	-	-	-	-	-	-	-
Stage 2	206	51	-	783	496	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	350	~ 442	645	281	436	1005	1159	-	-	1560	-	-
Stage 1	552	541	-	947	840	-	-	-	-	-	-	-
Stage 2	782	841	-	377	534	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	146	~ 423	645	-	418	1005	1159	-	-	1560	-	-
Mov Cap-2 Maneuver	146	~ 423	-	-	418	-	-	-	-	-	-	-
Stage 1	551	~ 519	-	945	838	-	-	-	-	-	-	-
Stage 2	498	839	-	-	513	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 446.3		0.4	0.8
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1159	-	-	354	-	1560	-	-
HCM Lane V/C Ratio	0.002	-	-	1.913	-	0.031	-	-
HCM Control Delay (s)	8.1	0	-	$ 446.3	-	7.4	0	-
HCM Lane LOS	A	A	-	F	-	A	A	-
HCM 95th %tile Q(veh)	0	-	-	45.9	-	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	22.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	42	42	515	2	4	1	74	158	74	10	173	3
Future Vol, veh/h	42	42	515	2	4	1	74	158	74	10	173	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	8	8	9	9	9	2	2	2	2	2	2
Mvmt Flow	46	46	560	2	4	1	80	172	80	11	188	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	587	624	190	887	585	212	191	0	0	252	0	0
Stage 1	212	212	-	372	372	-	-	-	-	-	-	-
Stage 2	375	412	-	515	213	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.19	6.59	6.29	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.581	4.081	3.381	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	412	394	837	257	414	811	1383	-	-	1313	-	-
Stage 1	777	716	-	634	607	-	-	-	-	-	-	-
Stage 2	634	584	-	530	713	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	384	364	837	72	383	811	1383	-	-	1313	-	-
Mov Cap-2 Maneuver	384	364	-	72	383	-	-	-	-	-	-	-
Stage 1	724	710	-	591	566	-	-	-	-	-	-	-
Stage 2	586	544	-	163	707	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	40.1	26.3	1.9	0.4
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1383	-	-	713	177	1313	-	-
HCM Lane V/C Ratio	0.058	-	-	0.913	0.043	0.008	-	-
HCM Control Delay (s)	7.8	0	-	40.1	26.3	7.8	0	-
HCM Lane LOS	A	A	-	E	D	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	12.2	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	435	8	29	441	35	6	30	58	161	78	36
Future Volume (veh/h)	8	435	8	29	441	35	6	30	58	161	78	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	9	473	9	32	479	38	7	33	63	175	85	39
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	19	587	11	61	614	49	16	66	127	178	250	115
Arrive On Green	0.01	0.35	0.35	0.04	0.38	0.38	0.01	0.12	0.12	0.10	0.21	0.21
Sat Flow, veh/h	1616	1659	32	1691	1624	129	1774	574	1096	1774	1210	555
Grp Volume(v), veh/h	9	0	482	32	0	517	7	0	96	175	0	124
Grp Sat Flow(s),veh/h/ln	1616	0	1691	1691	0	1753	1774	0	1669	1774	0	1765
Q Serve(g_s), s	0.3	0.0	12.8	0.9	0.0	12.9	0.2	0.0	2.7	4.9	0.0	3.0
Cycle Q Clear(g_c), s	0.3	0.0	12.8	0.9	0.0	12.9	0.2	0.0	2.7	4.9	0.0	3.0
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.66	1.00		0.31
Lane Grp Cap(c), veh/h	19	0	598	61	0	662	16	0	193	178	0	365
V/C Ratio(X)	0.47	0.00	0.81	0.53	0.00	0.78	0.43	0.00	0.50	0.98	0.00	0.34
Avail Cap(c_a), veh/h	163	0	1266	170	0	1312	178	0	779	178	0	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.4	0.0	14.5	23.5	0.0	13.6	24.5	0.0	20.6	22.3	0.0	16.8
Incr Delay (d2), s/veh	17.2	0.0	2.6	6.9	0.0	2.0	16.5	0.0	2.0	61.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	6.3	0.5	0.0	6.6	0.2	0.0	1.3	5.4	0.0	1.5
LnGrp Delay(d),s/veh	41.6	0.0	17.1	30.4	0.0	15.7	41.0	0.0	22.6	83.7	0.0	17.4
LnGrp LOS	D		B	C		B	D		C	F		B
Approach Vol, veh/h		491			549			103			299	
Approach Delay, s/veh		17.6			16.6			23.9			56.2	
Approach LOS		B			B			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	11.5	5.8	23.4	4.5	16.1	4.6	24.6
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	5.0	23.2	5.0	37.2	5.0	23.2	5.0	37.2
Max Q Clear Time (g_c+I1), s	6.9	4.7	2.9	14.8	2.2	5.0	2.3	14.9
Green Ext Time (p_c), s	0.0	0.4	0.0	2.8	0.0	0.5	0.0	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	25.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	472	7	29	466	30	9	12	20	336	89	43
Future Volume (veh/h)	4	472	7	29	466	30	9	12	20	336	89	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	513	8	32	507	33	10	13	22	365	97	47
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	9	581	9	57	622	40	171	225	315	497	107	52
Arrive On Green	0.01	0.35	0.35	0.03	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1616	1666	26	1691	1649	107	274	590	827	1058	281	136
Grp Volume(v), veh/h	4	0	521	32	0	540	45	0	0	509	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1692	1691	0	1757	1692	0	0	1475	0	0
Q Serve(g_s), s	0.2	0.0	19.1	1.2	0.0	18.2	0.0	0.0	0.0	20.4	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	19.1	1.2	0.0	18.2	1.1	0.0	0.0	21.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.06	0.22		0.49	0.72		0.09
Lane Grp Cap(c), veh/h	9	0	590	57	0	663	711	0	0	656	0	0
V/C Ratio(X)	0.46	0.00	0.88	0.56	0.00	0.81	0.06	0.00	0.00	0.78	0.00	0.00
Avail Cap(c_a), veh/h	123	0	749	128	0	778	831	0	0	768	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.7	0.0	20.2	31.4	0.0	18.5	13.0	0.0	0.0	19.2	0.0	0.0
Incr Delay (d2), s/veh	33.9	0.0	10.1	8.4	0.0	5.8	0.0	0.0	0.0	4.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	10.5	0.7	0.0	9.8	0.5	0.0	0.0	9.4	0.0	0.0
LnGrp Delay(d),s/veh	66.6	0.0	30.3	39.8	0.0	24.3	13.0	0.0	0.0	23.5	0.0	0.0
LnGrp LOS	E		C	D		C	B			C		
Approach Vol, veh/h		525			572			45			509	
Approach Delay, s/veh		30.5			25.2			13.0			23.5	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		30.9	6.2	28.8		30.9	4.4	30.7
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		30.2	5.0	29.2		30.2	5.0	29.2
Max Q Clear Time (g_c+I1), s		3.1	3.2	21.1		23.5	2.2	20.2
Green Ext Time (p_c), s		0.2	0.0	1.9		1.7	0.0	2.1

Intersection Summary		
HCM 2010 Ctrl Delay		26.0
HCM 2010 LOS		C

Intersection	
Int Delay, s/veh	15.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	241	856	480	0	6	496
Future Vol, veh/h	241	856	480	0	6	496
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	11	5	5	2	2
Mvmt Flow	262	930	522	0	7	539

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	522	0	-	0	1976	522
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	1454	-
Critical Hdwy	4.21	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.299	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1000	-	-	-	68	555
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	215	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1000	-	-	-	50	555
Mov Cap-2 Maneuver	-	-	-	-	50	-
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	215	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	59
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1000	-	-	-	50	555
HCM Lane V/C Ratio	0.262	-	-	-	0.13	0.971
HCM Control Delay (s)	9.9	-	-	-	87.5	58.7
HCM Lane LOS	A	-	-	-	F	F
HCM 95th %tile Q(veh)	1.1	-	-	-	0.4	13.3

Intersection	
Intersection Delay, s/veh	334.2
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	194	709	548	302	287	302
Future Vol, veh/h	194	709	548	302	287	302
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	771	596	328	312	328
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	387.9	409.5	143.1
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	64%	21%	0%
Vol Thru, %	36%	0%	49%
Vol Right, %	0%	79%	51%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	850	903	589
LT Vol	548	194	0
Through Vol	302	0	287
RT Vol	0	709	302
Lane Flow Rate	924	982	640
Geometry Grp	1	1	1
Degree of Util (X)	1.838	1.8	1.196
Departure Headway (Hd)	9.537	7.91	10.101
Convergence, Y/N	Yes	Yes	Yes
Cap	388	471	365
Service Time	7.537	5.91	8.101
HCM Lane V/C Ratio	2.381	2.085	1.753
HCM Control Delay	409.5	387.9	143.1
HCM Lane LOS	F	F	F
HCM 95th-tile Q	45.3	51.5	17.7

Intersection	
Intersection Delay, s/veh	400.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	698	346	302	548	0	351	0	205	0	0	0
Future Vol, veh/h	0	698	346	302	548	0	351	0	205	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	759	376	328	596	0	382	0	223	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	546.1	401.8	126.5	0
HCM LOS	F	F	F	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	63%	0%	36%	0%
Vol Thru, %	0%	67%	64%	100%
Vol Right, %	37%	33%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	556	1044	850	0
LT Vol	351	0	302	0
Through Vol	0	698	548	0
RT Vol	205	346	0	0
Lane Flow Rate	604	1135	924	0
Geometry Grp	1	1	1	1
Degree of Util (X)	1.164	2.154	1.823	0
Departure Headway (Hd)	8.918	8.446	9.17	16.375
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	411	443	407	0
Service Time	6.918	6.446	7.17	14.375
HCM Lane V/C Ratio	1.47	2.562	2.27	0
HCM Control Delay	126.5	546.1	401.8	19.4
HCM Lane LOS	F	F	F	N
HCM 95th-tile Q	18	66.7	46.2	0

Intersection	
Intersection Delay, s/veh	284
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	701	94	379	104	75	29	133	302	14	127	5
Future Vol, veh/h	16	701	94	379	104	75	29	133	302	14	127	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	18	18	18	18	18	18
Mvmt Flow	17	762	102	412	113	82	32	145	328	15	138	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	469.7	217.1	120.5	28.2
HCM LOS	F	F	F	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	2%	68%	10%
Vol Thru, %	29%	86%	19%	87%
Vol Right, %	65%	12%	13%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	464	811	558	146
LT Vol	29	16	379	14
Through Vol	133	701	104	127
RT Vol	302	94	75	5
Lane Flow Rate	504	882	607	159
Geometry Grp	1	1	1	1
Degree of Util (X)	1.125	1.976	1.38	0.437
Departure Headway (Hd)	10.662	9.328	10.639	14.434
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	343	397	346	252
Service Time	8.662	7.328	8.639	12.434
HCM Lane V/C Ratio	1.469	2.222	1.754	0.631
HCM Control Delay	120.5	469.7	217.1	28.2
HCM Lane LOS	F	F	F	D
HCM 95th-tile Q	14.9	52.5	23.5	2.1

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	152	192	27	361	287
Future Vol, veh/h	12	152	192	27	361	287
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	165	209	29	392	312

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1320	224	0	0	238	0
Stage 1	224	-	-	-	-	-
Stage 2	1096	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	173	815	-	-	1329	-
Stage 1	813	-	-	-	-	-
Stage 2	320	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	111	815	-	-	1329	-
Mov Cap-2 Maneuver	111	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	206	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	4.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	557	1329	-
HCM Lane V/C Ratio	-	-	0.32	0.295	-
HCM Control Delay (s)	-	-	14.5	8.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.4	1.2	-

Intersection	
Int Delay, s/veh	96.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	47	105	152	72	143	301	22	219	12	47	246	7
Future Vol, veh/h	47	105	152	72	143	301	22	219	12	47	246	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	16	16	16	25	25	25
Mvmt Flow	51	114	165	78	155	327	24	238	13	51	267	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	907	672	271	806	670	245	275	0	0	251	0	0
Stage 1	373	373	-	293	293	-	-	-	-	-	-	-
Stage 2	534	299	-	513	377	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.26	-	-	4.35	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.344	-	-	2.425	-	-
Pot Cap-1 Maneuver	257	377	768	300	378	794	1211	-	-	1191	-	-
Stage 1	648	618	-	715	670	-	-	-	-	-	-	-
Stage 2	530	666	-	544	616	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	94	349	768	167	350	794	1211	-	-	1191	-	-
Mov Cap-2 Maneuver	94	349	-	167	350	-	-	-	-	-	-	-
Stage 1	633	586	-	699	655	-	-	-	-	-	-	-
Stage 2	232	651	-	326	585	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	115	189.1	0.7	1.3
HCM LOS	F	F		

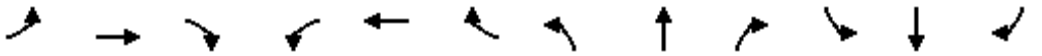
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1211	-	-	304	423	1191	-	-
HCM Lane V/C Ratio	0.02	-	-	1.087	1.326	0.043	-	-
HCM Control Delay (s)	8	0	-	115	189.1	8.2	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	12.9	25.5	0.1	-	-

Intersection	
Intersection Delay, s/veh	295.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	39	292	171	156	100	71	71	405	136	60	496	11
Future Vol, veh/h	39	292	171	156	100	71	71	405	136	60	496	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	22	22	22	22	22	22
Mvmt Flow	42	317	186	170	109	77	77	440	148	65	539	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	237.5	90.4	399.7	353.2
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	8%	48%	11%
Vol Thru, %	66%	58%	31%	87%
Vol Right, %	22%	34%	22%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	612	502	327	567
LT Vol	71	39	156	60
Through Vol	405	292	100	496
RT Vol	136	171	71	11
Lane Flow Rate	665	546	355	616
Geometry Grp	1	1	1	1
Degree of Util (X)	1.791	1.406	0.947	1.68
Departure Headway (Hd)	13.135	13.407	15.966	13.61
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	286	278	231	271
Service Time	11.135	11.407	13.966	11.61
HCM Lane V/C Ratio	2.325	1.964	1.537	2.273
HCM Control Delay	399.7	237.5	90.4	353.2
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	32.7	20.5	8.2	28.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	354	16	174	678	0	0	0	0	138	1	148
Future Volume (vph)	0	354	16	174	678	0	0	0	0	138	1	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1		4.0	4.0					5.1	5.1	
Lane Util. Factor		0.95		0.95	0.95					0.95	0.95	
Frpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.99		1.00	1.00					1.00	0.86	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3521		1429	1540					1429	1324	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		3521		1429	1540					1429	1324	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	385	17	189	737	0	0	0	0	150	1	161
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	133	0
Lane Group Flow (vph)	0	399	0	170	756	0	0	0	0	135	44	0
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	0%	1%	20%	20%	17%	0%	0%	0%	0%	20%	20%	17%
Turn Type		NA		Split	NA					Split	NA	
Protected Phases		4		3	3					6	6	
Permitted Phases												
Actuated Green, G (s)		12.3		48.0	48.0					15.5	15.5	
Effective Green, g (s)		12.3		48.0	48.0					15.5	15.5	
Actuated g/C Ratio		0.14		0.53	0.53					0.17	0.17	
Clearance Time (s)		5.1		4.0	4.0					5.1	5.1	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		481		762	821					246	228	
v/s Ratio Prot		c0.11		0.12	c0.49					c0.09	0.03	
v/s Ratio Perm												
v/c Ratio		0.83		0.22	0.92					0.55	0.19	
Uniform Delay, d1		37.8		11.1	19.3					34.1	31.9	
Progression Factor		1.00		0.16	0.42					1.00	1.00	
Incremental Delay, d2		11.2		0.1	12.2					8.5	1.9	
Delay (s)		49.1		1.9	20.2					42.6	33.8	
Level of Service		D		A	C					D	C	
Approach Delay (s)		49.1			16.9			0.0			37.6	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	393	0	0	726	418	126	1	285	0	0	0
Future Volume (vph)	99	393	0	0	726	418	126	1	285	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1	5.1		5.1	5.1			
Lane Util. Factor		0.95			0.95	1.00		1.00	0.88			
Frt		1.00			1.00	0.85		1.00	0.85			
Flt Protected		0.99			1.00	1.00		0.95	1.00			
Satd. Flow (prot)		3169			3008	1468		1810	2450			
Flt Permitted		0.99			1.00	1.00		0.95	1.00			
Satd. Flow (perm)		3169			3008	1468		1810	2450			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	427	0	0	789	454	137	1	310	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	142	0	0	154	0	0	0
Lane Group Flow (vph)	0	535	0	0	789	312	0	138	156	0	0	0
Heavy Vehicles (%)	0%	16%	0%	0%	20%	10%	0%	0%	16%	0%	0%	0%
Turn Type	Split	NA			NA	custom	Split	NA	custom			
Protected Phases	2!	2			6	2!	4	4	6			
Permitted Phases						6			4			
Actuated Green, G (s)		31.7			30.2	61.9		12.8	43.0			
Effective Green, g (s)		31.7			30.2	61.9		12.8	43.0			
Actuated g/C Ratio		0.35			0.34	0.69		0.14	0.48			
Clearance Time (s)		5.1			5.1	5.1		5.1	5.1			
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)		1116			1009	1092		257	1309			
v/s Ratio Prot		c0.17			c0.26	0.10		c0.08	0.04			
v/s Ratio Perm						0.11			0.02			
v/c Ratio		0.48			0.78	0.29		0.54	0.12			
Uniform Delay, d1		22.7			26.9	5.5		35.8	13.0			
Progression Factor		0.14			0.45	0.00		1.00	1.00			
Incremental Delay, d2		0.9			3.4	0.1		2.2	0.0			
Delay (s)		4.1			15.6	0.1		38.0	13.1			
Level of Service		A			B	A		D	B			
Approach Delay (s)		4.1			9.9			20.7			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	299	214	76	750	214	188	3	60	90	0	206
Future Volume (vph)	165	299	214	76	750	214	188	3	60	90	0	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.86	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3213	3008	1583	1770	3139	1547	1770	1863	1583	1649	1380	1421
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3213	3008	1583	1770	3139	1547	1770	1863	1583	1649	1380	1421
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	325	233	83	815	233	204	3	65	98	0	224
RTOR Reduction (vph)	0	0	135	0	0	144	0	0	54	0	108	95
Lane Group Flow (vph)	179	325	98	83	815	89	204	3	11	88	10	21
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	9%	20%	2%	2%	15%	3%	2%	2%	2%	4%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	9.1	37.8	37.8	7.8	34.5	34.5	15.6	15.6	15.6	7.3	7.3	16.4
Effective Green, g (s)	9.1	37.8	37.8	7.8	34.5	34.5	15.6	15.6	15.6	7.3	7.3	16.4
Actuated g/C Ratio	0.10	0.42	0.42	0.09	0.38	0.38	0.17	0.17	0.17	0.08	0.08	0.18
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	324	1263	664	153	1203	593	306	322	274	133	111	361
v/s Ratio Prot	c0.06	0.11		0.05	c0.26		c0.12	0.00		c0.05	0.01	0.01
v/s Ratio Perm			0.06			0.06			0.01			0.01
v/c Ratio	0.55	0.26	0.15	0.54	0.68	0.15	0.67	0.01	0.04	0.66	0.09	0.06
Uniform Delay, d1	38.5	17.0	16.1	39.4	23.1	18.2	34.8	30.8	31.0	40.2	38.3	30.4
Progression Factor	0.80	0.55	0.62	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.5	0.4	3.9	3.1	0.5	5.4	0.0	0.1	11.7	0.3	0.1
Delay (s)	32.6	9.8	10.5	43.3	26.2	18.7	40.2	30.8	31.0	51.8	38.6	30.5
Level of Service	C	A	B	D	C	B	D	C	C	D	D	C
Approach Delay (s)		15.6			25.9			37.9			39.3	
Approach LOS		B			C			D			D	

Intersection Summary					
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.65				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	23.5		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B		
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	493	8	9	490	15	173	90	26	14	15	74
Future Volume (veh/h)	66	493	8	9	490	15	173	90	26	14	15	74
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1745	1900	1900	1827	1583	1900	1900	1900	1583	1629	1900
Adj Flow Rate, veh/h	72	536	9	10	533	16	188	98	28	15	16	80
Adj No. of Lanes	2	2	0	2	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	234	1295	22	55	1123	430	436	492	418	399	61	307
Arrive On Green	0.08	0.39	0.39	0.02	0.32	0.32	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	2925	3337	56	3510	3471	1329	1320	1900	1615	1071	237	1183
Grp Volume(v), veh/h	72	266	279	10	533	16	188	98	28	15	0	96
Grp Sat Flow(s),veh/h/ln	1463	1658	1735	1755	1736	1329	1320	1900	1615	1071	0	1420
Q Serve(g_s), s	1.0	5.1	5.1	0.1	5.3	0.4	5.8	1.8	0.6	0.5	0.0	2.3
Cycle Q Clear(g_c), s	1.0	5.1	5.1	0.1	5.3	0.4	8.1	1.8	0.6	2.2	0.0	2.3
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.83
Lane Grp Cap(c), veh/h	234	643	673	55	1123	430	436	492	418	399	0	368
V/C Ratio(X)	0.31	0.41	0.41	0.18	0.47	0.04	0.43	0.20	0.07	0.04	0.00	0.26
Avail Cap(c_a), veh/h	436	1419	1484	483	2930	1122	1215	1613	1371	1031	0	1205
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	9.7	9.7	21.2	11.8	10.1	16.0	12.6	12.2	13.5	0.0	12.8
Incr Delay (d2), s/veh	0.7	0.9	0.9	1.6	0.7	0.1	0.7	0.2	0.1	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.5	2.6	0.1	2.6	0.1	2.2	1.0	0.3	0.1	0.0	0.9
LnGrp Delay(d),s/veh	19.6	10.6	10.6	22.7	12.4	10.2	16.7	12.8	12.2	13.5	0.0	13.2
LnGrp LOS	B	B	B	C	B	B	B	B	B	B		B
Approach Vol, veh/h		617			559			314			111	
Approach Delay, s/veh		11.7			12.6			15.1			13.3	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	22.6		15.8	8.0	19.8		15.8
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		4.5
Max Green Setting (Gmax), s	6.3	37.3		37.0	6.5	36.8		37.0
Max Q Clear Time (g_c+I1), s	2.1	7.1		4.3	3.0	7.3		10.1
Green Ext Time (p_c), s	0.0	6.3		0.6	0.0	6.8		1.3

Intersection Summary		
HCM 2010 Ctrl Delay	12.8	
HCM 2010 LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	335	46	10	406	165	181	417	20	335	205	93
Future Volume (veh/h)	131	335	46	10	406	165	181	417	20	335	205	93
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1835	1900	1900	1792	1863	1900	1810	1900	1827	1900	1863
Adj Flow Rate, veh/h	142	364	50	11	441	179	197	453	22	364	223	101
Adj No. of Lanes	1	2	0	1	2	1	2	1	0	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	4	0	0	6	2	0	5	5	4	0	2
Cap, veh/h	176	911	124	30	714	332	288	518	25	450	672	560
Arrive On Green	0.10	0.30	0.30	0.02	0.21	0.21	0.08	0.30	0.30	0.13	0.35	0.35
Sat Flow, veh/h	1707	3076	419	1810	3406	1583	3510	1712	83	3375	1900	1583
Grp Volume(v), veh/h	142	205	209	11	441	179	197	0	475	364	223	101
Grp Sat Flow(s),veh/h/ln	1707	1744	1751	1810	1703	1583	1755	0	1795	1688	1900	1583
Q Serve(g_s), s	6.0	6.9	7.0	0.4	8.6	7.4	4.0	0.0	18.5	7.7	6.3	3.2
Cycle Q Clear(g_c), s	6.0	6.9	7.0	0.4	8.6	7.4	4.0	0.0	18.5	7.7	6.3	3.2
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	176	516	519	30	714	332	288	0	543	450	672	560
V/C Ratio(X)	0.81	0.40	0.40	0.37	0.62	0.54	0.68	0.00	0.88	0.81	0.33	0.18
Avail Cap(c_a), veh/h	228	648	650	148	1089	506	463	0	669	496	737	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	20.6	20.7	35.8	26.4	25.9	32.8	0.0	24.3	30.9	17.4	16.4
Incr Delay (d2), s/veh	11.7	1.1	1.1	15.6	1.9	2.9	1.1	0.0	10.7	7.9	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	3.5	3.5	0.3	4.2	3.5	2.0	0.0	10.7	4.1	3.3	1.4
LnGrp Delay(d),s/veh	43.9	21.7	21.7	51.4	28.2	28.8	33.9	0.0	35.0	38.9	17.7	16.6
LnGrp LOS	D	C	C	D	C	C	C		C	D	B	B
Approach Vol, veh/h		556			631			672			688	
Approach Delay, s/veh		27.4			28.8			34.7			28.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	27.3	10.2	30.6	11.8	20.9	14.0	26.8
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	27.3	* 9.7	28.5	* 9.8	23.5	* 11	27.4
Max Q Clear Time (g_c+I1), s	2.4	9.0	6.0	8.3	8.0	10.6	9.7	20.5
Green Ext Time (p_c), s	0.0	3.8	0.1	1.5	0.0	4.8	0.1	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	30.0
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	654	31	39	522	54	54	124	75	80	81	105
Future Volume (veh/h)	77	654	31	39	522	54	54	124	75	80	81	105
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1842	1900	1845	1813	1900	1863	1886	1900	1881	1900	1900
Adj Flow Rate, veh/h	84	711	34	42	567	59	59	135	82	87	88	114
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	6	3	5	3	2	0	2	1	0	0
Cap, veh/h	150	1059	51	93	889	92	312	266	161	304	183	237
Arrive On Green	0.08	0.31	0.31	0.05	0.28	0.28	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1810	3397	162	1757	3149	327	1170	1088	661	1166	749	971
Grp Volume(v), veh/h	84	366	379	42	310	316	59	0	217	87	0	202
Grp Sat Flow(s),veh/h/ln	1810	1750	1809	1757	1722	1754	1170	0	1749	1166	0	1720
Q Serve(g_s), s	2.2	9.1	9.1	1.2	7.8	7.9	2.3	0.0	5.3	3.5	0.0	5.0
Cycle Q Clear(g_c), s	2.2	9.1	9.1	1.2	7.8	7.9	7.3	0.0	5.3	8.8	0.0	5.0
Prop In Lane	1.00		0.09	1.00		0.19	1.00		0.38	1.00		0.56
Lane Grp Cap(c), veh/h	150	546	564	93	486	495	312	0	427	304	0	420
V/C Ratio(X)	0.56	0.67	0.67	0.45	0.64	0.64	0.19	0.00	0.51	0.29	0.00	0.48
Avail Cap(c_a), veh/h	236	789	816	211	759	773	543	0	771	534	0	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	14.9	14.9	22.9	15.7	15.7	19.3	0.0	16.3	20.1	0.0	16.1
Incr Delay (d2), s/veh	3.3	2.0	2.0	3.4	2.0	2.0	0.3	0.0	0.9	0.5	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.7	4.8	0.6	4.0	4.1	0.8	0.0	2.7	1.2	0.0	2.5
LnGrp Delay(d),s/veh	25.3	17.0	16.9	26.3	17.6	17.6	19.6	0.0	17.2	20.6	0.0	17.0
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		829			668			276			289	
Approach Delay, s/veh		17.8			18.2			17.7			18.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	22.1		18.7	10.6	20.6		18.7
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	6.6	22.5		22.0	6.5	22.0		22.0
Max Q Clear Time (g_c+I1), s	3.2	11.1		10.8	4.2	9.9		9.3
Green Ext Time (p_c), s	0.0	4.5		1.2	0.0	4.0		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	18.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	580	20	137	508	128	19	93	97	146	120	39
Future Volume (veh/h)	130	580	20	137	508	128	19	93	97	146	120	39
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1817	1900	1792	1827	1845	1900	1827	1827	1900	1863	1776
Adj Flow Rate, veh/h	141	630	22	149	552	139	21	101	105	159	130	42
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	20	6	4	3	0	4	4	0	2	7
Cap, veh/h	182	1067	37	192	1067	476	375	471	400	382	480	382
Arrive On Green	0.10	0.31	0.31	0.11	0.31	0.31	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1810	3402	119	1707	3471	1547	1227	1827	1551	1194	1863	1481
Grp Volume(v), veh/h	141	320	332	149	552	139	21	101	105	159	130	42
Grp Sat Flow(s),veh/h/ln	1810	1727	1794	1707	1736	1547	1227	1827	1551	1194	1863	1481
Q Serve(g_s), s	4.3	8.9	8.9	4.8	7.5	3.9	0.8	2.5	3.1	6.9	3.2	1.2
Cycle Q Clear(g_c), s	4.3	8.9	8.9	4.8	7.5	3.9	4.0	2.5	3.1	9.3	3.2	1.2
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	182	541	563	192	1067	476	375	471	400	382	480	382
V/C Ratio(X)	0.77	0.59	0.59	0.78	0.52	0.29	0.06	0.21	0.26	0.42	0.27	0.11
Avail Cap(c_a), veh/h	318	819	851	480	1952	870	791	1091	927	788	1113	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	16.5	16.5	24.6	16.2	15.0	18.4	16.6	16.8	20.3	16.9	16.1
Incr Delay (d2), s/veh	6.8	2.2	2.1	6.6	0.8	0.7	0.1	0.5	0.7	1.5	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.5	4.7	2.6	3.6	1.8	0.3	1.3	1.4	2.4	1.7	0.5
LnGrp Delay(d),s/veh	31.8	18.6	18.6	31.2	17.1	15.7	18.6	17.1	17.6	21.8	17.5	16.4
LnGrp LOS	C	B	B	C	B	B	B	B	B	C	B	B
Approach Vol, veh/h		793			840			227			331	
Approach Delay, s/veh		20.9			19.3			17.4			19.4	
Approach LOS		C			B			B			B	

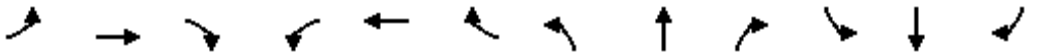
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	23.8		20.7	12.7	23.5		20.7
Change Period (Y+Rc), s	6.0	6.0		6.0	7.0	6.0		6.0
Max Green Setting (Gmax), s	16.0	27.0		34.0	10.0	32.0		34.0
Max Q Clear Time (g_c+I1), s	10.8	10.9		11.3	6.3	9.5		6.0
Green Ext Time (p_c), s	0.2	5.9		2.9	0.1	7.3		2.0

Intersection Summary		
HCM 2010 Ctrl Delay	19.7	
HCM 2010 LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	306	32	14	444	33	65	97	19	4	44	129
Future Volume (veh/h)	225	306	32	14	444	33	65	97	19	4	44	129
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1818	1900	1900	1759	1900	1900	1886	1900	1900	1873	1900
Adj Flow Rate, veh/h	245	333	35	15	483	36	71	105	21	4	48	140
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	5	0	0	8	0	2	0	0	0	0	2
Cap, veh/h	528	1756	183	705	979	896	219	208	36	98	85	235
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	878	3156	329	1029	1759	1611	465	1053	181	13	431	1194
Grp Volume(v), veh/h	245	181	187	15	483	36	197	0	0	192	0	0
Grp Sat Flow(s),veh/h/ln	878	1727	1759	1029	1759	1611	1700	0	0	1637	0	0
Q Serve(g_s), s	9.1	2.0	2.0	0.3	6.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.6	2.0	2.0	2.3	6.5	0.4	3.7	0.0	0.0	4.1	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.36		0.11	0.02		0.73
Lane Grp Cap(c), veh/h	528	961	978	705	979	896	462	0	0	418	0	0
V/C Ratio(X)	0.46	0.19	0.19	0.02	0.49	0.04	0.43	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	643	1187	1209	840	1209	1107	1113	0	0	1111	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.0	4.2	4.2	4.8	5.2	3.9	13.9	0.0	0.0	14.1	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.2	0.2	0.0	0.8	0.0	0.6	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.0	1.0	0.1	3.3	0.2	1.9	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	11.4	4.4	4.4	4.8	6.1	3.9	14.5	0.0	0.0	14.9	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B			B		
Approach Vol, veh/h		613			534			197			192	
Approach Delay, s/veh		7.2			5.9			14.5			14.9	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		26.0		12.5		26.0		12.5
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		26.5		24.0		26.5		24.0
Max Q Clear Time (g_c+I1), s		17.6		5.7		8.5		6.1
Green Ext Time (p_c), s		3.8		1.1		5.5		1.1

Intersection Summary		
HCM 2010 Ctrl Delay		8.6
HCM 2010 LOS		A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	167	63	36	135	52	134	418	55	30	275	247
Future Volume (vph)	143	167	63	36	135	52	134	418	55	30	275	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.96		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1641	1771		1583	1668		1736	1750		1805	1696	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1641	1771		1583	1668		1736	1750		1805	1696	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	155	182	68	39	147	57	146	454	60	33	299	268
RTOR Reduction (vph)	0	18	0	0	17	0	0	5	0	0	0	182
Lane Group Flow (vph)	155	232	0	39	187	0	146	509	0	33	299	86
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	10%	4%	0%	14%	9%	8%	4%	6%	12%	0%	12%	10%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	14.5	14.5		9.9	9.9		8.8	32.0		1.9	25.1	25.1
Effective Green, g (s)	14.5	14.5		9.9	9.9		8.8	32.0		1.9	25.1	25.1
Actuated g/C Ratio	0.19	0.19		0.13	0.13		0.11	0.41		0.02	0.32	0.32
Clearance Time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	305	330		201	212		196	719		44	547	473
v/s Ratio Prot	0.09	c0.13		0.02	c0.11		c0.08	c0.29		0.02	0.18	
v/s Ratio Perm												0.06
v/c Ratio	0.51	0.70		0.19	0.88		0.74	0.71		0.75	0.55	0.18
Uniform Delay, d1	28.4	29.6		30.4	33.4		33.4	19.0		37.7	21.7	19.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.3	6.7		0.5	31.2		14.2	5.8		51.4	3.9	0.8
Delay (s)	29.8	36.3		30.9	64.6		47.6	24.8		89.1	25.6	19.8
Level of Service	C	D		C	E		D	C		F	C	B
Approach Delay (s)		33.8			59.2			29.9			26.5	
Approach LOS		C			E			C			C	

Intersection Summary					
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.77				
Actuated Cycle Length (s)	77.8	Sum of lost time (s)	19.5		
Intersection Capacity Utilization	64.0%	ICU Level of Service	B		
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	173	69	165	147	22	101	255	184	74	567	96
Future Volume (veh/h)	30	173	69	165	147	22	101	255	184	74	567	96
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1667	1667	1667	1597	1597	1900
Adj Flow Rate, veh/h	33	188	75	179	160	24	110	277	200	80	616	104
Adj No. of Lanes	1	1	0	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	77	204	81	474	410	61	306	905	600	118	711	120
Arrive On Green	0.04	0.16	0.16	0.14	0.26	0.26	0.09	0.29	0.29	0.08	0.27	0.27
Sat Flow, veh/h	1774	1268	506	3442	1583	238	1587	3167	1417	1521	2598	438
Grp Volume(v), veh/h	33	0	263	179	0	184	110	277	200	80	359	361
Grp Sat Flow(s),veh/h/ln	1774	0	1773	1721	0	1821	1587	1583	1417	1521	1517	1519
Q Serve(g_s), s	1.0	0.0	7.9	2.6	0.0	4.5	2.6	3.7	1.3	2.8	12.2	12.2
Cycle Q Clear(g_c), s	1.0	0.0	7.9	2.6	0.0	4.5	2.6	3.7	1.3	2.8	12.2	12.2
Prop In Lane	1.00		0.29	1.00		0.13	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	77	0	285	474	0	471	306	905	600	118	415	416
V/C Ratio(X)	0.43	0.00	0.92	0.38	0.00	0.39	0.36	0.31	0.33	0.68	0.87	0.87
Avail Cap(c_a), veh/h	197	0	285	1844	0	1073	340	1112	693	281	645	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	22.4	21.2	0.0	16.5	13.5	15.1	2.5	24.3	18.7	18.7
Incr Delay (d2), s/veh	1.4	0.0	33.0	0.2	0.0	0.2	0.3	0.1	0.1	2.5	4.8	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	6.5	1.2	0.0	2.3	1.1	1.6	1.0	1.2	5.6	5.7
LnGrp Delay(d),s/veh	26.6	0.0	55.4	21.4	0.0	16.7	13.7	15.2	2.6	26.8	23.5	23.7
LnGrp LOS	C		E	C		B	B	B	A	C	C	C
Approach Vol, veh/h		296			363			587			800	
Approach Delay, s/veh		52.2			19.0			10.6			23.9	
Approach LOS		D			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	12.9	8.2	20.4	6.3	19.2	8.9	19.7
Change Period (Y+Rc), s	* 5.2	* 4.2	4.0	4.9	4.0	* 5.2	4.0	4.9
Max Green Setting (Gmax), s	* 23	* 8.7	10.0	19.0	6.0	* 32	6.0	23.0
Max Q Clear Time (g_c+I1), s	14.6	9.9	4.8	5.7	3.0	6.5	4.6	14.2
Green Ext Time (p_c), s	0.1	0.0	0.0	0.3	0.0	0.4	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	23.3
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	279	6	221	452	164	2	302	331	201	339	4
Future Volume (veh/h)	24	279	6	221	452	164	2	302	331	201	339	4
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1777	1900	1845	1743	1900	1827	1881	1583	1743	1881	1900
Adj Flow Rate, veh/h	26	303	7	240	491	178	2	328	360	218	368	4
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	7	3	3	9	0	4	1	20	9	1	4
Cap, veh/h	222	419	10	414	590	532	403	1049	395	760	1322	14
Arrive On Green	0.03	0.24	0.24	0.12	0.34	0.34	0.00	0.29	0.29	0.07	0.37	0.37
Sat Flow, veh/h	1810	1729	40	1757	1743	1573	1740	3574	1344	3221	3620	39
Grp Volume(v), veh/h	26	0	310	240	491	178	2	328	360	218	181	191
Grp Sat Flow(s),veh/h/ln	1810	0	1769	1757	1743	1573	1740	1787	1344	1610	1787	1873
Q Serve(g_s), s	0.7	0.0	10.6	6.3	17.1	5.6	0.1	4.7	17.1	2.9	4.7	4.7
Cycle Q Clear(g_c), s	0.7	0.0	10.6	6.3	17.1	5.6	0.1	4.7	17.1	2.9	4.7	4.7
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	222	0	429	414	590	532	403	1049	395	760	652	684
V/C Ratio(X)	0.12	0.00	0.72	0.58	0.83	0.33	0.00	0.31	0.91	0.29	0.28	0.28
Avail Cap(c_a), veh/h	321	0	769	687	1101	994	609	1326	499	804	652	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	0.0	23.0	15.4	20.1	16.3	16.4	18.1	22.5	13.2	14.8	14.8
Incr Delay (d2), s/veh	0.1	0.0	0.9	0.5	1.2	0.1	0.0	0.1	16.4	0.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.3	3.0	8.4	2.4	0.0	2.3	8.1	1.3	2.3	2.4
LnGrp Delay(d),s/veh	18.8	0.0	23.8	15.9	21.3	16.4	16.4	18.2	38.9	13.3	14.9	14.9
LnGrp LOS	B		C	B	C	B	B	B	D	B	B	B
Approach Vol, veh/h		336			909			690			590	
Approach Delay, s/veh		23.5			18.9			29.0			14.3	
Approach LOS		C			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	26.9	8.9	24.3	12.2	20.6	4.2	29.0
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.5	41.7	5.8	24.5	18.5	28.7	8.0	22.3
Max Q Clear Time (g_c+I1), s	2.7	19.1	4.9	19.1	8.3	12.6	2.1	6.7
Green Ext Time (p_c), s	0.0	0.4	0.0	0.2	0.0	0.3	0.0	0.3

Intersection Summary		
HCM 2010 Ctrl Delay		21.2
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	217	153	31	113	292	42	378	11	173	828	18
Future Volume (veh/h)	82	217	153	31	113	292	42	378	11	173	828	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863	1667	1667	1900	1597	1597	1900
Adj Flow Rate, veh/h	89	236	166	34	123	317	46	411	12	188	900	20
Adj No. of Lanes	1	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	14	14	14	19	19	19
Cap, veh/h	337	482	409	144	390	409	77	869	25	228	1148	26
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.05	0.28	0.28	0.15	0.38	0.38
Sat Flow, veh/h	945	1863	1583	186	1508	1583	1587	3142	92	1521	3034	67
Grp Volume(v), veh/h	89	236	166	157	0	317	46	207	216	188	450	470
Grp Sat Flow(s),veh/h/ln	945	1863	1583	1694	0	1583	1587	1583	1651	1521	1517	1585
Q Serve(g_s), s	3.9	4.9	4.0	0.0	0.0	8.5	1.3	5.0	5.0	5.5	12.0	12.0
Cycle Q Clear(g_c), s	7.0	4.9	4.0	3.1	0.0	8.5	1.3	5.0	5.0	5.5	12.0	12.0
Prop In Lane	1.00		1.00	0.22		1.00	1.00		0.06	1.00		0.04
Lane Grp Cap(c), veh/h	337	482	409	534	0	409	77	438	457	228	574	600
V/C Ratio(X)	0.26	0.49	0.41	0.29	0.00	0.77	0.60	0.47	0.47	0.82	0.78	0.78
Avail Cap(c_a), veh/h	465	733	623	744	0	623	194	644	671	299	729	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	14.4	14.1	13.7	0.0	15.7	21.3	13.8	13.8	18.9	12.6	12.6
Incr Delay (d2), s/veh	0.4	0.8	0.6	0.3	0.0	3.4	7.3	0.8	0.8	13.2	4.3	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.6	1.8	1.7	0.0	4.1	0.7	2.2	2.3	3.1	5.7	5.9
LnGrp Delay(d),s/veh	17.0	15.2	14.7	14.0	0.0	19.1	28.6	14.6	14.5	32.0	16.9	16.7
LnGrp LOS	B	B	B	B		B	C	B	B	C	B	B
Approach Vol, veh/h		491			474			469			1108	
Approach Delay, s/veh		15.3			17.4			15.9			19.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.9	18.5		16.4	6.2	23.1		16.4
Change Period (Y+Rc), s	4.0	5.8		4.6	4.0	5.8		4.6
Max Green Setting (Gmax), s	9.0	18.6		18.0	5.6	22.0		18.0
Max Q Clear Time (g_c+I1), s	7.5	7.0		9.0	3.3	14.0		10.5
Green Ext Time (p_c), s	0.1	1.7		1.7	0.0	3.3		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	105	21	8	55	5	91	1	6	2	1	0
Future Volume (veh/h)	2	105	21	8	55	5	91	1	6	2	1	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1583	1583	1739	1900	1583	1617	1900	1900	1781	1900
Adj Flow Rate, veh/h	2	114	23	9	60	5	99	1	7	2	1	0
Adj No. of Lanes	1	2	1	1	1	0	2	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	20	20	10	0	20	0	20	0	20	0
Cap, veh/h	6	961	508	18	436	36	345	21	144	6	3	0
Arrive On Green	0.00	0.27	0.27	0.01	0.28	0.28	0.12	0.12	0.12	0.00	0.00	0.00
Sat Flow, veh/h	1810	3610	1313	1508	1581	132	2925	175	1224	1149	575	0
Grp Volume(v), veh/h	2	114	23	9	0	65	99	0	8	3	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1313	1508	0	1713	1463	0	1399	1724	0	0
Q Serve(g_s), s	0.0	0.7	0.3	0.2	0.0	0.9	0.9	0.0	0.2	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.7	0.3	0.2	0.0	0.9	0.9	0.0	0.2	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.88	0.67		0.00
Lane Grp Cap(c), veh/h	6	961	508	18	0	472	345	0	165	9	0	0
V/C Ratio(X)	0.33	0.12	0.05	0.50	0.00	0.14	0.29	0.00	0.05	0.35	0.00	0.00
Avail Cap(c_a), veh/h	301	961	508	251	0	472	779	0	372	344	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.0	8.4	5.8	14.8	0.0	8.2	12.1	0.0	11.8	14.9	0.0	0.0
Incr Delay (d2), s/veh	29.3	0.1	0.0	19.4	0.0	0.1	0.5	0.0	0.1	23.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.4	0.1	0.2	0.0	0.4	0.4	0.0	0.1	0.1	0.0	0.0
LnGrp Delay(d),s/veh	44.2	8.4	5.8	34.1	0.0	8.3	12.6	0.0	11.9	38.0	0.0	0.0
LnGrp LOS	D	A	A	C		A	B		B	D		
Approach Vol, veh/h		139			74			107			3	
Approach Delay, s/veh		8.5			11.5			12.5			37.9	
Approach LOS		A			B			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		8.0	4.9	12.5		4.6	4.6	12.8
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		8.0	5.0	8.0		6.0	5.0	8.0
Max Q Clear Time (g_c+I1), s		2.9	2.2	2.7		2.1	2.0	2.9
Green Ext Time (p_c), s		0.1	0.0	0.3		0.0	0.0	0.1

Intersection Summary		
HCM 2010 Ctrl Delay		10.8
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	103	26	16	17	14	3	67	28	32	37	8
Future Volume (veh/h)	120	103	26	16	17	14	3	67	28	32	37	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1583	1786	1900	1900	1863	1583	1743	1797	1900
Adj Flow Rate, veh/h	130	112	28	17	18	15	3	73	30	35	40	9
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	20	0	14	0	2	20	9	7	0
Cap, veh/h	174	371	93	33	164	136	7	741	311	67	686	149
Arrive On Green	0.10	0.26	0.26	0.02	0.18	0.18	0.00	0.21	0.21	0.04	0.25	0.25
Sat Flow, veh/h	1774	1439	360	1508	902	752	1810	3539	1346	1660	2790	607
Grp Volume(v), veh/h	130	0	140	17	0	33	3	73	30	35	24	25
Grp Sat Flow(s),veh/h/ln	1774	0	1799	1508	0	1654	1810	1770	1346	1660	1707	1690
Q Serve(g_s), s	2.7	0.0	2.4	0.4	0.0	0.6	0.1	0.6	0.7	0.8	0.4	0.4
Cycle Q Clear(g_c), s	2.7	0.0	2.4	0.4	0.0	0.6	0.1	0.6	0.7	0.8	0.4	0.4
Prop In Lane	1.00		0.20	1.00		0.45	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	174	0	464	33	0	300	7	741	311	67	420	415
V/C Ratio(X)	0.75	0.00	0.30	0.52	0.00	0.11	0.40	0.10	0.10	0.52	0.06	0.06
Avail Cap(c_a), veh/h	418	0	1097	197	0	822	237	1759	698	217	871	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	0.0	11.4	18.5	0.0	13.1	19.0	12.2	11.6	18.0	11.0	11.0
Incr Delay (d2), s/veh	6.3	0.0	0.4	12.3	0.0	0.2	31.8	0.1	0.1	6.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.2	0.3	0.0	0.3	0.1	0.3	0.3	0.5	0.2	0.2
LnGrp Delay(d),s/veh	23.1	0.0	11.8	30.8	0.0	13.2	50.8	12.3	11.7	24.0	11.1	11.1
LnGrp LOS	C		B	C		B	D	B	B	C	B	B
Approach Vol, veh/h		270			50			106			84	
Approach Delay, s/veh		17.2			19.2			13.2			16.5	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	13.1	4.8	14.8	4.2	14.5	7.7	11.8
Change Period (Y+Rc), s	4.0	5.1	4.0	* 4.9	4.0	* 5.1	4.0	4.9
Max Green Setting (Gmax), s	5.0	19.0	5.0	* 23	5.0	* 20	9.0	19.0
Max Q Clear Time (g_c+I1), s	2.8	2.7	2.4	4.4	2.1	2.4	4.7	2.6
Green Ext Time (p_c), s	0.0	0.4	0.0	0.7	0.0	0.2	0.1	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	224	125	14	122	20	21	151	10	16	243	8
Future Volume (veh/h)	26	224	125	14	122	20	21	151	10	16	243	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1863	1863	1863	1597	1597	1597	1638	1638	1900
Adj Flow Rate, veh/h	28	243	136	15	133	22	23	164	11	17	264	9
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	19	19	19	16	16	16
Cap, veh/h	246	491	219	426	231	230	43	602	269	33	590	20
Arrive On Green	0.14	0.14	0.14	0.12	0.12	0.12	0.03	0.20	0.20	0.02	0.19	0.19
Sat Flow, veh/h	1723	3438	1538	3442	1863	1583	1521	3034	1357	1560	3071	104
Grp Volume(v), veh/h	28	243	136	15	133	22	23	164	11	17	133	140
Grp Sat Flow(s),veh/h/ln	1723	1719	1538	1721	1863	1583	1521	1517	1357	1560	1556	1620
Q Serve(g_s), s	0.6	2.7	3.5	0.2	2.8	0.5	0.6	1.9	0.3	0.4	3.2	3.2
Cycle Q Clear(g_c), s	0.6	2.7	3.5	0.2	2.8	0.5	0.6	1.9	0.3	0.4	3.2	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	246	491	219	426	231	230	43	602	269	33	299	311
V/C Ratio(X)	0.11	0.50	0.62	0.04	0.58	0.10	0.54	0.27	0.04	0.51	0.45	0.45
Avail Cap(c_a), veh/h	256	511	229	595	322	307	201	706	316	206	362	377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	16.5	16.8	16.1	17.2	15.4	20.0	14.1	13.5	20.2	14.9	14.9
Incr Delay (d2), s/veh	0.2	0.8	4.7	0.0	2.3	0.2	10.2	0.2	0.1	11.4	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.3	1.8	0.1	1.6	0.2	0.4	0.8	0.1	0.3	1.4	1.5
LnGrp Delay(d),s/veh	15.8	17.3	21.5	16.1	19.5	15.6	30.2	14.4	13.6	31.6	15.9	15.9
LnGrp LOS	B	B	C	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h		407			170			198			290	
Approach Delay, s/veh		18.6			18.7			16.2			16.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	14.1		11.7	5.2	13.8		11.0
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	9.7		6.2	5.5	9.7		7.2
Max Q Clear Time (g_c+I1), s	2.4	3.9		5.5	2.6	5.2		4.8
Green Ext Time (p_c), s	0.0	0.4		0.2	0.0	0.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	84	81	27	51	14	294	391	148	2	259	55
Future Volume (veh/h)	7	84	81	27	51	14	294	391	148	2	259	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1863	1863	1900	1810	1810	1810	1610	1610	1900
Adj Flow Rate, veh/h	8	91	88	29	55	15	320	425	161	2	282	60
Adj No. of Lanes	1	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	5	5	5	18	18	18
Cap, veh/h	183	185	161	399	322	84	379	1273	569	4	385	81
Arrive On Green	0.11	0.11	0.11	0.12	0.12	0.12	0.22	0.37	0.37	0.00	0.15	0.15
Sat Flow, veh/h	1723	1741	1520	3442	2776	728	1723	3438	1538	1533	2519	528
Grp Volume(v), veh/h	8	90	89	29	34	36	320	425	161	2	170	172
Grp Sat Flow(s),veh/h/ln	1723	1719	1541	1721	1770	1734	1723	1719	1538	1533	1530	1517
Q Serve(g_s), s	0.2	2.6	2.9	0.4	0.9	1.0	9.4	4.7	3.9	0.1	5.6	5.7
Cycle Q Clear(g_c), s	0.2	2.6	2.9	0.4	0.9	1.0	9.4	4.7	3.9	0.1	5.6	5.7
Prop In Lane	1.00		0.99	1.00		0.42	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	183	183	164	399	205	201	379	1273	569	4	234	232
V/C Ratio(X)	0.04	0.49	0.55	0.07	0.17	0.18	0.84	0.33	0.28	0.48	0.73	0.74
Avail Cap(c_a), veh/h	196	195	175	521	268	263	489	1273	569	160	278	276
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	22.3	22.4	20.8	21.1	21.1	19.7	12.0	11.7	26.3	21.3	21.4
Incr Delay (d2), s/veh	0.1	2.0	3.0	0.1	0.4	0.4	10.2	0.2	0.3	65.9	7.5	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.3	1.4	0.2	0.5	0.5	5.5	2.2	1.7	0.1	2.8	3.0
LnGrp Delay(d),s/veh	21.3	24.3	25.4	20.9	21.4	21.5	30.0	12.1	12.0	92.2	28.8	30.1
LnGrp LOS	C	C	C	C	C	C	C	B	B	F	C	C
Approach Vol, veh/h		187			99			906			344	
Approach Delay, s/veh		24.7			21.3			18.4			29.8	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.1	25.4		11.4	15.6	13.9		11.9
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	19.1		6.0	15.0	9.6		8.0
Max Q Clear Time (g_c+I1), s	2.1	6.7		4.9	11.4	7.7		3.0
Green Ext Time (p_c), s	0.0	2.5		0.1	0.3	0.3		0.1

Intersection Summary			
HCM 2010 Ctrl Delay		21.9	
HCM 2010 LOS		C	

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	330	314	291	498	16
Future Volume (veh/h)	60	330	314	291	498	16
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1638	1638	1624	1900
Adj Flow Rate, veh/h	65	359	341	316	541	17
Adj No. of Lanes	1	2	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	16	16	17	17
Cap, veh/h	235	1083	411	1876	762	24
Arrive On Green	0.14	0.14	0.26	0.60	0.25	0.25
Sat Flow, veh/h	1723	2707	1560	3194	3135	96
Grp Volume(v), veh/h	65	359	341	316	273	285
Grp Sat Flow(s),veh/h/ln	1723	1354	1560	1556	1543	1607
Q Serve(g_s), s	1.5	4.1	9.2	2.0	7.2	7.2
Cycle Q Clear(g_c), s	1.5	4.1	9.2	2.0	7.2	7.2
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	235	1083	411	1876	385	401
V/C Ratio(X)	0.28	0.33	0.83	0.17	0.71	0.71
Avail Cap(c_a), veh/h	240	1090	736	2950	596	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	9.2	15.4	3.9	15.2	15.2
Incr Delay (d2), s/veh	0.6	0.2	4.4	0.0	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.6	4.4	0.8	3.3	3.4
LnGrp Delay(d),s/veh	17.9	9.4	19.8	3.9	17.6	17.6
LnGrp LOS	B	A	B	A	B	B
Approach Vol, veh/h	424			657	558	
Approach Delay, s/veh	10.7			12.2	17.6	
Approach LOS	B			B	B	

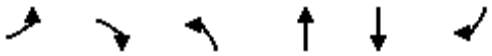
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		32.6		11.9	15.7	16.9		
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8		
Max Green Setting (Gmax), s		42.2		6.2	21.0	17.2		
Max Q Clear Time (g_c+I1), s		4.0		6.1	11.2	9.2		
Green Ext Time (p_c), s		2.0		0.0	0.7	1.9		

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	625	283	35	273	544
Future Volume (veh/h)	4	625	283	35	273	544
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1583	1638	1900	1624	1624
Adj Flow Rate, veh/h	4	679	308	38	297	591
Adj No. of Lanes	1	1	2	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	20	16	16	17	17
Cap, veh/h	292	586	535	65	373	1631
Arrive On Green	0.19	0.19	0.19	0.19	0.24	0.53
Sat Flow, veh/h	1508	1346	2874	342	1547	3167
Grp Volume(v), veh/h	4	679	170	176	297	591
Grp Sat Flow(s),veh/h/ln	1508	1346	1556	1578	1547	1543
Q Serve(g_s), s	0.1	8.1	4.2	4.2	7.5	4.7
Cycle Q Clear(g_c), s	0.1	8.1	4.2	4.2	7.5	4.7
Prop In Lane	1.00	1.00		0.22	1.00	
Lane Grp Cap(c), veh/h	292	586	298	302	373	1631
V/C Ratio(X)	0.01	1.16	0.57	0.58	0.80	0.36
Avail Cap(c_a), veh/h	292	586	607	615	1666	4822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	11.8	15.3	15.4	14.9	5.7
Incr Delay (d2), s/veh	0.0	89.6	1.7	1.8	3.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	21.2	1.9	2.0	3.5	2.0
LnGrp Delay(d),s/veh	13.6	101.4	17.1	17.1	18.8	5.9
LnGrp LOS	B	F	B	B	B	A
Approach Vol, veh/h	683		346			888
Approach Delay, s/veh	100.9		17.1			10.2
Approach LOS	F		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.1	13.8				27.9		13.9
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8
Max Green Setting (Gmax), s	45.0	16.3				65.3		8.1
Max Q Clear Time (g_c+I1), s	19.5	6.2				6.7		10.1
Green Ext Time (p_c), s	0.9	1.3				4.2		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	43.7
HCM 2010 LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	393	9	2	751	466	84
Future Volume (vph)	393	9	2	751	466	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frt	1.00		1.00	1.00	0.98	
Flt Protected	0.95		0.95	1.00	1.00	
Satd. Flow (prot)	3335		1556	3112	3015	
Flt Permitted	0.95		0.95	1.00	1.00	
Satd. Flow (perm)	3335		1556	3112	3015	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	427	10	2	816	507	91
RTOR Reduction (vph)	3	0	0	0	24	0
Lane Group Flow (vph)	434	0	2	816	574	0
Heavy Vehicles (%)	5%	5%	16%	16%	17%	17%
Turn Type	Prot		Prot	NA	NA	
Protected Phases	2		3	8	4	
Permitted Phases						
Actuated Green, G (s)	11.1		0.8	21.2	16.4	
Effective Green, g (s)	11.1		0.8	21.2	16.4	
Actuated g/C Ratio	0.25		0.02	0.48	0.37	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	843		28	1502	1126	
v/s Ratio Prot	c0.13		0.00	c0.26	0.19	
v/s Ratio Perm						
v/c Ratio	0.51		0.07	0.54	0.51	
Uniform Delay, d1	14.1		21.2	8.0	10.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.5		1.1	0.4	0.4	
Delay (s)	14.6		22.3	8.4	11.0	
Level of Service	B		C	A	B	
Approach Delay (s)	14.6			8.4	11.0	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	43.9	Sum of lost time (s)	15.6
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	498	126	6	395	368	52
Future Volume (vph)	498	126	6	395	368	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.97		1.00	1.00	0.98	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	2992		1556	1638	2912	
Flt Permitted	1.00		0.95	1.00	0.96	
Satd. Flow (perm)	2992		1556	1638	2912	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	541	137	7	429	400	57
RTOR Reduction (vph)	43	0	0	0	23	0
Lane Group Flow (vph)	635	0	7	429	434	0
Heavy Vehicles (%)	17%	17%	16%	16%	19%	19%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases						
Actuated Green, G (s)	14.0		0.8	18.8	10.6	
Effective Green, g (s)	14.0		0.8	18.8	10.6	
Actuated g/C Ratio	0.34		0.02	0.46	0.26	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1021		30	751	752	
v/s Ratio Prot	0.21		0.00	c0.26	c0.15	
v/s Ratio Perm						
v/c Ratio	0.62		0.23	0.57	0.58	
Uniform Delay, d1	11.3		19.8	8.1	13.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	1.2		4.0	1.1	1.1	
Delay (s)	12.5		23.8	9.2	14.3	
Level of Service	B		C	A	B	
Approach Delay (s)	12.5			9.4	14.3	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	41.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	132	93	0	580	29	84	322	0	0	262	22
Future Volume (veh/h)	53	132	93	0	580	29	84	322	0	0	262	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1583	1900	1900	1583	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	58	143	101	0	630	32	91	350	0	0	285	24
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	20	20	20	20	20	2	2	2	2	2	2
Cap, veh/h	104	209	119	0	733	37	150	432	0	0	589	50
Arrive On Green	0.49	0.49	0.49	0.00	0.49	0.49	0.35	0.35	0.00	0.00	0.35	0.35
Sat Flow, veh/h	55	427	242	0	1494	76	207	1244	0	0	1695	143
Grp Volume(v), veh/h	302	0	0	0	0	662	441	0	0	0	0	309
Grp Sat Flow(s),veh/h/ln	725	0	0	0	0	1570	1451	0	0	0	0	1838
Q Serve(g_s), s	4.3	0.0	0.0	0.0	0.0	20.6	9.0	0.0	0.0	0.0	0.0	7.3
Cycle Q Clear(g_c), s	24.9	0.0	0.0	0.0	0.0	20.6	16.3	0.0	0.0	0.0	0.0	7.3
Prop In Lane	0.19		0.33	0.00		0.05	0.21		0.00	0.00		0.08
Lane Grp Cap(c), veh/h	433	0	0	0	0	770	583	0	0	0	0	639
V/C Ratio(X)	0.70	0.00	0.00	0.00	0.00	0.86	0.76	0.00	0.00	0.00	0.00	0.48
Avail Cap(c_a), veh/h	460	0	0	0	0	806	676	0	0	0	0	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	11.0	0.0	0.0	0.0	0.0	12.5	17.2	0.0	0.0	0.0	0.0	14.2
Incr Delay (d2), s/veh	4.3	0.0	0.0	0.0	0.0	9.0	4.2	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	0.0	0.0	10.8	7.1	0.0	0.0	0.0	0.0	3.8
LnGrp Delay(d),s/veh	15.3	0.0	0.0	0.0	0.0	21.5	21.5	0.0	0.0	0.0	0.0	14.8
LnGrp LOS	B					C	C					B
Approach Vol, veh/h		302			662			441			309	
Approach Delay, s/veh		15.3			21.5			21.5			14.8	
Approach LOS		B			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		23.8		31.7		23.8		31.7
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5
Max Q Clear Time (g_c+I1), s		18.3		26.9		9.3		22.6
Green Ext Time (p_c), s		1.0		0.3		1.3		2.0

Intersection Summary		
HCM 2010 Ctrl Delay		19.2
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	23	205	1	4	0	244	489	17	1	20	1
Future Volume (veh/h)	23	23	205	1	4	0	244	489	17	1	20	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1583	1583	1900	1583	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	25	223	1	4	0	265	532	18	1	22	1
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	20	20	20	20	20	2	2	2	2	2	2
Cap, veh/h	309	205	288	190	300	0	887	787	27	151	764	33
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.00	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	472	958	1346	111	1399	0	1383	1791	61	16	1739	76
Grp Volume(v), veh/h	50	0	223	5	0	0	265	0	550	24	0	0
Grp Sat Flow(s),veh/h/ln	1430	0	1346	1511	0	0	1383	0	1852	1831	0	0
Q Serve(g_s), s	0.0	0.0	4.1	0.0	0.0	0.0	3.2	0.0	6.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	4.1	0.1	0.0	0.0	3.4	0.0	6.2	0.2	0.0	0.0
Prop In Lane	0.50		1.00	0.20		0.00	1.00		0.03	0.04		0.04
Lane Grp Cap(c), veh/h	514	0	288	490	0	0	887	0	813	948	0	0
V/C Ratio(X)	0.10	0.00	0.77	0.01	0.00	0.00	0.30	0.00	0.68	0.03	0.00	0.00
Avail Cap(c_a), veh/h	773	0	544	756	0	0	1372	0	1462	1566	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	9.6	8.0	0.0	0.0	5.0	0.0	5.8	4.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	4.4	0.0	0.0	0.0	0.2	0.0	1.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.8	0.0	0.0	0.0	1.3	0.0	3.3	0.1	0.0	0.0
LnGrp Delay(d),s/veh	8.4	0.0	14.0	8.0	0.0	0.0	5.2	0.0	6.8	4.1	0.0	0.0
LnGrp LOS	A		B	A			A		A	A		
Approach Vol, veh/h		273			5			815			24	
Approach Delay, s/veh		13.0			8.0			6.3			4.1	
Approach LOS		B			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		15.9		10.1		15.9		10.1
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		20.5		10.5		20.5		10.5
Max Q Clear Time (g_c+I1), s		8.2		6.1		2.2		2.1
Green Ext Time (p_c), s		3.3		0.4		0.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		7.9
HCM 2010 LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	533	8	11	403	44	13	137	248	65	43	17
Future Volume (veh/h)	14	533	8	11	403	44	13	137	248	65	43	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	15	579	9	12	438	48	14	149	270	71	47	18
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	30	634	10	23	528	58	490	164	298	128	92	35
Arrive On Green	0.02	0.37	0.37	0.01	0.36	0.36	0.28	0.28	0.28	0.07	0.07	0.07
Sat Flow, veh/h	1675	1728	27	1560	1451	159	1774	595	1078	1774	1284	492
Grp Volume(v), veh/h	15	0	588	12	0	486	14	0	419	71	0	65
Grp Sat Flow(s),veh/h/ln	1675	0	1755	1560	0	1610	1774	0	1673	1774	0	1776
Q Serve(g_s), s	0.7	0.0	25.3	0.6	0.0	21.8	0.5	0.0	19.2	3.1	0.0	2.8
Cycle Q Clear(g_c), s	0.7	0.0	25.3	0.6	0.0	21.8	0.5	0.0	19.2	3.1	0.0	2.8
Prop In Lane	1.00		0.02	1.00		0.10	1.00		0.64	1.00		0.28
Lane Grp Cap(c), veh/h	30	0	644	23	0	586	490	0	462	128	0	128
V/C Ratio(X)	0.50	0.00	0.91	0.53	0.00	0.83	0.03	0.00	0.91	0.56	0.00	0.51
Avail Cap(c_a), veh/h	106	0	735	98	0	675	542	0	511	139	0	139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.6	0.0	23.9	38.8	0.0	23.0	20.9	0.0	27.7	35.5	0.0	35.4
Incr Delay (d2), s/veh	12.6	0.0	14.7	17.4	0.0	7.7	0.0	0.0	18.7	4.1	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	14.9	0.4	0.0	10.8	0.2	0.0	11.2	1.6	0.0	1.5
LnGrp Delay(d),s/veh	51.2	0.0	38.6	56.2	0.0	30.6	20.9	0.0	46.4	39.6	0.0	38.5
LnGrp LOS	D		D	E		C	C		D	D		D
Approach Vol, veh/h		603			498			433			136	
Approach Delay, s/veh		38.9			31.2			45.6			39.1	
Approach LOS		D			C			D			D	

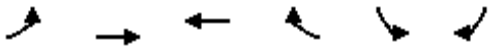
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		27.7	5.2	34.9		11.5	5.4	34.6
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		24.2	5.0	33.2		6.2	5.0	33.2
Max Q Clear Time (g_c+I1), s		21.2	2.6	27.3		5.1	2.7	23.8
Green Ext Time (p_c), s		0.7	0.0	1.8		0.0	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	38.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	464	5	17	568	59	66	66	170	188	19	23
Future Volume (veh/h)	2	464	5	17	568	59	66	66	170	188	19	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1759	1759	1900	1638	1638	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	504	5	18	617	64	72	72	185	204	21	25
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	16	16	16	2	2	2	2	2	2
Cap, veh/h	5	789	8	33	690	72	148	134	275	332	35	30
Arrive On Green	0.00	0.45	0.45	0.02	0.47	0.47	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1675	1739	17	1560	1460	151	283	471	969	813	124	104
Grp Volume(v), veh/h	2	0	509	18	0	681	329	0	0	250	0	0
Grp Sat Flow(s),veh/h/ln	1675	0	1756	1560	0	1611	1723	0	0	1041	0	0
Q Serve(g_s), s	0.1	0.0	14.4	0.7	0.0	25.0	0.0	0.0	0.0	4.5	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	14.4	0.7	0.0	25.0	10.8	0.0	0.0	15.3	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.09	0.22		0.56	0.82		0.10
Lane Grp Cap(c), veh/h	5	0	797	33	0	761	557	0	0	397	0	0
V/C Ratio(X)	0.44	0.00	0.64	0.54	0.00	0.89	0.59	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	129	0	1090	120	0	1000	820	0	0	596	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.3	0.0	13.6	31.4	0.0	15.6	20.5	0.0	0.0	22.3	0.0	0.0
Incr Delay (d2), s/veh	54.5	0.0	0.9	12.9	0.0	8.5	1.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	7.1	0.4	0.0	12.8	5.3	0.0	0.0	4.4	0.0	0.0
LnGrp Delay(d),s/veh	86.7	0.0	14.5	44.3	0.0	24.1	21.5	0.0	0.0	24.0	0.0	0.0
LnGrp LOS	F		B	D		C	C			C		
Approach Vol, veh/h		511			699			329			250	
Approach Delay, s/veh		14.7			24.6			21.5			24.0	
Approach LOS		B			C			C			C	

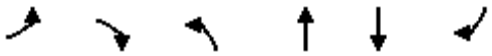
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		24.2	5.4	35.2		24.2	4.2	36.4
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		29.2	5.0	40.2		29.2	5.0	40.2
Max Q Clear Time (g_c+I1), s		12.8	2.7	16.4		17.3	2.1	27.0
Green Ext Time (p_c), s		1.7	0.0	3.0		1.1	0.0	3.6

Intersection Summary		
HCM 2010 Ctrl Delay		21.1
HCM 2010 LOS		C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	423	736	445	3	20	906
Future Volume (vph)	423	736	445	3	20	906
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.8	5.8		5.8	5.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.95
Frt	1.00	1.00	1.00		0.86	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1626	3252	3164		1592	1504
Flt Permitted	0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1626	3252	3164		1592	1504
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	460	800	484	3	22	985
RTOR Reduction (vph)	0	0	0	0	402	417
Lane Group Flow (vph)	460	800	487	0	103	85
Heavy Vehicles (%)	11%	11%	14%	14%	2%	2%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	26.1	47.6	17.5		12.0	12.0
Effective Green, g (s)	26.1	47.6	17.5		12.0	12.0
Actuated g/C Ratio	0.37	0.67	0.25		0.17	0.17
Clearance Time (s)	4.0	5.8	5.8		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	596	2174	777		268	253
v/s Ratio Prot	c0.28	0.25	c0.15		c0.06	
v/s Ratio Perm						0.06
v/c Ratio	0.77	0.37	0.63		0.39	0.33
Uniform Delay, d1	19.9	5.2	23.9		26.3	26.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	6.1	0.1	1.6		0.9	0.8
Delay (s)	26.1	5.3	25.5		27.2	26.9
Level of Service	C	A	C		C	C
Approach Delay (s)		12.9	25.5		27.1	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	71.2	Sum of lost time (s)	15.6
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	558	674	258	469	104
Future Volume (vph)	60	558	674	258	469	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	0.97	0.95	0.95	1.00
Frt	0.88	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.99	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1621	1504	3433	3539	3539	1583
Flt Permitted	0.99	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1621	1504	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	607	733	280	510	113
RTOR Reduction (vph)	183	270	0	0	0	83
Lane Group Flow (vph)	155	64	733	280	510	30
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	11.5	11.5	19.0	39.1	15.6	15.6
Effective Green, g (s)	11.5	11.5	19.0	39.1	15.6	15.6
Actuated g/C Ratio	0.19	0.19	0.32	0.66	0.26	0.26
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	312	290	1094	2321	926	414
v/s Ratio Prot	c0.10		c0.21	0.08	c0.14	
v/s Ratio Perm		0.04				0.02
v/c Ratio	0.50	0.22	0.67	0.12	0.55	0.07
Uniform Delay, d1	21.5	20.3	17.6	3.8	19.0	16.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.4	1.6	0.0	0.7	0.1
Delay (s)	22.7	20.7	19.2	3.9	19.7	16.6
Level of Service	C	C	B	A	B	B
Approach Delay (s)	21.7			15.0	19.1	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	363	398	103	675	0	340	0	255	0	0	0
Future Volume (veh/h)	0	363	398	103	675	0	340	0	255	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	395	433	112	734	0	370	0	277	0	0	0
Adj No. of Lanes	1	2	1	1	2	0	2	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1267	567	149	1923	0	875	0	403	0	4	0
Arrive On Green	0.00	0.36	0.36	0.08	0.54	0.00	0.25	0.00	0.25	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	3442	0	1583	0	1863	0
Grp Volume(v), veh/h	0	395	433	112	734	0	370	0	277	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1721	0	1583	0	1863	0
Q Serve(g_s), s	0.0	3.6	10.8	2.7	5.3	0.0	4.0	0.0	7.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.6	10.8	2.7	5.3	0.0	4.0	0.0	7.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	4	1267	567	149	1923	0	875	0	403	0	4	0
V/C Ratio(X)	0.00	0.31	0.76	0.75	0.38	0.00	0.42	0.00	0.69	0.00	0.00	0.00
Avail Cap(c_a), veh/h	199	1845	825	490	2425	0	1431	0	658	0	753	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.3	12.6	19.9	5.9	0.0	13.9	0.0	15.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	2.6	7.3	0.1	0.0	0.3	0.0	2.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	5.0	1.6	2.6	0.0	1.9	0.0	3.3	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.5	15.2	27.2	6.0	0.0	14.2	0.0	17.1	0.0	0.0	0.0
LnGrp LOS		B	B	C	A		B		B			
Approach Vol, veh/h		828			846			647			0	
Approach Delay, s/veh		12.9			8.8			15.4			0.0	
Approach LOS		B			A			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		15.8	8.2	20.4		0.0	0.0	28.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.5	12.3	23.2		18.0	5.0	30.5
Max Q Clear Time (g_c+I1), s		9.0	4.7	12.8		0.0	0.0	7.3
Green Ext Time (p_c), s		2.3	0.1	3.2		0.0	0.0	5.4

Intersection Summary		
HCM 2010 Ctrl Delay		12.1
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	68	39	147	329	478	36	389	517	420	424	9
Future Volume (veh/h)	23	68	39	147	329	478	36	389	517	420	424	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1597	1597	1597	1597	1597	1900
Adj Flow Rate, veh/h	25	74	0	160	358	0	39	423	0	457	461	0
Adj No. of Lanes	1	2	0	2	1	0	1	1	2	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	19	19	19	19	19	19
Cap, veh/h	48	673	0	252	440	0	56	488	906	563	1394	0
Arrive On Green	0.03	0.19	0.00	0.07	0.24	0.00	0.04	0.31	0.00	0.19	0.46	0.00
Sat Flow, veh/h	1774	3632	0	3442	1863	0	1521	1597	2389	2950	3113	0
Grp Volume(v), veh/h	25	74	0	160	358	0	39	423	0	457	461	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1721	1863	0	1521	1597	1194	1475	1517	0
Q Serve(g_s), s	1.0	1.3	0.0	3.4	13.6	0.0	1.9	18.8	0.0	11.1	7.3	0.0
Cycle Q Clear(g_c), s	1.0	1.3	0.0	3.4	13.6	0.0	1.9	18.8	0.0	11.1	7.3	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	48	673	0	252	440	0	56	488	906	563	1394	0
V/C Ratio(X)	0.52	0.11	0.00	0.64	0.81	0.00	0.69	0.87	0.00	0.81	0.33	0.00
Avail Cap(c_a), veh/h	118	2667	0	679	1647	0	207	813	1392	885	2043	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.0	25.1	0.0	33.8	27.1	0.0	35.7	24.6	0.0	29.1	12.9	0.0
Incr Delay (d2), s/veh	8.5	0.1	0.0	2.6	3.7	0.0	14.0	5.4	0.0	3.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.6	0.0	1.7	7.4	0.0	1.0	9.0	0.0	4.8	3.0	0.0
LnGrp Delay(d),s/veh	44.5	25.2	0.0	36.4	30.8	0.0	49.7	30.0	0.0	32.3	13.1	0.0
LnGrp LOS	D	C		D	C		D	C		C	B	
Approach Vol, veh/h		99			518			462			918	
Approach Delay, s/veh		30.1			32.5			31.6			22.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.8	27.4	10.0	18.8	7.3	39.0	6.5	22.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	22.5	38.2	14.8	56.5	10.2	50.5	5.0	66.3
Max Q Clear Time (g_c+I1), s	13.1	20.8	5.4	3.3	3.9	9.3	3.0	15.6
Green Ext Time (p_c), s	1.2	2.2	0.3	0.4	0.0	3.1	0.0	2.1

Intersection Summary			
HCM 2010 Ctrl Delay		27.6	
HCM 2010 LOS		C	

Intersection	
Intersection Delay, s/veh	18
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	109	434	210	37	147	210
Future Vol, veh/h	109	434	210	37	147	210
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	118	472	228	40	160	228
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	21.7	15.6	14
HCM LOS	C	C	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	85%	0%	0%	0%	100%
Vol Right, %	15%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	247	109	434	147	210
LT Vol	0	109	0	147	0
Through Vol	210	0	0	0	210
RT Vol	37	0	434	0	0
Lane Flow Rate	268	118	472	160	228
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.485	0.23	0.755	0.32	0.425
Departure Headway (Hd)	6.504	6.98	5.762	7.209	6.699
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	553	513	627	497	534
Service Time	4.572	4.743	3.525	4.98	4.469
HCM Lane V/C Ratio	0.485	0.23	0.753	0.322	0.427
HCM Control Delay	15.6	11.8	24.2	13.4	14.4
HCM Lane LOS	C	B	C	B	B
HCM 95th-tile Q	2.6	0.9	6.8	1.4	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	109	101	35	85	140	63	820	13	76	386	0
Future Volume (veh/h)	0	109	101	35	85	140	63	820	13	76	386	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1583	1583	1900	1583	1583	1900
Adj Flow Rate, veh/h	0	118	110	38	92	152	68	891	14	83	420	0
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	0	205	191	79	124	172	523	1007	16	189	1026	0
Arrive On Green	0.00	0.23	0.23	0.23	0.23	0.23	0.65	0.65	0.65	0.65	0.65	0.00
Sat Flow, veh/h	0	888	828	104	536	748	818	1555	24	521	1583	0
Grp Volume(v), veh/h	0	0	228	282	0	0	68	0	905	83	420	0
Grp Sat Flow(s),veh/h/ln	0	0	1717	1388	0	0	818	0	1579	521	1583	0
Q Serve(g_s), s	0.0	0.0	8.7	6.2	0.0	0.0	3.2	0.0	35.0	11.6	9.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	8.7	14.9	0.0	0.0	12.6	0.0	35.0	46.6	9.4	0.0
Prop In Lane	0.00		0.48	0.13		0.54	1.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	396	375	0	0	523	0	1023	189	1026	0
V/C Ratio(X)	0.00	0.00	0.58	0.75	0.00	0.00	0.13	0.00	0.88	0.44	0.41	0.00
Avail Cap(c_a), veh/h	0	0	417	395	0	0	523	0	1023	189	1026	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	25.3	27.5	0.0	0.0	9.3	0.0	10.8	30.0	6.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.8	7.5	0.0	0.0	0.1	0.0	9.4	1.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	4.3	6.3	0.0	0.0	0.7	0.0	17.5	1.7	4.2	0.0
LnGrp Delay(d),s/veh	0.0	0.0	27.1	35.0	0.0	0.0	9.4	0.0	20.1	31.6	6.5	0.0
LnGrp LOS			C	D			A		C	C	A	
Approach Vol, veh/h		228			282			973			503	
Approach Delay, s/veh		27.1			35.0			19.4			10.6	
Approach LOS		C			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		52.5		21.6		52.5		21.6
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		48.0		18.0		48.0		18.0
Max Q Clear Time (g_c+I1), s		37.0		10.7		48.6		16.9
Green Ext Time (p_c), s		5.0		0.6		0.0		0.2

Intersection Summary		
HCM 2010 Ctrl Delay		20.3
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	62	82	394	508	107	78	395	66	34	292	28
Future Volume (veh/h)	18	62	82	394	508	107	78	395	66	34	292	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1583	1583	1900	1583	1583	1900
Adj Flow Rate, veh/h	20	67	0	428	552	0	85	429	0	37	317	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	43	197	0	504	681	0	309	560	0	229	560	0
Arrive On Green	0.02	0.11	0.00	0.28	0.37	0.00	0.35	0.35	0.00	0.35	0.35	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	900	1583	0	812	1583	0
Grp Volume(v), veh/h	20	67	0	428	552	0	85	429	0	37	317	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	900	1583	0	812	1583	0
Q Serve(g_s), s	0.6	1.8	0.0	12.0	14.1	0.0	4.4	12.6	0.0	2.2	8.5	0.0
Cycle Q Clear(g_c), s	0.6	1.8	0.0	12.0	14.1	0.0	13.0	12.6	0.0	14.9	8.5	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	43	197	0	504	681	0	309	560	0	229	560	0
V/C Ratio(X)	0.47	0.34	0.00	0.85	0.81	0.00	0.27	0.77	0.00	0.16	0.57	0.00
Avail Cap(c_a), veh/h	172	640	0	825	1327	0	570	1019	0	464	1019	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.4	21.8	0.0	17.8	15.0	0.0	19.0	15.1	0.0	21.7	13.8	0.0
Incr Delay (d2), s/veh	7.8	1.0	0.0	4.6	2.4	0.0	0.5	2.2	0.0	0.3	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.9	0.0	6.5	7.7	0.0	1.1	5.8	0.0	0.5	3.8	0.0
LnGrp Delay(d),s/veh	33.1	22.8	0.0	22.4	17.4	0.0	19.5	17.3	0.0	22.0	14.7	0.0
LnGrp LOS	C	C		C	B		B	B		C	B	
Approach Vol, veh/h		87			980			514			354	
Approach Delay, s/veh		25.2			19.6			17.7			15.4	
Approach LOS		C			B			B			B	

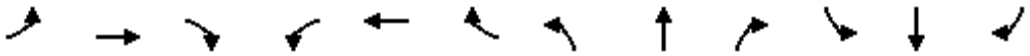
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.1	19.5	10.1		23.1	5.8	23.8
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		33.9	24.5	18.1		33.9	5.1	37.5
Max Q Clear Time (g_c+I1), s		15.0	14.0	3.8		16.9	2.6	16.1
Green Ext Time (p_c), s		2.8	1.0	0.2		1.7	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	18.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	200	40	426	184	0	0	0	0	499	1	153
Future Volume (vph)	0	200	40	426	184	0	0	0	0	499	1	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1		4.0	4.0					5.1	5.1	
Lane Util. Factor		0.95		0.95	0.95					0.95	0.95	
Frpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.98		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	0.98					0.95	0.97	
Satd. Flow (prot)		3397		1504	1675					1429	1467	
Flt Permitted		1.00		0.95	0.98					0.95	0.97	
Satd. Flow (perm)		3397		1504	1675					1429	1467	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	217	43	463	200	0	0	0	0	542	1	166
RTOR Reduction (vph)	0	18	0	0	0	0	0	0	0	0	34	0
Lane Group Flow (vph)	0	242	0	329	334	0	0	0	0	363	312	0
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	0%	4%	0%	14%	0%	0%	0%	0%	0%	20%	4%	2%
Turn Type		NA		Split	NA					Split	NA	
Protected Phases		4		3	3					6	6	
Permitted Phases												
Actuated Green, G (s)		12.0		24.2	24.2					39.6	39.6	
Effective Green, g (s)		12.0		24.2	24.2					39.6	39.6	
Actuated g/C Ratio		0.13		0.27	0.27					0.44	0.44	
Clearance Time (s)		5.1		4.0	4.0					5.1	5.1	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		452		404	450					628	645	
v/s Ratio Prot		c0.07		c0.22	0.20					c0.25	0.21	
v/s Ratio Perm												
v/c Ratio		0.53		0.81	0.74					0.58	0.48	
Uniform Delay, d1		36.4		30.8	30.1					18.9	17.9	
Progression Factor		1.00		0.11	0.09					1.00	1.00	
Incremental Delay, d2		1.2		9.6	5.2					3.8	2.6	
Delay (s)		37.6		12.9	8.0					22.8	20.5	
Level of Service		D		B	A					C	C	
Approach Delay (s)		37.6			10.4			0.0			21.7	
Approach LOS		D			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	542	0	0	591	350	19	3	608	0	0	0
Future Volume (vph)	157	542	0	0	591	350	19	3	608	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1	5.1		5.1	5.1			
Lane Util. Factor		0.95			0.95	1.00		1.00	0.88			
Frt		1.00			1.00	0.85		1.00	0.85			
Flt Protected		0.99			1.00	1.00		0.96	1.00			
Satd. Flow (prot)		3292			3282	1346		1776	2369			
Flt Permitted		0.99			1.00	1.00		0.96	1.00			
Satd. Flow (perm)		3292			3282	1346		1776	2369			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	171	589	0	0	642	380	21	3	661	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	151	0	0	0
Lane Group Flow (vph)	0	760	0	0	642	380	0	24	510	0	0	0
Heavy Vehicles (%)	10%	8%	0%	0%	10%	20%	0%	20%	20%	0%	0%	0%
Turn Type	Split	NA			NA	custom	Split	NA	custom			
Protected Phases	2!	2			6	2 4!	4	4!	6			
Permitted Phases						6			4			
Actuated Green, G (s)		37.5			25.2	79.8		12.0	37.2			
Effective Green, g (s)		37.5			25.2	79.8		12.0	37.2			
Actuated g/C Ratio		0.42			0.28	0.89		0.13	0.41			
Clearance Time (s)		5.1			5.1			5.1	5.1			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		1371			918	1346		236	1113			
v/s Ratio Prot		c0.23			c0.20	0.17		0.01	c0.13			
v/s Ratio Perm						0.11			0.09			
v/c Ratio		0.55			0.70	0.28		0.10	0.46			
Uniform Delay, d1		19.9			29.0	0.8		34.3	19.1			
Progression Factor		0.40			0.45	1.00		1.00	1.00			
Incremental Delay, d2		1.4			2.0	0.1		0.2	0.3			
Delay (s)		9.3			14.9	0.9		34.5	19.4			
Level of Service		A			B	A		C	B			
Approach Delay (s)		9.3			9.7			19.9			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	315	568	267	113	474	227	278	8	117	139	0	189
Future Volume (vph)	315	568	267	113	474	227	278	8	117	139	0	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)	3213	3282	1583	1770	3059	1583	1770	1863	1583	1698	1362	1346
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)	3213	3282	1583	1770	3059	1583	1770	1863	1583	1698	1362	1346
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	342	617	290	123	515	247	302	9	127	151	0	205
RTOR Reduction (vph)	0	0	189	0	0	177	0	0	100	0	106	87
Lane Group Flow (vph)	342	617	101	123	515	70	302	9	27	124	11	28
Heavy Vehicles (%)	9%	10%	2%	2%	18%	2%	2%	2%	2%	1%	2%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		8	8		7	7	5
Permitted Phases			2			6			8			7
Actuated Green, G (s)	13.1	31.2	31.2	9.4	25.5	25.5	19.2	19.2	19.2	8.7	8.7	21.8
Effective Green, g (s)	13.1	31.2	31.2	9.4	25.5	25.5	19.2	19.2	19.2	8.7	8.7	21.8
Actuated g/C Ratio	0.15	0.35	0.35	0.10	0.28	0.28	0.21	0.21	0.21	0.10	0.10	0.24
Clearance Time (s)	6.5	6.5	6.5	4.5	6.5	6.5	4.5	4.5	4.5	6.0	6.0	6.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	467	1137	548	184	866	448	377	397	337	164	131	423
v/s Ratio Prot	c0.11	c0.19		0.07	c0.17		c0.17	0.00		c0.07	0.01	0.01
v/s Ratio Perm			0.06			0.04			0.02			0.01
v/c Ratio	0.73	0.54	0.18	0.67	0.59	0.16	0.80	0.02	0.08	0.76	0.09	0.07
Uniform Delay, d1	36.8	23.7	20.5	38.8	27.8	24.2	33.6	28.0	28.3	39.6	37.0	26.3
Progression Factor	0.89	0.84	1.13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	1.6	0.6	8.9	3.0	0.7	11.6	0.0	0.1	17.9	0.3	0.1
Delay (s)	37.6	21.6	23.7	47.7	30.8	24.9	45.2	28.0	28.4	57.5	37.3	26.3
Level of Service	D	C	C	D	C	C	D	C	C	E	D	C
Approach Delay (s)		26.4			31.5			40.0			40.8	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	515	101	8	582	70	22	51	44	122	83	265
Future Volume (veh/h)	123	515	101	8	582	70	22	51	44	122	83	265
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1767	1900	1900	1827	1583	1900	1900	1900	1583	1649	1900
Adj Flow Rate, veh/h	134	560	110	9	633	76	24	55	48	133	90	288
Adj No. of Lanes	2	2	0	2	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	9	0	0	4	20	0	0	0	20	0	20
Cap, veh/h	271	1130	221	49	1131	433	214	615	522	458	112	358
Arrive On Green	0.09	0.40	0.40	0.01	0.33	0.33	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	2925	2794	547	3510	3471	1329	1021	1900	1615	1093	346	1107
Grp Volume(v), veh/h	134	336	334	9	633	76	24	55	48	133	0	378
Grp Sat Flow(s),veh/h/ln	1463	1679	1662	1755	1736	1329	1021	1900	1615	1093	0	1453
Q Serve(g_s), s	2.5	8.5	8.5	0.1	8.6	2.3	1.3	1.1	1.2	5.5	0.0	13.5
Cycle Q Clear(g_c), s	2.5	8.5	8.5	0.1	8.6	2.3	14.8	1.1	1.2	6.6	0.0	13.5
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	271	679	672	49	1131	433	214	615	522	458	0	470
V/C Ratio(X)	0.49	0.49	0.50	0.18	0.56	0.18	0.11	0.09	0.09	0.29	0.00	0.80
Avail Cap(c_a), veh/h	478	1099	1089	370	2072	793	547	1234	1049	815	0	944
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.6	12.6	12.6	27.8	15.8	13.7	24.4	13.4	13.4	15.7	0.0	17.6
Incr Delay (d2), s/veh	1.4	1.2	1.2	1.8	0.9	0.4	0.2	0.1	0.1	0.3	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.1	4.1	0.1	4.2	0.9	0.4	0.6	0.5	1.7	0.0	5.8
LnGrp Delay(d),s/veh	26.0	13.8	13.9	29.5	16.8	14.1	24.6	13.5	13.5	16.1	0.0	20.9
LnGrp LOS	C	B	B	C	B	B	C	B	B	B		C
Approach Vol, veh/h		804			718			127			511	
Approach Delay, s/veh		15.9			16.6			15.6			19.6	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	28.7		22.9	9.8	24.2		22.9
Change Period (Y+Rc), s	4.5	5.7		4.5	4.5	5.7		4.5
Max Green Setting (Gmax), s	6.8	37.3		37.0	9.3	34.0		37.0
Max Q Clear Time (g_c+I1), s	12.1	10.5		15.5	4.5	10.6		16.8
Green Ext Time (p_c), s	0.0	7.9		2.9	0.1	8.0		0.5

Intersection Summary			
HCM 2010 Ctrl Delay		17.0	
HCM 2010 LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	502	139	11	461	186	96	278	12	235	430	119
Future Volume (veh/h)	144	502	139	11	461	186	96	278	12	235	430	119
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1856	1900	1743	1827	1900	1900	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	157	546	151	12	501	202	104	302	13	255	467	129
Adj No. of Lanes	1	2	0	1	2	1	2	1	0	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	3	0	9	4	0	0	0	0	1	0	0
Cap, veh/h	196	927	255	30	866	403	265	489	21	349	561	477
Arrive On Green	0.11	0.34	0.34	0.02	0.25	0.25	0.08	0.27	0.27	0.10	0.30	0.30
Sat Flow, veh/h	1792	2720	749	1660	3471	1615	3510	1808	78	3476	1900	1615
Grp Volume(v), veh/h	157	353	344	12	501	202	104	0	315	255	467	129
Grp Sat Flow(s),veh/h/ln	1792	1764	1705	1660	1736	1615	1755	0	1886	1738	1900	1615
Q Serve(g_s), s	5.9	11.3	11.4	0.5	8.7	7.3	1.9	0.0	10.0	4.9	15.7	4.2
Cycle Q Clear(g_c), s	5.9	11.3	11.4	0.5	8.7	7.3	1.9	0.0	10.0	4.9	15.7	4.2
Prop In Lane	1.00		0.44	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	196	601	581	30	866	403	265	0	510	349	561	477
V/C Ratio(X)	0.80	0.59	0.59	0.40	0.58	0.50	0.39	0.00	0.62	0.73	0.83	0.27
Avail Cap(c_a), veh/h	233	791	765	146	1410	656	308	0	744	396	800	680
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	18.6	18.6	33.2	22.5	22.0	30.1	0.0	21.9	29.9	22.5	18.5
Incr Delay (d2), s/veh	13.0	2.0	2.0	17.8	1.3	2.1	0.4	0.0	1.2	4.6	5.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	5.8	5.7	0.4	4.3	3.5	1.0	0.0	5.3	2.6	9.0	1.9
LnGrp Delay(d),s/veh	42.8	20.5	20.7	51.1	23.8	24.1	30.5	0.0	23.1	34.5	27.7	18.8
LnGrp LOS	D	C	C	D	C	C	C		C	C	C	B
Approach Vol, veh/h		854			715			419			851	
Approach Delay, s/veh		24.7			24.4			24.9			28.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	28.8	9.4	24.8	11.7	22.6	11.1	23.1
Change Period (Y+Rc), s	* 4.2	5.5	* 4.2	4.6	* 4.2	5.5	* 4.2	4.6
Max Green Setting (Gmax), s	* 6	30.7	* 6	28.8	* 8.9	27.8	* 7.8	27.0
Max Q Clear Time (g_c+I1), s	2.5	13.4	3.9	17.7	7.9	10.7	6.9	12.0
Green Ext Time (p_c), s	0.0	6.7	0.0	2.5	0.0	6.4	0.1	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	25.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	556	34	84	686	91	10	32	22	38	28	35
Future Volume (veh/h)	88	556	34	84	686	91	10	32	22	38	28	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1848	1900	1900	1847	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	96	604	37	91	746	99	11	35	24	41	30	38
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0	0	3	2	0	0	0	0	0	0
Cap, veh/h	170	1225	75	165	1129	150	254	109	75	262	80	101
Arrive On Green	0.09	0.36	0.36	0.09	0.36	0.36	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1810	3356	205	1810	3114	413	1348	1039	713	1359	761	964
Grp Volume(v), veh/h	96	315	326	91	420	425	11	0	59	41	0	68
Grp Sat Flow(s),veh/h/ln	1810	1755	1806	1810	1754	1773	1348	0	1752	1359	0	1725
Q Serve(g_s), s	2.3	6.2	6.2	2.1	8.9	8.9	0.3	0.0	1.4	1.3	0.0	1.6
Cycle Q Clear(g_c), s	2.3	6.2	6.2	2.1	8.9	8.9	2.0	0.0	1.4	2.7	0.0	1.6
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.41	1.00		0.56
Lane Grp Cap(c), veh/h	170	641	659	165	636	643	254	0	184	262	0	181
V/C Ratio(X)	0.57	0.49	0.49	0.55	0.66	0.66	0.04	0.00	0.32	0.16	0.00	0.38
Avail Cap(c_a), veh/h	265	771	793	367	869	878	780	0	868	793	0	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.3	10.9	10.9	19.3	11.9	11.9	19.4	0.0	18.4	19.7	0.0	18.5
Incr Delay (d2), s/veh	2.9	0.8	0.8	2.9	1.7	1.7	0.1	0.0	1.0	0.3	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.1	3.2	1.2	4.6	4.7	0.1	0.0	0.7	0.5	0.0	0.8
LnGrp Delay(d),s/veh	22.2	11.8	11.7	22.2	13.6	13.5	19.5	0.0	19.4	19.9	0.0	19.8
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		737			936			70			109	
Approach Delay, s/veh		13.1			14.4			19.4			19.9	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	22.7		11.2	10.7	22.6		11.2
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5
Max Green Setting (Gmax), s	9.0	19.5		22.0	6.5	22.0		22.0
Max Q Clear Time (g_c+I1), s	4.1	8.2		4.7	4.3	10.9		4.0
Green Ext Time (p_c), s	0.1	3.8		0.4	0.0	5.1		0.2

Intersection Summary		
HCM 2010 Ctrl Delay	14.4	
HCM 2010 LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	355	46	275	435	135	32	118	90	166	400	62
Future Volume (veh/h)	134	355	46	275	435	135	32	118	90	166	400	62
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1841	1900	1881	1845	1900	1845	1881	1863	1881	1900	1900
Adj Flow Rate, veh/h	146	386	50	299	473	147	35	128	98	180	435	67
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	5	1	3	0	3	1	2	1	0	0
Cap, veh/h	185	589	76	359	946	428	231	628	528	442	635	527
Arrive On Green	0.10	0.19	0.19	0.20	0.27	0.27	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1774	3111	400	1792	3505	1586	881	1881	1582	1161	1900	1578
Grp Volume(v), veh/h	146	216	220	299	473	147	35	128	98	180	435	67
Grp Sat Flow(s),veh/h/ln	1774	1749	1762	1792	1752	1586	881	1881	1582	1161	1900	1578
Q Serve(g_s), s	5.2	7.4	7.5	10.4	7.4	4.9	2.3	3.2	2.9	8.5	12.9	1.9
Cycle Q Clear(g_c), s	5.2	7.4	7.5	10.4	7.4	4.9	15.2	3.2	2.9	11.7	12.9	1.9
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	331	333	359	946	428	231	628	528	442	635	527
V/C Ratio(X)	0.79	0.65	0.66	0.83	0.50	0.34	0.15	0.20	0.19	0.41	0.69	0.13
Avail Cap(c_a), veh/h	272	483	487	688	1722	779	396	982	826	660	992	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	24.4	24.5	25.0	20.1	19.1	25.3	15.5	15.4	19.7	18.7	15.1
Incr Delay (d2), s/veh	9.0	4.6	4.7	5.1	0.9	1.0	0.6	0.3	0.4	1.3	2.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.0	4.1	5.7	3.7	2.2	0.6	1.7	1.3	2.9	7.1	0.9
LnGrp Delay(d),s/veh	37.5	29.0	29.2	30.0	20.9	20.1	25.9	15.8	15.8	21.0	21.5	15.3
LnGrp LOS	D	C	C	C	C	C	C	B	B	C	C	B
Approach Vol, veh/h		582			919			261			682	
Approach Delay, s/veh		31.2			23.8			17.2			20.8	
Approach LOS		C			C			B			C	

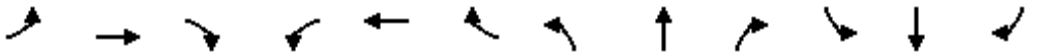
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.1	18.3		27.7	13.8	23.6		27.7
Change Period (Y+Rc), s	6.0	6.0		6.0	7.0	6.0		6.0
Max Green Setting (Gmax), s	25.0	18.0		34.0	10.0	32.0		34.0
Max Q Clear Time (g_c+I1), s	12.4	9.5		14.9	7.2	9.4		17.2
Green Ext Time (p_c), s	0.7	2.5		6.6	0.1	6.4		2.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	359	81	31	483	20	39	38	6	3	59	148
Future Volume (veh/h)	201	359	81	31	483	20	39	38	6	3	59	148
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1811	1900	1900	1827	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	218	390	88	34	525	22	42	41	7	3	64	161
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	6	0	0	4	0	0	0	0	0	0	0
Cap, veh/h	518	1558	348	638	1018	898	247	200	26	96	95	233
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	873	2796	625	930	1827	1612	561	1021	133	8	487	1189
Grp Volume(v), veh/h	218	239	239	34	525	22	90	0	0	228	0	0
Grp Sat Flow(s),veh/h/ln	873	1721	1700	930	1827	1612	1716	0	0	1683	0	0
Q Serve(g_s), s	8.0	2.7	2.8	0.8	6.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.8	2.7	2.8	3.5	6.9	0.2	1.6	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.47		0.08	0.01		0.71
Lane Grp Cap(c), veh/h	518	959	947	638	1018	898	473	0	0	425	0	0
V/C Ratio(X)	0.42	0.25	0.25	0.05	0.52	0.02	0.19	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	632	1184	1170	760	1257	1109	1095	0	0	1142	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.9	4.4	4.4	5.3	5.3	3.8	13.1	0.0	0.0	14.4	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.3	0.3	0.1	0.9	0.0	0.2	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.3	1.3	0.2	3.6	0.1	0.8	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	11.1	4.7	4.7	5.4	6.2	3.8	13.3	0.0	0.0	15.4	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B			B		
Approach Vol, veh/h		696			581			90			228	
Approach Delay, s/veh		6.7			6.0			13.3			15.4	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		26.1		12.4		26.1		12.4
Change Period (Y+Rc), s		4.6		4.9		4.6		4.9
Max Green Setting (Gmax), s		26.5		24.0		26.5		24.0
Max Q Clear Time (g_c+I1), s		16.8		3.6		8.9		6.8
Green Ext Time (p_c), s		4.6		0.4		6.0		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	8.1
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	148	173	21	76	9	158	383	69	20	251	184
Future Volume (vph)	216	148	173	21	76	9	158	383	69	20	251	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1703	1662		1805	1837		1703	1792		1556	1810	1553
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1703	1662		1805	1837		1703	1792		1556	1810	1553
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	235	161	188	23	83	10	172	416	75	22	273	200
RTOR Reduction (vph)	0	64	0	0	7	0	0	8	0	0	0	134
Lane Group Flow (vph)	235	285	0	23	86	0	172	483	0	22	273	66
Heavy Vehicles (%)	6%	4%	6%	0%	2%	0%	6%	3%	7%	16%	5%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	15.1	15.1		4.5	4.5		6.1	26.8		1.8	22.5	22.5
Effective Green, g (s)	15.1	15.1		4.5	4.5		6.1	26.8		1.8	22.5	22.5
Actuated g/C Ratio	0.22	0.22		0.07	0.07		0.09	0.40		0.03	0.33	0.33
Clearance Time (s)	5.1	5.1		4.6	4.6		4.0	5.8		4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	379	370		119	122		153	709		41	601	516
v/s Ratio Prot	0.14	c0.17		0.01	c0.05		c0.10	c0.27		0.01	0.15	
v/s Ratio Perm												0.04
v/c Ratio	0.62	0.77		0.19	0.71		1.12	0.68		0.54	0.45	0.13
Uniform Delay, d1	23.7	24.7		29.9	31.0		30.8	16.9		32.5	17.8	15.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.1	9.6		0.8	17.1		110.0	5.2		12.8	2.5	0.5
Delay (s)	26.8	34.2		30.7	48.1		140.8	22.2		45.4	20.2	16.3
Level of Service	C	C		C	D		F	C		D	C	B
Approach Delay (s)		31.3			44.6			52.9			19.8	
Approach LOS		C			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	67.7	Sum of lost time (s)	19.5
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	87	57	74	83	12	61	411	135	95	484	22
Future Volume (veh/h)	12	87	57	74	83	12	61	411	135	95	484	22
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1583	1583	1583	1583	1583	1900
Adj Flow Rate, veh/h	13	95	62	80	90	13	66	447	147	103	526	24
Adj No. of Lanes	1	1	0	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	36	166	108	394	409	59	323	612	428	149	662	30
Arrive On Green	0.02	0.16	0.16	0.11	0.26	0.26	0.08	0.20	0.20	0.10	0.23	0.23
Sat Flow, veh/h	1774	1054	688	3442	1592	230	1508	3008	1346	1508	2930	134
Grp Volume(v), veh/h	13	0	157	80	0	103	66	447	147	103	270	280
Grp Sat Flow(s),veh/h/ln	1774	0	1741	1721	0	1822	1508	1504	1346	1508	1504	1560
Q Serve(g_s), s	0.3	0.0	3.6	0.9	0.0	1.9	1.4	6.0	1.0	2.8	7.3	7.3
Cycle Q Clear(g_c), s	0.3	0.0	3.6	0.9	0.0	1.9	1.4	6.0	1.0	2.8	7.3	7.3
Prop In Lane	1.00		0.39	1.00		0.13	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	36	0	274	394	0	468	323	612	428	149	340	352
V/C Ratio(X)	0.37	0.00	0.57	0.20	0.00	0.22	0.20	0.73	0.34	0.69	0.79	0.80
Avail Cap(c_a), veh/h	248	0	353	2322	0	1353	419	1470	812	281	805	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	0.0	16.8	17.2	0.0	12.6	12.2	16.0	2.5	18.7	15.7	15.7
Incr Delay (d2), s/veh	2.3	0.0	0.7	0.1	0.0	0.1	0.1	0.6	0.2	2.1	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.8	0.4	0.0	1.0	0.6	2.5	0.7	1.3	3.1	3.3
LnGrp Delay(d),s/veh	23.1	0.0	17.5	17.3	0.0	12.7	12.3	16.7	2.6	20.9	17.3	17.3
LnGrp LOS	C		B	B		B	B	B	A	C	B	B
Approach Vol, veh/h		170			183			660			653	
Approach Delay, s/veh		17.9			14.7			13.1			17.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	11.0	8.2	13.6	4.9	16.2	7.3	14.6
Change Period (Y+Rc), s	* 5.2	* 4.2	4.0	4.9	4.0	* 5.2	4.0	4.9
Max Green Setting (Gmax), s	* 23	* 8.7	8.0	21.0	6.0	* 32	6.0	23.0
Max Q Clear Time (g_c+I1), s	2.9	5.6	4.8	8.0	2.3	3.9	3.4	9.3
Green Ext Time (p_c), s	0.0	0.1	0.0	0.5	0.0	0.2	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	290	10	238	378	82	27	279	372	161	324	4
Future Volume (veh/h)	22	290	10	238	378	82	27	279	372	161	324	4
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.98	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1869	1900	1810	1900	1900	1900	1845	1845	1881	1810	1900
Adj Flow Rate, veh/h	24	315	11	259	411	89	29	303	404	175	352	4
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	20	5	0	0	0	3	3	1	5	0
Cap, veh/h	298	426	15	419	657	545	430	1014	450	791	1152	13
Arrive On Green	0.03	0.24	0.24	0.14	0.35	0.35	0.03	0.29	0.29	0.07	0.33	0.33
Sat Flow, veh/h	1723	1795	63	1723	1900	1576	1810	3505	1554	3476	3483	40
Grp Volume(v), veh/h	24	0	326	259	411	89	29	303	404	175	174	182
Grp Sat Flow(s),veh/h/ln	1723	0	1857	1723	1900	1576	1810	1752	1554	1738	1720	1802
Q Serve(g_s), s	0.7	0.0	10.7	7.0	11.9	2.6	0.7	4.4	16.5	2.2	5.0	5.0
Cycle Q Clear(g_c), s	0.7	0.0	10.7	7.0	11.9	2.6	0.7	4.4	16.5	2.2	5.0	5.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	298	0	441	419	657	545	430	1014	450	791	569	596
V/C Ratio(X)	0.08	0.00	0.74	0.62	0.63	0.16	0.07	0.30	0.90	0.22	0.31	0.31
Avail Cap(c_a), veh/h	396	0	811	682	1218	1011	593	1280	568	833	569	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	0.0	23.3	15.5	18.0	15.0	15.5	18.2	22.5	13.9	16.4	16.4
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.6	0.4	0.1	0.0	0.1	13.0	0.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.5	3.3	6.2	1.1	0.4	2.2	8.7	1.1	2.4	2.5
LnGrp Delay(d),s/veh	18.3	0.0	24.2	16.0	18.4	15.0	15.5	18.3	35.5	13.9	16.5	16.5
LnGrp LOS	B		C	B	B	B	B	B	D	B	B	B
Approach Vol, veh/h		350			759			736			531	
Approach Delay, s/veh		23.8			17.2			27.6			15.7	
Approach LOS		C			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	27.4	8.8	24.0	12.9	20.3	6.1	26.7
Change Period (Y+Rc), s	4.0	4.6	4.0	4.9	4.0	4.6	4.0	4.9
Max Green Setting (Gmax), s	5.5	42.3	5.6	24.1	19.0	28.8	8.0	21.7
Max Q Clear Time (g_c+I1), s	2.7	13.9	4.2	18.5	9.0	12.7	2.7	7.0
Green Ext Time (p_c), s	0.0	0.3	0.0	0.2	0.1	0.4	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	159	159	28	120	138	121	561	13	119	846	31
Future Volume (veh/h)	48	159	159	28	120	138	121	561	13	119	846	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863	1583	1583	1900	1583	1583	1900
Adj Flow Rate, veh/h	52	173	173	30	130	150	132	610	14	129	920	34
Adj No. of Lanes	1	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	20	20	20	20	20	20
Cap, veh/h	273	364	309	124	300	309	160	1196	27	157	1171	43
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.11	0.40	0.40	0.10	0.40	0.40
Sat Flow, veh/h	1095	1863	1583	173	1533	1583	1508	3006	69	1508	2959	109
Grp Volume(v), veh/h	52	173	173	160	0	150	132	305	319	129	468	486
Grp Sat Flow(s),veh/h/ln	1095	1863	1583	1707	0	1583	1508	1504	1571	1508	1504	1564
Q Serve(g_s), s	2.1	3.9	4.7	0.0	0.0	4.0	4.1	7.3	7.3	4.0	13.0	13.0
Cycle Q Clear(g_c), s	6.1	3.9	4.7	4.0	0.0	4.0	4.1	7.3	7.3	4.0	13.0	13.0
Prop In Lane	1.00		1.00	0.19		1.00	1.00		0.04	1.00		0.07
Lane Grp Cap(c), veh/h	273	364	309	423	0	309	160	599	625	157	595	619
V/C Ratio(X)	0.19	0.48	0.56	0.38	0.00	0.48	0.83	0.51	0.51	0.82	0.79	0.79
Avail Cap(c_a), veh/h	473	705	599	719	0	599	254	753	786	279	778	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	17.0	17.3	16.8	0.0	17.0	20.8	10.8	10.8	20.9	12.6	12.6
Incr Delay (d2), s/veh	0.3	1.0	1.6	0.6	0.0	1.2	11.5	0.7	0.6	10.2	4.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.1	2.2	1.9	0.0	1.8	2.2	3.1	3.2	2.1	6.0	6.2
LnGrp Delay(d),s/veh	20.1	17.9	18.9	17.4	0.0	18.2	32.3	11.5	11.5	31.1	16.6	16.4
LnGrp LOS	C	B	B	B		B	C	B	B	C	B	B
Approach Vol, veh/h		398			310			756			1083	
Approach Delay, s/veh		18.6			17.8			15.1			18.3	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	24.8		14.0	9.1	24.7		14.0
Change Period (Y+Rc), s	4.0	5.8		4.6	4.0	5.8		4.6
Max Green Setting (Gmax), s	8.3	23.8		18.0	8.0	24.6		18.0
Max Q Clear Time (g_c+I1), s	6.0	9.3		8.1	6.1	15.0		6.0
Green Ext Time (p_c), s	0.1	3.0		1.3	0.1	3.9		1.1

Intersection Summary		
HCM 2010 Ctrl Delay	17.3	
HCM 2010 LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	80	50	44	462	1	67	2	37	0	3	1
Future Volume (veh/h)	1	80	50	44	462	1	67	2	37	0	3	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1827	1759	1900	1653	1900	1845	1830	1900	1900	1583	1900
Adj Flow Rate, veh/h	1	87	54	48	502	1	73	2	40	0	3	1
Adj No. of Lanes	1	2	1	1	1	0	2	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	4	8	0	15	0	3	20	3	0	20	20
Cap, veh/h	4	1191	674	95	650	1	383	8	168	0	7	2
Arrive On Green	0.00	0.34	0.34	0.05	0.39	0.39	0.11	0.11	0.11	0.00	0.01	0.01
Sat Flow, veh/h	1508	3471	1475	1810	1649	3	3408	75	1492	0	1137	379
Grp Volume(v), veh/h	1	87	54	48	0	503	73	0	42	0	0	4
Grp Sat Flow(s),veh/h/ln	1508	1736	1475	1810	0	1652	1704	0	1567	0	0	1516
Q Serve(g_s), s	0.0	0.6	0.8	1.0	0.0	9.8	0.7	0.0	0.9	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	0.6	0.8	1.0	0.0	9.8	0.7	0.0	0.9	0.0	0.0	0.1
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.95	0.00		0.25
Lane Grp Cap(c), veh/h	4	1191	674	95	0	652	383	0	176	0	0	10
V/C Ratio(X)	0.25	0.07	0.08	0.50	0.00	0.77	0.19	0.00	0.24	0.00	0.00	0.40
Avail Cap(c_a), veh/h	203	2218	1110	283	0	1091	597	0	275	0	0	245
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	18.5	8.2	5.7	17.1	0.0	9.8	14.9	0.0	15.0	0.0	0.0	18.3
Incr Delay (d2), s/veh	28.8	0.0	0.1	4.1	0.0	2.0	0.2	0.0	0.7	0.0	0.0	24.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.4	0.6	0.0	4.7	0.3	0.0	0.4	0.0	0.0	0.1
LnGrp Delay(d),s/veh	47.2	8.2	5.8	21.2	0.0	11.8	15.2	0.0	15.7	0.0	0.0	42.7
LnGrp LOS	D	A	A	C		B	B		B			D
Approach Vol, veh/h		142			551			115			4	
Approach Delay, s/veh		7.6			12.6			15.4			42.7	
Approach LOS		A			B			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		8.7	6.5	17.2		4.7	4.6	19.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		6.5	5.8	23.7		6.0	5.0	24.5
Max Q Clear Time (g_c+I1), s		2.9	3.0	2.8		2.1	2.0	11.8
Green Ext Time (p_c), s		0.1	0.0	0.6		0.0	0.0	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	52	4	29	69	68	1	49	33	55	66	29
Future Volume (veh/h)	36	52	4	29	69	68	1	49	33	55	66	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1583	1863	1900	1900	1583	1583	1827	1743	1900
Adj Flow Rate, veh/h	39	57	4	32	75	74	1	53	36	60	72	32
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	20	0	4	0	20	20	4	13	0
Cap, veh/h	80	360	25	57	175	172	5	572	256	109	572	240
Arrive On Green	0.04	0.21	0.21	0.04	0.20	0.20	0.00	0.19	0.19	0.06	0.25	0.25
Sat Flow, veh/h	1774	1721	121	1508	862	851	1810	3008	1346	1740	2276	955
Grp Volume(v), veh/h	39	0	61	32	0	149	1	53	36	60	51	53
Grp Sat Flow(s),veh/h/ln	1774	0	1841	1508	0	1713	1810	1504	1346	1740	1656	1575
Q Serve(g_s), s	0.8	0.0	1.0	0.8	0.0	2.7	0.0	0.5	0.8	1.2	0.9	0.9
Cycle Q Clear(g_c), s	0.8	0.0	1.0	0.8	0.0	2.7	0.0	0.5	0.8	1.2	0.9	0.9
Prop In Lane	1.00		0.07	1.00		0.50	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	80	0	385	57	0	347	5	572	256	109	417	396
V/C Ratio(X)	0.49	0.00	0.16	0.56	0.00	0.43	0.20	0.09	0.14	0.55	0.12	0.13
Avail Cap(c_a), veh/h	246	0	972	251	0	937	251	1779	796	290	1048	997
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	0.0	11.6	17.0	0.0	12.5	17.9	12.0	12.1	16.4	10.4	10.4
Incr Delay (d2), s/veh	4.6	0.0	0.2	8.2	0.0	0.8	18.3	0.1	0.2	4.3	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.5	0.4	0.0	1.4	0.0	0.2	0.3	0.7	0.4	0.4
LnGrp Delay(d),s/veh	21.4	0.0	11.8	25.2	0.0	13.4	36.2	12.1	12.4	20.7	10.5	10.6
LnGrp LOS	C		B	C		B	D	B	B	C	B	B
Approach Vol, veh/h		100			181			90			164	
Approach Delay, s/veh		15.6			15.5			12.5			14.3	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	12.0	5.4	12.4	4.0	14.2	5.6	12.2
Change Period (Y+Rc), s	4.0	5.1	4.0	* 4.9	4.0	* 5.1	4.0	4.9
Max Green Setting (Gmax), s	6.3	21.3	6.0	* 19	5.0	* 23	5.0	19.7
Max Q Clear Time (g_c+I1), s	3.2	2.8	2.8	3.0	2.0	2.9	2.8	4.7
Green Ext Time (p_c), s	0.0	0.3	0.0	0.2	0.0	0.5	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	14.6
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	486	47	23	205	23	13	118	20	30	228	17
Future Volume (veh/h)	26	486	47	23	205	23	13	118	20	30	228	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1759	1759	1759	1610	1610	1610	1638	1638	1900
Adj Flow Rate, veh/h	28	528	51	25	223	25	14	128	22	33	248	18
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	8	8	8	18	18	18	16	16	16
Cap, veh/h	359	717	321	537	291	302	27	496	222	58	533	38
Arrive On Green	0.20	0.20	0.20	0.17	0.17	0.17	0.02	0.16	0.16	0.04	0.18	0.18
Sat Flow, veh/h	1774	3539	1583	3250	1759	1495	1533	3059	1369	1560	2944	212
Grp Volume(v), veh/h	28	528	51	25	223	25	14	128	22	33	130	136
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1625	1759	1495	1533	1530	1369	1560	1556	1600
Q Serve(g_s), s	0.6	6.9	1.3	0.3	6.0	0.7	0.4	1.8	0.7	1.0	3.7	3.7
Cycle Q Clear(g_c), s	0.6	6.9	1.3	0.3	6.0	0.7	0.4	1.8	0.7	1.0	3.7	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	359	717	321	537	291	302	27	496	222	58	282	290
V/C Ratio(X)	0.08	0.74	0.16	0.05	0.77	0.08	0.52	0.26	0.10	0.57	0.46	0.47
Avail Cap(c_a), veh/h	438	874	391	737	399	394	171	601	269	174	306	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	18.5	16.2	17.3	19.7	16.0	24.0	18.1	17.6	23.4	18.1	18.1
Incr Delay (d2), s/veh	0.1	2.6	0.2	0.0	5.9	0.1	14.3	0.3	0.2	8.7	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.6	0.6	0.1	3.4	0.3	0.3	0.8	0.3	0.6	1.7	1.8
LnGrp Delay(d),s/veh	16.0	21.1	16.5	17.4	25.6	16.1	38.4	18.4	17.8	32.1	19.2	19.3
LnGrp LOS	B	C	B	B	C	B	D	B	B	C	B	B
Approach Vol, veh/h		607			273			164			299	
Approach Delay, s/veh		20.4			24.0			20.0			20.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.8	13.8		15.8	4.9	14.7		14.0
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	9.7		12.2	5.5	9.7		11.2
Max Q Clear Time (g_c+I1), s	3.0	3.8		8.9	2.4	5.7		8.0
Green Ext Time (p_c), s	0.0	0.3		1.1	0.0	0.5		0.4

Intersection Summary		
HCM 2010 Ctrl Delay		21.2
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	104	77	17	198	135	143	227	365	17	366	49
Future Volume (veh/h)	2	104	77	17	198	135	143	227	365	17	366	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1759	1759	1900	1743	1743	1743	1667	1667	1900
Adj Flow Rate, veh/h	2	113	84	18	215	147	155	247	397	18	398	53
Adj No. of Lanes	1	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	8	8	8	9	9	9	14	14	14
Cap, veh/h	192	217	149	494	294	193	195	1027	459	35	604	80
Arrive On Green	0.11	0.11	0.11	0.15	0.15	0.15	0.12	0.31	0.31	0.02	0.21	0.21
Sat Flow, veh/h	1774	2006	1382	3250	1939	1268	1660	3312	1482	1587	2812	372
Grp Volume(v), veh/h	2	99	98	18	184	178	155	247	397	18	223	228
Grp Sat Flow(s),veh/h/ln	1774	1770	1619	1625	1671	1535	1660	1656	1482	1587	1583	1601
Q Serve(g_s), s	0.1	2.8	3.0	0.2	5.5	5.8	4.8	2.9	13.2	0.6	6.8	6.8
Cycle Q Clear(g_c), s	0.1	2.8	3.0	0.2	5.5	5.8	4.8	2.9	13.2	0.6	6.8	6.8
Prop In Lane	1.00		0.85	1.00		0.83	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	192	191	175	494	254	233	195	1027	459	35	340	344
V/C Ratio(X)	0.01	0.52	0.56	0.04	0.72	0.76	0.80	0.24	0.86	0.52	0.66	0.66
Avail Cap(c_a), veh/h	210	209	191	508	261	240	316	1181	528	166	429	433
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	22.1	22.2	19.0	21.2	21.3	22.5	13.5	17.1	25.4	18.8	18.9
Incr Delay (d2), s/veh	0.0	2.1	3.1	0.0	9.3	13.2	7.2	0.1	12.6	11.3	2.5	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.5	1.5	0.1	3.2	3.3	2.6	1.4	7.0	0.4	3.1	3.2
LnGrp Delay(d),s/veh	20.9	24.2	25.3	19.0	30.5	34.5	29.7	13.6	29.7	36.7	21.3	21.5
LnGrp LOS	C	C	C	B	C	C	C	B	C	D	C	C
Approach Vol, veh/h		199			380			799			469	
Approach Delay, s/veh		24.7			31.8			24.7			22.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	22.1		11.5	10.2	17.1		13.8
Change Period (Y+Rc), s	4.0	5.8		5.8	4.0	5.8		5.8
Max Green Setting (Gmax), s	5.5	18.7		6.2	10.0	14.2		8.2
Max Q Clear Time (g_c+I1), s	2.6	15.2		5.0	6.8	8.8		7.8
Green Ext Time (p_c), s	0.0	1.0		0.1	0.1	1.1		0.1

Intersection Summary		
HCM 2010 Ctrl Delay		25.5
HCM 2010 LOS		C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	174	562	255	475	54
Future Volume (veh/h)	4	174	562	255	475	54
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1881	1712	1667	1900
Adj Flow Rate, veh/h	4	189	611	277	516	59
Adj No. of Lanes	1	2	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	1	11	14	14
Cap, veh/h	187	1346	677	2207	649	74
Arrive On Green	0.11	0.11	0.38	0.68	0.23	0.23
Sat Flow, veh/h	1774	2787	1792	3338	2949	327
Grp Volume(v), veh/h	4	189	611	277	284	291
Grp Sat Flow(s),veh/h/ln	1774	1393	1792	1626	1583	1609
Q Serve(g_s), s	0.1	2.0	17.3	1.6	9.1	9.2
Cycle Q Clear(g_c), s	0.1	2.0	17.3	1.6	9.1	9.2
Prop In Lane	1.00	1.00	1.00			0.20
Lane Grp Cap(c), veh/h	187	1346	677	2207	359	364
V/C Ratio(X)	0.02	0.14	0.90	0.13	0.79	0.80
Avail Cap(c_a), veh/h	198	1364	801	2567	424	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	7.7	15.8	3.0	19.6	19.6
Incr Delay (d2), s/veh	0.0	0.0	12.2	0.0	8.5	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.1	10.8	0.7	4.8	4.9
LnGrp Delay(d),s/veh	21.6	7.7	28.0	3.1	28.1	28.3
LnGrp LOS	C	A	C	A	C	C
Approach Vol, veh/h	193			888	575	
Approach Delay, s/veh	8.0			20.2	28.2	
Approach LOS	A			C	C	

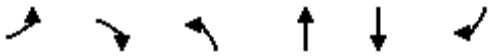
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		42.2		11.5	24.3	18.0		
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8		
Max Green Setting (Gmax), s		42.4		6.0	24.0	14.4		
Max Q Clear Time (g_c+I1), s		3.6		4.0	19.3	11.2		
Green Ext Time (p_c), s		1.7		0.1	1.0	1.0		

Intersection Summary	
HCM 2010 Ctrl Delay	21.6
HCM 2010 LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	65	346	503	13	315	217
Future Volume (veh/h)	65	346	503	13	315	217
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1743	1743	1712	1900	1667	1667
Adj Flow Rate, veh/h	71	376	547	14	342	236
Adj No. of Lanes	1	1	2	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	9	9	11	11	14	14
Cap, veh/h	362	323	736	19	399	1761
Arrive On Green	0.22	0.22	0.23	0.23	0.25	0.56
Sat Flow, veh/h	1660	1482	3326	83	1587	3250
Grp Volume(v), veh/h	71	376	274	287	342	236
Grp Sat Flow(s),veh/h/ln	1660	1482	1626	1697	1587	1583
Q Serve(g_s), s	1.8	11.2	8.1	8.1	10.6	1.8
Cycle Q Clear(g_c), s	1.8	11.2	8.1	8.1	10.6	1.8
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	362	323	369	385	399	1761
V/C Ratio(X)	0.20	1.16	0.74	0.74	0.86	0.13
Avail Cap(c_a), veh/h	362	323	513	535	525	2293
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	20.1	18.5	18.5	18.4	5.5
Incr Delay (d2), s/veh	0.3	102.3	3.7	3.6	10.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	13.7	4.0	4.1	5.7	0.8
LnGrp Delay(d),s/veh	16.7	122.4	22.2	22.0	28.9	5.5
LnGrp LOS	B	F	C	C	C	A
Approach Vol, veh/h	447		561			578
Approach Delay, s/veh	105.6		22.1			19.4
Approach LOS	F		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.9	17.5				34.4		17.0
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8
Max Green Setting (Gmax), s	17.0	16.2				37.2		11.2
Max Q Clear Time (g_c+I1), s	12.6	10.1				3.8		13.2
Green Ext Time (p_c), s	0.4	1.6				1.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	44.6
HCM 2010 LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	171	16	0	582	525	59
Future Volume (vph)	171	16	0	582	525	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8			5.8	5.8	
Lane Util. Factor	0.97			0.95	0.95	
Frt	0.99			1.00	0.98	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	3193			3252	3119	
Flt Permitted	0.96			1.00	1.00	
Satd. Flow (perm)	3193			3252	3119	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	186	17	0	633	571	64
RTOR Reduction (vph)	14	0	0	0	15	0
Lane Group Flow (vph)	189	0	0	633	620	0
Heavy Vehicles (%)	9%	9%	1%	11%	14%	14%
Turn Type	Prot		Prot	NA	NA	
Protected Phases	2		3	8	4	
Permitted Phases						
Actuated Green, G (s)	6.4			16.2	16.2	
Effective Green, g (s)	6.4			16.2	16.2	
Actuated g/C Ratio	0.19			0.47	0.47	
Clearance Time (s)	5.8			5.8	5.8	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	597			1540	1477	
v/s Ratio Prot	c0.06			0.19	c0.20	
v/s Ratio Perm						
v/c Ratio	0.32			0.41	0.42	
Uniform Delay, d1	12.0			5.9	5.9	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.3			0.2	0.2	
Delay (s)	12.3			6.1	6.1	
Level of Service	B			A	A	
Approach Delay (s)	12.3			6.1	6.1	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	34.2	Sum of lost time (s)	15.6
Intersection Capacity Utilization	32.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	522	53	5	284	244	21
Future Volume (vph)	522	53	5	284	244	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8		4.0	5.8	5.8	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.99		1.00	1.00	0.99	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	3207		1583	1667	2951	
Flt Permitted	1.00		0.95	1.00	0.96	
Satd. Flow (perm)	3207		1583	1667	2951	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	567	58	5	309	265	23
RTOR Reduction (vph)	17	0	0	0	17	0
Lane Group Flow (vph)	608	0	5	309	271	0
Heavy Vehicles (%)	11%	11%	14%	14%	18%	18%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases						
Actuated Green, G (s)	13.5		0.9	18.4	7.7	
Effective Green, g (s)	13.5		0.9	18.4	7.7	
Actuated g/C Ratio	0.36		0.02	0.49	0.20	
Clearance Time (s)	5.8		4.0	5.8	5.8	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1148		37	813	602	
v/s Ratio Prot	c0.19		0.00	c0.19	c0.09	
v/s Ratio Perm						
v/c Ratio	0.53		0.14	0.38	0.45	
Uniform Delay, d1	9.6		18.0	6.1	13.1	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.4		1.7	0.3	0.5	
Delay (s)	10.0		19.7	6.4	13.7	
Level of Service	B		B	A	B	
Approach Delay (s)	10.0			6.6	13.7	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	37.7	Sum of lost time (s)	15.6
Intersection Capacity Utilization	33.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	481	66	0	267	22	2	40	4	44	349	19
Future Volume (veh/h)	76	481	66	0	267	22	2	40	4	44	349	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1759	1900	1900	1743	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	83	523	72	0	290	24	2	43	4	48	379	21
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	9	9	9	2	2	2	2	2	2
Cap, veh/h	156	643	84	0	770	64	91	512	46	127	496	26
Arrive On Green	0.48	0.48	0.48	0.00	0.48	0.48	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	130	1327	173	0	1588	131	16	1656	149	115	1604	85
Grp Volume(v), veh/h	678	0	0	0	0	314	49	0	0	448	0	0
Grp Sat Flow(s),veh/h/ln	1630	0	0	0	0	1720	1822	0	0	1804	0	0
Q Serve(g_s), s	8.8	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	4.6	0.0	0.0
Cycle Q Clear(g_c), s	15.7	0.0	0.0	0.0	0.0	5.0	0.8	0.0	0.0	9.9	0.0	0.0
Prop In Lane	0.12		0.11	0.00		0.08	0.04		0.08	0.11		0.05
Lane Grp Cap(c), veh/h	883	0	0	0	0	834	649	0	0	649	0	0
V/C Ratio(X)	0.77	0.00	0.00	0.00	0.00	0.38	0.08	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	1232	0	0	0	0	1213	921	0	0	922	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	0.0	0.0	7.1	10.7	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.0	0.0	0.0	0.0	2.4	0.4	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	11.6	0.0	0.0	0.0	0.0	7.4	10.8	0.0	0.0	15.1	0.0	0.0
LnGrp LOS	B					A	B			B		
Approach Vol, veh/h		678			314			49			448	
Approach Delay, s/veh		11.6			7.4			10.8			15.1	
Approach LOS		B			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		18.0		25.7		18.0		25.7
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		20.2		30.8		20.2		30.8
Max Q Clear Time (g_c+I1), s		2.8		17.7		11.9		7.0
Green Ext Time (p_c), s		0.1		3.4		1.6		1.5

Intersection Summary		
HCM 2010 Ctrl Delay		11.8
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	42	515	2	4	1	74	158	74	10	173	3
Future Volume (veh/h)	42	42	515	2	4	1	74	158	74	10	173	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1759	1759	1900	1743	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	46	46	560	2	4	1	80	172	80	11	188	3
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	9	9	9	2	2	2	2	2	2
Cap, veh/h	483	415	681	271	442	91	600	271	126	144	372	6
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	640	911	1495	234	970	201	1187	1204	560	42	1655	26
Grp Volume(v), veh/h	92	0	560	7	0	0	80	0	252	202	0	0
Grp Sat Flow(s),veh/h/ln	1551	0	1495	1405	0	0	1187	0	1764	1723	0	0
Q Serve(g_s), s	0.0	0.0	9.2	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	9.2	0.1	0.0	0.0	1.0	0.0	3.6	3.7	0.0	0.0
Prop In Lane	0.50		1.00	0.29		0.14	1.00		0.32	0.05		0.01
Lane Grp Cap(c), veh/h	898	0	681	804	0	0	600	0	397	522	0	0
V/C Ratio(X)	0.10	0.00	0.82	0.01	0.00	0.00	0.13	0.00	0.64	0.39	0.00	0.00
Avail Cap(c_a), veh/h	1258	0	1036	1101	0	0	818	0	721	852	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.4	0.0	6.7	4.2	0.0	0.0	8.8	0.0	9.9	9.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	3.3	0.0	0.0	0.0	0.1	0.0	1.7	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	4.4	0.0	0.0	0.0	0.5	0.0	1.9	1.4	0.0	0.0
LnGrp Delay(d),s/veh	4.5	0.0	10.0	4.2	0.0	0.0	8.9	0.0	11.5	10.0	0.0	0.0
LnGrp LOS	A		A	A			A		B	A		
Approach Vol, veh/h		652			7			332			202	
Approach Delay, s/veh		9.2			4.2			10.9			10.0	
Approach LOS		A			A			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		10.8		17.3		10.8		17.3
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		11.5		19.5		11.5		19.5
Max Q Clear Time (g_c+I1), s		5.6		11.2		5.7		2.1
Green Ext Time (p_c), s		0.8		1.7		0.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	9.8
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	435	8	29	441	35	6	30	58	161	78	36
Future Volume (veh/h)	8	435	8	29	441	35	6	30	58	161	78	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	9	473	9	32	479	38	7	33	63	175	85	39
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	19	551	10	60	578	46	158	51	97	241	164	75
Arrive On Green	0.01	0.33	0.33	0.04	0.36	0.36	0.09	0.09	0.09	0.14	0.14	0.14
Sat Flow, veh/h	1616	1659	32	1691	1624	129	1774	574	1096	1774	1210	555
Grp Volume(v), veh/h	9	0	482	32	0	517	7	0	96	175	0	124
Grp Sat Flow(s),veh/h/ln	1616	0	1691	1691	0	1753	1774	0	1669	1774	0	1765
Q Serve(g_s), s	0.3	0.0	14.0	1.0	0.0	14.1	0.2	0.0	2.9	5.0	0.0	3.4
Cycle Q Clear(g_c), s	0.3	0.0	14.0	1.0	0.0	14.1	0.2	0.0	2.9	5.0	0.0	3.4
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.66	1.00		0.31
Lane Grp Cap(c), veh/h	19	0	561	60	0	624	158	0	148	241	0	240
V/C Ratio(X)	0.48	0.00	0.86	0.53	0.00	0.83	0.04	0.00	0.65	0.73	0.00	0.52
Avail Cap(c_a), veh/h	154	0	715	161	0	742	243	0	229	311	0	309
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.8	0.0	16.4	24.9	0.0	15.4	21.9	0.0	23.1	21.7	0.0	21.1
Incr Delay (d2), s/veh	17.4	0.0	8.4	7.1	0.0	6.8	0.1	0.0	4.7	6.0	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	7.7	0.6	0.0	7.9	0.1	0.0	1.5	2.8	0.0	1.8
LnGrp Delay(d),s/veh	43.1	0.0	24.8	32.0	0.0	22.2	22.0	0.0	27.8	27.7	0.0	22.8
LnGrp LOS	D		C	C		C	C		C	C		C
Approach Vol, veh/h		491			549			103			299	
Approach Delay, s/veh		25.1			22.8			27.4			25.7	
Approach LOS		C			C			C			C	

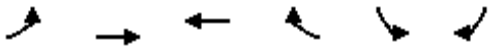
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		10.5	5.9	23.2		12.9	4.6	24.5
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		7.2	5.0	22.2		9.2	5.0	22.2
Max Q Clear Time (g_c+I1), s		4.9	3.0	16.0		7.0	2.3	16.1
Green Ext Time (p_c), s		0.1	0.0	1.4		0.3	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	24.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	472	7	29	466	30	9	12	20	336	89	43
Future Volume (veh/h)	4	472	7	29	466	30	9	12	20	336	89	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1776	1776	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	513	8	32	507	33	10	13	22	365	97	47
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	12	12	12	7	7	7	2	2	2	2	2	2
Cap, veh/h	9	605	9	57	646	42	166	217	300	478	101	49
Arrive On Green	0.01	0.36	0.36	0.03	0.39	0.39	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1616	1666	26	1691	1649	107	270	601	833	1059	281	136
Grp Volume(v), veh/h	4	0	521	32	0	540	45	0	0	509	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1692	1691	0	1757	1704	0	0	1476	0	0
Q Serve(g_s), s	0.2	0.0	18.2	1.2	0.0	17.4	0.0	0.0	0.0	20.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	18.2	1.2	0.0	17.4	1.1	0.0	0.0	21.6	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.06	0.22		0.49	0.72		0.09
Lane Grp Cap(c), veh/h	9	0	615	57	0	688	683	0	0	628	0	0
V/C Ratio(X)	0.46	0.00	0.85	0.56	0.00	0.78	0.07	0.00	0.00	0.81	0.00	0.00
Avail Cap(c_a), veh/h	125	0	1214	131	0	1261	683	0	0	628	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.9	0.0	18.8	30.6	0.0	17.2	13.5	0.0	0.0	20.0	0.0	0.0
Incr Delay (d2), s/veh	33.8	0.0	3.3	8.3	0.0	2.0	0.0	0.0	0.0	7.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	9.0	0.7	0.0	8.8	0.5	0.0	0.0	10.1	0.0	0.0
LnGrp Delay(d),s/veh	65.7	0.0	22.2	38.9	0.0	19.2	13.6	0.0	0.0	27.9	0.0	0.0
LnGrp LOS	E		C	D		B	B			C		
Approach Vol, veh/h		525			572			45			509	
Approach Delay, s/veh		22.5			20.3			13.6			27.9	
Approach LOS		C			C			B			C	

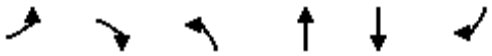
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.0	6.2	29.2		29.0	4.3	31.0
Change Period (Y+Rc), s		5.8	4.0	5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		23.2	5.0	46.2		23.2	5.0	46.2
Max Q Clear Time (g_c+I1), s		3.1	3.2	20.2		23.6	2.2	19.4
Green Ext Time (p_c), s		0.1	0.0	3.2		0.0	0.0	3.3

Intersection Summary		
HCM 2010 Ctrl Delay		23.2
HCM 2010 LOS		C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	241	856	480	0	6	496
Future Volume (vph)	241	856	480	0	6	496
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.8	5.8		5.8	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	0.95
Frt	1.00	1.00	1.00		0.85	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1626	3252	3438		1588	1504
Flt Permitted	0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1626	3252	3438		1588	1504
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	930	522	0	7	539
RTOR Reduction (vph)	0	0	0	0	219	46
Lane Group Flow (vph)	262	930	522	0	52	229
Heavy Vehicles (%)	11%	11%	5%	5%	2%	2%
Turn Type	Prot	NA	NA		Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases						6
Actuated Green, G (s)	14.7	33.2	14.5		9.2	23.9
Effective Green, g (s)	14.7	33.2	14.5		9.2	23.9
Actuated g/C Ratio	0.27	0.61	0.27		0.17	0.44
Clearance Time (s)	4.0	5.8	5.8		5.8	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	442	1999	923		270	665
v/s Ratio Prot	c0.16	0.29	c0.15		0.03	c0.09
v/s Ratio Perm						0.06
v/c Ratio	0.59	0.47	0.57		0.19	0.34
Uniform Delay, d1	17.1	5.6	17.0		19.2	9.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.1	0.2	0.8		0.3	0.3
Delay (s)	19.2	5.8	17.8		19.6	10.2
Level of Service	B	A	B		B	B
Approach Delay (s)		8.7	17.8		14.9	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	54.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	194	709	548	302	287	302
Future Volume (vph)	194	709	548	302	287	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	0.97	0.95	0.95	1.00
Frt	0.91	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.98	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1665	1504	3433	3539	3539	1583
Flt Permitted	0.98	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1665	1504	3433	3539	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	211	771	596	328	312	328
RTOR Reduction (vph)	69	320	0	0	0	263
Lane Group Flow (vph)	435	158	596	328	312	65
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	19.2	19.2	13.8	29.8	11.5	11.5
Effective Green, g (s)	19.2	19.2	13.8	29.8	11.5	11.5
Actuated g/C Ratio	0.33	0.33	0.24	0.51	0.20	0.20
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	551	497	816	1818	701	313
v/s Ratio Prot	c0.26		c0.17	0.09	c0.09	
v/s Ratio Perm		0.11				0.04
v/c Ratio	0.79	0.32	0.73	0.18	0.45	0.21
Uniform Delay, d1	17.6	14.5	20.4	7.6	20.4	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.4	0.4	3.4	0.0	0.5	0.3
Delay (s)	25.0	14.9	23.8	7.6	20.9	19.8
Level of Service	C	B	C	A	C	B
Approach Delay (s)	20.1			18.0	20.3	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	698	346	302	548	0	351	0	205	0	0	0
Future Volume (veh/h)	0	698	346	302	548	0	351	0	205	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	759	376	328	596	0	382	0	223	0	0	0
Adj No. of Lanes	1	2	1	1	2	0	2	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1244	556	398	2299	0	695	0	320	0	3	0
Arrive On Green	0.00	0.35	0.35	0.22	0.65	0.00	0.20	0.00	0.20	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	3442	0	1583	0	1863	0
Grp Volume(v), veh/h	0	759	376	328	596	0	382	0	223	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1721	0	1583	0	1863	0
Q Serve(g_s), s	0.0	10.7	12.3	10.7	4.3	0.0	6.0	0.0	7.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.7	12.3	10.7	4.3	0.0	6.0	0.0	7.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	3	1244	556	398	2299	0	695	0	320	0	3	0
V/C Ratio(X)	0.00	0.61	0.68	0.82	0.26	0.00	0.55	0.00	0.70	0.00	0.00	0.00
Avail Cap(c_a), veh/h	526	2129	953	1038	3150	0	1248	0	574	0	553	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	16.2	16.7	22.4	4.5	0.0	21.7	0.0	22.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.4	4.4	0.1	0.0	0.7	0.0	2.7	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.2	5.5	5.7	2.1	0.0	2.9	0.0	3.7	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	16.7	18.2	26.8	4.5	0.0	22.4	0.0	25.2	0.0	0.0	0.0
LnGrp LOS		B	B	C	A		C		C			
Approach Vol, veh/h		1135			924			605			0	
Approach Delay, s/veh		17.2			12.4			23.5			0.0	
Approach LOS		B			B			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		16.8	18.1	25.8		0.0	0.0	43.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		22.0	35.5	36.5		18.0	18.0	54.0
Max Q Clear Time (g_c+I1), s		9.9	12.7	14.3		0.0	0.0	6.3
Green Ext Time (p_c), s		2.3	1.0	7.1		0.0	0.0	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	701	94	379	104	75	29	133	302	14	127	5
Future Volume (veh/h)	16	701	94	379	104	75	29	133	302	14	127	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1610	1610	1610	1610	1610	1900
Adj Flow Rate, veh/h	17	762	0	412	113	0	32	145	0	15	138	0
Adj No. of Lanes	1	2	0	2	1	0	1	1	2	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	18	18	18	18	18	18
Cap, veh/h	38	1045	0	562	815	0	56	223	726	56	370	0
Arrive On Green	0.02	0.30	0.00	0.16	0.44	0.00	0.04	0.14	0.00	0.02	0.12	0.00
Sat Flow, veh/h	1774	3632	0	3442	1863	0	1533	1610	2409	2975	3140	0
Grp Volume(v), veh/h	17	762	0	412	113	0	32	145	0	15	138	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1721	1863	0	1533	1610	1204	1487	1530	0
Q Serve(g_s), s	0.4	9.1	0.0	5.3	1.7	0.0	1.0	4.0	0.0	0.2	1.9	0.0
Cycle Q Clear(g_c), s	0.4	9.1	0.0	5.3	1.7	0.0	1.0	4.0	0.0	0.2	1.9	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	38	1045	0	562	815	0	56	223	726	56	370	0
V/C Ratio(X)	0.45	0.73	0.00	0.73	0.14	0.00	0.57	0.65	0.00	0.27	0.37	0.00
Avail Cap(c_a), veh/h	189	1397	0	698	914	0	164	653	1370	317	1241	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.7	14.8	0.0	18.6	7.9	0.0	22.2	19.1	0.0	22.7	19.0	0.0
Incr Delay (d2), s/veh	8.3	1.3	0.0	3.1	0.1	0.0	9.0	3.2	0.0	2.5	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.5	0.0	2.8	0.9	0.0	0.5	2.0	0.0	0.1	0.9	0.0
LnGrp Delay(d),s/veh	30.9	16.1	0.0	21.7	8.0	0.0	31.2	22.3	0.0	25.2	19.6	0.0
LnGrp LOS	C	B		C	A		C	C		C	B	
Approach Vol, veh/h		779			525			177			153	
Approach Delay, s/veh		16.5			18.8			23.9			20.1	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	11.0	12.1	18.3	6.2	10.2	5.5	25.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	9.5	18.5	5.0	19.0	5.0	23.0
Max Q Clear Time (g_c+I1), s	2.2	6.0	7.3	11.1	3.0	3.9	2.4	3.7
Green Ext Time (p_c), s	0.0	0.5	0.3	2.8	0.0	0.6	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	18.3
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	152	192	27	361	287
Future Vol, veh/h	12	152	192	27	361	287
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	165	209	29	392	312
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	11	11.9	16.1
HCM LOS	B	B	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	88%	0%	0%	0%	100%
Vol Right, %	12%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	219	12	152	361	287
LT Vol	0	12	0	361	0
Through Vol	192	0	0	0	287
RT Vol	27	0	152	0	0
Lane Flow Rate	238	13	165	392	312
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.37	0.026	0.278	0.644	0.468
Departure Headway (Hd)	5.601	7.279	6.06	5.906	5.401
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	645	493	593	616	671
Service Time	3.622	5.013	3.793	3.606	3.101
HCM Lane V/C Ratio	0.369	0.026	0.278	0.636	0.465
HCM Control Delay	11.9	10.2	11.1	18.7	12.8
HCM Lane LOS	B	B	B	C	B
HCM 95th-tile Q	1.7	0.1	1.1	4.6	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	105	152	72	143	301	22	219	12	47	246	7
Future Volume (veh/h)	47	105	152	72	143	301	22	219	12	47	246	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1638	1638	1900	1520	1520	1900
Adj Flow Rate, veh/h	51	114	165	78	155	327	24	238	13	51	267	8
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	16	16	16	25	25	25
Cap, veh/h	187	310	371	185	236	418	335	433	24	355	413	12
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	137	693	830	138	528	935	967	1539	84	917	1468	44
Grp Volume(v), veh/h	330	0	0	560	0	0	24	0	251	51	0	275
Grp Sat Flow(s),veh/h/ln	1661	0	0	1601	0	0	967	0	1623	917	0	1512
Q Serve(g_s), s	0.0	0.0	0.0	4.2	0.0	0.0	0.7	0.0	4.4	1.7	0.0	5.3
Cycle Q Clear(g_c), s	4.4	0.0	0.0	9.6	0.0	0.0	6.0	0.0	4.4	6.0	0.0	5.3
Prop In Lane	0.15		0.50	0.14		0.58	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	868	0	0	840	0	0	335	0	456	355	0	425
V/C Ratio(X)	0.38	0.00	0.00	0.67	0.00	0.00	0.07	0.00	0.55	0.14	0.00	0.65
Avail Cap(c_a), veh/h	1395	0	0	1388	0	0	633	0	956	637	0	891
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.3	0.0	0.0	7.6	0.0	0.0	13.1	0.0	10.1	12.7	0.0	10.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.0	0.0	0.1	0.0	1.0	0.2	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	4.4	0.0	0.0	0.2	0.0	2.0	0.4	0.0	2.3
LnGrp Delay(d),s/veh	6.5	0.0	0.0	8.6	0.0	0.0	13.2	0.0	11.2	12.9	0.0	12.1
LnGrp LOS	A			A			B		B	B		B
Approach Vol, veh/h		330			560			275			326	
Approach Delay, s/veh		6.5			8.6			11.3			12.2	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		13.8		19.3		13.8		19.3
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		26.5		19.5		26.5
Max Q Clear Time (g_c+I1), s		8.0		6.4		8.0		11.6
Green Ext Time (p_c), s		1.0		1.9		1.3		3.2

Intersection Summary		
HCM 2010 Ctrl Delay		9.4
HCM 2010 LOS		A

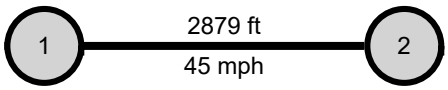
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	292	171	156	100	71	71	405	136	60	496	11
Future Volume (veh/h)	39	292	171	156	100	71	71	405	136	60	496	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1557	1557	1900	1557	1557	1900
Adj Flow Rate, veh/h	42	317	0	170	109	0	77	440	0	65	539	0
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	22	22	22	22	22	22
Cap, veh/h	73	396	0	212	542	0	232	705	0	302	705	0
Arrive On Green	0.04	0.21	0.00	0.12	0.29	0.00	0.45	0.45	0.00	0.45	0.45	0.00
Sat Flow, veh/h	1774	1863	0	1774	1863	0	721	1557	0	790	1557	0
Grp Volume(v), veh/h	42	317	0	170	109	0	77	440	0	65	539	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	1863	0	721	1557	0	790	1557	0
Q Serve(g_s), s	1.5	10.1	0.0	5.9	2.8	0.0	6.3	13.5	0.0	4.3	18.2	0.0
Cycle Q Clear(g_c), s	1.5	10.1	0.0	5.9	2.8	0.0	24.5	13.5	0.0	17.8	18.2	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	73	396	0	212	542	0	232	705	0	302	705	0
V/C Ratio(X)	0.57	0.80	0.00	0.80	0.20	0.00	0.33	0.62	0.00	0.22	0.76	0.00
Avail Cap(c_a), veh/h	178	674	0	257	757	0	304	861	0	381	861	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.5	23.4	0.0	26.9	16.8	0.0	24.6	13.1	0.0	19.9	14.4	0.0
Incr Delay (d2), s/veh	6.9	3.8	0.0	13.9	0.2	0.0	0.8	1.0	0.0	0.4	3.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.6	0.0	3.7	1.5	0.0	1.3	5.9	0.0	1.0	8.4	0.0
LnGrp Delay(d),s/veh	36.4	27.2	0.0	40.8	16.9	0.0	25.4	14.1	0.0	20.3	17.7	0.0
LnGrp LOS	D	C		D	B		C	B		C	B	
Approach Vol, veh/h		359			279			517			604	
Approach Delay, s/veh		28.3			31.5			15.8			18.0	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		32.9	12.0	17.9		32.9	7.1	22.8
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		34.7	9.1	22.7		34.7	6.3	25.5
Max Q Clear Time (g_c+I1), s		26.5	7.9	12.1		20.2	3.5	4.8
Green Ext Time (p_c), s		2.0	0.1	1.2		3.2	0.0	0.4

Intersection Summary		
HCM 2010 Ctrl Delay		21.6
HCM 2010 LOS		C

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2879	2879	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.26			46.59		
1	Running Time, s	45.95			45.55		
1	Running Speed, mph	42.72			43.10		
1	Through Delay, s/veh	11.28			30.55		
1	Travel Time, s	57.23			76.09		
1	Travel Speed, mph	34.30			25.80		
1	Stop Rate, stops/veh	0.62			0.75		
1	Spatial Stop Rate, stops/mi	1.13			1.38		
1	Through vol/cap Ratio	0.59			0.78		
1	Percent of Base FFS	75.79			55.37		
1	Level of Service	B			C		
1	Auto Traveler Perception Score	2.31			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	4.08		D
1	Bicycle Segment LOS Score / LOS	4.88		E	5.25		F
1	Transit Segment LOS Score / LOS	6.62		F	6.59		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	57.23	76.09
Facility Travel Speed, mph	34.30	25.80
Facility Base Free Flow Speed, mph	45.26	46.59
Facility Percent of Base FFS	75.79	55.37
Facility Level of Service	B	C
Facility Auto Traveler Perception Score	2.31	2.35

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			4.08	D
Bicycle Facility LOS Score / LOS	4.88	E	5.25	F
Transit Facility LOS Score / LOS	6.62	F	6.59	F

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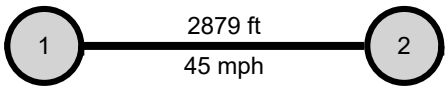
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/22/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	1. Sperry Ave, Rogers & Park Ce	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Rogers Rd	Sperry Rd/Park Center Dr		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	2879	2879	40	38	1972	1972	50	6	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.26			46.59		
1	Running Time, s	47.04			45.87		
1	Running Speed, mph	41.73			42.79		
1	Through Delay, s/veh	33.24			53.43		
1	Travel Time, s	80.27			99.30		
1	Travel Speed, mph	24.45			19.77		
1	Stop Rate, stops/veh	0.84			0.97		
1	Spatial Stop Rate, stops/mi	1.53			1.79		
1	Through vol/cap Ratio	0.90			0.92		
1	Percent of Base FFS	54.03			42.42		
1	Level of Service	C			D		
1	Auto Traveler Perception Score	2.37			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F	4.17		D
1	Bicycle Segment LOS Score / LOS	4.96		E	5.02		F
1	Transit Segment LOS Score / LOS	6.75		F	6.63		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	80.27	99.30
Facility Travel Speed, mph	24.45	19.77
Facility Base Free Flow Speed, mph	45.26	46.59
Facility Percent of Base FFS	54.03	42.42
Facility Level of Service	C	D
Facility Auto Traveler Perception Score	2.37	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS			4.17	D
Bicycle Facility LOS Score / LOS	4.96	E	5.02	F
Transit Facility LOS Score / LOS	6.75	F	6.63	F

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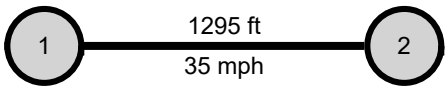
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1295	1295	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	38.00			38.12		
1	Running Time, s	26.90			26.69		
1	Running Speed, mph	32.83			33.08		
1	Through Delay, s/veh	1.63			27.95		
1	Travel Time, s	28.53			54.64		
1	Travel Speed, mph	30.95			16.16		
1	Stop Rate, stops/veh	0.35			0.83		
1	Spatial Stop Rate, stops/mi	1.42			3.37		
1	Through vol/cap Ratio	0.61			0.77		
1	Percent of Base FFS	81.45			42.39		
1	Level of Service	B			D		
1	Auto Traveler Perception Score	2.35			2.68		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.80		D	3.78		D
1	Bicycle Segment LOS Score / LOS	3.86		D	6.96		F
1	Transit Segment LOS Score / LOS	4.60		E	4.51		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	28.53	54.64
Facility Travel Speed, mph	30.95	16.16
Facility Base Free Flow Speed, mph	38.00	38.12
Facility Percent of Base FFS	81.45	42.39
Facility Level of Service	B	D
Facility Auto Traveler Perception Score	2.35	2.68

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.80	D	3.78	D
Bicycle Facility LOS Score / LOS	3.86	D	6.96	F
Transit Facility LOS Score / LOS	4.60	E	4.51	E

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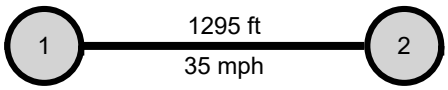
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Mar 25, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak Hour	Number of Iterations	15
File Name	2. Baldwin Rd, north of Sperry A	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sperry Rd/Baldwin Rd			Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	1295	1295	106	66	1186	1186	100	100	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		2.67	never	
1	Shared Lane Spillback Time, h				2.79		
1	Base Free-Flow Speed, mph	38.00			38.12		
1	Running Time, s	26.68			27.06		
1	Running Speed, mph	33.10			32.63		
1	Through Delay, s/veh	0.76			63.47		
1	Travel Time, s	27.44			90.52		
1	Travel Speed, mph	32.18			9.75		
1	Stop Rate, stops/veh	0.08			0.99		
1	Spatial Stop Rate, stops/mi	0.31			4.05		
1	Through vol/cap Ratio	0.35			0.97		
1	Percent of Base FFS	84.69			25.59		
1	Level of Service	B			F		
1	Auto Traveler Perception Score	2.19			2.79		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.69		D	3.93		D
1	Bicycle Segment LOS Score / LOS	3.84		D	6.99		F
1	Transit Segment LOS Score / LOS	4.54		E	4.57		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	27.44	90.52
Facility Travel Speed, mph	32.18	9.75
Facility Base Free Flow Speed, mph	38.00	38.12
Facility Percent of Base FFS	84.69	25.59
Facility Level of Service	B	F
Facility Auto Traveler Perception Score	2.19	2.79

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.69	D	3.93	D
Bicycle Facility LOS Score / LOS	3.84	D	6.99	F
Transit Facility LOS Score / LOS	4.54	E	4.57	E

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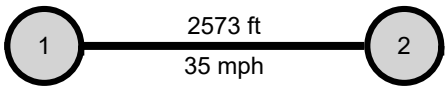
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2573	2573	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.75			40.62		
1	Running Time, s	47.09			45.57		
1	Running Speed, mph	37.25			38.49		
1	Through Delay, s/veh	1.22			0.42		
1	Travel Time, s	48.31			46.00		
1	Travel Speed, mph	36.31			38.14		
1	Stop Rate, stops/veh	0.02			0.01		
1	Spatial Stop Rate, stops/mi	0.03			0.02		
1	Through vol/cap Ratio	0.53			0.22		
1	Percent of Base FFS	89.11			93.90		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.15			2.14		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.86		D	3.52		D
1	Transit Segment LOS Score / LOS	4.75		E	4.50		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	48.31	46.00
Facility Travel Speed, mph	36.31	38.14
Facility Base Free Flow Speed, mph	40.75	40.62
Facility Percent of Base FFS	89.11	93.90
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.15	2.14

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.86	D	3.52	D
Transit Facility LOS Score / LOS	4.75	E	4.50	E

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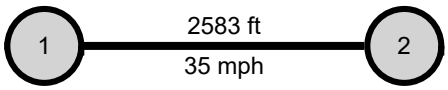
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	3/25/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	3. Ward Ave, between Bartch Av	Analysis Year	2019	System Cycle Length, s	120
Intersections	Ward Ave/Elfers Rd	Ward Ave/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	35	35	1	1	2583	2583	38	38	0	0	0	28	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	40.76			40.62		
1	Running Time, s	46.51			47.67		
1	Running Speed, mph	37.86			36.95		
1	Through Delay, s/veh	0.85			1.26		
1	Travel Time, s	47.36			48.93		
1	Travel Speed, mph	37.19			35.99		
1	Stop Rate, stops/veh	0.01			0.02		
1	Spatial Stop Rate, stops/mi	0.03			0.03		
1	Through vol/cap Ratio	0.41			0.56		
1	Percent of Base FFS	91.25			88.60		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.15			2.15		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.82		D	3.64		D
1	Transit Segment LOS Score / LOS	4.67		E	4.74		E

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	47.36	48.93
Facility Travel Speed, mph	37.19	35.99
Facility Base Free Flow Speed, mph	40.76	40.62
Facility Percent of Base FFS	91.25	88.60
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.15	2.15

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.82	D	3.64	D
Transit Facility LOS Score / LOS	4.67	E	4.74	E

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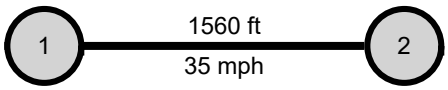
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward /	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	27.92			28.94		
1	Running Speed, mph	38.10			36.75		
1	Through Delay, s/veh	1.09			1.97		
1	Travel Time, s	29.01			30.92		
1	Travel Speed, mph	36.66			34.40		
1	Stop Rate, stops/veh	0.37			0.37		
1	Spatial Stop Rate, stops/mi	1.24			1.25		
1	Through vol/cap Ratio	0.13			0.72		
1	Percent of Base FFS	87.75			82.35		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.54			2.55		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.62		E	4.90		E
1	Transit Segment LOS Score / LOS	6.56		F	6.81		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	29.01	30.92
Facility Travel Speed, mph	36.66	34.40
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	87.75	82.35
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.54	2.55

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.62	E	4.90	E
Transit Facility LOS Score / LOS	6.56	F	6.81	F

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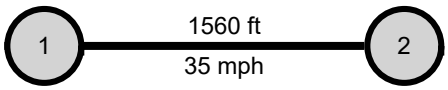
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/11/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	4. W Marshall Rd, east of Ward /	Analysis Year	2019	System Cycle Length, s	120
Intersections	W Marshall Rd/Ward Ave			Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	35	35	1	1	1560	1560	30	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.78			41.78		
1	Running Time, s	28.35			27.99		
1	Running Speed, mph	37.51			38.01		
1	Through Delay, s/veh	1.64			1.30		
1	Travel Time, s	29.99			29.29		
1	Travel Speed, mph	35.46			36.31		
1	Stop Rate, stops/veh	0.42			0.42		
1	Spatial Stop Rate, stops/mi	1.43			1.43		
1	Through vol/cap Ratio	0.46			0.19		
1	Percent of Base FFS	84.87			86.92		
1	Level of Service	B			A		
1	Auto Traveler Perception Score	2.58			2.58		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.83		E	4.64		E
1	Transit Segment LOS Score / LOS	6.71		F	6.63		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	29.99	29.29
Facility Travel Speed, mph	35.46	36.31
Facility Base Free Flow Speed, mph	41.78	41.78
Facility Percent of Base FFS	84.87	86.92
Facility Level of Service	B	A
Facility Auto Traveler Perception Score	2.58	2.58

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.83	E	4.64	E
Transit Facility LOS Score / LOS	6.71	F	6.63	F

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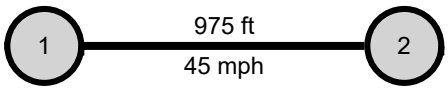
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_A	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	19.42			18.94		
1	Running Speed, mph	34.23			35.10		
1	Through Delay, s/veh	1.74			0.86		
1	Travel Time, s	21.16			19.79		
1	Travel Speed, mph	31.42			33.58		
1	Stop Rate, stops/veh	0.12			0.12		
1	Spatial Stop Rate, stops/mi	0.63			0.63		
1	Through vol/cap Ratio	0.93			0.72		
1	Percent of Base FFS	68.51			73.22		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.44			2.44		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.95		D	3.76		D
1	Transit Segment LOS Score / LOS	6.96		F	6.87		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	21.16	19.79
Facility Travel Speed, mph	31.42	33.58
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	68.51	73.22
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.44	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.95	D	3.76	D
Transit Facility LOS Score / LOS	6.96	F	6.87	F

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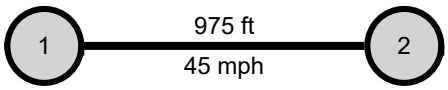
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 11, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	5. SR 33, south of Bartch Ave_P	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Holly Ave	SR 33/Bartch Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	975	975	40	40	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	45.87			45.87		
1	Running Time, s	18.92			19.36		
1	Running Speed, mph	35.13			34.34		
1	Through Delay, s/veh	0.93			1.67		
1	Travel Time, s	19.86			21.04		
1	Travel Speed, mph	33.48			31.60		
1	Stop Rate, stops/veh	0.13			0.13		
1	Spatial Stop Rate, stops/mi	0.69			0.70		
1	Through vol/cap Ratio	0.73			0.92		
1	Percent of Base FFS	72.99			68.90		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.45			2.46		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.77		D	3.93		D
1	Transit Segment LOS Score / LOS	6.86		F	6.95		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	19.86	21.04
Facility Travel Speed, mph	33.48	31.60
Facility Base Free Flow Speed, mph	45.87	45.87
Facility Percent of Base FFS	72.99	68.90
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.45	2.46

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.77	D	3.93	D
Transit Facility LOS Score / LOS	6.86	F	6.95	F

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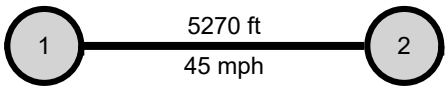
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave_AM.xus	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5270	5270	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.15			45.15		
1	Running Time, s	84.52			83.15		
1	Running Speed, mph	42.51			43.21		
1	Through Delay, s/veh	50.75			39.24		
1	Travel Time, s	135.27			122.39		
1	Travel Speed, mph	26.56			29.36		
1	Stop Rate, stops/veh	0.83			0.87		
1	Spatial Stop Rate, stops/mi	0.83			0.88		
1	Through vol/cap Ratio	1.00			0.93		
1	Percent of Base FFS	58.83			65.02		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.26			2.27		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.96		D	4.31		E
1	Transit Segment LOS Score / LOS	6.79		F	6.70		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	135.27	122.39
Facility Travel Speed, mph	26.56	29.36
Facility Base Free Flow Speed, mph	45.15	45.15
Facility Percent of Base FFS	58.83	65.02
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.26	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.96	D	4.31	E
Transit Facility LOS Score / LOS	6.79	F	6.70	F

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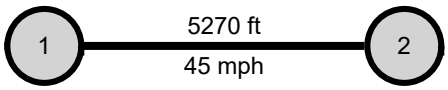
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/12/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	6. Las Palmas Ave, Sycamore &	Analysis Year	2019	System Cycle Length, s	120
Intersections	Sycamore Ave	Elm Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5270	5270	120	120	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	45.15			45.15		
1	Running Time, s	83.30			82.39		
1	Running Speed, mph	43.14			43.61		
1	Through Delay, s/veh	26.90			16.59		
1	Travel Time, s	110.20			98.99		
1	Travel Speed, mph	32.61			36.30		
1	Stop Rate, stops/veh	0.78			0.64		
1	Spatial Stop Rate, stops/mi	0.78			0.64		
1	Through vol/cap Ratio	0.90			0.82		
1	Percent of Base FFS	72.21			80.40		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.26			2.23		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.94		D	4.30		E
1	Transit Segment LOS Score / LOS	6.71		F	6.65		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	110.20	98.99
Facility Travel Speed, mph	32.61	36.30
Facility Base Free Flow Speed, mph	45.15	45.15
Facility Percent of Base FFS	72.21	80.40
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.26	2.23

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.94	D	4.30	E
Transit Facility LOS Score / LOS	6.71	F	6.65	F

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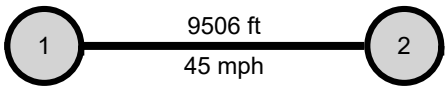
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave, wo Jennings	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9506	9506	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.00			46.01		
1	Running Time, s	147.56			148.05		
1	Running Speed, mph	43.92			43.78		
1	Through Delay, s/veh	9.94			22.78		
1	Travel Time, s	157.51			170.83		
1	Travel Speed, mph	41.15			37.94		
1	Stop Rate, stops/veh	0.36			0.71		
1	Spatial Stop Rate, stops/mi	0.20			0.40		
1	Through vol/cap Ratio	0.50			0.96		
1	Percent of Base FFS	89.45			82.46		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.17			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.00		D	4.05		D
1	Transit Segment LOS Score / LOS	6.74		F	6.77		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	157.51	170.83
Facility Travel Speed, mph	41.15	37.94
Facility Base Free Flow Speed, mph	46.00	46.01
Facility Percent of Base FFS	89.45	82.46
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.17	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.00	D	4.05	D
Transit Facility LOS Score / LOS	6.74	F	6.77	F

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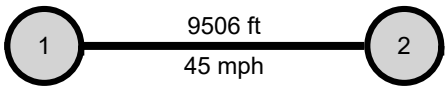
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	7. Las Palmas Ave, wo Jennings	Analysis Year	2019	System Cycle Length, s	120
Intersections	Las Palmas Ave/Elm Ave	Las Palmas Ave/Jennings Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	9506	9506	115	80	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h	never	never		never	never	
1	Shared Lane Spillback Time, h	never			never		
1	Base Free-Flow Speed, mph	46.00			46.01		
1	Running Time, s	147.62			148.31		
1	Running Speed, mph	43.90			43.70		
1	Through Delay, s/veh	11.10			33.14		
1	Travel Time, s	158.73			181.45		
1	Travel Speed, mph	40.83			35.72		
1	Stop Rate, stops/veh	0.40			0.81		
1	Spatial Stop Rate, stops/mi	0.22			0.45		
1	Through vol/cap Ratio	0.60			0.98		
1	Percent of Base FFS	88.76			77.64		
1	Level of Service	A			B		
1	Auto Traveler Perception Score	2.17			2.42		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.99		D	4.04		D
1	Transit Segment LOS Score / LOS	6.75		F	6.78		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	158.73	181.45
Facility Travel Speed, mph	40.83	35.72
Facility Base Free Flow Speed, mph	46.00	46.01
Facility Percent of Base FFS	88.76	77.64
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.17	2.42

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.99	D	4.04	D
Transit Facility LOS Score / LOS	6.75	F	6.78	F

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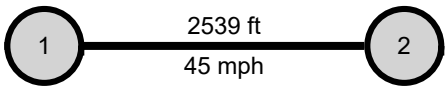
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_AM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2539	2539	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.89			43.54		
1	Running Time, s	40.10			43.63		
1	Running Speed, mph	43.17			39.68		
1	Through Delay, s/veh	9.31			30.75		
1	Travel Time, s	49.41			74.38		
1	Travel Speed, mph	35.04			23.27		
1	Stop Rate, stops/veh	0.36			0.81		
1	Spatial Stop Rate, stops/mi	0.76			1.69		
1	Through vol/cap Ratio	0.39			0.98		
1	Percent of Base FFS	76.35			53.45		
1	Level of Service	B			C		
1	Auto Traveler Perception Score	2.46			2.62		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.10		D	4.80		E
1	Transit Segment LOS Score / LOS	6.60		F	0.70		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	49.41	74.38
Facility Travel Speed, mph	35.04	23.27
Facility Base Free Flow Speed, mph	45.89	43.54
Facility Percent of Base FFS	76.35	53.45
Facility Level of Service	B	C
Facility Auto Traveler Perception Score	2.46	2.62

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.10	D	4.80	E
Transit Facility LOS Score / LOS	6.60	F	0.70	A

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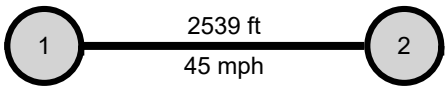
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/15/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	8. SR 33, Walnut & Olive_PM.xu	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/M St/Walnut Ave	SR 33/Olive Ave-Ivy Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	40	1	1	2539	2539	140	66	0	0	0	5	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never		never	never	
1	Shared Lane Spillback Time, h				never		
1	Base Free-Flow Speed, mph	45.89			43.54		
1	Running Time, s	40.39			43.67		
1	Running Speed, mph	42.86			39.64		
1	Through Delay, s/veh	13.57			24.94		
1	Travel Time, s	53.96			68.62		
1	Travel Speed, mph	32.08			25.23		
1	Stop Rate, stops/veh	0.56			0.74		
1	Spatial Stop Rate, stops/mi	1.17			1.54		
1	Through vol/cap Ratio	0.75			0.98		
1	Percent of Base FFS	69.91			57.94		
1	Level of Service	B			C		
1	Auto Traveler Perception Score	2.53			2.59		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.20		D	4.79		E
1	Transit Segment LOS Score / LOS	6.65		F	0.70		A

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	53.96	68.62
Facility Travel Speed, mph	32.08	25.23
Facility Base Free Flow Speed, mph	45.89	43.54
Facility Percent of Base FFS	69.91	57.94
Facility Level of Service	B	C
Facility Auto Traveler Perception Score	2.53	2.59

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.20	D	4.79	E
Transit Facility LOS Score / LOS	6.65	F	0.70	A

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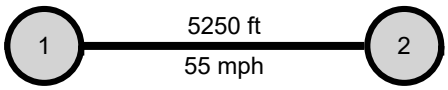
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5250	5250	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.03			45.33		
1	Running Time, s	73.09			82.48		
1	Running Speed, mph	48.98			43.40		
1	Through Delay, s/veh	11.56			0.00		
1	Travel Time, s	84.64			82.48		
1	Travel Speed, mph	42.29			43.40		
1	Stop Rate, stops/veh	0.56			0.00		
1	Spatial Stop Rate, stops/mi	0.56			0.00		
1	Through vol/cap Ratio	0.66			0.00		
1	Percent of Base FFS	84.53			95.74		
1	Level of Service	B			A		
1	Auto Traveler Perception Score	2.43			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	5.06		F	6.15		F
1	Transit Segment LOS Score / LOS	6.69		F	0.58		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	84.64	82.48
Facility Travel Speed, mph	42.29	43.40
Facility Base Free Flow Speed, mph	50.03	45.33
Facility Percent of Base FFS	84.53	95.74
Facility Level of Service	B	A
Facility Auto Traveler Perception Score	2.43	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	5.06	F	6.15	F
Transit Facility LOS Score / LOS	6.69	F	0.58	A

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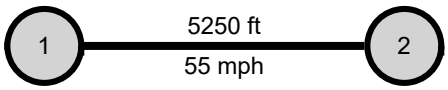
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	9. Eucalyptus Ave, SR 33 & Syc	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Eucalyptus Ave	Eucalyptus Ave/Sycamore Ave		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	45	1	1	5250	5250	35	40	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	50.03			45.33		
1	Running Time, s	72.94			80.64		
1	Running Speed, mph	49.07			44.39		
1	Through Delay, s/veh	9.29			0.00		
1	Travel Time, s	82.24			80.64		
1	Travel Speed, mph	43.53			44.39		
1	Stop Rate, stops/veh	0.55			0.00		
1	Spatial Stop Rate, stops/mi	0.55			0.00		
1	Through vol/cap Ratio	0.27			0.00		
1	Percent of Base FFS	87.00			97.93		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.43			2.34		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	5.13		F	6.06		F
1	Transit Segment LOS Score / LOS	6.67		F	0.40		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	82.24	80.64
Facility Travel Speed, mph	43.53	44.39
Facility Base Free Flow Speed, mph	50.03	45.33
Facility Percent of Base FFS	87.00	97.93
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.43	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	5.13	F	6.06	F
Transit Facility LOS Score / LOS	6.67	F	0.40	A

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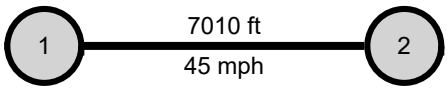
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7010	7010	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	105.72			104.33		
1	Running Speed, mph	45.21			45.81		
1	Through Delay, s/veh	0.00			6.30		
1	Travel Time, s	105.72			110.63		
1	Travel Speed, mph	45.21			43.20		
1	Stop Rate, stops/veh	0.00			0.48		
1	Spatial Stop Rate, stops/mi	0.00			0.36		
1	Through vol/cap Ratio	0.00			0.11		
1	Percent of Base FFS	98.07			93.72		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.34			2.40		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.88		D	4.52		E
1	Transit Segment LOS Score / LOS	6.70		F	6.53		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	105.72	110.63
Facility Travel Speed, mph	45.21	43.20
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	98.07	93.72
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.34	2.40

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.88	D	4.52	E
Transit Facility LOS Score / LOS	6.70	F	6.53	F

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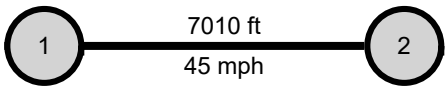
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 17, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	10. Baldwin Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Baldwin Rd/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	7010	7010	55	35	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.10			46.10		
1	Running Time, s	105.58			104.19		
1	Running Speed, mph	45.27			45.87		
1	Through Delay, s/veh	0.00			11.23		
1	Travel Time, s	105.58			115.43		
1	Travel Speed, mph	45.27			41.41		
1	Stop Rate, stops/veh	0.00			0.57		
1	Spatial Stop Rate, stops/mi	0.00			0.43		
1	Through vol/cap Ratio	0.00			0.09		
1	Percent of Base FFS	98.20			89.82		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.34			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.84		D	4.45		E
1	Transit Segment LOS Score / LOS	6.69		F	6.50		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	105.58	115.43
Facility Travel Speed, mph	45.27	41.41
Facility Base Free Flow Speed, mph	46.10	46.10
Facility Percent of Base FFS	98.20	89.82
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.34	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.84	D	4.45	E
Transit Facility LOS Score / LOS	6.69	F	6.50	F

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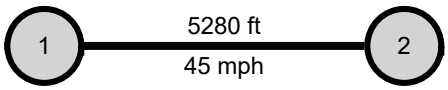
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5280	5280	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.28			46.28		
1	Running Time, s	79.44			79.57		
1	Running Speed, mph	45.32			45.24		
1	Through Delay, s/veh	22.70			12.13		
1	Travel Time, s	102.13			91.70		
1	Travel Speed, mph	35.25			39.26		
1	Stop Rate, stops/veh	0.78			0.66		
1	Spatial Stop Rate, stops/mi	0.78			0.66		
1	Through vol/cap Ratio	0.71			0.49		
1	Percent of Base FFS	76.17			84.84		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.47			2.45		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.61		D	3.62		D
1	Transit Segment LOS Score / LOS	6.67		F	6.68		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	102.13	91.70
Facility Travel Speed, mph	35.25	39.26
Facility Base Free Flow Speed, mph	46.28	46.28
Facility Percent of Base FFS	76.17	84.84
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.47	2.45

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.61	D	3.62	D
Transit Facility LOS Score / LOS	6.67	F	6.68	F

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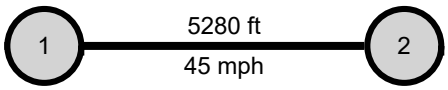
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	11. Zacharias Rd, Rogers & Bald	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	Zacharias Rd/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	5280	5280	40	75	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.28			46.28		
1	Running Time, s	80.82			79.62		
1	Running Speed, mph	44.55			45.22		
1	Through Delay, s/veh	26.59			11.97		
1	Travel Time, s	107.41			91.59		
1	Travel Speed, mph	33.52			39.31		
1	Stop Rate, stops/veh	0.80			0.57		
1	Spatial Stop Rate, stops/mi	0.80			0.57		
1	Through vol/cap Ratio	0.87			0.42		
1	Percent of Base FFS	72.43			84.94		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.47			2.43		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.68		D	3.64		D
1	Transit Segment LOS Score / LOS	6.78		F	6.69		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	107.41	91.59
Facility Travel Speed, mph	33.52	39.31
Facility Base Free Flow Speed, mph	46.28	46.28
Facility Percent of Base FFS	72.43	84.94
Facility Level of Service	B	B
Facility Auto Traveler Perception Score	2.47	2.43

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.68	D	3.64	D
Transit Facility LOS Score / LOS	6.78	F	6.69	F

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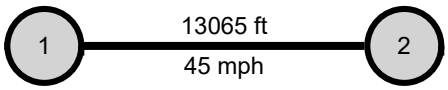
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13065	13065	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			6.42	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.21			46.21		
1	Running Time, s	195.45			200.76		
1	Running Speed, mph	45.58			44.37		
1	Through Delay, s/veh	22.26			68.60		
1	Travel Time, s	217.72			269.36		
1	Travel Speed, mph	40.92			33.07		
1	Stop Rate, stops/veh	0.52			1.05		
1	Spatial Stop Rate, stops/mi	0.21			0.42		
1	Through vol/cap Ratio	0.40			1.07		
1	Percent of Base FFS	88.54			71.56		
1	Level of Service	A			F		
1	Auto Traveler Perception Score	2.38			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.81		E	4.58		E
1	Transit Segment LOS Score / LOS	6.69		F	6.85		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	217.72	269.36
Facility Travel Speed, mph	40.92	33.07
Facility Base Free Flow Speed, mph	46.21	46.21
Facility Percent of Base FFS	88.54	71.56
Facility Level of Service	A	B
Facility Auto Traveler Perception Score	2.38	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.81	E	4.58	E
Transit Facility LOS Score / LOS	6.69	F	6.85	F

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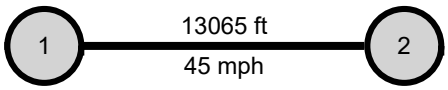
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	4/17/2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	12. Rogers Rd, Zacharias & SR	Analysis Year	2019	System Cycle Length, s	120
Intersections	Zacharias Rd/Rogers Rd	SR 33/Rogers Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	1	13065	13065	60	50	0	0	0	0	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.21			46.21		
1	Running Time, s	198.85			197.99		
1	Running Speed, mph	44.80			44.99		
1	Through Delay, s/veh	9.88			14.94		
1	Travel Time, s	208.74			212.93		
1	Travel Speed, mph	42.68			41.83		
1	Stop Rate, stops/veh	0.44			0.68		
1	Spatial Stop Rate, stops/mi	0.18			0.28		
1	Through vol/cap Ratio	0.60			0.69		
1	Percent of Base FFS	92.35			90.53		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.37			2.39		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.86		E	4.58		E
1	Transit Segment LOS Score / LOS	6.80		F	6.77		F

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	208.74	212.93
Facility Travel Speed, mph	42.68	41.83
Facility Base Free Flow Speed, mph	46.21	46.21
Facility Percent of Base FFS	92.35	90.53
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.37	2.39

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.86	E	4.58	E
Transit Facility LOS Score / LOS	6.80	F	6.77	F

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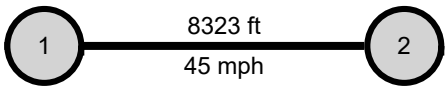
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	122.91			125.08		
1	Running Speed, mph	46.17			45.37		
1	Through Delay, s/veh	13.95			14.84		
1	Travel Time, s	136.85			139.92		
1	Travel Speed, mph	41.47			40.56		
1	Stop Rate, stops/veh	0.52			0.62		
1	Spatial Stop Rate, stops/mi	0.33			0.40		
1	Through vol/cap Ratio	0.21			0.73		
1	Percent of Base FFS	89.08			87.13		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.40			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.06		D	4.23		D
1	Transit Segment LOS Score / LOS	6.52		F	6.66		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	136.85	139.92
Facility Travel Speed, mph	41.47	40.56
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	89.08	87.13
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.40	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.06	D	4.23	D
Transit Facility LOS Score / LOS	6.52	F	6.66	F

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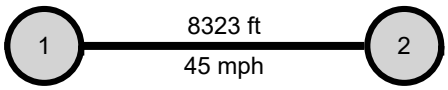
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	13. SR 33, Zacharias & Baldwin_	Analysis Year	2019	System Cycle Length, s	120
Intersections	SR 33/Zacharias Rd	SR 33/Baldwin Rd		Analysis Period	1> 7:00
Project Description	Cumulative + Project (With Zach IC) Conditions				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8323	8323	65	75	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2			6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.55			46.55		
1	Running Time, s	122.27			125.55		
1	Running Speed, mph	46.41			45.20		
1	Through Delay, s/veh	12.93			17.14		
1	Travel Time, s	135.20			142.70		
1	Travel Speed, mph	41.97			39.77		
1	Stop Rate, stops/veh	0.51			0.63		
1	Spatial Stop Rate, stops/mi	0.33			0.40		
1	Through vol/cap Ratio	0.05			0.85		
1	Percent of Base FFS	90.17			85.43		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.40			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	3.48		C	4.24		D
1	Transit Segment LOS Score / LOS	6.41		F	6.68		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	135.20	142.70
Facility Travel Speed, mph	41.97	39.77
Facility Base Free Flow Speed, mph	46.55	46.55
Facility Percent of Base FFS	90.17	85.43
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.40	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	3.48	C	4.24	D
Transit Facility LOS Score / LOS	6.41	F	6.68	F

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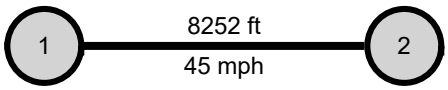
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_A	Analysis Year	2040	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative Plus Project (With Zach IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	130.44			129.51		
1	Running Speed, mph	43.13			43.45		
1	Through Delay, s/veh	3.39			2.63		
1	Travel Time, s	133.84			132.14		
1	Travel Speed, mph	42.04			42.58		
1	Stop Rate, stops/veh	0.13			0.14		
1	Spatial Stop Rate, stops/mi	0.08			0.09		
1	Through vol/cap Ratio	0.87			0.81		
1	Percent of Base FFS	90.70			91.87		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.62		E	4.63		E
1	Transit Segment LOS Score / LOS	6.97		F	6.94		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	133.84	132.14
Facility Travel Speed, mph	42.04	42.58
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	90.70	91.87
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.62	E	4.63	E
Transit Facility LOS Score / LOS	6.97	F	6.94	F

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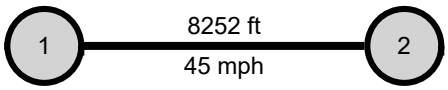
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	14. SR 33, Grayson & Rogers_F	Analysis Year	2040	System Cycle Length, s	120
Intersections	SR 33/Rogers Rd	SR 33/Grayson Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative Plus Project (No Zach IC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	8252	8252	48	38	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.35			46.35		
1	Running Time, s	128.27			130.77		
1	Running Speed, mph	43.86			43.02		
1	Through Delay, s/veh	1.51			2.77		
1	Travel Time, s	129.77			133.54		
1	Travel Speed, mph	43.35			42.13		
1	Stop Rate, stops/veh	0.12			0.14		
1	Spatial Stop Rate, stops/mi	0.07			0.09		
1	Through vol/cap Ratio	0.70			0.85		
1	Percent of Base FFS	93.54			90.90		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.36			2.36		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.56		E	4.67		E
1	Transit Segment LOS Score / LOS	6.90		F	6.98		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	129.77	133.54
Facility Travel Speed, mph	43.35	42.13
Facility Base Free Flow Speed, mph	46.35	46.35
Facility Percent of Base FFS	93.54	90.90
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.36	2.36

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.56	E	4.67	E
Transit Facility LOS Score / LOS	6.90	F	6.98	F

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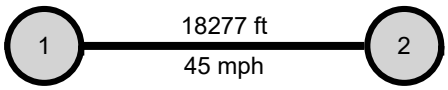
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	AM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2040	System Cycle Length, s	120
Intersections	SR 33/Crows Landing Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative Plus Project (With ZachIC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	280.93			275.41		
1	Running Speed, mph	44.36			45.25		
1	Through Delay, s/veh	1.09			0.49		
1	Travel Time, s	282.02			275.90		
1	Travel Speed, mph	44.19			45.17		
1	Stop Rate, stops/veh	0.11			0.12		
1	Spatial Stop Rate, stops/mi	0.03			0.04		
1	Through vol/cap Ratio	0.64			0.40		
1	Percent of Base FFS	95.16			97.27		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.35			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.50		E	4.49		E
1	Transit Segment LOS Score / LOS	6.86		F	6.75		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	282.02	275.90
Facility Travel Speed, mph	44.19	45.17
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	95.16	97.27
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.35	2.35

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.50	E	4.49	E
Transit Facility LOS Score / LOS	6.86	F	6.75	F

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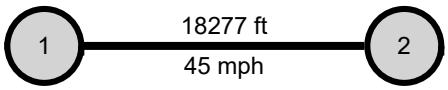
HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	AMG			Number of Intersections	2
Analyst		Analysis Date	Apr 19, 2019	Number of Segments	1
Jurisdiction	City of Patterson	Time Period	PM Peak	Number of Iterations	15
File Name	15. SR 33, Marshall & Crows La	Analysis Year	2040	System Cycle Length, s	120
Intersections	SR 33/Crows Landing Rd	SR 33/Marshall Rd		Analysis Period	1> 7:00
Project Description	2040 Cumulative Plus Project (With ZachIC)				



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
1	45	45	1	1	18277	18277	51	55	0	0	0	0	0.0	0.0

		Northbound			Southbound		
Segment Output Data		NBL	NBT	NBR	SBL	SBT	SBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.43			46.43		
1	Running Time, s	274.47			282.24		
1	Running Speed, mph	45.40			44.15		
1	Through Delay, s/veh	0.38			1.75		
1	Travel Time, s	274.84			283.99		
1	Travel Speed, mph	45.34			43.88		
1	Stop Rate, stops/veh	0.11			0.14		
1	Spatial Stop Rate, stops/mi	0.03			0.04		
1	Through vol/cap Ratio	0.33			0.71		
1	Percent of Base FFS	97.65			94.50		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.35			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS			F			F
1	Bicycle Segment LOS Score / LOS	4.41		E	4.57		E
1	Transit Segment LOS Score / LOS	6.73		F	6.88		F

Facility Output Data	Northbound	Southbound
Facility Travel Time, s	274.84	283.99
Facility Travel Speed, mph	45.34	43.88
Facility Base Free Flow Speed, mph	46.43	46.43
Facility Percent of Base FFS	97.65	94.50
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.35	2.35

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS				
Bicycle Facility LOS Score / LOS	4.41	E	4.57	E
Transit Facility LOS Score / LOS	6.73	F	6.88	F

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040PP-ZacIC
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	4766	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1268	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2687	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	2687	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	41.5	mi/h
Number of lanes, N	2	
Density, D	64.7	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040PP-ZacIC
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	4254	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1131	v
Trucks and buses	17	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.922	
Driver population factor, fp	1.00	
Flow rate, vp	2455	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	67.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	67.0	mi/h

LOS and Performance Measures

Flow rate, vp	2455	pc/h/ln
Free-flow speed, FFS	67.0	mi/h
Average passenger-car speed, S	49.2	mi/h
Number of lanes, N	2	
Density, D	49.9	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040PP-ZacIC
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	4562	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1213	v
Trucks and buses	22	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.901	
Driver population factor, fp	1.00	
Flow rate, vp	2694	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	61.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	61.0	mi/h

LOS and Performance Measures

Flow rate, vp	2694	pc/h/ln
Free-flow speed, FFS	61.0	mi/h
Average passenger-car speed, S	38.3	mi/h
Number of lanes, N	2	
Density, D	70.4	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	North of Sperry Ave
Jurisdiction:	City of Patterson
Analysis Year:	2040PP-ZacIC
Description:	Patterson NW Annex Segment Analysis

Flow Inputs and Adjustments

Volume, V	4535	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1206	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2557	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	55.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	55.0	mi/h

LOS and Performance Measures

Flow rate, vp	2557	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	40.9	mi/h
Number of lanes, N	2	
Density, D	62.6	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040PP-ZacIC
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	5220	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1388	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	3068	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	3068	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	25.5	mi/h
Number of lanes, N	2	
Density, D	120.1	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Northbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040PP-ZacIC
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	4454	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1185	v
Trucks and buses	16	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.926	
Driver population factor, fp	1.00	
Flow rate, vp	2559	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	58.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	58.0	mi/h

LOS and Performance Measures

Flow rate, vp	2559	pc/h/ln
Free-flow speed, FFS	58.0	mi/h
Average passenger-car speed, S	43.3	mi/h
Number of lanes, N	2	
Density, D	59.1	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040PP-ZacIC
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	4461	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1186	v
Trucks and buses	21	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.905	
Driver population factor, fp	1.00	
Flow rate, vp	2622	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	64.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	64.0	mi/h

LOS and Performance Measures

Flow rate, vp	2622	pc/h/ln
Free-flow speed, FFS	64.0	mi/h
Average passenger-car speed, S	43.8	mi/h
Number of lanes, N	2	
Density, D	59.8	pc/mi/ln
Level of service, LOS	F	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	AMG
Agency or Company:	
Date Performed:	8/23/2019
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-5 Southbound
From/To:	Between Sperry Ave and Fink Rd
Jurisdiction:	City of Patterson
Analysis Year:	2040PP-ZacIC
Description:	Patterson NW Annex

Flow Inputs and Adjustments

Volume, V	5159	veh/h
Peak-hour factor, PHF	0.94	
Peak 15-min volume, v15	1372	v
Trucks and buses	19	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.913	
Driver population factor, fp	1.00	
Flow rate, vp	3005	pc/h/ln

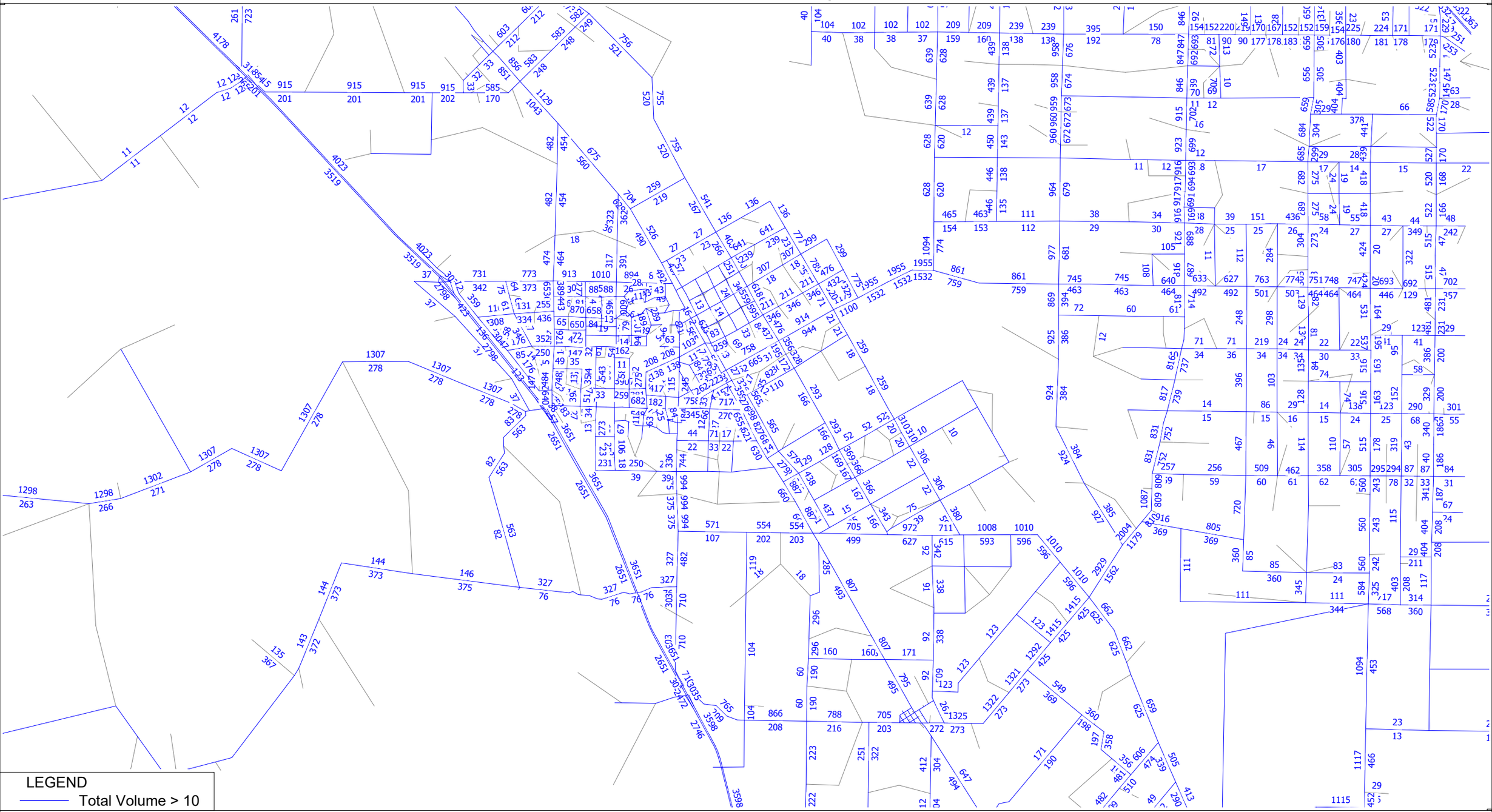
Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	61.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	61.0	mi/h

LOS and Performance Measures

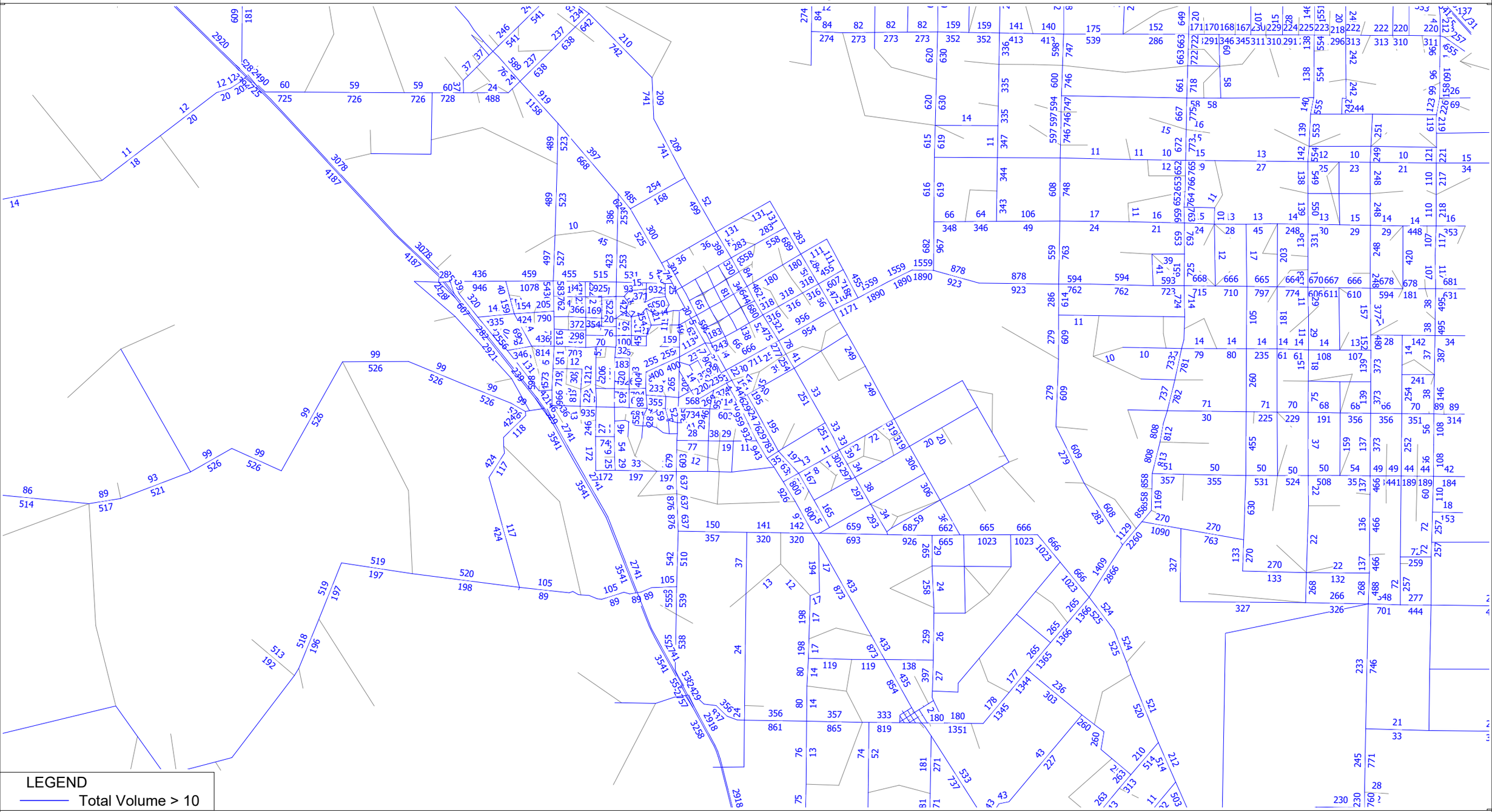
Flow rate, vp	3005	pc/h/ln
Free-flow speed, FFS	61.0	mi/h
Average passenger-car speed, S	24.2	mi/h
Number of lanes, N	2	
Density, D	124.4	pc/mi/ln
Level of service, LOS	F	

2035PP-ZaclC
AM PH Vehicle Trips



cube
(Licensed to Elite Transportation Group)

2035PP-ZaclC
PM PH Vehicle Trips



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Appendix I:
Water Supply Analysis

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ZACHARIAS WATER SUPPLY ASSESSMENT

Final Report

10509 Vista Sorrento Parkway | Suite 205
San Diego, California 92121
858.875.7400

woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

0011325.01
Churchwell White, LLP
March 2020

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1. INTRODUCTION

Senate Bill (SB) 221, along with Senate Bill 610, amended state law to improve the link between information on water supply availability and certain land use decisions made by cities and counties (DWR, 2003). Specifically, both statutes require detailed information regarding water availability be provided to the city and county decision-makers prior to approving large development projects to ensure that, once built, a sufficient long-term supply of water would be available for these developments. This Water Supply Assessment (WSA) is intended to fulfill the legislative requirements of SB 221 and SB610 for the Zacharias Development (Project) in the City of Patterson, California.

The purpose of this WSA is to evaluate whether the City of Patterson (City) is capable of meeting demands associated with the proposed project to be developed across approximately 1,296 acres, including residential, mixed use, commercial, industrial, school, parks, and open space in the Zacharias Ranch and Baldwin Ranch Master Planning Areas.

1.1 Senate Bill 610/Senate Bill 221

Passed into law in 2001, Senate Bill No. 221 (and its companion bill SB 610) was intended to address the sufficiency of water supply sources for future developments. Both bills require preparation of a Water Supply Assessment (WSA) for approval of a project subject to CEQA and meeting the description of a "project" as defined in the California Water Code §10912. A project is defined in the California Water Code (CWC) as any proposed development of more than 500 dwelling units or industrial uses of more than 650,000 square feet. Additionally, for a water utility with fewer than 5,000 connections, any development requiring an increase in the number of connections by more than 10 percent must also comply with this portion of the CWC.

The primary difference between SB 610 and SB 221 is that the Verification of Water Supply for SB 221 must also consider: (1) a historical record of at least 20 years, (2) an urban water shortage contingency analysis, (3) supply reduction for "specific water use sector" per Water Supplier's resolution, ordinance, or contract and (4) the amount of water that can be reasonably relied upon from specified supply projects. It is intended as a 'fail safe' mechanism to ensure that collaboration on finding needed water supplies occurs before construction on a new large subdivision begins. However, both SB 610 and SB 221 include the following requirements:

- Documentation of wholesale water suppliers.
- Documentation of supply sources, including quantities received and expected.
- If groundwater is a source, this must also include a description of the groundwater basin from which the proposed project will be supplied, including information regarding overdraft conditions.
- Discussion of existing and expected water demands.
- Discussion of whether the water provider's total projected water supplies available during normal, single dry, and multiple dry years will satisfy demands during a 20-year projection.
- A project-specific assessment of the demands associated with the proposed project and a discussion of the water provider's ability to meet those demands during a 20-year projection.

1.2 Project Description

The Zacharias Development project site is located just outside the Patterson city limits in unincorporated Stanislaus County, California. The main portion of the project site, the Zacharias Master Plan Area, encompasses approximately 1,227 acres and is bounded by Rogers Road on the west, Zacharias Road on the north, the California Northern Railroad tracks and Ward Avenue on the east, and existing residential and business park uses on the south as shown in Figure

1. A non-contiguous 69-acre portion of the project site, the Baldwin Master Planning Area, is located at the southern terminus of Baldwin Road and is bounded by the Delta-Mendota Canal on the west, the City of Patterson Corporation Yard on the north, and agricultural uses to the east and south (also shown in Figure 1). The development plan includes the proposal that the City would provide potable water service to the Project. Additionally, property owners would be required to use non-potable groundwater for irrigation purposes. For the purposes of this WSA, the Project, or Project area, will refer to the combined development planned for the Zacharias and Baldwin areas.

The Project consists of the annexation of the project site into the City of Patterson and the development of residential, mixed use, commercial, industrial, school, parks, and open space uses guided by the Master Plan. The buildout potential of the Master Plan is 5,481 dwelling units and 7,765,000 square feet of non-residential uses. The Master Plan process is being led by five property ownership groups: Zacharias Ranch, TFP Development, Lakeside Hills, Keystone Ranch, and Baldwin Ranch. Land use plans for the Zacharias Master Plan and Baldwin Master Plan Areas are shown in Figure 2 and Figure 3, respectively. Additional Project plans and details are included in **Appendix A**.

The area east of Baldwin Road includes two "lakes" that would provide drainage, recharge, and recreational opportunities for the Project. The Project would also construct an offsite flood control basin on the north side of Zacharias Road between Rogers Road and Baldwin Road. The basin would provide flood protection for the proposed project by capturing 100-year flood flows from Del Puerto Creek upstream of the project area and providing 200 AF of storage. The basin would be 'dual use' and contain recreational facilities such as soccer fields. Flows captured in the basin would percolate into the soil, be released downstream in a metered fashion to the lakes constructed as part of the Project, or be pumped up to an offsite groundwater recharge basin to be constructed as part of the Project at an old quarry adjacent to Del Puerto Creek near the Delta-Mendota Canal.

Figure 1: Zacharias and Baldwin Ranch Master Planning Areas - Location

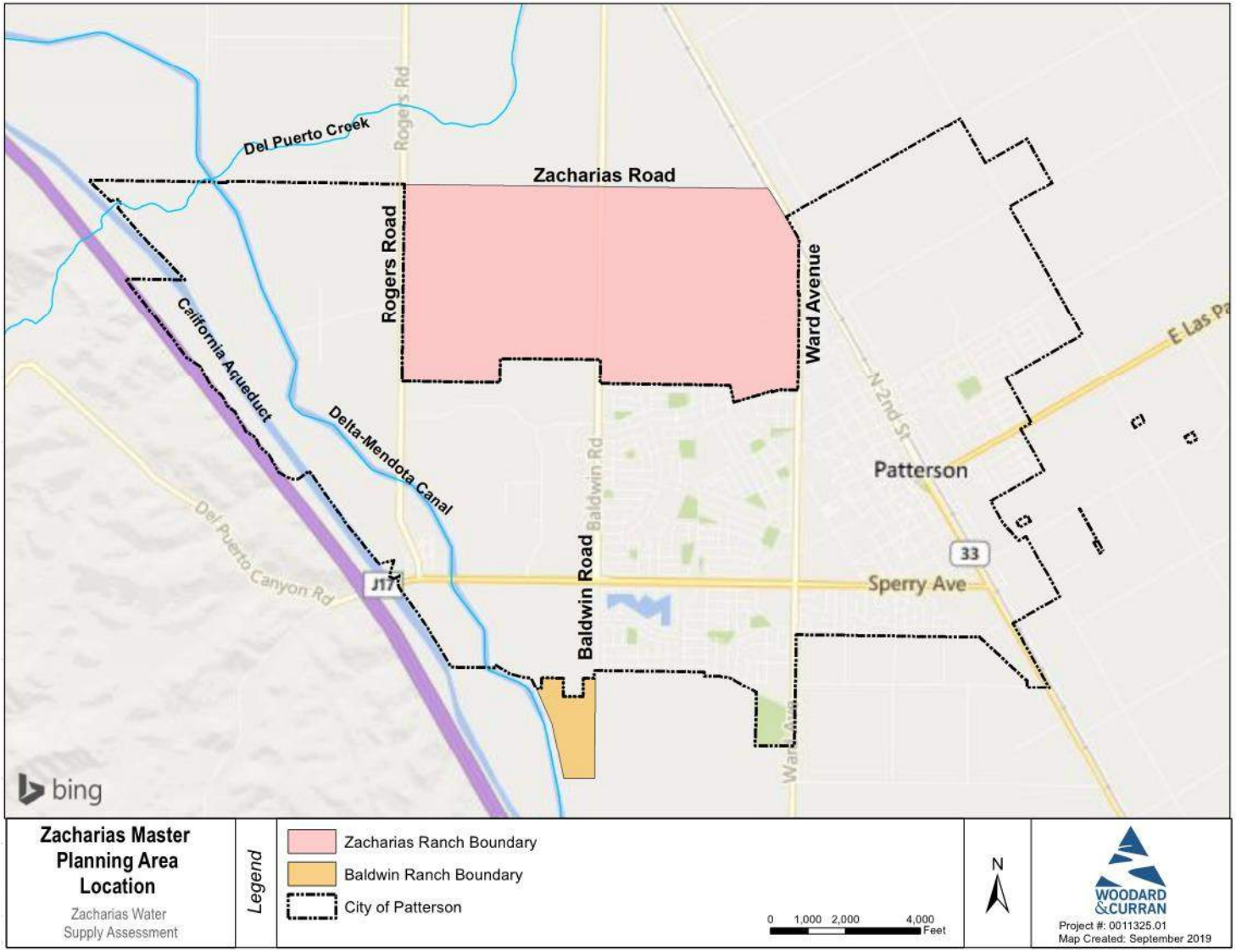
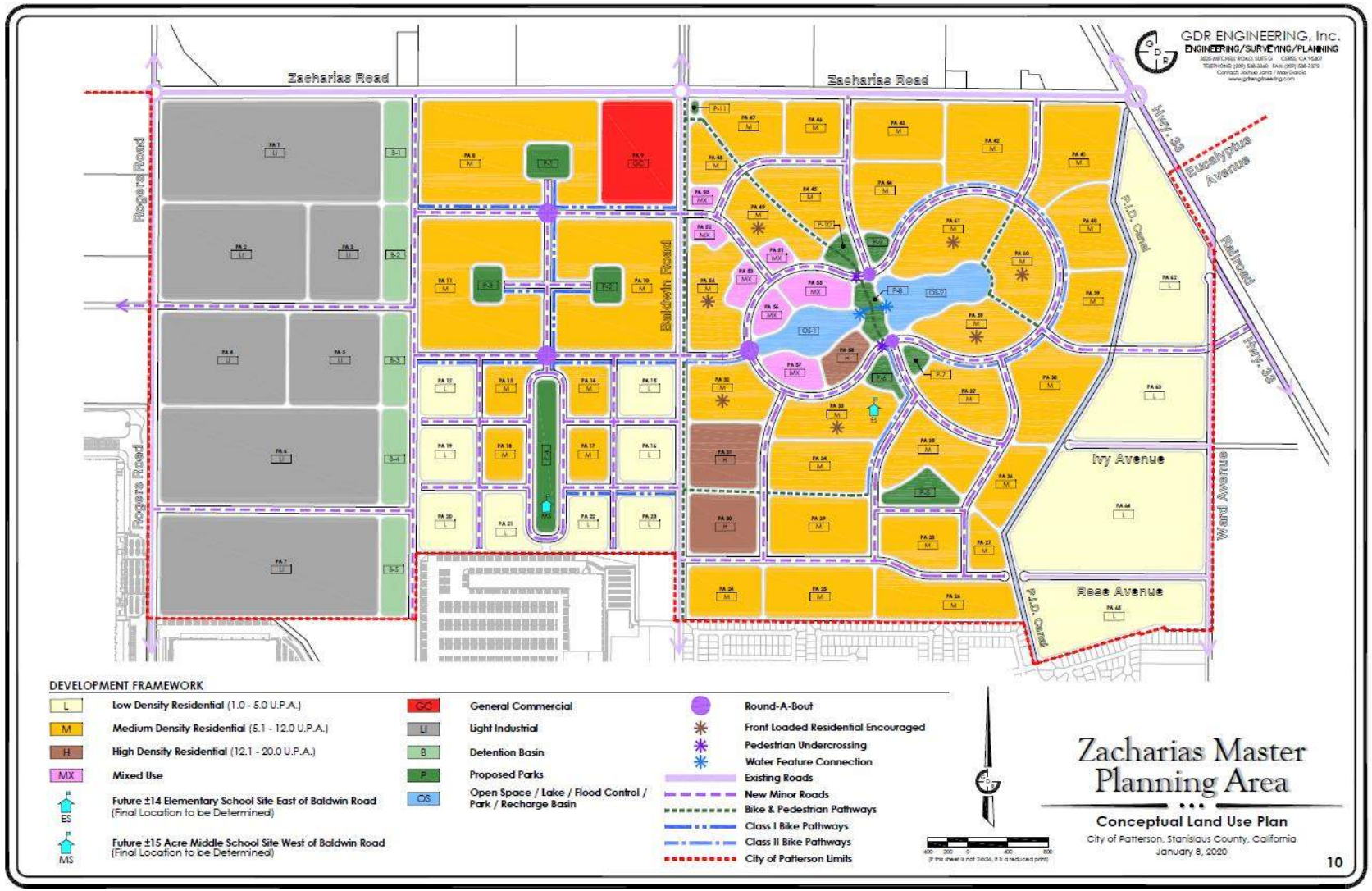
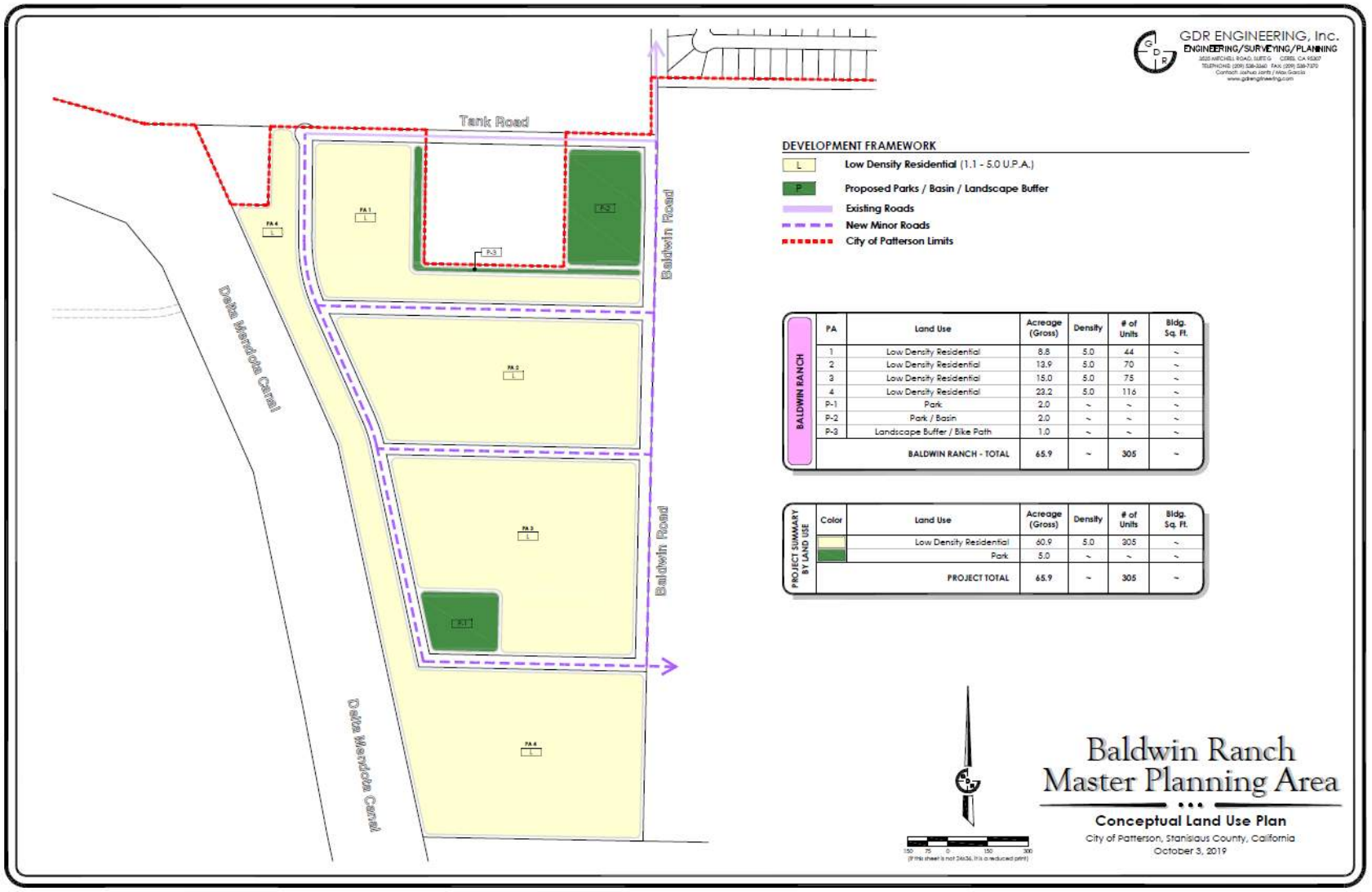


Figure 2: Zacharias Master Planning Area - Planned Development



Source: GDR Engineering, 2020

Figure 3: Baldwin Master Planning Area – Planned Development



Source: GDR Engineering, 2019

2. WATER DEMAND

This section discusses the water demands for the City and the proposed Project area, including the assumptions and methodology used to estimate the existing and projected water demand. Existing and projected demand information for the City is based on information presented in the 2015 UWMP (RMC 2016) and 2018 WMP (Woodard & Curran 2018). The preparation of these two documents was conducted in parallel with the demand projection methodology remaining consistent between the two. For the preparation of this WSA, references to previous demand projections are to the 2018 WMP as that document was more recently finalized and includes additional documentation related to the development of the demands.

2.1 Existing Water Demands

2.1.1 Zacharias and Baldwin Master Plan Area Existing Demands

Existing water demands in the Project area are almost entirely non-potable, agricultural demands which are supplied by shallow (above-Corcoran) groundwater wells. Existing demands are not metered so they were estimated based on the approximate number of dwelling units and available crop and evapotranspiration information for the area. A summary of existing demands in the Project area are summarized in Table 1 (potable demands) and Table 2 (non-potable demands).

Table 1: Existing Potable Water Demand

Land Use	Total Acreage (acres)	Number of Units (EDU)[1]	Water Demand Factors (Residential gpcd)[2]	2018 Demand (AFY)[3]
Very Low Density Residential	n/a	34	102.9	14

Notes:
1) Estimated based on aerial image of Zacharias project area.
2) Average residential gallons per capita per day based on 2018 demand provided by City of Patterson.
3) Assumes average household size of 3.46 per current City population and household count.
Demand = 34 [EDU] * 3.46 [person/EDU] * 102.9 [gal/day/person] *10^-6 [MG/gal] * 1120 [AFY/MGD]

Table 2: Existing Non-Potable Water Demand

Land Use / Crop Type[1]	ET_o (in/yr)[2]	Irrigated Area (acre)	Irrigation Efficiency[2]	Total Demand (AFY)[3]
Alfalfa and Alfalfa Mixtures	47.3	268.5	65%	1,630
Almonds	37.6	363.1	75%	1,516
Beans	26.7	64.7	65%	222
Cherries	41.1	38.6	75%	176
Idle	n/a	19.4	0%	0
Miscellaneous Truck Crops	26.7	75.6	65%	259
Plums, Prunes, Apricots	41.1	61.9	75%	283
Tomatoes	26.1	384.2	65%	1,285
			Landscape Water Demand Total	**5,370**

Notes:
1) DWR Land Use data (2014) downloaded from https://gis.water.ca.gov/arcgis/rest/services/Planning/CropMapping2014/MapServer.
2) ITRC Data downloaded from http://www.itrc.org/etdata/index.html, for a typical year (1997) in Zone 14.
3) Demand [AFY] = ET_c [in./yr.] * (1/12) [ft./in.] * Irrigated Area [acre] / Irrigation Efficiency [-]

2.1.2 City of Patterson Existing Demands

The 2018 WMP and the 2018 Annual Report were provided for analysis of the existing water system demands within City limits. Based on the 2018 Annual Report, the City currently has approximately 6,600 active water meter accounts. Of the potable water meters, roughly 6,170 are associated with residential users (single family and multi-family meters, including both indoor and outdoor demands), 275 are associated with non-residential indoor water use, and 155 are associated with non-residential irrigation. Based on the City's latest billing records for a full calendar year (2018), the City has a potable water demand of 3,102 AFY. This demand is about 16 percent lower than the existing demand reported in the WMP, which was based on 2013 billing records. The 2018 demand is slightly higher (5 percent) than the demand from 2015 presented in the 2015 UWMP. The City's existing non-potable demand is approximately 216 AFY, as recorded in the 2015 UWMP.

Aside from the effects of the drought, the reason water use has decreased since the WMP was developed—the increase from 2015 to 2018 due to 2015 occurring in the middle of the drought which suppressed demands—is that the City has implemented an effective water conservation program. The City meters all of its services and has an increasing tiered rate schedule to encourage efficient water use. The City has ordinances in place to discourage water waste, including odd-even watering and penalties for irrigation "run-off." In 2008, the City started a program to replace its oldest water pipes with the highest frequency of leaks and repairs in order to reduce water loss. In general, the City has decreased its per capita water usage year after year as part of ongoing conservation efforts to both comply with SB X7-7 requirements and to more sustainably manage its groundwater supply. Demands in 2013, during a dry water year, are higher than demands recorded in 2018, a below average water year, which could indicate that users are becoming accustomed to water-saving habits implemented during the extended drought period recorded from 2014-2017. Based on the most recent demand data for the City, it is reasonable to assume that the projections developed as part of the WMP and UWMP may be conservative. However, given that it has not yet been a full two years since the end of the drought, it cannot yet be determined what the long-term impacts of the conservation actions implemented during the drought will be on City demands. Therefore, the demand factors and projected City demands from the WMP will be used for the purposes of this WSA, recognizing that they may overpredict actual future demand but will provide a conservative analysis for determination of available water supplies.

2.2 Future Water Demands

2.2.1 Zacharias and Baldwin Master Plan Area Future Water Demands

The buildout potential of the development is 5,391 dwelling units and 7,765,000 square feet of non-residential uses (GDR Engineering 2019). This development will replace existing land uses (agricultural and low-density residential) and generate a new water demand from indoor and outdoor uses. Projected potable water demand at buildout was developed based on the demand factors developed for the WMP and the planned land use. In the WMP, existing water demand (water consumption billing data) and land use data (City's GIS) was used to develop water demand factors. Based on the total water usage by parcel and the total acreage by land use, the demand factors were determined for each of the six existing land use categories. These demand factors were then adjusted based on new development standards (such as units per acre). Demand projections developed for the WMP were used in the 2015 UWMP and incorporated conservation in order to meet the required SB X7-7 target of 164 gallons per capita per day (gpcd).

Non-potable demand projections were developed based on assumed irrigated acreage for the development areas and the required water based on evapotranspiration data. Non-potable demands for the proposed lakes within the Project area were calculated based on the approximate loss to evaporation (provide by GDR). It is assumed that any losses to recharge would be immediately recaptured by the shallow wells refilling the lakes. The projected demands calculated for the development are an update to those included in the 2018 WMP which relied on less specific land use information from the 2040 General Plan.

For comparison, the demand projection for the Project area was calculated based on the estimated residential population for Project and the per capita demand factor included in the 2018 WMP (158 gpcd) and calculated from the

2018 billing data (103 gpcd). The land use-based projection fell between the two population-based projections. The land use-based demands were not as high as the maximum population-based projection as the Project area includes a lower percentage of non-residential development (about 25 percent) compared to the City as a whole (about 50 percent). The estimated future per capita demand factor included in the WMP was developed based on the complete buildout of the City's General Plan so it is expected that future developments will include a higher percentage of non-residential development to balance out this primarily residential project.

The total projected water demand for the Project area is estimated to be 2,159 AFY at buildout for an average water year, which compares to an existing water demand of 5,384 AFY and the previously projected demand of 2,457 AFY from the WMP. The demands projected for the Project area in the 2018 WMP are presented in Table 3. Table 4 summarizes the proposed development by land use, and the projected demands are presented in Table 5 (potable demands) and Table 6 (non-potable demands). A comparison of the demand projection for the Project from the WMP and for this WSA are presented in Table 7. As shown in Table 7, the updated projections indicate a net demand reduction, with reduced potable demand and an increased non-potable demand for the area. Project demands broken out by planning areas within the Project area are included in **Appendix B**.

Table 3: 2018 WMP Potable Water Demand Projection for the Zacharias and Baldwin Area

Land Use	Acreage	Dwelling Units	Water Demand Factors (AFY/acre)[2]	Projected Potable Demand (AFY)
Low Density Residential	1,293	n/a[1]	1.9	2,457
Total	**1,293**	**-**	-	**2,457**

Notes:
1) An exact unit count was not available for the Project area during the development of the WMP.
2) Water demand factors were developed for the WMP demand projection based on billing data and land use.

Table 4: Zacharias and Baldwin Master Plan Area Development by Land Use Category

Land Use Categories	Acreage (Gross)	Dwelling Units	Square Footage
Low Density Residential	263	1,114	--
Medium Density Residential	524	3,454	--
High Density Residential	31	538	--
Mixed Use	28	285	505,000
Commercial	22	--	350,000
Light Industrial	318	--	6,910,000
Park / Bike & Pedestrian Pathways	65	--	--
Open Space (Lakes)	13	--	--
Public / Institutional[1]	29	--	--
Total	**1,293**	**5,391**	**7,765,000**

Source: Zacharias Master Planning Area (GDR Engineering, 2020), Baldwin Master Planning Area (GDR Engineering, 2019)

Note:
1) The acreage for the Public / Institutional was not broken out in the plans provided by GDR included in Appendix A. Per GDR direction, 14 acres were extracted from the Low Density Residential category and 15 acres were extracted from the Medium Density Residential category.

Table 5: Zacharias and Baldwin Master Plan Area Potable Water Demand Projection by Land Use

Land Use	Acreage	Dwelling Units	Water Demand Factors (AFY/acre)[2]	Projected Potable Demand (AFY)
Low Density Residential	263	1,114	1.9	500
Medium Density Residential	524	3,454	1.1	577
High Density Residential	31	538	2.5	77
Mixed Use	28	285	2.2	62
Community Commercial	22	-	0.8	18
Light Industrial	318	-	0.4	127
Park / Bike & Pedestrian Pathways	65	-	2.6	168
Open Space (Lakes)	13	-	0[1]	0
Public / Institutional	29	1,400 students	1.1	32
Total	**1,293**	**5,391**	-	**1,560**

Notes:
1) Water demand factors were developed for the WMP demand projection based on billing data and land use.
2) The demand factor for Open Space was set to zero for this projection as the lakes included in the Project plans do not have a potable demand associated with them.

Table 6: Zacharias and Baldwin Master Plan Area Non-Potable Water Demand Projection by Land Use

Land Use Categories	Acreage (Gross)	Irrigated Acreage Factor[1]	Irrigated Acreage	ET_c (in)[2]	Projected Non-Potable Demand (AFY)[3]
Low Density Residential	393		0	56.2	0
Medium Density Residential	393		0	56.2	0
High Density Residential	31		0	56.2	0
Mixed Use	28	0.1	2.8	56.2	13
Community Commercial	22	0.1	2.2	56.2	10
Light Industrial	318	0.1	31.8	56.2	149
Park / Bike & Pedestrian Pathways	63	0.8	51.8	56.2	243
Open Space (Lakes)	9				116[4]
Public / Institutional	38	0.5	14.5	56.2	68
Total	**1,293**		**103**		**599**

Notes:
1) Based on assumptions for the development area. Irrigation demand for residential land use is not separated from potable demands as residential units are unlikely to be dual-plumbed.
2) ITRC Data downloaded from http://www.itrc.org/etdata/index.html, for a typical year (1997) in Zone 14. Assumed ET_c for grass.
3) Assumed Irrigation Efficiency equals 1 and that it was a normal water year (average rainfall): Demand [AFY] = ET_c [in./yr.] * (1/12) [ft./in.] * Irrigated Area [acre]
4) The non-potable demand for the lakes was calculated based on the approximate loss by evaporation. This value was provided by GDR.

Table 7: Water Demand Projection Comparison for the Zacharias Project

	Projected Demand for WSA	2018 WMP Projected Zacharias/Baldwin Demand[1]	Net Water Demand (Change from WMP)
Potable (AFY)	1,560	2,021	-461
Non-Potable (Irrigation) (AFY)	599	436	163
Total (AFY)	**2,159**	**2,457**	**-298**

Notes:

1) The 2018 WMP projected demands based on General Plan land use and a land use demand factor. The assumption from the WMP is that around 82% of demands will be met with a potable supply and 18% would be met with non-potable supply. That split between potable and non-potable was applied to the projection for the Zacharias and Baldwin Plan areas.

2.2.1.1 Zacharias Area Development Phasing

Plans for the phasing of the Project are not currently available however a two-phase approach is under consideration. For the purposes of this WSA, it has been assumed that the Project will be developed in two evenly split phases spanning five years each, beginning in 2020. A breakdown of the development phasing and projected demands with this assumption is presented in Table 8 through Table 10.

Table 8: Development Phasing by Land Use Category for the Zacharias Project

Land Use Categories	2020-2025	2025-2030	2030-2035	2035-2040	Total
Low Density Residential	131.7 acres	131.7 acres	0.0 acres	0.0 acres	263.3 acres
	557 DUs	557 DUs	0 DUs	0 DUs	1114 DUs
Medium Density Residential	262.1 acres	262.1 acres	0.0 acres	0.0 acres	524.1 acres
	1,727 DUs	1,727 DUs	0 DUs	0 DUs	3,454 DUs
High Density Residential	15.3 acres	15.3 acres	0.0 acres	0.0 acres	30.6 acres
	269 DUs	269 DUs	0 DUs	0 DUs	538 DUs
Mixed Use	14.1 acres	14.1 acres	0.0 acres	0.0 acres	28.2 acres
	143 DUs	143 DUs	0 DUs	0 DUs	285 DUs
Community Commercial	11.1 acres	11.1 acres	0.0 acres	0.0 acres	22.2 acres
Light Industrial	158.8 acres	158.8 acres	0.0 acres	0.0 acres	317.5 acres
Park/ Bike & Pedestrian Pathways	32.4 acres	32.4 acres	0.0 acres	0.0 acres	64.7 acres
Open Space (Lakes)	6.7 acres	6.7 acres	0.0 acres	0.0 acres	13.4 acres
Public/ Institutional	14.5 acres	14.5 acres	0.0 acres	0.0 acres	29.0 acres
Total	**646.5 acres**	**646.5 acres**	**0.0 acres**	**0.0 acres**	**1293.0 acres**
	2,696 DUs	**2,696 DUs**	**0 DUs**	**0 DUs**	**5,391 DUs**

Table 9: Phased Potable Demand Projections for the Zacharias Project

Land Use Categories	2020	2025	2030	2035	2040
Low Density Residential	0	250	500	500	500
Medium Density Residential	0	288	577	577	577
High Density Residential	0	38	77	77	77
Mixed Use	0	31	62	62	62
Community Commercial	0	9	18	18	18
Light Industrial	0	64	127	127	127
Park/ Bike & Pedestrian Pathways	0	84	168	168	168
Open Space (Lakes)	0	0	0	0	0
Public/ Institutional	0	16	32	32	32
Total (AFY)	**0**	**780**	**1,560**	**1,560**	**1,560**

Table 10: Phased Non-Potable Demand Projections for the Zacharias Project

Land Use Categories	2020	2025	2030	2035	2040
Low Density Residential	0	0	0	0	0
Medium Density Residential	0	0	0	0	0
High Density Residential	0	0	0	0	0
Mixed Use	0	7	13	13	13
Community Commercial	0	5	10	10	10
Light Industrial	0	74	149	149	149
Park/ Bike & Pedestrian Pathways	0	121	242	242	242
Open Space (Lakes)	0	58	116	116	116
Public/ Institutional	0	34	68	68	68
Total (AFY)	**0**	**299**	**599**	**599**	**599**

2.2.2 City of Patterson Future Demands

Using a land use-based demand projection discussed in the City's 2018 WMP, the City's total projected water demand in 2040, as presented in the 2015 UWMP, is 11,801 AFY. This demand accounts for the City's planned conservation efforts at the time the WMP and UWMP were developed. Based on the selected supply portfolio, the City plans to meet about 82 percent of demands with potable supplies (about 9,642 AFY) and about 18 percent of demands with non-potable supplies (about 2,159 AFY). Table 11 summarizes the City's projected demand from the WMP. A discussion of the impact of the Project on this projection is included in Section 4.1.

Table 11: Citywide Projected 2040 Demands

Demand Type	2018 WMP Projected 2040 City Demand (AFY)
Potable	9,642
Non-Potable (Irrigation)	2,159
Total	**11,801**

Source: 2018 City of Patterson Water Master Plan (Woodard & Curran, 2018) and 2015 City of Patterson UWMP (RMC, 2016)

3. WATER SUPPLY

As stated in Section 1.2, the Project is proposed to be supplied water by the City. The City's current water supply source is local groundwater from the Delta-Mendota Groundwater Subbasin. The following subsections describe the current water supply sources and planned expansion of these supplies. The information presented in this section has been excerpted from the City's 2018 WMP and 2015 UWMP.

3.1 Water Supplies by Source

3.1.1 Purchased or Imported Water

The City does not currently purchase or import water nor does it have any current plans to do so. The use of purchased or imported water was assessed during the recent Water Master Plan efforts but it was not pursued due to many factors, including institutional complexity.

3.1.2 Groundwater

Local groundwater from the Delta-Mendota Subbasin (a subbasin of the San Joaquin Valley Groundwater Basin) is the sole source of the City's current production supply. The City operates 10 water production wells, eight of which dedicated to potable supply and two for non-potable supply. One of the potable wells (Well 6) is currently on standby and its capacity is not being considered as part of the City's supply. The City's existing potable well field is located in the eastern portion of the City between East Las Palmas Avenue, South 2nd Street and the Patterson Irrigation District Canal. The City supplies potable groundwater for residential, industrial, and commercial uses through a combination of these wells, storage tanks, and a network of piping. The City's existing groundwater capacity is 6,620 AFY of potable supply (7,500 gpm instantaneous capacity) and 930 AFY of non-potable supply (1,600 gpm instantaneous capacity), as presented in Table 12.

Table 12: City Existing Groundwater Well Capacity

Well No.	Potable/Non-Potable	Instantaneous Capacity (gpm)
2	Potable	800
4	Non-Potable	900
5	Potable	1,400
6	Potable	600[1]
7	Potable	1,500
8	Potable	1,000
9	Potable	800
11	Potable	1,200
Keystone	Non-Potable	700
14[2]	Potable	800
Total Non-Potable	**Annual Capacity: 930 AFY[3]**	**Instantaneous Capacity: 1,600 gpm**
Total Potable	**Annual Capacity: 6,620 AFY[3]**	**Instantaneous Capacity: 7,500 gpm**

Notes:
1) Well 6 is currently on standby and its capacity is not included in the City's supply.
2) Well 14 is planned and will be online within the next year.
3) Annual yield includes well downtime for maintenance and other operational considerations. The wells do not run continuously.

3.1.2.1 Groundwater Basin

The Delta-Mendota Subbasin (Subbasin) is approximately bounded on the west by the Coast Range, on the north by the Stanislaus/San Joaquin County line, on the east by the San Joaquin River and follows the boundary of the Tranquillity Irrigation District at its southernmost reach. Groundwater studies of the local basin from 2002 through 2010, conducted by Kenneth D. Schmidt and Associates Groundwater Consultants (KSA) based in Fresno, California, concluded that there are essentially two aquifers underlying the City; a lower confined zone, and an upper unconfined zone. The two aquifers are separated by the thick, semi-impermeable Corcoran Clay layer. The Corcoran Clay formation is a regional aquitard which underlies the subbasin at depths of about 100 to 500 feet and acts as a confining bed. The upper (semi-confined) and lower (confined) aquifers of the Subbasin are generally quite thick, with groundwater wells commonly extending to depths of up to 800 feet to extract from the sub-Corcoran lower aquifer.

KSA estimated that natural inflows to the two underlying aquifers are approximately 3,500 AFY (upper) and 8,900 AFY (lower), respectively, based on hydraulic conductivity, transmissivity, and gradients. Additional recharge to the upper aquifer is expected from canal seepage, percolation of applied irrigation water, and stream flow seepage. Hence, total inflow to the local basin underlying the City is upwards of 12,500 AFY (KSA 2010). Water quality in the shallower portion of the upper aquifer (reachable within about 25 feet of the land surface) is suitable for non-potable use, though recent monitoring suggests that total dissolved solids (TDS) and nitrate concentrations are on the rise.

Water quality below the Corcoran Clay is generally suitable for potable use, however there are some instances of high TDS and Chrome 6 levels. Chrome 6 concentrations in the Subbasin have generally been compliant with State and Federal regulations. The California Department of Public Health (now the Division of Drinking Water) implemented a stricter standard in 2014 (reducing the acceptable limit from 50 micrograms per liter to 10 micrograms per liter) however the standard was rescinded. A new standard has not yet been established; however, the Chrome 6 levels would not be in compliance if the 2014 standard was re-imposed.

In 2014, the Sustainability Groundwater Management Act (SGMA) was passed requiring the formation of Groundwater Sustainability Agencies (GSAs) and preparation of Groundwater Sustainability Plans (GSPs) to sustainably manage groundwater supplies. The City formed its own GSA (City of Patterson GSA) to partner with seven other GSAs to develop the GSP for the Northern and Central Regions of the Delta-Mendota Subbasin. As the Delta-Mendota Subbasin is considered a critically overdrafted high-priority groundwater basin by the California Department of Water Resources, the Northern & Central Delta-Mendota Region GSP must be submitted by January 31, 2020. At the time this WSA was prepared, the public draft version GSP has been completed and was out for review. Based on the information provided in the GSP (additional information can be found on the GSP website[1]), it is expected that the following groundwater management measures will be implemented in the basin:

- Increased conservation and efficiency
- Increased groundwater recharge
- Increased water recycling and reuse, and
- Integrated groundwater management with other water resources (such as stormwater)
- Lower aquifer pumping limitations to minimize inelastic land subsidence.

In anticipation of the requirements of SGMA and the preparation of the GSP, the City conducted an Operational Yield Study as part of the WMP. The goal of that exercise was to determine the approximate volume of groundwater that the City could extract without impacting its infrastructure or use of groundwater resources outside of its sphere of influence.

[1] http://deltamendota.org/learn-more/northern-central-delta-mendota-gsp/

Results of that study were incorporated into the development of the future water supply portfolio (discussed in the next section). Additional details from the Operational Yield Study can be found in the 2018 WMP.

3.2 Future Water Supply Summary

As part of the City's 2018 WMP, the City evaluated supply options and selected a supply portfolio that allowed the City independent control of its water supply and easier implementation of water supply projects. The complete supply portfolio includes groundwater pumping for potable and non-potable use, recycled water, stormwater capture, and conservation. The four supply projects selected to enhance the City's existing supply portfolio are discussed below as is the new supply offered by the Project.

Results of the WMP and Operational Yield Study conducted by the City were considered during development of the GSP. Per the draft GSP, it was assumed that at buildout the City would pump 11,776 AFY of potable water from the deep aquifer and 1,302 AFY of non-potable water from the shallow aquifer. These supplies were determined to be acceptable under the basin management plan and are in line with the future water supply presented in this section. The City's planned supply portfolio, updated since the WMP to include the supply provided by the Project, is summarized in Table 13 with a breakdown of planned supplies in 2040 and at buildout.

Table 13: Planned City Water Supplies with the Project

Supply	Planned Yield in 2040	Planned Yield at Buildout (2050)
Potable Groundwater (AFY)	8,388	10,115
Non-Potable Groundwater (AFY)	856	1,032
Recycled Water (AFY)	857	1,512
Stormwater Capture (to potable) (AFY)	1,700	1,700
Stormwater Capture (to non-potable) (AFY)[1]	1,185	1,185
Total (AFY)	**12,986**	**15,544**
Potable (AFY)	**10,088**	**11,815**
Non-Potable (AFY	**2,898**	**3,729**

Notes:

1. Stormwater capture (to non-potable) represents the onsite stormwater capture included in the Project. This supply was not included in the 2018 WMP.

3.2.1 Conservation

The City will implement a variety of conservation measures with estimated water savings ranging from 700 AFY to 1,800 AFY. The supply portfolio assumes approximately 1,000 AFY of water savings due to conservation at buildout. Examples of conservation programs that have been or could be implemented include:

- Existing conservation program
    - Toilet, washing machine, dishwater, etc. replacement rebates
    - Cash for Grass rebates
    - Free water conserving fixtures
    - Updated plumbing codes
    - Residential water surveys to identify possible areas of waste
- Potential conservation program
    - Future plumbing codes updates

- Require hot water on demand

Conservation is not included in the future supply summary but it was considered and planned in order to reduce projected future demands.

3.2.2 Treat Wastewater for Non-Potable Reuse with Percolation Ponds

The City's Water Quality Control Facility (WQCF) will be retrofitted to treat water to non-potable Title 22 standards after which the effluent will be pumped to infiltration ponds (to be constructed) near the existing non-potable wells. In addition to pumping from the existing wells, new shallow wells will be constructed for additional non-potable water supplies.

3.2.3 Del Puerto Creek Stormwater Capture

Seasonal stormwater flows from Del Puerto Creek can be captured and diverted to percolation ponds. Pending a groundwater study, these ponds would recharge the shallow aquifer (for non-potable use) and/or the deep aquifer (for potable use). Water could then be pumped from the aquifers through existing and/or new wells.

Beneficial use of stormwater is a part of the Northern & Central Delta-Mendota Region GSP and capture and recharge of Del Puerto Creek flows are included as a project in the draft GSP. The City will work with neighboring agencies to maximize beneficial use of the available stormwater in the region.

As part of the WMP effort, it was estimated that the annual yield of Del Puerto Creek stormwater capture would be approximately 1,700 AFY. Initial field work indicates that the a properly sited recharge basin would recharge to the deep aquifer to replenish potable supply. For the purposes of the WMP and this WSA, it is assumed that the stormwater would provide a potable water supply, though additional work is planned to investigate and determine the optimal project site.

3.2.4 Additional Groundwater Pumping

The existing groundwater pumping capacity of the City of Patterson is 7,500 AFY, though only about 4,500 AFY is currently being utilized. As discussed in Section 3.1.2.1, an Operational Yield Study was conducted as part of the 2018 WMP to estimate the volume of groundwater that the City could extract from the underlying Delta-Mendota Groundwater Subbasin without impacting their current groundwater pumping infrastructure and without significantly impacting the use of groundwater resources in the area surrounding the City's Sphere of Influence. Based upon the results of the Operational Yield Study, which indicated that the City could pump in the range of 10,000 – 12,000 AFY, the City could construct additional groundwater wells to increase its pumping capacity. Under the future supply portfolio, it is assumed that the City will construct enough potable wells to produce up to 10,115 AFY at buildout.

3.2.5 Onsite Stormwater Capture and Recharge

While not included in the supply portfolio presented in the 2018 WMP, the City has included a requirement that all new development, including the Project, include stormwater retention and percolation onsite. This requirement means that any rainfall on the development area would be captured and recharged, with no water lost to the San Joaquin River. Though the yield of the Project's stormwater basin and groundwater recharge basin has not been calculated at this time, a simplified calculation can be conducted based on the Project area and the City's annual average rainfall. If it is assumed that all rainfall falling on the site is captured, then the additional supply provided by the Project is 1,185 AFY, as shown:

Estimated Onsite Stormwater Capture = 1,293 acres * 11 inches of rain/ year[1] * 1 foot / 12 inches = 1,185 AFY

Depending on the presence or thickness of the Corcoran clay at the final recharge site, some water may recharge to the deep aquifer however it is likely that most capture stormwater for this Project would recharge the shallow aquifer.

For the purposes of this WSA, it is assumed that all onsite stormwater capture will provide an additional non-potable supply.

3.3 Water Supply Reliability

Estimates of the City's supply during single and multiple dry years is based on the information provided in the City's 2015 UWMP. Onsite stormwater capture provided by the Project is not included in the dry year supply estimates as a more detailed analysis of onsite capture in dry years has not been conducted. Table 14 summarizes the City's supply availability by water year type. These UWMP numbers reflect that the available water supply was assumed to be equal to the demand projections for each potential water year type through 2040 with the understanding that the City should be able to draw on the groundwater basin to fulfill its demands.

With the development of the GSP for the Delta-Mendota Subbasin, there will be some limits on groundwater pumping during dry years. Pumping restrictions in the GSP area are based on 2015 water elevations in the groundwater basin. As stated in the draft GSP, the City should be able to continue extractions to the point where lower aquifer groundwater elevations are no deeper than 95% of 2015 water elevations. For the upper aquifer, 2015 groundwater elevations are the lowest they can go. As discussed previously, the City has implemented an effective conservation program to reduce demands and is continuing to expand their conservation efforts. For the purposes of this WSA, the supplies under dry year conditions presented in the UWMP will be used. While those supplies may be slightly conservative as they do not include the onsite stormwater capture provided by the Project, it is recommended that the Project implement conservation initiatives to reduce demands, especially during dry years.

Table 14: Available Supply Under Normal and Dry Year Conditions

Year Type	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)
Normal Year[1]	6,969	9,457	10,633	11,810	12,986
Single-Dry Year[2]	6,376	8,272	9,448	10,625	11,801
Multiple Dry Year[2]					
First Year	6,376	8,272	9,448	10,625	11,801
Second Year	6,376	8,272	9,448	10,625	11,801
Third Year	6,376	8,272	9,448	10,625	11,801

Notes:
1) This supply projection has been updated to include stormwater capture (to non-potable) from onsite stormwater capture included in the Project. This supply was not included in the 2015 UWMP.
2) Source: 2015 City of Patterson UWMP (RMC, 2016)

4. PROJECT SPECIFIC ASSESSMENT

4.1 Supply and Demand Comparison

4.1.1 Supply and Demand Comparison with Existing Supplies

To determine if the City currently has sufficient supply to meet the Project demands the City's existing supply and demands with the Project were compared. As discussed in Section 2.1.2, the City's total existing demand (for the entire 2018 calendar year) is 3,318 AFY. With the addition of the projected Project demand at buildout, the City's total demand would be 5,477 AFY (broken out in Table 15).

Table 15: Existing City Demand with Project

	Existing City Demand	Zacharias Demand	Existing City Demand + Project Demand
Potable (AFY)	3,102	1,560	4,662
Non-Potable (Irrigation) (AFY)	216	599	815
Total (AFY)	**3,318**	**2,159**	**5,477**

Once the Project is implemented, the City's existing supplies will be supplemented by the estimated 1,185 AFY onsite stormwater capture and recharge included in the Zacharias development. This brings the City's total existing supplies to around 8,735 AFY. Based on this supply and the projected demand with the Project, the City has adequate supply to meet its existing demands plus the Zacharias development (as presented in Table 16). This assessment does assume that the City's demands remain constant aside from the implementation of the Project, however there is adequate supply to support additional development throughout the City's service area.

Table 16: Existing City Demand with Project versus Existing Supply with Project

	After Project Implementation
Total City Existing Supply (AFY)[1]	8,735
Total City Demand with Zacharias Development (AFY)	5,477
Sufficient Supply?	**Yes**

Notes:

1) This supply projection has been updated to include stormwater capture (to non-potable) from onsite stormwater capture included in the Project. This supply was not included in the 2015 UWMP.

4.1.2 Supply and Demand Comparison at Buildout (2040)

To more fully determine the City's ability to meet its planned demands as well as the Project demands, the phased supply and demand through 2040 was assessed. The total water demand for the Project is 2,240 AFY at buildout in 2040. The projected water use in 2040 of 2,159 AFY is comprised of 1,560 AFY for potable demands and 599 AFY for irrigation. The Project would reduce the projected potable demands and increase the projected non-potable demands for the City (compared to the projected demand for the Project area included in the WMP), with a net decrease in overall demand of 298 AFY as shown in Table 17. Changes to the City's potable and non-potable water demand are broken out by five year phases in Table 18 and Table 19, respectively.

Table 17: Citywide Projected 2040 Water Demands with and without the Project

	2018 WMP Projected City Water Demand (AFY)	Change in Projected Zacharias / Baldwin Water Demand (AFY)	Updated Projected City Water Demand (AFY)
Potable	9,710	-461	9,249
Non-Potable (Irrigation)	2,091	163	2,254
Total	**11,801**	**-298**	**11,503**

Table 18: Phased Citywide Projected 2040 Potable Water Demands with and without the Project

Land Use Categories	2020	2025	2030	2035	2040
2018 WMP Projected City Demand (AFY)	5,246	6,806	7,775	8,743	9,710
Change in Projected Zacharias Demand (AFY)	0	-230	-461	-461	-461
Updated Projected City Demand (AFY)	**5,246**	**6,576**	**7,314**	**8,282**	**9,249**

Table 19: Phased Citywide Non-Projected 2040 Potable Water Demands with and without the Project

Land Use Categories	2020	2025	2030	2035	2040
2018 WMP Projected City Demand (AFY)	1,130	1,466	1,674	1,882	2,091
Change in Projected Zacharias Demand (AFY)	0	82	163	163	163
Updated Projected City Demand (AFY)	**1,130**	**1,547**	**1,837**	**2,046**	**2,254**

It is worth noting that the draft GSP assumes a higher available groundwater supply for the City at buildout (2050) than presented in the WMP. The supply portfolio presented in the draft GSP included a total of 13,078 AFY of groundwater supply (11,776 AFY of potable, below-Corcoran, supply and 1,302 AFY of non-potable, above-Corcoran, supply) compared to 11,417 AFY (10,115 AFY of potable supply and 1,302 AFY of non-potable supply) in the WMP. Though the supply projections included in the GSP are the most recent, they are not yet approved by DWR so the lower, more conservative groundwater supply numbers from the WMP (and UWMP) will be used for determining the available supply for the Project. A comparison of the projected City supply at buildout (2050) in the WMP and draft GSP is included in Table 20.

Table 20: Comparison of Planned City Groundwater Supplies at Buildout (2050)

Supply	Included in 2018 WMP Supply Portfolio	Included in Draft GSP
Potable Groundwater (AFY)	10,115	11,776
Non-Potable Groundwater (AFY)	1,302	1,302
Total Groundwater Supply (AFY)	**11,417**	**13,078**
Recycled Water (AFY)	1,512	1,512
Stormwater Capture (to potable) (AFY)	1,700	-
Total Potable (AFY)	**11,815**	**11,776**
Total Non-Potable (AFY	**2,814**	**2,814**
Total Supply (AFY)	**14,629**	**14,590**

Projected water supply (from the WMP and UWMP, updated with the onsite stormwater capture) and demand for the entire City service area including the Project is presented in Table 21. As shown in the table, the City's planned water supply is sufficient to meet demands to 2040, including those projected for the Project. Given that future water supplies for the City were planned based on available data at the time, Project stakeholders, including the City, should work together to update the phasing and implementation plan of planned supply projects now that the timing of this development project is better understood. Further, the phasing of the supplies included in the WMP does not align with those presented in the draft GSP, so the City and Project stakeholders will need coordinate with GSP partners to ensure sustainable use of the groundwater basin.

Table 21: City Water Demand (with Project) versus Supply

	2020	2025	2030	2035	2040
Total City Supply (AFY)[1]	6,969	9,457	10,633	11,810	12,986
Total City Demand (AFY)	6,376	8,123	9,151	10,327	11,503
Sufficient Supply?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Notes:

1) This supply has been updated to include stormwater capture (to non-potable) from onsite stormwater capture included in the Project. This supply was not included in the 2015 UWMP.

4.2 Supply and Demand Comparison in Dry Years

When comparing water demand and water supplies to determine availability of a long-term reliable water supply for the proposed Project, the assessment must consider available supply under "average" year conditions as well as for single-dry and multiple-dry water year conditions. The purpose is to evaluate whether there could be shortfalls in supply under various hydrologic conditions, and if so, to provide a basis for planning for those conditions. Dry year supply availability was determined as part of the 2015 UWMP (which did not include onsite stormwater capture provided by the Project). A comparison of the projected supplies and demands with the Project under dry year conditions is presented in Table 22. As shown in the table, the City has sufficient supplies to meet all projected demands, including the Project, through 2040.

As discussed in Section 3.3, the City's supply portfolio was developed with the impacts of SGMA in mind, but before the draft GSP had been prepared. It has been assumed that the supply reliability assessment presented in the 2015 UWMP is reasonable for this WSA, but it is recommended that the updated supply reliability assessment required for the 2020 UWMP (which will include additional SGMA-related impacts and new supply information) be reviewed as soon as it is available to confirm this assumption. In the meantime, in order to maintain the water supply reliability of the City supply at the level it currently resides for all of its customers, the Project should incorporate demand management in order to reduce the impact that would be caused under dry-year conditions.

Table 22: City Demand (with Project) versus Dry Year Supply

		2020	2025	2030	2035	2040
Total City Supply[1]	**Single Dry Year (AFY)**	6,376	8,272	9,448	10,625	11,801
Total City Demand – Single Dry Year (AFY)		**6,376**	**8,123**	**9,151**	**10,327**	**11,503**
Sufficient Supply?	**Single Dry-Year (AFY)**	Yes	Yes	Yes	Yes	Yes
Total City Supply[1]	**Multiple Dry Year**					
	First Year (AFY)	6,376	8,272	9,448	10,625	11,801
	Second Year (AFY)	6,376	8,272	9,448	10,625	11,801
	Third Year(AFY)	6,376	8,272	9,448	10,625	11,801
Total City Demand – Multiple Dry Year (All Years) (AFY)		**6,376**	**8,123**	**9,151**	**10,327**	**11,503**
Sufficient Supply?	**Multiple-Dry Year**					
	First Year (AFY)	Yes	Yes	Yes	Yes	Yes
	Second Year (AFY)	Yes	Yes	Yes	Yes	Yes
	Third Year(AFY)	Yes	Yes	Yes	Yes	Yes

Notes:

1) Source: 2015 City of Patterson UWMP (RMC, 2016). This supply projection has not been updated to include stormwater capture (to non-potable) from onsite stormwater capture included in the Project.

4.2.1 Water Shortage Contingency Plan

All urban suppliers are required to prepare a water shortage contingency plan detailing how the supplier would manage supplies during water shortages of up to 50%. As discussed in the previous section, the City has adequate supply to meet demands during dry year scenarios. Should the City experience a catastrophic supply interruption, its Water Shortage Contingency Plan would be implemented across the entire service area, including the Project area, to manage and meet demands. Potential demand management measures that the City could impose include:

- Stage 1: water use restrictions and voluntary water conservation of less than or equal to 10 percent of the normal base year
    - Customers must repair leaks, breaks, and malfunctions in a timely manner
    - Restrict or prohibit runoff from landscape irrigation
    - Prohibit vehicle washing except at facilities using recycled or recirculating water
    - Prohibit use of potable water for washing hard surfaces
    - Restrict water use for decorative water features, such as fountains
    - Prohibit use of potable water for construction and dust control
    - Limit landscape irrigation to specific times
- Stage 2: reduce water consumption by 10 to 20 percent from base years through the use of mandatory water use restrictions and voluntary water allocations
    - Prohibit certain types of landscape irrigation
    - Restaurants may only serve water upon request

- Limit landscape irrigation to specific days

- Stage 3: implement mandatory water use restrictions and water allocations in order to reduce demand by 20 percent or more
  - Prohibit certain types of landscape irrigation
  - Water use allocation by customer type

The 2015 UWMP includes additional details of the City's Water Shortage Contingency Plan, including the following information:

- A description of stages of action the City will take in response to a water supply shortage
- A description of non-essential water use during a water shortage, and report prohibitions, penalties and consumption reduction methods
- Estimates of the minimum water supply for the next three years
- An analysis of revenue impacts due to reduced sales during shortages

4.3 Conclusions and Recommendations

Based on the analysis presented in this WSA, it can be concluded that the City of Patterson has adequate supply to serve the Zacharias and Baldwin development areas. While the City has sufficient existing supplies to serve the Project, the Project significantly increases the City's demands and contributes a substantial portion of the City's planned buildout. Therefore, it is recommended that the City and Project Stakeholders determine an appropriate, proportional contribution to the City's fund to support continued development of water supplies and infrastructure.

As discussed in Section 2.2, the Project results in a net decrease in demand in comparison to the 2018 WMP projection for the Project area, lowering the City's projected potable demand by 461 AFY and total demand by 298 AFY. Though the total City demand is reduced, the projected non-potable demand for the Project is slightly higher (163 AFY higher) than previously projected for this area. That said, the Project will promote upper aquifer recharge throughout the development area through the incorporation of pervious surfaces per requirements for new development in the City's sphere of influence. As discussed in Section 3.2.5, the estimated yield of the onsite capture and recharge to the upper aquifer provided by the Project is approximately 1,185 AFY, which should more than offset the increase in non-potable demand of 140 AFY. That said, the non-potable demand could be reduced or mitigated through drought tolerant landscaping or by requiring more specific landscaping efficiencies.

As discussed in Section 4.2, the City's supply portfolio, 2015 UWMP and WMP (on which this WSA was based) was developed prior to the completion of the draft GSP for the Northern & Central Delta-Mendota Regions. While the WMP and UWMP did project for the impacts of SGMA and the draft GSP includes slightly higher groundwater supplies for the City at buildout then included in the WMP, it is recommended that the Project take steps to reduce its projected demand to ensure a reliable supply for the Project and all of the City's customers. Specifically, the Project should include additional conservation programs and/or require high water efficiency standards for all fixtures, appliances and industrial processes installed in the development area and consider requiring the use of drought tolerant landscaping or requiring other actions to improve landscape efficiencies.

Finally, it is recommended that the City and Project stakeholders confirm phasing of the development and coordinate with GSAs implementing the *Northern & Central Delta-Mendota Region GSP*. The City's existing future supply project CIP was based on limited information about future developments. With specific information about the phasing of the Project, the City's supply projects can be implemented appropriately to ensure a reliable supply for all of its customers through the Project implementation period.

5. REFERENCES

California Department of Water Resources. October 2003. *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001.*

GDR Engineering. 2019. *Baldwin Ranch Master Planning Area.*

GDR Engineering. 2020. *Zacharias Ranch Master Planning Area.*

Ken Schmidt and Associates (KSA). 2010. Groundwater Conditions in the Vicinity of the City of Patterson.

RMC Water & Environment. 2016. *Final 2015 Urban Water Management Plan for the City of Patterson*.

Senate Bill 610. 2018. Water Supply Planning. Approved by Governor October 9, 2001. Filed with Secretary of State October 9, 2001.

Woodard & Curran. 2018. *2018 City of Patterson Water Master Plan.*

Woodard & Curran. 2020. *Northern & Central Delta-Mendota Region GSP.*

APPENDIX A: ZACHARIAS AND BALDWIN MASTER PLAN AREA DEVELOPMENT PLANS AND DOCUMENTATION

GDR ENGINEERING, Inc.
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Contact: Joshua Jantz / Max Garcia
www.gdrengineering.com

ZACHARIAS ROAD
ROGERS ROAD
BALDWIN ROAD
WARD AVENUE
SPERRY AVENUE
SPERRY AVENUE

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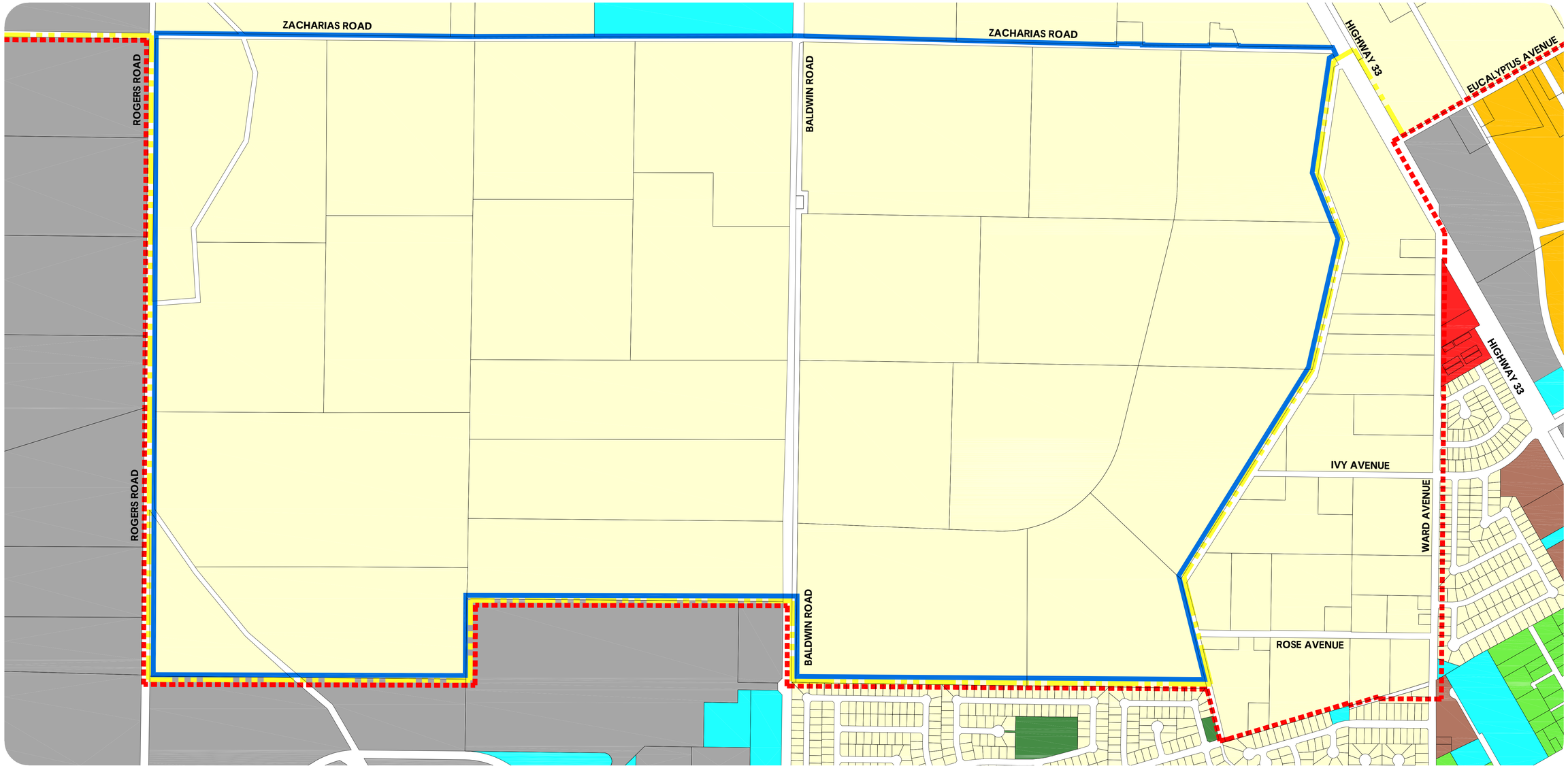
LEGEND

- City of Patterson General Plan
- City of Patterson
- Zacharias Master Planning Area

Zacharias Master Planning Area

Location Map

City of Patterson, Stanislaus County, California
July 22, 2019



LEGEND

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Downtown Residential
- Light Industrial
- Public / Quasi-Public
- General Commercial
- Park / Open Space
- Existing City Limits
- Existing Sphere of Influence
- Proposed Sphere of Influence Zacharias Master Planning Area

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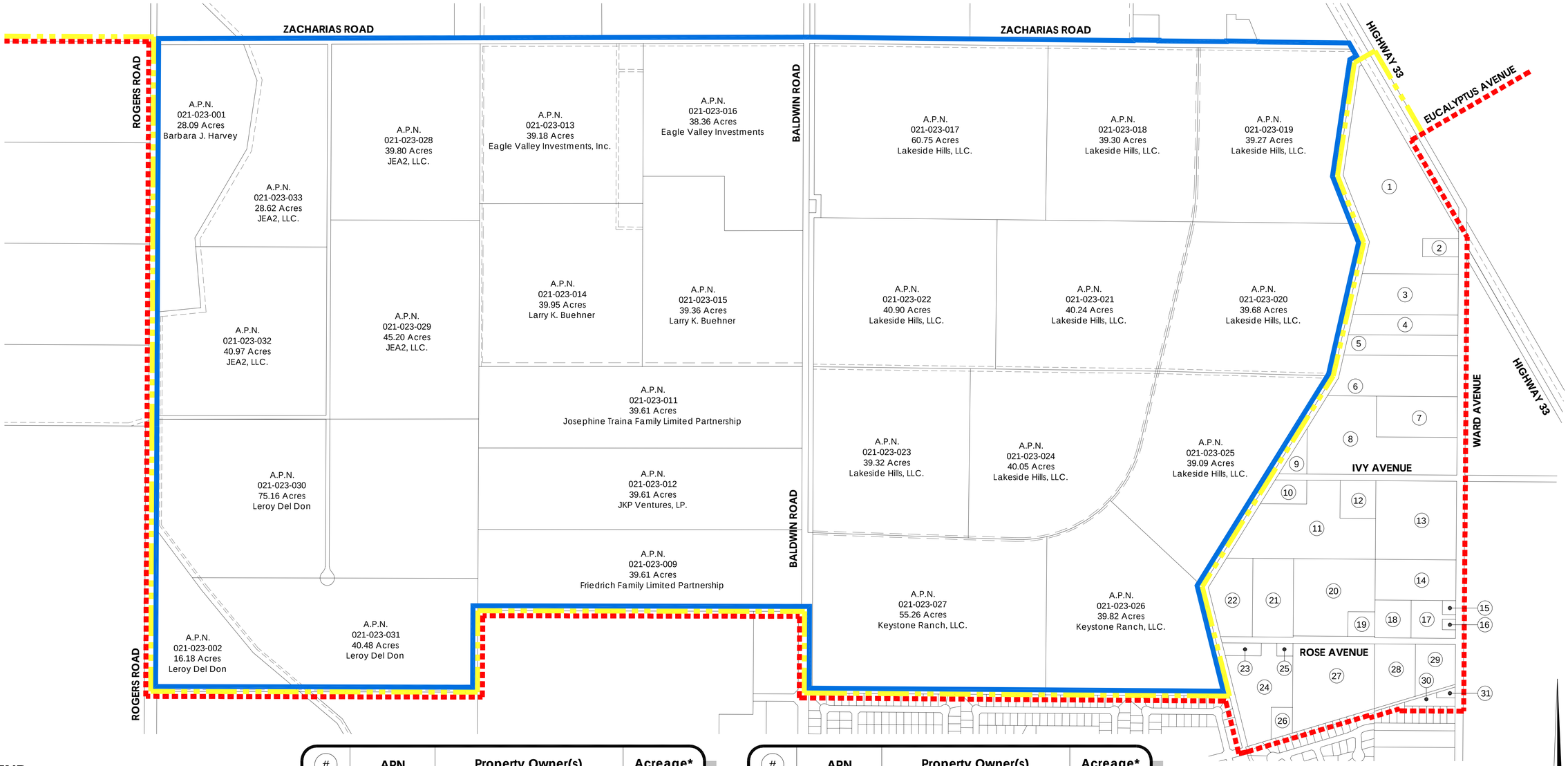
Zacharias Master Planning Area

Existing General Plan Designations

City of Patterson, Stanislaus County, California

July 22, 2019



LEGEND

- **Existing City Limits**
- **Existing Sphere of Influence**
- **Proposed Sphere of Influence**

* Acreages based on Assessors Maps

#	APN	Property Owner(s)	Acreage*
1	047-015-001	WL Torrison Farms, Inc.	18.92
2	047-015-002	Juan M. Medina	1.00
3	047-015-009	WL Torrison Farms, Inc.	6.09
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5	047-015-006	Karl L. Torrison	3.40
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7	047-015-012	Louie & Kathleen Barletta	4.95
8	047-015-010	Louie Barletta	12.12
9	047-015-011	Antolak Family Trust	1.00
10	047-016-001	Patricia A. Johnson	1.41
11	047-016-002	Louisa S. Sarasqueta	11.29
12	047-016-003	Robert & Deborah Noblitt	2.00
13	047-016-004	WL Torrison Farms, Inc.	9.55
14	047-016-005	Ali Wahid	4.96
15	047-016-012	Carlos & Rosa Gonzales	0.28
16	047-016-011	Bret H. Hammon	0.20

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19	047-016-015	Louisa S. Sarasqueta	1.00
20	047-016-014	Louisa S. Sarasqueta	8.55
21	047-016-016	Landrum Family Trust	4.81
22	047-016-017	James Fairfield	4.39
23	047-017-017	Barbara Vega	0.72
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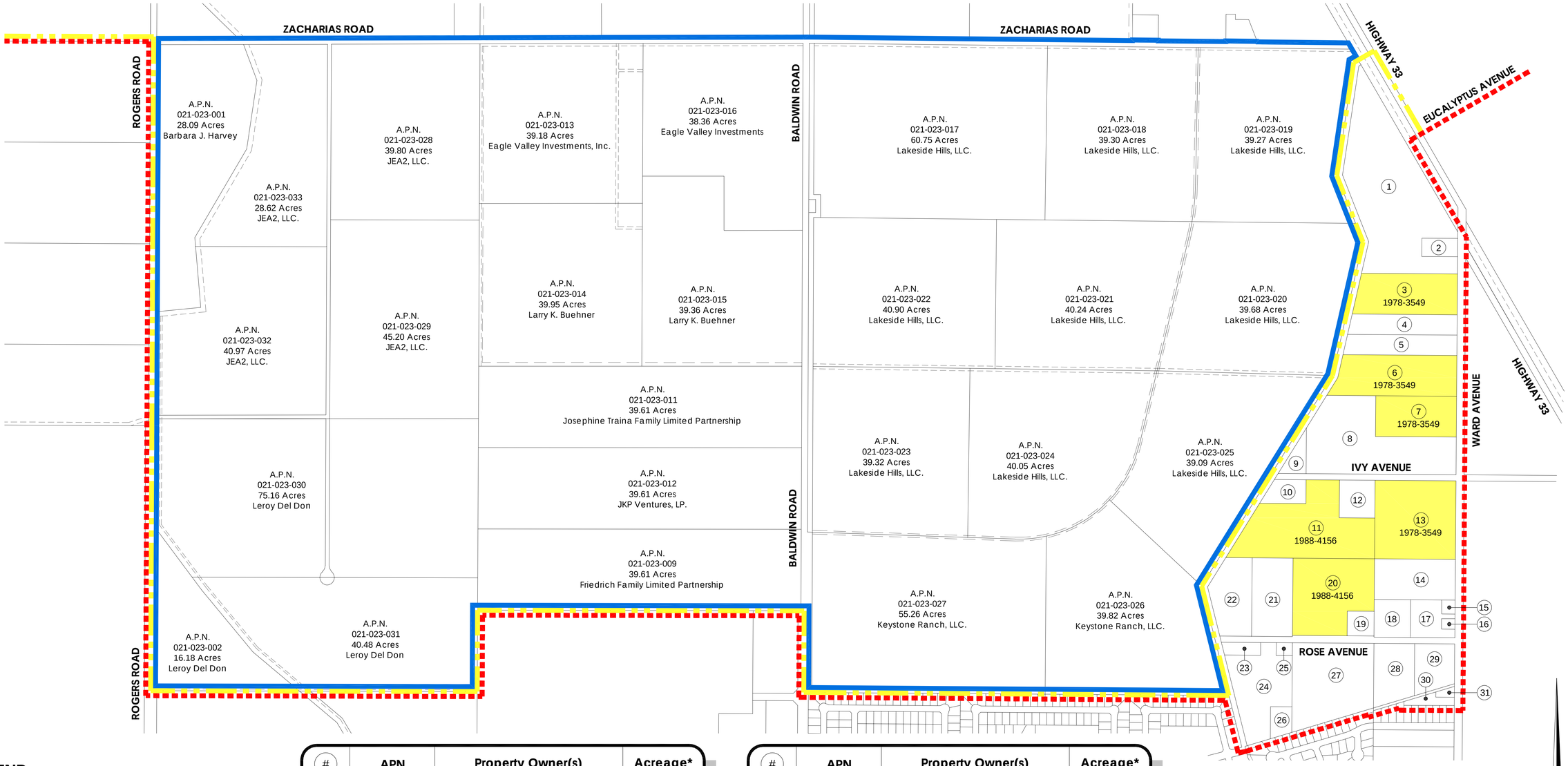
Zacharias Master Planning Area

Land Owners Information

City of Patterson, Stanislaus County, California
July 22, 2019



LEGEND

- Existing City Limits
- Existing Sphere of Influence
- Proposed Sphere of Influence
- Williamson Act

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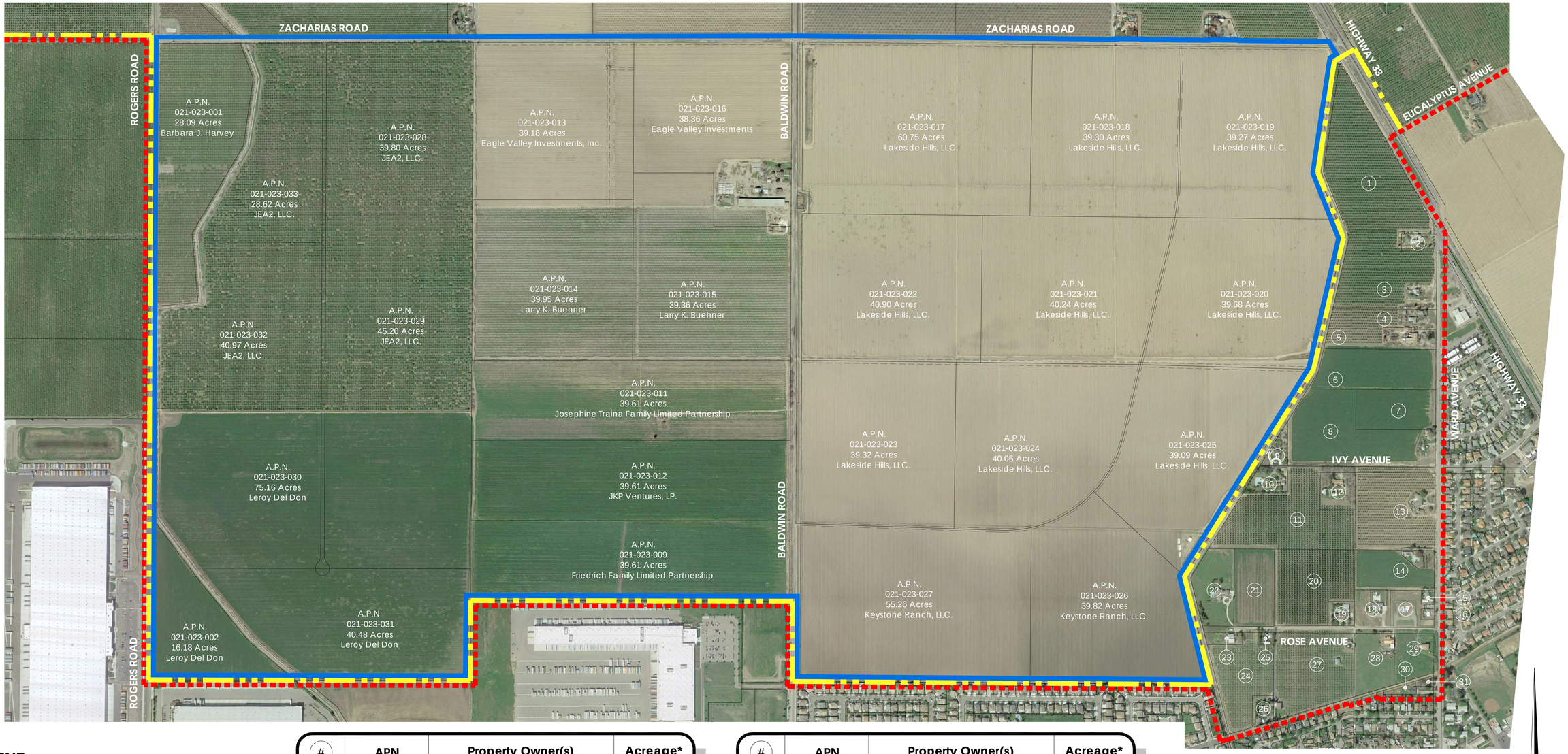
Zacharias Master Planning Area

Land Owners Information with Williamson Act

City of Patterson, Stanislaus County, California
July 22, 2019



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LEGEND

- Existing City Limits
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- Proposed Sphere of Influence

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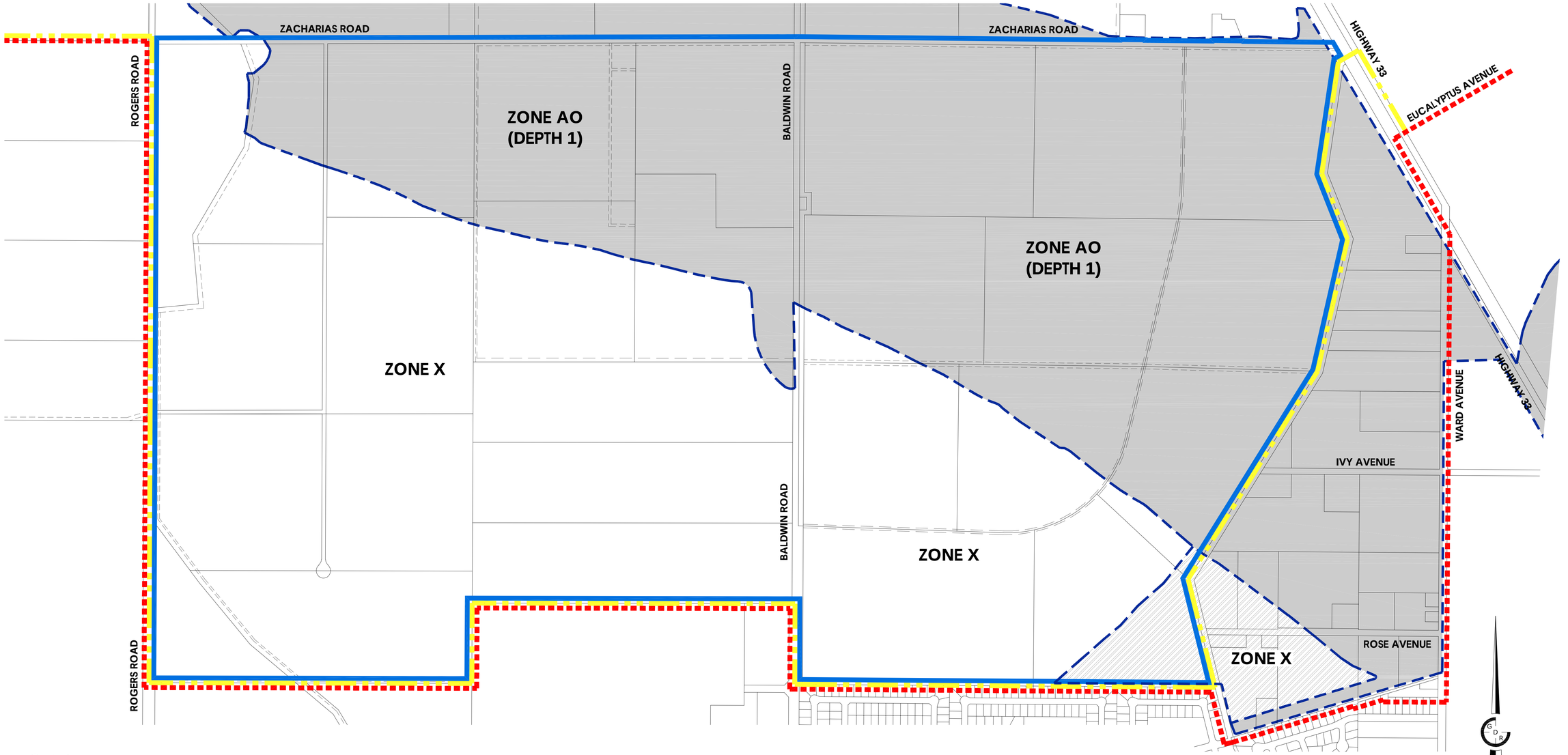
Zacharias Master Planning Area

Land Owners Information with Google Image Overlay

City of Patterson, Stanislaus County, California
July 22, 2019



LEGEND

- Existing City Limits
- Existing Sphere of Influence
- Proposed Sphere of Influence

Reference:
FIRM (Flood Insurance Rate Map)
Effective Date of September 26, 2008
Panel 732 of 1075
Map Number: 06099C0732E

Special Flood Hazard Areas (SFHAs) Subject to Inundation by the 1% Annual Chance Flood

The 1% Annual Chance Flood (100-Year Flood), Also Known as the Base Flood, is the Flood that has a 1% Chance of Being Equaled or Exceeded in any Given year. The Special Flood Hazard Area is the area Subject to Flooding by the 1% Annual Chance Flood. Areas of Special Flood Hazard Include A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the Water-Surface Elevation of the 1% Annual Chance Flood.

ZONE AO — **Flood Depths of 1 to 3 Feet (Usually Areas of Ponding); Base Flood Elevations Determined**

Other Flood Areas

ZONE X — **Areas of 0.2% Annual Chance Flood; Areas of 1% Annual Chance Flood with Average Depths of Less Than 1 Foot or with Drainage Areas Less Than 1 Square Mile; and Areas Protected by Levees From 1% Annual Chance Flood.**

Other Areas

ZONE X — **Areas Determined to be Outside the 0.2% Annual Chance Floodplain.**

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Zacharias Master Planning Area

Existing FEMA Flood Zone

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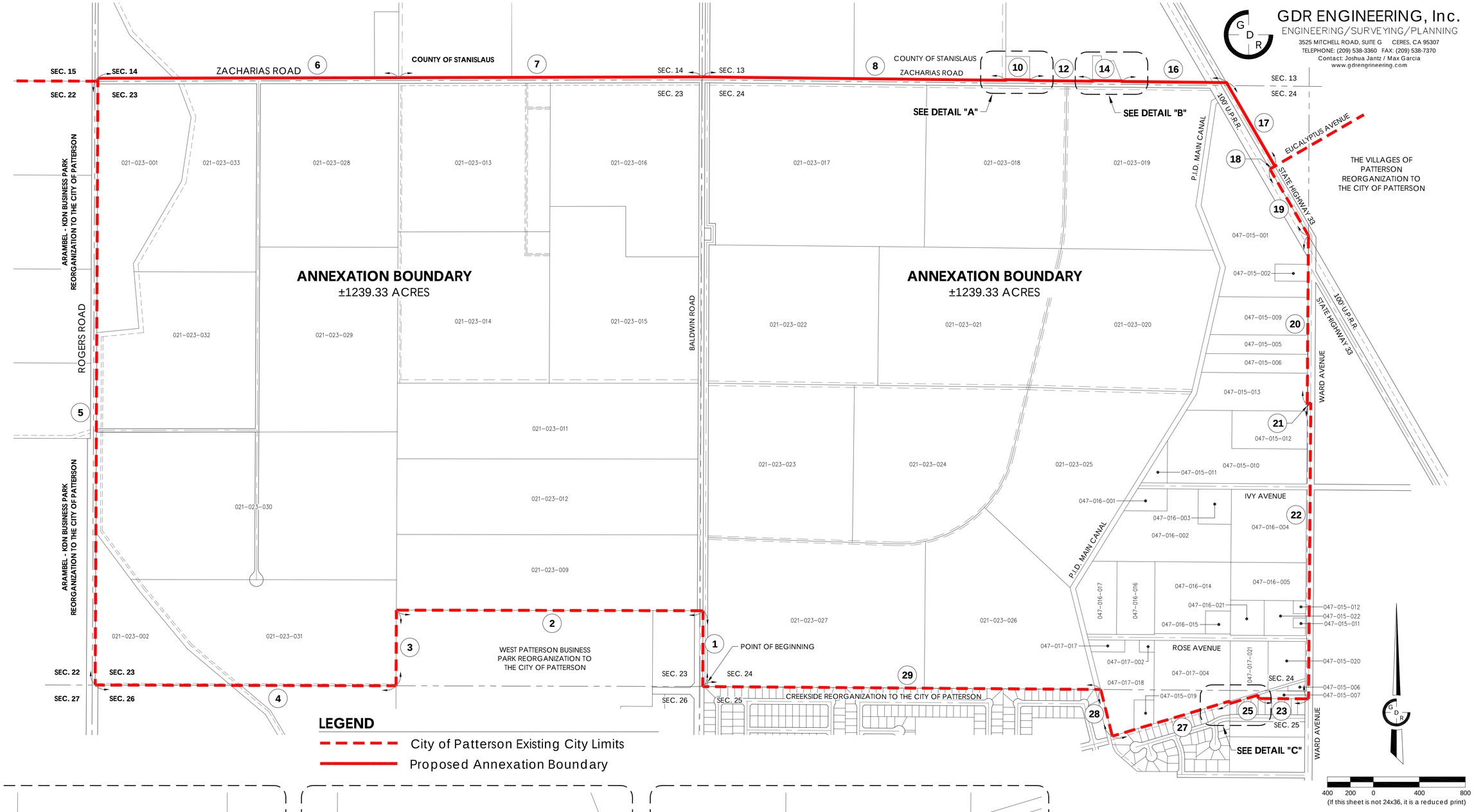
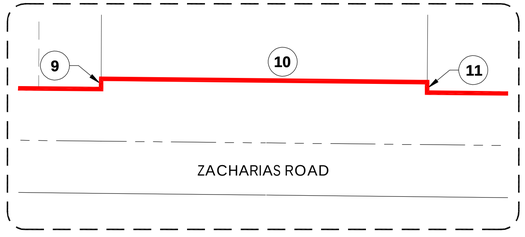


LEGEND

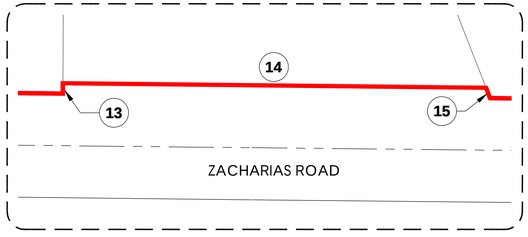
City of Patterson Existing City Limits

Proposed Annexation Boundary



DETAIL "A"

NOT TO SCALE



DETAIL "B"

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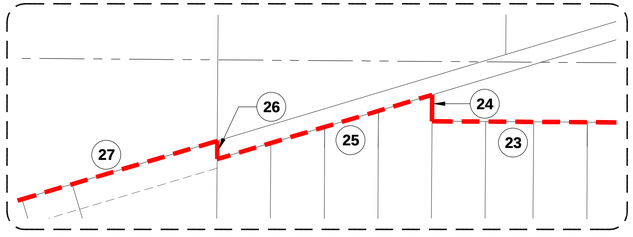

DETAIL "C"

NOT TO SCALE

400 200 0 400 800

(If this sheet is not 24x36, it is a reduced print)

Zacharias Master Planning Area

Annexation Boundary

City of Patterson, Stanislaus County, California

July 22, 2019

GDR ENGINEERING, Inc.
ENGINEERING/SURVEYING/PLANNING
3525 MITCHELL ROAD, SUITE G CERES, CA 95307
TELEPHONE: (209) 538-3360 FAX: (209) 538-7370
Contact: Joshua Jantz / Max Garcia
www.gdrengrineering.com

Zacharias Master Planning Area Reorganization to the City of Patterson

A portion of Sections 13, 14, 23, 24 and 25, Township 5, South, Range 7 East, Mount Diablo Meridian, situate in the County of Stanislaus, State of California, more particularly described as follows:

Beginning at the intersection of the south line of said Section 24 with the east line of Baldwin Road, said east line being 25.00 feet east of and parallel with the west line of said Section 24, said point of beginning also lying on the north line of the Creekside Reorganization to the City of Patterson;

1) thence along the existing city limits line as described the West Patterson Business Park Reorganization to the City of Patterson and the said east line of Baldwin Road, North 00°13'00'' East, 660.24 feet to the easterly prolongation of the north line of Parcel 3 as shown in Book 32 of Parcel Maps, Page 101, Stanislaus County Records;
2) thence continuing along said city limits line and along said prolongation and the north line of said Parcel 3, North 89°53'26'' West, 2667.40 feet to the northwest corner of said Parcel 3;
3) thence continuing along said city limits line, the west line of said Parcel 3 and the west line of the southeast quarter of said Section 23, South 00°14'32'' West, 658.55 feet to the southwest corner of said southeast quarter of Section 23;
4) thence continuing along said city limits line and the south line of the southwest quarter of said Section 23, North 89°51'05'' West, 2617.90 feet to the east line of the Arambel-KDN Business Park Reorganization to the City of Patterson and the east line of Rogers Road, said east line being 25.00 feet east of and parallel with the west line of said Section 23;
5) thence continuing along said city limits line and the and said east line its northerly prolongation, North 00°15'44'' East, 5280.25 feet to the north line of Zacharias Road, said north line being 25.00 feet north of and parallel with the north line of said Section 23;
6) thence along said north line of Zacharias Road, North 89°52'15'' East, 2615.75 feet to the east line of the southwest quarter of said Section 14;
7) thence continuing along the north line of Zacharias Road, North 89°52'31'' East, 2640.74 feet to the east line of said Section 14;
8) thence continuing along the north line of Zacharias Road, South 89°22'32'' East, 2640.03 feet to the southeast corner of Parcel 10 as shown on the map recorded in Book 53 of Parcel Maps, Page 53, Stanislaus County Records;
9) thence continuing along the north line of said Zacharias Road and along the east line of said Parcel 10, North 00°16'13'' East, 5.00 feet;
10) thence continuing along the north line of said Zacharias Road and the south line of Parcel A as shown on the map recorded in Book 15 of Parcel Maps, Page 93, Stanislaus County Records, South 89°23'29'' East, 208.71 feet to the southeast corner of said Parcel A;
11) thence continuing along the north line of said Zacharias Road, South 00°16'13'' West, 5.00 feet;
12) thence continuing along the north line of said Zacharias Road, South 89°23'29'' East, 546.70 feet;
13) thence continuing along the north line of said Zacharias Road, North 00°16'13'' East, 5.00 feet;
14) thence continuing along the north line of said Zacharias Road, South 89°23'29'' East, 253.58 feet;
15) thence continuing along the north line of said Zacharias Road, South 21°23'32'' East, 5.39 feet;
16) thence continuing along the north line of said Zacharias Road and its easterly prolongation, South 89°23'29'' East, 909.59 feet to the northeasterly line of State Highway 33;
17) thence along said northeasterly line of Highway 33, South 30°04'35'' East, 829.93 feet to the northwesterly line of Eucalyptus Avenue and the existing city limits line per the Villages of Patterson Reorganization to the City of Patterson;
18) thence along said city limits line, South 60°00'45'' West, 50.00 feet to the southwesterly line of said Highway 33;
19) thence continuing along said city limits line and said southwesterly line, South 30°04'35'' East, 668.40 feet to the west line of Ward Avenue;
20) thence continuing along said city limits line and said west line, South 00°15'50'' West, 1483.28 feet;
21) thence continuing along said city limits line, North 59°55'25 East, 38.24 feet to the centerline of said Ward Avenue;
22) thence continuing along said city limits line and said centerline, South 00°15'50'' West, 2602.45 feet to the easterly prolongation of the north line of the Correia Tract recorded in Book 18 of Maps, Page 3, Stanislaus County Records;
23) thence continuing along said city limits line, North 89°40'00'' West, 441.12 feet;
24) thence continuing along said city limits line, North 00°20'00'' East, 21.31 feet;
25) thence continuing along said city limits line, South 73°59'00'' West, 256.36 feet;
26) thence continuing along said city limits line, North 00°20'00'' East, 27.50 feet;
27) thence continuing along said city limits line, South 73°21'47'' West, 1065.60 feet to the easterly line of the Patterson Irrigation District Main Canal Extension;
28) thence continuing along said city limits line and said easterly line, North 13°58'19'' West, 443.92 feet to the south line of said Section 24;
29) thence continuing along said city limits line and said south line of Section 24, North 89°34'39'' West, 3,461.95 feet to the point of beginning.

Contains 1,239.33 acres, more or less.

Zacharias Master Planning Area

Annexation Legal Description

City of Patterson, Stanislaus County, California
July 22, 2019

GDR ENGINEERING, Inc.
ENGINEERING/SURVEYING/PLANNING
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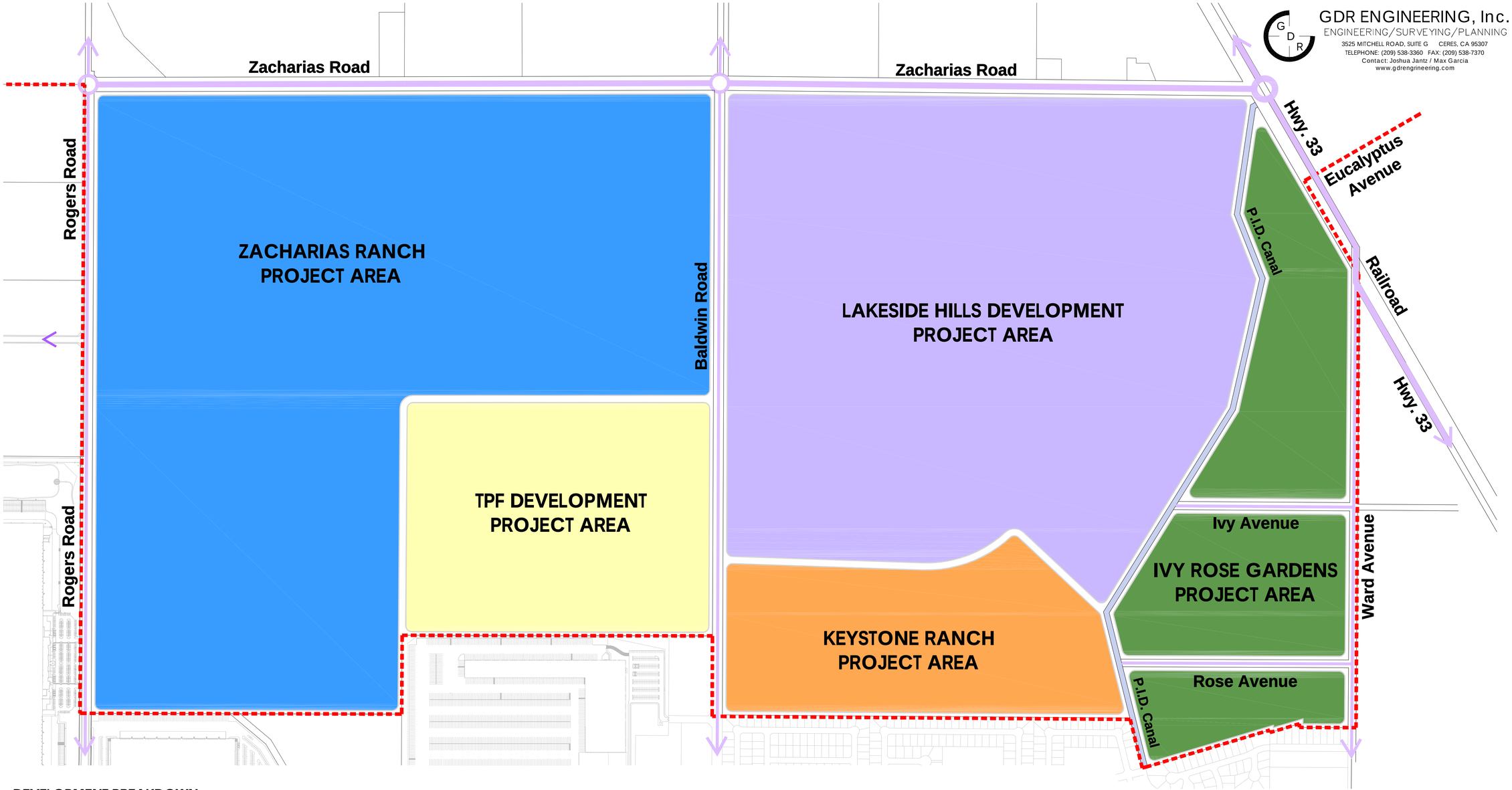

DEVELOPMENT BREAKDOWN

	Zacharias Ranch	±478.7 Gross Acres	±700 Units	±7,260,000 Building Sq. Ft.
	TPF Development	±119.7 Gross Acres	±720 Units	~
	Keystone Ranch	±97.3 Gross Acres	±714 Units	~
	Lakeside Hills Development	±387.7 Gross Acres	±2,521 Units	±505,000 Building Sq. Ft.
	Ivy Rose Gardens	±143.7 Gross Acres	±431 Units	~
	Zacharias Master Planning Area - Project Total	±1,227.1 Gross Acres	±5,086 Units	±7,765,000 Building Sq. Ft.

Existing Roads
City of Patterson Limits

400 200 0 400 800
(If this sheet is not 24x36, it is a reduced print)

Zacharias Master Planning Area

Development Area Breakdown

City of Patterson, Stanislaus County, California
July 22, 2019

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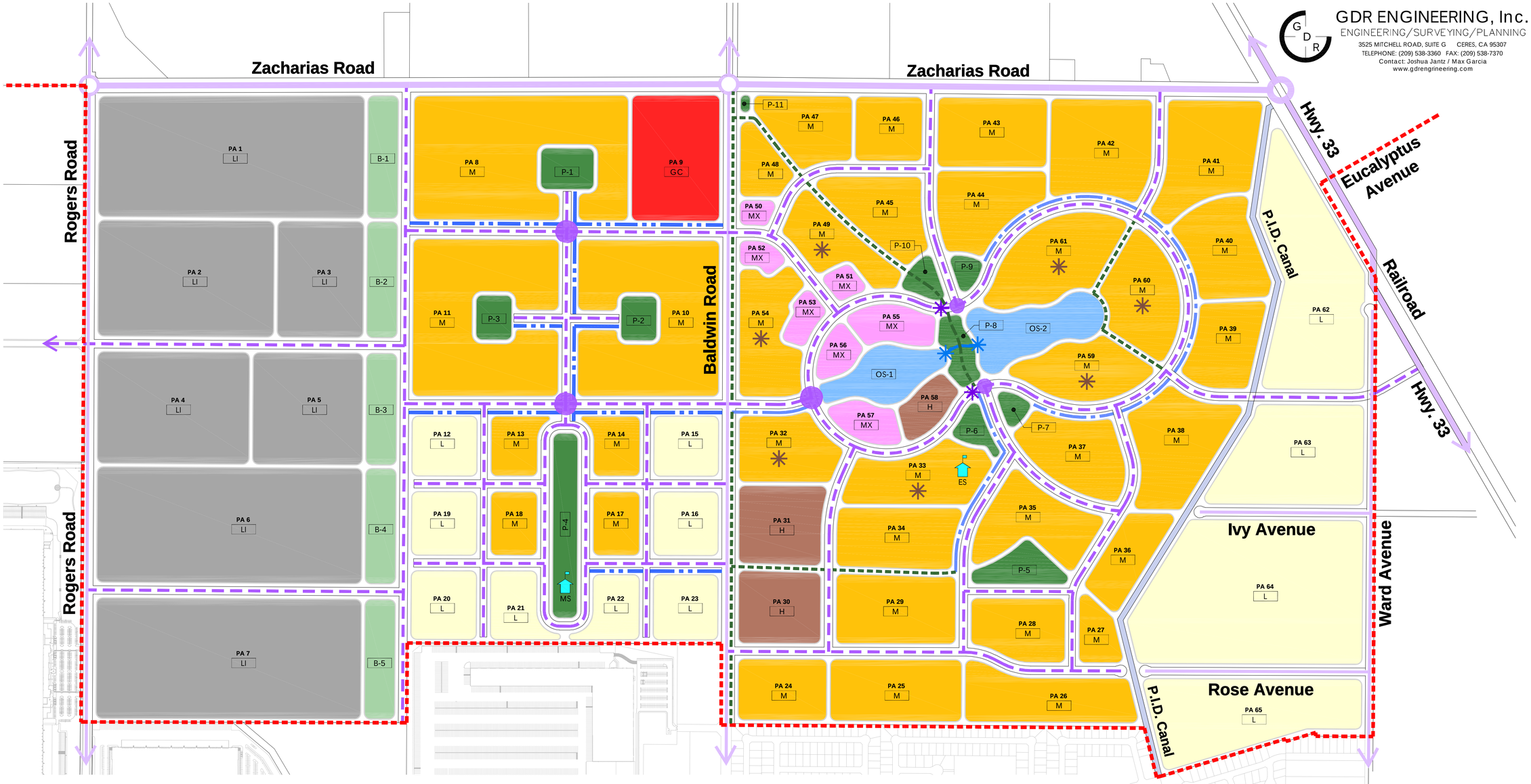

DEVELOPMENT FRAMEWORK

- L — **Low Density Residential** (1.0 - 5.0 U.P.A.)
- M — **Medium Density Residential** (5.1 - 12.0 U.P.A.)
- H — **High Density Residential** (12.1 - 20.0 U.P.A.)
- MX — **Mixed Use**
- ES — **Future ±14 Elementary School Site East of Baldwin Road** (Final Location to be Determined)
- MS — **Future ±15 Acre Middle School Site West of Baldwin Road** (Final Location to be Determined)
- GC — **General Commercial**
- LI — **Light Industrial**
- B — **Detention Basin**
- P — **Proposed Parks**
- OS — **Open Space / Lake / Flood Control / Park / Recharge Basin**
- **Round-A-Bout**
- **Front Loaded Residential Encouraged**
- **Pedestrian Undercrossing**
- **Water Feature Connection**
- **Existing Roads**
- **New Minor Roads**
- **Bike & Pedestrian Pathways**
- **Class I Bike Pathways**
- **Class II Bike Pathways**
- **City of Patterson Limits**

400 200 0 400 800
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Zacharias Master Planning Area

Conceptual Land Use Plan

City of Patterson, Stanislaus County, California
January 8, 2020

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ZACHARIAS RANCH

PA	Land Use	Acreage (Gross)	Density	# of Units	Bldg. Sq. Ft.
1	Light Industrial	66.4	~	~	1,360,500
2	Light Industrial	36.7	~	~	845,500
3	Light Industrial	25.4	~	~	523,500
4	Light Industrial	31.0	~	~	720,500
5	Light Industrial	29.5	~	~	585,250
6	Light Industrial	62.6	~	~	1,420,500
7	Light Industrial	65.9	~	~	1,454,250
8	Medium Density Residential	47.9	5.4	259	~
9	General Commercial	22.2	~	~	350,000
10	Medium Density Residential	42.2	5.4	228	~
11	Medium Density Residential	39.4	5.4	213	~
P-1	Park	3.0	~	~	~
P-2	Park	3.0	~	~	~
P-3	Park	3.5	~	~	~
	ZACHARIAS RANCH - TOTAL	**478.7**	**~**	**700**	**7,260,000**

TPF DEVELOPMENT

PA	Land Use	Acreage (Gross)	Density	# of Units	Bldg. Sq. Ft.
12	Low Density Residential	9.0	5.1	47	~
13	Medium Density Residential	9.4	9.4	87	~
14	Medium Density Residential	9.3	9.4	87	~
15	Low Density Residential	9.6	5.1	50	~
16	Low Density Residential	10.1	5.1	53	~
17	Medium Density Residential	9.2	9.4	84	~
18	Medium Density Residential	9.2	9.4	84	~
19	Low Density Residential	9.5	5.1	49	~
20	Low Density Residential	9.1	5.1	47	~
21	Low Density Residential	7.9	5.1	41	~
22	Low Density Residential	7.9	5.1	41	~
23	Low Density Residential	9.6	5.1	50	~
P-4	Park	9.9	~	~	~
	TPF DEVELOPMENT - TOTAL	**119.7**	**~**	**720**	**~**

KEYSTONE RANCH

PA	Land Use	Acreage (Gross)	Density	# of Units	Bldg. Sq. Ft.
24	Medium Density Residential	11.1			
25	Medium Density Residential	15.4	6.1	258	~
26	Medium Density Residential	15.7			
27	Medium Density Residential	5.1			
28	Medium Density Residential	12.5	7.1	240	~
29	Medium Density Residential	16.1			
30	High Density Residential	12.6	17.1	216	~
P-5	Park	8.8	~	~	~
	KEYSTONE RANCH - TOTAL	**97.3**	**~**	**714**	**~**

LAKESIDE HILLS DEVELOPMENT

PA	Land Use	Acreage (Gross)	Density	# of Units	Bldg. Sq. Ft.
31	High Density Residential	13.0	18.0	232	~
32	Medium Density Residential	13.0	6.5	84	~
33	Medium Density Residential	13.9	6.5	90	~
34	Medium Density Residential	13.6	6.5	88	~
35	Medium Density Residential	14.8	6.5	96	~
36	Medium Density Residential	8.8	6.5	57	~
37	Medium Density Residential	15.6	6.5	101	~
38	Medium Density Residential	16.7	6.5	108	~
39	Medium Density Residential	11.4	6.5	73	~
40	Medium Density Residential	13.1	6.5	85	~
41	Medium Density Residential	19.4	6.5	125	~
42	Medium Density Residential	19.8	6.5	128	~
43	Medium Density Residential	15.3	6.5	99	~
44	Medium Density Residential	13.2	6.5	85	~
45	Medium Density Residential	12.6	6.5	81	~
46	Medium Density Residential	10.0	6.5	64	~
47	Medium Density Residential	11.6	6.5	75	~
48	Medium Density Residential	6.3	6.5	40	~
49	Medium Density Residential	10.3	6.5	66	~
50	Mixed Use	2.7	10.5	26	50,500
51	Mixed Use	2.8	10.5	27	48,500
52	Mixed Use	3.1	10.5	31	58,500
53	Mixed Use	3.5	10.5	35	61,500
54	Medium Density Residential	14.7	6.5	95	~
55	Mixed Use	6.4	10.5	66	113,500
56	Mixed Use	4.2	10.5	43	74,000
57	Mixed Use	5.5	10.5	57	98,500
58	High Density Residential	5.0	18.0	90	~
59	Medium Density Residential	12.2	6.5	79	~
60	Medium Density Residential	13.7	6.5	88	~
61	Medium Density Residential	16.6	6.5	107	~
P-6	Park	4.5	~	~	~
P-7	Park	4.5	~	~	~
P-8	Park	10.5	~	~	~
P-9	Park	4.0	~	~	~
P-10	Park	5.0	~	~	~
P-11	Park	3.0	~	~	~
OS-1	Open Space / Lake	5.4	~	~	~
OS-2	Open Space / Lake	8.0	~	~	~
	LAKESIDE HILLS DEVELOPMENT - TOTAL	**387.7**	**~**	**2,521**	**505,000**

IVY ROSE GARDENS

PA	Land Use	Acreage (Gross)	Density	# of Units	Bldg. Sq. Ft.
62	Low Density Residential	34.7	3.0	104	~
63	Low Density Residential	26.4	3.0	79	~
64	Low Density Residential	55.3	3.0	166	~
65	Low Density Residential	27.3	3.0	82	~
	IVY ROSE GARDENS - TOTAL	**143.7**	**3.0**	**431**	**~**

PROJECT SUMMARY BY DEVELOPMENT

Color	Development	Acreage (Gross)	Density	# of Units	Bldg. Sq. Ft.
	Zacharias Ranch	478.7	~	700	7,260,000
	TPF Development	119.7	~	720	~
	Keystone Ranch	97.3	~	714	~
	Lakeside Hills Development	387.7	~	2,521	505,000
	Ivy Rose Gardens	143.7	3.0	431	~
	PROJECT TOTAL	**1,227.1**	**~**	**5,086**	**7,765,000**

PROJECT SUMMARY BY LAND USE

Color	Land Use	Acreage (Gross)	Density	# of Units	Bldg. Sq. Ft.
	Light Industrial	317.5	~	~	6,910,000
	General Commercial	22.2	~	~	350,000
	Low Density Residential	216.4	3.7	809	~
	Medium Density Residential	539.1	6.4	3,454	~
	High Density Residential	30.6	17.6	538	~
	Mixed Use	28.2	10.4	285	505,000
	Park / Bike & Pedestrian Pathways	59.7	~	~	~
	Open Space / Lake	13.4	~	~	~
	PROJECT TOTAL	**1,227.1**	**~**	**5,086**	**7,765,000**

1. Areas for B-1 through B-5 are INCLUDED in the Planning Area Acreages. Exact size to be determined with Development of each Planning Area
2. Future ±14 Acre Elementary School to be located East of Baldwin Road (acreage not included in calculations above)
3. Future ±15 Acre Middle School to be located West of Baldwin Road (acreage not included in calculations above)

Zacharias Master Planning Area

Conceptual Land Use Plan Breakdown

City of Patterson, Stanislaus County, California
January 8, 2020

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Zacharias Road

Zacharias Road

Rogers Road

Rogers Road

Baldwin Road

Hwy. 33

Eucalyptus Avenue

P.I.D. Canal

Railroad

Hwy. 33

Ivy Avenue

Ward Avenue

Rose Avenue

P.I.D. Canal

LEGEND

- Round-A-Bout
- Arterials
- Major Collectors
- Minor Collectors
- City of Patterson Limits

400 200 0 400 800
(If this sheet is not 24x36, it is a reduced print)

Zacharias Master Planning Area

Master Circulation Plan

City of Patterson, Stanislaus County, California
July 22, 2019

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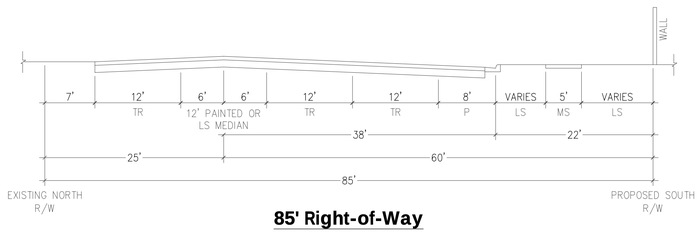
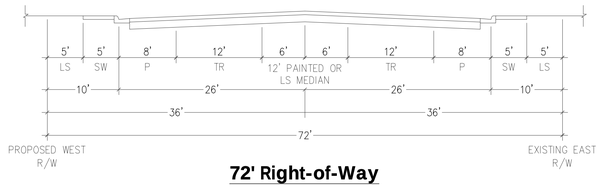
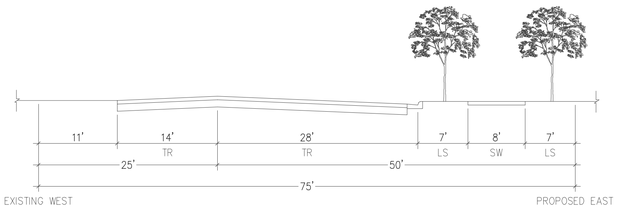


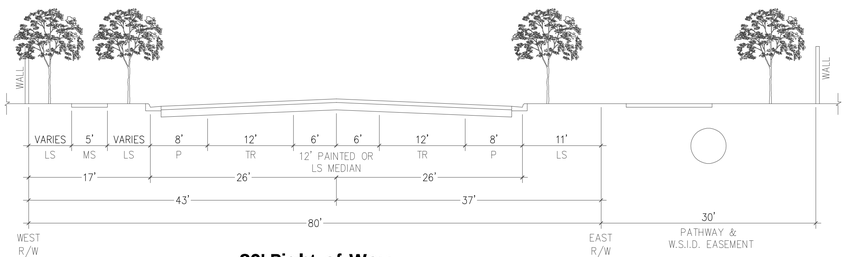
85' Right-of-Way
Zacharias Road
Not to Scale



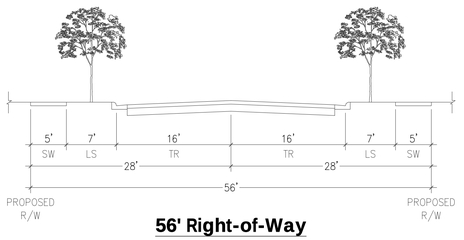
72' Right-of-Way
Ward Avenue
Not to Scale



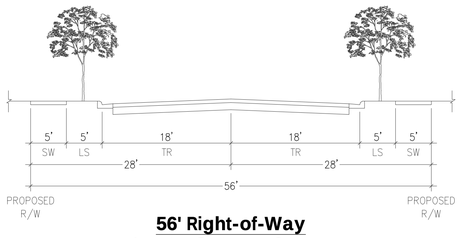
75' Right-of-Way
Rogers Road
Not to Scale



80' Right-of-Way
Baldwin Road (Zacharias Master Planning Area)
Not to Scale

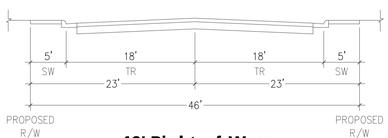


56' Right-of-Way
Interior Collector Streets
(Add 5' of Landscaping behind walk where wall is required)
Not to Scale

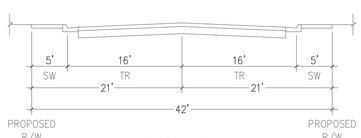


56' Right-of-Way
Interior Collector Streets
(Add 5' of Landscaping behind walk where wall is required)
Not to Scale

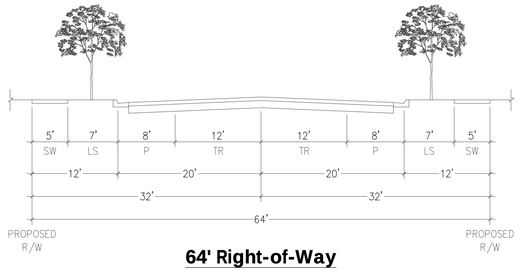
50' Right-of-Way
Interior Streets w/ Bike Path
Not to Scale



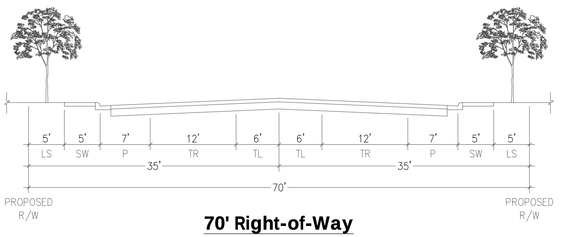
46' Right-of-Way
Interior Streets
Not to Scale



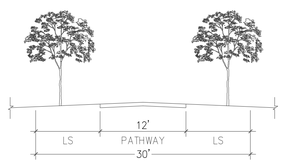
42' Right-of-Way
Interior Streets
Not to Scale



64' Right-of-Way
Collector
(Add 5' of Landscaping behind walk where wall is required)
Not to Scale



70' Right-of-Way
Industrial Streets
Not to Scale



30' Right-of-Way
Pathway
Not to Scale

Zacharias Master Planning Area

Street Sections

City of Patterson, Stanislaus County, California
July 22, 2019

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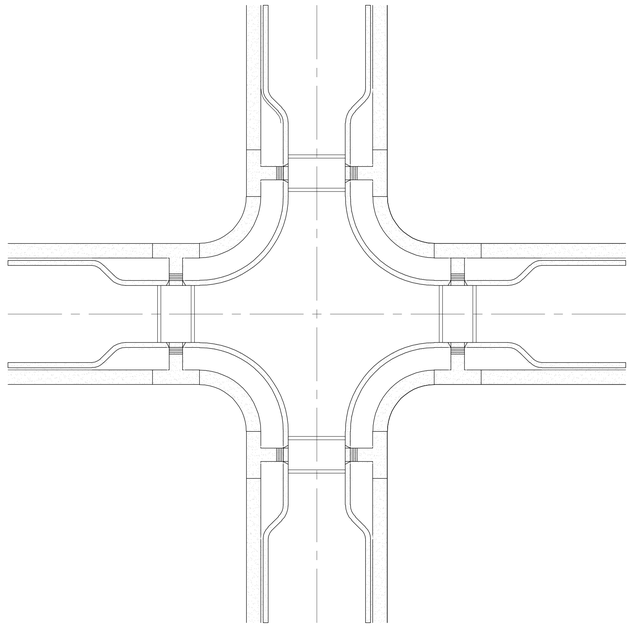
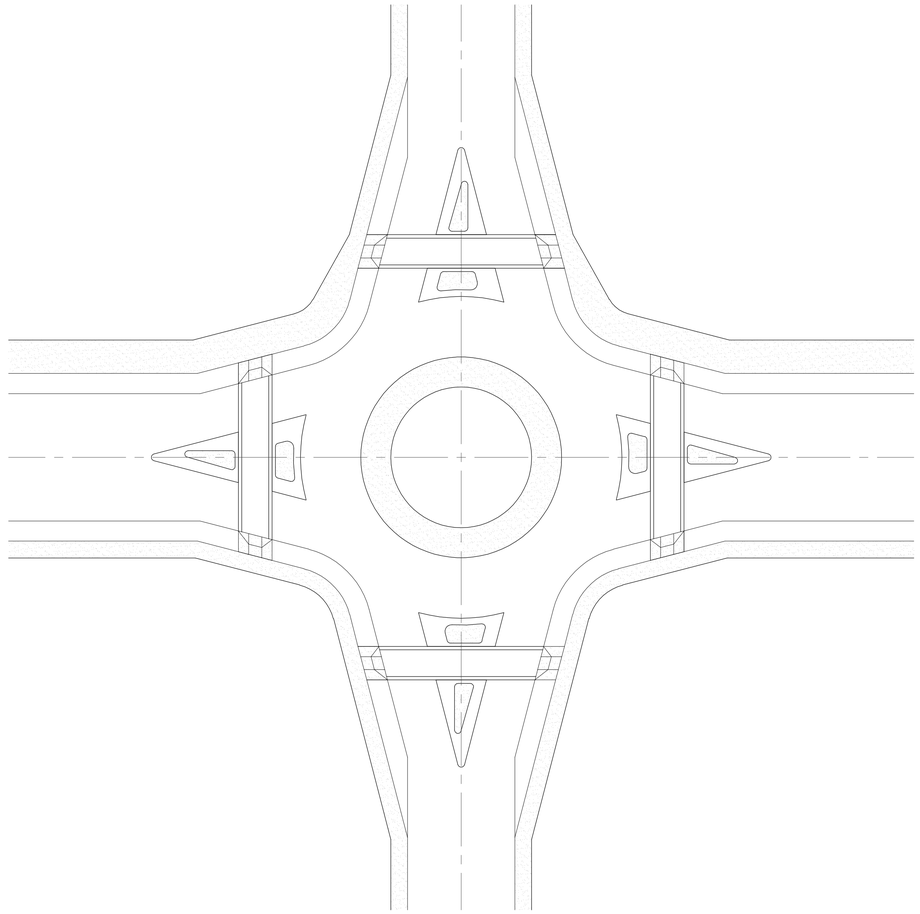


INTERSECTION TRAFFIC CALMING CHOKER
Not to Scale

MID-BLOCK TRAFFIC CALMING BULB-OUT
Not to Scale



ROUND-A-BOUT
Not to Scale
See City of Patterson Improvement Standards
3-K and 3-L for Round-A-Bout Details and Dimensions

Zacharias Master Planning Area

Traffic Calming Details

City of Patterson, Stanislaus County, California
July 22, 2019

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Domestic Water System Design & Parameters

The City of Patterson will provide potable water to future uses within the Zacharias Master Planning Area. The City's current potable water system consists of domestic wells, pump stations, water tanks, and a series of looped mains.

The Annexation Plan consists of a closed loop system consisting of 8-inch, 10-inch, 12-inch, and 16-inch potable water lines, with the boundaries of Rogers Road, Zacharias Road, and Ward Avenue / State Route 33 as the limits of improvements. Connections to existing utility lines will occur on Rogers Road, Baldwin Road, and Ward Avenue / State Route 33 (3 connections), to tie into the existing potable system. Note that a new 12-inch water line will be installed on Ward Avenue parallel to existing water lines and connected to the existing lines.

The Zacharias Master Planning Area will require a potable water demand of 1.02 million gallons per day (mgd) between the five planning areas, or 1142 acre-feet per year. This demand is split up as 0.09mgd for Keystone Ranch, 0.33mgd for Lakeside Hills, 0.09 for TPF, 0.37mgd for Baldwin Ranch, and 0.13mgd for Ivy Rose Gardens. The Calculations are based on the City of Patterson Water Supply Assessment, with a 20-percent reduction factor for state conservation requirements (the WSA originally excluded this factor). Potable water will be provided to the Zacharias Master Planning Area by potable water wells and storage tanks located offsite within the City of Patterson.

Exhibit ____, on Page _____, illustrates the conceptual water system for the Zacharias Master Planning Area consistent with the conceptual circulation plan shown on Exhibit ____. The actual alignment and configuration may be modified to be consistent within future tentative map proposals and designs.

Sanitary Sewer System Design & Parameters

The City of Patterson provides sewer service throughout the City. Sewer service includes collection, transmission, and treatment of wastewater through a series of gravity trunk lines, sewer lift stations and force mains, and a wastewater treatment plant. This system will be expanded to include the Zacharias Master Planning Area. The existing treatment plant has previously been designed per the City of Patterson Wastewater Master Plan to include the proposed annexation area as a part of its future build-out area.

The sanitary sewer lines will flow to three different directions. The two southernmost warehouse buildings for the Baldwin Ranch Planning area (parcels PA 6 & PA 7) will flow south to Keystone Pacific Parkway, flowing east until it eventually connects to the existing trunk sewer line flowing down American Eagle Avenue, M Street, and Walnut Avenue to the treatment plant. The reason for flowing south is to allow the warehouses to be built quickly while using the existing flow from the planned build-out area, per the City of Patterson Wastewater Master Plan, flowing south to the existing trunk sewer line. The second flow area will consist of the TPF Planning area, Keystone Ranch Planning Area, parcel PA 65 of the Ivy Rose Gardens Planning Area, and approximately half of parcel PA 64 of the Ivy Rose Gardens Planning Area. This will flow east to Ward Avenue, connecting to the existing sewer main on Vicki Lynn Lane. A section of the existing sewer main between Salado Creek and M Street will need to be reconstructed in 4th Street to accommodate the increased flow. The proposed reconstructed line on 4th Street will connect to the M Street sewer trunk line downstream of the section with the reverse-flow direction (at the M Street - 6th Street intersection) that causes capacity issues, preventing additional capacity from being added to that section. The third and final flow area will connect to the future North Patterson Trunk Sewer Line on Zacharias Road, that leads to Eucalyptus Avenue east of the project site. This will include the entirety of the Lakeside Hills Planning Area, and the remainder of the Baldwin Ranch Planning Area. The North Patterson Trunk Sewer Line will need to be installed up to the treatment plant as a part of this project.

Exhibit ____, on Page _____, illustrates the sewer collection system for the Zacharias Master Planning Area consistent with the Conceptual Circulation Plan shown on Exhibit ____, Page ____. The actual alignments may be modified to be consistent with future tentative map proposals and designs. Exhibit ____, on Page _____, shows a schematic of the modification to the sewer line east of the project on 4th Street, connecting to the M Street Trunk Line. Exhibit ____, on Page _____, shows the continuation of the North Patterson Trunk Sewer Line per the City of Patterson Master Plan to the existing treatment plant.

Zacharias Master Planning Area

Public Facilities & Services

City of Patterson, Stanislaus County, California
July 22, 2019

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Non-Potable Water System Design & Parameters

The City of Patterson will provide non-potable water to future uses within the Zacharias Master Planning Area. The City's current non-potable water systems consists of a number of wells, pump stations, and main lines.

The Annexation Plan Area will connect to the existing non-potable mains on Rogers Road and Baldwin Road. A 12-inch line size will be used as a loop around the exterior of the project, with interior lines of 6-inch, 8-inch, and 10-inch sizes in-between. The intent of the non-potable lines is to connect between the different park, school, and lake sites within the Annexation Plan Area. Additionally, wells may be needed per design requirements to provide additional flow to the system within the Annexation Plan Area, to be possibly located within the park sites. This configuration is concurrent with the requirements from the City of Patterson Water Master Plan.

The Zacharias Master Planning Area will require a potable water demand of 0.22 million gallons per day (mgd) between the five planning areas, or 252 acre-feet per year. This is based on demands from the park, lake, and school sites only. The Calculations are based on the City of Patterson Water Supply Assessment, with a 20-percent reduction factor for state conservation requirements (the WSA originally excluded this factor).

Exhibit ____, on Page _____, illustrates the conceptual non-potable water system for the Zacharias Master Planning Area consistent with the conceptual circulation plan shown on Exhibit __, on Page _____. The actual alignment may be modified to be consistent with future tentative map proposals and designs.

Storm Drain System Design & Parameters

The storm drainage control facilities will be implemented within the Zacharias Master Planning Area with the intention of providing for two goals: storm drain recharge, and flood control. A storm drain recharge basin facility will be built west of the annexation area on the north side of Zacharias Road, per Exhibit X on Page X. The intention is to recharge the water through retention to the lower aquifer where potable water is drawn by city wells, with the ground filtering the water prior to reaching the water table. For flood mitigation, the proposed Stanislaus County Regional Park to the West of the proposed school site north of Zacharias Road will be designed to store the anticipated 160 acres of flood water runoff for a 100-year storm event (calculated by Balance Hydrologies, Inc.), mitigating the effects of floodwaters shown in the 100-Year Flood Depths for Del Puerto Creek Hydraulic Model provided by Balance Hydrologics, Inc. This will serve as the FEMA solution for flood protection for a 100-year storm.

The storm drainage system for the Zacharias Master Planning Area will consist of a series of basins, SCADA outlet systems, gravity lines, pump stations, and force mains. Each planning area will have one or more basin areas. The Keystone Ranch, TPF, and Ivy Rose Gardens Planning Areas will each have one or more park basins for storage. The Lakeside Hills Planning Area will utilize the lake areas for storage as wet basin systems. The Baldwin Ranch Planning Area will have a mixed of basin and park basin areas as drainage storage facilities. These facilities will ultimately serve as detention basin facilities designed for a 50-year, 24-hour storm per the City of Patterson Standards for detention facilities with a pump-outlet system. Any facilities constructed prior to the installation and operation of the recharge basin facility on Zacharias Road will need to have temporary retention basins installed and design for a 100-year, 24-hour storm per the City of Patterson Standards for retention basin facilities. These basins will be converted to detention facilities and connected to outlet storm drain facilities once the recharge basin is constructed and operational.

All storm drain detention facilities will be connected to SCADA outlet systems. Gravity lines will be connected between these facilities and the pump station facilities. From the storm drain pump stations, force mains will flow to Zacharias Road, and head west up to the proposed recharge basin. Exhibit _____ on Page _____ shows the storm drain pipe, basin, and pump station facilities within the planning areas.

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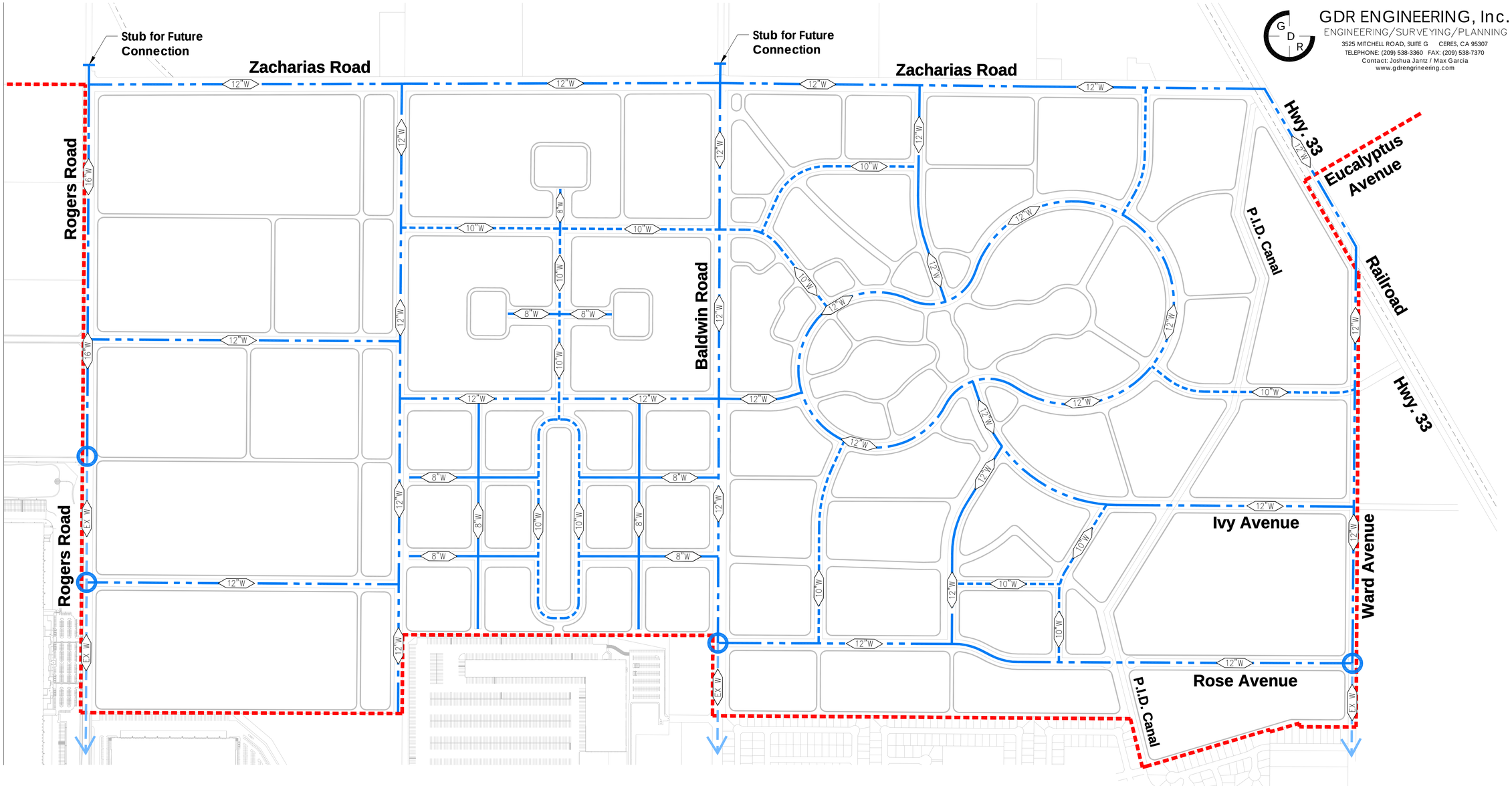

LEGEND

- City of Patterson
- Existing Water Main
- Proposed 8 Inch Water Main
- Proposed 10 Inch Water Main
- Proposed 12 Inch Water Main
- Proposed 16 Inch Water Main
- Connect to Existing Water Main

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Zacharias Master Planning Area

Water Master Plan

City of Patterson, Stanislaus County, California
July 22, 2019

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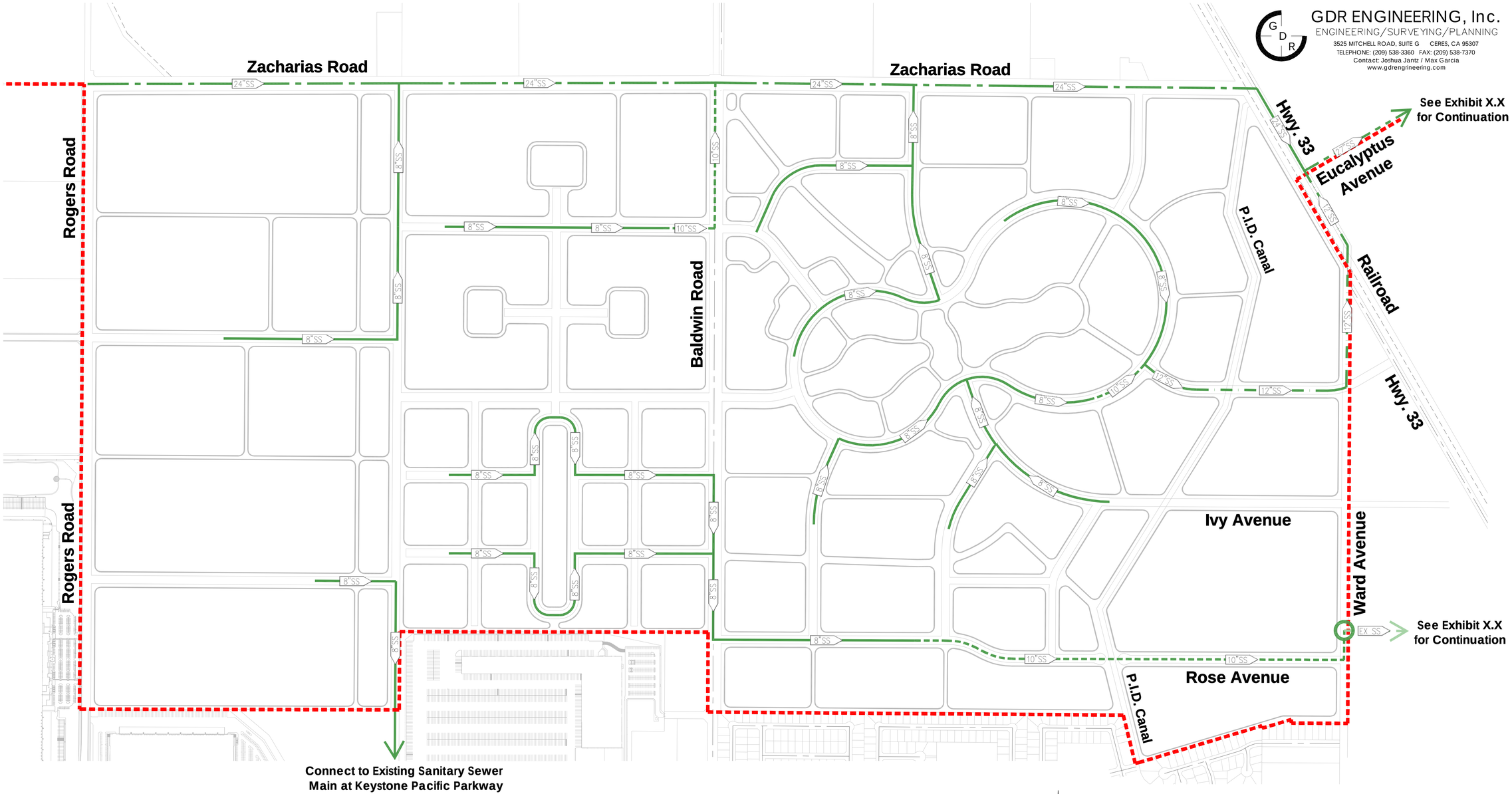

LEGEND

- City of Patterson
- Existing Sanitary Sewer Main
- Proposed 8 Inch Sanitary Sewer Main
- Proposed 10 Inch Sanitary Sewer Main
- Proposed 12 Inch Sanitary Sewer Main
- Proposed 24 Inch Sanitary Sewer Main
- Proposed 27 Inch Sanitary Sewer Main
- Connect to Existing Sanitary Sewer Main

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Zacharias Master Planning Area

Sanitary Sewer Master Plan

City of Patterson, Stanislaus County, California
July 22, 2019

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LEGEND

- Proposed 12 Inch Sanitary Sewer Main
- Proposed 24 Inch Sanitary Sewer Main
- Proposed 27 Inch - 36 Inch Sanitary Sewer Main

600 300 0 600 1200
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Zacharias Master Planning Area

Sanitary Sewer Master Plan

City of Patterson, Stanislaus County, California
July 22, 2019

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LEGEND

- Existing Sanitary Sewer Main
- Proposed 10 Inch Sanitary Sewer Main
- Connect to Existing Sanitary Sewer Main

100 50 0 100 200
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Zacharias Master Planning Area

Sanitary Sewer Master Plan

City of Patterson, Stanislaus County, California
July 22, 2019

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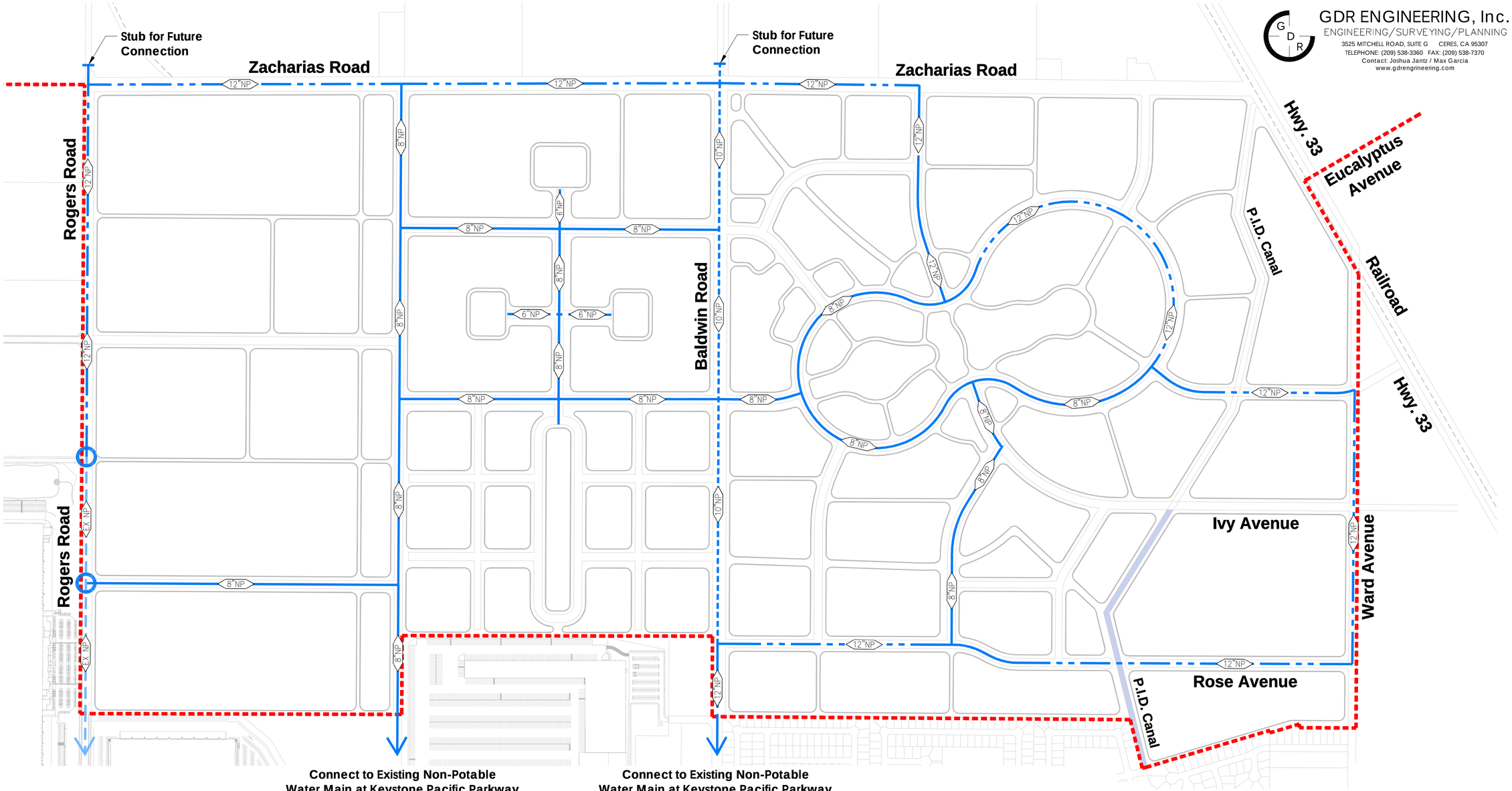

LEGEND

- City of Patterson
- Existing Non-Potable Water Main
- Proposed 6 Inch Non-Potable Water Main
- Proposed 8 Inch Non-Potable Water Main
- Proposed 10 Inch Non-Potable Water Main
- Proposed 12 Inch Non-Potable Water Main
- Connect to Existing Non-Potable Water Main

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Zacharias Master Planning Area

Non-Potable Water Master Plan

City of Patterson, Stanislaus County, California
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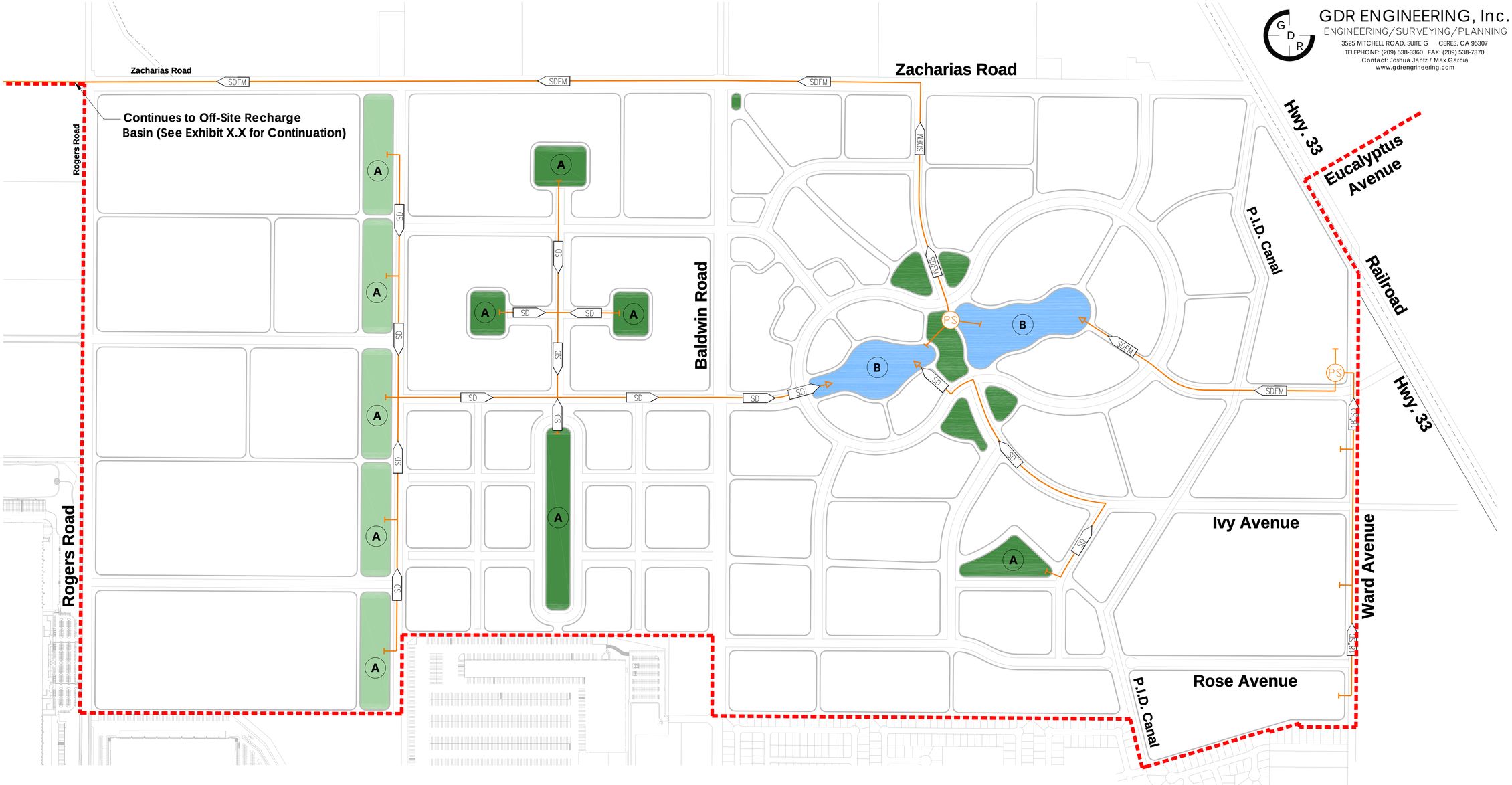

LEGEND

- City of Patterson
- Proposed Storm Drain (SD)
- Proposed Storm Drain Force Main (SDFM)
- Proposed Pump Station (PS)
- Proposed Inlet Pipe (To Basin)
- Proposed Outlet Pipe (From Basin)
- Storm Drainage Basin
- Park / Storm Drainage Basin
- Open Space / Lake / Flood Control
- (A) Temporary Retention Basin, Ultimate Detention Basin
- (B) Ultimate Storage / Wet Basin

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Zacharias Master Planning Area

Storm Drain, Stormwater Recharge & FEMA Solution Master Plan

City of Patterson, Stanislaus County, California

July 22, 2019

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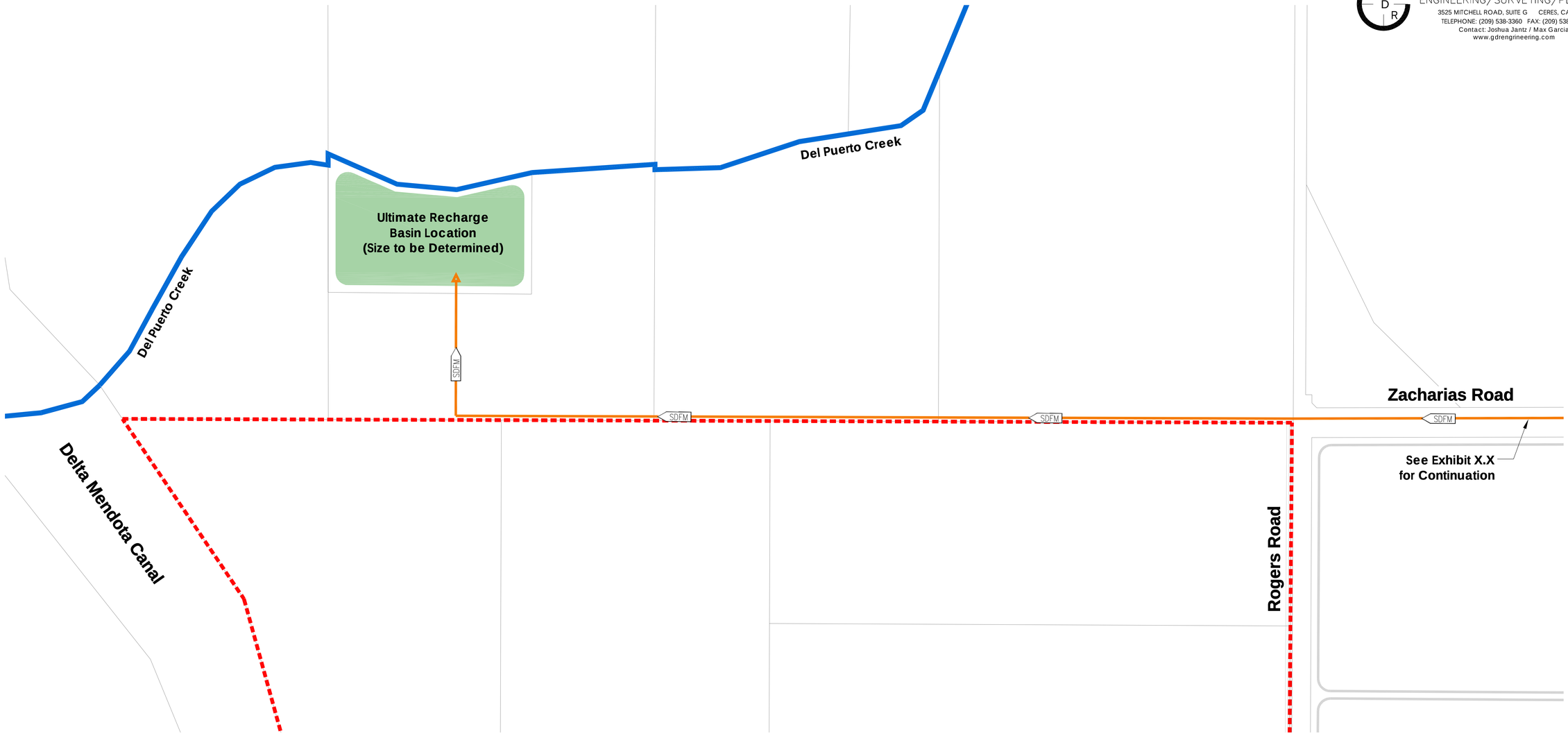

LEGEND

- City of Patterson
- SDFM — Proposed Storm Drain Force Main
- Proposed Inlet Pipe (To Basin)
- Storm Drainage Recharge Facility

200 100 0 200 400
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Zacharias Master Planning Area

Storm Drain, Stormwater Recharge & FEMA Solution Master Plan

City of Patterson, Stanislaus County, California
July 22, 2019

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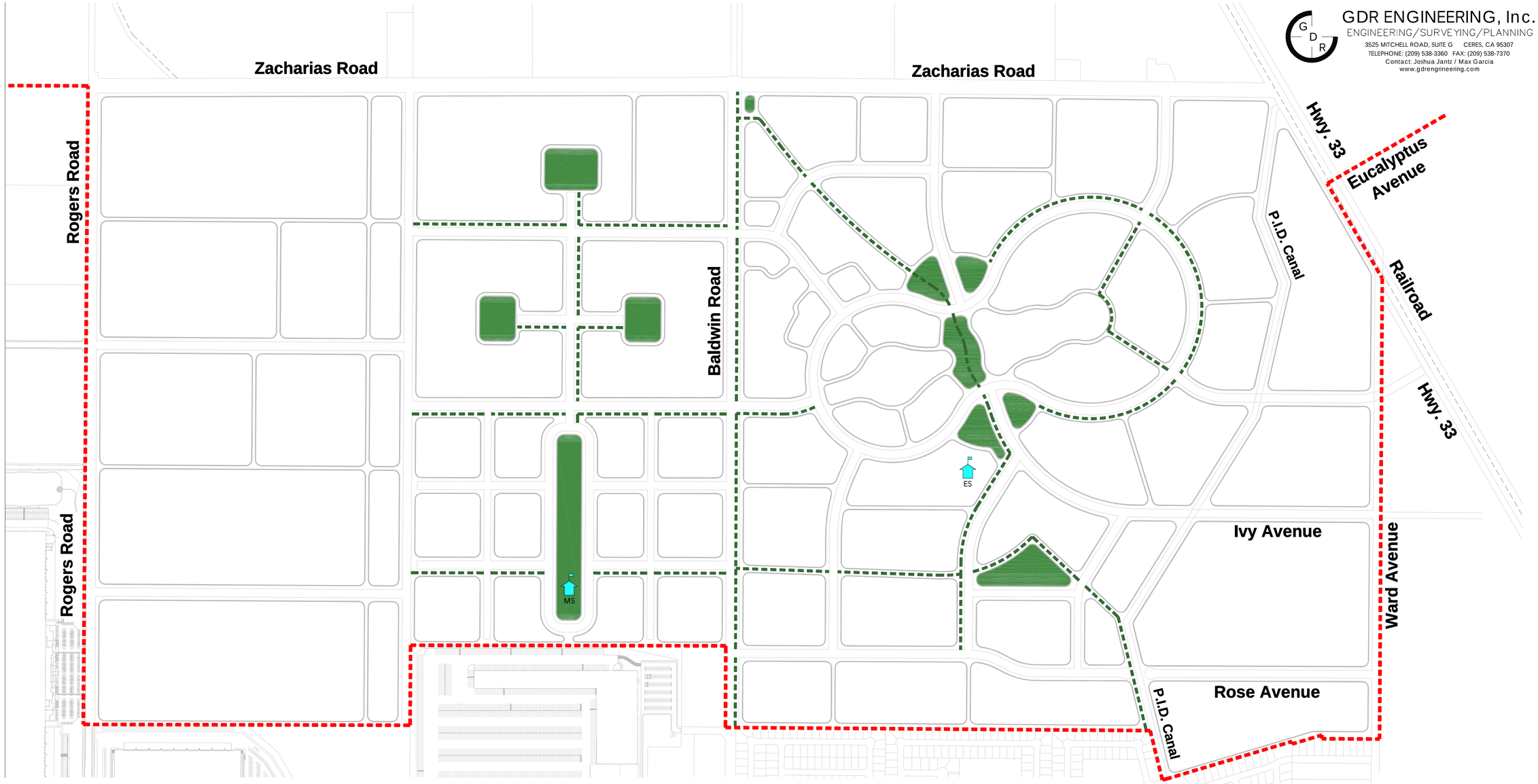
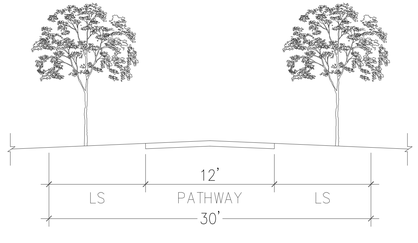


LEGEND

- **City of Patterson**
- **Bike & Pedestrian Paths (30' Wide Typical)**
- P — **Proposed Parks**
- ES — **Future ±14 Elementary School Site East of Baldwin Road** (Final Location to be Determined)
- MS — **Future ±15 Acre Middle School Site West of Baldwin Road** (Final Location to be Determined)



30' Right-of-Way
Pathway
Not to Scale

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(If this sheet is not 24x36, it is a reduced print)

Zacharias Master Planning Area

Parks, Pedestrian Pathways & Future School Sites

City of Patterson, Stanislaus County, California
July 22, 2019

ZACHARIAS MASTER PLANNING AREA

Conceptual Lane Use Plan - Project Breakdown

July 22, 2019

	PA	Land Use	Acreage (Gross)	Density	# of Units	Building Sq. Ft.
ZACHARIAS RANCH	1	Light Industrial	66.4	~	~	1,360,500
	2	Light Industrial	36.7	~	~	845,500
	3	Light Industrial	25.4	~	~	523,500
	4	Light Industrial	31.0	~	~	720,500
	5	Light Industrial	29.5	~	~	585,250
	6	Light Industrial	62.6	~	~	1,420,500
	7	Light Industrial	65.9	~	~	1,454,250
	8	Medium Density Residential	45.9	5.5	262	~
	9	Community Commercial	22.2	~	~	350,000
	10	Medium Density Residential	40.2	5.4	223	~
	11	Medium Density Residential	39.2	5.4	215	~
	P-1	Park	4.0	~	~	~
	P-2	Park	3.0	~	~	~
	P-3	Park	3.0	~	~	~
		Bike & Pedestrian Pathways (30' Wide)	3.7	~	~	~
		ZACHARIAS RANCH - TOTAL	**478.7**	**~**	**700**	**7,260,000**

* Areas for B-1 through B-5 are INCLUDED in the Planning Area acreages. Exact size to be determined with Development of each Planning Area.

	PA	Land Use	Acreage (Gross)	Density	# of Units	Building Sq. Ft.
TPF DEVELOPMENT	12	Low Density Residential	9.0	5.1	47	~
	13	Medium Density Residential	7.9	11.0	87	~
	14	Medium Density Residential	7.8	11.0	87	~
	15	Low Density Residential	9.6	5.1	50	~
	16	Low Density Residential	10.1	5.1	53	~
	17	Medium Density Residential	7.6	11.0	84	~
	18	Medium Density Residential	7.6	11.0	84	~
	19	Low Density Residential	9.5	5.1	49	~
	20	Low Density Residential	9.1	5.1	47	~
	21	Low Density Residential	7.9	5.1	41	~
	22	Low Density Residential	7.9	5.1	41	~
	23	Low Density Residential	9.6	5.1	50	~
	P-4	Park	12.6	~	~	~
		Bike & Pedestrian Pathways (30' Wide)	3.5	~	~	~
		TPF DEVELOPMENT - TOTAL	**119.7**	**~**	**720**	**~**

	PA	Land Use	Acreage (Gross)	Density	# of Units	Building Sq. Ft.
KEYSTONE RANCH	24	Medium Density Residential	11.1	6.1	258	~
	25	Medium Density Residential	15.4			
	26	Medium Density Residential	15.7			
	27	Medium Density Residential	5.1	7.1	240	~
	28	Medium Density Residential	12.5			
	29	Medium Density Residential	16.1			
	30	High Density Residential	12.6	17.1	216	~
	P-5	Park	5.9	~	~	~
		Bike & Pedestrian Pathways (30' Wide)	2.9	~	~	~
		KEYSTONE RANCH - TOTAL	**97.3**	**~**	**714**	**~**

	PA	Land Use	Acreage (Gross)	Density	# of Units	Building Sq. Ft.
LAKESIDE HILLS DEVELOPMENT	31	High Density Residential	12.9	18.0	232	~
	32	Medium Density Residential	12.9	6.5	84	~
	33	Medium Density Residential	13.8	6.5	90	~
	34	Medium Density Residential	13.5	6.5	88	~
	35	Medium Density Residential	14.7	6.5	96	~
	36	Medium Density Residential	8.7	6.5	57	~
	37	Medium Density Residential	15.5	6.5	101	~
	38	Medium Density Residential	16.6	6.5	108	~
	39	Medium Density Residential	11.3	6.5	73	~
	40	Medium Density Residential	13.0	6.5	85	~
	41	Medium Density Residential	19.3	6.5	125	~
	42	Medium Density Residential	19.7	6.5	128	~
	43	Medium Density Residential	15.2	6.5	99	~
	44	Medium Density Residential	13.1	6.5	85	~
	45	Medium Density Residential	12.5	6.5	81	~
	46	Medium Density Residential	9.9	6.5	64	~
	47	Medium Density Residential	11.5	6.5	75	~
	48	Medium Density Residential	6.2	6.5	40	~
	49	Medium Density Residential	10.2	6.5	66	~
	50	Mixed Use	2.6	10.5	26	50,500
	51	Mixed Use	2.7	10.5	27	48,500
	52	Mixed Use	3.0	10.5	31	58,500
	53	Mixed Use	3.4	10.5	35	61,500
	54	Medium Density Residential	14.6	6.5	95	~
	55	Mixed Use	6.3	10.5	66	113,500
	56	Mixed Use	4.1	10.5	43	74,000
	57	Mixed Use	5.4	10.5	57	98,500
	58	High Density Residential	5.0	18.0	90	~
	59	Medium Density Residential	12.1	6.5	79	~
	60	Medium Density Residential	13.6	6.5	88	~
	61	Medium Density Residential	16.5	6.5	107	~
	P-6	Park	4.2	~	~	~
	P-7	Park	2.5	~	~	~
	P-8	Park	10.4	~	~	~
	P-9	Park	2.6	~	~	~
	P-10	Park	3.5	~	~	~
	P-11	Park	1.1	~	~	~
		Bike & Pedestrian Pathways (30' Wide)	10.2	~	~	~
	OS-1	Open Space / Lake	5.4	~	~	~
	OS-1	Open Space / Lake	8.0	~	~	~
		LAKESIDE HILLS DEVELOPMENT - TOTAL	**387.7**	**~**	**2,521**	**505,000**
IVY ROSE GARDENS	62	Low Density Residential	34.7	3.0	104	~
	63	Low Density Residential	26.4	3.0	79	~
	64	Low Density Residential	55.3	3.0	166	~
	65	Low Density Residential	27.3	3.0	82	~
		IVY ROSE GARDENS - TOTAL	**143.7**	**3.0**	**431**	**~**

PROJECT SUMMARY BY DEVELOPMENT					
Development		Acreage (Gross)	Density	# of Units	Building Sq. Ft.
	ZACHARIAS RANCH	478.7	~	700	7,260,000
	TPF DEVELOPMENT	119.7	~	720	~
	KEYSTONE RANCH	97.3	~	714	~
	LAKESIDE HILLS DEVELOPMENT	387.7	~	2,521	505,000
	IVY ROSE GARDENS	143.7	3.0	431	~
ZACHARIAS MASTER PLANNING AREA - PROJECT TOTAL		1227.1	~	5,086	7,765,000

PROJECT SUMMARY BY LAND USE					
Development		Acreage (Gross)	Density	# of Units	Building Sq. Ft.
	LIGHT INDUSTRIAL	317.5	~	~	6,910,000
	COMMUNITY COMMERCIAL	22.2	~	~	350,000
	LOW DENSITY RESIDENTIAL	216.4	3.7	809	~
	MEDIUM DENSITY RESIDENTIAL	526.5	6.6	3,454	~
	HIGH DENSITY RESIDENTIAL	30.5	17.6	538	~
	MIXED USE	27.5	10.4	285	505,000
	PARK / BIKE & PEDESTRIAN PATHWAYS	73.1	~	~	~
	OPEN SPACE / LAKE	13.4	~	~	~
ZACHARIAS MASTER PLANNING AREA - PROJECT TOTAL		1227.1	~	5,086	7,765,000

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ZACHARIAS ROAD
ROGERS ROAD
BALDWIN ROAD
WARD AVENUE
SPERRY AVENUE
SPERRY AVENUE

1300 650 0 1300 2600
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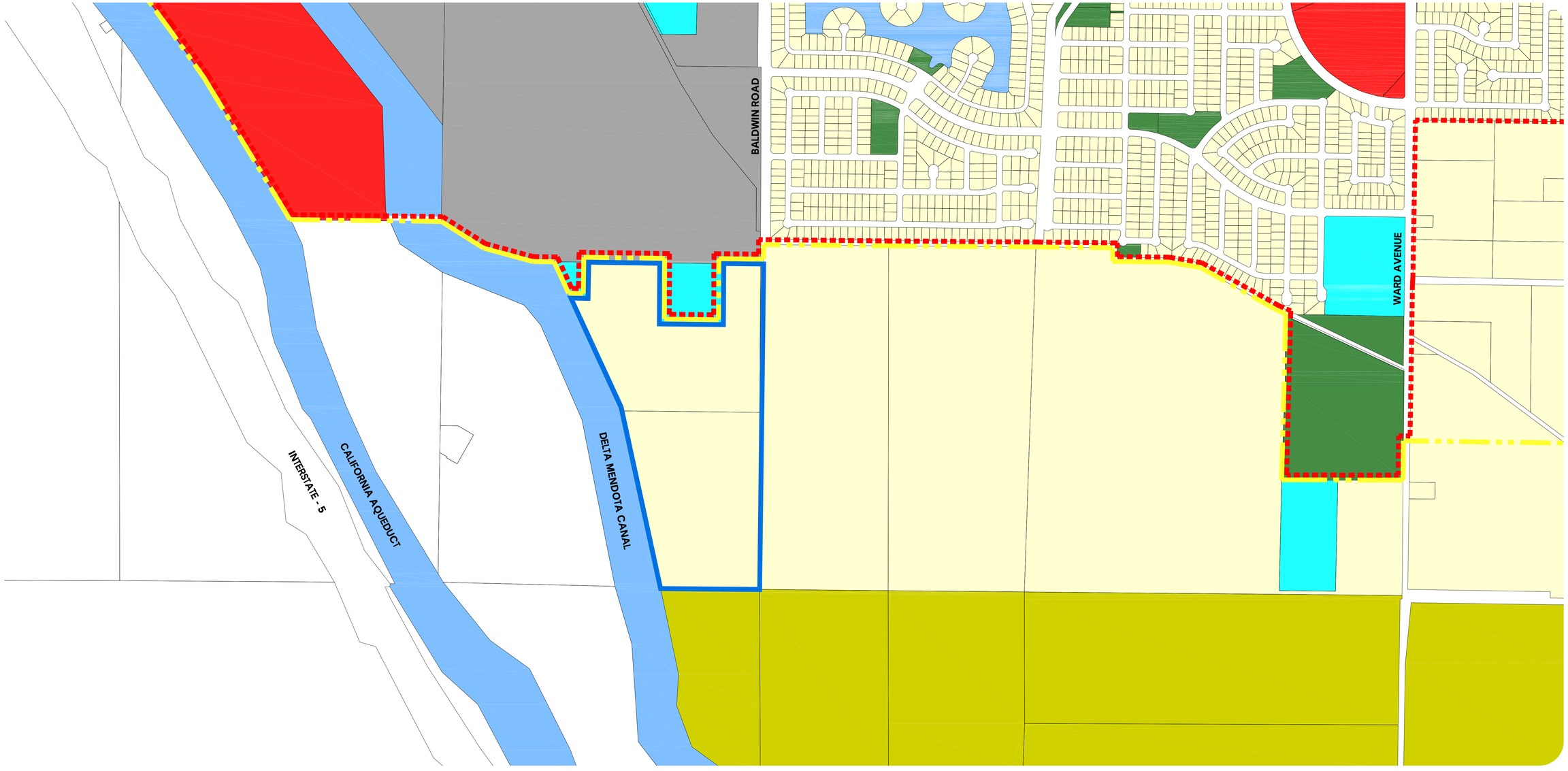
LEGEND

- City of Patterson General Plan
- City of Patterson
- Baldwin Ranch Master Planning Area

Baldwin Ranch Master Planning Area

Location Map

City of Patterson, Stanislaus County, California
July 22, 2019



LEGEND

- Low Density Residential
- Estate Residential
- Light Industrial
- Public / Quasi-Public
- General Commercial
- Park / Open Space
- Existing City Limits
- Existing Sphere of Influence
- Proposed Sphere of Influence / Baldwin Ranch Master Planning Area

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Baldwin Ranch Master Planning Area

Existing General Plan Designations

City of Patterson, Stanislaus County, California
July 22, 2019

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ENGINEERING/SURVEYING/PLANNING
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TELEPHONE: (209) 538-3360 FAX: (209) 538-7370
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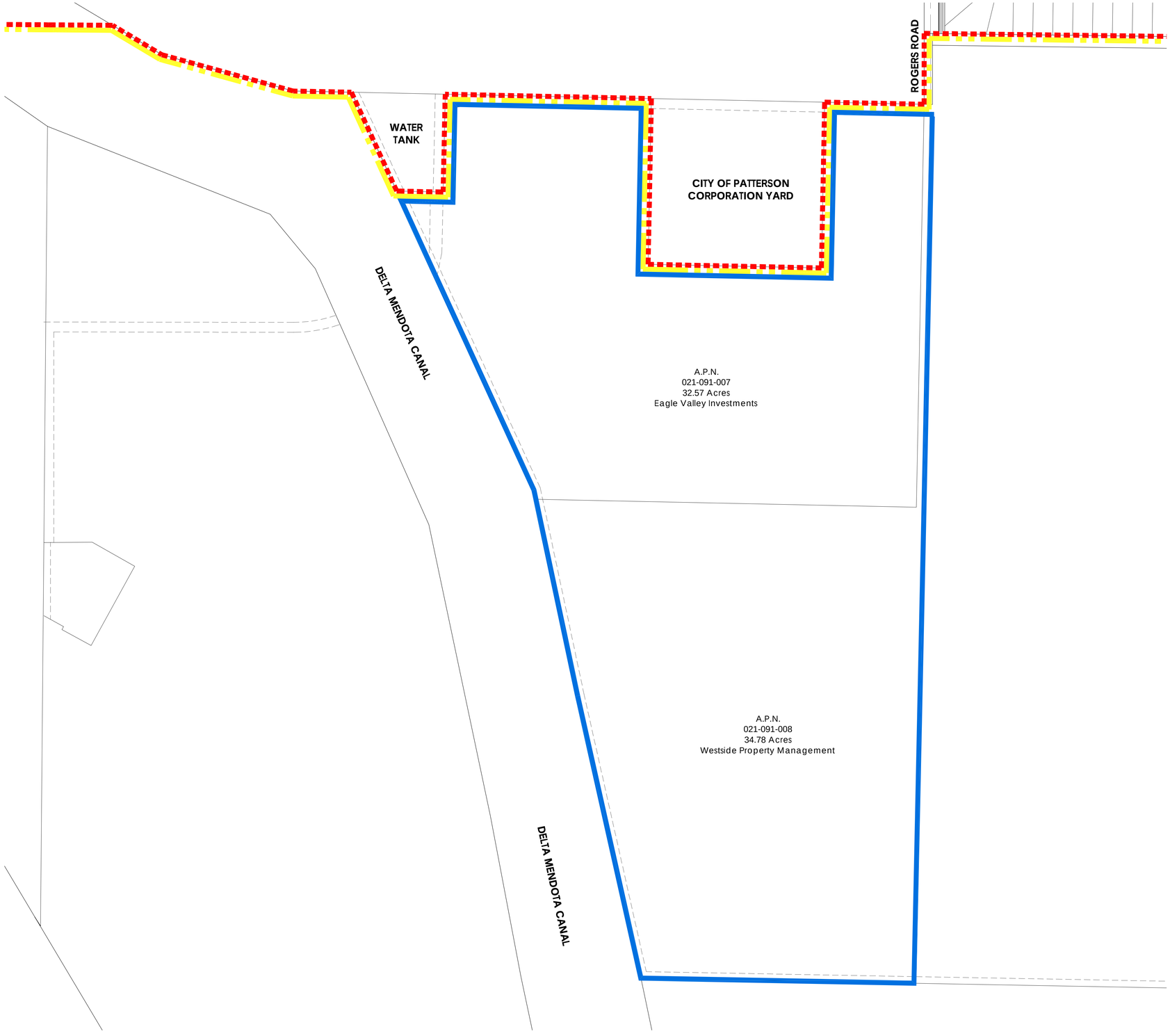
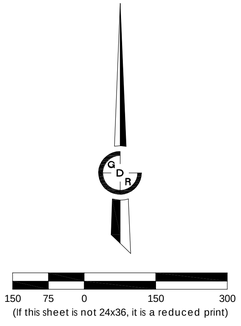




LEGEND

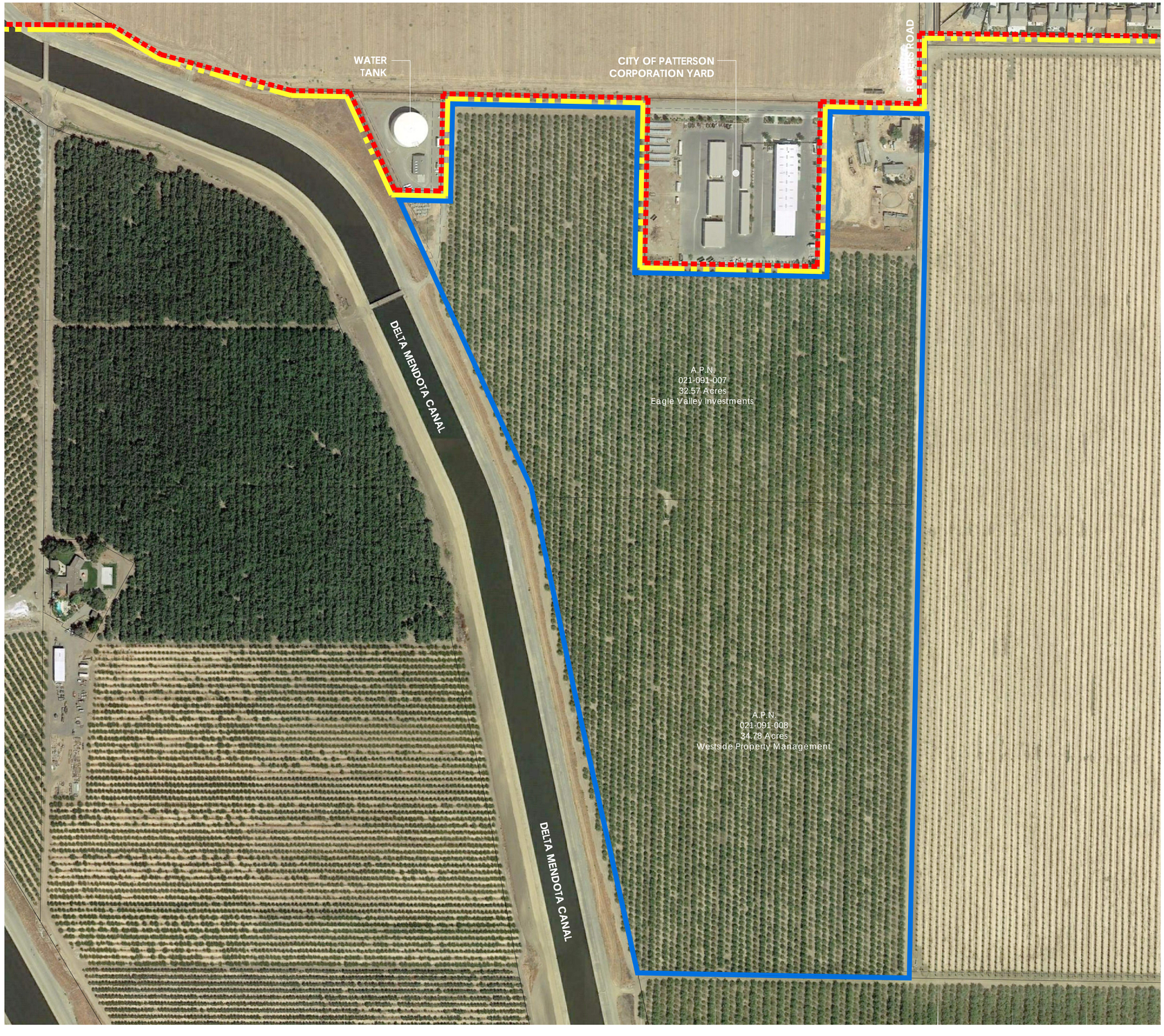
- **Existing City Limits**
- **Existing Sphere of Influence**
- **Proposed Sphere of Influence**

* Acreages based on Assessors Maps

Baldwin Ranch Master Planning Area

Land Owners Information

City of Patterson, Stanislaus County, California
July 22, 2019



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LEGEND

- Existing City Limits
- Existing Sphere of Influence
- Proposed Sphere of Influence

* Acreages based on Assessors Maps

Baldwin Ranch Master Planning Area

Land Owners Information with Google Image Overlay

City of Patterson, Stanislaus County, California
July 22, 2019

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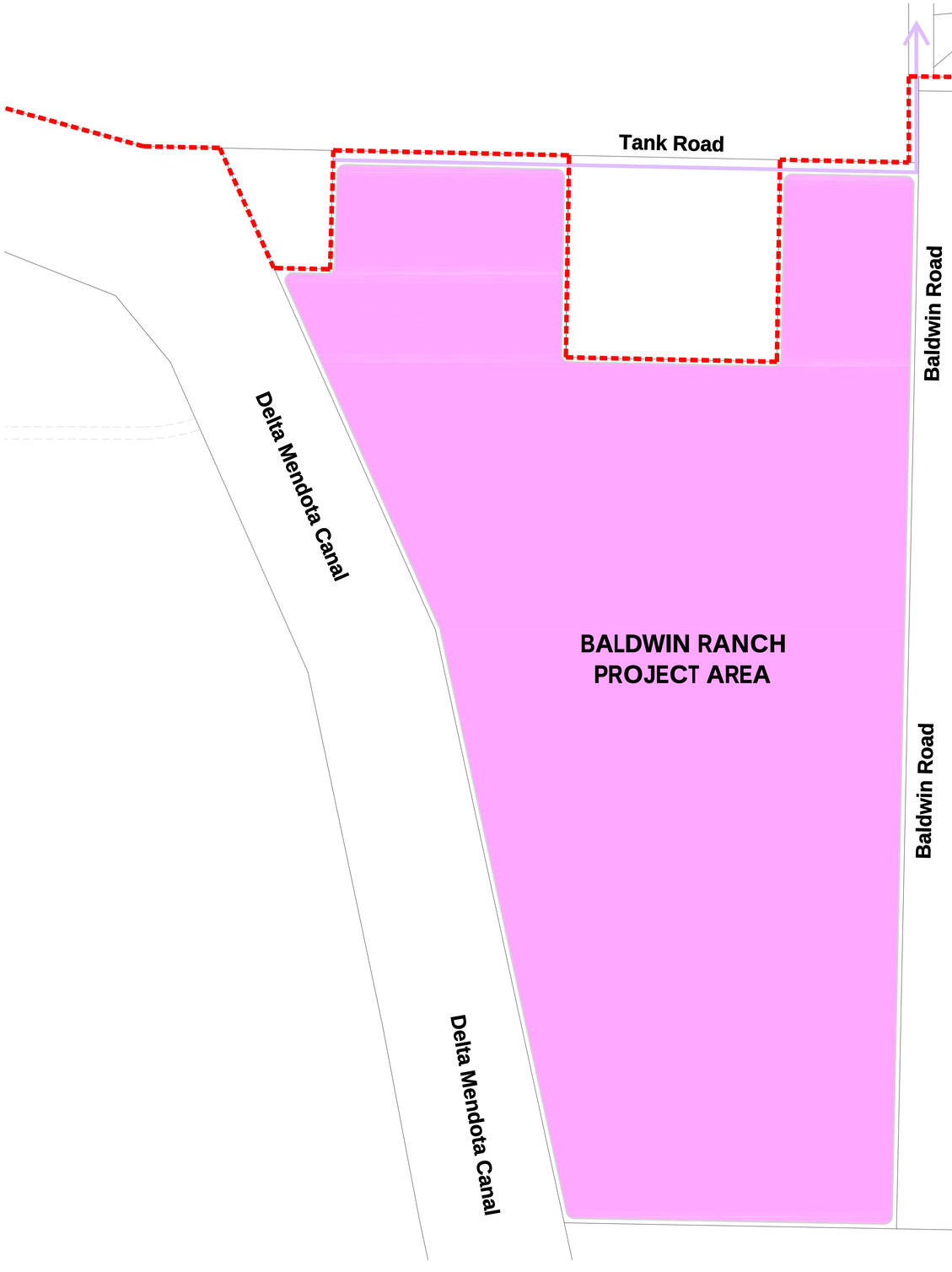

DEVELOPMENT BREAKDOWN

	Baldwin Ranch	±65.9 Gross Acres	±305 Units
	Existing Roads		
	City of Patterson Limits		

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Baldwin Ranch Master Planning Area

Development Area Breakdown

City of Patterson, Stanislaus County, California
July 22, 2019

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DEVELOPMENT FRAMEWORK

- L — **Low Density Residential** (1.1 - 5.0 U.P.A.)
- P — **Proposed Parks / Basin / Landscape Buffer**
- **Existing Roads**
- **New Minor Roads**
- **City of Patterson Limits**

BALDWIN RANCH

PA	Land Use	Acreage (Gross)	Density	# of Units	Bldg. Sq. Ft.
1	Low Density Residential	8.8	5.0	44	~
2	Low Density Residential	13.9	5.0	70	~
3	Low Density Residential	15.0	5.0	75	~
4	Low Density Residential	23.2	5.0	116	~
P-1	Park	2.0	~	~	~
P-2	Park / Basin	2.0	~	~	~
P-3	Landscape Buffer / Bike Path	1.0	~	~	~
	BALDWIN RANCH - TOTAL	**65.9**	**~**	**305**	**~**

PROJECT SUMMARY BY LAND USE

Color	Land Use	Acreage (Gross)	Density	# of Units	Bldg. Sq. Ft.
	Low Density Residential	60.9	5.0	305	~
	Park	5.0	~	~	~
	PROJECT TOTAL	**65.9**	**~**	**305**	**~**

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Baldwin Ranch Master Planning Area

Conceptual Land Use Plan

City of Patterson, Stanislaus County, California
October 3, 2019

APPENDIX B: ZACHARIAS AND BALDWIN MASTER PLAN AREA DEMAND CALCULATION BY PLANNING AREA

ZACHARIAS RANCH PLANNING AREA WATER DEMAND

Land Use	Gross Area (Acres)	Potable Water Factor*	Total Water Demand		Non-Potable Water Factor*	Total Water Demand	
Mid-Density Residential	129.5	1.1	142.5			0.0	
Light Industrial	317.5	0.4	127.0		0.47	148.7	
Community Commercial	22.2	0.8	17.8		0.47	10.4	
Parks and Recreation	9.5	2.6	24.7		3.75	35.6	
Total	478.7	TOTALS	311.9	AC-FT		194.8	AC-FT
TOTAL POTABLE DEMAND			311.9	AC-FT/YR			
TOTAL NONPOTABLE DEMAND			194.8	AC-FT/YR			

Water Supply Factors Based on the City of Patterson 2018 Water Master Plan, and the Woodard & Curran, Inc. Draft Water Supply Assessment, Dated October 2019.

TPF DEVELOPMENT PLANNING AREA WATER DEMAND

Land Use	Gross Area (Acres)	Potable Water Factor*	Total Water Demand		Non-Potable Water Factor*	Total Water Demand	
Low-Density Residential	58.7	1.9	111.5			0.0	
Mid-Density Residential	37.1	1.1	40.8			0.0	
Parks and Recreation	9.9	2.6	25.7		3.75	37.1	
Public / Institutional	14.0	1.1	15.4		2.34	32.8	
Total	119.7	TOTALS	193.5	AC-FT		69.9	AC-FT
TOTAL POTABLE DEMAND			193.5	AC-FT/YR			
TOTAL NONPOTABLE DEMAND			69.9	AC-FT/YR			

Water Supply Factors Based on the City of Patterson 2018 Water Master Plan, and the Woodard & Curran, Inc. Draft Water Supply Assessment, Dated October 2019.

KEYSTONE RANCH PLANNING AREA WATER DEMAND

Land Use	Gross Area (Acres)	Potable Water Factor*	Total Water Demand		Non-Potable Water Factor*	Total Water Demand	
Mid-Density Residential	75.9	1.1	83.5			0.0	
High-Density Residential	12.6	2.5	31.5			0.0	
Parks and Recreation	8.8	2.6	22.9		3.75	33.0	
Total	97.3	TOTALS	137.9	AC-FT		33.0	AC-FT
TOTAL POTABLE DEMAND			137.9	AC-FT/YR			
TOTAL NONPOTABLE DEMAND			33.0	AC-FT/YR			

Water Supply Factors Based on the City of Patterson 2018 Water Master Plan, and the Woodard & Curran, Inc. Draft Water Supply Assessment, Dated October 2019.

LAKESIDE HILLS PLANNING AREA WATER DEMAND

Land Use	Gross Area (Acres)	Potable Water Factor*	Total Water Demand		Non-Potable Water Factor*	Total Water Demand	
Mid-Density Residential	281.6	1.1	309.8			0.0	
High-Density Residential	18.0	2.5	45.0			0.0	
Mixed Use	28.2	2.2	62.0		0.47	13.2	
Parks and Recreation	31.5	2.6	81.9		3.75	118.1	
Lakes (Evaporation Only)	13.4	0.0	0.0			116*	
Public / Institutional	15.0	1.1	16.5		2.34	35.1	
Total	387.7	TOTALS	515.2	AC-FT		282.4	AC-FT
TOTAL POTABLE DEMAND			515.2	AC-FT/YR			
TOTAL NONPOTABLE DEMAND			282.4	AC-FT/YR			

Water Supply Factors Based on the City of Patterson 2018 Water Master Plan, and the Woodard & Curran, Inc. Draft Water Supply Assessment, Dated October 2019.

*Based on Evaporation Rate Calculation by Woodard & Curran for Draft Water Supply Assessment, Dated October 2019, Factored up to 13.4 Gross Acres Area.

IVY ROSE GARDENS PLANNING AREA WATER DEMAND

Land Use	Gross Area (Acres)	Potable Water Factor*	Total Water Demand		Non-Potable Water Factor*	Total Water Demand	
Low-Density Residential	143.7	1.9	273.0			0	
Total	143.7	TOTALS	273.0	AC-FT		0.0	AC-FT
TOTAL POTABLE DEMAND			273.0	AC-FT/YR			
TOTAL NONPOTABLE DEMAND			0.0	AC-FT/YR			

Water Supply Factors Based on the City of Patterson 2018 Water Master Plan, and the Woodard & Curran, Inc. Draft Water Supply Assessment, Dated October 2019.

BALDWIN RANCH PLANNING AREA WATER DEMAND

Land Use	Gross Area (Acres)	Potable Water Factor*	Total Water Demand		Non-Potable Water Factor*	Total Water Demand	
Low-Density Residential	60.9	1.9	115.7			0.0	
Parks and Recreation	5.00	2.6	13.0		3.75	18.7	
Total	65.9	TOTALS	128.7	AC-FT		18.7	AC-FT
TOTAL POTABLE DEMAND			128.7	AC-FT/YR			
TOTAL NONPOTABLE DEMAND			18.7	AC-FT/YR			

Water Supply Factors Based on the City of Patterson 2018 Water Master Plan, and the Woodard & Curran, Inc. Draft Water Supply Assessment, Dated October 2019.

OVERALL WATER DEMAND SUMMARY

Planning Area	Potable Demand (AC-FT/YR)	Potable Demand (MGD)*	Non-Potable Demand (AC-FT/YR)	Non-Potable Demand (MGD)*
Zacharias Ranch	312	0.28	195	0.17
TPF Development	193	0.17	70	0.06
Keystone Ranch	138	0.12	33	0.03
Lakeside Hills	515	0.46	282	0.25
Ivy Rose Gardens	273	0.24	0	0.00
Baldwin Ranch	129	0.11	19	0.02
Total	**1560**	**1.39**	**599**	**0.53**

*Million Gallons Per Day

woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS

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