Draft Recirculated Environmental Impact Report

SCH# 2022080056

Volume 7

Appendices K through M

MALIBU VINEYARDS INDUSTRIAL PARKWAY PROJECT

by Malibu Vineyards, LP

(PP21116)

Specific Plan Amendment No. 161, Map 500
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Kern County
Planning and Natural Resources Department
Bakersfield, CA

September 2025

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Appendices - Volume 7

NOTE TO REVIEWER OF ELECTRONIC FILES:

To assist you in reviewing this electronic document, "bookmarks" and/or "links" have been provided for easier navigation between sections. When available, bookmarks are located in the panel to the left. Links are highlighted in **BLUE** in the Table of Contents. Clicking on either the bookmarks or links will take you to the selected item. This document may consist of multiple linked PDF files. If saving this document to your computer, you must save all corresponding files to a directory on your hard drive to maintain the manner in which these PDF documents are linked.

Appendix K: Noise Assessment

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Appendix K

Noise Assessment

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Environmental Noise & Vibration Assessment

Malibu Vineyards Rezone Project – Phases 1 & 2

Kern County, California

BAC Job # 2019-141

Prepared For:

Malibu Vineyards, LP

Attn: Tom Murray
9777 Wilshire Boulevard, Suite 900
Beverly Hills, CA 90212

Prepared By:

Bollard Acoustical Consultants, Inc.

Dario Gotchet, Principal Consultant

April 5, 2022

BOLLARD
Acoustical Consultants

CEQA Checklist

NOISE AND VIBRATION **– Would the Project Result in:**	**NA – Not Applicable**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Generation of substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			**X**		
b) Generation of excessive groundborne vibration or groundborne noise levels?				**X**	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				**X**	

Introduction

The proposed Malibu Vineyards Rezone Project Phases 1 & 2 (project) is located northeast of State Route 99 (SR 99) and Imperial Avenue in an unincorporated area of Kern County, California. The project proposes a general plan amendment and zone change from resource/agricultural uses to industrial uses on approximately 738 acres of land. Existing land uses in the project vicinity include agricultural both with and without residences. The project site is bordered by SR 99 to the south. The project area and site map are shown on Figures 1 and 2, respectively. Phase 1 and the southern portion of Phase 2 are within the Metropolitan Bakersfield General Plan (MBGP).

The purposes of this assessment are to quantify the existing noise and vibration environments, identify potential noise and vibration impacts resulting from the project, identify appropriate mitigation measures, and provide a quantitative and qualitative analysis of impacts associated with the project. Specifically, impacts are identified if project-related activities would cause a substantial increase in ambient noise or vibration levels at existing sensitive uses in the project vicinity, or if traffic or project generated noise or vibration levels would exceed applicable Kern County General Plan (KCGP) or Metropolitan Bakersfield General Plan (MBGP) standards at existing nearby sensitive uses or proposed industrial uses.

Noise and Vibration Fundamentals

Noise

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are designated as sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or Hertz (Hz). Definitions of acoustical terminology are provided in Appendix A.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure) as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness. Noise levels associated with common noise sources are provided in Figure 3.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by filtering the frequency response of a sound level meter by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of

environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}). The L_{eq} is the foundation of the day/night average noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average sound level (L_{dn}) is based on the average noise level over a 24-hour day, with a +10 decibel weighting applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours. The nighttime penalty is based on the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Vibration

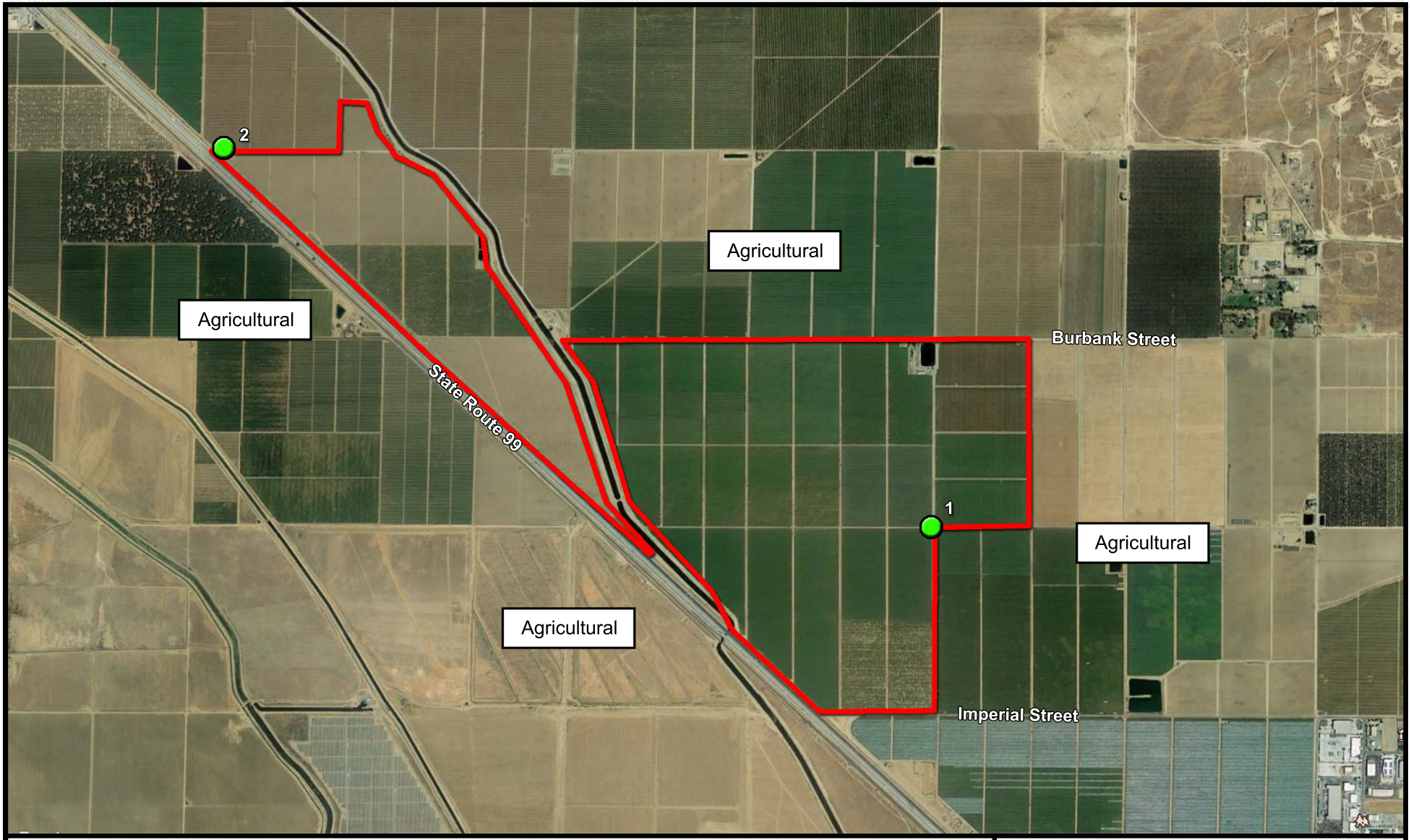
Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through the ground or structures. A person's response to vibration will depend on their individual sensitivity as well as the amplitude and frequency of the source.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of velocity in inches per second peak particle velocity (IPS, PPV) or root-mean-square (VdB, RMS).

As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate. Differences in subsurface geologic conditions and distance from the source of vibration will result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes will decrease with increasing distance. The maximum rate, or velocity of particle movement, is the commonly accepted descriptor of the vibration "strength".

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does frequency. Generally, as the duration and vibration frequency increase, the potential for adverse human response increases.

According to the Transportation and Construction-Induced Vibration Guidance Manual (Caltrans, April 2020), operation of construction equipment and construction techniques generate ground vibration. Traffic traveling on roadways can also be a source of such vibration. At high enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage. Ground vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. However, traffic, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.



Legend

Project Border (Approximate)

Long-Term Noise & Vibration Measurement Locations (Approximate)

N

Scale (feet)

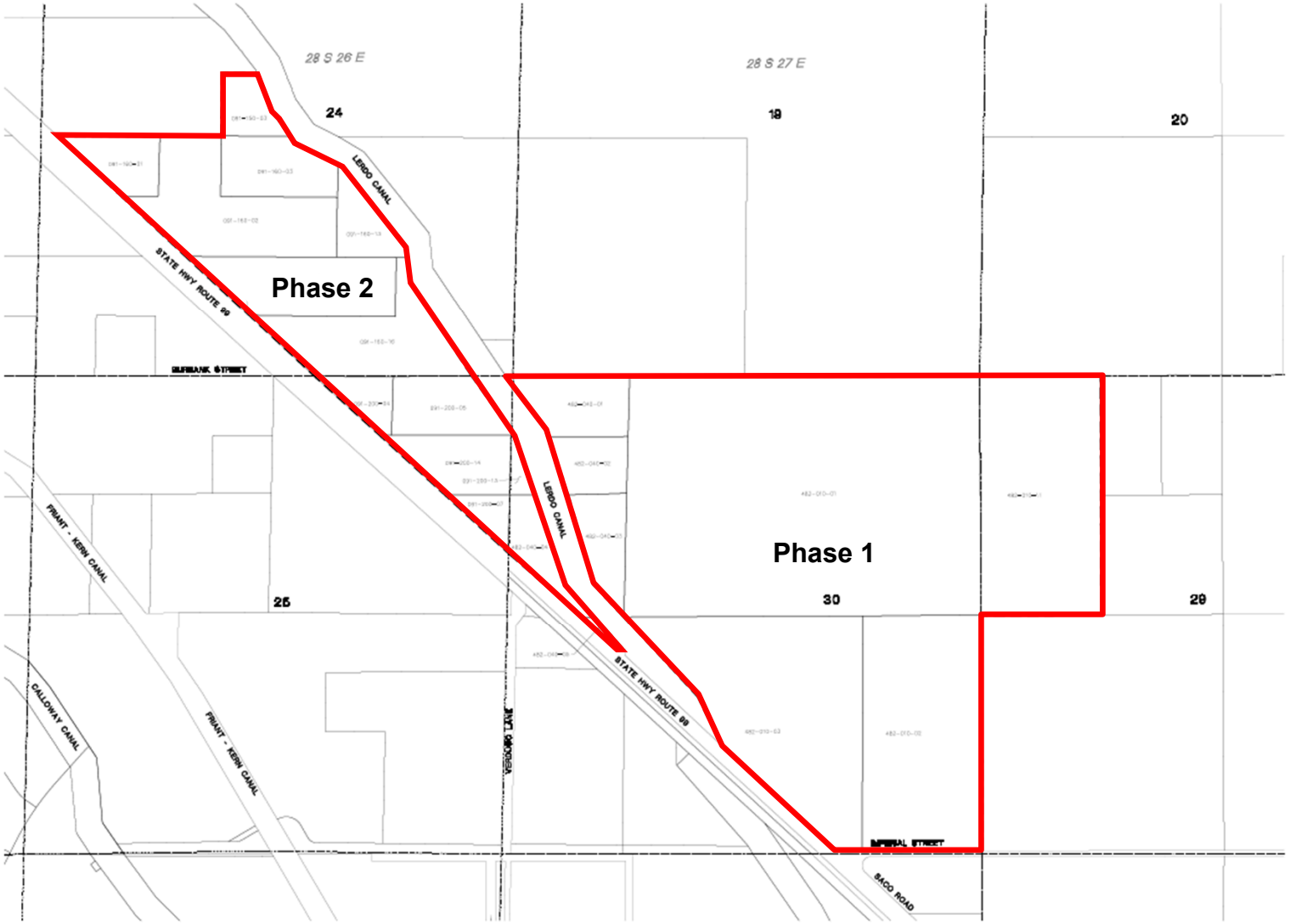
0 750 1,500

Malibu Vineyards Rezone Project
Phases 1 & 2
Kern County, California

Project Area

Figure 1

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Legend

Project Boundaries

N

Scale (Feet)

0 750 1,500

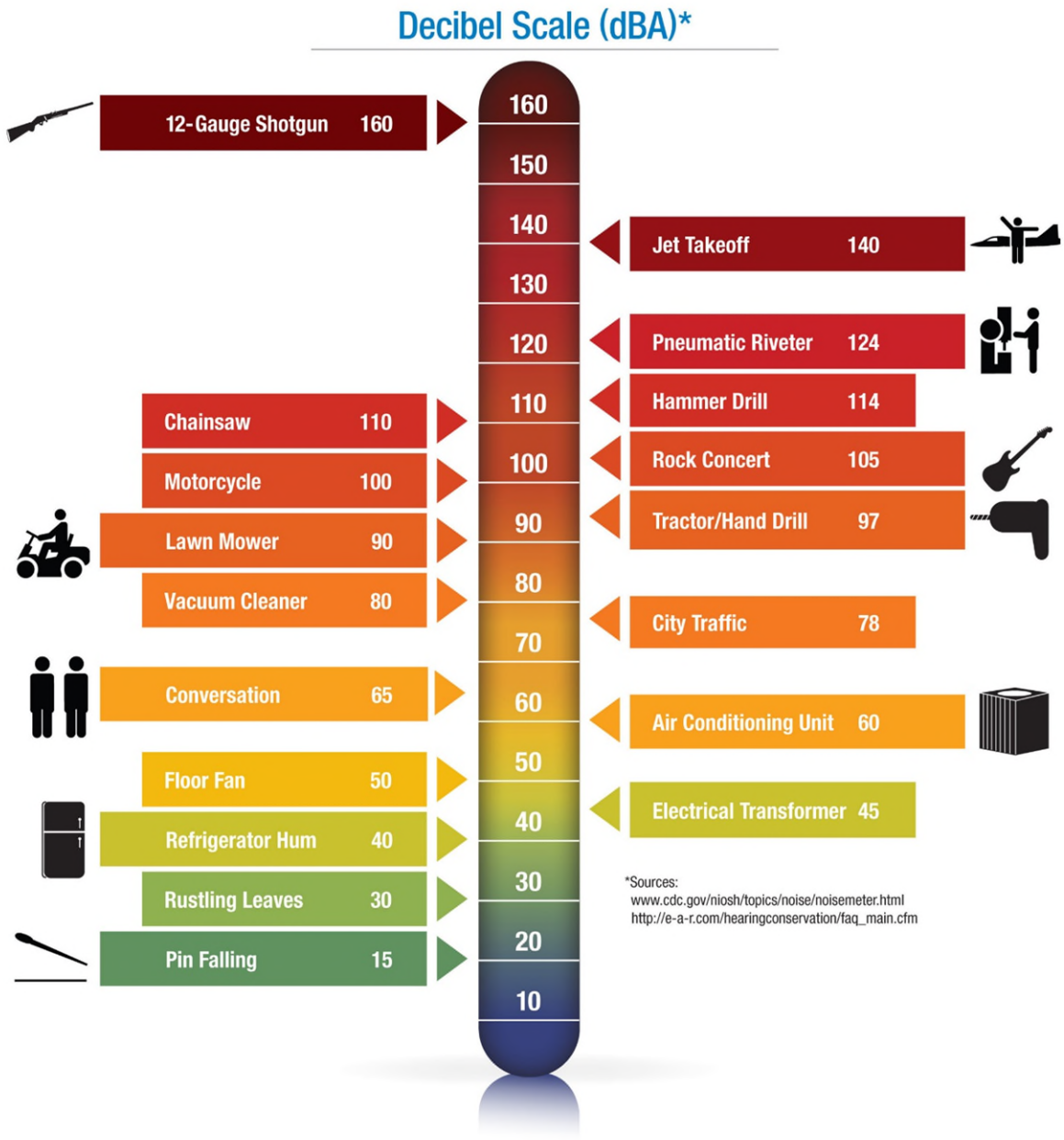
Malibu Vineyards Rezone Project
Phases 1 & 2
Sacramento County, California

Project Site Map

Figure 2

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Figure 3
Noise Levels Associated with Common Noise Sources



Regulatory Setting: Criteria for Acceptable Noise and Vibration Exposure

Federal

There are no federal noise or vibration criteria which would be directly applicable to this project. However, the County of Kern does not currently have a policy for assessing noise impacts associated with increases in ambient noise levels from project-generated noise sources. As a result, the following federal noise criteria was applied to the project.

Federal Interagency Commission on Noise (FICON)

The Federal Interagency Commission on Noise (FICON) has developed a graduated scale for use in the assessment of project-related noise level increases. The criteria shown in Table 1 was developed by FICON as a means of developing thresholds for impact identification for project-related noise level increases. The FICON standards have been used extensively in recent years by the authors of this section in the preparation of the noise sections of Environmental Impact Reports that have been certified in many California cities and counties.

The use of the FICON standards are considered conservative relative to thresholds used by other agencies in the State of California. For example, the California Department of Transportation (Caltrans) requires a project-related traffic noise level increase of 12 dB for a finding of significance, and the California Energy Commission (CEC) considers project-related noise level increases between 5 to 10 dB significant, depending on local factors. Therefore, the use of the FICON standards, which set the threshold for finding of significant noise impacts as low as 1.5 dB, provides a very conservative approach to impact assessment for this project.

Table 1
Significance of Changes in Cumulative Noise Exposure

Ambient Noise Level Without Project (L_{dn} or CNEL)	Change in Ambient Noise Level Due to Project
<60 dB	+5.0 dB or more
60 to 65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more
Source: Federal Interagency Committee on Noise (FICON)	

Based on the FICON research, as shown in Table 1, a 5 dB increase in noise levels due to a project is required for a finding of significant noise impact where ambient noise levels without the project are less than 60 dB. Where pre-project ambient conditions are between 60 and 65 dB, a 3 dB increase is applied as the standard of significance. Finally, in areas already exposed to higher noise levels, specifically pre-project noise levels in excess of 65 dB, a 1.5 dB increase is considered by FICON as the threshold of significance.

State of California

California Environmental Quality Act (CEQA)

The State of California has established regulatory criteria that are applicable to this assessment. Specifically, Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines are used to assess the potential significance of impacts pursuant to local General Plan policies, Municipal Code standards, or the applicable standards of other agencies. According to Appendix G of the CEQA guidelines, the project would result in a significant noise or vibration impact if the following occur:

A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or other applicable standards of other agencies?

B. Generation of excessive groundborne vibration or groundborne noise levels?

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

It should be noted that audibility is not a test of significance according to CEQA. If this were the case, any project which added any audible amount of noise to the environment would be considered significant according to CEQA. Because every physical process creates noise, the use of audibility alone as significance criteria would be unworkable. CEQA requires a substantial increase in noise levels before noise impacts are identified, not simply an audible change.

California Department of Transportation (Caltrans)

Neither the Kern County General Plan nor the Metropolitan Bakersfield General Plan currently have adopted standards for groundborne vibration. As a result, the vibration impact criteria developed by the California Department of Transportation (Caltrans) was applied to the project. The Caltrans criteria applicable to damage and annoyance from transient and continuous vibration typically associated with construction activities are presented in Tables 2 and 3. Equipment or activities typical of continuous vibration include: excavation equipment, static compaction equipment, tracked vehicles, traffic on a highway, vibratory pile drivers, pile-extraction equipment, and vibratory compaction equipment. Equipment or activities typical of single-impact (transient) or low-rate repeated impact vibration include impact pile drivers, blasting, drop balls, “pogo stick” compactors, and crack-and-seat equipment (California Department of Transportation 2013).

Table 2
Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (inches/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = Peak Particle Velocity

Source: California Department of Transportation, Transportation and Construction Vibration Guidance Manual (2013).

Table 3
Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (inches/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.40	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.90	0.10
Severe	2.00	0.40

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = Peak Particle Velocity

Source: California Department of Transportation, Transportation and Construction Vibration Guidance Manual (2013).

Local

Kern County General Plan

The Noise Element (Chapter 3) of the Kern County General Plan contains goals, policies, and implementation measures to ensure that City residents are not subjected to noise beyond acceptable levels. The following Kern County General Plan goals, policies, and implementation measures have been identified as having potential applicability to the project:

Goals

1. Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.

Policies

1. Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.
2. Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health (DOSH).
3. Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise.
4. Utilize good land use planning principles to reduce conflicts related to noise emissions.
5. Prohibit new noise-sensitive land uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design. Such mitigation shall be designed to reduce noise to the following levels:
    a. 65 dB L_{dn} or less in outdoor activity areas
    b. 45 dB L_{dn} or less within living spaces or other noise sensitive interior spaces
7. Employ the best available methods of noise control.

Implementation Measures

A. Utilize zoning regulations to assist in achieving noise-compatible land use patterns.

C. Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.

E. Review discretionary development plans to ensure compatibility with adopted Airport Land Use Compatibility Plans.

F. Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn}.

G. At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:
    a. Be the responsibility of the applicant.
    b. Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.

c. Be subject to the review and approval of the Kern County Planning Department and the County Public Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.

I. Noise analyses shall include recommended mitigation, if required, and shall:

a. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.

b. Include estimated noise levels, in terms of CNEL, for existing and projected future (10 – 20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.

c. Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.

d. Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.

J. Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.

Kern County Municipal Code

The provisions of the Kern County Municipal Code which would be most applicable to this project are reproduced below.

Chapter 8.36 Noise

8.36.020 Prohibited sounds.

It is unlawful for any person to do, or cause to be done, any of the following acts within the unincorporated areas of the county:

H. Create noise from construction, between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and 9:00 p.m. and 8:00 a.m. on weekends, which is audible to a person with average hearing faculties or capacity at a distance of 150 feet from the construction site, if the construction site is within 1,000 feet of an occupied residential dwelling.

Metropolitan Bakersfield General Plan

The Metropolitan Bakersfield General Plan Noise Element (Chapter 7) contains goals, policies, and implementation measures to ensure that residents of the Bakersfield Metropolitan Area are protected from excessive noise and existing moderate levels of noise are maintained. The following General Plan goals, policies, and implementation measures are applicable to the project are reproduced below.

Goals

1. Ensure that residents of the Bakersfield Metropolitan Area are protected from excessive noise and existing moderate levels of noise are maintained.

Policies

1. Identify noise-impact areas exposed to existing or projected noise levels exceeding 65 dB CNEL (exterior) or the performance standards described in Table 5. The noise exposure contour maps on file at the City of Bakersfield and County of Kern indicate areas where existing and projected noise exposures exceed 65 dB CNEL (exterior) for the major noise sources identified.
3. Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses. Additionally, the development of new noise-generating land uses which are not preempted from local noise regulation will be reviewed if resulting noise levels will exceed the performance standards contained within Table 5 in areas containing residential or other noise-sensitive land uses.
4. Require noise level criteria applied to land uses other than residential or other noise-sensitive uses to be consistent with the recommendations of the California Office of Noise Control (See Table 4).
5. Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise.
6. Establish threshold standards for the determination of the existence of cumulative noise impacts that are significant and will therefore require mitigation to achieve acceptable noise standards that do not exceed the standards contained in this element.

Implementation

2. Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policy framework outlined in this element.
4. Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB CNEL and interior noise levels in excess of 45 dB CNEL and so that impacts on noise sensitive uses shall not exceed the performance standards in Table 5.

   At time of any discretionary approval, such as a request for zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:

   a. Be the responsibility of the applicant.

b. Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
c. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
d. Include estimated noise levels in terms of CNEL and the standards of Table 5 (if applicable) for existing and projected future (10-20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.
e. Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
f. Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.

5. Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.
6. Enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code concerning the construction of new multiple-occupancy dwellings such as hotels, apartments, and condominiums.

10. The following standards shall be used to determine the existence of significant cumulative noise impacts expected to result from proposed construction or development projects. The projected occurrence of such significant cumulative impacts shall require the adoption of practical and feasible mitigation measures to be identified in an Environmental Impact Report or Negative Declaration, whichever is applicable.

    Standards for Cumulative Noise Impacts

    A significant increase in ambient noise levels affecting existing noise-sensitive land uses (receptors), requiring the adoption of practical and feasible mitigation measures, is deemed to occur where a project will cause:

    An increase in ambient noise level of 1 dB or more over 65 dB CNEL, where the existing ambient level is 65 dB CNEL or less, or

    -The ambient noise level is less than 60 dB CNEL and the project increases noise levels by 5 dB or more;

    -The ambient noise level is 60 to 65 dB CNEL and the project increases noise levels by 3 dB or more;

    -The ambient noise level is greater than 65 dB CNEL and the project increases noise levels by 1.5 dB or more.

Table 4

LAND USE COMPATABLILTY FOR COMMUNITY NOISE ENVIRONMENTS

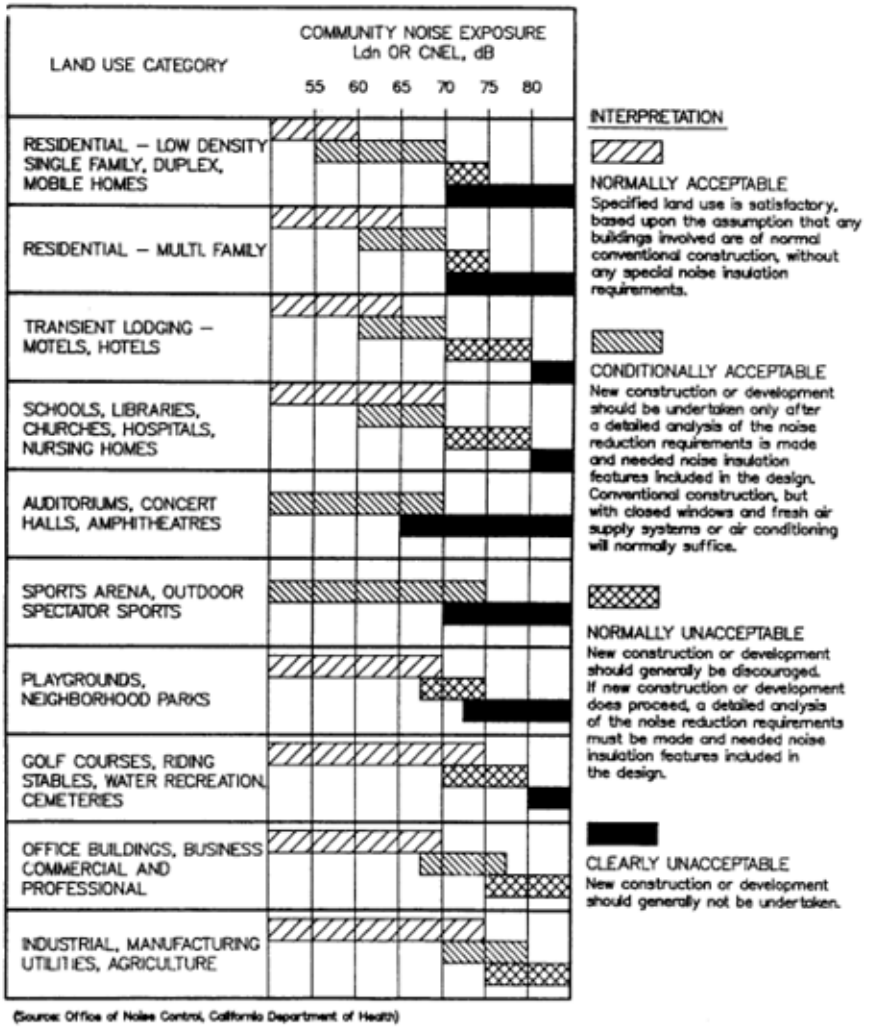


Table 5
Noise Level Performance Standards – Non-Transportation Noise Sources

Noise Level Descriptor (dB)	Daytime (7 a.m. – 10 p.m.)	Nighttime (10 p.m. – 7 a.m.)
L_{50}	55	50
L_{25}	60	55
L_{8}	65	60
L_{2}	70	65
L_{max}	75	70
Source: Metropolitan Bakersfield General Plan, Noise Element, Table VII-2		

Bakersfield Municipal Code

The provisions of the Bakersfield Municipal Code which would be most applicable to this project are reproduced below.

Chapter 9.22 Noise

9.22.050 Noise during construction.

A. Except as provided herein or in subsection B, C or D of this section, it is unlawful for any person, firm or corporation to erect, demolish, alter or repair any building, or to grade or excavate land, streets or highways, other than between the hours of six a.m. and nine p.m. on weekdays, and between eight a.m. and nine p.m. on weekends; provided, however, that city crews and those of the city's contractors performing street work between nine p.m. and six a.m. are exempt herefrom if the city engineer has directed that work be performed between such hours to alleviate potential traffic congestion.

B. Notwithstanding any other provisions of this chapter, if the city manager determines that the public health and safety will not be impaired by the erection, demolition, alteration or repair of any building or the excavating and grading of land, streets or highways between the hours of nine p.m. and six a.m., and if he or she further determines that loss or inconvenience would result to any party in interest by virtue of the requirements provided in subsection A of this section, he or she may grant a permit for such work to be done between the hours of nine p.m. and six a.m., upon application being made at the time the permit for the work is awarded or during the progress of the work. Such permit may be granted for a period not to exceed three days and may be extended by the city manager for a period not to exceed three days.

C. The provisions of this section shall not apply to any work of construction performed one thousand feet or more from the nearest residential dwelling.

D. The provisions of this section shall not apply to performance of emergency work as defined in this chapter.

Environmental Setting – Existing Ambient Noise and Vibration Environment

Noise-Sensitive Land Uses in the Project Vicinity

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the primary intended use of the land. Places where people live, sleep, recreate, worship, and study are generally considered to be sensitive to noise because intrusive noise can be disruptive to these activities.

The existing noise-sensitive land uses which would potentially be affected by the project consist of residential uses. Specifically, single-family residences have been identified on agriculturally

zoned parcels within the project vicinity. The project area and surrounding land uses are shown on Figure 1.

Existing Traffic Noise Levels along Project Area Roadway Network

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to develop existing noise contours expressed in terms of L_{dn} for major roadways within the project study area. The FHWA Model predicts hourly L_{eq} values for free-flowing traffic conditions. Estimates of the hourly distribution of traffic for a typical 24-hour period were used to develop L_{dn} values from L_{eq} values.

Traffic data in the form of AM and PM peak hour turning movements for existing conditions were obtained from the project traffic impact study prepared by Ruettgers & Schuler Civil Engineers in June 2020. Average daily traffic volumes were conservatively estimated by applying a factor of 5 to the sum of AM and PM peak hour conditions. Using these data and the FHWA Model, traffic noise levels were calculated. The traffic noise level at 100 feet from the roadway centerline and distances from the centerlines of selected roadways to the 60 dB, 65 dB, and 70 dB L_{dn} contours are summarized in Table 6.

In many cases, the actual distances to noise level contours may vary from the distances predicted by the FHWA Model. Factors such as roadway curvature, roadway grade, shielding from local topography or structures, elevated roadways, or elevated receivers may affect actual sound propagation.

It is also recognized that existing sensitive land uses within the project vicinity are located at various distances from the centerlines of the local roadway network. The 100 foot reference distance is utilized in this analysis to provide a reference position at which changes in existing and future traffic noise levels resulting from the project can be evaluated. Appendix B contains the FWHA Model inputs for existing conditions.

Table 6
Existing (2019) Traffic Noise Modeling Results

Seg.	Intersection	Direction	L_{dn} 100 Feet from Roadway	Distance to Contour (feet)		
				70 dB L_{dn}	65 dB L_{dn}	60 dB L_{dn}
1	SR 99 SB Ramps / Lerdo Highway	North	62	30	64	137
2		South	66	55	118	254
3		East	64	38	81	175
4		West	66	52	112	241
5	SR 99 NB Ramps / Lerdo Highway	North	47	3	7	14
6		South	67	65	141	303
7		East	60	21	46	99
8		West	64	38	82	176
9	SR 65 / Lerdo Highway	North	65	44	94	202
10		South	66	53	115	248
11		East	--	--	--	--
12		West	61	24	52	111
13	SR 65 / James Road	North	66	53	115	247
14		South	65	47	101	218

Table 6
Existing (2019) Traffic Noise Modeling Results

Seg.	Intersection	Direction	L_{dn} 100 Feet from Roadway	Distance to Contour (feet)		
				70 dB L_{dn}	65 dB L_{dn}	60 dB L_{dn}
15		East	60	20	44	95
16		West	47	3	6	14
17	Quinn Road / Imperial Street	North	--	--	--	--
18		South	49	4	9	20
19		East	49	4	9	20
20		West	--	--	--	--
21	SR 65 / Imperial Street	North	66	51	111	238
22		South	66	52	111	239
23		East	30	0	0	1
24		West	45	2	5	10
25	Quinn Road / Saco Road-McMurtney Ave	North	56	12	26	55
26		South	58	16	34	73
27		East	47	3	7	14
28		West	55	10	21	46
29	Calloway Drive / 7th Standard Road	North	57	14	31	67
30		South	62	28	61	131
31		East	69	86	186	400
32		West	67	63	136	293
33	Coffee Road / 7th Standard Road	North	52	6	13	28
34		South	63	37	79	171
35		East	70	101	218	470
36		West	69	85	183	395
37	Golden State Highway / 7th Standard Road	North	66	56	121	260
38		South	65	46	100	215
39		East	70	101	217	468
40		West	70	102	219	471
41	Quinn / SR 99 NBR/ M. Haggard / 7th Standard Road	North	58	16	34	74
42		South	60	22	47	102
43		East	66	54	117	252
44		West	70	94	202	436
45	Industrial Parkway / Merle Haggard Drive	North	52	6	13	28
46		South	54	9	20	42
47		East	66	54	116	249
48		West	66	55	118	255
49	SR 65 / Merle Haggard Drive	North	67	59	126	272
50		South	67	65	140	301
51		East	66	58	124	267
52		West	66	55	118	254
53	Pegasus Drive / Merle Haggard Drive	North	--	--	--	--
54		South	62	29	63	136
55		East	65	46	98	212
56		West	66	56	120	259
57	Wings Way / Merle Haggard Drive	North	43	2	4	8
58		South	51	5	11	23
59		East	66	56	122	262

Table 6
Existing (2019) Traffic Noise Modeling Results

Seg.	Intersection	Direction	L_{dn} 100 Feet from Roadway	Distance to Contour (feet)		
				70 dB L_{dn}	65 dB L_{dn}	60 dB L_{dn}
60		West	64	43	92	198
61	Landings Way / Merle Haggard Drive	North	33	0	1	2
62		South	--	--	--	--
63		East	65	45	97	209
64		West	67	62	133	286
65	Airport Drive / Merle Haggard Drive	North	60	22	47	101
66		South	60	23	49	105
67		East	63	35	76	164
68		West	65	44	96	206
69	McCray Street / Merle Haggard Drive	North	56	12	26	55
70		South	56	12	26	55
71		East	63	32	69	149
72		West	63	36	77	166
73	N. Chester Avenue / Merle Haggard Drive	North	62	30	66	141
74		South	60	23	49	105
75		East	64	39	84	181
76		West	63	33	71	154

Source: FHWA-RD-77-108 with inputs from Ruettgers & Schuler. Appendix B contains the FHWA model inputs.

Existing Overall Ambient Noise Environment at the Project Site

The existing ambient noise environment within the project vicinity is defined primarily by noise from traffic on SR 99, and to a lesser extent by agricultural activities. To generally quantify the existing ambient noise environment at the nearest existing sensitive uses to the project site, BAC conducted long-term (48-hour) ambient noise level surveys at two locations on the project site from August 17-18, 2019. The noise survey locations are shown on Figure 1. Photographs of the noise survey locations are provided in Appendix C.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used to complete the noise level measurement surveys. The meters were calibrated immediately before and after use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all specifications of the American National Standards Institute requirements for Type 1 sound level meters (ANSI S1.4).

The noise level measurement survey results are summarized in Table 7. The detailed results of the ambient noise surveys are contained in Appendix D in tabular format and graphically in Appendix E.

Table 7
Long-Term Noise Level Measurement Results – August 17-18, 2019[1]

			Average Measured Hourly Noise Levels, dBA			
			Daytime[3]		Nighttime[4]	
Site Description[2]	Date	L_{dn}	L_{eq}	L_{max}	L_{eq}	L_{max}
Site 1: Eastern boundary of project Phase 1 near Imperial Road, approx. 3,000' from SR 99 centerline	8/17/19	59	55	74	52	63
	8/18/19	56	52	72	48	60
Site 2: Northwestern boundary of project Phase 2, approx. 175' from SR 99 centerline	8/17/19	77	71	81	71	82
	8/18/19	76	71	80	69	80

[1] Detailed summaries of the noise monitoring results are provided in Appendices D and E.
[2] Long-term ambient noise monitoring locations are identified on Figure 1.
[3] Daytime hours: 7:00 AM to 10:00 PM
[4] Nighttime hours: 10:00 PM to 7:00 AM
Source: Bollard Acoustical Consultants, Inc. (2019)

As shown in Table 7, measured average noise levels were highest at site 2. This was due to the proximity of measurement site 2 to SR 99. The noise level measurements conducted at sites 1 and 2 were intended to quantify the existing general ambient noise environment at the project site, including the noise generation of traffic on SR 99.

Existing Ambient Vibration Environment

During a site visit on August 16, 2019, vibration levels were below the threshold of perception at the project site. Nonetheless, to quantify existing vibration levels at the project site, BAC conducted short-term (15-minute) vibration measurements at the two locations identified on Figure 1. Photographs of the vibration survey locations are provided in Appendix C.

A Larson-Davis Laboratories Model LxT precision integrating sound level meter equipped with a vibration transducer was used to complete the measurements. The results are summarized in Table 8.

Table 8
Summary of Ambient Vibration Level Survey Results – August 16, 2019

Site Description	Time	Average Measured Vibration Level, PPV (in. sec)[1]
Site 1: Eastern boundary of project Phase 1 near Imperial Road	2:46 PM	0.009
Site 2: Northwestern boundary of project Phase 2 near SR 99	3:19 PM	<0.001

[1] PPV = Peak Particle Velocity (inches/second)
Source: Bollard Acoustical Consultants, Inc. (2019)

The Table 8 data indicate that the measured average vibration levels during the monitoring period ranged from less than 0.001 to 0.009 in/sec PPV.

Impacts and Mitigation Measures

Thresholds of Significance

For the purposes of this report, a noise and vibration impact is considered significant if the project would result in:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or other applicable standards of other agencies; or

- Generation of excessive groundborne vibration or groundborne noise levels; or

- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

The following criteria based on standards established by the Federal Interagency Commission on Noise (FICON), California Department of Transportation (Caltrans), Kern County General Plan, Kern County Municipal Code, and Metropolitan Bakersfield General Plan were used to evaluate the significance of environmental noise and vibration resulting from the project:

- A significant noise impact would be identified if the project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the Kern County General Plan, Kern County Municipal Code, or Metropolitan Bakersfield General Plan.

- A significant impact would be identified if off-site traffic noise exposure or on-site activities generated by the project would substantially increase noise levels at existing sensitive receptors in the vicinity. A substantial increase would be identified relative to the FICON standards provided in Table 1 and criteria established by the Metropolitan Bakersfield General Plan. It should be noted that the FICON and MBGP criteria are identical.
- A significant impact would be identified if project construction activities or proposed on-site operations would expose noise-sensitive receptors to excessive groundborne vibration levels. Specifically, an impact would be identified if groundborne vibration levels due to these sources would exceed the Caltrans vibration impact criteria.

Noise Impacts Associated with Project-Generated Increases in Off-Site Traffic

With development of the project, traffic volumes on the local roadway network will increase. Those increases in daily traffic volumes will result in a corresponding increase in traffic noise levels at existing uses located along those roadways. The FHWA Model was used with traffic input data from the traffic impact analysis (prepared by Ruettgers & Schuler Civil Engineers) to predict project traffic noise level increases relative to Existing (2019), 2030, and 2040 project and no project conditions.

Impact 1: Increases in Existing Traffic Noise Levels due to the Project (Phase 1)

Traffic data in the form of AM and PM peak hour turning movements for Existing and Existing Plus Project Phase 1 conditions in the project area roadway network were obtained from the project transportation impact analysis completed by Ruettgers & Schuler Civil Engineers in June 2020. Average daily traffic (ADT) volumes were conservatively estimated by applying a factor of 5 to the sum of AM and PM peak hour conditions.

Impact 1 evaluates noise impacts at sensitive receptors located along the roadway network utilized by project traffic resulting from the project-related increase in traffic noise levels at those receptors. Existing and Existing Plus Project Phase 1 traffic noise levels on the local roadway network are shown in Table 9, as well as the increases in existing traffic noise levels resulting from the project. The Table 9 data are provided in terms of L_{dn} at a standard distance of 100 feet from the centerlines of the project-area roadways. Appendix B contains the FWHA model inputs.

Table 9
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Existing vs. Existing Plus Project Phase 1 Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB L_{dn}			Substantial Increase?
			E	E+P	Increase	
1	SR 99 SB Ramps / Lerdo Highway	North	62.1	62.6	0.5	No
2		South	66.1	66.1	0.0	No
3		East	63.6	63.9	0.3	No
4		West	65.7	65.8	0.1	No
5	SR 99 NB Ramps / Lerdo Highway	North	47.4	47.4	0.0	No
6		South	67.2	67.4	0.2	No
7		East	60.0	60.9	0.9	No
8		West	63.7	64.0	0.3	No
9	SR 65 / Lerdo Highway	North	64.6	64.7	0.1	No
10		South	65.9	66.4	0.5	No
11		East	ND	ND	--	--
12		West	60.7	62.0	1.3	No
13	SR 65 / James Road	North	65.9	66.4	0.5	No
14		South	65.9	66.4	0.5	No
15		East	65.1	65.7	0.6	No
16		West	59.7	59.7	0.0	No
17	Quinn Road / Imperial Street	North	47.1	47.1	0.0	No
18		South	ND	ND	--	--
19		East	49.4	52.6	3.2	No
20		West	49.4	60.7	11.3	Yes
21	SR 65 / Imperial Street	North	NA	60.8	60.8	Yes
22		South	65.7	66.2	0.5	No
23		East	65.7	67.9	2.2	Yes
24		West	29.7	29.7	0.0	No
25	Quinn Road / Saco Road-McMurtney Ave	North	45.1	60.5	15.4	Yes
26		South	56.2	57.1	0.9	No
27		East	58.0	59.1	1.1	No

Table 9
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Existing vs. Existing Plus Project Phase 1 Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB L_{dn}			Substantial Increase?
			E	E+P	Increase	
28		West	47.3	47.3	0.0	No
29	Calloway Drive / 7th Standard Road	North	54.9	56.0	1.1	No
30		South	57.4	57.4	0.0	No
31		East	61.7	61.9	0.2	No
32		West	69.0	69.2	0.2	No
33	Coffee Road / 7th Standard Road	North	67.0	67.2	0.2	No
34		South	51.7	51.8	0.1	No
35		East	63.5	63.7	0.2	No
36		West	70.1	70.3	0.2	No
37	Golden State Highway / 7th Standard Road	North	69.0	69.2	0.2	No
38		South	66.2	66.6	0.4	No
39		East	65.0	65.0	0.0	No
40		West	70.1	70.4	0.3	No
41	Quinn / SR 99 NBR/ M. Haggard / 7th Standard Road	North	70.1	70.4	0.3	No
42		South	58.0	59.1	1.1	No
43		East	60.1	60.3	0.2	No
44		West	66.0	66.6	0.6	No
45	Industrial Parkway / Merle Haggard Drive	North	69.6	70.0	0.4	No
46		South	51.6	51.6	0.0	No
47		East	54.4	54.4	0.0	No
48		West	66.0	66.6	0.6	No
49	SR 65 / Merle Haggard Drive	North	66.1	66.7	0.6	No
50		South	66.5	68.5	2.0	Yes
51		East	67.2	68.3	1.1	No
52		West	66.4	66.6	0.2	No
53	Pegasus Dr / Merle Haggard Drive	North	66.1	66.7	0.6	No
54		South	ND	ND	--	--
55		East	62.0	62.0	0.0	No
56		West	64.9	65.2	0.3	No
57	Wings Way / Merle Haggard Drive	North	66.2	66.5	0.3	No
58		South	43.2	43.2	0.0	No
59		East	66.3	67.2	0.9	No
60		West	64.5	65.3	0.8	No
61	Landings Way / Merle Haggard Dr	North	33.5	33.5	0.0	No
62		South	ND	ND	--	--
63		East	64.8	65.2	0.4	No
64		West	66.8	67.2	0.4	No
65	Airport Drive / Merle Haggard Drive	North	60.0	60.0	0.0	No
66		South	60.3	60.7	0.4	No
67		East	63.2	63.6	0.4	No
68		West	64.7	65.1	0.4	No
69	McCray St / Merle Haggard Drive	North	56.1	56.1	0.0	No
70		South	56.1	56.2	0.1	No

Table 9
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Existing vs. Existing Plus Project Phase 1 Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB L_{dn}			Substantial Increase?
			E	E+P	Increase	
71		East	62.6	63.0	0.4	No
72		West	63.3	63.6	0.3	No
73	N. Chester Ave / Merle Haggard Dr	North	62.2	62.2	0.0	No
74		South	60.3	60.6	0.3	No
75		East	63.9	64.0	0.1	No
76		West	62.8	63.1	0.3	No

ND = Roadway segments for which no traffic data was provided
NA = Roadway segments that previously did not exist
Source: FHWA-RD-77-108 with inputs from Ruettgers & Schuler. Appendix B contains the FHWA model inputs.

As indicated in Table 9, the project-generated increase in existing traffic noise levels is predicted to be substantial along five of the roadway segments evaluated in Table 9 (segments 20, 21, 23, 25 and 50). Analysis of those five roadway segments revealed that there are no residences or other sensitive land uses along those roadway segments. Because the project-related increase in traffic noise levels would not exceed the standards of significance at existing sensitive receptors located along the project roadway network, this impact is identified as being ***less than significant***.

Impact 2: Increases in 2030 Traffic Noise Levels due to the Project (Phase 1)

Traffic data in the form of AM and PM peak hour turning movements for 2030 and 2030 Plus Project Phase 1 conditions in the project area roadway network were obtained from the project transportation impact analysis completed by Ruettgers & Schuler Civil Engineers in June 2020. Average daily traffic (ADT) volumes were conservatively estimated by applying a factor of 5 to the sum of AM and PM peak hour conditions.

Impact 2 evaluates noise impacts at sensitive receptors located along the roadway network utilized by project traffic resulting from the project-related increase in 2030 traffic noise levels at those receptors. Year 2030 Baseline and 2030 Baseline Plus Phase 1 Project traffic noise levels on the local roadway network are shown in Table 10, as well as the increases in traffic noise levels resulting from the project. The Table 10 data are provided in terms of L_{dn} at a standard distance of 100 feet from the centerlines of the project-area roadways. Appendix B contains the FWHA model inputs.

Table 10
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
2030 vs. 2030 Plus Project Phase 1 Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB L_{dn}			Substantial Increase?
			2030	2030+P	Increase	
1	SR 99 SB Ramps / Lerdo Highway	North	63.1	63.6	0.5	No
2		South	66.8	66.8	0.0	No
3		East	65.1	65.3	0.2	No
4		West	66.8	66.9	0.1	No
5	SR 99 NB Ramps / Lerdo Highway	North	48.4	48.4	0.0	No
6		South	68.1	68.2	0.1	No
7		East	61.6	62.3	0.7	No
8		West	64.7	64.9	0.2	No
9	SR 65 / Lerdo Highway	North	65.6	65.7	0.1	No
10		South	67.0	67.4	0.4	No
11		East	ND	ND	--	--
12		West	62.0	63.0	1.0	No
13	SR 65 / James Road	North	67.1	67.5	0.4	No
14		South	66.3	66.8	0.5	No
15		East	60.5	60.5	0.0	No
16		West	47.8	47.8	0.0	No
17	Quinn Road / Imperial Street	North	ND	ND	--	--
18		South	49.6	52.7	3.1	No
19		East	49.6	60.7	11.1	Yes
20		West	NA	60.8	60.8	Yes
21	SR 65 / Imperial Street	North	67.0	67.4	0.4	No
22		South	67.0	68.8	1.8	Yes
23		East	29.7	29.7	0.0	No
24		West	46.0	60.6	14.6	Yes
25	Quinn Road / Saco Road-McMurtney Ave	North	56.4	57.2	0.8	No
26		South	58.2	59.3	1.1	No
27		East	47.4	47.4	0.0	No
28		West	55.2	56.2	1.0	No
29	Calloway Drive / 7th Standard Road	North	58.0	58.0	0.0	No
30		South	62.8	63.0	0.2	No
31		East	70.4	70.6	0.2	No
32		West	68.5	68.6	0.1	No
33	Coffee Road / 7th Standard Road	North	52.7	52.8	0.1	No
34		South	65.5	65.7	0.2	No
35		East	72.0	72.2	0.2	No
36		West	70.7	70.9	0.2	No
37	Golden State Highway / 7th Standard Road	North	67.8	68.1	0.3	No
38		South	66.3	66.3	0.0	No
39		East	72.2	72.4	0.2	No
40		West	72.0	72.1	0.1	No
41	Quinn / SR 99 NBR/ M. Haggard / 7th Standard Road	North	59.4	60.3	0.9	No
42		South	61.7	61.8	0.1	No
43		East	68.8	69.2	0.4	No

Table 10
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
2030 vs. 2030 Plus Project Phase 1 Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB L_{dn}			Substantial Increase?
			2030	2030+P	Increase	
44		West	72.0	72.2	0.2	No
45	Industrial Parkway / Merle Haggard Drive	North	52.3	52.3	0.0	No
46		South	55.1	54.8	-0.3	No
47		East	68.6	68.9	0.3	No
48		West	68.7	69.0	0.3	No
49	SR 65 / Merle Haggard Drive	North	67.7	69.2	1.5	Yes
50		South	70.1	70.7	0.6	No
51		East	70.2	70.4	0.2	No
52		West	68.7	69.2	0.5	No
53	Pegasus Dr / Merle Haggard Drive	North	ND	ND	--	--
54		South	62.6	62.6	0.0	No
55		East	69.4	69.5	0.1	No
56		West	70.0	70.1	0.1	No
57	Wings Way / Merle Haggard Drive	North	61.4	61.4	0.0	No
58		South	56.8	56.8	0.0	No
59		East	69.9	70.1	0.2	No
60		West	69.6	69.7	0.1	No
61	Landings Way / Merle Haggard Dr	North	61.6	61.6	0.0	No
62		South	ND	ND	--	--
63		East	67.1	67.3	0.2	No
64		West	69.7	69.9	0.2	No
65	Airport Drive / Merle Haggard Drive	North	60.6	60.6	0.0	No
66		South	63.0	63.2	0.2	No
67		East	65.0	65.2	0.2	No
68		West	66.9	67.1	0.2	No
69	McCray St / Merle Haggard Drive	North	56.6	56.6	0.0	No
70		South	58.3	58.3	0.0	No
71		East	64.2	64.5	0.3	No
72		West	65.2	65.4	0.2	No
73	N. Chester Ave / Merle Haggard Dr	North	62.9	62.9	0.0	No
74		South	61.6	61.8	0.2	No
75		East	65.1	65.2	0.1	No
76		West	64.5	64.7	0.2	No

ND = Roadway segments for which no traffic data was provided
NA = Roadway segments that previously did not exist
Source: FHWA-RD-77-108 with inputs from Ruettgers & Schuler. Appendix B contains the FHWA model inputs.

As indicated in Table 10, the project-generated increase in existing traffic noise levels is predicted to be substantial along five of the roadway segments evaluated in Table 10 (segments 18, 19, 22, 24, and 49). Analysis of those five roadway segments revealed that there are no residences or other sensitive land uses along those roadway segments. Because the project-related increase in traffic noise levels would not exceed the standards of significance at existing sensitive receptors

located along the project roadway network, this impact is identified as being ***less than significant***.

Impact 3: Increases in 2040 Traffic Noise Levels due to the Project (Phase 1 & 2)

Traffic data in the form of AM and PM peak hour turning movements for 2040 and 2040 Plus Project Phase 1 & 2 conditions in the project area roadway network were obtained from the project transportation impact analysis completed by Ruettgers & Schuler Civil Engineers in June 2020. Average daily traffic (ADT) volumes were conservatively estimated by applying a factor of 5 to the sum of AM and PM peak hour conditions.

Impact 3 evaluates noise impacts at sensitive receptors located along the roadway network utilized by project traffic resulting from the project-related increase in 2040 traffic noise levels at those receptors. Year 2040 Baseline and 2040 Baseline Plus Phase 1 & 2 Project traffic noise levels on the local roadway network are shown in Table 11, as well as the increases in traffic noise levels resulting from the project. The Table 11 data are provided in terms of L_{dn} at a standard distance of 100 feet from the centerlines of the project-area roadways. Appendix B contains the FWHA model inputs.

Table 11
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
2040 vs. 2040 Plus Project Phase 1 & 2 Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB L_{dn}			Substantial Increase?
			2040	2040+P	Increase	
1	SR 99 SB Ramps / Lerdo Highway	North	63.7	64.2	0.5	No
2		South	67.4	67.4	0.0	No
3		East	66.3	66.5	0.2	No
4		West	67.9	68.0	0.1	No
5	SR 99 NB Ramps / Lerdo Highway	North	49.2	49.2	0.0	No
6		South	68.8	69.0	0.2	No
7		East	62.7	63.4	0.7	No
8		West	65.6	65.8	0.2	No
9	SR 65 / Lerdo Highway	North	66.3	66.5	0.2	No
10		South	67.7	68.2	0.5	No
11		East	ND	ND	--	--
12		West	62.7	63.8	1.1	No
13	SR 65 / James Road	North	67.8	68.3	0.5	No
14		South	67.0	67.6	0.6	No
15		East	61.3	61.3	0.0	No
16		West	48.5	48.5	0.0	No
17	Quinn Road / Imperial Street	North	ND	ND	--	--
18		South	49.8	53.4	3.6	No
19		East	49.8	61.8	12.0	Yes
20		West	NA	61.8	61.8	Yes
21	SR 65 / Imperial Street	North	67.8	68.3	0.5	No
22		South	67.9	69.7	1.8	Yes
23		East	32.7	32.7	0.0	No

Table 11
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
2040 vs. 2040 Plus Project Phase 1 & 2 Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB L_{dn}			Substantial Increase?
			2040	2040+P	Increase	
24		West	47.1	61.6	14.5	Yes
25	Quinn Road / Saco Road-McMurtney Ave	North	56.6	57.6	1.0	No
26		South	58.5	59.7	1.2	No
27		East	47.8	47.8	0.0	No
28		West	55.4	56.6	1.2	No
29	Calloway Drive / 7th Standard Road	North	58.5	58.5	0.0	No
30		South	63.2	63.3	0.1	No
31		East	71.3	71.5	0.2	No
32		West	69.7	69.8	0.1	No
33	Coffee Road / 7th Standard Road	North	53.6	53.8	0.2	No
34		South	66.4	66.5	0.1	No
35		East	73.0	73.2	0.2	No
36		West	71.9	72.1	0.2	No
37	Golden State Highway / 7th Standard Road	North	68.1	68.4	0.3	No
38		South	67.4	67.4	0.0	No
39		East	73.2	73.4	0.2	No
40		West	73.0	73.2	0.2	No
41	Quinn / SR 99 NBR/ M. Haggard / 7th Standard Road	North	60.7	61.5	0.8	No
42		South	62.9	63.0	0.1	No
43		East	69.6	70.0	0.4	No
44		West	72.9	73.2	0.3	No
45	Industrial Parkway / Merle Haggard Drive	North	53.0	53.0	0.0	No
46		South	55.8	55.8	0.0	No
47		East	69.2	69.6	0.4	No
48		West	69.3	69.6	0.3	No
49	SR 65 / Merle Haggard Drive	North	68.4	70.1	1.7	Yes
50		South	70.6	71.2	0.6	No
51		East	70.6	70.0	-0.6	No
52		West	69.3	68.7	-0.6	No
53	Pegasus Dr / Merle Haggard Drive	North	ND	ND	--	--
54		South	63.0	63.0	0.0	No
55		East	69.6	69.8	0.2	No
56		West	70.3	70.4	0.1	No
57	Wings Way / Merle Haggard Drive	North	61.4	61.4	0.0	No
58		South	57.1	57.1	0.0	No
59		East	70.4	70.6	0.2	No
60		West	69.9	70.1	0.2	No
61	Landings Way / Merle Haggard Dr	North	61.6	61.6	0.0	No
62		South	ND	ND	--	--
63		East	67.6	67.8	0.2	No
64		West	70.2	70.4	0.2	No
65	Airport Drive / Merle Haggard Drive	North	60.9	60.9	0.0	No
66		South	63.3	63.5	0.2	No
67		East	65.5	65.8	0.3	No

Table 11
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
2040 vs. 2040 Plus Project Phase 1 & 2 Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB L_{dn}			Substantial Increase?
			2040	2040+P	Increase	
68		West	67.3	67.6	0.3	No
69	McCray St / Merle Haggard Drive	North	57.0	57.0	0.0	No
70		South	58.6	58.7	0.1	No
71		East	65.0	65.3	0.3	No
72		West	65.8	66.1	0.3	No
73	N. Chester Ave / Merle Haggard Dr	North	63.5	63.5	0.0	No
74		South	62.1	62.3	0.2	No
75		East	65.9	66.0	0.1	No
76		West	65.4	65.6	0.2	No

ND = Roadway segments for which no traffic data was provided
NA = Roadway segments that previously did not exist
Source: FHWA-RD-77-108 with inputs from Ruettgers & Schuler. Appendix B contains the FHWA model inputs.

As indicated in Table 11, the project-generated increase in year 2040 traffic noise levels is predicted to be substantial along five of the roadway segments evaluated in Table 11 (segments 19, 20, 22, 24 and 49). Analysis of those five roadway segments revealed that there are no residences or other sensitive land uses along those roadway segments. Because the project-related increase in traffic noise levels would not exceed the standards of significance at existing sensitive receptors located along the project roadway network, this impact is identified as being ***less than significant***.

Impact 4: Increases in 2040 Traffic Noise Levels due to Project (Phase 1 & 2 Imperial)

Traffic data in the form of AM and PM peak hour turning movements for 2040 and 2040 Plus Project Phase 1 & 2 Imperial conditions in the project area roadway network were obtained from the project transportation impact analysis completed by Ruettgers & Schuler Civil Engineers in June 2020. Average daily traffic (ADT) volumes were conservatively estimated by applying a factor of 5 to the sum of AM and PM peak hour conditions.

Impact 4 evaluates noise impacts at sensitive receptors located along the roadway network utilized by project traffic resulting from the Phase 1 & 2 Imperial Project-related increase in 2040 traffic noise levels at those receptors. Year 2040 Baseline and 2040 Baseline Plus Phase 1 & 2 Imperial Project traffic noise levels on the local roadway network are shown in Table 12, as well as the increases in traffic noise levels resulting from the project. The Table 12 data are provided in terms of L_{dn} at a standard distance of 100 feet from the centerlines of the project-area roadways. Appendix B contains the FWHA model inputs.

Table 12
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
2040 vs. 2040 Plus Project Phase 1 & 2 Imperial Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB L_{dn}			Substantial Increase?
			2040	2040+P	Increase	
1	SR 99 SB Ramps / Lerdo Highway	North	63.7	64.1	0.4	No
2		South	67.4	67.4	0.0	No
3		East	66.3	66.4	0.1	No
4		West	67.9	67.9	0.0	No
5	SR 99 NB Ramps / Lerdo Highway	North	49.2	49.2	0.0	No
6		South	68.8	69.0	0.2	No
7		East	62.7	63.3	0.6	No
8		West	65.6	65.8	0.2	No
9	SR 65 / Lerdo Highway	North	66.3	66.4	0.1	No
10		South	67.7	68.1	0.4	No
11		East	ND	ND	--	--
12		West	62.7	63.7	1.0	No
13	SR 65 / James Road	North	67.8	68.2	0.4	No
14		South	67.0	67.5	0.5	No
15		East	61.3	61.3	0.0	No
16		West	48.5	48.5	0.0	No
17	Quinn Road / Imperial Street	North	ND	ND	--	--
18		South	49.8	53.1	3.3	No
19		East	49.8	61.3	11.5	Yes
20		West	NA	61.4	61.4	Yes
21	SR 65 / Imperial Street	North	67.8	68.2	0.4	No
22		South	67.9	71.2	3.3	Yes
23		East	32.7	59.8	27.1	Yes
24		West	47.1	61.2	14.1	Yes
25	Quinn Road / Saco Road-	North	56.6	57.5	0.9	No
26	McMurtney Ave	South	58.5	59.6	1.1	No
27		East	47.8	47.8	0.0	No
28		West	55.4	56.5	1.1	No
29	Calloway Drive / 7th Standard Road	North	58.5	58.5	0.0	No
30		South	63.2	63.3	0.1	No
31		East	71.3	71.5	0.2	No
32		West	69.7	69.8	0.1	No
33	Coffee Road / 7th Standard Road	North	53.6	53.7	0.1	No
34		South	66.4	66.5	0.1	No
35		East	73.0	73.2	0.2	No
36		West	71.9	72.0	0.1	No
37	Golden State Highway / 7th	North	68.1	68.4	0.3	No
38	Standard Road	South	67.4	67.4	0.0	No
39		East	73.2	73.4	0.2	No
40		West	73.0	73.2	0.2	No
41	Quinn / SR 99 NBR/ M. Haggard /	North	60.7	61.4	0.7	No
42	7th Standard Road	South	62.9	63.0	0.1	No

Table 12
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
2040 vs. 2040 Plus Project Phase 1 & 2 Imperial Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB L_{dn}			Substantial Increase?
			2040	2040+P	Increase	
43		East	69.6	69.9	0.3	No
44		West	72.9	73.2	0.3	No
45	Industrial Parkway / Merle Haggard Drive	North	53.0	53.0	0.0	No
46		South	55.8	55.8	0.0	No
47		East	69.2	69.5	0.3	No
48		West	69.3	69.6	0.3	No
49	SR 65 / Merle Haggard Drive	North	68.4	71.5	3.1	Yes
50		South	70.6	71.2	0.6	No
51		East	70.6	69.6	-1.0	No
52		West	69.3	69.6	0.3	No
53	Pegasus Dr / Merle Haggard Drive	North	ND	ND	--	--
54		South	63.0	63.0	0.0	No
55		East	69.6	68.5	-1.1	No
56		West	70.3	69.2	-1.1	No
57	Wings Way / Merle Haggard Drive	North	61.4	57.1	-4.3	No
58		South	57.1	57.1	0.0	No
59		East	70.4	70.6	0.2	No
60		West	69.9	68.9	-1.0	No
61	Landings Way / Merle Haggard Dr	North	61.6	61.6	0.0	No
62		South	ND	ND	--	--
63		East	67.6	67.8	0.2	No
64		West	70.2	70.4	0.2	No
65	Airport Drive / Merle Haggard Drive	North	60.9	60.9	0.0	No
66		South	63.3	63.5	0.2	No
67		East	65.5	65.8	0.3	No
68		West	67.3	67.5	0.2	No
69	McCray St / Merle Haggard Drive	North	57.0	57.0	0.0	No
70		South	58.6	58.7	0.1	No
71		East	65.0	65.2	0.2	No
72		West	65.8	66.0	0.2	No
73	N. Chester Ave / Merle Haggard Dr	North	63.5	63.5	0.0	No
74		South	62.1	62.3	0.2	No
75		East	65.9	66.0	0.1	No
76		West	65.4	65.6	0.2	No

ND = Roadway segments for which no traffic data was provided
NA = Roadway segments that previously did not exist
Source: FHWA-RD-77-108 with inputs from Ruettgers & Schuler. Appendix B contains the FHWA model inputs.

As indicated in Table 12, the project-generated increase in year 2040 traffic noise levels is predicted to be substantial along six of the roadway segments evaluated in Table 12 (segments 19, 20, 22-24 and 49). Analysis of those six roadway segments revealed that there are no residences or other sensitive land uses along those roadway segments. Because the project-related increase in traffic noise levels would not exceed the standards of significance at existing

sensitive receptors located along the project roadway network, this impact is identified as being ***less than significant***.

Off-Site Noise Impacts Associated with Proposed On-Site Industrial Operations

Impact 5: Project Industrial Noise Levels at Existing Noise-Sensitive Receptors

The project proposes industrial zoning within two primary areas identified as Phases 1 and 2. At the time of writing this report, the types of future industrial uses which would develop within these areas are unknown. However, within the project area, the types of uses which would typically develop would likely include a mix of light industrial, manufacturing and warehouse/distribution type uses. Primary noise sources associated with these types of uses which affect the exterior noise environment tend to consist of on-site heavy truck circulation, loading dock activities, and mechanical equipment. Noise generated by equipment and processes occurring within buildings tends to be contained by the building envelope. Reference noise levels for the exterior industrial noise sources identified above can vary but are would likely range from 50-60 dB L_{eq} and 70-75 dB L_{max} at a distance of 100 feet from the noise sources.

The nearest identified existing sensitive receptor has been identified as a residence located on the south side of SR 99, approximately 350 feet from the project boundary. When projected to a distance of 350 feet, noise levels from the exterior industrial noise sources indicated above are calculated to be approximately 50 dB L_{eq} and 65 dB L_{max}. However, this residence is located approximately 250 feet from the centerline of SR 99, and is exposed to an extremely high ambient noise environment (traffic). It is expected that the elevated ambient noise level environment associated with SR 99 traffic would effectively mask project industrial noise levels at this residence. The next-nearest existing residence is located approximately 2,100 feet from the project area. When projected to a distance of 2,100 feet, noise levels from exterior industrial noise sources are expected to be approximately 35 dB L_{eq} and 50 dB L_{max}. According to the results from the BAC ambient noise level survey, specifically at measurement site 1 which was furthest removed from the SR 99 (a primary noise source in the area), average measured hourly noise levels ranged from 48 to 55 dB L_{eq} and from 60 to 74 dB L_{max} during the 48-hour monitoring period (Table 7). After a comparison of the locations of both BAC site 1 and the previously identified existing residence located 2,100 feet from the project area, it is reasonably assumed that measured ambient conditions at site 1 would be generally acoustically equivalent of existing ambient conditions at that residence. Based on this assumption, the predicted industrial operations noise levels of 35 dB L_{eq} and 50 dB L_{max} at that residence would be well below the established ambient noise level environment at that residence.

Based on the analysis provided above, project industrial operations noise levels at the nearest existing sensitive receptors are expected to be below ambient noise conditions at those locations. It is further expected that project industrial operations noise exposure would satisfy applicable Kern County General Plan and Metropolitan Bakersfield General Plan noise level criteria at those locations. As a result, this impact is considered to be ***less than significant***.

Noise Impacts Associated with Project Construction Activities

Impact 6: Project Construction Noise Levels at Existing Sensitive Uses

During project construction, heavy equipment would be used for grading excavation, paving, and building construction, which would increase ambient noise levels when in use. Noise levels would vary depending on the type of equipment used, how it is operated, and how well it is maintained. Noise exposure at any single point outside the project work area would also vary depending upon the proximity of equipment activities to that point. The nearest identified existing sensitive receptor (residence) is located south of SR-99, approximately 350 feet away from where construction activities would occur on the project site.

Table 13 includes the range of maximum (L_{max}) noise levels for equipment commonly used in general construction projects at full-power operation at a distance of 50 feet. Not all of these construction activities would be required of this project. The Table 13 data also include predicted maximum equipment noise levels at the nearest sensitive use located approximately 350 feet away, which assume a standard spherical spreading loss of 6 dB per doubling of distance.

Table 13
Construction Equipment Reference Noise Levels and Predicted Noise Levels 350 Feet

Equipment Description	Maximum Noise Level at 50 Feet, L_{max} (dB)	Predicted Maximum Noise Level at 350 feet, L_{max} (dB)
Air compressor	80	63
Backhoe	80	63
Ballast equalizer	82	65
Ballast tamper	83	66
Compactor	82	65
Concrete mixer	85	68
Concrete pump	82	65
Concrete vibrator	76	59
Crane, mobile	83	66
Dozer	85	68
Generator	82	65
Grader	85	68
Impact wrench	85	68
Jack hammer	88	71
Loader	80	63
Paver	85	68
Pneumatic tool	85	68
Pump	77	60
Rail saw	90	73
Saw	76	59
Scarifier	83	66
Scraper	85	68
Shovel	82	65
Spike driver	77	60
Tie cutter	84	67
Tie handler	80	63
Tie inserter	85	68
Truck	84	67

Source: FTA Transit Noise and Vibration Impact Assessment Manual, Table 7-1 (2018)

Based on the equipment noise levels in Table 13, worst-case on-site project construction equipment noise levels at the nearest existing residence located approximately 350 feet away are expected to range from approximately 59 to 73 dB L_{max}. However, as mentioned previously, this residence is exposed to an elevated noise level environment located within close proximity to SR 99. It is expected that SR 99 traffic noise exposure would effectively mask project construction noise levels at this residence. The next-nearest existing residence is located approximately 2,100 feet from where project construction could occur. When projected to this distance, worst-case project construction equipment noise levels are expected to range from 44 to 58 dB L_{max}. According to the results from the BAC ambient noise level survey, specifically at measurement site 1 which was furthest removed from the SR 99 (a primary noise source in the area), average measured maximum noise levels ranged from 60 to 74 dB L_{max} during the 48-hour monitoring period (Table 7). After a comparison of the locations of both BAC site 1 and the previously identified existing residence located 2,100 feet from the project area, it is reasonably assumed that measured ambient conditions at site 1 would be generally acoustically equivalent of existing ambient conditions at that residence. Based on this assumption, the predicted construction maximum noise levels of 44 to 58 dB L_{max} at that residence would be below the established ambient noise level environment at that residence.

Based on the analysis provided above, project construction noise levels at the nearest existing sensitive receptors are expected to be below ambient noise conditions at those locations. It is further expected that project construction noise exposure would satisfy applicable Kern County General Plan and Metropolitan Bakersfield General Plan noise level criteria at those locations. As a result, this impact is identified as being ***less than significant***. Nevertheless, the following measures should be incorporated into the project construction operations to the maximum extent possible to reduce the potential for annoyance at residences in the general vicinity of the construction:

- Noise-generating construction activities shall not occur within the hours and days identified in Section 8.36.020 of the Kern County General Plan.
- Noise-generating construction activities shall occur pursuant to the criteria identified in Section 9.22.050 of the Bakersfield Municipal Code.
- All noise-producing project equipment and vehicles using internal-combustion engines shall be equipped with manufacturers-recommended mufflers and be maintained in good working condition.
- All mobile or fixed noise-producing equipment used on the project site that are regulated for noise output by a federal, state, or local agency shall comply with such regulations while in the course of project activity.
- Electrically powered equipment shall be used instead of pneumatic or internal-combustion-powered equipment, where feasible.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.
- Project area and site access road speed limits shall be established and enforced during the construction period.

Vibration Impacts Associated with Project Activities

Impact 7: Vibration Generated by Project Construction and On-Site Operations

During project construction, heavy equipment would be used for grading, excavation, paving, and building construction, which would generate localized vibration in the immediate vicinity of the construction. The nearest identified existing sensitive receptor is a residential structure located approximately 350 feet from construction activities which would occur within the project site.

Table 14 includes the range of vibration levels for equipment commonly used in general construction projects at a distance of 25 feet. The Table 14 data also include predicted equipment vibration levels at the nearest existing residences to the project site located approximately 350 feet away.

Table 14
Vibration Source Levels for Construction Equipment and Predicted Levels at 350 Feet

	Maximum PPV (inches/second)[1]	
Equipment	**Maximum PPV at 25 Feet[2]**	**Predicted PPV at 350 Feet**
Hoe ram	0.089	0.002
Large bulldozer	0.089	0.002
Caisson drilling	0.089	0.002
Loaded trucks	0.076	0.001
Jackhammer	0.035	<0.001
Small bulldozer	0.003	<0.001

[1] PPV = Peak Particle Velocity
[2] Reference vibration level obtained from the Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual (2018).

As indicated in Table 14, vibration levels generated from on-site construction activities at the nearest existing residence located approximately 350 feet away are predicted to be well below the strictest Caltrans thresholds for damage to residential structures of 0.30 in/sec PPV shown in Table 2. Further, the predicted vibration levels in Table 14 are well below the threshold for a severe human response as defined by Caltrans in Table 3 (vibration damage potential threshold criteria). Therefore, on-site construction within the project area is not expected to result in excessive groundborne vibration levels at nearby existing residential uses.

Results from the ambient vibration level monitoring at the project site (Table 8) indicate that measured average vibration levels were below the strictest Caltrans thresholds for damage to structures and thresholds for annoyance. Therefore, it is expected that the project would not result in the exposure of persons to excessive groundborne vibration levels at proposed uses of the project.

The project proposes medium industrial (M-2) uses within the development. After a review of types of industrial uses allowed by Kern County within the M-2 zoning, it is expected that the equipment associated with those uses would not produce appreciable vibration. Specifically, vibration levels that would be generated by the types of equipment within the industrial project

dissipate very rapidly with distance, and are expected to be well below Caltrans thresholds for damage to structures and thresholds for annoyance at the nearest existing residence located approximately 350 feet away.

Because vibration levels due to and upon the proposed project are expected to satisfy the applicable Caltrans groundborne impact vibration criteria at the nearest existing sensitive receptors, this impact is considered to be ***less than significant***.

Noise Impacts Upon the Development

The California Supreme Court issued an opinion in *California Building Industry Association v. Bay Area Air Quality Management District (2015)* holding that CEQA is primarily concerned with the impacts of a project on the environment and generally does not require agencies to analyze the impact of existing conditions on a project's future users. Nevertheless, the Kern County General Plan and Metropolitan Bakersfield General Plan have policies that address existing/future conditions affecting the proposed project, which are discussed in the following section. The following section includes an assessment of future traffic and aircraft operations noise exposure at proposed industrial uses within the development and recommended conditions to ensure consistency with the applicable noise requirements.

On-Site Traffic Noise Impacts

Issue 1: Future Traffic Noise Levels at the Proposed Industrial Development

The worst-case traffic noise exposure at the development is expected to occur at the industrial uses proposed nearest to SR 99. Although the project site map identifies the development boundaries (Figure 2), the locations of the industrial uses within the project area are currently unknown. The development boundaries proposed nearest to SR 99 maintain a separation of approximately 100 feet from the centerline of the roadway.

The FHWA Model was used with future traffic data to predict SR 99 traffic noise levels at the proposed development. The future Average Daily Traffic (ADT) for SR 99 was conservatively estimated by increasing the existing ADT volume by a factor of 50% to account for regional growth in the next twenty years. The existing (2019) ADT volume for the segment of SR 99 adjacent to the proposed development was obtained from published Caltrans traffic volume data. The day/night distribution and truck percentages were derived from BAC file data and published Caltrans data. A complete listing of FHWA Model inputs for future SR 99 traffic is provided as Appendix F.

Based on the above information, future day-night average (L_{dn}) traffic noise exposure from the segment of SR 99 adjacent to the proposed development is predicted to be approximately 75 dB L_{dn} at a distance of 350 feet from the centerline of SR 99. The Kern County General Plan does not contain exterior noise level limits for industrial uses. However, the Metropolitan Bakersfield General Plan establishes a normally acceptable exterior noise level limit of 75 dB L_{dn} for industrial uses. Exterior areas of industrial uses are not inherently considered to be noise-sensitive. Rather, the noise-sensitivity at industrial uses typically occurs within indoor offices, break rooms, conference rooms, etc. Based on the noise level reduction achieved from standard building

construction (minimum of 15 dB with windows open), adverse reaction to traffic noise level exposure within the indoor sensitive areas of proposed industrial buildings is not expected. However, should outdoor break areas be proposed within 350 feet from the centerline of SR 99, it is possible that future SR 99 traffic noise exposure could exceed the applicable Metropolitan Bakersfield General Plan 75 dB L_{dn} exterior noise level limit at those locations. As a result, this impact is identified as being **potentially significant**.

Recommendation 1:

In order to satisfy the applicable Metropolitan Bakersfield General Plan exterior noise level limit at potential outdoor areas of industrial uses, one of the following measures is recommended:

RM 1: Ensure that sensitive outdoor areas of future industrial uses within the development (if any) maintain a minimum setback of 350 feet from the centerline of SR 99.

OR

RM 2: Should outdoor areas of future industrial uses be proposed within 350 feet from the centerline of SR 99, ensure that the areas are sufficiently shielded so as noise levels would not exceed 75 dB L_{dn} at those locations.

Issue 2: Airport Operations Noise at the Proposed Industrial Development

The project site is located approximately 8,700 feet (1.65 miles) to the northwest of Meadows Field Airport (a public airport). According to the Noise Contours Map identified in the County of Kern Airport Land Use Compatibility Plan, the project area is geographically located outside of the 60 dB CNEL noise contour. In addition, the results from the ambient noise level survey indicate that measured day-night average (L_{dn}) noise levels at the project site (excluding the data obtained at site 2 which was adjacent to SR 99) were below 60 dB L_{dn} (site 1).

Based on the information above, the results from the BAC conducted noise level survey at the project site, and after consideration of the exterior to interior noise level reduction achieved within standard building construction (at least 25 dB with windows closed and approximately 15 dB with windows open), noise generated from normal aircraft operations at the Meadows Field Airport is not expected to exceed the applicable Metropolitan Bakersfield General Plan exterior noise level criteria at the proposed development, or result in adverse reaction within the interior areas of the proposed industrial buildings. As a result, this impact is considered to be ***less than significant***.

This concludes BAC's noise and vibration assessment of the Malibu Vineyards Rezone Project Phases 1 & 2 project in Kern County, California. Please contact BAC at (530) 537-2328 or info@bacnoise.com if you have any comments or questions regarding this report.

Appendix A

Acoustical Terminology

Acoustics The science of sound.

Ambient Noise The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.

Attenuation The reduction of an acoustic signal.

A-Weighting A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.

Decibel or dB Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.

CNEL Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.

Frequency The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.

Ldn Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.

Leq Equivalent or energy-averaged sound level.

Lmax The highest root-mean-square (RMS) sound level measured over a given period of time.

Loudness A subjective term for the sensation of the magnitude of sound.

Masking The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.

Noise Unwanted sound.

Peak Noise The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the Maximum level, which is the highest RMS level.

RT_{60} The time it takes reverberant sound to decay by 60 dB once the source has been removed.

Sabin The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.

SEL A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy of the event into a 1-s time period.

Threshold of Hearing The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.

Threshold of Pain Approximately 120 dB above the threshold of hearing.

Appendix B-1
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 01 Existing
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	SR 99 SB Ramps / Lerdo Highway	North	2,190	80	20	2	2	70	100
2		South	5,495	80	20	2	2	70	100
3		East	9,110	80	20	2	2	45	100
4		West	14,755	80	20	2	2	45	100
5	SR 99 NB / Lerdo Highway	North	590	80	20	2	2	25	100
6		South	7,185	80	20	2	2	70	100
7		East	3,900	80	20	2	2	45	100
8		West	9,195	80	20	2	2	45	100
9	SR 65 / Lerdo Highway	North	7,100	80	20	2	2	55	100
10		South	9,645	80	20	2	2	55	100
11		East							
12		West	2,895	80	20	2	2	55	100
13	SR 65 / James Road	North	9,590	80	20	2	2	55	100
14		South	7,930	80	20	2	2	55	100
15		East	3,650	80	20	2	2	45	100
16		West	200	80	20	2	2	45	100
17	Quinn Road / Imperial Street	North							
18		South	585	80	20	2	2	35	100
19		East	585	80	20	2	2	35	100
20		West							
21	SR 65 / Imperial Street	North	9,075	80	20	2	2	55	100
22		South	9,145	80	20	2	2	55	100
23		East	10	80	20	2	2	25	100
24		West	220	80	20	2	2	35	100
25	Quinn Road / Saco Road-McMurtrey Avenue	North	2,795	80	20	2	2	35	100
26		South	4,265	80	20	2	2	35	100
27		East	365	80	20	2	2	35	100
28		West	2,105	80	20	2	2	35	100
29	Calloway Drive / 7th Standard Road	North	3,705	80	20	2	2	35	100
30		South	10,115	80	20	2	2	35	100
31		East	19,740	80	20	2	2	55	100
32		West	12,400	80	20	2	2	55	100
33	Coffee Road / 7th Standard Road	North	995	80	20	2	2	35	100
34		South	8,780	80	20	2	2	45	100

Appendix B-1
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 01 Existing
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	25,115	80	20	2	2	55	100
36		West	19,380	80	20	2	2	55	100
37	Golden State Highway / 7th Standard Road	North	5,715	80	20	2	2	70	100
38		South	4,295	80	20	2	2	70	100
39		East	24,990	80	20	2	2	55	100
40		West	25,240	80	20	2	2	55	100
41	Quinn Rd / SR 99 NB Ramp / Merle Haggard / 7th Standard	North	4,275	80	20	2	2	35	100
42		South	6,990	80	20	2	2	35	100
43		East	15,795	80	20	2	2	45	100
44		West	22,440	80	20	2	2	55	100
45	Industrial Parkway / Merle Haggard Drive	North	980	80	20	2	2	35	100
46		South	1,865	80	20	2	2	35	100
47		East	15,505	80	20	2	2	45	100
48		West	16,030	80	20	2	2	45	100
49	SR 65 / Merle Haggard Drive	North	11,095	80	20	2	2	55	100
50		South	12,885	80	20	2	2	55	100
51		East	17,185	80	20	2	2	45	100
52		West	15,975	80	20	2	2	45	100
53	Pegasus Drive / Merle Haggard Drive	North							
54		South	6,240	80	20	2	2	45	100
55		East	12,640	80	20	1	2	45	100
56		West	16,440	80	20	2	2	45	100
57	Wings Way / Merle Haggard Drive	North	225	80	20	2	2	25	100
58		South	770	80	20	2	2	35	100
59		East	10,470	80	20	2	2	55	100
60		West	10,985	80	20	2	2	45	100
61	Landings Way / Merle Haggard Drive	North	15	80	20	2	2	35	100
62		South							
63		East	11,940	80	20	2	2	45	100
64		West	11,935	80	20	2	2	55	100
65	Airport Drive / Merle Haggard Drive	North	3,975	80	20	2	2	45	100
66		South	4,250	80	20	2	2	45	100
67		East	8,295	80	20	2	2	45	100
68		West	11,660	80	20	2	2	45	100

Appendix B-1
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 01 Existing
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	McCray Street / Merle Haggard Drive	North	2,085	80	20	2	2	40	100
70		South	2,090	80	20	2	2	40	100
71		East	7,190	80	20	2	2	45	100
72		West	8,405	80	20	2	2	45	100
73	N. Chester Avenue / Merle Haggard Drive	North	6,605	80	20	2	2	45	100
74		South	4,210	80	20	2	2	45	100
75		East	9,575	80	20	2	2	45	100
76		West	7,510	80	20	2	2	45	100

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-2
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 02 Existing+Project Phase 1
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	SR 99 SB Ramps / Lerdo Highway	North	2,485	80	20	2	2	70	100
2		South	5,495	80	20	2	2	70	100
3		East	9,765	80	20	2	2	45	100
4		West	15,115	80	20	2	2	45	100
5	SR 99 NB / Lerdo Highway	North	590	80	20	2	2	25	100
6		South	7,525	80	20	2	2	70	100
7		East	4,895	80	20	2	2	45	100
8		West	9,850	80	20	2	2	45	100
9	SR 65 / Lerdo Highway	North	7,340	80	20	2	2	55	100
10		South	10,875	80	20	2	2	55	100
11		East							
12		West	3,885	80	20	2	2	55	100
13	SR 65 / James Road	North	10,825	80	20	2	2	55	100
14		South	9,165	80	20	2	2	55	100
15		East	3,650	80	20	2	2	45	100
16		West	200	80	20	2	2	45	100
17	Quinn Road / Imperial Street	North							
18		South	1,230	80	20	2	2	35	100
19		East	8,020	80	20	2	2	35	100
20		West	8,080	80	20	2	2	35	100
21	SR 65 / Imperial Street	North	10,310	80	20	2	2	55	100
22		South	15,345	80	20	2	2	55	100
23		East	10	80	20	2	2	25	100
24		West	7,655	80	20	2	2	35	100
25	Quinn Road / Saco Road-McMurtrey Avenue	North	3,440	80	20	2	2	35	100
26		South	5,505	80	20	2	2	35	100
27		East	365	80	20	2	2	35	100
28		West	2,700	80	20	2	2	35	100
29	Calloway Drive / 7th Standard Road	North	3,735	80	20	2	2	35	100
30		South	10,565	80	20	2	2	35	100
31		East	20,725	80	20	2	2	55	100
32		West	12,905	80	20	2	2	55	100
33	Coffee Road / 7th Standard Road	North	1,030	80	20	2	2	35	100
34		South	9,280	80	20	2	2	45	100

Appendix B-2
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 02 Existing+Project Phase 1
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	26,635	80	20	2	2	55	100
36		West	20,365	80	20	2	2	55	100
37	Golden State Highway / 7th Standard Road	North	6,185	80	20	2	2	70	100
38		South	4,295	80	20	2	2	70	100
39		East	26,985	80	20	2	2	55	100
40		West	26,765	80	20	2	2	55	100
41	Quinn Rd / SR 99 NB Ramp / Merle Haggard / 7th Standard	North	5,515	80	20	2	2	35	100
42		South	7,285	80	20	2	2	35	100
43		East	18,170	80	20	2	2	45	100
44		West	24,890	80	20	2	2	55	100
45	Industrial Parkway / Merle Haggard Drive	North	980	80	20	2	2	35	100
46		South	1,865	80	20	2	2	35	100
47		East	17,880	80	20	2	2	45	100
48		West	18,405	80	20	2	2	45	100
49	SR 65 / Merle Haggard Drive	North	17,295	80	20	2	2	55	100
50		South	16,580	80	20	2	2	55	100
51		East	18,185	80	20	2	2	45	100
52		West	18,350	80	20	2	2	45	100
53	Pegasus Drive / Merle Haggard Drive	North							
54		South	6,240	80	20	2	2	45	100
55		East	13,640	80	20	1	2	45	100
56		West	17,440	80	20	2	2	45	100
57	Wings Way / Merle Haggard Drive	North	225	80	20	2	2	25	100
58		South	770	80	20	2	2	35	100
59		East	12,970	80	20	2	2	55	100
60		West	13,485	80	20	2	2	45	100
61	Landings Way / Merle Haggard Drive	North	15	80	20	2	2	35	100
62		South							
63		East	12,940	80	20	2	2	45	100
64		West	12,935	80	20	2	2	55	100
65	Airport Drive / Merle Haggard Drive	North	3,975	80	20	2	2	45	100
66		South	4,600	80	20	2	2	45	100
67		East	8,945	80	20	2	2	45	100
68		West	12,660	80	20	2	2	45	100

Appendix B-2
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 02 Existing+Project Phase 1
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	McCray Street / Merle Haggard Drive	North	2,085	80	20	2	2	40	100
70		South	2,155	80	20	2	2	40	100
71		East	7,775	80	20	2	2	45	100
72		West	9,055	80	20	2	2	45	100
73	N. Chester Avenue / Merle Haggard Drive	North	6,605	80	20	2	2	45	100
74		South	4,490	80	20	2	2	45	100
75		East	9,880	80	20	2	2	45	100
76		West	8,095	80	20	2	2	45	100

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-3
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 03 2030
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	SR 99 SB Ramps / Lerdo Highway	North	2,785	80	20	2	2	70	100
2		South	6,470	80	20	2	2	70	100
3		East	12,605	80	20	2	2	45	100
4		West	19,050	80	20	2	2	45	100
5	SR 99 NB / Lerdo Highway	North	735	80	20	2	2	25	100
6		South	8,745	80	20	2	2	70	100
7		East	5,655	80	20	2	2	45	100
8		West	11,655	80	20	2	2	45	100
9	SR 65 / Lerdo Highway	North	8,960	80	20	2	2	55	100
10		South	12,435	80	20	2	2	55	100
11		East							
12		West	3,905	80	20	2	2	55	100
13	SR 65 / James Road	North	12,570	80	20	2	2	55	100
14		South	10,485	80	20	2	2	55	100
15		East	4,445	80	20	2	2	45	100
16		West	240	80	20	2	2	45	100
17	Quinn Road / Imperial Street	North							
18		South	615	80	20	2	2	35	100
19		East	615	80	20	2	2	35	100
20		West							
21	SR 65 / Imperial Street	North	12,255	80	20	2	2	55	100
22		South	12,345	80	20	2	2	55	100
23		East	10	80	20	2	2	25	100
24		West	270	80	20	2	2	35	100
25	Quinn Road / Saco Road-McMurtrey Avenue	North	2,950	80	20	2	2	35	100
26		South	4,505	80	20	2	2	35	100
27		East	375	80	20	2	2	35	100
28		West	2,220	80	20	2	2	35	100
29	Calloway Drive / 7th Standard Road	North	4,260	80	20	2	2	35	100
30		South	12,935	80	20	2	2	35	100
31		East	27,255	80	20	2	2	55	100
32		West	17,360	80	20	2	2	55	100
33	Coffee Road / 7th Standard Road	North	1,250	80	20	2	2	35	100
34		South	14,030	80	20	2	2	45	100

Appendix B-3
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 03 2030
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	38,965	80	20	2	2	55	100
36		West	29,175	80	20	2	2	55	100
37	Golden State Highway / 7th Standard Road	North	8,215	80	20	2	2	70	100
38		South	5,855	80	20	2	2	70	100
39		East	40,805	80	20	2	2	55	100
40		West	38,795	80	20	2	2	55	100
41	Quinn Rd / SR 99 NB Ramp / Merle Haggard / 7th Standard	North	5,940	80	20	2	2	35	100
42		South	9,930	80	20	2	2	35	100
43		East	30,040	80	20	2	2	45	100
44		West	38,970	80	20	2	2	55	100
45	Industrial Parkway / Merle Haggard Drive	North	1,150	80	20	2	2	35	100
46		South	2,215	80	20	2	2	35	100
47		East	28,375	80	20	2	2	45	100
48		West	29,010	80	20	2	2	45	100
49	SR 65 / Merle Haggard Drive	North	14,365	80	20	2	2	55	100
50		South	25,440	80	20	2	2	55	100
51		East	41,010	80	20	2	2	45	100
52		West	28,975	80	20	2	2	45	100
53	Pegasus Drive / Merle Haggard Drive	North							
54		South	7,205	80	20	2	2	45	100
55		East	35,290	80	20	1	2	45	100
56		West	39,015	80	20	2	2	45	100
57	Wings Way / Merle Haggard Drive	North	14,690	80	20	2	2	25	100
58		South	3,250	80	20	2	2	35	100
59		East	24,030	80	20	2	2	55	100
60		West	35,730	80	20	2	2	45	100
61	Landings Way / Merle Haggard Drive	North	9,875	80	20	2	2	35	100
62		South							
63		East	20,040	80	20	2	2	45	100
64		West	23,255	80	20	2	2	55	100
65	Airport Drive / Merle Haggard Drive	North	4,540	80	20	2	2	45	100
66		South	7,895	80	20	2	2	45	100
67		East	12,460	80	20	2	2	45	100
68		West	19,195	80	20	2	2	45	100

Appendix B-3
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 03 2030
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	McCray Street / Merle Haggard Drive	North	2,350	80	20	2	2	40	100
70		South	3,425	80	20	2	2	40	100
71		East	10,460	80	20	2	2	45	100
72		West	12,925	80	20	2	2	45	100
73	N. Chester Avenue / Merle Haggard Drive	North	7,665	80	20	2	2	45	100
74		South	5,635	80	20	2	2	45	100
75		East	12,740	80	20	2	2	45	100
76		West	11,120	80	20	2	2	45	100

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-4
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 04 2030+Project Phase 1
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	SR 99 SB Ramps / Lerdo Highway	North	3,080	80	20	2	2	70	100
2		South	6,470	80	20	2	2	70	100
3		East	13,260	80	20	2	2	45	100
4		West	19,410	80	20	2	2	45	100
5	SR 99 NB / Lerdo Highway	North	735	80	20	2	2	25	100
6		South	9,085	80	20	2	2	70	100
7		East	6,650	80	20	2	2	45	100
8		West	12,310	80	20	2	2	45	100
9	SR 65 / Lerdo Highway	North	9,200	80	20	2	2	55	100
10		South	13,665	80	20	2	2	55	100
11		East							
12		West	4,895	80	20	2	2	55	100
13	SR 65 / James Road	North	13,805	80	20	2	2	55	100
14		South	11,720	80	20	2	2	55	100
15		East	4,445	80	20	2	2	45	100
16		West	240	80	20	2	2	45	100
17	Quinn Road / Imperial Street	North							
18		South	1,260	80	20	2	2	35	100
19		East	8,050	80	20	2	2	35	100
20		West	8,080	80	20	2	2	35	100
21	SR 65 / Imperial Street	North	13,490	80	20	2	2	55	100
22		South	18,545	80	20	2	2	55	100
23		East	10	80	20	2	2	25	100
24		West	7,705	80	20	2	2	35	100
25	Quinn Road / Saco Road-McMurtrey Avenue	North	3,595	80	20	2	2	35	100
26		South	5,745	80	20	2	2	35	100
27		East	375	80	20	2	2	35	100
28		West	2,815	80	20	2	2	35	100
29	Calloway Drive / 7th Standard Road	North	4,290	80	20	2	2	35	100
30		South	13,385	80	20	2	2	35	100
31		East	28,240	80	20	2	2	55	100
32		West	17,865	80	20	2	2	55	100
33	Coffee Road / 7th Standard Road	North	1,285	80	20	2	2	35	100
34		South	14,530	80	20	2	2	45	100

Appendix B-4
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 04 2030+Project Phase 1
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	40,485	80	20	2	2	55	100
36		West	30,160	80	20	2	2	55	100
37	Golden State Highway / 7th Standard Road	North	8,685	80	20	2	2	70	100
38		South	5,855	80	20	2	2	70	100
39		East	42,800	80	20	2	2	55	100
40		West	40,320	80	20	2	2	55	100
41	Quinn Rd / SR 99 NB Ramp / Merle Haggard / 7th Standard	North	7,180	80	20	2	2	35	100
42		South	10,225	80	20	2	2	35	100
43		East	32,415	80	20	2	2	45	100
44		West	41,420	80	20	2	2	55	100
45	Industrial Parkway / Merle Haggard Drive	North	1,150	80	20	2	2	35	100
46		South	2,065	80	20	2	2	35	100
47		East	30,600	80	20	2	2	45	100
48		West	31,385	80	20	2	2	45	100
49	SR 65 / Merle Haggard Drive	North	20,565	80	20	2	2	55	100
50		South	29,135	80	20	2	2	55	100
51		East	43,510	80	20	2	2	45	100
52		West	32,850	80	20	2	2	45	100
53	Pegasus Drive / Merle Haggard Drive	North							
54		South	7,205	80	20	2	2	45	100
55		East	36,290	80	20	1	2	45	100
56		West	40,015	80	20	2	2	45	100
57	Wings Way / Merle Haggard Drive	North	14,690	80	20	2	2	25	100
58		South	3,250	80	20	2	2	35	100
59		East	25,030	80	20	2	2	55	100
60		West	36,730	80	20	2	2	45	100
61	Landings Way / Merle Haggard Drive	North	9,875	80	20	2	2	35	100
62		South							
63		East	21,040	80	20	2	2	45	100
64		West	24,255	80	20	2	2	55	100
65	Airport Drive / Merle Haggard Drive	North	4,540	80	20	2	2	45	100
66		South	8,245	80	20	2	2	45	100
67		East	13,110	80	20	2	2	45	100
68		West	20,195	80	20	2	2	45	100

Appendix B-4
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 04 2030+Project Phase 1
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	McCray Street / Merle Haggard Drive	North	2,350	80	20	2	2	40	100
70		South	3,490	80	20	2	2	40	100
71		East	11,045	80	20	2	2	45	100
72		West	13,575	80	20	2	2	45	100
73	N. Chester Avenue / Merle Haggard Drive	North	7,665	80	20	2	2	45	100
74		South	5,915	80	20	2	2	45	100
75		East	13,045	80	20	2	2	45	100
76		West	11,705	80	20	2	2	45	100

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-5
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 05 2040
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	SR 99 SB Ramps / Lerdo Highway	North	3,200	80	20	2	2	70	100
2		South	7,510	80	20	2	2	70	100
3		East	16,650	80	20	2	2	45	100
4		West	24,160	80	20	2	2	45	100
5	SR 99 NB / Lerdo Highway	North	900	80	20	2	2	25	100
6		South	10,270	80	20	2	2	70	100
7		East	7,330	80	20	2	2	45	100
8		West	14,240	80	20	2	2	45	100
9	SR 65 / Lerdo Highway	North	10,585	80	20	2	2	55	100
10		South	14,660	80	20	2	2	55	100
11		East							
12		West	4,585	80	20	2	2	55	100
13	SR 65 / James Road	North	15,025	80	20	2	2	55	100
14		South	12,460	80	20	2	2	55	100
15		East	5,335	80	20	2	2	45	100
16		West	280	80	20	2	2	45	100
17	Quinn Road / Imperial Street	North							
18		South	650	80	20	2	2	35	100
19		East	650	80	20	2	2	35	100
20		West							
21	SR 65 / Imperial Street	North	15,000	80	20	2	2	55	100
22		South	15,110	80	20	2	2	55	100
23		East	20	80	20	2	2	25	100
24		West	350	80	20	2	2	35	100
25	Quinn Road / Saco Road-McMurtrey Avenue	North	3,105	80	20	2	2	35	100
26		South	4,750	80	20	2	2	35	100
27		East	405	80	20	2	2	35	100
28		West	2,340	80	20	2	2	35	100
29	Calloway Drive / 7th Standard Road	North	4,760	80	20	2	2	35	100
30		South	14,025	80	20	2	2	35	100
31		East	33,440	80	20	2	2	55	100
32		West	22,925	80	20	2	2	55	100
33	Coffee Road / 7th Standard Road	North	1,550	80	20	2	2	35	100
34		South	17,095	80	20	2	2	45	100

Appendix B-5
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 05 2040
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	49,760	80	20	2	2	55	100
36		West	38,355	80	20	2	2	55	100
37	Golden State Highway / 7th Standard Road	North	8,870	80	20	2	2	70	100
38		South	7,515	80	20	2	2	70	100
39		East	52,080	80	20	2	2	55	100
40		West	49,755	80	20	2	2	55	100
41	Quinn Rd / SR 99 NB Ramp / Merle Haggard / 7th Standard	North	7,910	80	20	2	2	35	100
42		South	13,250	80	20	2	2	35	100
43		East	36,145	80	20	2	2	45	100
44		West	48,305	80	20	2	2	55	100
45	Industrial Parkway / Merle Haggard Drive	North	1,340	80	20	2	2	35	100
46		South	2,585	80	20	2	2	35	100
47		East	32,560	80	20	2	2	45	100
48		West	33,285	80	20	2	2	45	100
49	SR 65 / Merle Haggard Drive	North	17,195	80	20	2	2	55	100
50		South	28,050	80	20	2	2	55	100
51		East	45,195	80	20	2	2	45	100
52		West	33,290	80	20	2	2	45	100
53	Pegasus Drive / Merle Haggard Drive	North							
54		South	7,810	80	20	2	2	45	100
55		East	37,705	80	20	1	2	45	100
56		West	41,735	80	20	2	2	45	100
57	Wings Way / Merle Haggard Drive	North	14,755	80	20	2	2	25	100
58		South	3,495	80	20	2	2	35	100
59		East	27,030	80	20	2	2	55	100
60		West	38,890	80	20	2	2	45	100
61	Landings Way / Merle Haggard Drive	North	9,875	80	20	2	2	35	100
62		South							
63		East	22,650	80	20	2	2	45	100
64		West	25,865	80	20	2	2	55	100
65	Airport Drive / Merle Haggard Drive	North	4,825	80	20	2	2	45	100
66		South	8,420	80	20	2	2	45	100
67		East	14,090	80	20	2	2	45	100
68		West	21,175	80	20	2	2	45	100

Appendix B-5
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 05 2040
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	McCray Street / Merle Haggard Drive	North	2,555	80	20	2	2	40	100
70		South	3,740	80	20	2	2	40	100
71		East	12,450	80	20	2	2	45	100
72		West	15,045	80	20	2	2	45	100
73	N. Chester Avenue / Merle Haggard Drive	North	8,740	80	20	2	2	45	100
74		South	6,365	80	20	2	2	45	100
75		East	15,430	80	20	2	2	45	100
76		West	13,545	80	20	2	2	45	100

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-6
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 06 2040+Project Phase 1 and 2
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	SR 99 SB Ramps / Lerdo Highway	North	3,600	80	20	2	2	70	100
2		South	7,510	80	20	2	2	70	100
3		East	17,495	80	20	2	2	45	100
4		West	24,605	80	20	2	2	45	100
5	SR 99 NB / Lerdo Highway	North	900	80	20	2	2	25	100
6		South	10,710	80	20	2	2	70	100
7		East	8,615	80	20	2	2	45	100
8		West	15,085	80	20	2	2	45	100
9	SR 65 / Lerdo Highway	North	10,900	80	20	2	2	55	100
10		South	16,260	80	20	2	2	55	100
11		East							
12		West	5,870	80	20	2	2	55	100
13	SR 65 / James Road	North	16,625	80	20	2	2	55	100
14		South	14,060	80	20	2	2	55	100
15		East	5,335	80	20	2	2	45	100
16		West	280	80	20	2	2	45	100
17	Quinn Road / Imperial Street	North							
18		South	1,475	80	20	2	2	35	100
19		East	10,180	80	20	2	2	35	100
20		West	10,355	80	20	2	2	35	100
21	SR 65 / Imperial Street	North	16,600	80	20	2	2	55	100
22		South	23,035	80	20	2	2	55	100
23		East	20	80	20	2	2	25	100
24		West	9,875	80	20	2	2	35	100
25	Quinn Road / Saco Road-McMurtrey Avenue	North	3,930	80	20	2	2	35	100
26		South	6,360	80	20	2	2	35	100
27		East	405	80	20	2	2	35	100
28		West	3,125	80	20	2	2	35	100
29	Calloway Drive / 7th Standard Road	North	4,795	80	20	2	2	35	100
30		South	14,605	80	20	2	2	35	100
31		East	34,680	80	20	2	2	55	100
32		West	23,550	80	20	2	2	55	100
33	Coffee Road / 7th Standard Road	North	1,610	80	20	2	2	35	100
34		South	17,720	80	20	2	2	45	100

Appendix B-6
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 06 2040+Project Phase 1 and 2
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	51,685	80	20	2	2	55	100
36		West	39,595	80	20	2	2	55	100
37	Golden State Highway / 7th Standard Road	North	9,385	80	20	2	2	70	100
38		South	7,515	80	20	2	2	70	100
39		East	54,600	80	20	2	2	55	100
40		West	51,580	80	20	2	2	55	100
41	Quinn Rd / SR 99 NB Ramp / Merle Haggard / 7th Standard	North	9,520	80	20	2	2	35	100
42		South	13,630	80	20	2	2	35	100
43		East	39,180	80	20	2	2	45	100
44		West	51,410	80	20	2	2	55	100
45	Industrial Parkway / Merle Haggard Drive	North	1,340	80	20	2	2	35	100
46		South	2,585	80	20	2	2	35	100
47		East	35,595	80	20	2	2	45	100
48		West	36,320	80	20	2	2	45	100
49	SR 65 / Merle Haggard Drive	North	25,115	80	20	2	2	55	100
50		South	32,775	80	20	2	2	55	100
51		East	39,140	80	20	2	2	45	100
52		West	28,950	80	20	2	2	45	100
53	Pegasus Drive / Merle Haggard Drive	North							
54		South	7,810	80	20	2	2	45	100
55		East	39,025	80	20	1	2	45	100
56		West	43,055	80	20	2	2	45	100
57	Wings Way / Merle Haggard Drive	North	14,755	80	20	2	2	25	100
58		South	3,495	80	20	2	2	35	100
59		East	28,350	80	20	2	2	55	100
60		West	40,210	80	20	2	2	45	100
61	Landings Way / Merle Haggard Drive	North	9,875	80	20	2	2	35	100
62		South							
63		East	23,970	80	20	2	2	45	100
64		West	27,185	80	20	2	2	55	100
65	Airport Drive / Merle Haggard Drive	North	4,825	80	20	2	2	45	100
66		South	8,900	80	20	2	2	45	100
67		East	14,935	80	20	2	2	45	100
68		West	22,500	80	20	2	2	45	100

Appendix B-6
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 06 2040+Project Phase 1 and 2
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	McCray Street / Merle Haggard Drive	North	2,555	80	20	2	2	40	100
70		South	3,815	80	20	2	2	40	100
71		East	13,220	80	20	2	2	45	100
72		West	15,890	80	20	2	2	45	100
73	N. Chester Avenue / Merle Haggard Drive	North	8,740	80	20	2	2	45	100
74		South	6,760	80	20	2	2	45	100
75		East	15,805	80	20	2	2	45	100
76		West	14,315	80	20	2	2	45	100

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-7
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 07 2040+Project Phase 1 and 2 Imperial
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	SR 99 SB Ramps / Lerdo Highway	North	3,525	80	20	2	2	70	100
2		South	7,510	80	20	2	2	70	100
3		East	17,380	80	20	2	2	45	100
4		West	24,565	80	20	2	2	45	100
5	SR 99 NB / Lerdo Highway	North	900	80	20	2	2	25	100
6		South	10,690	80	20	2	2	70	100
7		East	8,480	80	20	2	2	45	100
8		West	14,970	80	20	2	2	45	100
9	SR 65 / Lerdo Highway	North	10,865	80	20	2	2	55	100
10		South	16,085	80	20	2	2	55	100
11		East							
12		West	5,730	80	20	2	2	55	100
13	SR 65 / James Road	North	16,455	80	20	2	2	55	100
14		South	13,890	80	20	2	2	55	100
15		East	5,335	80	20	2	2	45	100
16		West	280	80	20	2	2	45	100
17	Quinn Road / Imperial Street	North							
18		South	1,395	80	20	2	2	35	100
19		East	9,215	80	20	2	2	35	100
20		West	9,310	80	20	2	2	35	100
21	SR 65 / Imperial Street	North	16,430	80	20	2	2	55	100
22		South	32,400	80	20	2	2	55	100
23		East	10,175	80	20	2	2	25	100
24		West	8,915	80	20	2	2	35	100
25	Quinn Road / Saco Road-McMurtrey Avenue	North	3,850	80	20	2	2	35	100
26		South	6,185	80	20	2	2	35	100
27		East	405	80	20	2	2	35	100
28		West	3,030	80	20	2	2	35	100
29	Calloway Drive / 7th Standard Road	North	4,795	80	20	2	2	35	100
30		South	14,540	80	20	2	2	35	100
31		East	34,565	80	20	2	2	55	100
32		West	23,500	80	20	2	2	55	100
33	Coffee Road / 7th Standard Road	North	1,595	80	20	2	2	35	100
34		South	17,665	80	20	2	2	45	100

Appendix B-7
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 07 2040+Project Phase 1 and 2 Imperial
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	51,500	80	20	2	2	55	100
36		West	39,480	80	20	2	2	55	100
37	Golden State Highway / 7th Standard Road	North	9,380	80	20	2	2	70	100
38		South	7,515	80	20	2	2	70	100
39		East	54,335	80	20	2	2	55	100
40		West	51,500	80	20	2	2	55	100
41	Quinn Rd / SR 99 NB Ramp / Merle Haggard / 7th Standard	North	9,345	80	20	2	2	35	100
42		South	13,570	80	20	2	2	35	100
43		East	38,900	80	20	2	2	45	100
44		West	51,115	80	20	2	2	55	100
45	Industrial Parkway / Merle Haggard Drive	North	1,340	80	20	2	2	35	100
46		South	2,585	80	20	2	2	35	100
47		East	35,315	80	20	2	2	45	100
48		West	36,040	80	20	2	2	45	100
49	SR 65 / Merle Haggard Drive	North	34,485	80	20	2	2	55	100
50		South	32,320	80	20	2	2	55	100
51		East	36,210	80	20	2	2	45	100
52		West	36,045	80	20	2	2	45	100
53	Pegasus Drive / Merle Haggard Drive	North							
54		South	7,810	80	20	2	2	45	100
55		East	29,000	80	20	1	2	45	100
56		West	33,030	80	20	2	2	45	100
57	Wings Way / Merle Haggard Drive	North	5,480	80	20	2	2	25	100
58		South	3,495	80	20	2	2	35	100
59		East	28,200	80	20	2	2	55	100
60		West	30,785	80	20	2	2	45	100
61	Landings Way / Merle Haggard Drive	North	9,875	80	20	2	2	35	100
62		South							
63		East	23,820	80	20	2	2	45	100
64		West	27,035	80	20	2	2	55	100
65	Airport Drive / Merle Haggard Drive	North	4,825	80	20	2	2	45	100
66		South	8,840	80	20	2	2	45	100
67		East	14,840	80	20	2	2	45	100
68		West	22,345	80	20	2	2	45	100

Appendix B-7
FHWA Highway Traffic Noise Prediction Model Data Inputs
Malibu Vineyards Rezone Project Phases 1 and 2
File Name: 2019-141 07 2040+Project Phase 1 and 2 Imperial
Model Run Date: 6/22/2020

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	McCray Street / Merle Haggard Drive	North	2,555	80	20	2	2	40	100
70		South	3,810	80	20	2	2	40	100
71		East	13,130	80	20	2	2	45	100
72		West	15,795	80	20	2	2	45	100
73	N. Chester Avenue / Merle Haggard Drive	North	8,740	80	20	2	2	45	100
74		South	6,700	80	20	2	2	45	100
75		East	15,775	80	20	2	2	45	100
76		West	14,225	80	20	2	2	45	100

Note: Blank cells represent roadways for which no traffic data was provided.









Legend

- A Site 1: Noise Measurement Location
- B Site 1: Vibration Measurement Location
- C Site 2: Noise Measurement Location
- D Site 2: Vibration Measurement Location

Note: Long-term noise and vibration monitoring completed August 16-19, 2019.

Malibu Vineyards Rezone Project
Phases 1 & 2
Kern County, California

Noise and Vibration Survey Photographs

Appendix C

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Appendix D-1
Ambient Noise Monitoring Results - Site 1
Malibu Vineyards Rezone Project (Phases 1 & 2) - Kern County, California
Saturday, August 17, 2019

Hour	Leq	Lmax	L50	L90
12:00 AM	48	62	45	42
1:00 AM	49	68	45	43
2:00 AM	47	56	46	44
3:00 AM	50	57	49	45
4:00 AM	51	59	50	47
5:00 AM	53	78	48	44
6:00 AM	58	77	52	46
7:00 AM	56	73	52	47
8:00 AM	63	81	50	36
9:00 AM	53	77	40	35
10:00 AM	53	72	41	37
11:00 AM	56	79	41	38
12:00 PM	56	79	41	37
1:00 PM	56	76	40	37
2:00 PM	52	72	40	38
3:00 PM	51	72	41	39
4:00 PM	55	75	43	39
5:00 PM	52	71	43	41
6:00 PM	52	70	45	41
7:00 PM	52	70	47	44
8:00 PM	49	71	49	47
9:00 PM	51	67	50	47
10:00 PM	50	59	50	47
11:00 PM	45	52	45	43

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	63	49	55	58	45	52
Lmax (Maximum)	81	67	74	78	52	63
L50 (Median)	52	40	44	52	45	48
L90 (Background)	47	35	40	47	42	45

Computed Ldn, dB	59
% Daytime Energy	78%
% Nighttime Energy	22%

GPS Coordinates	35°27'47.78"N
	119° 6'3.36"W

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Appendix D-2
Ambient Noise Monitoring Results - Site 1
Malibu Vineyards Rezone Project (Phases 1 & 2) - Kern County, California
Sunday, August 18, 2019

Hour	Leq	Lmax	L50	L90
12:00 AM	42	52	41	39
1:00 AM	45	55	44	40
2:00 AM	43	52	42	40
3:00 AM	43	56	41	38
4:00 AM	46	60	43	39
5:00 AM	49	72	40	35
6:00 AM	55	77	46	43
7:00 AM	52	77	41	36
8:00 AM	52	71	39	35
9:00 AM	53	72	39	36
10:00 AM	53	74	40	37
11:00 AM	53	72	41	38
12:00 PM	53	72	41	38
1:00 PM	51	72	39	37
2:00 PM	52	72	40	37
3:00 PM	51	71	40	38
4:00 PM	53	74	40	38
5:00 PM	51	71	42	39
6:00 PM	52	71	44	41
7:00 PM	53	71	48	45
8:00 PM	52	71	50	48
9:00 PM	51	65	50	48
10:00 PM	50	57	50	46
11:00 PM	44	56	43	39

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	53	51	52	55	42	48
Lmax (Maximum)	77	65	72	77	52	60
L50 (Median)	50	39	42	50	40	43
L90 (Background)	48	35	39	46	35	40

Computed Ldn, dB	56
% Daytime Energy	80%
% Nighttime Energy	20%

GPS Coordinates	35°27'47.78"N
	119° 6'3.36"W

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Appendix D-3
Ambient Noise Monitoring Results - Site 2
Malibu Vineyards Rezone Project (Phases 1 & 2) - Kern County, California
Saturday, August 17, 2019

Hour	Leq	Lmax	L50	L90
12:00 AM	71	98	69	64
1:00 AM	69	80	67	63
2:00 AM	70	79	68	64
3:00 AM	70	79	68	63
4:00 AM	71	83	70	65
5:00 AM	74	81	74	70
6:00 AM	73	82	73	69
7:00 AM	73	81	72	68
8:00 AM	72	79	72	68
9:00 AM	71	81	71	67
10:00 AM	70	80	69	65
11:00 AM	71	88	70	66
12:00 PM	70	83	70	66
1:00 PM	67	80	66	62
2:00 PM	67	74	67	63
3:00 PM	69	82	68	65
4:00 PM	70	78	69	66
5:00 PM	72	78	72	68
6:00 PM	73	85	72	69
7:00 PM	72	80	72	68
8:00 PM	72	82	71	67
9:00 PM	70	80	69	66
10:00 PM	69	76	68	65
11:00 PM	69	77	68	64

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	73	67	71	74	69	71
Lmax (Maximum)	88	74	81	98	76	82
L50 (Median)	72	66	70	74	67	70
L90 (Background)	69	62	66	70	63	65

Computed Ldn, dB	77
% Daytime Energy	62%
% Nighttime Energy	38%

GPS Coordinates	35°28'39.51"N
	119° 8'4.04"W

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Appendix D-4
Ambient Noise Monitoring Results - Site 2
Malibu Vineyards Rezone Project (Phases 1 & 2) - Kern County, California
Sunday, August 18, 2019

Hour	Leq	Lmax	L50	L90
12:00 AM	71	87	70	64
1:00 AM	70	78	68	63
2:00 AM	68	79	67	61
3:00 AM	67	79	65	58
4:00 AM	67	79	65	58
5:00 AM	70	82	69	64
6:00 AM	71	78	70	65
7:00 AM	71	77	70	65
8:00 AM	69	81	68	64
9:00 AM	70	81	69	65
10:00 AM	69	83	68	64
11:00 AM	69	84	68	63
12:00 PM	70	84	69	64
1:00 PM	69	78	68	64
2:00 PM	70	79	69	65
3:00 PM	69	75	68	64
4:00 PM	70	77	69	66
5:00 PM	71	81	71	68
6:00 PM	73	80	72	69
7:00 PM	74	82	73	70
8:00 PM	73	80	73	69
9:00 PM	72	79	71	68
10:00 PM	69	77	69	65
11:00 PM	70	78	69	64

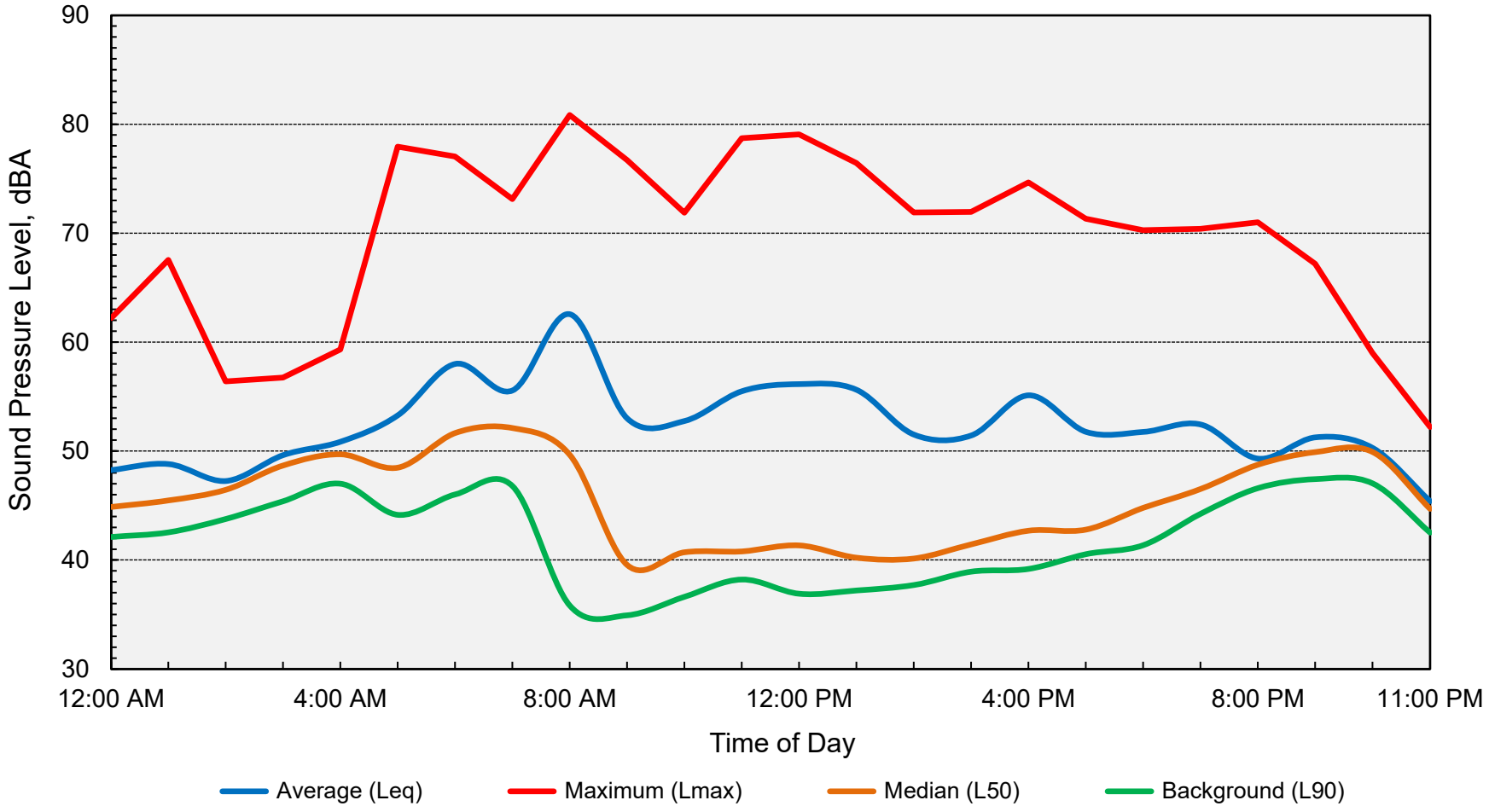
	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	74	69	71	71	67	69
Lmax (Maximum)	84	75	80	87	77	80
L50 (Median)	73	68	70	70	65	68
L90 (Background)	70	63	66	65	58	62

Computed Ldn, dB	76
% Daytime Energy	69%
% Nighttime Energy	31%

GPS Coordinates	35°28'39.51"N
	119° 8'4.04"W

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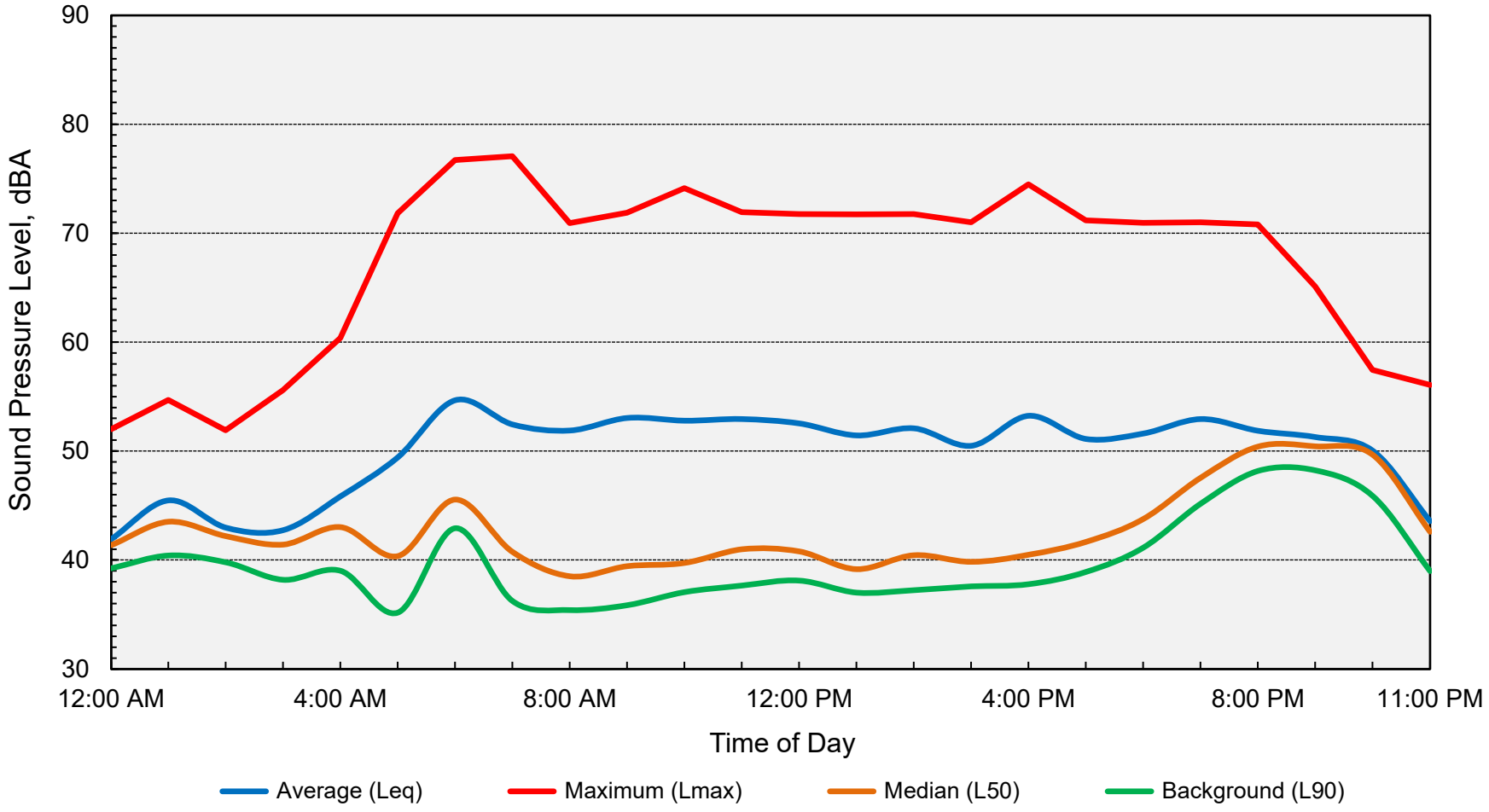
Appendix E-1
Ambient Noise Monitoring Results - Site 1
Malibu Vineyards Rezone Project (Phases 1 & 2) - Kern County, California
Saturday, August 17, 2019



Computed Ldn = 59 dB

BOLLARD
Acoustical Consultants

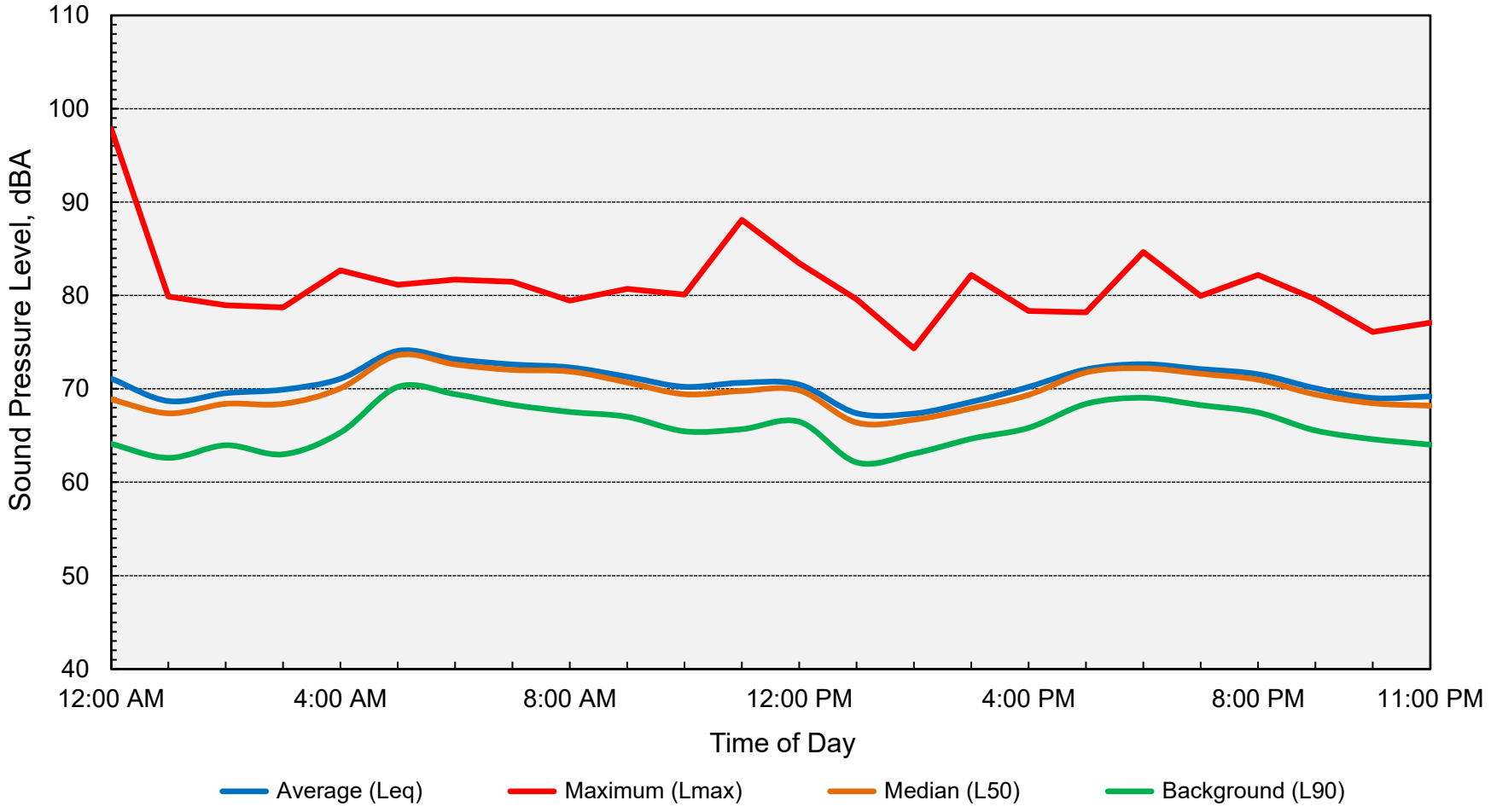
Appendix E-2
Ambient Noise Monitoring Results - Site 1
Malibu Vineyards Rezone Project (Phases 1 & 2) - Kern County, California
Sunday, August 18, 2019



Computed Ldn = 56 dB

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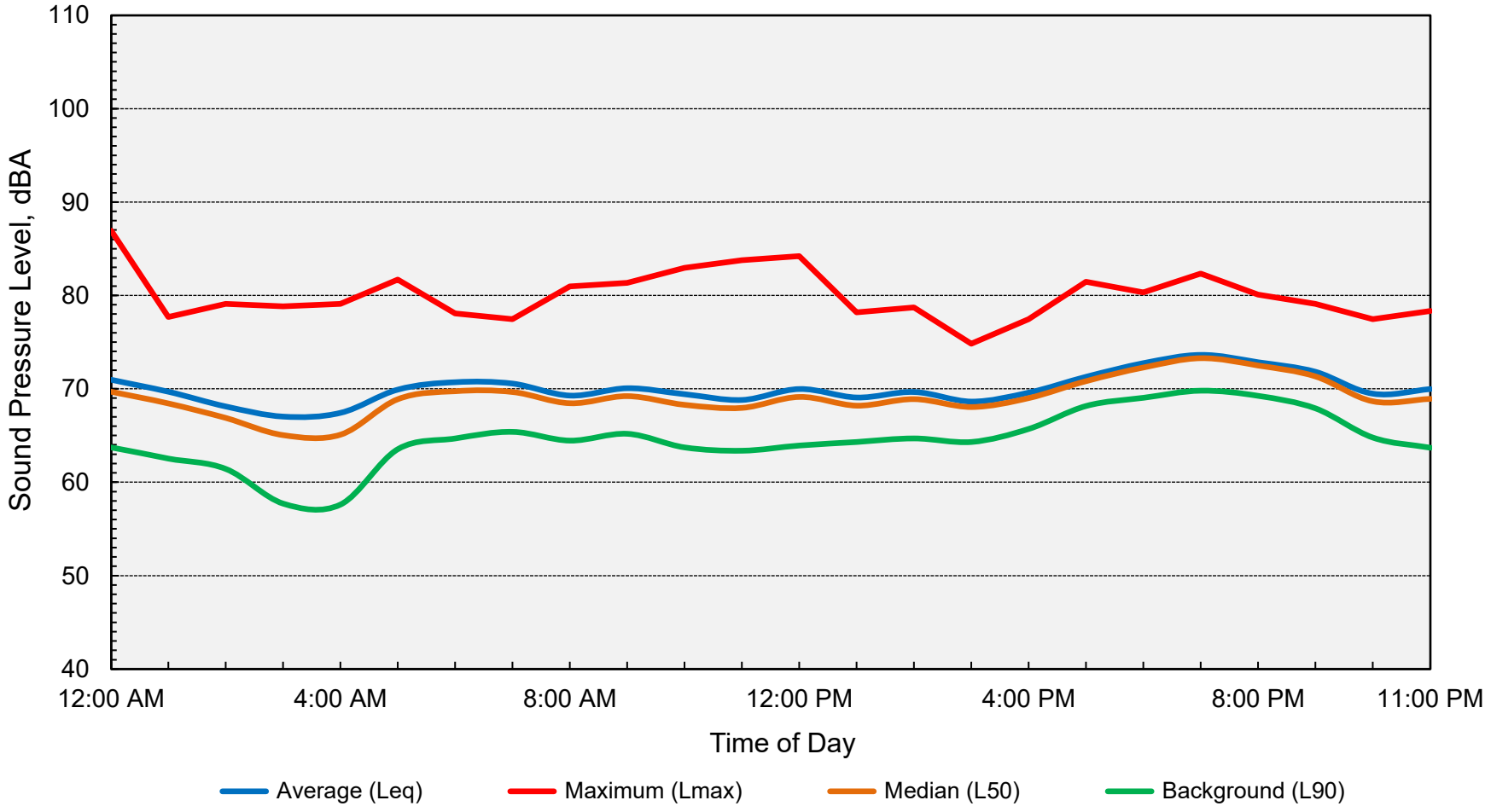
Appendix E-3
Ambient Noise Monitoring Results - Site 2
Malibu Vineyards Rezone Project (Phases 1 & 2) - Kern County, California
Saturday, August 17, 2019



Computed Ldn = 77 dB

BOLLARD
Acoustical Consultants

Appendix E-4
Ambient Noise Monitoring Results - Site 2
Malibu Vineyards Rezone Project (Phases 1 & 2) - Kern County, California
Sunday, August 18, 2019



Computed Ldn = 76 dB

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Appendix F
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Prediction Worksheet

Project Information:

Job Number: 2019-141
Project Name: Malibu Vineyards Rezone Phases 1 & 2
Roadway Name: State Route 99

Traffic Data:

Year: Future
Average Daily Traffic Volume: 123,000
Percent Daytime Traffic: 66
Percent Nighttime Traffic: 34
Percent Medium Trucks (2 axle): 5
Percent Heavy Trucks (3+ axle): 14
Assumed Vehicle Speed (mph): 70
Intervening Ground Type (hard/soft): **Soft**

Traffic Noise Levels:

				---------- L_{dn} (dB) ----------			
Location	**Description**	**Distance**	**Offset (dB)**	**Autos**	**Medium Trucks**	**Heavy Trucks**	**Total**
1	Future SR 99 Traffic	350		71	65	73	75

Traffic Noise Contours (No Calibration Offset):

L_{dn} Contour (dB)	Distance from Centerline (ft)
75	377
70	812
65	1750
60	3770

Notes: 1. Future ADT volume for SR-99 was conservatively estimated by increasing the existing ADT volume by a factor of 50% to account for regional growth in the next twenty years. Existing (2019) ADT volume for the segment of SR 99 adjacent to the proposed development was obtained from published Caltrans traffic volume data (SR 99 - Lerdo Hwy to 7th Standard Rd). The day/night distribution and truck percentages were derived from BAC file data and published Caltrans traffic data, respectively.

Appendix L

Traffic Study

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Project No: 346-05

TRAFFIC STUDY

GENERAL PLAN AMENDMENT AND ZONE CHANGE
NORTHEAST OF HIGHWAY 99 AND IMPERIAL AVENUE
KERN COUNTY, CALIFORNIA

Prepared for:

McIntosh & Associates

June 2022

(updated October 2023)

Prepared by:

RUETTGERS & SCHULER CIVIL ENGINEERS

1800 30TH STREET, SUITE 260
BAKERSFIELD, CA 93301

John D. Schuler, RCE 51825

REGISTERED PROFESSIONAL ENGINEER
JOHN D. SCHULER
No. C 51825
EXP. 6-30-24
CIVIL
STATE OF CALIFORNIA

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INTRODUCTION

The purpose of this study is to evaluate the potential traffic deficiencies of a proposed General Plan Amendment (GPA) and zone change (ZC) from resource/agricultural use to industrial use on 740-acres, located northeast of State Route 99 and Imperial Avenue in the unincorporated area of Kern County, California. Traffic deficiencies are evaluated for vehicle miles travelled (VMT) in accordance with current CEQA requirements. A vicinity map, location map, and site plan are presented in Figures 1 through 3 respectively.

Additionally, this study provides an operational analysis of the existing and future street system with the addition of project traffic, for the purpose of evaluating consistency with Kern County's General Plan goals relating to intersection and roadway level of service.

A. Project Description and Land Use

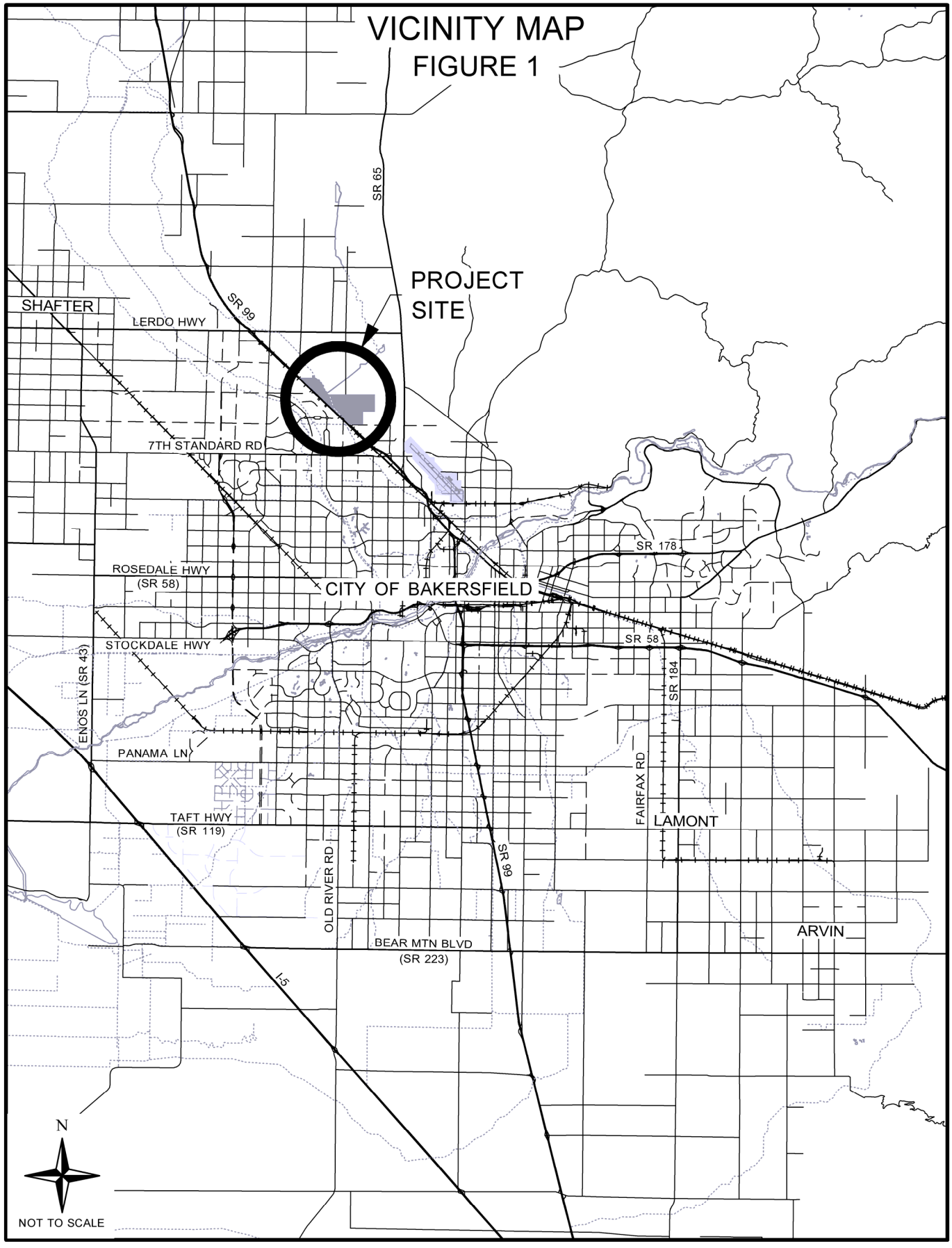
The existing land use designation and zoning are R-IA (Resource-Intensive Agriculture) and A (Exclusive Agriculture) respectively. The proposed GPA and ZC are to SI (Service Industrial) and M-2 PD (Medium Industrial Precise Development) respectively. All of Phase 1 and the southerly portion of Phase 2 are within the Metropolitan Bakersfield General Plan area. It is anticipated that the project would consist of approximately 8,800,000 square feet of industrial space, comprised of 24 buildings, developed over two phases.

B. Existing Site Uses and Site Access

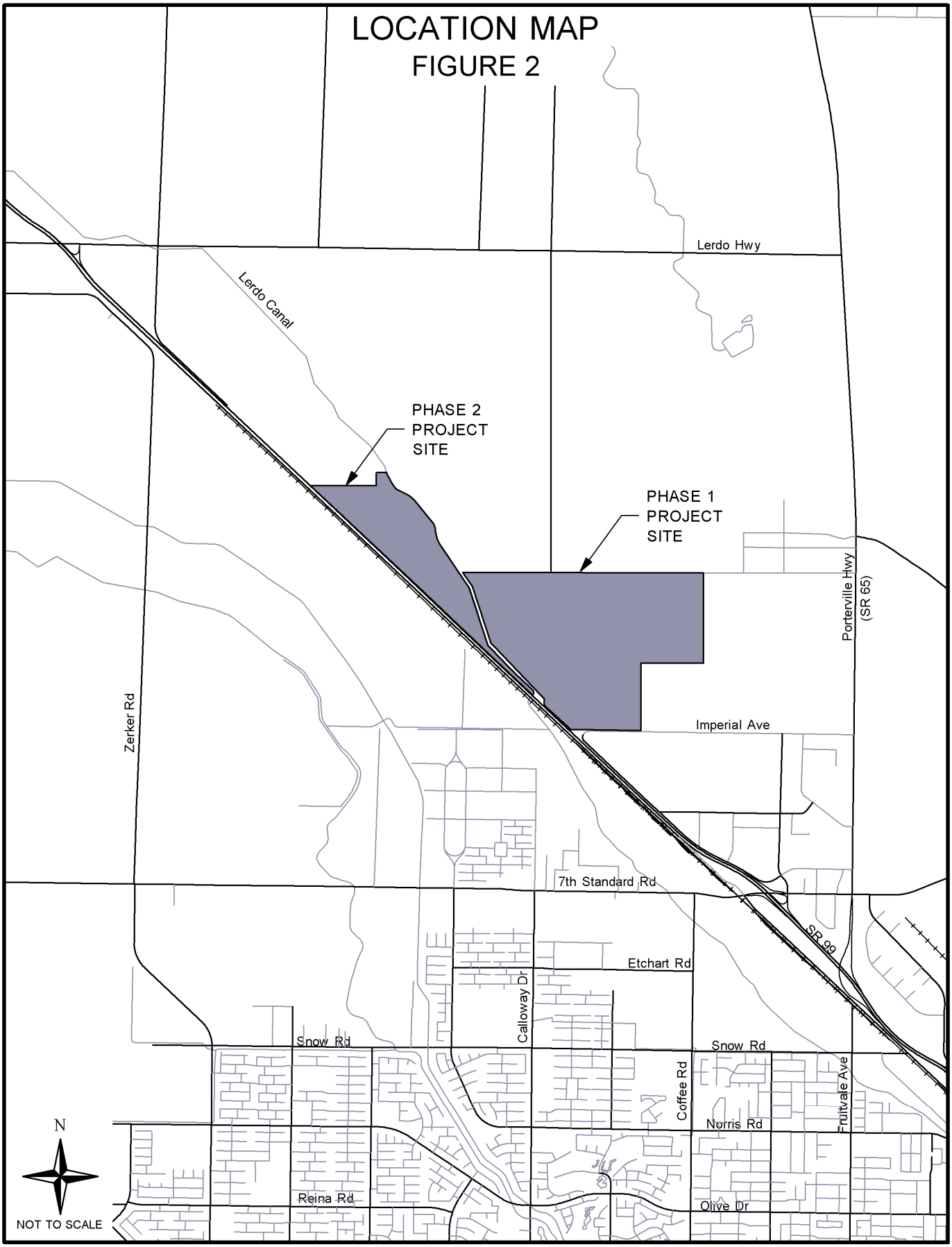
The project site is currently used for agricultural production. As currently planned, access to the proposed development would be provided along Imperial Avenue and Saco Road.

C. Existing Uses in Vicinity of the Site

Existing land uses in the vicinity of the project site are primarily agricultural and industrial related. Agricultural and oil production exist to the north and northeast. Industrial uses, including the Meadows Field airport exist to the south and southeast. Highway commercial uses exist along Merle Haggard Drive in the vicinity of State Route 99, and residential development exists west of State Route 99 and east of Airport Drive.

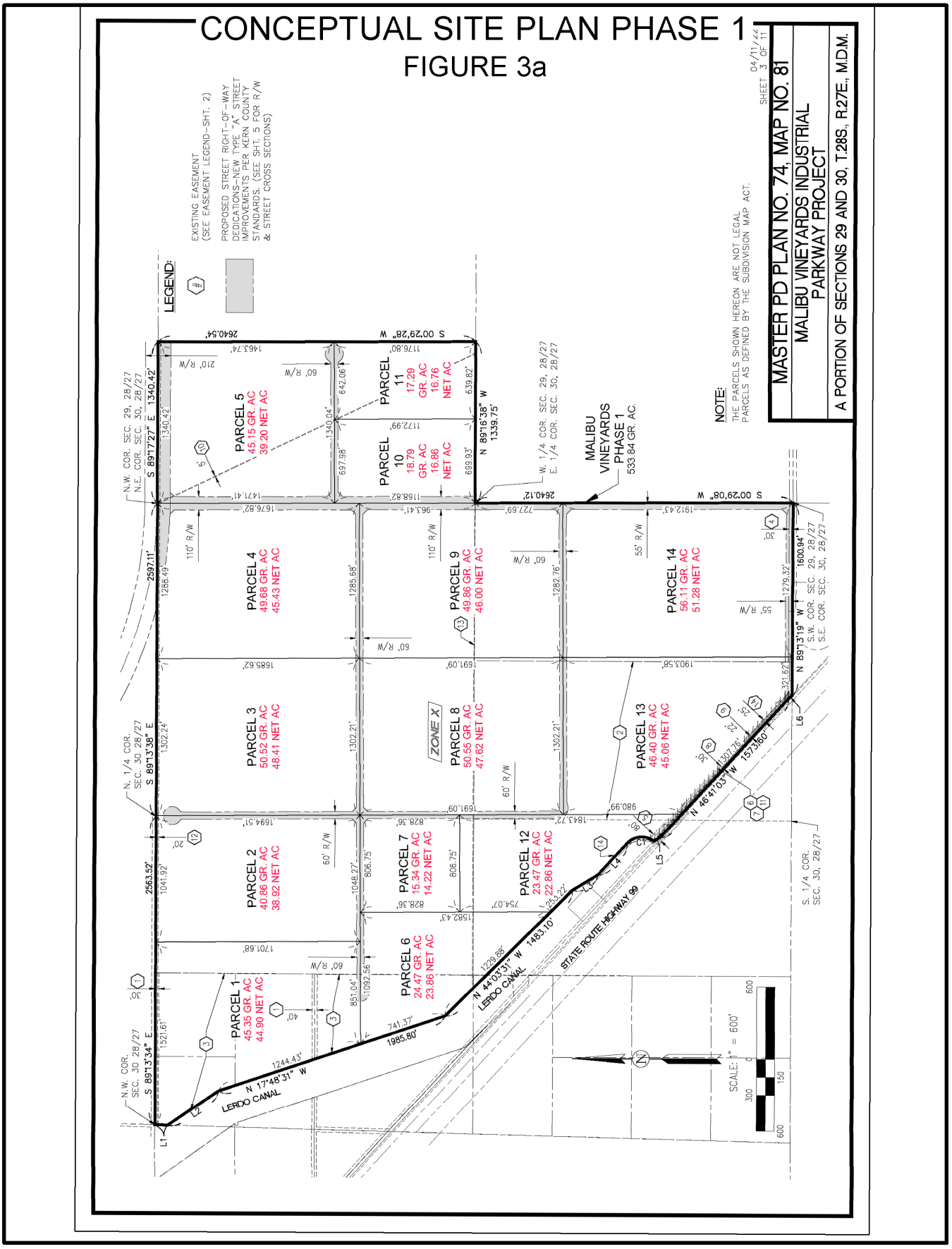

VICINITY MAP
FIGURE 1
PROJECT SITE
SHAFTER
LERDO HWY
SR 99
SR 65
7TH STANDARD RD
ROSEDALE HWY
(SR 58)
CITY OF BAKERSFIELD
SR 178
SR 58
STOCKDALE HWY
ENOS LN (SR 43)
PANAMA LN
SR 184
FAIRFAX RD
LAMONT
TAFT HWY
(SR 119)
OLD RIVER RD
SR 99
ARVIN
BEAR MTN BLVD
(SR 223)
I-5
N
NOT TO SCALE

LOCATION MAP
FIGURE 2



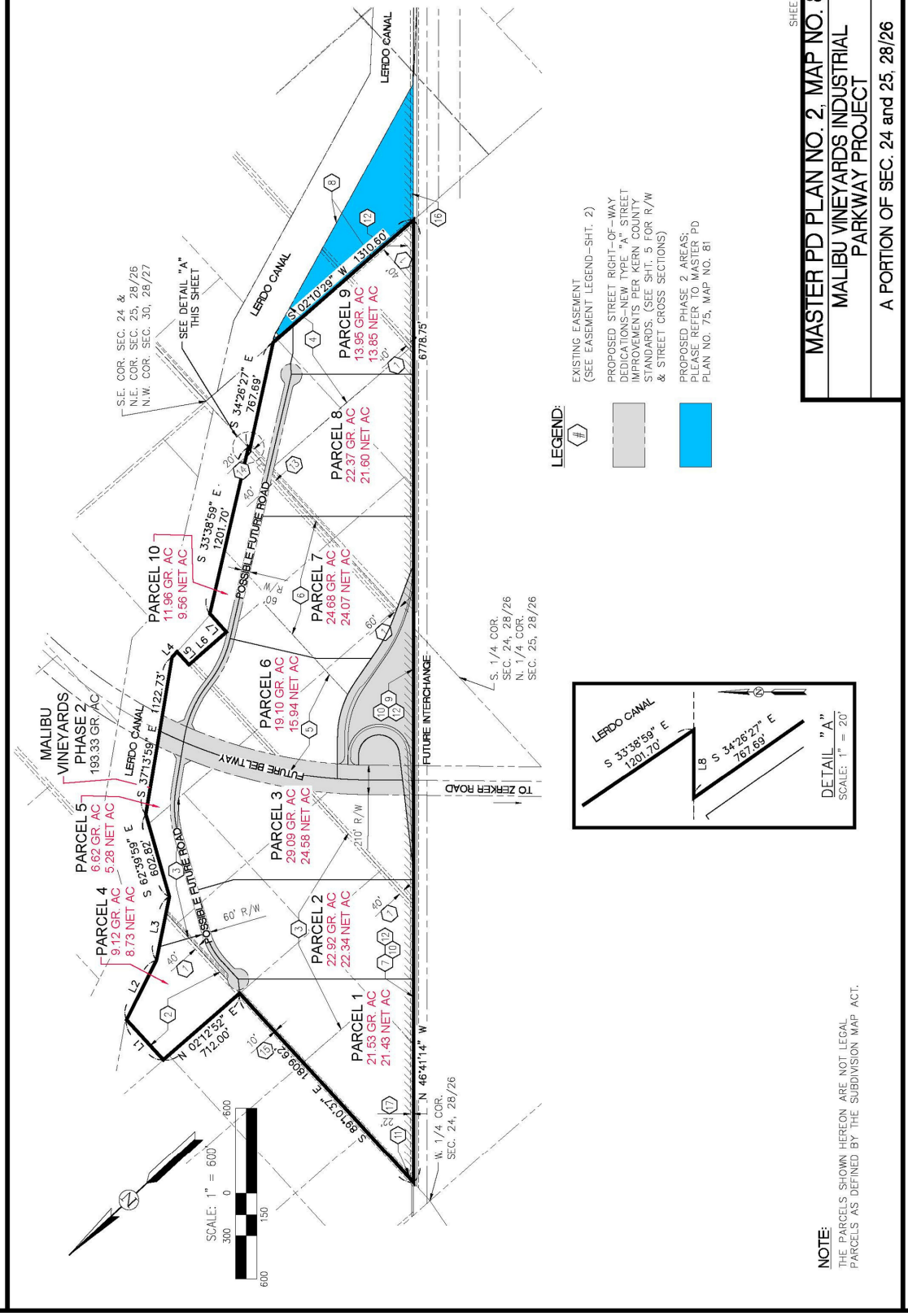
CONCEPTUAL SITE PLAN PHASE 1

FIGURE 3a



CONCEPTUAL SITE PLAN PHASE 2

FIGURE 3b



D. Roadway Descriptions

7th Standard Road /Merle Haggard Drive is a major east-west route in the north metropolitan Bakersfield area. It extends from west of Interstate 5 (I-5) to Chester Avenue and Manor Street in Oildale. It is designated as an expressway between Santa Fe Way and State Route 99 and as an arterial for the remaining segments. It has interchanges at both I-5 and State Route 99, intersection connections with State Route 43 and State Route 65 and grade separated crossings of the BNSF Railway and Union Pacific Railroad. It exists at various stages of widening from 2 lanes/undivided west of the BNSF overcrossing and between Airport Drive and Landing Road, and from to 4 to 6 lanes with raised median elsewhere within the project vicinity. This corridor provides access to residential, commercial, industrial and agricultural land uses, as well as the William Thomas Terminal at Meadows Field. The segment from State Route 99 to Chester Avenue was renamed "Merle Haggard Drive" in 2006.

The local agencies have completed several major widening and improvement projects over the past fifteen years to provide a major corridor from the William Thomas Terminal at Meadows Field to I-5 through the metro area, with the intent of providing a 6 lane facility to accommodate anticipated regional growth. However, the roadway section at the airport, which runs under the runway and taxiway only provides for 4 lanes of travel and is constrained by the existing runway and roadway structure configuration.

The Locally Generated Alternative (LGA) alignment of the California High Speed Rail (HSR) is planned to cross 7th Standard Road between Coffee Road and the Union Pacific Railroad. This crossing will necessitate the reconstruction of the 7th Standard Road and State Route 99 interchange into an elevated configuration over the HSR. Construction is currently anticipated to occur between 2027 and 2030.

Airport Drive is an arterial that extends north through Oildale from its interchange connection at State Route 99. It operates as a four-lane roadway with a raised median between State Route 99 and W China Grade Loop, and as an undivided two-lane roadway at various stages of widening and improvement adjacent to development north W China Grade Loop. Airport Drive provides access to residential, commercial and industrial land uses.

Burbank Street/Future Beltway is designated as a future arterial. The City of Shafter has planned for a "North Beltway" along the Burbank Street alignment west of State Route 99, with an interchange at State Route 99. The County has developed a conceptual plan for extension of this beltway from State

Route 99 to Porterville Highway (SR 65). The Kern Council of Governments has included this future facility in their KARGO study, which is currently in process. The alignment of the beltway and the State Route 99 interchange are depicted in the Phase 2 plan (see Figure 3b). No formal alignments have been adopted or funding defined for this facility and the anticipated timing for construction is beyond the 20 year horizon of this study.

Calloway Drive is one of two major north-south arterials, which extend through the metropolitan area west of State Route 99 from south of Taft Highway (SR 119) to 7th Standard Road (Calloway Drive extends south of Stockdale Highway on the Old River Road alignment). Within the study area, south of 7th Standard Road, it exists from 2 to 6 lanes at various stages of widening adjacent to development. It provides access to residential and commercial areas.

China Grade Loop is an east-west arterial that extends from Airport Drive to the east. In the vicinity of the project, it exists as a four-lane fully improved facility and as a two-lane facility east of Manor Street. China Grade Loop provides access to residential and industrial land uses.

Coffee Road is the second of two major north-south arterials, which extend through the metropolitan area west of State Route 99 from south of Taft Highway (SR 119) to 7th Standard Road (Coffee Road extends south of Stockdale Highway on the Gosford Road alignment). In the study area it exists as a two-lane roadway with graded shoulders south of 7th Standard Road and at various stages of widening adjacent to development south of Snow Road.

Freeway 99 (SR 99) is a major north-south highway that extends through the central valley of California from Interstate 5 to Sacramento. In the vicinity of the project it exists as a six-lane freeway.

Imperial Avenue is designated as an east-west collector from Saco Road to James Road. It currently exists as a two-lane road at various stages of improvement between Saco Road and State Route 65. It is stop controlled at State Route 65. East of State Route 65 it exists as a dirt road for approximately ½ mile. It provides access to agricultural and industrial land uses. It is anticipated that the project will construct Imperial Avenue improvements between Saco Road and State Route 65 as needed to support project traffic operations. Future extension of Imperial Avenue from State Route 65 to James Road is planned to occur with development, however, no timeframe is currently defined.

Industry Parkway Drive is a north-south local roadway that provides access to commercial land uses. In the vicinity of the project, it exists as a two-lane roadway with curb and gutter.

James Road is a two-lane arterial that extends northwest from the northerly terminus of N Chester Avenue to Porterville Highway (State Route 65). It provides access primarily to industrial and oil production land uses. James Road has paved shoulders and is widened adjacent to development in the vicinity of the project.

Lerdo Highway is an east-west two-lane arterial that extends west from Porterville Highway (State Route 65) to State Route 33. It provides access to the City of Shafter as well as agricultural land uses.

Landings Way is a north-south collector, which extends along the east side of the Landing Logistic Center and Amazon fulfillment center. It has recently been improved north of Merle Haggard Drive adjacent to new development.

McCray Street is a fully improved two-lane collector that extends north from Norris Road to North Chester Avenue. It provides access to residential land uses as well as North High School.

North Chester Avenue is a major north-south arterial, which crosses the Kern River. It provides access from central Bakersfield north through Oildale. North of Merle Haggard Drive it continues on the James Road alignment to State Route 65.

Olive Drive is an east-west arterial with an interchange connection at State Route 99. It is a major access route for traffic between State Route 99 and commercial and residential areas to the west and the community of Oildale to the east.

Pegasus Drive is a north-south collector that extends from Norris Road to Merle Haggard Drive. It exists as a two-lane facility with curb and gutter in the vicinity of the project and provides access to industrial and commercial land uses.

Quinn Road is a north-south collector that extends from Merle Haggard Drive to Imperial Avenue. It exists as a two-lane facility at various stages of widening with curb and gutter adjacent to development. Quinn Road provides access to industrial and agricultural land uses.

State Route 65 (Porterville Highway) is a major highway that extends from State Route 99 to Lindsay, California. State Route 65 is a two-lane highway in the vicinity of the project, with an interchange at State Route 99. It is designated as a four-lane expressway from State Route 99 to Imperial Avenue.

Wings Way is a collector street, which runs easterly of the Meadows Field Airport and intersects Merle Haggard Drive approximately 0.75 miles west of Airport Drive. It provides access to the William Thomas Terminal and industrial land uses south of Merle Haggard Drive and planned industrial uses to the north. A Specific Plan Line was recently adopted by the County for the ultimate alignment and connection to Imperial Avenue for a future connection to State Route 65. The connection of Wings Way/Imperial Avenue from Merle Haggard Drive to State Route 65 has been planned as a secondary route for east-west travel in the area due to the four-lane constraint on Merle Haggard Drive under the airport runway.

STUDY APPROACH

In 2013 the State of California approved legislation (SB 743) to change the primary basis of evaluation of traffic deficiencies in CEQA from Level of Service (LOS) to Vehicle Miles Traveled (VMT). CEQA Guidelines section 15064.3 was approved in December 2018 and became effective in early 2019. Section 15064.3 required agencies to begin implementing the new VMT requirement no later than July 1, 2020. The Governor's Office of Planning and Research (OPR) released a Technical Advisory On Evaluating Transportation Impacts In CEQA in December 2018, which provides guidelines and recommendations for VMT evaluation and thresholds. As of June 2022, the Kern County Planning Department has not finalized or adopted any policies or thresholds for VMT analysis, therefore the OPR Technical Advisory was used as the basis for this evaluation.

In addition to the VMT evaluation, this study also provides an operational analysis of the existing and future street system with the addition of project traffic. The operation analysis includes LOS analysis for peak hour intersection and daily roadway operations as well as queueing and signal warrant evaluation. The purpose of the operational analysis is to evaluate consistency with the County's planning goals relating to intersection and roadway level of service and identify potential LOS or geometric deficiencies.

VEHICLE MILES TRAVELED (VMT)

The Technical Advisory provides initial screening criteria and thresholds of significance for the VMT evaluation. The VMT evaluation is limited to automobiles and light trucks. A 15% reduction in VMT per capita or per employee is recommended for residential and office land uses. No specific recommendations are provided for industrial land uses, therefore an assessment consistent with office employees was used for the industrial use. The industrial use was evaluated as an office project because, like office projects, most of the passenger vehicle trips are generated by employees. The focus of the per employee evaluation is the home-based work trips.

The regional transportation model, maintained by the Kern Council of Governments (KernCOG), was used to estimate baseline VMT and project VMT for existing and future cumulative scenarios. The KernCOG model is developed for use in adoption of the Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS). The KernCOG model contains "gateway" points to State

transportation model data and the VMT scripts within the KernCOG model account for Statewide travel, to assure that the model does not terminate at TAZ or jurisdictional boundaries. The current model baseline year is 2018. The model run for the cumulative future year for the RTP is 2042. Model runs were prepared by KernCOG with and without the project for the years 2018 and 2042. The model is comprised of several Traffic Analysis Zones (TAZ) in which specific land use data is loaded. The Malibu Vineyards project is located within TAZs 2242, 2379 and 2442. Model runs were prepared by KernCOG with and without the project for the years 2018 and 2042, which allow the differentiation of the Malibu Vineyards project traffic within the TAZ and the region. The output from the KernCOG model provides a detailed breakdown of the number of employees and the trips and VMT by purpose for both the TAZ and county wide.

The employment and associated VMT for home-to-work trips for the county wide values and associated threshold are shown in Table 1 and the Malibu Vineyards values are shown in Table 2.

Table 1
County Wide Employment, VMT and Threshold

Year	Area	Employees	VMT Home-to-work	VMT per Employee	VMT Threshold (85%)
2018	County wide	307,783	5,899,656	19.17	16.29

Table 2
Malibu Vineyards Employment and VMT

Year	Area	Employees	VMT Home-to-work	VMT per Employee
2018	Malibu Vineyards	8,825	136,672	15.49
2042	Malibu Vineyards	8,825	130,785	14.82

From Table 2, the Malibu Vineyards VMT/employee compared to the 2018 baseline of 19.17 miles is 80.90% and 77.31% for 2018 and 2042 respectively. These values are below the 15% OPR recommendations, therefore, the project traffic VMT impact should be considered less than significant.

OPERATIONAL ANALYSIS

The study area is generally bounded by Lerdo Highway on the north, 7th Standard Road/Merle Haggard Drive on the south, North Chester Avenue on the east, and Calloway Drive and State Route 99 on the west. The study includes a total of 19 intersections (14 signalized and 5 unsignalized). The scope of the study was developed in association with the Kern County Public Works Department, the City of Bakersfield Public Works Department, the City of Shafter Planning Department and Caltrans District 6.

PROJECT TRIP GENERATION AND DESIGN HOUR VOLUMES

The trip generation and design hour volumes for all land uses were calculated using the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition. Trip generation and design hour volumes for all land uses are shown in Table 1.

A mix of different types of industrial/warehousing trip rates was used to represent the probable combination of businesses that will operate within the development. The ADT, AM and PM peak hour rate equations, and peak hour directional splits for ITE Land Use Codes 150 (Warehousing) and 154 (High-Cube Transload and Short-Term Storage) were used to estimate the project traffic. The peak hour of adjacent street traffic was determined from the count data to be from 7:00 AM to 8:00 AM and 4:15 PM to 5:15 PM.

Table 1
Project Trip Generation
Phase I

General Information			Daily Trips		AM Peak Hour Trips				PM Peak Hour Trips			
ITE Code	Vehicle Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Total	Rate	In % Split/ Trips	Out % Split/ Trips	Total
Warehouse 2,897,000 Square Feet Gross Floor Area												
150a	Passenger Cars	2,897 1000 sq ft GFA	1.11	3,216	0.15	77% 335	23% 100	435	0.15	28% 122	72% 313	435
150b	Trucks (2-axle)	2,897 1000 sq ft GFA	0.096	278	0.0032	52% 5	48% 4	9	0.0048	52% 7	48% 7	14
150b	Trucks (3-axle)	2,897 1000 sq ft GFA	0.132	382	0.0044	52% 7	48% 6	13	0.0066	52% 10	48% 9	19
150b	Trucks (4+-axle)	2,897 1000 sq ft GFA	0.372	1,078	0.0124	52% 19	48% 17	36	0.0186	52% 28	48% 26	54
Warehousing Totals		Passenger Cars:		3,216		335	100	435		122	313	435
		Trucks:		1,738		31	27	58		45	42	87
		Total Trips:		4,954		366	127	493		167	355	522
High-Cube Transload and Short Term Storage Warehouse 4,346,000 Square Feet Gross Floor Area												
154a	Passenger Cars	4346 1000 sq ft GFA	1.18	5,128	0.06	77% 201	23% 60	261	0.09	28% 110	72% 282	392
154b	Trucks (2-axle)	4346 1000 sq ft GFA	0.0352	153	0.0032	49% 7	51% 7	14	0.0016	47% 3	53% 4	7
154b	Trucks (3-axle)	4346 1000 sq ft GFA	0.0484	210	0.0044	49% 9	51% 10	19	0.0022	47% 4	53% 5	9
154b	Trucks (4+-axle)	4346 1000 sq ft GFA	0.1364	593	0.0124	49% 26	51% 27	53	0.0062	47% 13	53% 14	27
High-Cube Totals		Passenger Cars:		5,128		201	60	261		110	282	392
		Trucks:		956		42	44	86		20	23	43
		Total Trips:		6,084		243	104	347		130	305	435
Combined Totals		Passenger Cars:		8,344		536	160	696		232	595	827
		Trucks:		2,694		73	71	144		65	65	130
		Total Trips:		11,038		609	231	840		297	660	957

Phase I & II

General Information			Daily Trips		AM Peak Hour Trips				PM Peak Hour Trips			
ITE Code	Vehicle Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Total	Rate	In % Split/ Trips	Out % Split/ Trips	Total
Warehouse 3,562,000 Square Feet Gross Floor Area												
150a	Passenger Cars	3,562 1000 sq ft GFA	1.11	3,954	0.15	77% 411	23% 123	534	0.15	28% 150	72% 385	535
150b	Trucks (2-axle)	3,562 1000 sq ft GFA	0.096	342	0.0032	52% 6	48% 5	11	0.0048	52% 9	48% 8	17
150b	Trucks (3-axle)	3,562 1000 sq ft GFA	0.132	470	0.0044	52% 8	48% 8	16	0.0066	52% 12	48% 11	23
150b	Trucks (4+-axle)	3,562 1000 sq ft GFA	0.372	1,325	0.0124	52% 23	48% 21	44	0.0186	52% 34	48% 32	66
Warehousing Totals		Passenger Cars:		3,954		411	123	534		150	385	535
		Trucks:		2,137		37	34	71		55	51	106
		Total Trips:		6,091		448	157	605		205	436	641
High-Cube Transload and Short Term Storage Warehouse 5,346,000 Square Feet Gross Floor Area												
154a	Passenger Cars	5346 1000 sq ft GFA	1.18	6,308	0.06	77% 247	23% 74	321	0.09	28% 135	72% 346	481
154b	Trucks (2-axle)	5346 1000 sq ft GFA	0.0352	188	0.0032	49% 8	51% 9	17	0.0016	47% 4	53% 5	9
154b	Trucks (3-axle)	5346 1000 sq ft GFA	0.0484	259	0.0044	49% 12	51% 12	24	0.0022	47% 6	53% 6	12
154b	Trucks (4+-axle)	5346 1000 sq ft GFA	0.1364	729	0.0124	49% 32	51% 34	66	0.0062	47% 16	53% 18	34
High-Cube Totals		Passenger Cars:		6,308		247	74	321		135	346	481
		Trucks:		1,176		52	55	107		26	29	55
		Total Trips:		7,484		299	129	428		161	375	536
Combined Totals		Passenger Cars:		10,262		658	197	855		285	731	1,016
		Trucks:		3,313		89	89	178		81	80	161
		Total Trips:		13,575		747	286	1,033		366	811	1,177

TRIP DISTRIBUTION AND ASSIGNMENT

The project trip distribution in Table 2 represents the most likely travel routes for traffic accessing the project. Project traffic distribution was estimated based on a review of the potential draw from population centers within the region and the types of land uses involved. These assumptions were used to distribute project traffic as shown in Figure 4.

Table 2
Project Trip Distribution

Direction	Percent
North	25
East	10
South	45
West	20

EXISTING AND FUTURE TRAFFIC

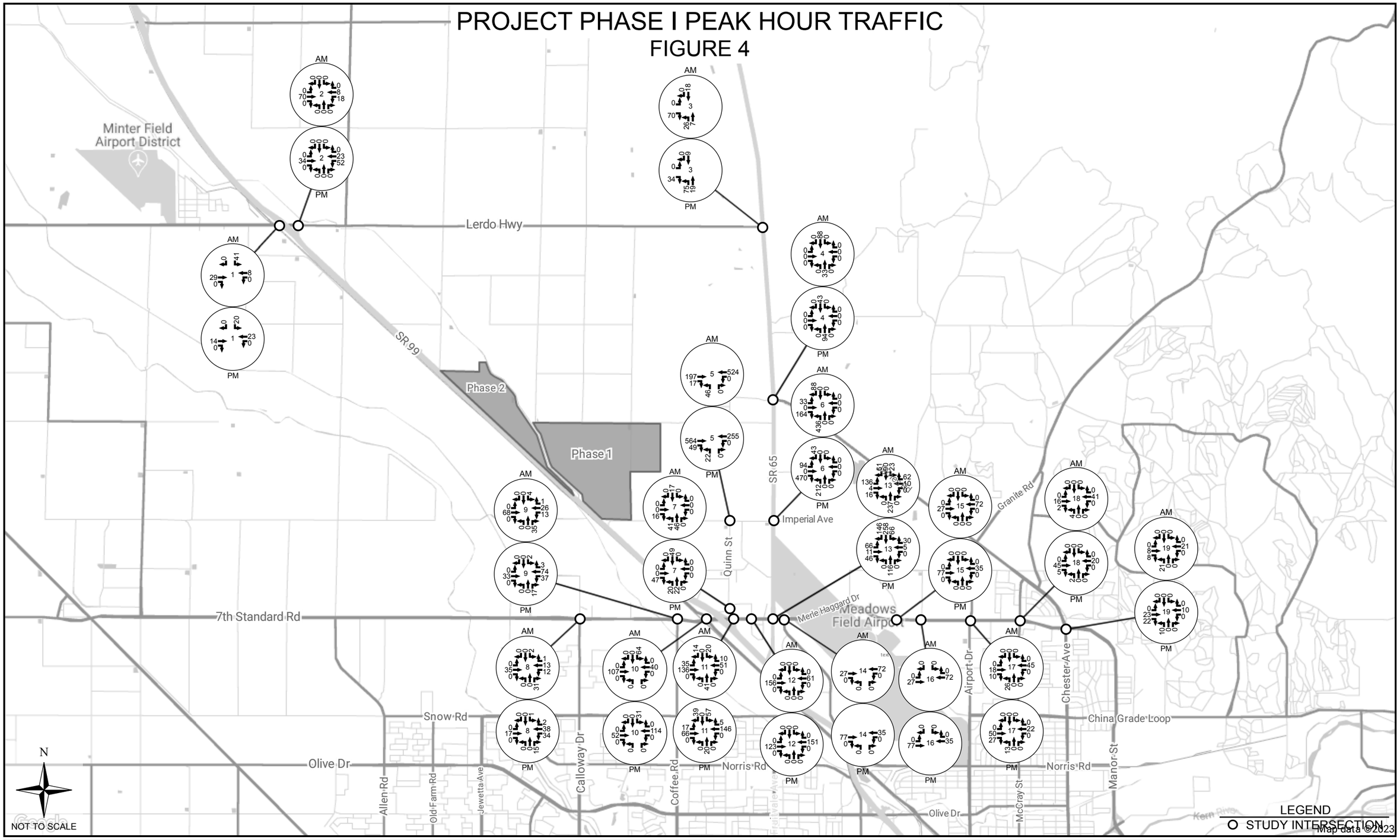
Weekday peak hour turning movements were counted at the following intersections in November 2019. Intersections along 7th Standard Road/Merle Haggard from Calloway Dr to Airport Dr were updated in March 2021 due to significant changes in development along this corridor. (see Appendix for count data).

- State Route 99 Southbound Ramps & Lerdo Highway
- State Route 99 Northbound Ramps & Lerdo Highway
- Porterville Highway (SR 65) & Lerdo Highway
- Porterville Highway (SR 65) & James Road
- Quinn Road & Imperial Avenue
- Porterville Highway (SR 65) & Imperial Avenue
- Quinn Road & Saco Road/McMurtrey Avenue
- Calloway Drive & 7th Standard Road
- Coffee Road & 7th Standard Road
- Golden State Highway & 7th Standard Road
- Quinn Road/SR 99 NB Ramp & Merle Haggard Drive/7th Standard Road
- Industrial Parkway & Merle Haggard Drive
- Porterville Highway (SR 65) & Merle Haggard Drive
- Pegasus Drive & Merle Haggard Drive
- Wings Way & Merle Haggard Drive
- Landings Way & Merle Haggard Drive
- Airport Drive & Merle Haggard Drive
- McCray Street & 7th Standard Drive
- N. Chester Avenue & 7th Standard Road

Traffic counts were conducted between the hours of 6:30 to 8:30 AM and 4:00 to 6:00 PM and are shown in Figure 5. Existing + Project peak hour volumes are shown in Figure 6.

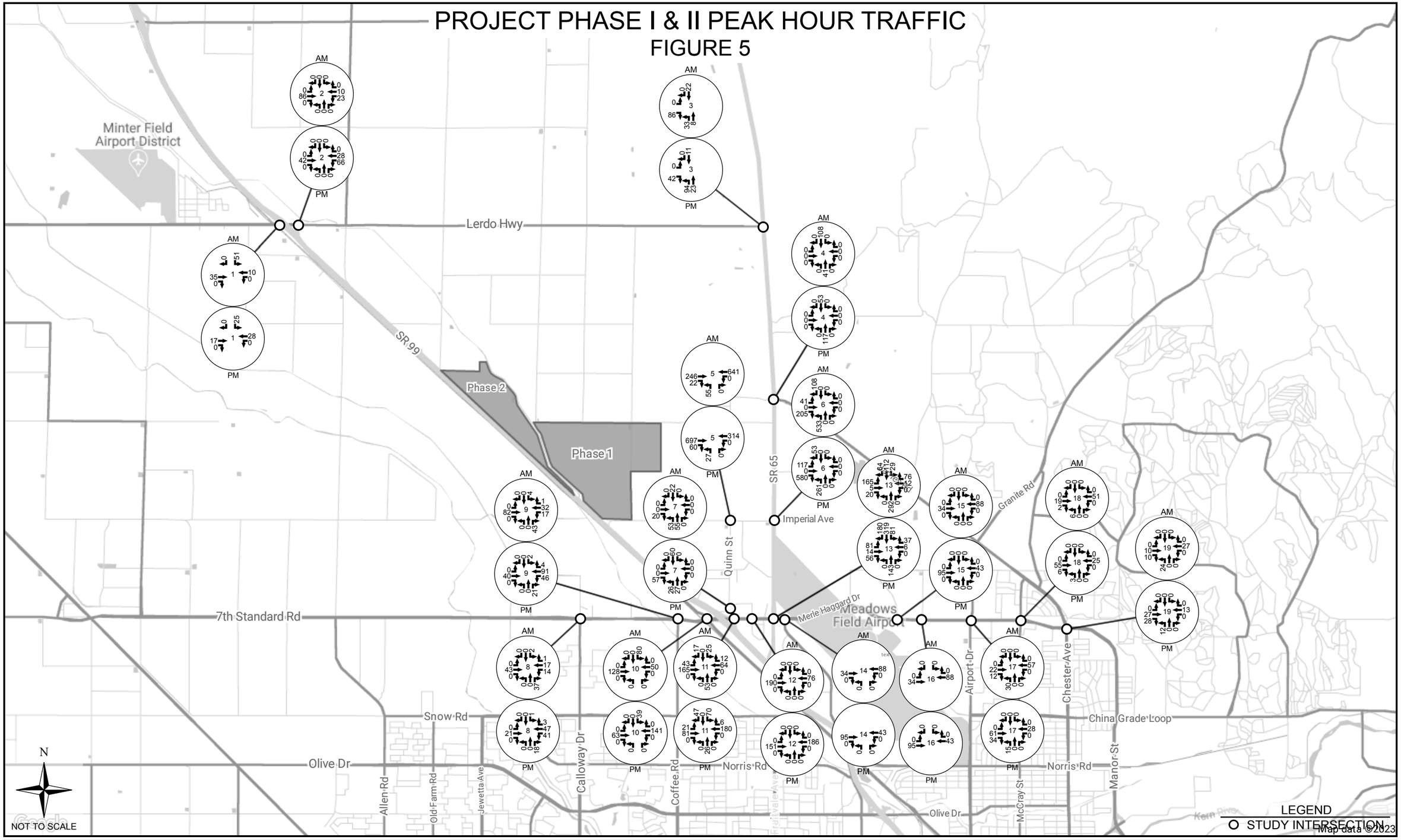
Annual growth rates ranging between 0.15% and 3% were applied to existing traffic volumes to estimate future traffic volumes for the year 2042. These growth rates were estimated based on a review of existing and approved future developments in the vicinity of the project and KernCOG traffic model data. The anticipated project traffic from the SilverWings Commerce Center and Landings Industrial Center was included in 2032 and 2042 future peak hour traffic. Future peak hour volumes are shown in Figures 7 through 10.

PROJECT PHASE I PEAK HOUR TRAFFIC
FIGURE 4

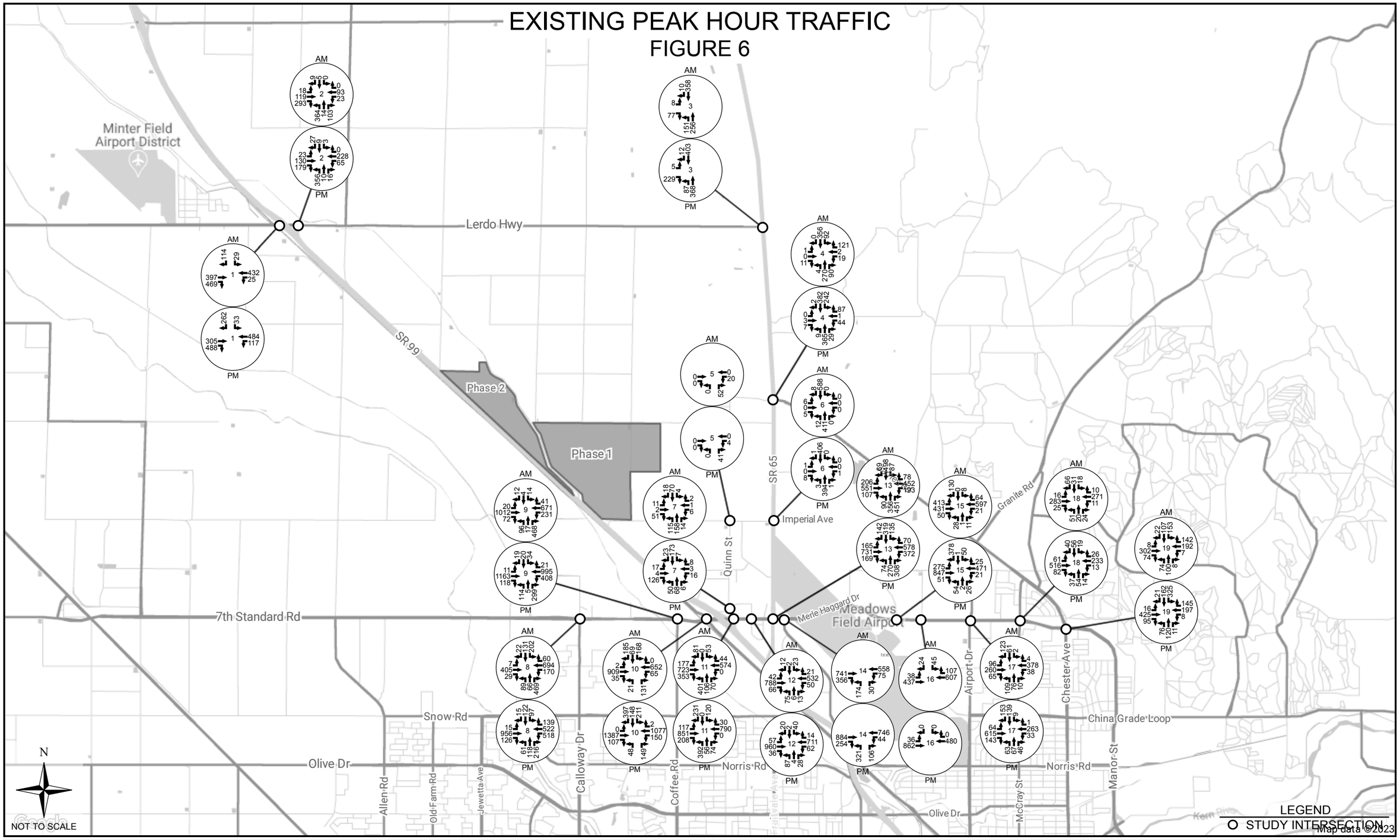


PROJECT PHASE I & II PEAK HOUR TRAFFIC

FIGURE 5

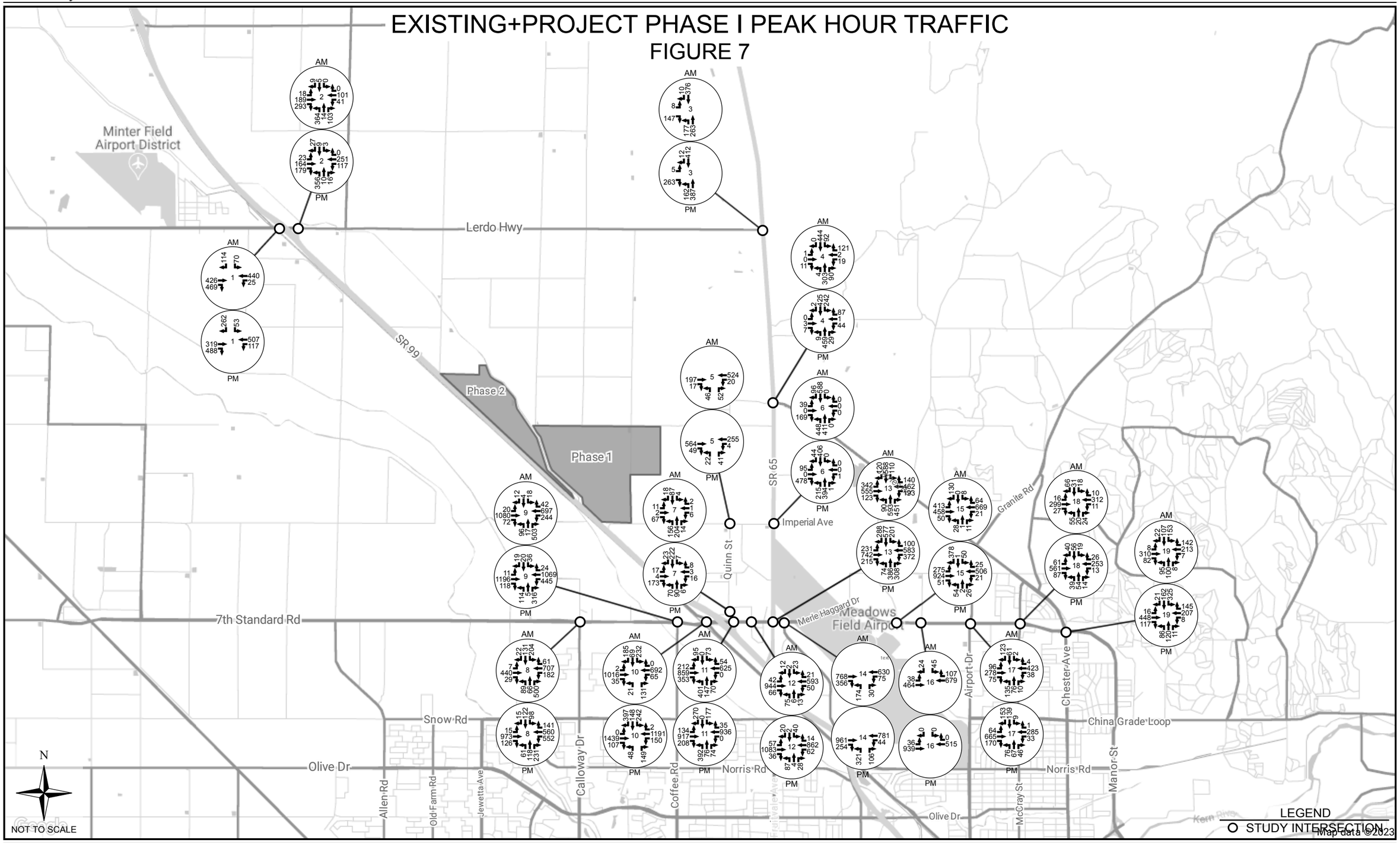


EXISTING PEAK HOUR TRAFFIC
FIGURE 6

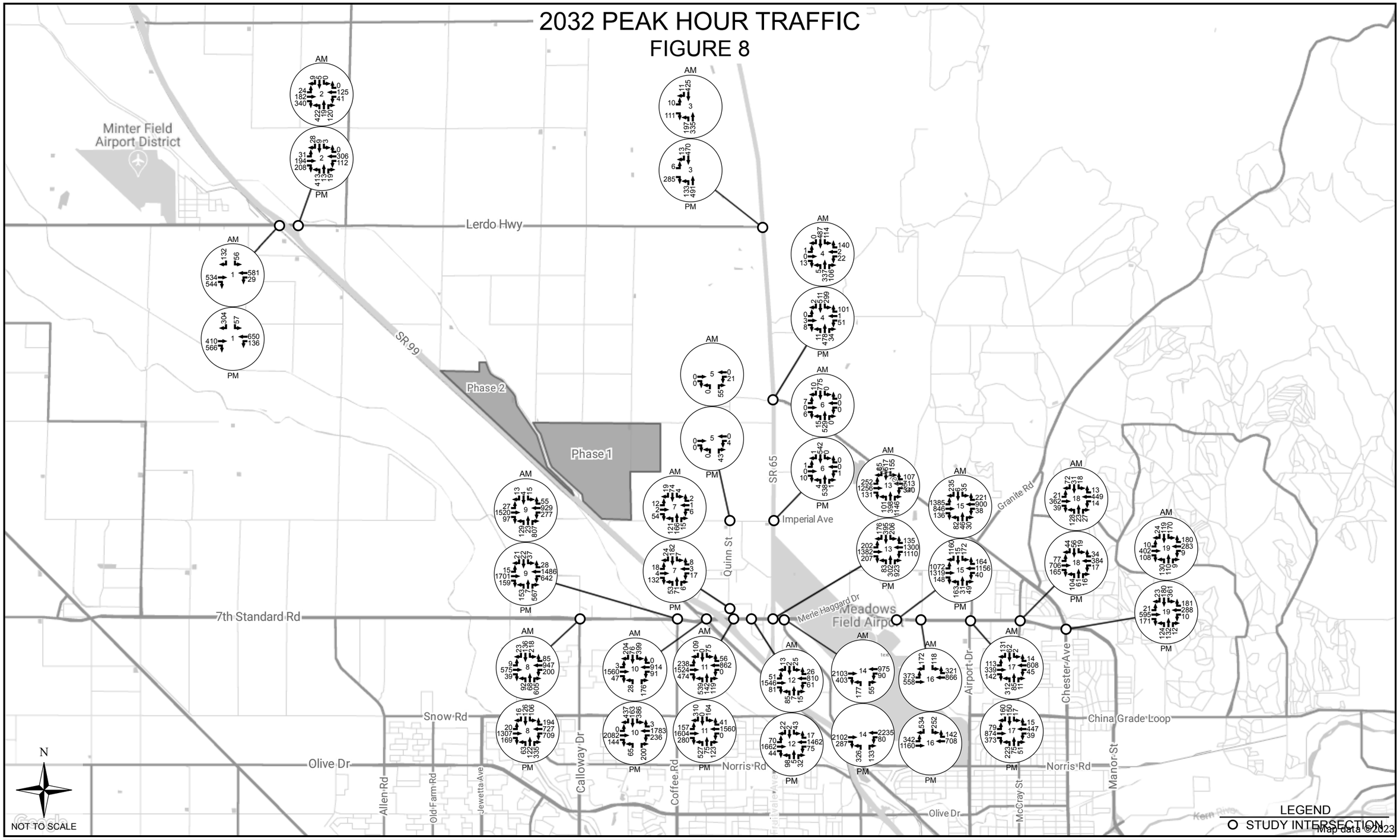


EXISTING+PROJECT PHASE I PEAK HOUR TRAFFIC

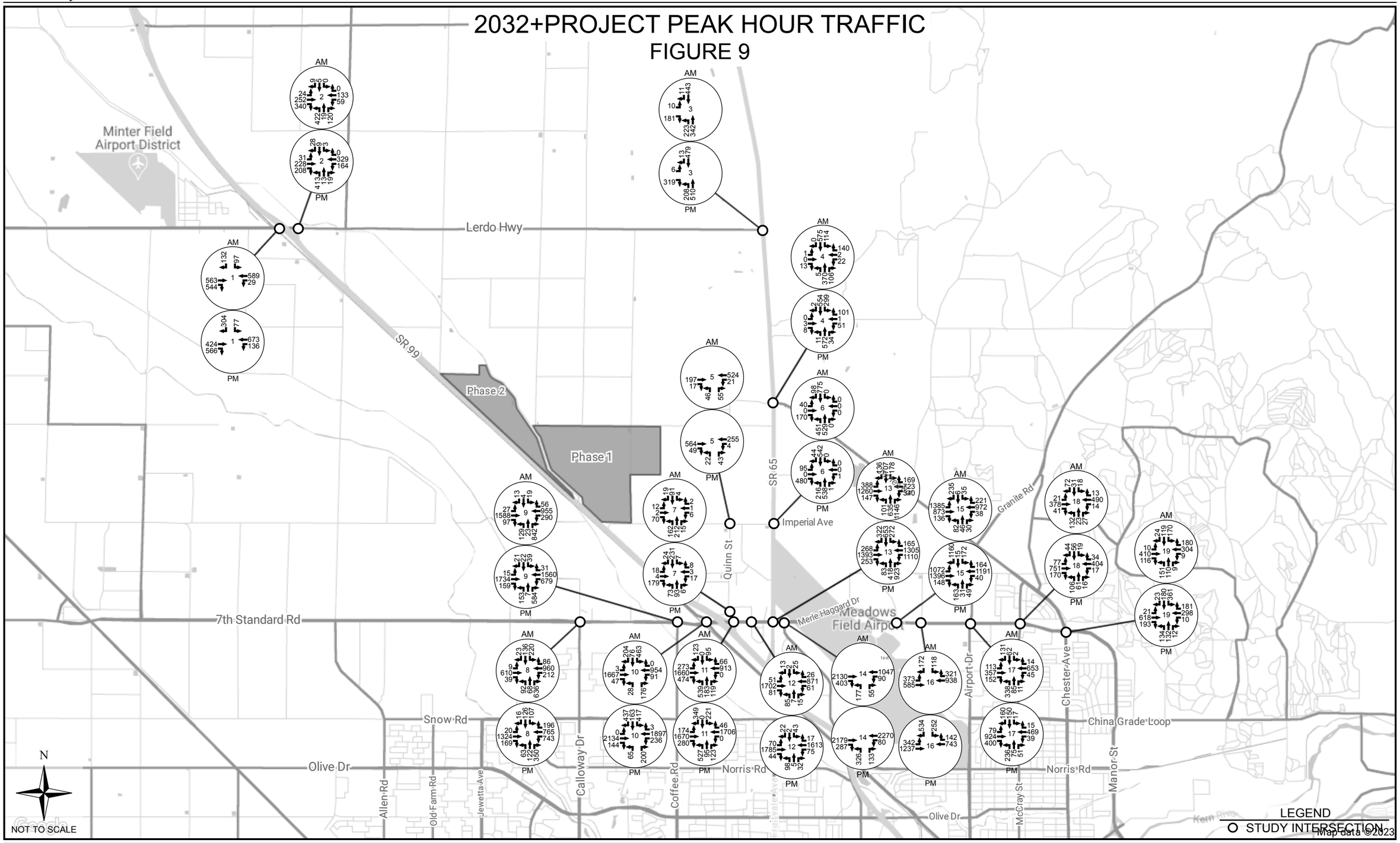
FIGURE 7



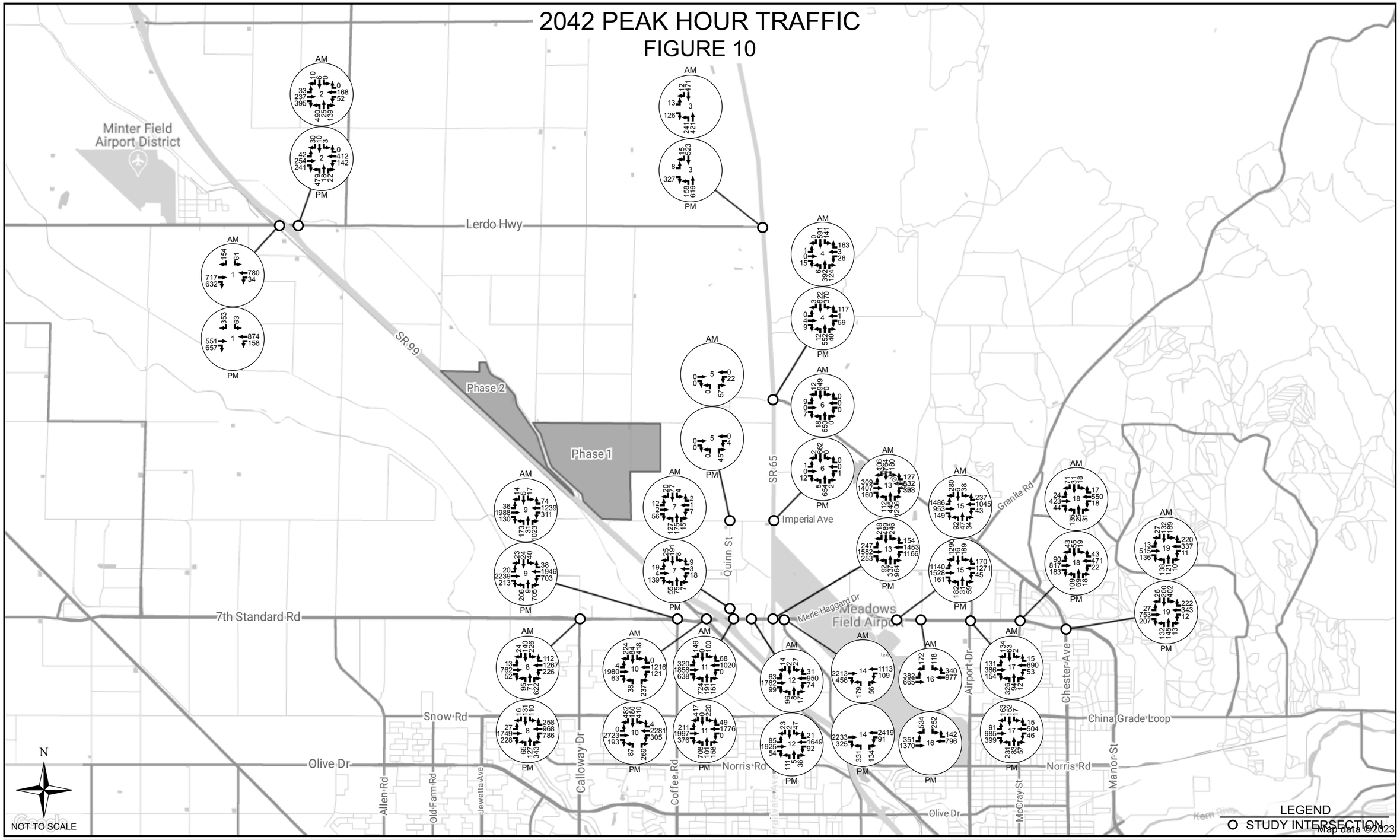
2032 PEAK HOUR TRAFFIC
FIGURE 8



2032+PROJECT PEAK HOUR TRAFFIC
FIGURE 9

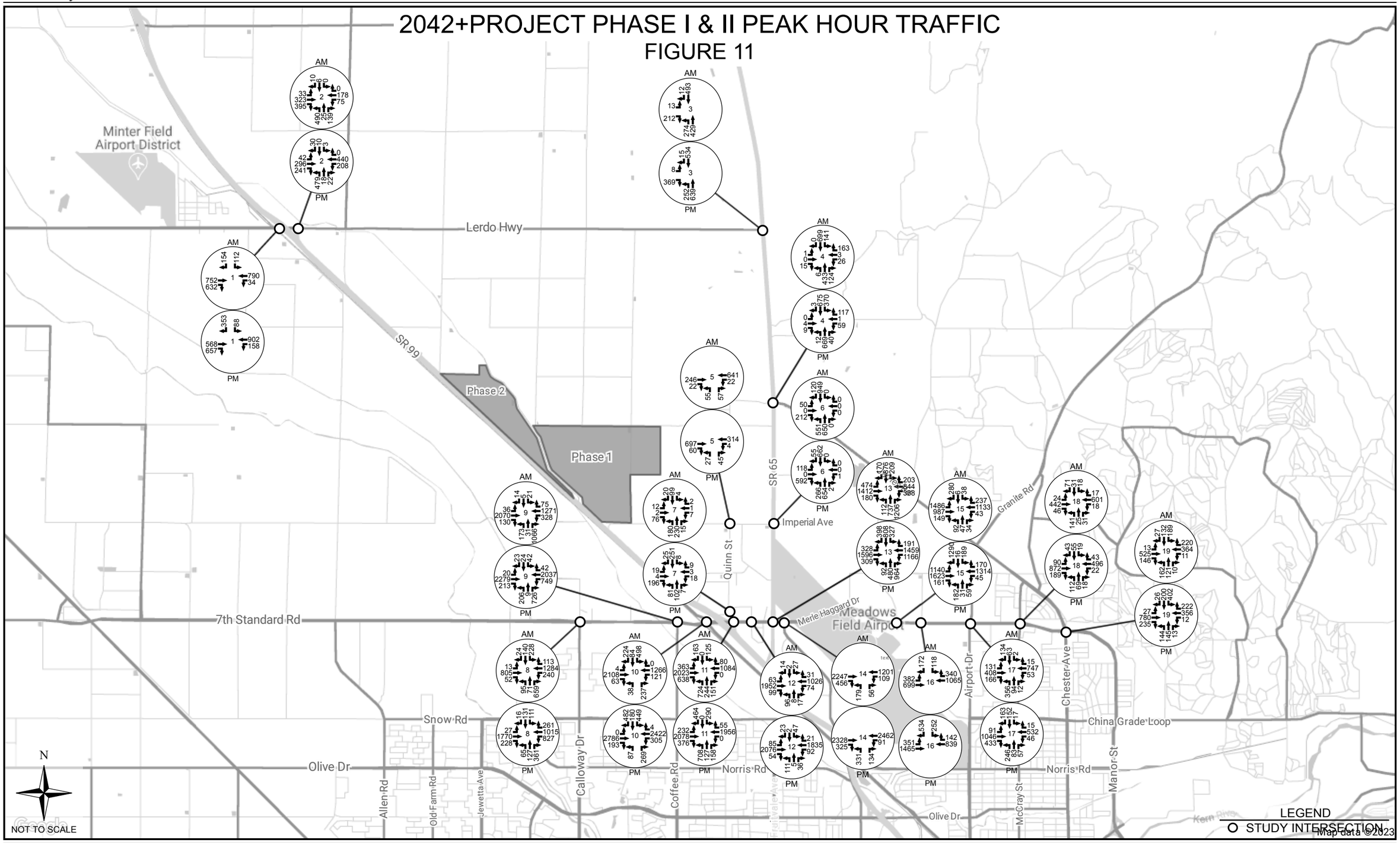


2042 PEAK HOUR TRAFFIC
FIGURE 10



2042+PROJECT PHASE I & II PEAK HOUR TRAFFIC

FIGURE 11



INTERSECTION ANALYSIS

A capacity analysis of the study intersections was conducted using Synchro 9 software from Trafficware. This software utilizes the 2010 capacity analysis methodology in the Transportation Research Board's Highway Capacity Manual. The analysis was performed for each of the following traffic scenarios.

- Existing (2022)
- Existing (2022) + Project Phase 1
- Build Year (2032)
- Build Year (2032) + Project Phase 1
- Future (2042)
- Future (2042) + Project Phases 1 & 2

Criteria for intersection level of service (LOS) are shown in the tables below.

LEVEL OF SERVICE CRITERIA
UNSIGNALIZED INTERSECTION

Average Control Delay (sec/veh)	Level of Service	Expected Delay to Minor Street Traffic
≤ 10	A	Little or no delay
> 10 and ≤ 15	B	Short traffic delays
> 15 and ≤ 25	C	Average traffic delays
> 25 and ≤ 35	D	Long traffic delays
> 35 and ≤ 50	E	Very long traffic delays
> 50	F	Extreme delays

LEVEL OF SERVICE CRITERIA
SIGNALIZED INTERSECTIONS

Volume/Capacity	Control Delay (sec/veh)	Level of Service
< 0.60	≤ 10	A
0.61 - 0.70	> 10 and ≤ 20	B
0.71 - 0.80	> 20 and ≤ 35	C
0.81 - 0.90	> 35 and ≤ 55	D
0.91 - 1.00	> 55 and ≤ 80	E
> 1.0	> 80	F

Level of service for the study intersections is presented in Tables 3a, 3b, 4a, and 4b. The level of service goal for roadway facilities in Kern County is LOS "C" within the metropolitan Bakersfield area and LOS "D" outside the metro area. Intersection delays are shown for all intersections that operate below LOS "C".

Table 3a
PM Intersection Level of Service

#	Intersection	Control Type	Existing	Existing+ Project Phase I	2032	2032+ Project Phase I	2032+ Project Phase I w/Improvements[1]	2042	2042+ Project Phase I & II	2042+ Project Phase I & II w/ Improvements[1]
1	SR 99 SB Ramps & Lerdo Hwy	Signal	-	-	-	-	C	-	-	C
		SB Stop	B	C	C	D (29.0)	-	F (57.2)	F (109.1)	-
2	SR 99 NB Ramps & Lerdo Hwy	Signal	C	C	C	D (39.9)	C	F (298.7)	F (>300)	C
3	Porterville Hwy (SR 65) & Lerdo Hwy	Signal	-	-	-	-	C	-	-	C
		EB Stop	B	C	C	C	-	D (26.5)	D (34.5)	-
4	Porterville Hwy (SR 65) & James Rd	Signal	-	-	-	-	A	-	-	C
		EB Stop	C	C	D (30.0)	E (36.5)	-	F (62.0)	F (89.7)	-
		WB Stop	E (48.1)	F (84.8)	F (>300)	F (>300)	-	F (>300)	F (>300)	-
5	Quinn Rd & Imperial Ave	NB Stop	-	C	-	C	-	-	C	-
6	Porterville Hwy (SR 65) & Imperial Ave	Signal	-	-	-	-	C	-	-	C
		EB Stop	B	F (>300)	B	F (>300)	-	C	F (>300)	-
7	Quinn Rd & Saco Rd/Mc Murtrey Ave	AWSC	A	B	A	B	-	A	B	-
8	Calloway Dr & 7th Standard Rd	Signal	D (47.1)	D (41.8)	F (104.2)	F (114.1)	D (44.4)	F (185.4)	F (200.4)	F (80.2)
9	Coffee Rd & 7th Standard Rd	Signal	D (49.2)	D (47.7)	F (176.3)	F (197.0)	D (46.3)	F (>300)	F (>300)	F (141.8)
10	Golden State Hwy & 7th Standard Rd	Signal	C	C	F (83.1)	F (92.7)	E (58.0)	F (180.2)	F (209.9)	F (140.1)

[1] See Table 8 for details.

Table 3a
PM Intersection Level of Service Continued

#	Intersection	Control Type	Existing	Existing+ Project Phase I	2032	2032+ Project Phase I	2032+ Project Phase I w/Improvements[1]	2042	2042+ Project Phase I & II	2042+ Project Phase I & II w/ Improvements[1]
11	Quinn Rd/SR 99 NB Ramp & Merle Haggard Dr/7th Standard Rd	Signal	B	B	B	C	-	C	C	-
12	Industrial Pkwy Dr & Merle Haggard Dr	Signal	B	B	B	B	-	C	C	-
13	Porterville Hwy (SR 65) & Merle Haggard Dr	Signal	D (39.6)	D (52.6)	F (>300)	F (>300)	F (287.2)	F (>300)	F (>300)	F (292.1)
14	Pegasus Dr & Merle Haggard Dr	Signal	A	B	A	B	-	A	B	-
15	Wings Wy & Merle Haggard Dr	Signal	C	C	F (>300)	F (>300)	-	F (>300)	F (>300)	-
16	Landings Way & Merle Haggard Dr	Signal	C	C	D (47.1)	D (46.4)	C	D (53.4)	D (51.8)	C
17	Airport Dr & Merle Haggard Dr	Signal	C	C	C	C	-	C	C	-
18	McCray & Merle Haggard Dr	Signal	C	C	C	C	-	C	C	-
19	N Chester Ave & Merle Haggard Dr	Signal	C	C	C	D (36.4)	C	C	D (46.7)	C

[1]See Table 8 for details.

Table 3b
AM Intersection Level of Service

#	Intersection	Control Type	Existing	Existing+ Project Phase I	2032	2032+ Project Phase I	2032+ Project Phase I w/Improvements[1]	2042	2042+ Project Phase I & II	2042+ Project Phase I & II w/ Improvements[1]
1	SR 99 SB Ramps & Lerdo Hwy	Signal	-	-	-	-	C	-	-	C
		SB Stop	B	B	C	C	-	C	F (60.6)	-
2	SR 99 NB Ramps & Lerdo Hwy	Signal	C	C	E (63.5)	E (68.1)	C	F (88.2)	F (102.3)	C
3	Porterville Hwy (SR 65) & Lerdo Hwy	Signal	-	-	-	-	-	-	-	C
		EB Stop	B	B	B	C	-	C	C	-
4	Porterville Hwy (SR 65) & James Rd	Signal	-	-	-	-	A	-	-	B
		EB Stop	B	B	B	C	-	C	C	-
		WB Stop	B	C	C	C	-	E (35.1)	F (52.4)	-
5	Quinn Rd & Imperial Ave	NB Stop	-	B	-	B	-	-	C	-
6	Porterville Hwy (SR 65) & Imperial Ave	Signal	-	-	-	-	C	-	-	C
		EB Stop	C	F (>300)	C	F (>300)	-	E (38.4)	F (127.2)	
7	Quinn Rd & Saco Rd/Mc Murtrey Ave	AWSC	A	A	A	A	-	A	B	-
8	Calloway Dr & 7th Standard Rd	Signal	C	C	E (60.3)	E (62.7)	D (42.9)	E (63.4)	E (70.2)	D (51.5)
9	Coffee Rd & 7th Standard Rd	Signal	D (36.8)	D (42.6)	F (120.5)	F (137.4)	D (46.9)	F (231.1)	F (256.1)	D (47.9)

[1]See Table 8 for details.

Table 3b
AM Intersection Level of Service Continued

#	Intersection	Control Type	Existing	Existing+ Project Phase I	2032	2032+ Project Phase I	2032+ Project Phase I w/Improvements[1]	2042	2042+ Project Phase I & II	2042+ Project Phase I & II w/ Improvements[1]
10	Golden State Hwy & 7th Standard Rd	Signal	B	C	E (70.7)	F (93.4)	C	E (69.2)	F (95.3)	E (71.8)
11	Quinn Rd/SR 99 NB Ramp & Merle Haggard Dr/7th Standard Rd	Signal	C	C	C	C	-	C	C	-
12	Industrial Pkwy Dr & Merle Haggard Dr	Signal	A	A	C	C	-	C	C	-
13	Porterville Hwy (SR 65) & Merle Haggard Dr	Signal	D (39.2)	D (44.3)	F (203.3)	F (199.8)	F (105.8)	F (233.6)	F (245.3)	F (120.0)
14	Pegasus Dr & Merle Haggard Dr	Signal	A	A	A	A	-	B	C	-
15	Wings Wy & Merle Haggard Dr	Signal	A	A	F (154.4)	F (152.4)	-	F (210.6)	F (220.7)	-
16	Landings Way & Merle Haggard Dr	Signal	C	C	C	C	-	C	C	-
17	Airport Dr & Merle Haggard Dr	Signal	C	C	C	C	-	C	C	-
18	McCray & Merle Haggard Dr	Signal	C	C	C	C	-	C	C	-
19	N Chester Ave & Merle Haggard Dr	Signal	B	B	B	B	-	B	C	-

[1]See Table 8 for details.

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QUEUE LENGTH ANALYSIS

Existing volumes and future volumes, both with and without project traffic, were used to analyze movements at Porterville Highway (Stare Route 65) & Imperial Avenue, Golden State Highway & 7th Standard Road, State Route 99 Northbound off ramp & Merle Haggard Drive, and Porterville Highway (SR 65) & Merle Haggard Drive. Queue length analysis was conducted using Synchro 9 software. The queue analysis was performed at the request of Caltrans, however, Kern County has not defined or adopted any criteria or thresholds for evaluation of queue lengths for specific turning movements at intersection. The results of the queue length analysis are shown for informational purposes in Tables 4a and 4b below.

Table 4a
PM Queue Length Analysis

Intersection	Lerdo Hwy & SR 99 SB Ramps				Lerdo Hwy & SR 99 NB Ramps				Porterville Hwy (SR 65) & Imperial Ave	Golden State Hwy & 7th Standard Rd			SR 99 NB Off Ramp & Merle Haggard Dr		Porterville Hwy (SR 65) & Merle Haggard Dr							
Movement	EBR	WBL	SBL	SBR	EBR	WBL	NBL	NBR	EB	WBL	SBL	SBR	NBL	NBR	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
Storage Length	-	265	-	75	-	120	-	500	-	250	240	240	300	240	250	150	200	150	500	350	250	250
Existing	20	84	39	59	147	53	128	55	22	92	119	122	101	20	201	199	205	52	49	53	40	64
Existing+Project	38	83	84	82	145	87	206	45	265	168	243	205	176	37	135	219	127	37	65	23	92	125
2032	49	187	49	64	278	150	293	17	22	115	260	294	221	48	315	230	222	28	63	409	91	48
2032+Project	56	66	54	75	186	143	229	30	205	189	291	325	194	42	394	242	269	207	85	439	158	49
2042	20	229	276	131	172	162	175	26	29	320	289	295	251	117	319	237	225	239	73	414	145	120
2042+Project	39	193	205	136	221	156	227	39	570	302	269	323	366	76	379	229	223	242	103	411	205	108
2042+Project w/Mitigation	38	217	162	106	182	122	196	18	87	289	210	247	358	72	378	224	223	207	64	170	113	67

Notes:
NB = Northbound
SB = Southbound L = Left-Turn Lane
WB = Westbound T = Through Lane
EB = Eastbound R = Right-Turn Lane

Table 4b
AM Queue Length Analysis

Intersection	Lerdo Hwy & SR 99 SB Ramps				Lerdo Hwy & SR 99 NB Ramps				Porterville Hwy (SR 65) & Imperial Ave	Golden State Hwy & 7th Standard Rd			SR 99 NB Off Ramp & Merle Haggard Dr		Porterville Hwy (SR 65) & Merle Haggard Dr							
Movement	EBR	WBL	SBL	SBR	EBR	WBL	NBL	NBR	EB	WBL	SBL	SBR	NBL	NBR	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
Storage Length	-	265	-	75	-	120	-	500	-	250	240	240	300	240	250	150	200	150	500	350	250	250
Existing	59	32	39	61	123	0	91	19	21	51	175	119	172	40	248	154	196	37	65	88	23	47
Existing+Project	50	20	47	29	176	45	134	45	51	125	292	236	162	62	277	43	229	159	80	81	83	28
2032	39	47	52	30	204	25	154	30	30	76	261	234	212	70	326	152	220	153	133	373	114	49
2032+Project	14	40	140	111	380	15	95	51	72	155	264	67	185	43	295	244	275	231	102	376	106	51
2042	15	58	51	85	114	20	254	63	74	200	260	114	251	80	178	153	237	52	103	375	90	58
2042+Project	44	25	223	120	378	31	104	45	29	103	264	217	193	64	380	233	226	149	103	400	94	49
2042+Project w/Mitigation	45	60	57	95	284	25	207	62	19	110	278	134	294	106	330	154	246	157	159	214	95	40

Notes:
NB = Northbound
SB = Southbound L = Left-Turn Lane
WB = Westbound T = Through Lane
EB = Eastbound R = Right-Turn Lane

TRAFFIC SIGNAL WARRANT ANALYSIS

Peak hour signal warrants were evaluated for the unsignalized intersection within the study based on the California Manual on Uniform Traffic Control Devices (MUTCD). Peak hour signal warrants assess delay to traffic on the minor street approaches when entering or crossing a major street. Signal warrant analysis results for PM and AM peak hours are shown in Tables 5a and 5b respectively.

Table 5a

PM Traffic Signal Warrants

		Existing			2032			2042		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	SR 99 SB Ramps at Lerdo Hwy	1394	295	YES	1805	367	YES	2240	416	YES
3	Porterville Hwy (SR 65) at Lerdo Hwy	870	234	YES	960	260	YES	1312	335	YES
4	Porterville Hwy (SR 65) at James Rd	1029	132	YES	1034	159	YES	1599	177	YES
5	Quinn Rd at Imperial Ave	41	4	NO	54	21	NO	45	4	NO
6	Porterville Hwy (SR 65) at Imperial Ave	805	9	NO	1298	13	NO	1325	13	NO
7	Quinn Rd at Saco Rd	327	147	NO	395	66	NO	361	162	NO

		Existing+Project Phase I			2032+Project Phase I			2042+Project Phase I & II		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	SR 99 SB Ramps at Lerdo Hwy	1464	324	YES	1868	390	YES	2311	442	YES
3	Porterville Hwy (SR 65) at Lerdo Hwy	1029	278	YES	1066	322	YES	1444	371	YES
4	Porterville Hwy (SR 65) at James Rd	1231	134	YES	1167	161	YES	1767	180	YES
5	Quinn Rd at Imperial Ave	851	62	NO	768	72	NO	919	66	NO
6	Porterville Hwy (SR 65) at Imperial Ave	1035	584	YES	1510	523	YES	1582	636	YES
7	Quinn Rd at Saco Rd	424	196	NO	479	109	NO	460	215	NO

Table 5b
AM Traffic Signal Warrants

		Existing			2032			2040		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	SR 99 SB Ramps at Lerdo Hwy	1323	143	YES	1729	191	YES	2240	416	YES
3	Porterville Hwy (SR 65) at Lerdo Hwy	775	85	NO	960	121	NO	1312	335	YES
4	Porterville Hwy (SR 65) at James Rd	812	142	NO	1034	159	YES	1599	177	YES
5	Quinn Rd at Imperial Ave	52	20	NO	54	21	NO	45	4	NO
6	Porterville Hwy (SR 65) at Imperial Ave	1019	11	NO	1298	13	NO	1325	13	NO
7	Quinn Rd at Saco Rd	379	64	NO	395	66	NO	361	162	NO

		Existing+Project Phase I			2032+Project Phase I			2040+Project Phase I & II		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	SR 99 SB Ramps at Lerdo Hwy	1388	205	YES	1787	236	YES	2304	440	YES
3	Porterville Hwy (SR 65) at Lerdo Hwy	848	186	NO	1063	195	YES	1440	370	YES
4	Porterville Hwy (SR 65) at James Rd	986	144	YES	1164	161	YES	1762	179	YES
5	Quinn Rd at Imperial Ave	738	103	NO	766	72	NO	916	66	NO
6	Porterville Hwy (SR 65) at Imperial Ave	1572	173	YES	1506	521	YES	1578	635	YES
7	Quinn Rd at Saco Rd	494	79	NO	478	108	NO	458	215	NO

ROADWAY ANALYSIS

Published ADT information and future projected traffic, as shown in Table 6, were used to calculate the volume-to-capacity ratios shown in Table 7.

A volume-to-capacity ratio (v/c) of greater than 0.80 corresponds to a LOS of less than "C", as defined in the Highway Capacity Manual. As mentioned previously, a level of service "C" is the accepted standard in Kern County within the metropolitan Bakersfield areas. LOS "D" is the County's standard outside the metro area.

Table 6
Roadway ADT & Capacity

Street Segment	Project Phase I ADT	Project Phase I & II ADT	Existing ADT	Existing+ Project Phase I	2032	2032+ Project Phase I	2042	2042+ Project Phase I & II	Existing Capacity	Mitigated Capacity
Lerdo Hwy: State Route 99 to Porterville Hwy (State Route 65)	1244	1520	6122	7366	8474	9718	11389	12909	15000	-
Imperial Ave: Quinn St to Porterville Hwy (State Route 65)	9257	11406	410	9667	457	9714	505	11911	15000	30000
7th Standard Rd: Calloway Dr to Coffee Rd	1190	1493	29685	30875	41091	42281	55223	56716	50000	60000
7th Standard Rd: Coffee Rd to Golden State Hwy	139	2313	29685	29824	41091	41230	55223	57536	40000	60000
7th Standard Rd: Golden State Hwy to Sr 99 NB Off Ramp/Quinn Rd	3023	3726	22761	25784	31507	34530	42342	46068	40000	60000
Merle Haggard Dr: Quinn Rd to Industry Pkwy Dr	3091	3833	18344	21435	22907	25998	28033	31866	50000	-
Merle Haggard Dr: Industry Pkwy Dr to Porterville Hwy (SR 65)	3091	3833	28683	31774	35574	38665	43266	47099	60000	-
Merle Haggard Dr: Porterville Hwy (SR 65) to Pegasus Dr	1271	1561	23604	24875	27043	28314	30601	32162	60000	-
Merle Haggard Dr: Pegasus Dr to Wings Way	1271	1561	23604	24875	28979	30250	34920	36481	40000	-
Merle Haggard Dr: Wings Way to Landings Way	1271	1561	10287	11558	12595	13866	15139	16700	40000	-
Merle Haggard Dr: Landings Way to Airport Dr	1271	1561	13230	14501	15536	16807	17980	19541	15000	40000
Merle Haggard Dr: Airport Dr to McCray St	803	996	7306	8109	8787	9590	10391	11387	40000	-
Merle Haggard Dr: McCray St to Chester Ave	723	901	7306	8029	9656	10379	12443	13344	40000	-
Porterville Hwy (State Route 65): Merle Haggard Dr to Imperial Ave	9496	9496	10611	20107	12499	21995	14506	24002	15000	40000
Porterville Hwy (State Route 65): Imperial Ave to James Rd	1910	9496	10590	12500	12340	14250	14181	23677	15000	40000
Porterville Hwy (State Route 65): James Rd to Lerdo Hwy	1551	1910	9272	10823	10922	12473	12675	14585	15000	40000

Table 7
Roadway Level of Service

Street Segment	v/c Existing	v/c Ext+Proj Phase I	v/c (Mitt) Ext+Proj Phase I	v/c 2032	v/c 2032+Proj Phase I	v/c (Mitt) 2032+Proj Phase I	v/c 2042	v/c 2042+Proj Phase I & II	v/c (Mitt) 2042+Proj Phase I & II
Lerdo Hwy: State Route 99 to Porterville Hwy (State Route 65)	0.41	0.49	-	0.56	0.65	-	0.76	0.86[1]	-
Imperial Ave: Quinn St to Porterville Hwy (State Route 65)	0.03	0.64	-	0.03	0.65	0.32	0.03	0.79	0.40
7th Standard Rd: Calloway Dr to Coffee Rd	0.59	0.62	-	**0.82**	**0.85**	0.70	**1.10**	**1.13**	**0.95**
7th Standard Rd: Coffee Rd to Golden State Hwy	0.74	0.75	-	**1.03**	**1.03**	0.69	**1.38**	**1.44**	**0.96**
7th Standard Rd: Golden State Hwy to Sr 99 NB Off Ramp/Quinn Rd	0.57	0.64	-	0.79	**0.86**	0.58	**1.06**	**1.15**	0.77
Merle Haggard Dr: Quinn Rd to Industry Pkwy Dr	0.37	0.43	-	0.46	0.52	-	0.56	0.64	-
Merle Haggard Dr: Industry Pkwy Dr to Porterville Hwy (SR 65)	0.48	0.53	-	0.59	0.64	-	0.72	0.78	-
Merle Haggard Dr: Porterville Hwy (SR 65) to Pegasus Dr	0.39	0.41	-	0.45	0.47	-	0.51	0.54	-
Merle Haggard Dr: Pegasus Dr to Wings Way	0.59	0.62	-	0.72	0.76	-	**0.87**	**0.91**	-
Merle Haggard Dr: Wings Way to Landings Way	0.26	0.29	-	0.31	0.35	-	0.38	0.42	-
Merle Haggard Dr: Landings Way to Airport Dr	**0.88**	**0.97**	0.36	**1.04**	**1.12**	0.42	**1.20**	**1.30**	0.49
Merle Haggard Dr: Airport Dr to McCray St	0.18	0.20	-	0.22	0.24	-	0.26	0.28	-
Merle Haggard Dr: McCray St to Chester Ave	0.18	0.20	-	0.24	0.26	-	0.31	0.33	-
Porterville Hwy (State Route 65): Merle Haggard Dr to Imperial Ave	0.71	**1.34**	0.50	**0.83**	**1.47**	0.55	**0.97**	**1.60**	0.60
Porterville Hwy (State Route 65): Imperial Ave to James Rd	0.71	**0.83**	0.31	**0.82**	**0.95**	0.36	**0.95**	**1.58**	0.59
Porterville Hwy (State Route 65): James Rd to Lerdo Hwy	0.62	0.72	0.27	0.73	**0.83**	0.31	**0.85**	**0.97**	0.36

[1]Acceptable Level of Service on Lerdo Hwy

IMPROVEMENTS

Regional Transportation Impact Fee Program

As stated in the Road Description section earlier in this report, the 7th Standard Road/Merle Haggard Drive corridor is a major east-west route in the north metropolitan area. Over the past 15 years the local agencies have accomplished significant widening improvements over from Wings Way to west of Santa Fe Way. These improvements have been accomplished with a variety of funding sources, including the Regional Transportation Improvement Program (RTIF) for metropolitan Bakersfield. There are two improvement projects on the RTIF, which remain to be accomplished on the 7th Standard Road/Merle Haggard Drive corridor. Additionally, there are projects listed for Porterville Highway (SR 65), Calloway Drive, Coffee Road and Norris Road. They are as follows:

- Merle Haggard Drive widening to four lanes, Wings Way to Airport Drive
- 7th Standard Road/SR 99 interchange - Eastbound bridge replacement and new ramps
- Porterville Highway (SR 65) widening to four lanes, Merle Haggard Drive to James Rd
- Calloway Drive widening to four lanes, south of 7th Standard Road
- Coffee Road widening to four lanes, south of 7th Standard Road
- Norris Road widening to four lanes, west of Airport Drive

The purpose of the RTIF is to provide a funding mechanism for roadway improvements which are regional in nature and for which cost sharing by all new development is appropriate. The metro RTIF is a program jointly developed, approved and administered by the County and the City of Bakersfield. The program was adopted in the 1980's and has been updated periodically to reflect the latest development growth patterns and construction costs. The current version of the RTIF is the fourth update to the program and was adopted in 2009. The current version has been held in place for an extended period of time as a stable reference for project within the Thomas Roads Improvement Program (TRIP). With the near conclusion of the TRIP program the County is working on an update of the RTIF, which would reflect current development conditions along the 7th Standard Road/Merle Haggard corridor, particularly in the vicinity of Meadows Field.

California High Speed Rail

The alignment for the California High Speed Rail (HSR) segment from Shafter to Bakersfield crosses 7th Standard Road between Coffee Road and the Union Pacific Railroad (UPRR). The current design for the HSR project places the HSR at "level2", keeps UPRR at "level1" and elevates 7th Standard Road over the top of both at "level3". This arrangement will require the complete reconstruction of 7th Standard Road and the SR 99/7th Standard Road interchange from the Beardsley Canal to east of the SR

99 northbound ramps. The Environmental Document for this section was approved in 2019. The High Speed Rail Authority is currently in the selection process for a design consultant, with final design to be complete by 2027. It is therefore assumed that reconstruction of the 7th Standard Road interchange will be completed by 2030. This reconstruction will supersede the interchange improvement listed in the RTIF. Additionally, the County, City of Bakersfield and Caltrans need to coordinate closely with the High Speed Rail Authority to assure the reconstruction along 7th Standard Road includes adequate facilities to accommodate both existing and anticipated future traffic.

Study Area Improvements

Intersection and roadway improvements needed by the year 2042 to maintain or improve the operational level of service of the street system in the vicinity of the project are shown in Tables 8 and 9. The RTIF Facilities List includes many of the facilities needed to maintain a level of service "C" or better for new growth or to prevent the degradation of facilities which are currently operating below LOS C. The RTIF program sets forth the fees to be collected from new development to provide funding for those projects, which are on the RTIF list. Tables 8 and 9 also identify local improvements not covered by the RTIF program or anticipated by adjacent development, and an estimate of the project's percent share responsibility for the improvement.

The percent share for local improvements is calculated using the following formula:

$$\% \text{ Share} = \frac{\text{Project Traffic}}{\text{(Future+Project Traffic) - Existing Traffic}} \text{ x100\%}$$

Table 8
Future Intersection Improvements

#	Intersection	Total Improvements Required by 2032	Total Improvements Required by 2042	Local Improvements (Improvements not covered by RTIF or adjacent development)	Project % Share for Local Improvements 2032 – Phase 1	Project % Share for Local Improvements 2042 – Phase 2
1	SR 99 SB Ramps & Lerdo Hwy	Signal	Signal, Add SBR	Signal, Add SBR	11.61%	2.38%
2	SR 99 NB Ramps & Lerdo Hwy	Add NBL	Add NBL	Add NBL	27.32%	7.85%
3	Porterville Hwy (SR 65) & Lerdo Hwy	-	Signal	Signal	-	11.70%
4	Porterville Hwy (SR 65) & James Rd	Signal	Signal	Signal	29.46%	10.22%
6	Porterville Hwy (SR 65) & Imperial Ave	Signal	Signal	Signal	74.32%	44.34%
		Add EBR, NBL	Add EBR, NBL	Add EBR, NBL	100%	100%
8	Calloway Dr & 7th Standard Rd	Add EBT, EBR, NBR	Add EBT, EBR, NBR	-	-	2.56%
9	Coffee Rd & 7th Standard Rd	Add WBT, 1 WBL, change NBT/R to NBT, 2NBR	Add WBT, 1 WBL, change NBT/R to NBT, 2NBR	-	-	3.21%
10	Golden State Hwy & 7th Standard Rd	Add SBL, SBR, change NBT/R to NBT, NBR	Add SBL, SBR, change NBT/R to NBT, NBR	-	-	3.11%
13	Porterville Hwy (SR 65) & Merle Haggard Dr	Add NBR	Add NBR	Add NBR	19.42%	15.27%
16	Landings Way & Merle Haggard Dr	Change WBR to WBTR	Change WBR to WBTR	-	-	7.81%
19	Chester Ave & Manor St/Merle Haggard Dr	Change 1 SBT to SBTL[1], split phase timing N-S	Change 1 SBT to SBTL[1], split phase timing N-S	Change 1 SBT to SBTL[1], split phase timing N-S	11.57%	2.67%

[1] Striping only

Notes:

NB = Northbound SB = Southbound WB = Westbound EB = Eastbound
T = Through Lane R = Right-Turn Lane L = Left-Turn Lane

Future Roadway Improvements

Roadway	Total Improvements Required by 2032	Total Improvements Required by 2042	Local Improvements (Improvements not covered by RTIF or adjacent development)	Project % Share for Local Improvements 2032 – Phase 1	Project % Share for Local Improvements 2042 – Phase 2
Imperial Ave: Saco Rd to Quinn Rd	**Table 9**	Construct 4 Lanes[1]	Add 4 Lanes[1]	-	100%
Imperial Ave: Quinn Rd to Porterville Hwy (State Route 65)	-	Construct 2 Lanes[1]	Add 2 Lanes[1]	-	100%
7th Standard Rd: Calloway Dr to Coffee Rd	Add 1 Lane	Add 1 Lane	-	-	-
7th Standard Rd: Coffee Rd to Golden State Hwy	Add 1 Lane[2]	Add 1 Lane[2]	-	-	-
7th Standard Rd: Golden State Hwy to SR 99 NB Off Ramp/Quinn Rd	Add 1 Lane[2]	Add 1 Lane[2]	-	-	-
Merle Haggard Dr: Landings Way to Airport Dr	Add 2 Lanes	Add 2 Lanes	-	-	-
Porterville Hwy (State Route 65): Merle Haggard Dr to Imperial Ave	Add 2 Lanes	Add 2 Lanes	-	-	-
Porterville Hwy (State Route 65): Imperial Ave to James Rd	Add 2 Lanes	Add 2 Lanes	-	-	-
Porterville Hwy (State Route 65): James Rd to Lerdo Hwy	Add 2 Lanes	Add 2 Lanes	Add 2 Lanes	48.45%	17.00%

[1] 2-4 Lanes as needed to support development.

[2] Stripping Only

SUMMARY AND CONCLUSIONS

This study evaluated the potential traffic impacts of a proposed GPA and ZC from agricultural to industrial uses on a 740 acre site north of Imperial Avenue and east of State Route 99 in Kern County, California.

VMT

It was determined that project VMT impact is less than significant.

Operational Analysis

In general, the existing traffic operates at or near acceptable levels within the study area with the existing roadway facilities. The addition of project traffic to existing traffic would cause a deterioration in traffic operations on the existing street system along Porterville Highway (SR 65) between Merle Haggard Drive and Imperial Avenue and at the intersections of Imperial Avenue at Porterville Highway (SR 65), Lerdo Hwy at SR 99 southbound ramps and 7th Standard Road at Coffee Road. The anticipated growth in traffic volumes along the 7th Standard Road/Merle Haggard Corridor over the next 10 to 20 years is anticipated to result a substantial increase in congestion, with several locations operating below LOS C, with or without project traffic.

Conclusion

In conclusion, project traffic does not have a significant VMT impact. The addition of project traffic to the existing and future street system results in LOS deficiencies at several locations. Each of these deficiencies should be addressed with improvements as shown in Tables 8 and 9

Significant congestion is anticipated in the future along the 7th Standard Road/Merle Haggard corridor, due to traffic associated with regional growth and development. As a result, several intersections and roadway are anticipated to operate below LOS C in the future even with full standard widening and roadway improvements.

Therefore, the project should improve Imperial Avenue west of Porterville Highway (SR 65) to arterial standards, pay its proportional share for local improvements as listed in Tables 8 and 9 for Phases 1 and 2, and pay into the RTIF program in accordance with the current fee schedule during the building permit process for those portions of the project located within the RTIF boundary, which applies to Phase 1

only, as Phase 2 is located outside of the RTIF boundary and not required to pay into the program. The project should also coordinate with the County on development and funding of additional regional capacity to relieve congestion along the 7th Standard Road/Merle Haggard Drive corridor, including the extension of Imperial Avenue east of State Route 65 and construction of an additional freeway interchange(s) on State Route 99 in the vicinity of the Burbank Street alignment between 7th Standard Road and Lerdo Highway.

REFERENCES

1. Annual Traffic Census, KernCOG
2. Kern County General Plan, approved September 22, 2009
3. Highway Capacity Manual, Special Report 209, Transportation Research Board
4. California Manual on Uniform Traffic Control Devices for Streets and Highways, 2012 Edition, Federal Highway Administration (FHA)
5. Trip Generation, 11th Edition, Institute of Transportation Engineers (ITE)

APPENDIX

VEHICLE TURNING MOVEMENT COUNTS

Turning Movement Count Report AM

Location ID: 1
North/South: SR 99 SB On/Off Ramps
East/West: Lerdo Highway

Date: 12/11/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
6:30	47	0	28	0	106	9	0	0	0	82	110	0	382
6:45	47	0	20	0	116	8	0	0	0	84	112	0	387
7:00	26	0	6	0	88	10	0	0	0	89	105	0	324
7:15	24	1	8	0	114	5	0	0	0	134	134	0	420
7:30	25	0	8	0	112	7	0	0	0	135	67	0	354
7:45	39	0	7	0	118	3	0	0	0	111	91	0	369
8:00	18	0	5	0	107	12	0	0	0	98	95	0	335
8:15	26	1	7	0	108	11	0	0	0	81	47	0	281
Total Volume:	252	2	89	0	869	65	0	0	0	814	761	0	2852
Approach %	73%	1%	26%	0%	93%	7%	0%	0%	0%	52%	48%	0%	
Peak Hr Begin:	6:30												
PHV	144	1	62	0	424	32	0	0	0	389	461	0	1513
PHF	0.690			0.919			0.000			0.793			0.901

Turning Movement Count Report PM

Location ID: 1
North/South: SR 99 SB On/Off Ramps
East/West: Lerdo Highway

Date: 12/11/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	71	0	2	0	117	48	0	0	0	98	72	0	408
16:15	78	0	11	0	128	34	0	0	0	95	63	0	409
16:30	53	0	8	0	110	35	0	0	0	126	97	0	429
16:45	71	0	5	0	130	23	0	0	0	99	92	0	420
17:00	60	0	9	0	116	25	0	0	0	168	53	0	431
17:15	55	0	8	0	157	35	0	0	0	103	63	0	421
17:30	43	0	7	0	134	24	0	0	0	89	52	0	349
17:45	44	0	3	0	104	16	0	0	0	83	36	0	286
Total Volume:	475	0	53	0	996	240	0	0	0	861	528	0	3153
Approach %	90%	0%	10%	0%	81%	19%	0%	0%	0%	62%	38%	0%	
Peak Hr Begin:	16:30												
PHV	239	0	30	0	513	118	0	0	0	496	305	0	1701
PHF	0.885			0.822			0.000			0.898			0.987

Pedestrian/Bicycle Count Report

Location ID: 1
North/South: SR 99 SB On/Off Ramps
East/West: Lerdo Highway

Date: 12/11/19
City: Bakersfield, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
6:30	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report AM

Location ID: 2
North/South: SR 99 NB On/Off Ramp
East/West: Lerdo Highway

Date: 12/11/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
6:30	3	3	1	1	17	7	51	9	98	68	57	9	324
6:45	4	2	0	0	28	1	55	4	87	62	66	7	316
7:00	1	2	0	0	21	6	23	5	77	78	29	5	247
7:15	3	2	0	0	15	6	19	3	101	102	32	7	290
7:30	3	0	0	0	31	5	21	2	80	50	21	3	216
7:45	2	1	0	0	26	6	40	4	106	63	37	3	288
8:00	5	0	0	0	23	4	24	4	99	52	38	6	255
8:15	9	0	0	1	20	3	21	6	78	30	21	2	191
Total Volume:	30	10	1	2	181	38	254	37	726	505	301	42	2127
Approach %	73%	24%	2%	1%	82%	17%	25%	4%	71%	60%	35%	5%	
Peak Hr Begin:	6:30												
PHV	11	9	1	1	81	20	148	21	363	310	184	28	1177
PHF	0.750			0.879			0.842			0.926			0.908

Turning Movement Count Report PM

Location ID: 2
North/South: SR 99 NB On/Off Ramp
East/West: Lerdo Highway

Date: 12/11/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	4	6	1	0	98	10	9	6	66	50	15	7	272
16:15	8	2	1	0	71	11	6	3	81	35	31	5	254
16:30	4	1	0	0	64	19	3	5	81	65	30	7	279
16:45	8	3	1	0	44	18	4	1	107	49	42	7	284
17:00	7	3	1	0	49	17	3	1	87	30	27	4	229
17:15	8	2	0	0	49	6	3	6	132	34	31	7	278
17:30	8	5	0	1	31	5	7	1	106	36	14	6	220
17:45	8	4	0	1	28	6	5	2	91	20	17	2	184
Total Volume:	55	26	4	2	434	92	40	25	751	319	207	45	2000
Approach %	65%	31%	5%	0%	82%	17%	5%	3%	92%	56%	36%	8%	
Peak Hr Begin:	16:00												
PHV	24	12	3	0	277	58	22	15	335	199	118	26	1089
PHF	0.813			0.775			0.830			0.841			0.959

Pedestrian/Bicycle Count Report

Location ID: 2
North/South: SR 99 NB On/Off Ramp
East/West: Lerdo Highway

Date: 12/11/19
City: Bakersfield, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
6:30	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 3
North/South: SR 65
East/West: Lerdo Highway

Date: 12/11/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
6:30	1	67	0	0	0	0	0	73	70	11	0	2	224
6:45	5	52	0	0	0	0	0	84	55	20	0	2	218
7:00	2	76	0	0	0	0	0	68	40	34	0	5	225
7:15	4	92	0	0	0	0	0	79	25	15	0	1	216
7:30	3	105	0	0	0	0	0	55	38	18	0	0	219
7:45	1	85	0	0	0	0	0	54	48	10	0	2	200
8:00	6	64	0	0	0	0	0	51	23	12	0	6	162
8:15	5	81	0	0	0	0	0	58	29	9	0	3	185
Total Volume:	27	622	0	0	0	0	0	522	328	129	0	21	1649
Approach %	4%	96%	0%	0%	0%	0%	0%	61%	39%	86%	0%	14%	
Peak Hr Begin:	6:30												
PHV	12	287	0	0	0	0	0	304	190	80	0	10	883
PHF	0.779			0.000			0.864			0.577			0.981

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 3
North/South: SR 65
East/West: Lerdo Highway

Date: 12/11/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	7	112	0	0	0	0	0	95	27	37	0	1	279
16:15	0	108	0	0	0	0	0	98	19	49	0	0	274
16:30	2	106	0	0	0	0	0	101	24	53	0	2	288
16:45	3	88	0	0	0	0	0	94	27	55	0	0	267
17:00	7	101	0	0	0	0	0	75	17	72	0	3	275
17:15	0	87	0	0	0	0	0	91	20	40	0	2	240
17:30	0	63	0	0	0	0	0	97	16	39	0	2	217
17:45	3	56	0	0	0	0	0	89	11	25	0	1	185
Total Volume:	22	721	0	0	0	0	0	740	161	370	0	11	2025
Approach %	3%	97%	0%	0%	0%	0%	0%	82%	18%	97%	0%	3%	
Peak Hr Begin:	16:00												
PHV	12	414	0	0	0	0	0	388	97	194	0	3	1108
PHF	0.895			0.000			0.970			0.895			0.962

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Location ID: 3
North/South: SR 65
East/West: Lerdo Highway

Date: 12/11/19
City: Bakersfield, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
6:30	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report AM

Location ID: 4
North/South: SR 65
East/West: James Road

Date: 12/11/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
6:30	0	64	19	43	0	1	12	108	1	1	0	0	249
6:45	0	55	11	29	0	6	16	94	1	1	0	0	213
7:00	0	95	22	28	1	2	22	88	2	2	0	0	262
7:15	0	86	18	35	0	4	15	62	1	2	0	0	223
7:30	0	99	28	32	1	2	25	56	0	2	0	0	245
7:45	0	76	24	26	0	11	28	64	1	5	0	1	236
8:00	0	60	11	24	0	8	22	71	0	1	0	0	197
8:15	0	73	14	34	2	14	21	62	0	1	2	0	223
Total Volume:	0	608	147	251	4	48	161	605	6	15	2	1	1848
Approach %	0%	81%	19%	83%	1%	16%	21%	78%	1%	83%	11%	6%	
Peak Hr Begin:	7:00												
PHV	0	356	92	121	2	19	90	270	4	11	0	1	966
PHF	0.882			0.910			0.813			0.500			0.922

Turning Movement Count Report PM

Location ID: 4
North/South: SR 65
East/West: James Road

Date: 12/11/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	1	97	55	33	0	11	11	98	1	1	1	0	309
16:15	1	106	55	25	1	6	8	85	6	2	1	0	296
16:30	0	105	60	27	0	13	6	101	3	1	1	0	317
16:45	0	80	59	18	0	8	10	100	0	3	1	0	279
17:00	1	91	68	17	0	17	5	79	0	1	0	0	279
17:15	0	90	56	18	1	7	2	92	0	1	0	0	267
17:30	0	59	37	21	1	4	3	99	2	1	0	0	227
17:45	0	62	28	8	1	5	4	94	1	1	0	0	204
Total Volume:	3	690	418	167	4	71	49	748	13	11	4	0	2178
Approach %	0%	62%	38%	69%	2%	29%	6%	92%	2%	73%	27%	0%	
Peak Hr Begin:	16:00												
PHV	2	388	229	103	1	38	35	384	10	7	4	0	1201
PHF	0.938			0.807			0.975			0.688			0.947

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Location ID: 4
North/South: SR 65
East/West: James Road

Date: 12/11/19
City: Bakersfield, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
6:30	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report AM

Location ID: 5
North/South: Quinn Road
East/West: 7th Standard Road/Merle Haggard Drive

Date: 11/13/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
6:30	21	0	22	14	123	0	13	47	92	64	165	39	600
6:45	12	0	7	16	141	0	20	42	78	62	170	80	628
7:00	14	0	9	12	150	0	19	16	62	94	147	46	569
7:15	24	0	11	10	132	0	18	16	67	96	194	48	616
7:30	14	0	17	6	156	0	23	10	76	91	170	23	586
7:45	29	0	10	16	136	0	21	25	89	72	212	60	670
8:00	24	0	7	14	107	0	20	14	63	58	201	37	545
8:15	25	0	10	11	122	0	22	17	48	36	122	29	442
Total Volume:	163	0	93	99	1067	0	156	187	575	573	1381	362	4656
Approach %	64%	0%	36%	8%	92%	0%	17%	20%	63%	25%	60%	16%	
Peak Hr Begin:	7:00												
PHV	81	0	47	44	574	0	81	67	294	353	723	177	2441
PHF	0.821			0.954			0.819			0.911			0.911

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 5
North/South: Quinn Road
East/West: 7th Standard Road/Merle Haggard Drive
Date: 11/13/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	59	0	35	10	213	0	13	13	120	32	167	22	684
16:15	41	0	27	7	195	0	11	18	73	57	173	22	624
16:30	40	0	28	4	200	0	13	5	74	35	190	14	603
16:45	44	0	17	4	218	0	16	8	68	56	184	12	627
17:00	84	0	34	4	177	0	16	11	83	59	172	15	655
17:15	14	0	14	3	187	0	14	13	67	54	192	14	572
17:30	30	0	9	5	171	0	15	11	53	72	173	27	566
17:45	19	0	11	4	164	0	19	7	61	53	119	22	479
Total Volume:	331	0	175	41	1525	0	117	86	599	418	1370	148	4810
Approach %	65%	0%	35%	3%	97%	0%	15%	11%	75%	22%	71%	8%	
Peak Hr Begin:	16:00												
PHV	184	0	107	25	826	0	53	44	335	180	714	70	2538
PHF	0.774			0.954			0.740			0.956			0.928

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Location ID: 5
North/South: Quinn Road
East/West: 7th Standard Road/Merle Haggard Drive
Date: 11/13/19
City: Bakersfield, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
6:30	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	2	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	2	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 1
North/South: SR 65
East/West: Imperial Street

Date: 11/13/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
6:30	0	52	0	0	0	0	0	152	0	1	0	5	210
6:45	0	115	1	0	0	1	0	140	4	4	0	5	270
7:00	1	141	0	0	0	0	0	106	3	2	0	0	253
7:15	4	175	0	0	0	0	0	92	4	3	0	2	280
7:30	1	134	0	0	0	0	0	116	3	0	0	1	255
7:45	2	138	0	0	0	0	0	97	2	0	0	3	242
8:00	2	106	0	0	0	0	0	111	1	2	0	2	224
8:15	0	87	0	0	0	0	0	95	0	2	0	3	187
Total Volume:	10	948	1	0	0	1	0	909	17	14	0	21	1921
Approach %	1%	99%	0%	0%	0%	100%	0%	98%	2%	40%	0%	60%	
Peak Hr Begin:	6:45												
PHV	6	565	1	0	0	1	0	454	14	9	0	8	1058
PHF	0.799			0.250			0.813			0.472			0.945

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 1
North/South: SR 65
East/West: Imperial Street

Date: 11/13/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	2	130	0	0	0	0	0	98	1	6	0	3	240
16:15	0	117	0	0	0	0	0	94	3	6	0	0	220
16:30	0	110	0	0	0	0	0	106	0	1	0	0	217
16:45	1	89	0	0	0	0	0	109	0	0	0	0	199
17:00	0	90	0	0	0	1	1	85	0	1	0	1	179
17:15	0	81	0	0	0	0	0	92	0	3	0	0	176
17:30	0	101	0	0	0	0	0	89	0	2	0	1	193
17:45	0	64	0	0	0	0	0	73	1	1	0	0	139
Total Volume:	3	782	0	0	0	1	1	746	5	20	0	5	1563
Approach %	0%	100%	0%	0%	0%	100%	0%	99%	1%	80%	0%	20%	
Peak Hr Begin:	16:00												
PHV	3	446	0	0	0	0	0	407	4	13	0	3	876
PHF	0.850			0.000			0.943			0.444			0.913

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Location ID: 1
North/South: SR 65
East/West: Imperial Street

Date: 11/13/19
City: Bakersfield, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
6:30	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

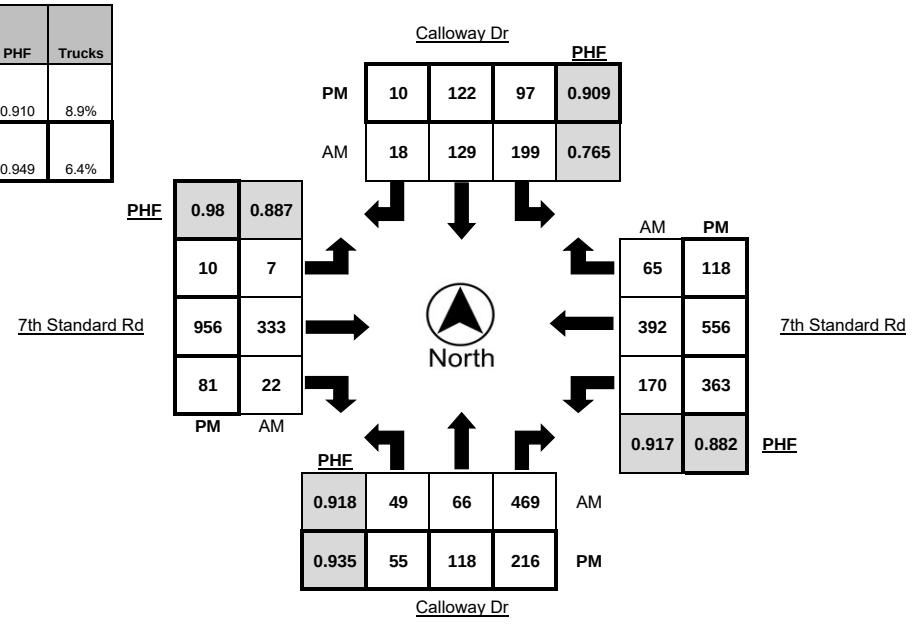
LOCATION 7th Standard Rd @ Calloway Dr
LATITUDE 35.4414
COUNTY Kern
LONGITUDE -119.1099
COLLECTION DATE Tuesday, March 23, 2021
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
5:00 AM - 5:15 AM	6	1	52	1	13	4	4	0	0	36	0	10	6	120	3	9
5:15 AM - 5:30 AM	11	0	55	1	16	3	3	0	0	26	1	4	4	158	2	15
5:30 AM - 5:45 AM	11	0	52	0	24	7	4	0	0	50	0	9	15	194	0	10
5:45 AM - 6:00 AM	12	1	65	1	17	1	3	0	1	57	2	11	10	222	0	5
6:00 AM - 6:15 AM	8	4	55	2	17	4	2	0	0	181	6	14	14	185	10	7
6:15 AM - 6:30 AM	12	7	82	2	20	8	5	0	3	197	2	19	19	129	15	8
6:30 AM - 6:45 AM	14	6	113	0	34	12	5	0	0	86	4	18	28	117	23	14
6:45 AM - 7:00 AM	16	5	124	2	28	17	2	0	0	93	5	18	28	143	25	21
7:00 AM - 7:15 AM	15	11	104	3	36	16	5	3	3	86	3	13	25	81	17	21
7:15 AM - 7:30 AM	20	14	125	4	42	31	7	1	3	91	4	17	41	91	11	23
7:30 AM - 7:45 AM	15	14	127	3	68	40	5	5	0	81	6	17	49	104	18	24
7:45 AM - 8:00 AM	4	16	117	3	56	44	5	2	3	92	7	22	45	100	14	16
8:00 AM - 8:15 AM	10	22	100	1	33	14	1	0	1	69	5	17	35	97	22	16
8:15 AM - 8:30 AM	16	13	83	3	23	13	2	1	1	72	4	15	38	77	11	23
8:30 AM - 8:45 AM	11	9	62	1	28	20	3	1	0	80	7	26	52	99	13	17
8:45 AM - 9:00 AM	12	19	63	2	22	15	0	3	1	72	4	19	34	69	13	21
TOTAL	**193**	**142**	**1379**	**29**	**477**	**249**	**56**	**16**	**16**	**1369**	**60**	**249**	**443**	**1986**	**197**	**250**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
3:00 PM - 3:15 PM	13	28	46	1	20	39	0	2	3	252	12	23	57	162	26	15
3:15 PM - 3:30 PM	13	25	56	0	30	27	5	0	2	234	26	19	102	159	33	14
3:30 PM - 3:45 PM	19	29	56	1	32	27	4	2	3	236	17	26	108	142	35	24
3:45 PM - 4:00 PM	10	36	58	3	15	29	1	0	2	234	26	29	96	93	24	13
4:00 PM - 4:15 PM	10	25	53	0	21	22	4	0	1	140	13	11	130	136	27	17
4:15 PM - 4:30 PM	15	20	45	2	26	24	2	1	1	123	23	18	127	104	31	11
4:30 PM - 4:45 PM	10	19	55	2	21	22	0	1	1	248	24	20	105	97	27	16
4:45 PM - 5:00 PM	13	17	51	1	14	37	2	0	4	131	28	13	114	75	17	15
5:00 PM - 5:15 PM	18	40	45	2	33	20	0	0	4	136	15	13	130	92	39	15
5:15 PM - 5:30 PM	20	34	55	1	32	25	5	0	6	117	24	15	129	91	31	14
5:30 PM - 5:45 PM	14	27	53	1	18	18	5	0	2	115	17	13	116	65	38	15
5:45 PM - 6:00 PM	14	30	50	3	17	26	3	1	0	100	18	21	95	77	31	12
6:00 PM - 6:15 PM	8	24	56	0	13	23	1	0	2	52	8	9	95	53	24	12
6:15 PM - 6:30 PM	15	22	55	1	7	12	2	0	1	73	10	16	63	70	24	14
6:30 PM - 6:45 PM	11	23	47	1	17	14	4	0	1	55	9	12	61	37	19	10
6:45 PM - 7:00 PM	5	29	40	0	14	17	2	1	0	49	5	12	49	39	23	9
TOTAL	**208**	**428**	**821**	**19**	**330**	**382**	**40**	**8**	**33**	**2295**	**275**	**270**	**1577**	**1492**	**449**	**226**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:15 AM - 8:15 AM	49	66	469	11	199	129	18	8	7	333	22	73	170	392	65	79
3:00 PM - 4:00 PM	55	118	216	5	97	122	10	4	10	956	81	97	363	556	118	66

	PHF	Trucks
AM	0.910	8.9%
PM	0.949	6.4%



Metro Traffic Data Inc.
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Hanford, CA 93230

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Turning Movement Report

Prepared For:
Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

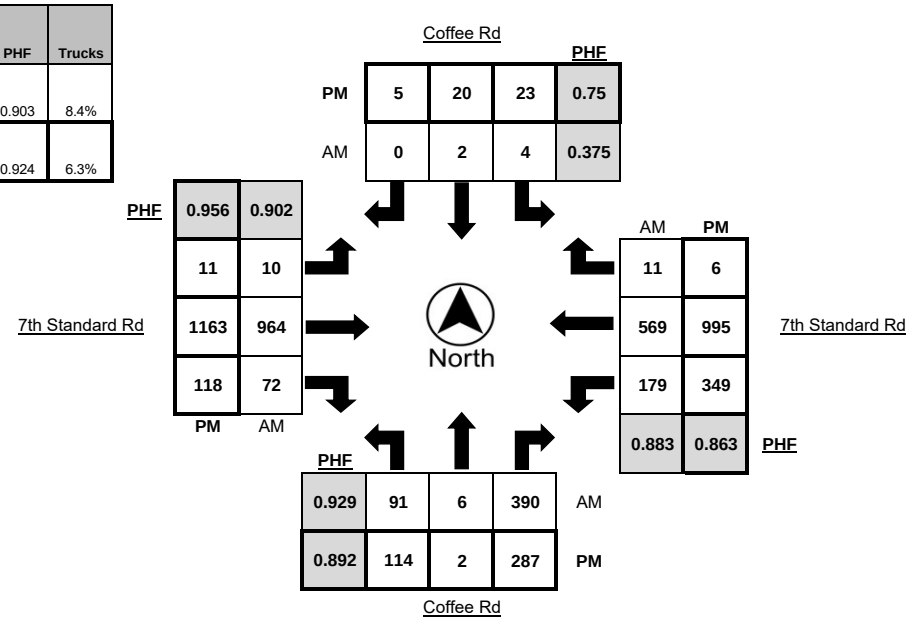
LOCATION Coffee Rd @ 7th Standard Rd
LATITUDE 35.4413
COUNTY Kern
LONGITUDE -119.0922
COLLECTION DATE Tuesday, March 23, 2021
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
5:00 AM - 5:15 AM	13	1	37	3	0	0	6	0	0	90	3	10	8	114	0	14
5:15 AM - 5:30 AM	15	1	40	6	3	0	5	4	0	94	1	6	6	138	1	12
5:30 AM - 5:45 AM	26	0	48	2	1	0	1	1	0	118	6	8	16	205	4	9
5:45 AM - 6:00 AM	21	2	53	5	1	0	0	0	1	135	8	11	18	215	3	8
6:00 AM - 6:15 AM	14	0	70	1	3	0	2	3	0	216	13	12	11	201	2	5
6:15 AM - 6:30 AM	16	2	74	2	0	0	0	0	0	304	14	22	22	152	0	5
6:30 AM - 6:45 AM	10	2	77	4	0	0	0	0	2	221	9	19	35	178	1	15
6:45 AM - 7:00 AM	26	1	114	0	1	0	0	0	4	261	9	22	23	180	3	20
7:00 AM - 7:15 AM	10	3	99	4	1	0	0	0	2	202	9	17	29	105	5	24
7:15 AM - 7:30 AM	23	2	88	4	2	0	0	0	3	251	11	20	36	132	2	21
7:30 AM - 7:45 AM	23	0	108	7	0	0	0	0	2	270	18	21	58	152	5	31
7:45 AM - 8:00 AM	23	3	93	3	0	0	0	0	1	250	29	28	51	143	2	17
8:00 AM - 8:15 AM	22	1	101	3	2	2	0	0	4	193	14	15	34	142	2	24
8:15 AM - 8:30 AM	10	1	85	5	0	2	0	0	1	168	10	16	43	114	7	26
8:30 AM - 8:45 AM	17	1	68	5	3	0	1	1	4	156	13	26	56	133	5	16
8:45 AM - 9:00 AM	10	1	75	6	4	0	1	0	0	154	9	27	50	112	3	23
TOTAL	**279**	**21**	**1230**	**60**	**21**	**4**	**16**	**9**	**24**	**3083**	**176**	**280**	**496**	**2416**	**45**	**270**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
3:00 PM - 3:15 PM	39	0	74	5	8	6	2	1	7	257	25	28	80	226	3	21
3:15 PM - 3:30 PM	27	1	73	2	2	3	2	0	1	300	37	19	87	304	0	18
3:30 PM - 3:45 PM	29	0	68	2	9	7	0	2	0	299	32	28	77	247	2	22
3:45 PM - 4:00 PM	19	1	72	1	4	4	1	1	3	307	24	29	105	218	1	17
4:00 PM - 4:15 PM	25	0	68	2	4	6	1	1	0	180	28	13	116	293	3	18
4:15 PM - 4:30 PM	28	1	48	1	2	2	0	0	0	190	23	22	83	233	0	16
4:30 PM - 4:45 PM	21	1	77	2	1	0	3	0	0	275	23	15	110	213	0	20
4:45 PM - 5:00 PM	26	0	67	2	3	1	3	0	1	176	26	16	96	186	2	14
5:00 PM - 5:15 PM	29	0	68	1	5	1	4	0	2	216	15	17	119	259	2	13
5:15 PM - 5:30 PM	27	0	77	2	5	4	3	0	5	196	21	14	95	241	0	18
5:30 PM - 5:45 PM	22	0	79	0	1	1	0	0	1	167	22	12	71	188	1	16
5:45 PM - 6:00 PM	27	0	75	0	4	1	2	0	0	138	23	25	96	185	0	12
6:00 PM - 6:15 PM	29	2	57	3	0	1	0	0	1	115	8	10	78	160	2	11
6:15 PM - 6:30 PM	19	0	57	1	1	1	1	0	1	126	14	16	59	120	0	16
6:30 PM - 6:45 PM	16	0	44	1	1	1	0	0	1	103	16	13	52	112	2	12
6:45 PM - 7:00 PM	14	0	46	1	2	1	0	1	2	99	5	12	48	94	0	14
TOTAL	**397**	**6**	**1050**	**26**	**52**	**40**	**22**	**6**	**25**	**3144**	**342**	**289**	**1372**	**3279**	**18**	**258**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:15 AM - 8:15 AM	91	6	390	17	4	2	0	0	10	964	72	84	179	569	11	93
3:00 PM - 4:00 PM	114	2	287	10	23	20	5	4	11	1163	118	104	349	995	6	78

	PHF	Trucks
AM	0.903	8.4%
PM	0.924	6.3%



Metro Traffic Data Inc.
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Hanford, CA 93230

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Turning Movement Report

Prepared For:
Ruettgers & Schuler Civil Engineers
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Bakersfield, CA 93301

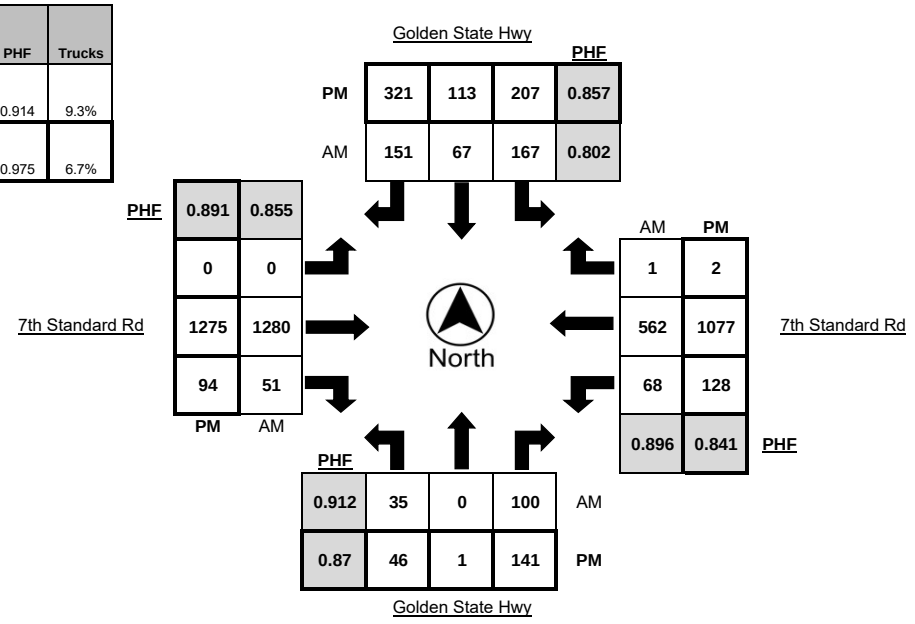
LOCATION 7th Standard Rd @ Golden State Hwy
LATITUDE 35.4411
COUNTY Kern
LONGITUDE -119.0866
COLLECTION DATE Tuesday, March 23, 2021
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
5:00 AM - 5:15 AM	6	0	13	0	15	2	6	3	0	128	3	9	2	115	0	25
5:15 AM - 5:30 AM	13	0	7	2	15	1	5	3	0	137	1	9	3	127	0	22
5:30 AM - 5:45 AM	20	0	8	2	22	1	12	1	0	171	3	1	7	180	0	14
5:45 AM - 6:00 AM	12	0	12	0	33	5	12	2	0	201	6	16	5	221	0	17
6:00 AM - 6:15 AM	20	0	15	2	24	3	8	1	1	281	7	11	4	188	0	9
6:15 AM - 6:30 AM	9	0	8	5	25	7	25	2	0	396	9	20	5	142	1	16
6:30 AM - 6:45 AM	8	0	14	1	34	10	30	3	0	281	8	19	4	160	0	24
6:45 AM - 7:00 AM	15	0	22	3	46	10	22	5	1	361	17	16	14	157	2	25
7:00 AM - 7:15 AM	3	0	26	5	23	6	22	4	0	268	12	20	17	104	0	25
7:15 AM - 7:30 AM	13	0	24	3	30	19	33	10	0	314	8	21	17	115	0	24
7:30 AM - 7:45 AM	8	0	23	4	39	15	44	10	0	372	17	19	10	147	0	23
7:45 AM - 8:00 AM	10	0	27	6	50	25	45	12	0	329	17	23	25	150	1	23
8:00 AM - 8:15 AM	4	0	26	5	48	8	29	5	0	265	9	19	16	150	0	23
8:15 AM - 8:30 AM	4	0	47	5	42	7	32	8	1	221	8	17	19	136	0	24
8:30 AM - 8:45 AM	8	0	28	6	36	2	35	9	1	215	12	23	16	151	0	14
8:45 AM - 9:00 AM	5	0	30	5	42	4	27	5	0	208	6	29	14	125	0	22
TOTAL	**158**	**0**	**330**	**54**	**524**	**125**	**387**	**83**	**4**	**4148**	**143**	**272**	**178**	**2368**	**4**	**330**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
3:00 PM - 3:15 PM	13	0	21	1	33	12	50	6	0	333	24	22	40	275	0	26
3:15 PM - 3:30 PM	13	0	32	5	38	25	75	11	0	360	24	14	25	280	1	18
3:30 PM - 3:45 PM	8	0	29	3	57	24	68	16	0	348	29	30	28	266	0	23
3:45 PM - 4:00 PM	14	1	37	2	57	37	93	12	0	346	20	22	32	215	1	19
4:00 PM - 4:15 PM	11	0	43	6	55	27	85	11	0	221	21	16	43	316	0	19
4:15 PM - 4:30 PM	8	0	44	5	51	35	81	6	0	239	21	17	37	249	0	19
4:30 PM - 4:45 PM	9	0	30	4	57	29	80	8	0	301	24	14	27	211	0	17
4:45 PM - 5:00 PM	3	0	39	2	48	31	88	5	0	230	19	20	24	223	0	16
5:00 PM - 5:15 PM	15	0	36	2	55	24	75	6	0	247	19	13	42	261	1	16
5:15 PM - 5:30 PM	11	0	21	3	55	27	80	13	0	264	15	12	30	259	1	22
5:30 PM - 5:45 PM	3	0	27	0	55	17	54	3	0	216	25	10	20	217	0	19
5:45 PM - 6:00 PM	5	0	20	6	38	17	69	8	0	189	10	24	23	198	0	10
6:00 PM - 6:15 PM	4	0	19	3	30	7	47	6	1	153	7	11	19	193	1	14
6:15 PM - 6:30 PM	5	0	11	3	30	6	45	9	0	171	7	10	16	122	0	15
6:30 PM - 6:45 PM	1	0	11	0	22	7	43	7	0	132	8	13	15	130	0	14
6:45 PM - 7:00 PM	3	0	13	1	15	6	30	4	0	141	14	8	7	104	0	12
TOTAL	**126**	**1**	**433**	**46**	**696**	**331**	**1063**	**131**	**1**	**3891**	**287**	**256**	**428**	**3519**	**5**	**279**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:15 AM - 8:15 AM	35	0	100	18	167	67	151	37	0	1280	51	82	68	562	1	93
3:15 PM - 4:15 PM	46	1	141	16	207	113	321	50	0	1275	94	82	128	1077	2	79

	PHF	Trucks
AM	0.914	9.3%
PM	0.975	6.7%



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Bakersfield, CA 93301

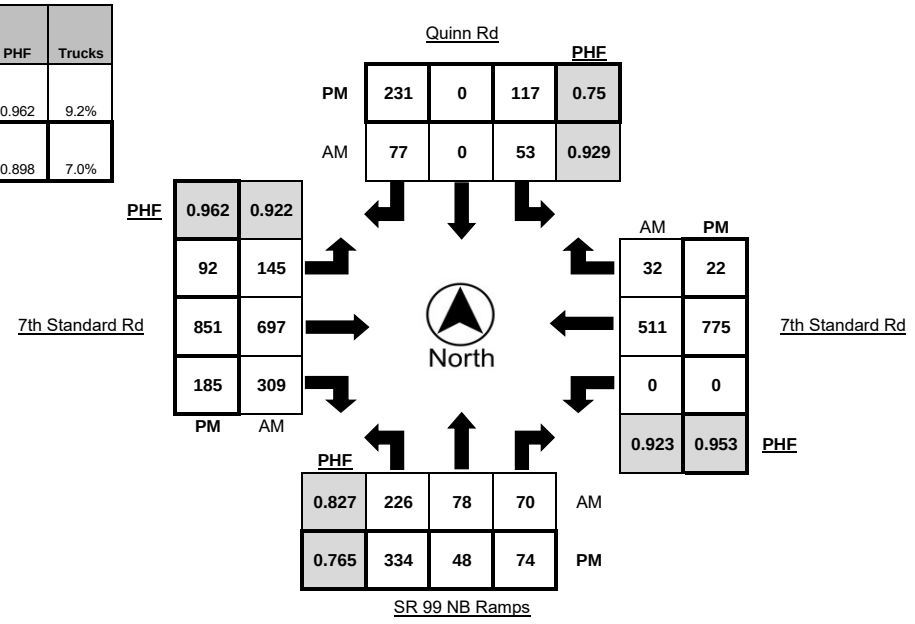
LOCATION 7th Standard Rd @ Quinn Rd / SR 99 NB Offramp
LATITUDE 35.4414
COUNTY Kern
LONGITUDE -119.0818
COLLECTION DATE Tuesday, March 23, 2021
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
5:00 AM - 5:15 AM	52	23	8	15	4	0	14	4	10	61	44	6	0	83	3	9
5:15 AM - 5:30 AM	75	13	8	15	2	0	12	4	22	72	43	12	0	88	3	11
5:30 AM - 5:45 AM	124	25	6	8	4	0	14	3	24	86	38	7	0	112	3	13
5:45 AM - 6:00 AM	150	45	10	9	8	0	10	0	35	111	38	10	0	105	5	9
6:00 AM - 6:15 AM	123	18	8	7	5	0	12	2	30	124	54	9	0	106	3	6
6:15 AM - 6:30 AM	82	29	13	13	5	0	13	0	40	115	68	18	0	102	11	5
6:30 AM - 6:45 AM	91	34	13	8	9	0	16	7	40	156	59	12	0	129	12	14
6:45 AM - 7:00 AM	84	44	14	13	6	0	13	8	82	172	82	13	0	109	21	19
7:00 AM - 7:15 AM	52	22	9	13	9	0	22	7	32	141	70	14	0	92	10	11
7:15 AM - 7:30 AM	44	22	17	9	10	0	21	6	33	151	91	15	0	133	12	17
7:30 AM - 7:45 AM	57	10	21	12	15	0	20	5	32	166	84	16	0	128	4	17
7:45 AM - 8:00 AM	61	34	18	20	13	0	16	0	38	174	70	22	0	139	8	15
8:00 AM - 8:15 AM	64	12	14	12	15	0	20	2	42	206	64	17	0	111	8	17
8:15 AM - 8:30 AM	60	12	16	17	11	0	19	0	32	189	32	13	0	98	8	13
8:30 AM - 8:45 AM	56	10	10	13	18	0	25	8	20	154	37	18	0	119	8	9
8:45 AM - 9:00 AM	43	12	18	12	10	0	15	1	22	156	40	17	0	132	17	11
TOTAL	**1218**	**365**	**203**	**196**	**144**	**0**	**262**	**57**	**534**	**2234**	**914**	**219**	**0**	**1786**	**136**	**196**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
3:00 PM - 3:15 PM	135	18	16	24	21	0	34	8	29	155	47	17	0	172	8	8
3:15 PM - 3:30 PM	118	13	23	13	16	0	42	2	31	163	58	12	0	166	8	7
3:30 PM - 3:45 PM	68	12	12	14	34	0	59	8	35	210	42	18	0	198	8	15
3:45 PM - 4:00 PM	71	13	18	18	22	0	50	1	22	217	54	14	0	176	6	11
4:00 PM - 4:15 PM	112	13	24	15	37	0	79	1	23	215	48	16	0	206	3	4
4:15 PM - 4:30 PM	83	10	20	19	24	0	43	4	12	209	41	20	0	195	5	12
4:30 PM - 4:45 PM	68	10	14	13	33	0	54	4	23	209	50	13	0	184	6	10
4:45 PM - 5:00 PM	66	10	18	14	21	0	25	5	20	191	41	11	0	159	2	9
5:00 PM - 5:15 PM	65	3	20	12	42	0	83	2	22	200	47	14	0	212	2	4
5:15 PM - 5:30 PM	83	7	10	13	10	0	30	2	13	176	66	17	0	213	2	13
5:30 PM - 5:45 PM	72	13	18	16	11	0	26	2	9	185	50	7	0	157	4	7
5:45 PM - 6:00 PM	50	8	13	12	9	0	28	2	16	151	45	12	0	201	5	6
6:00 PM - 6:15 PM	52	3	15	12	19	0	24	2	9	129	43	7	0	166	5	1
6:15 PM - 6:30 PM	40	3	4	10	11	0	9	1	11	96	45	11	0	110	4	6
6:30 PM - 6:45 PM	43	6	6	8	5	0	14	0	3	107	38	12	0	106	8	2
6:45 PM - 7:00 PM	49	3	13	11	8	0	5	0	5	102	27	4	0	78	6	4
TOTAL	**1175**	**145**	**244**	**224**	**323**	**0**	**605**	**44**	**283**	**2715**	**742**	**205**	**0**	**2699**	**82**	**119**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:15 AM - 8:15 AM	226	78	70	53	53	0	77	13	145	697	309	70	0	511	32	66
3:30 PM - 4:30 PM	334	48	74	66	117	0	231	14	92	851	185	68	0	775	22	42

	PHF	Trucks
AM	0.962	9.2%
PM	0.898	7.0%



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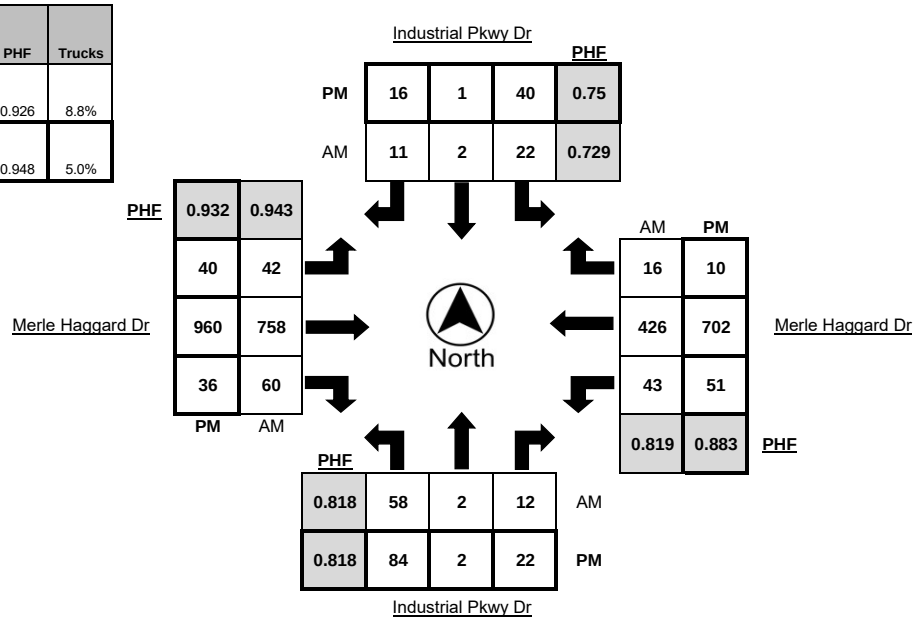
LOCATION Merle Haggard Dr @ Industry Pkwy Dr
LATITUDE 35.4414
COUNTY Kern
LONGITUDE -119.0787
COLLECTION DATE Tuesday, March 23, 2021
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
5:00 AM - 5:15 AM	6	0	1	1	0	0	0	0	5	71	1	8	0	84	0	11
5:15 AM - 5:30 AM	5	0	0	1	2	0	0	0	2	79	0	8	3	89	0	12
5:30 AM - 5:45 AM	6	1	1	0	1	0	0	0	4	87	0	7	4	113	0	14
5:45 AM - 6:00 AM	3	0	1	0	4	0	1	2	4	122	3	4	5	97	1	9
6:00 AM - 6:15 AM	3	0	0	0	2	0	0	0	9	133	4	13	8	102	1	8
6:15 AM - 6:30 AM	11	0	1	0	1	1	0	1	12	123	3	14	10	108	4	5
6:30 AM - 6:45 AM	11	1	1	3	2	0	1	0	15	179	3	11	5	118	3	12
6:45 AM - 7:00 AM	15	1	5	1	1	0	2	1	21	158	10	9	6	118	9	21
7:00 AM - 7:15 AM	9	1	3	1	1	0	2	0	8	148	8	15	8	89	4	10
7:15 AM - 7:30 AM	19	0	2	1	8	0	3	1	6	147	18	19	8	119	7	15
7:30 AM - 7:45 AM	18	0	4	0	5	0	1	1	8	175	11	14	9	121	3	13
7:45 AM - 8:00 AM	13	1	2	1	6	1	3	0	12	182	24	19	16	125	7	18
8:00 AM - 8:15 AM	13	0	3	2	4	0	3	0	10	197	13	17	6	87	4	18
8:15 AM - 8:30 AM	14	1	3	3	7	1	4	1	12	204	12	11	12	93	2	10
8:30 AM - 8:45 AM	6	3	3	0	4	0	4	1	10	151	11	12	19	113	4	10
8:45 AM - 9:00 AM	10	1	4	1	4	1	1	0	10	156	10	14	13	124	6	12
TOTAL	**162**	**10**	**34**	**15**	**52**	**4**	**25**	**8**	**148**	**2312**	**131**	**195**	**132**	**1700**	**55**	**198**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
3:00 PM - 3:15 PM	17	2	5	5	6	0	2	1	13	170	5	11	11	157	3	6
3:15 PM - 3:30 PM	18	1	6	1	9	0	0	0	14	194	8	12	11	149	1	7
3:30 PM - 3:45 PM	26	0	7	1	14	0	5	1	9	226	11	15	14	200	2	15
3:45 PM - 4:00 PM	20	1	3	4	5	1	2	0	11	241	6	10	12	154	2	10
4:00 PM - 4:15 PM	17	1	5	0	14	0	3	1	10	252	16	9	12	182	6	6
4:15 PM - 4:30 PM	21	0	7	3	7	0	6	0	10	241	3	13	13	166	0	11
4:30 PM - 4:45 PM	15	0	6	3	11	0	3	0	14	247	4	12	10	158	4	10
4:45 PM - 5:00 PM	16	0	2	1	5	0	5	0	16	221	3	11	12	137	3	8
5:00 PM - 5:15 PM	22	0	7	4	12	1	6	0	17	238	6	10	12	173	4	5
5:15 PM - 5:30 PM	19	0	7	0	2	0	2	0	7	194	9	10	18	180	0	12
5:30 PM - 5:45 PM	24	0	9	2	7	1	0	0	8	197	8	7	11	141	2	7
5:45 PM - 6:00 PM	19	0	5	2	6	0	2	0	14	164	3	9	21	168	5	6
6:00 PM - 6:15 PM	17	0	3	0	6	1	1	0	10	173	1	6	12	162	1	1
6:15 PM - 6:30 PM	10	0	4	1	4	0	5	3	11	114	4	8	14	80	2	3
6:30 PM - 6:45 PM	14	0	3	2	4	0	0	0	10	114	1	11	4	93	1	6
6:45 PM - 7:00 PM	11	0	1	2	2	0	1	1	8	112	0	0	8	74	0	6
TOTAL	**286**	**5**	**80**	**31**	**114**	**4**	**43**	**7**	**182**	**3098**	**88**	**154**	**195**	**2374**	**36**	**119**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	58	2	12	6	22	2	11	2	42	758	60	61	43	426	16	59
3:30 PM - 4:30 PM	84	2	22	8	40	1	16	2	40	960	36	47	51	702	10	42

	PHF	Trucks
AM	0.926	8.8%
PM	0.948	5.0%



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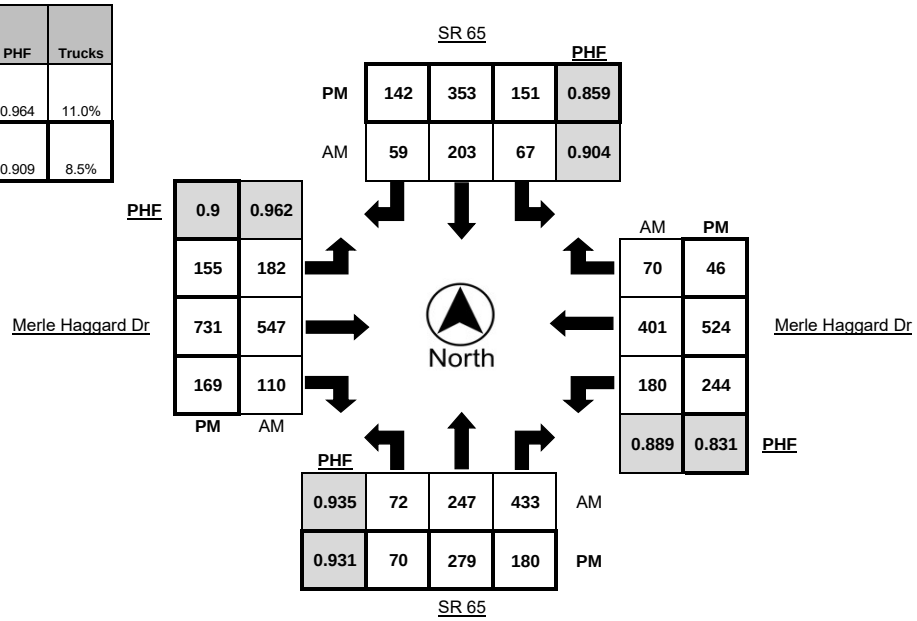
LOCATION SR 65 @ Merle Haggard Dr
LATITUDE 35.4414
COUNTY Kern
LONGITUDE -119.0747
COLLECTION DATE Tuesday, March 23, 2021
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
5:00 AM - 5:15 AM	12	50	40	14	7	23	9	18	23	39	7	7	19	64	8	13
5:15 AM - 5:30 AM	7	47	36	17	5	19	3	5	24	57	5	8	20	75	13	22
5:30 AM - 5:45 AM	12	73	45	17	10	40	14	14	30	65	10	5	23	84	13	17
5:45 AM - 6:00 AM	12	104	73	15	3	23	10	12	37	83	6	5	25	85	29	16
6:00 AM - 6:15 AM	12	117	53	16	16	59	12	22	51	82	17	13	30	83	12	10
6:15 AM - 6:30 AM	14	127	47	14	11	45	10	15	45	70	10	12	23	88	15	8
6:30 AM - 6:45 AM	24	124	64	13	12	62	11	19	63	92	23	10	47	92	26	18
6:45 AM - 7:00 AM	9	91	86	20	10	61	20	22	68	108	16	15	39	101	18	19
7:00 AM - 7:15 AM	20	102	54	28	17	48	15	13	48	85	18	15	39	77	12	18
7:15 AM - 7:30 AM	28	85	61	14	21	76	20	22	55	111	21	17	37	99	23	18
7:30 AM - 7:45 AM	14	91	68	27	11	70	12	22	52	113	23	19	32	106	18	12
7:45 AM - 8:00 AM	22	78	94	22	14	48	17	17	51	136	31	21	38	121	17	20
8:00 AM - 8:15 AM	14	72	115	26	14	57	15	24	46	144	23	17	46	77	20	19
8:15 AM - 8:30 AM	17	60	96	17	20	38	15	16	40	135	33	6	37	90	22	14
8:30 AM - 8:45 AM	19	37	128	13	19	60	12	23	45	132	23	14	59	113	11	14
8:45 AM - 9:00 AM	33	44	112	17	22	60	24	21	29	140	28	16	51	104	16	16
TOTAL	**269**	**1302**	**1172**	**290**	**212**	**789**	**219**	**285**	**707**	**1592**	**294**	**200**	**565**	**1459**	**273**	**254**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
3:00 PM - 3:15 PM	20	46	43	17	38	70	35	17	39	139	36	15	68	123	13	7
3:15 PM - 3:30 PM	17	80	44	31	19	69	32	17	38	140	44	9	57	115	12	12
3:30 PM - 3:45 PM	18	69	40	16	35	105	32	24	40	210	43	17	73	161	11	18
3:45 PM - 4:00 PM	19	75	48	27	39	84	43	14	28	191	43	12	48	118	11	11
4:00 PM - 4:15 PM	16	55	48	18	58	95	35	14	49	190	39	9	66	130	12	10
4:15 PM - 4:30 PM	16	39	35	10	29	56	41	15	47	187	41	13	40	119	10	12
4:30 PM - 4:45 PM	12	63	47	23	31	101	32	19	48	184	44	18	63	113	8	10
4:45 PM - 5:00 PM	13	62	61	18	40	72	26	14	31	192	28	13	40	116	10	8
5:00 PM - 5:15 PM	9	52	61	14	28	90	21	15	39	166	47	10	119	157	11	7
5:15 PM - 5:30 PM	25	44	67	10	23	72	28	14	31	184	22	13	60	142	7	15
5:30 PM - 5:45 PM	7	55	92	16	21	50	19	9	44	179	27	6	96	163	9	8
5:45 PM - 6:00 PM	19	39	88	14	25	60	39	13	31	120	27	12	97	109	7	10
6:00 PM - 6:15 PM	10	36	60	11	17	52	20	7	29	142	35	4	91	129	13	9
6:15 PM - 6:30 PM	7	42	39	14	15	45	16	13	34	94	28	8	37	74	9	9
6:30 PM - 6:45 PM	10	39	31	11	10	54	16	13	31	82	13	11	29	72	8	6
6:45 PM - 7:00 PM	11	35	22	14	10	36	8	5	30	80	11	3	30	62	7	13
TOTAL	**229**	**831**	**826**	**264**	**438**	**1111**	**443**	**223**	**589**	**2480**	**528**	**173**	**1014**	**1903**	**158**	**165**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:45 AM - 8:45 AM	72	247	433	78	67	203	59	80	182	547	110	58	180	401	70	67
3:15 PM - 4:15 PM	70	279	180	92	151	353	142	69	155	731	169	47	244	524	46	51

	PHF	Trucks
AM	0.964	11.0%
PM	0.909	8.5%



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Turning Movement Report

Prepared For:
Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

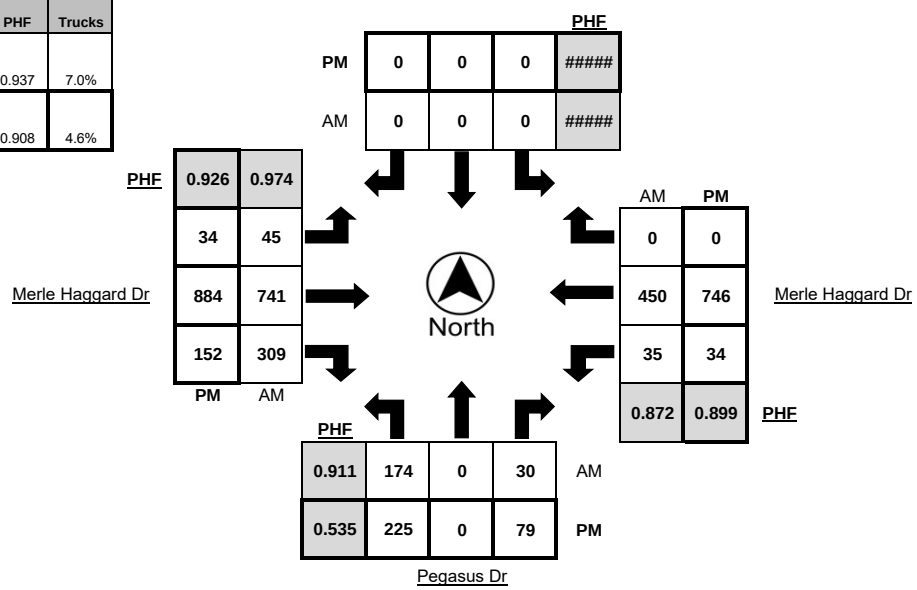
LOCATION Merle Haggard Dr @ Pegasus Dr
LATITUDE 35.4413
COUNTY Kern
LONGITUDE -119.0728
COLLECTION DATE Tuesday, March 23, 2021
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
5:00 AM - 5:15 AM	18	0	3	10	0	0	0	0	4	53	24	14	4	83	0	7
5:15 AM - 5:30 AM	17	0	1	8	0	0	0	0	6	54	41	8	2	91	0	11
5:30 AM - 5:45 AM	22	0	3	7	0	0	0	0	15	66	38	8	4	104	0	7
5:45 AM - 6:00 AM	29	0	2	10	0	0	0	0	10	73	71	5	17	94	0	8
6:00 AM - 6:15 AM	29	0	5	3	0	0	0	0	8	94	38	12	8	99	0	8
6:15 AM - 6:30 AM	28	0	3	2	0	0	0	0	18	73	38	14	7	84	0	5
6:30 AM - 6:45 AM	47	0	7	8	0	0	0	0	20	87	56	10	6	119	0	13
6:45 AM - 7:00 AM	21	0	5	5	0	0	0	0	22	89	102	12	10	110	0	11
7:00 AM - 7:15 AM	32	0	4	10	0	0	0	0	16	84	73	17	9	91	0	8
7:15 AM - 7:30 AM	42	0	4	16	0	0	0	0	8	103	76	17	12	107	0	5
7:30 AM - 7:45 AM	35	0	4	3	0	0	0	0	13	100	86	15	10	123	0	9
7:45 AM - 8:00 AM	49	0	1	12	0	0	0	0	7	116	121	22	26	108	0	9
8:00 AM - 8:15 AM	42	0	5	7	0	0	0	0	15	159	104	18	9	91	0	11
8:15 AM - 8:30 AM	45	0	3	8	0	0	0	0	9	172	79	13	12	101	0	8
8:30 AM - 8:45 AM	45	0	11	11	0	0	0	0	14	196	71	7	8	131	0	7
8:45 AM - 9:00 AM	42	0	11	9	0	0	0	0	7	214	55	16	6	127	0	9
TOTAL	**543**	**0**	**72**	**129**	**0**	**0**	**0**	**0**	**192**	**1733**	**1073**	**208**	**150**	**1663**	**0**	**136**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
3:00 PM - 3:15 PM	72	0	10	5	0	0	0	0	11	155	57	12	14	137	0	6
3:15 PM - 3:30 PM	59	0	13	4	0	0	0	0	8	141	54	16	10	119	0	9
3:30 PM - 3:45 PM	84	0	16	3	0	0	0	0	10	176	83	24	10	153	0	14
3:45 PM - 4:00 PM	56	0	21	3	0	0	0	0	10	208	60	16	10	125	0	8
4:00 PM - 4:15 PM	96	0	21	8	0	0	0	0	2	236	73	15	8	127	0	4
4:15 PM - 4:30 PM	46	0	22	6	0	0	0	0	4	186	57	6	10	109	0	8
4:30 PM - 4:45 PM	85	0	26	2	0	0	0	0	12	206	59	15	5	95	0	8
4:45 PM - 5:00 PM	65	0	20	3	0	0	0	0	3	214	57	16	5	106	0	5
5:00 PM - 5:15 PM	108	0	34	2	0	0	0	0	10	209	41	13	9	182	0	4
5:15 PM - 5:30 PM	46	0	17	5	0	0	0	0	8	228	39	15	11	171	0	12
5:30 PM - 5:45 PM	41	0	15	6	0	0	0	0	8	243	38	14	6	211	0	4
5:45 PM - 6:00 PM	30	0	13	7	0	0	0	0	8	204	34	14	8	182	0	4
6:00 PM - 6:15 PM	38	0	8	8	0	0	0	0	10	195	19	9	7	194	0	1
6:15 PM - 6:30 PM	22	0	5	7	0	0	0	0	4	112	27	12	3	83	0	3
6:30 PM - 6:45 PM	14	0	8	4	0	0	0	0	6	100	20	14	4	85	0	3
6:45 PM - 7:00 PM	22	0	1	9	0	0	0	0	2	92	15	7	7	72	0	4
TOTAL	**884**	**0**	**250**	**82**	**0**	**0**	**0**	**0**	**116**	**2905**	**733**	**218**	**127**	**2151**	**0**	**97**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
8:00 AM - 9:00 AM	174	0	30	35	0	0	0	0	45	741	309	54	35	450	0	35
5:00 PM - 6:00 PM	225	0	79	20	0	0	0	0	34	884	152	56	34	746	0	24

	PHF	Trucks
AM	0.937	7.0%
PM	0.908	4.6%



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Bakersfield, CA 93301

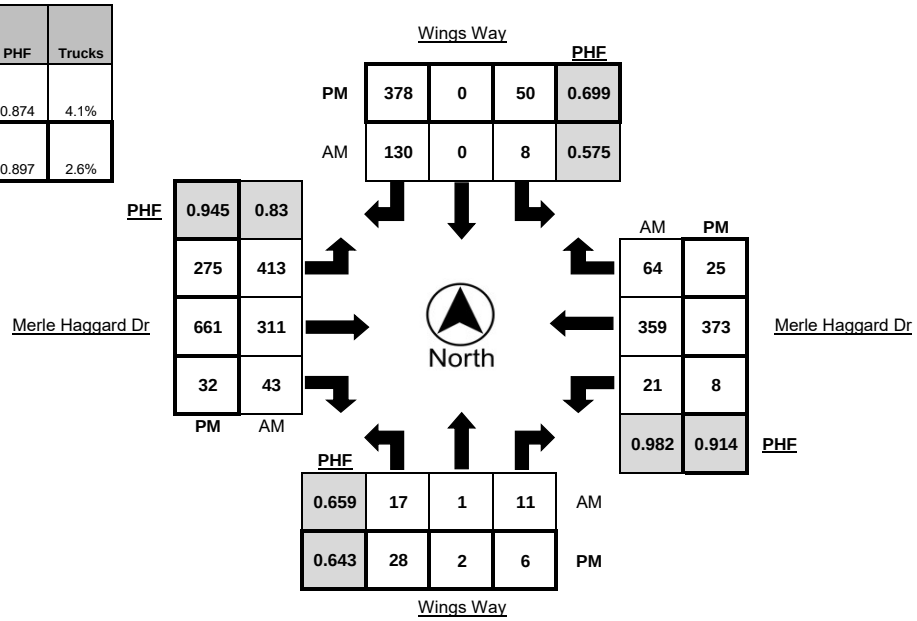
LOCATION Merle Haggard Dr @ Wings Way
LATITUDE 35.4413
COUNTY Kern
LONGITUDE -119.0523
COLLECTION DATE Tuesday, March 23, 2021
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
5:00 AM - 5:15 AM	9	0	2	0	1	0	16	2	10	26	18	5	0	61	0	3
5:15 AM - 5:30 AM	6	0	2	0	0	0	12	0	9	40	8	5	2	93	0	16
5:30 AM - 5:45 AM	6	0	0	0	0	0	11	0	7	44	12	1	0	90	0	3
5:45 AM - 6:00 AM	7	0	2	0	1	0	3	1	12	60	12	5	3	101	0	5
6:00 AM - 6:15 AM	9	0	3	0	0	0	7	3	2	88	10	9	1	92	0	8
6:15 AM - 6:30 AM	6	0	0	0	0	0	5	1	9	65	0	13	4	92	0	6
6:30 AM - 6:45 AM	0	0	3	0	0	1	9	3	5	81	3	8	0	111	0	10
6:45 AM - 7:00 AM	1	0	1	0	2	0	8	4	20	77	1	5	1	125	0	9
7:00 AM - 7:15 AM	6	0	1	0	1	0	5	1	7	68	6	9	0	88	0	7
7:15 AM - 7:30 AM	4	0	0	0	1	0	11	2	17	92	5	10	2	117	0	6
7:30 AM - 7:45 AM	3	0	1	0	0	0	14	0	18	67	5	6	0	123	2	7
7:45 AM - 8:00 AM	4	0	0	1	1	0	6	0	36	80	8	10	1	120	1	9
8:00 AM - 8:15 AM	1	0	1	0	1	0	15	4	71	81	5	9	6	96	6	6
8:15 AM - 8:30 AM	6	0	3	1	0	0	16	4	91	77	15	5	6	95	12	4
8:30 AM - 8:45 AM	6	0	5	0	3	0	57	3	114	72	10	5	7	86	20	4
8:45 AM - 9:00 AM	4	1	2	0	4	0	42	3	137	81	13	6	2	82	26	3
TOTAL	**78**	**1**	**26**	**2**	**15**	**1**	**237**	**31**	**565**	**1099**	**131**	**111**	**35**	**1572**	**67**	**106**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
3:00 PM - 3:15 PM	11	0	4	0	1	0	17	2	7	145	9	6	1	120	0	4
3:15 PM - 3:30 PM	11	0	3	0	1	0	24	6	15	137	13	9	5	106	1	7
3:30 PM - 3:45 PM	18	0	7	0	2	0	17	4	11	160	13	9	10	109	2	4
3:45 PM - 4:00 PM	14	0	12	0	1	0	20	4	12	212	16	9	5	108	1	3
4:00 PM - 4:15 PM	13	0	8	0	2	1	16	1	18	214	13	7	3	98	1	5
4:15 PM - 4:30 PM	7	0	4	0	0	0	11	3	16	207	2	8	3	94	0	4
4:30 PM - 4:45 PM	4	1	5	0	1	1	22	5	21	188	8	11	1	81	1	2
4:45 PM - 5:00 PM	4	1	1	1	3	0	19	4	51	194	4	9	1	88	3	3
5:00 PM - 5:15 PM	11	0	0	0	8	0	81	5	49	186	6	5	3	107	1	1
5:15 PM - 5:30 PM	5	1	1	0	5	0	59	7	51	187	5	8	2	97	4	3
5:30 PM - 5:45 PM	2	0	2	0	19	0	134	1	85	162	9	6	2	93	4	3
5:45 PM - 6:00 PM	10	1	3	0	18	0	104	3	90	126	12	3	1	76	16	2
6:00 PM - 6:15 PM	11	2	5	0	4	1	114	1	76	114	10	2	5	68	8	0
6:15 PM - 6:30 PM	6	0	3	0	2	0	23	4	30	93	8	2	1	59	2	0
6:30 PM - 6:45 PM	5	0	2	0	0	1	13	1	9	96	13	6	6	60	1	2
6:45 PM - 7:00 PM	11	0	10	0	2	0	21	1	4	81	7	4	3	62	0	1
TOTAL	**143**	**6**	**70**	**1**	**69**	**4**	**695**	**52**	**545**	**2502**	**148**	**104**	**52**	**1426**	**45**	**44**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
8:00 AM - 9:00 AM	17	1	11	1	8	0	130	14	413	311	43	25	21	359	64	17
5:00 PM - 6:00 PM	28	2	6	0	50	0	378	16	275	661	32	22	8	373	25	9

	PHF	Trucks
AM	0.874	4.1%
PM	0.897	2.6%



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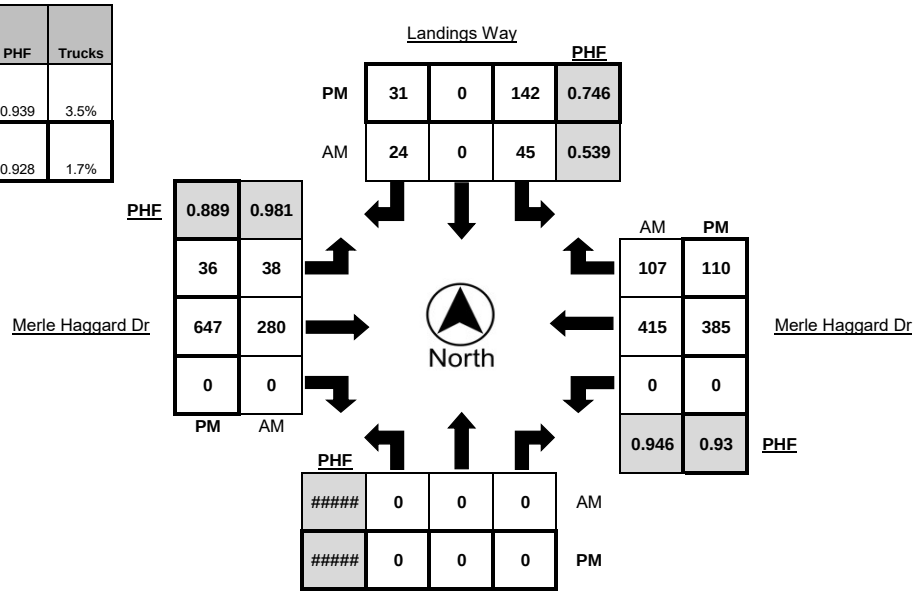
LOCATION Merle Haggard Dr @ Landings Way
LATITUDE 35.4412
COUNTY Kern
LONGITUDE -119.0477
COLLECTION DATE Tuesday, March 23, 2021
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
5:00 AM - 5:15 AM	0	0	0	0	2	0	0	0	2	29	0	2	0	70	3	6
5:15 AM - 5:30 AM	0	0	0	0	0	0	1	0	1	41	0	1	0	90	0	14
5:30 AM - 5:45 AM	0	0	0	0	5	0	1	0	2	40	0	0	0	86	2	4
5:45 AM - 6:00 AM	0	0	0	0	6	0	1	0	3	60	0	2	0	114	2	9
6:00 AM - 6:15 AM	0	0	0	0	1	0	0	0	1	72	0	5	0	88	0	4
6:15 AM - 6:30 AM	0	0	0	0	0	0	0	0	3	63	0	6	0	94	2	7
6:30 AM - 6:45 AM	0	0	0	0	1	0	1	0	2	84	0	4	0	117	2	13
6:45 AM - 7:00 AM	0	0	0	0	1	0	1	0	0	75	0	3	0	121	4	8
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	1	68	0	8	0	91	4	7
7:15 AM - 7:30 AM	0	0	0	0	1	0	3	0	4	81	0	4	0	119	2	6
7:30 AM - 7:45 AM	0	0	0	0	3	0	2	2	1	66	0	2	0	129	7	7
7:45 AM - 8:00 AM	0	0	0	0	4	0	2	0	1	79	0	5	0	128	8	11
8:00 AM - 8:15 AM	0	0	0	0	4	0	3	0	1	75	0	5	0	99	22	4
8:15 AM - 8:30 AM	0	0	0	0	6	0	2	2	11	70	0	5	0	110	28	4
8:30 AM - 8:45 AM	0	0	0	0	13	0	9	1	16	65	0	1	0	112	21	5
8:45 AM - 9:00 AM	0	0	0	0	22	0	10	0	10	70	0	4	0	94	36	1
TOTAL	**0**	**0**	**0**	**0**	**69**	**0**	**36**	**5**	**59**	**1038**	**0**	**57**	**0**	**1662**	**143**	**110**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
3:00 PM - 3:15 PM	0	0	0	0	3	0	4	0	1	141	0	3	0	119	0	3
3:15 PM - 3:30 PM	0	0	0	0	1	0	2	0	0	132	0	3	0	108	2	7
3:30 PM - 3:45 PM	0	0	0	0	5	0	2	0	0	163	0	3	0	126	2	3
3:45 PM - 4:00 PM	0	0	0	0	2	0	2	0	2	216	0	4	0	107	1	4
4:00 PM - 4:15 PM	0	0	0	0	3	0	2	1	0	211	0	1	0	103	2	4
4:15 PM - 4:30 PM	0	0	0	0	3	0	3	2	3	203	0	6	0	97	4	4
4:30 PM - 4:45 PM	0	0	0	0	5	0	2	0	3	187	0	7	0	84	7	2
4:45 PM - 5:00 PM	0	0	0	0	3	0	0	0	9	175	0	7	0	95	13	3
5:00 PM - 5:15 PM	0	0	0	0	32	0	7	0	8	184	0	1	0	111	22	1
5:15 PM - 5:30 PM	0	0	0	0	20	0	5	0	12	164	0	8	0	103	25	3
5:30 PM - 5:45 PM	0	0	0	0	40	0	11	0	6	163	0	2	0	84	28	4
5:45 PM - 6:00 PM	0	0	0	0	50	0	8	0	10	136	0	2	0	87	35	2
6:00 PM - 6:15 PM	0	0	0	0	55	0	10	0	3	112	0	1	0	75	25	0
6:15 PM - 6:30 PM	0	0	0	0	9	0	2	0	1	93	0	0	0	55	22	0
6:30 PM - 6:45 PM	0	0	0	0	4	0	0	0	0	103	0	3	0	65	2	2
6:45 PM - 7:00 PM	0	0	0	0	2	0	1	0	1	88	0	2	0	64	3	1
TOTAL	**0**	**0**	**0**	**0**	**237**	**0**	**61**	**3**	**59**	**2471**	**0**	**53**	**0**	**1483**	**193**	**43**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
8:00 AM - 9:00 AM	0	0	0	0	45	0	24	3	38	280	0	15	0	415	107	14
5:00 PM - 6:00 PM	0	0	0	0	142	0	31	0	36	647	0	13	0	385	110	10

	PHF	Trucks
AM	0.939	3.5%
PM	0.928	1.7%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

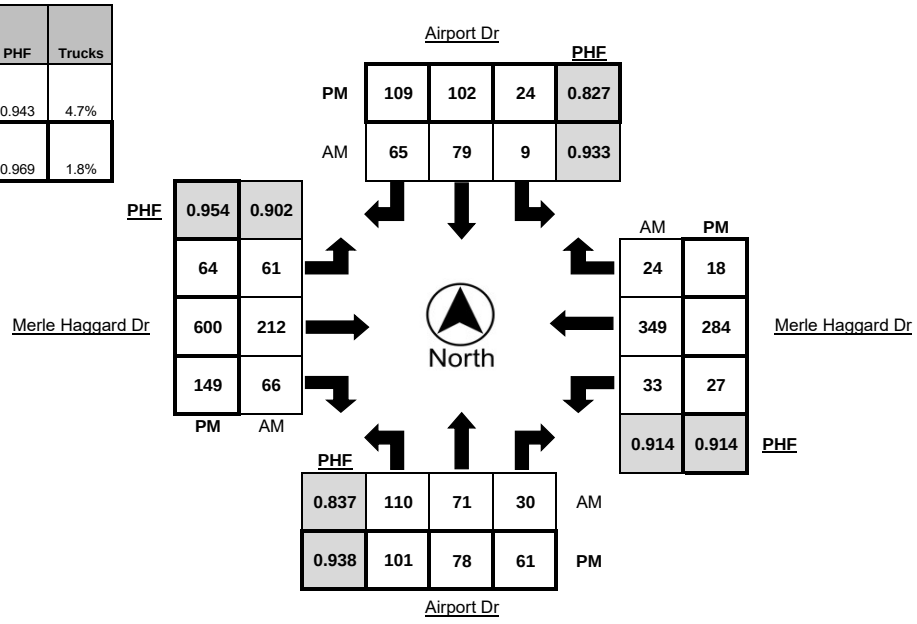
LOCATION Merle Haggard Dr @ Airport Dr
LATITUDE 35.4411
COUNTY Kern
LONGITUDE -119.0389
COLLECTION DATE Tuesday, March 23, 2021
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
5:00 AM - 5:15 AM	11	17	3	0	1	10	15	7	13	11	4	2	6	46	0	3
5:15 AM - 5:30 AM	12	29	0	0	0	6	19	11	19	20	5	4	1	56	1	5
5:30 AM - 5:45 AM	4	17	1	0	1	8	19	7	18	20	5	0	3	73	1	1
5:45 AM - 6:00 AM	21	33	1	2	0	6	14	6	27	31	3	3	5	79	1	3
6:00 AM - 6:15 AM	15	29	0	0	0	11	20	5	31	41	12	3	3	50	0	2
6:15 AM - 6:30 AM	18	28	4	0	0	9	17	7	19	40	5	8	2	67	1	6
6:30 AM - 6:45 AM	20	26	4	4	0	16	26	14	21	47	11	6	9	74	2	6
6:45 AM - 7:00 AM	18	43	5	1	0	20	19	13	33	42	7	3	16	85	1	5
7:00 AM - 7:15 AM	22	14	3	5	2	18	18	2	23	35	9	8	6	59	0	8
7:15 AM - 7:30 AM	18	26	9	3	0	16	19	7	16	63	10	7	19	84	0	3
7:30 AM - 7:45 AM	26	18	6	4	1	20	29	5	9	53	14	5	10	79	3	3
7:45 AM - 8:00 AM	17	20	2	1	1	14	24	5	15	52	11	7	15	91	5	7
8:00 AM - 8:15 AM	29	23	11	1	1	16	19	4	22	54	17	4	9	77	8	2
8:15 AM - 8:30 AM	25	11	9	4	4	11	20	2	12	48	13	6	8	95	3	2
8:30 AM - 8:45 AM	33	16	6	2	3	25	13	6	11	48	20	1	6	83	6	2
8:45 AM - 9:00 AM	23	21	4	3	1	27	13	4	16	62	16	7	10	94	7	2
TOTAL	**312**	**371**	**68**	**30**	**15**	**233**	**304**	**105**	**305**	**667**	**162**	**74**	**128**	**1192**	**39**	**60**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
3:00 PM - 3:15 PM	15	15	7	4	2	25	26	2	15	96	33	7	9	78	1	4
3:15 PM - 3:30 PM	26	15	12	3	2	27	31	3	11	113	19	3	8	55	2	6
3:30 PM - 3:45 PM	26	15	13	4	2	30	46	2	14	118	37	5	6	57	0	3
3:45 PM - 4:00 PM	19	17	14	2	2	30	37	3	14	195	29	6	4	51	0	2
4:00 PM - 4:15 PM	13	16	19	2	3	36	37	3	21	166	44	3	10	55	0	1
4:15 PM - 4:30 PM	17	10	11	0	0	22	35	4	31	127	38	8	8	57	3	1
4:30 PM - 4:45 PM	20	10	14	2	0	23	19	1	22	162	31	8	9	52	2	1
4:45 PM - 5:00 PM	18	19	11	4	2	23	22	2	26	119	33	8	9	64	2	0
5:00 PM - 5:15 PM	22	23	14	3	4	26	41	0	8	166	33	3	2	74	4	2
5:15 PM - 5:30 PM	32	13	19	1	5	29	30	2	25	156	32	7	7	60	4	1
5:30 PM - 5:45 PM	24	16	15	1	5	23	20	0	17	146	38	2	15	69	4	3
5:45 PM - 6:00 PM	23	26	13	0	10	24	18	1	14	132	46	2	3	81	6	1
6:00 PM - 6:15 PM	22	12	17	0	5	13	8	0	12	149	22	0	9	70	4	0
6:15 PM - 6:30 PM	14	12	11	0	3	10	7	0	15	62	22	0	6	51	6	0
6:30 PM - 6:45 PM	10	14	7	1	0	14	11	2	13	74	16	4	8	49	0	0
6:45 PM - 7:00 PM	13	15	10	2	1	4	14	1	15	68	18	1	6	36	2	1
TOTAL	**314**	**248**	**207**	**29**	**46**	**359**	**402**	**26**	**273**	**2049**	**491**	**67**	**119**	**959**	**40**	**26**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
8:00 AM - 9:00 AM	110	71	30	10	9	79	65	16	61	212	66	18	33	349	24	8
5:00 PM - 6:00 PM	101	78	61	5	24	102	109	3	64	600	149	14	27	284	18	7

	PHF	Trucks
AM	0.943	4.7%
PM	0.969	1.8%



Turning Movement Count Report AM

Location ID: 12
North/South: McCray Street
East/West: Merle Haggard Drive

Date: 11/13/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
6:30	17	12	3	2	72	0	1	7	16	6	48	9	193
6:45	18	4	4	4	82	4	4	7	16	6	45	3	197
7:00	15	7	4	1	54	1	5	4	13	4	57	5	170
7:15	14	8	5	5	63	2	7	6	9	8	71	6	204
7:30	23	9	4	0	75	5	8	5	19	5	97	5	255
7:45	14	7	5	4	79	3	4	5	10	8	58	0	197
8:00	18	8	5	2	49	0	4	9	6	10	64	14	189
8:15	12	5	5	3	51	4	5	11	8	7	42	10	163
Total Volume:	131	60	35	21	525	19	38	54	97	54	482	52	1568
Approach %	58%	27%	15%	4%	93%	3%	20%	29%	51%	9%	82%	9%	
Peak Hr Begin:	7:15												
PHV	69	32	19	11	266	10	23	25	44	31	290	25	845
PHF	0.833			0.834			0.719			0.808			0.828

Turning Movement Count Report PM

Location ID: 12
North/South: McCray Street
East/West: Merle Haggard Drive

Date: 11/13/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	9	13	9	3	67	2	4	8	11	27	142	14	309
16:15	12	16	8	5	54	3	3	17	5	15	103	12	253
16:30	12	13	6	5	62	4	2	12	11	15	138	14	294
16:45	4	11	3	7	64	1	5	8	15	26	134	19	297
17:00	12	16	2	9	53	5	4	17	6	26	141	16	307
17:15	11	16	4	11	71	4	2	17	6	18	139	18	317
17:30	16	16	12	8	59	5	3	20	13	13	98	16	279
17:45	8	10	5	10	40	3	2	10	6	17	77	15	203
Total Volume:	84	111	49	58	470	27	25	109	73	157	972	124	2259
Approach %	34%	45%	20%	10%	85%	5%	12%	53%	35%	13%	78%	10%	
Peak Hr Begin:	16:30												
PHV	39	56	15	32	250	14	13	54	38	85	552	67	1215
PHF	0.887			0.860			0.938			0.962			0.958

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Location ID: 12
North/South: McCray Street
East/West: Merle Haggard Drive

Date: 11/13/19
City: Bakersfield, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
6:30	0	0	0	0	0	0	1	0
6:45	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	1	0	0	0	0	0
7:45	0	0	1	0	0	0	1	0
8:00	1	0	2	0	0	0	3	0
8:15	0	0	2	0	0	0	2	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	2	0	3	0	0	0	1	0
16:15	1	0	0	0	0	0	0	0
16:30	0	0	1	0	0	0	1	1
16:45	0	0	1	0	0	0	1	0
17:00	0	0	4	0	0	0	0	1
17:15	0	0	1	1	0	0	0	0
17:30	0	0	2	0	0	0	1	0
17:45	0	0	0	0	0	0	0	2

Turning Movement Count Report AM

Location ID: 13
North/South: N. Chester Avenue
East/West: Merle Haggard Drive/Manor Street
Date: 11/13/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
6:30	2	14	39	49	64	1	0	12	10	11	40	3	245
6:45	6	10	29	51	57	1	2	17	14	9	41	2	239
7:00	4	18	26	45	37	0	1	13	14	14	60	1	233
7:15	6	32	47	27	37	5	3	22	23	20	83	1	306
7:30	6	41	41	39	62	2	3	27	13	22	103	5	364
7:45	6	16	39	31	56	0	1	38	24	18	56	1	286
8:00	3	20	24	28	36	2	5	15	14	25	56	2	230
8:15	3	22	16	29	36	3	2	17	16	9	37	6	196
Total Volume:	36	173	261	299	385	14	17	161	128	128	476	21	2099
Approach %	8%	37%	56%	43%	55%	2%	6%	53%	42%	20%	76%	3%	
Peak Hr Begin:	7:00												
PHV	22	107	153	142	192	7	8	100	74	74	302	8	1189
PHF	0.801			0.828			0.722			0.738			0.817

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 13
North/South: N. Chester Avenue
East/West: Merle Haggard Drive/Manor Street
Date: 11/13/19
City: Bakersfield, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	3	44	100	25	48	1	3	36	15	23	114	7	419
16:15	5	36	89	52	48	2	2	29	16	27	91	4	401
16:30	10	48	97	35	57	1	3	26	12	25	124	3	441
16:45	1	37	73	27	51	2	4	33	19	18	116	3	384
17:00	5	41	66	31	41	3	2	32	29	25	94	6	375
17:15	2	38	77	22	65	3	2	33	28	33	98	4	405
17:30	5	35	73	19	48	1	1	26	18	26	92	7	351
17:45	3	18	35	17	37	4	1	22	16	15	67	5	240
Total Volume:	34	297	610	228	395	17	18	237	153	192	796	39	3016
Approach %	4%	32%	65%	36%	62%	3%	4%	58%	38%	19%	78%	4%	
Peak Hr Begin:	16:00												
PHV	19	165	359	139	204	6	12	124	62	93	445	17	1645
PHF	0.876			0.855			0.884			0.913			0.933

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Location ID: 13
North/South: N. Chester Avenue
East/West: Merle Haggard Drive/Manor Street
Date: 11/13/19
City: Bakersfield, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
6:30	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	0	0
7:00	0	0	0	0	1	0	1	0
7:15	0	0	0	0	2	0	0	1
7:30	0	0	0	0	3	0	0	0
7:45	0	0	0	0	4	0	0	0
8:00	0	0	0	0	0	0	1	0
8:15	0	0	1	0	2	1	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	2	0	2	0	0	0	0	0
16:30	0	0	1	0	2	0	4	0
16:45	0	0	2	0	0	0	0	0
17:00	0	0	0	0	0	0	1	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	2	0
17:45	0	0	0	0	1	0	1	0

LEVEL OF SERVICE

Intersection 1
SR 99 SB Ramps & Lerdo Hwy

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	305	488	117	484	0	0	0	0	33	0	262
Future Vol, veh/h	0	305	488	117	484	0	0	0	0	33	0	262
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	332	530	127	526	0	0	0	0	36	0	285

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	526	0	0	862	0	0	946	1642	263
Stage 1	-	-	-	-	-	-	780	780	-
Stage 2	-	-	-	-	-	-	166	862	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	1037	-	-	776	-	-	260	99	735
Stage 1	-	-	-	-	-	-	412	404	-
Stage 2	-	-	-	-	-	-	846	370	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1037	-	-	776	-	-	217	0	735
Mov Cap-2 Maneuver	-	-	-	-	-	-	217	0	-
Stage 1	-	-	-	-	-	-	345	0	-
Stage 2	-	-	-	-	-	-	846	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.1	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1037	-	-	776	-	-	217	735
HCM Lane V/C Ratio	-	-	-	0.164	-	-	0.165	0.387
HCM Control Delay (s)	0	-	-	10.5	-	-	24.8	13
HCM Lane LOS	A	-	-	B	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	0.6	-	-	0.6	1.8

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	319	488	117	507	0	0	0	0	53	0	262
Future Vol, veh/h	0	319	488	117	507	0	0	0	0	53	0	262
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	347	530	127	551	0	0	0	0	58	0	285

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	551	0	0	877	0	0	978	1682	276
Stage 1	-	-	-	-	-	-	805	805	-
Stage 2	-	-	-	-	-	-	173	877	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	1015	-	-	766	-	-	248	94	721
Stage 1	-	-	-	-	-	-	400	393	-
Stage 2	-	-	-	-	-	-	840	364	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1015	-	-	766	-	-	207	0	721
Mov Cap-2 Maneuver	-	-	-	-	-	-	207	0	-
Stage 1	-	-	-	-	-	-	334	0	-
Stage 2	-	-	-	-	-	-	840	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1015	-	-	766	-	-	207	721
HCM Lane V/C Ratio	-	-	-	0.166	-	-	0.278	0.395
HCM Control Delay (s)	0	-	-	10.6	-	-	29	13.2
HCM Lane LOS	A	-	-	B	-	-	D	B
HCM 95th %tile Q(veh)	0	-	-	0.6	-	-	1.1	1.9

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	410	566	136	650	0	0	0	0	57	0	304
Future Vol, veh/h	0	410	566	136	650	0	0	0	0	57	0	304
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	446	615	148	707	0	0	0	0	62	0	330

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	707	0	0	1061	0	0	1225	2063	353
Stage 1	-	-	-	-	-	-	1002	1002	-
Stage 2	-	-	-	-	-	-	223	1061	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	887	-	-	652	-	-	171	54	643
Stage 1	-	-	-	-	-	-	316	318	-
Stage 2	-	-	-	-	-	-	793	299	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	887	-	-	652	-	-	132	0	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	132	0	-
Stage 1	-	-	-	-	-	-	244	0	-
Stage 2	-	-	-	-	-	-	793	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.1	22.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	887	-	-	652	-	-	132	643
HCM Lane V/C Ratio	-	-	-	0.227	-	-	0.469	0.514
HCM Control Delay (s)	0	-	-	12.1	-	-	54.4	16.4
HCM Lane LOS	A	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0	-	-	0.9	-	-	2.1	2.9

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	424	566	136	673	0	0	0	0	77	0	304
Future Vol, veh/h	0	424	566	136	673	0	0	0	0	77	0	304
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	461	615	148	732	0	0	0	0	84	0	330

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	732	0	0	1076	0	0	1257	2103	366
Stage 1	-	-	-	-	-	-	1027	1027	-
Stage 2	-	-	-	-	-	-	230	1076	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	868	-	-	644	-	-	163	51	631
Stage 1	-	-	-	-	-	-	306	310	-
Stage 2	-	-	-	-	-	-	786	294	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	868	-	-	644	-	-	126	0	631
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	0	-
Stage 1	-	-	-	-	-	-	236	0	-
Stage 2	-	-	-	-	-	-	786	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.1	29
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	868	-	-	644	-	-	126	631
HCM Lane V/C Ratio	-	-	-	0.23	-	-	0.664	0.524
HCM Control Delay (s)	0	-	-	12.2	-	-	77.4	16.8
HCM Lane LOS	A	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0	-	-	0.9	-	-	3.6	3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	424	566	136	673	0	0	0	0	77	0	304
Future Volume (veh/h)	0	424	566	136	673	0	0	0	0	77	0	304
Number	7	4	14	3	8	18				1	6	16
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	0	1863	1750	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	461	615	148	732	0				84	0	330
Adj No. of Lanes	0	2	0	1	2	0				1	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	789	706	176	2097	0				538	0	845
Arrive On Green	0.00	0.45	0.45	0.11	0.59	0.00				0.33	0.00	0.33
Sat Flow, veh/h	0	1863	1583	1634	3632	0				1634	0	2567
Grp Volume(v), veh/h	0	461	615	148	732	0				84	0	330
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1634	1770	0				1634	0	1283
Q Serve(g_s), s	0.0	22.4	40.5	10.2	12.2	0.0				4.2	0.0	11.4
Cycle Q Clear(g_c), s	0.0	22.4	40.5	10.2	12.2	0.0				4.2	0.0	11.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	789	706	176	2097	0				538	0	845
V/C Ratio(X)	0.00	0.58	0.87	0.84	0.35	0.00				0.16	0.00	0.39
Avail Cap(c_a), veh/h	0	869	778	324	2579	0				538	0	845
HCM Platoon Ratio	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	0.92	0.92	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	23.9	28.9	50.4	12.0	0.0				27.3	0.0	29.7
Incr Delay (d2), s/veh	0.0	0.8	9.9	9.6	0.1	0.0				0.6	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
%ile BackOfQ(50%),veh/ln	0.0	11.1	19.5	5.1	5.9	0.0				2.0	0.0	4.2
LnGrp Delay(d),s/veh	0.0	24.7	38.8	60.0	12.1	0.0				27.9	0.0	31.0
LnGrp LOS		C	D	E	B					C		C
Approach Vol, veh/h		1076			880						414	
Approach Delay, s/veh		32.7			20.2						30.4	
Approach LOS		C			C						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			16.9	55.8		42.4		72.6
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s			22.8	56.5		22.2		83.8
Max Q Clear Time (g_c+I1), s			12.2	42.5		13.4		14.2
Green Ext Time (p_c), s			0.2	8.8		1.0		17.3

Intersection Summary	
HCM 2010 Ctrl Delay	27.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	551	657	158	874	0	0	0	0	63	0	353
Future Vol, veh/h	0	551	657	158	874	0	0	0	0	63	0	353
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	599	714	172	950	0	0	0	0	68	0	384

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	950	0	0	1313	0	0	1592	2606	475
Stage 1	-	-	-	-	-	-	1293	1293	-
Stage 2	-	-	-	-	-	-	299	1313	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	719	-	-	523	-	-	98	24	536
Stage 1	-	-	-	-	-	-	221	231	-
Stage 2	-	-	-	-	-	-	726	226	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	719	-	-	523	-	-	~ 66	0	536
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 66	0	-
Stage 1	-	-	-	-	-	-	148	0	-
Stage 2	-	-	-	-	-	-	726	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.3	57.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	719	-	-	523	-	-	66	536
HCM Lane V/C Ratio	-	-	-	0.328	-	-	1.038	0.716
HCM Control Delay (s)	0	-	-	15.2	-	-	227.8	26.8
HCM Lane LOS	A	-	-	C	-	-	F	D
HCM 95th %tile Q(veh)	0	-	-	1.4	-	-	5.2	5.8

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	18.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	568	657	158	902	0	0	0	0	88	0	353
Future Vol, veh/h	0	568	657	158	902	0	0	0	0	88	0	353
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	617	714	172	980	0	0	0	0	96	0	384

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	980	0	0	1332	0	0	1633	2656	490
Stage 1	-	-	-	-	-	-	1324	1324	-
Stage 2	-	-	-	-	-	-	309	1332	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	700	-	-	514	-	-	~ 92	22	524
Stage 1	-	-	-	-	-	-	213	224	-
Stage 2	-	-	-	-	-	-	718	222	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	700	-	-	514	-	-	~ 61	0	524
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 61	0	-
Stage 1	-	-	-	-	-	-	142	0	-
Stage 2	-	-	-	-	-	-	718	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.3	109.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	700	-	-	514	-	-	61	524
HCM Lane V/C Ratio	-	-	-	0.334	-	-	1.568	0.732
HCM Control Delay (s)	0	-	-	15.5	-	-	$ 432.6	28.4
HCM Lane LOS	A	-	-	C	-	-	F	D
HCM 95th %tile Q(veh)	0	-	-	1.5	-	-	8.5	6.1

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



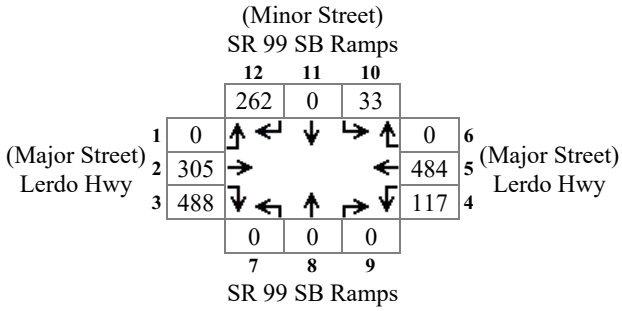
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	568	657	158	902	0	0	0	0	88	0	353
Future Volume (veh/h)	0	568	657	158	902	0	0	0	0	88	0	353
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	0	1863	1750	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	617	714	172	980	0				96	0	384
Adj No. of Lanes	0	2	0	1	2	0				1	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	857	767	200	2286	0				451	0	708
Arrive On Green	0.00	0.48	0.48	0.12	0.65	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	1863	1583	1634	3632	0				1634	0	2567
Grp Volume(v), veh/h	0	617	714	172	980	0				96	0	384
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1634	1770	0				1634	0	1283
Q Serve(g_s), s	0.0	31.7	48.7	11.9	15.6	0.0				5.2	0.0	14.7
Cycle Q Clear(g_c), s	0.0	31.7	48.7	11.9	15.6	0.0				5.2	0.0	14.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	857	767	200	2286	0				451	0	708
V/C Ratio(X)	0.00	0.72	0.93	0.86	0.43	0.00				0.21	0.00	0.54
Avail Cap(c_a), veh/h	0	869	778	324	2579	0				451	0	708
HCM Platoon Ratio	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	0.88	0.88	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	23.5	27.9	49.5	10.0	0.0				32.0	0.0	35.5
Incr Delay (d2), s/veh	0.0	2.9	17.6	10.9	0.1	0.0				1.1	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
%ile BackOfQ(50%),veh/ln	0.0	16.1	25.0	6.0	7.7	0.0				2.5	0.0	5.5
LnGrp Delay(d),s/veh	0.0	26.4	45.5	60.4	10.1	0.0				33.1	0.0	38.4
LnGrp LOS		C	D	E	B					C		D
Approach Vol, veh/h		1331			1152						480	
Approach Delay, s/veh		36.6			17.6						37.4	
Approach LOS		D			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			18.6	60.2		36.2		78.8
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s			22.8	56.5		22.2		83.8
Max Q Clear Time (g_c+I1), s			13.9	50.7		16.7		17.6
Green Ext Time (p_c), s			0.3	5.0		0.9		27.6

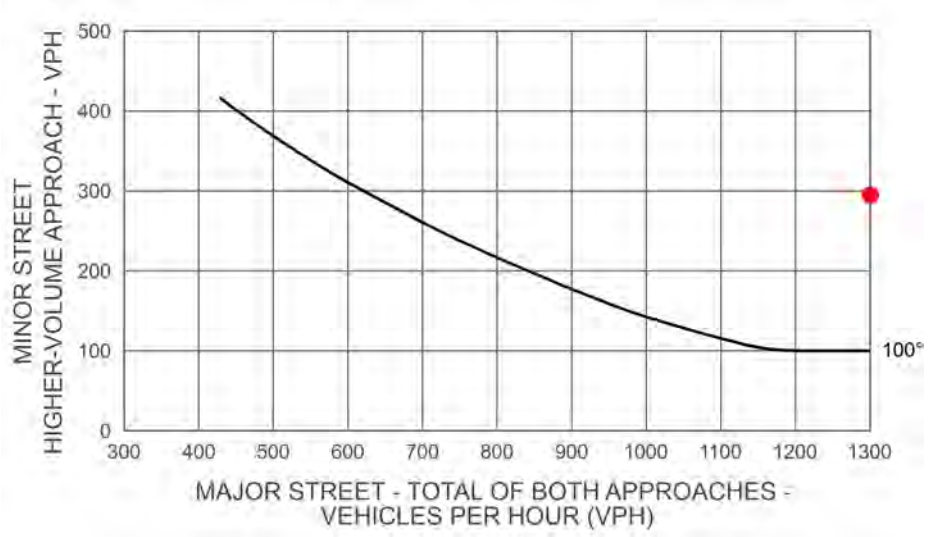
Intersection Summary	
HCM 2010 Ctrl Delay	29.3
HCM 2010 LOS	C

Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Existing
Intersection #: 1

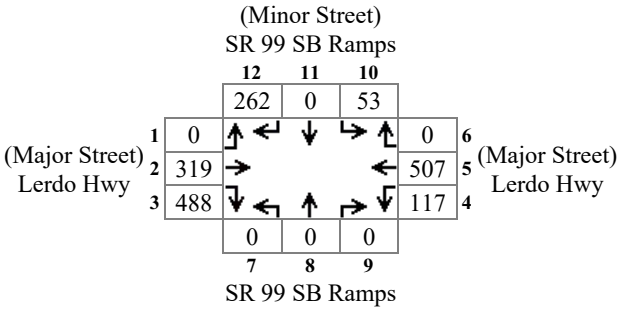


Major Total: 1394
Minor High Volume: 295



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Existing+Project Phase I
Intersection #: 1

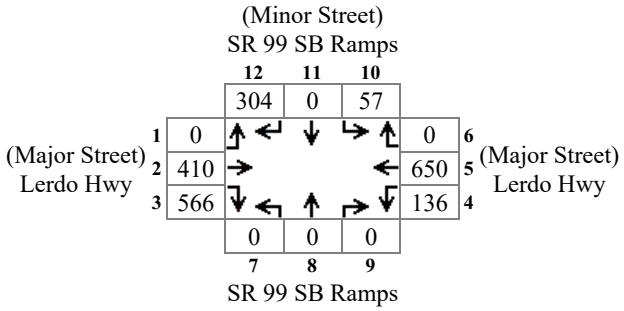


Major Total: 1431
Minor High Volume: 315



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 1

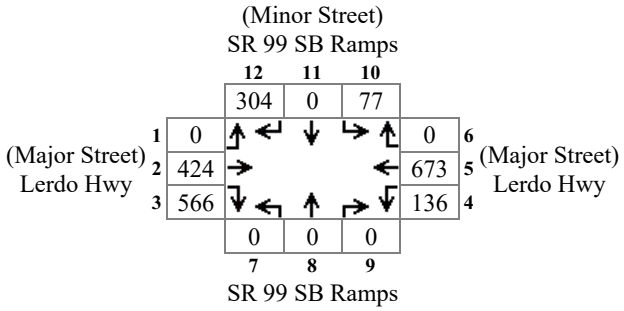


Major Total: 1762
Minor High Volume: 361

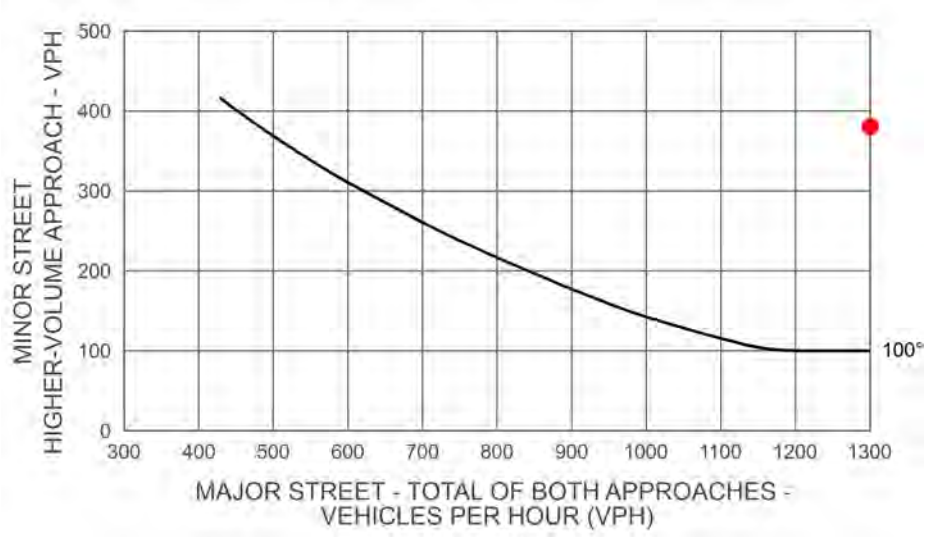


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 1

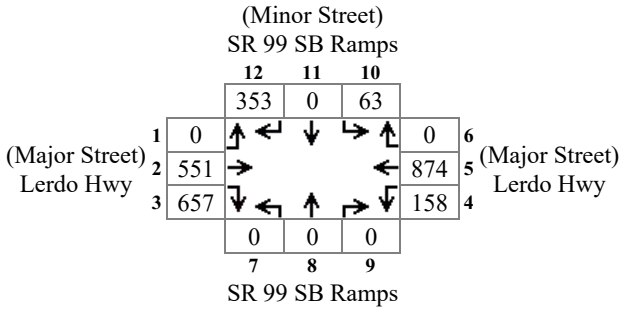


Major Total: 1799
Minor High Volume: 381

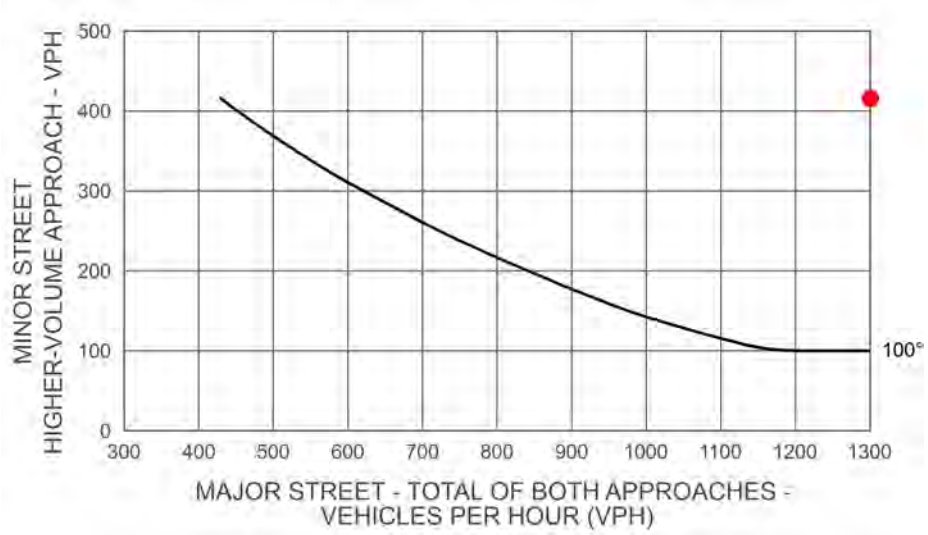


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 1

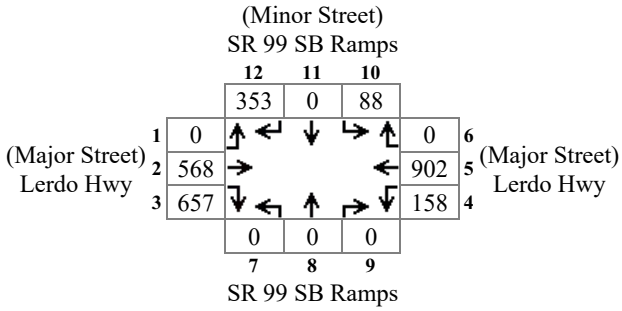


Major Total: 2240
Minor High Volume: 416

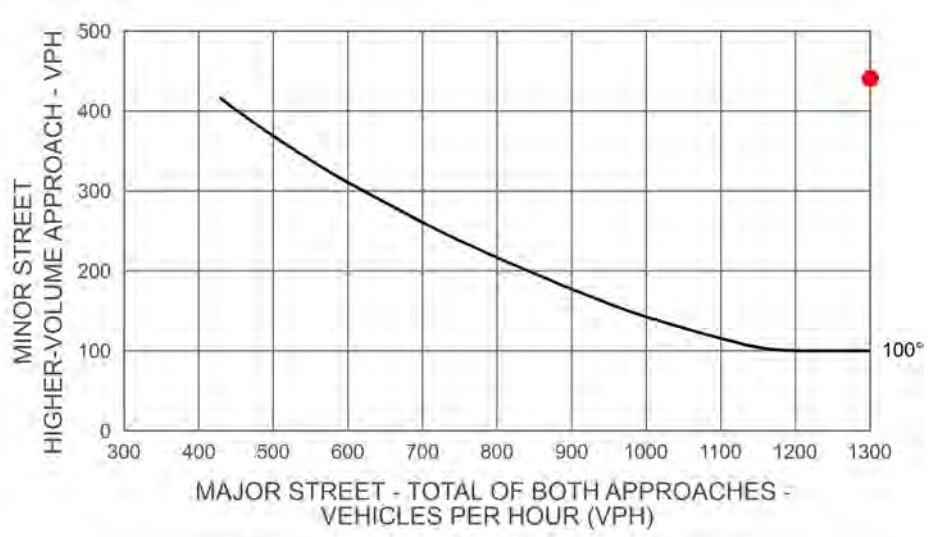


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project Phase I & II
Intersection #: 1



Major Total: 2285
Minor High Volume: 441



Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	397	469	25	432	0	0	0	0	29	0	114
Future Vol, veh/h	0	397	469	25	432	0	0	0	0	29	0	114
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	432	510	27	470	0	0	0	0	32	0	124

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	470	0	0	941	0	0			740	1465	235
Stage 1	-	-	-	-	-	-			524	524	-
Stage 2	-	-	-	-	-	-			216	941	-
Critical Hdwy	4.14	-	-	4.14	-	-			6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-			5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-			3.52	4.02	3.32
Pot Cap-1 Maneuver	1088	-	-	724	-	-			352	127	767
Stage 1	-	-	-	-	-	-			559	528	-
Stage 2	-	-	-	-	-	-			799	340	-
Platoon blocked, %		-	-		-	-					
Mov Cap-1 Maneuver	1088	-	-	724	-	-			339	0	767
Mov Cap-2 Maneuver	-	-	-	-	-	-			339	0	-
Stage 1	-	-	-	-	-	-			538	0	-
Stage 2	-	-	-	-	-	-			799	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1088	-	-	724	-	-	339	767
HCM Lane V/C Ratio	-	-	-	0.038	-	-	0.093	0.162
HCM Control Delay (s)	0	-	-	10.2	-	-	16.7	10.6
HCM Lane LOS	A	-	-	B	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	0.1	-	-	0.3	0.6

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	426	469	25	440	0	0	0	0	70	0	114
Future Vol, veh/h	0	426	469	25	440	0	0	0	0	70	0	114
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	463	510	27	478	0	0	0	0	76	0	124

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	478	0	0	973	0	0	765	1506	239
Stage 1	-	-	-	-	-	-	533	533	-
Stage 2	-	-	-	-	-	-	232	973	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	1081	-	-	704	-	-	340	120	762
Stage 1	-	-	-	-	-	-	553	523	-
Stage 2	-	-	-	-	-	-	785	329	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1081	-	-	704	-	-	327	0	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	327	0	-
Stage 1	-	-	-	-	-	-	532	0	-
Stage 2	-	-	-	-	-	-	785	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1081	-	-	704	-	-	327	762
HCM Lane V/C Ratio	-	-	-	0.039	-	-	0.233	0.163
HCM Control Delay (s)	0	-	-	10.3	-	-	19.3	10.6
HCM Lane LOS	A	-	-	B	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	0.1	-	-	0.9	0.6

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	534	544	29	581	0	0	0	0	56	0	132
Future Vol, veh/h	0	534	544	29	581	0	0	0	0	56	0	132
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	580	591	32	632	0	0	0	0	61	0	143

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	632	0	0	1172	0	0	985	1867	316
Stage 1	-	-	-	-	-	-	695	695	-
Stage 2	-	-	-	-	-	-	290	1172	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	947	-	-	592	-	-	245	72	680
Stage 1	-	-	-	-	-	-	456	442	-
Stage 2	-	-	-	-	-	-	734	264	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	947	-	-	592	-	-	232	0	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	232	0	-
Stage 1	-	-	-	-	-	-	431	0	-
Stage 2	-	-	-	-	-	-	734	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.5	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	947	-	-	592	-	-	232	680
HCM Lane V/C Ratio	-	-	-	0.053	-	-	0.262	0.211
HCM Control Delay (s)	0	-	-	11.4	-	-	25.9	11.7
HCM Lane LOS	A	-	-	B	-	-	D	B
HCM 95th %tile Q(veh)	0	-	-	0.2	-	-	1	0.8

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	563	544	29	589	0	0	0	0	97	0	132
Future Vol, veh/h	0	563	544	29	589	0	0	0	0	97	0	132
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	612	591	32	640	0	0	0	0	105	0	143

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	640	0	0	1203	0	0	1009	1906	320
Stage 1	-	-	-	-	-	-	703	703	-
Stage 2	-	-	-	-	-	-	306	1203	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	940	-	-	576	-	-	237	68	676
Stage 1	-	-	-	-	-	-	452	438	-
Stage 2	-	-	-	-	-	-	720	256	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	940	-	-	576	-	-	224	0	676
Mov Cap-2 Maneuver	-	-	-	-	-	-	224	0	-
Stage 1	-	-	-	-	-	-	427	0	-
Stage 2	-	-	-	-	-	-	720	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.5	21.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	940	-	-	576	-	-	224	676
HCM Lane V/C Ratio	-	-	-	0.055	-	-	0.471	0.212
HCM Control Delay (s)	0	-	-	11.6	-	-	34.6	11.8
HCM Lane LOS	A	-	-	B	-	-	D	B
HCM 95th %tile Q(veh)	0	-	-	0.2	-	-	2.3	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	563	544	29	589	0	0	0	0	97	0	132
Future Volume (veh/h)	0	563	544	29	589	0	0	0	0	97	0	132
Number	7	4	14	3	8	18				1	6	16
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	0	1863	1750	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	612	591	32	640	0				105	0	143
Adj No. of Lanes	0	2	0	1	2	0				1	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	774	693	39	1771	0				688	0	1081
Arrive On Green	0.00	0.44	0.44	0.02	0.50	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	1863	1583	1634	3632	0				1634	0	2567
Grp Volume(v), veh/h	0	612	591	32	640	0				105	0	143
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1634	1770	0				1634	0	1283
Q Serve(g_s), s	0.0	34.2	38.5	2.2	12.7	0.0				4.6	0.0	3.9
Cycle Q Clear(g_c), s	0.0	34.2	38.5	2.2	12.7	0.0				4.6	0.0	3.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	774	693	39	1771	0				688	0	1081
V/C Ratio(X)	0.00	0.79	0.85	0.82	0.36	0.00				0.15	0.00	0.13
Avail Cap(c_a), veh/h	0	869	778	324	2579	0				688	0	1081
HCM Platoon Ratio	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	0.90	0.90	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.8	29.0	55.9	17.5	0.0				20.6	0.0	20.4
Incr Delay (d2), s/veh	0.0	4.5	8.3	30.1	0.1	0.0				0.5	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
%ile BackOfQ(50%),veh/ln	0.0	17.6	18.4	1.3	6.2	0.0				2.2	0.0	1.4
LnGrp Delay(d),s/veh	0.0	32.3	37.4	86.0	17.6	0.0				21.1	0.0	20.7
LnGrp LOS		C	D	F	B					C		C
Approach Vol, veh/h		1203			672						248	
Approach Delay, s/veh		34.8			20.9						20.8	
Approach LOS		C			C						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			7.2	54.8		52.9		62.1
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s			22.8	56.5		22.2		83.8
Max Q Clear Time (g_c+I1), s			4.2	40.5		6.6		14.7
Green Ext Time (p_c), s			0.0	9.8		0.7		17.9

Intersection Summary	
HCM 2010 Ctrl Delay	28.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	717	632	34	780	0	0	0	0	61	0	154
Future Vol, veh/h	0	717	632	34	780	0	0	0	0	61	0	154
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	779	687	37	848	0	0	0	0	66	0	167

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	848	0	0	1466	0	0	1312	2388	424
Stage 1	-	-	-	-	-	-	922	922	-
Stage 2	-	-	-	-	-	-	390	1466	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	785	-	-	456	-	-	150	34	579
Stage 1	-	-	-	-	-	-	348	347	-
Stage 2	-	-	-	-	-	-	653	191	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	785	-	-	456	-	-	138	0	579
Mov Cap-2 Maneuver	-	-	-	-	-	-	138	0	-
Stage 1	-	-	-	-	-	-	320	0	-
Stage 2	-	-	-	-	-	-	653	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	24.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	785	-	-	456	-	-	138	579
HCM Lane V/C Ratio	-	-	-	0.081	-	-	0.48	0.289
HCM Control Delay (s)	0	-	-	13.6	-	-	53.1	13.7
HCM Lane LOS	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	0	-	-	0.3	-	-	2.2	1.2

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	752	632	34	790	0	0	0	0	112	0	154
Future Vol, veh/h	0	752	632	34	790	0	0	0	0	112	0	154
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	265	-	-	-	-	-	0	-	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	2	2	2	2	2	2
Mvmt Flow	0	817	687	37	859	0	0	0	0	122	0	167

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	859	0	0	1504	0	0	1342	2437	429
Stage 1	-	-	-	-	-	-	933	933	-
Stage 2	-	-	-	-	-	-	409	1504	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	778	-	-	441	-	-	143	31	574
Stage 1	-	-	-	-	-	-	343	343	-
Stage 2	-	-	-	-	-	-	639	183	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	778	-	-	441	-	-	131	0	574
Mov Cap-2 Maneuver	-	-	-	-	-	-	131	0	-
Stage 1	-	-	-	-	-	-	314	0	-
Stage 2	-	-	-	-	-	-	639	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	60.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	778	-	-	441	-	-	131	574
HCM Lane V/C Ratio	-	-	-	0.084	-	-	0.929	0.292
HCM Control Delay (s)	0	-	-	13.9	-	-	125	13.8
HCM Lane LOS	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	0	-	-	0.3	-	-	6.2	1.2



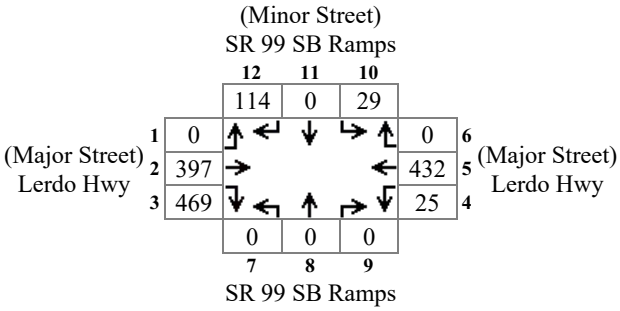
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	752	632	34	790	0	0	0	0	112	0	154
Future Volume (veh/h)	0	752	632	34	790	0	0	0	0	112	0	154
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	0	1863	1750	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	817	687	37	859	0				122	0	167
Adj No. of Lanes	0	2	0	1	2	0				1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	906	731	46	1959	0				602	0	537
Arrive On Green	0.00	0.49	0.49	0.03	0.55	0.00				0.37	0.00	0.37
Sat Flow, veh/h	0	1956	1504	1634	3632	0				1634	0	1458
Grp Volume(v), veh/h	0	774	730	37	859	0				122	0	167
Grp Sat Flow(s),veh/h/ln	0	1770	1597	1634	1770	0				1634	0	1458
Q Serve(g_s), s	0.0	45.9	49.7	2.6	16.5	0.0				5.9	0.0	9.4
Cycle Q Clear(g_c), s	0.0	45.9	49.7	2.6	16.5	0.0				5.9	0.0	9.4
Prop In Lane	0.00		0.94	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	861	777	46	1959	0				602	0	537
V/C Ratio(X)	0.00	0.90	0.94	0.81	0.44	0.00				0.20	0.00	0.31
Avail Cap(c_a), veh/h	0	869	785	324	2579	0				602	0	537
HCM Platoon Ratio	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	0.85	0.85	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.0	27.9	55.6	15.1	0.0				24.8	0.0	25.9
Incr Delay (d2), s/veh	0.0	12.2	18.9	24.2	0.1	0.0				0.8	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
%ile BackOfQ(50%),veh/ln	0.0	25.3	25.8	1.5	8.0	0.0				2.8	0.0	4.0
LnGrp Delay(d),s/veh	0.0	39.2	46.8	79.8	15.3	0.0				25.6	0.0	27.4
LnGrp LOS		D	D	E	B					C		C
Approach Vol, veh/h		1504			896						289	
Approach Delay, s/veh		42.9			17.9						26.6	
Approach LOS		D			B						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			7.7	60.4		46.9		68.1
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s			22.8	56.5		22.2		83.8
Max Q Clear Time (g_c+I1), s			4.6	51.7		11.4		18.5
Green Ext Time (p_c), s			0.0	4.2		0.6		29.0

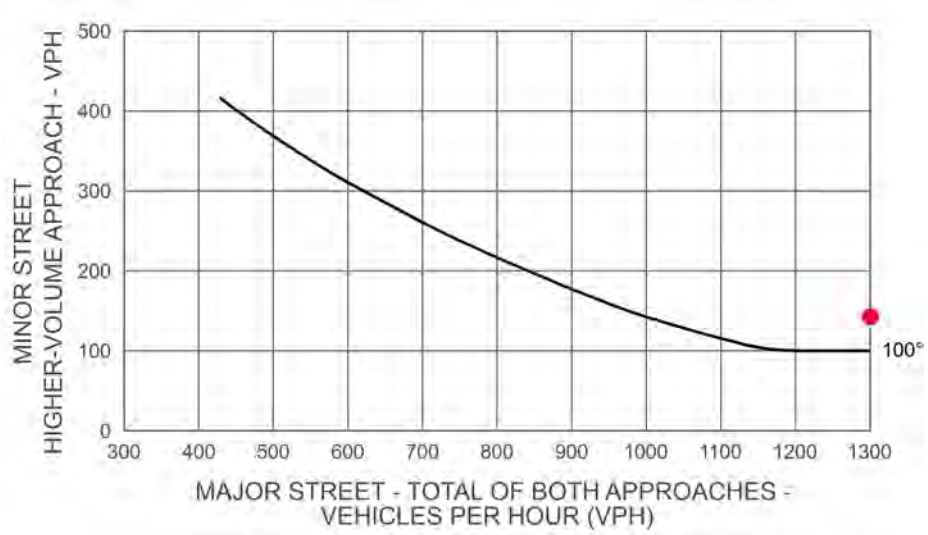
Intersection Summary	
HCM 2010 Ctrl Delay	32.8
HCM 2010 LOS	C

Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Existing
Intersection #: 1

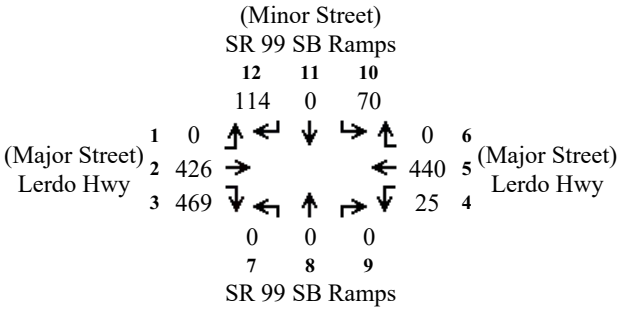


Major Total: 1323
Minor High Volume: 143

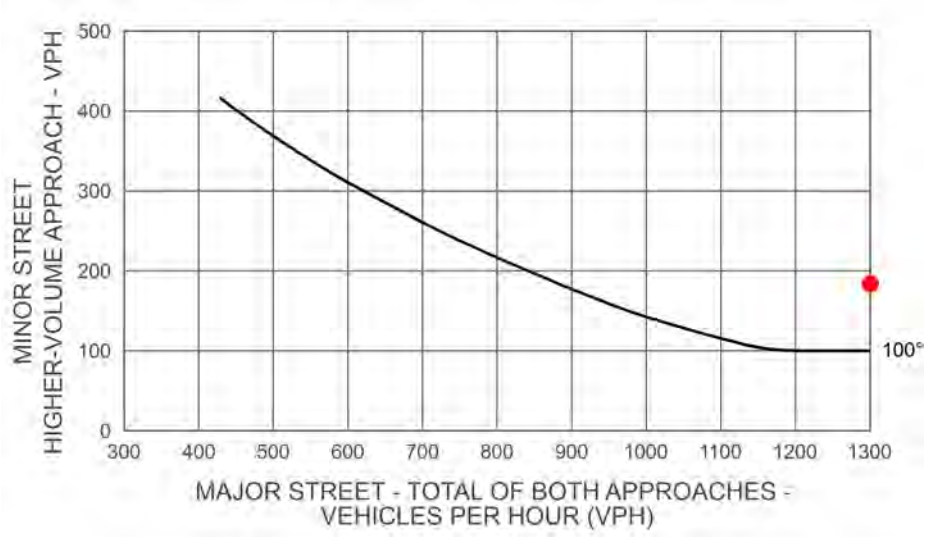


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Existing+Project Phase I
Intersection #: 1

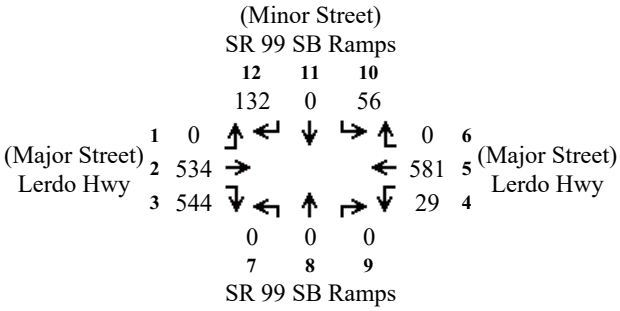


Major Total: 1360
Minor High Volume: 184

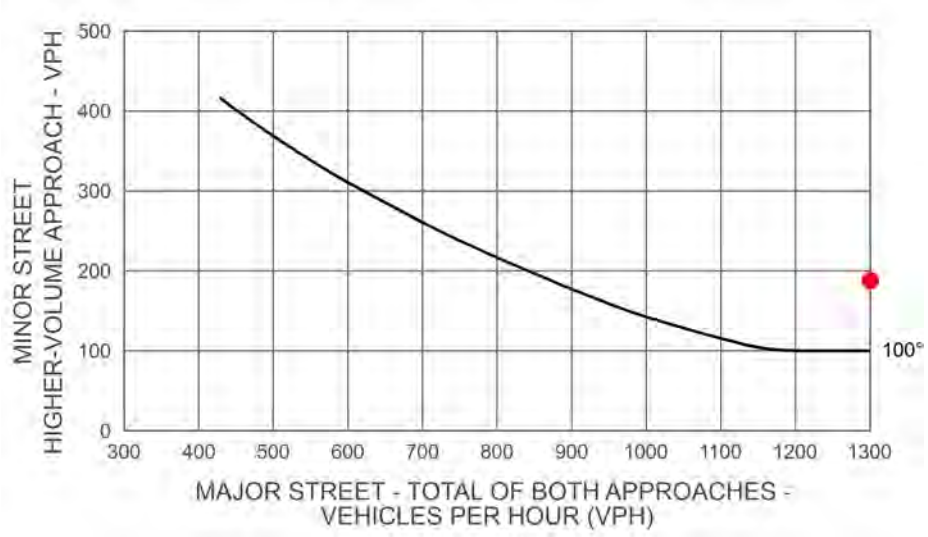


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future
Intersection #: 1

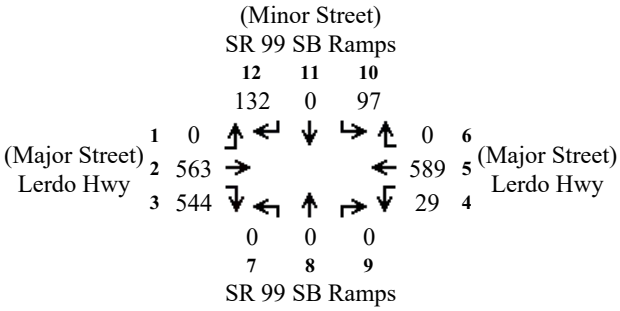


Major Total: 1688
Minor High Volume: 188

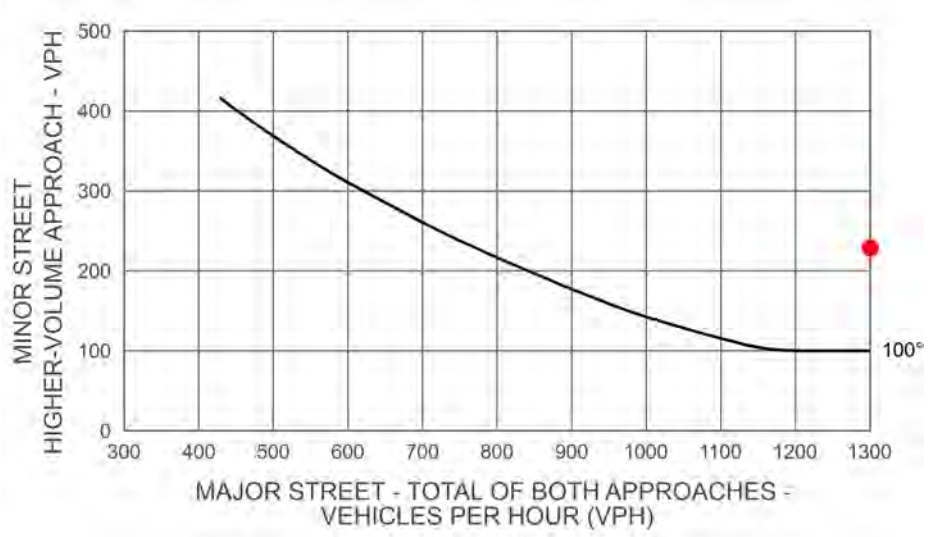


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 1

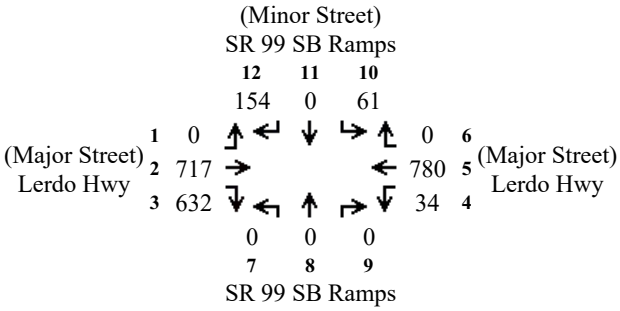


Major Total: 1725
Minor High Volume: 229

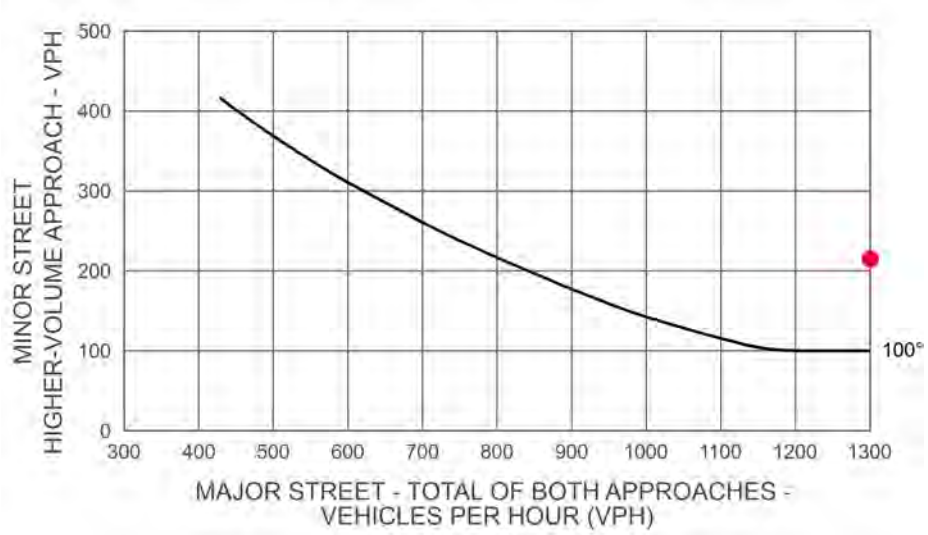


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future
Intersection #: 1

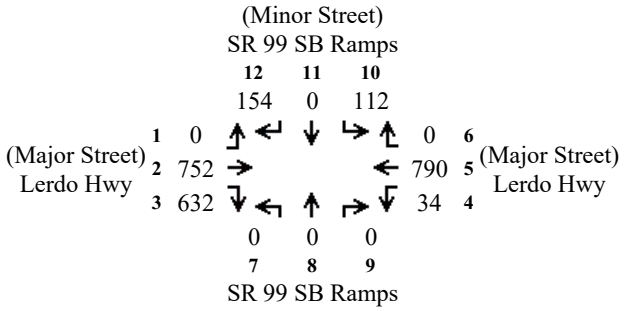


Major Total: 2163
Minor High Volume: 215

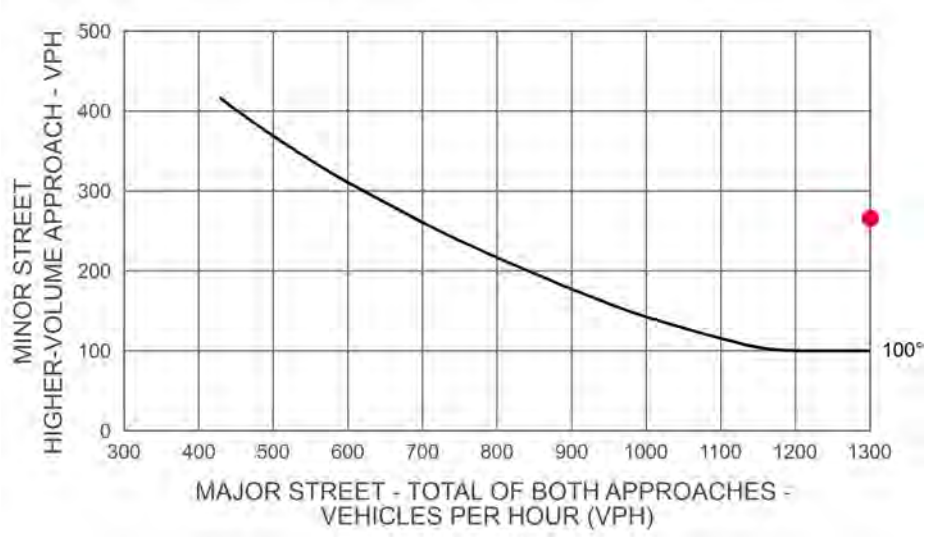


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project Phase I & II
Intersection #: 1



Major Total: 2208
Minor High Volume: 266



Intersection 2
SR 99 NB Ramps & Lerdo Hwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	130	179	65	228	0	356	10	16	3	9	27
Future Volume (veh/h)	23	130	179	65	228	0	356	10	16	3	9	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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	25	141	195	71	248	0	387	11	17	3	10	29
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	272	243	98	680	0	876	22	856	85	261	665
Arrive On Green	0.02	0.15	0.15	0.06	0.19	0.00	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	1342	38	1458	63	445	1133
Grp Volume(v), veh/h	25	141	195	71	248	0	398	0	17	42	0	0
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	1380	0	1458	1641	0	0
Q Serve(g_s), s	1.2	5.9	9.5	3.4	4.9	0.0	12.3	0.0	0.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	5.9	9.5	3.4	4.9	0.0	13.2	0.0	0.4	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.97		1.00	0.07		0.69
Lane Grp Cap(c), veh/h	35	272	243	98	680	0	899	0	856	1011	0	0
V/C Ratio(X)	0.72	0.52	0.80	0.73	0.36	0.00	0.44	0.00	0.02	0.04	0.00	0.00
Avail Cap(c_a), veh/h	122	376	336	204	928	0	899	0	856	1011	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	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.0	31.2	32.7	37.0	28.1	0.0	9.5	0.0	6.9	7.0	0.0	0.0
Incr Delay (d2), s/veh	23.9	1.5	9.2	9.9	0.3	0.0	1.6	0.0	0.0	0.1	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	0.8	3.0	4.8	1.8	2.4	0.0	5.4	0.0	0.2	0.4	0.0	0.0
LnGrp Delay(d),s/veh	62.9	32.7	41.9	46.9	28.4	0.0	11.1	0.0	7.0	7.1	0.0	0.0
LnGrp LOS	E	C	D	D	C		B		A	A		
Approach Vol, veh/h		361			319			415			42	
Approach Delay, s/veh		39.8			32.5			10.9			7.1	
Approach LOS		D			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		51.0	10.8	18.3		51.0	7.7	21.4
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		47.0	10.0	17.0		47.0	6.0	21.0
Max Q Clear Time (g_c+I1), s		15.2	5.4	11.5		2.9	3.2	6.9
Green Ext Time (p_c), s		3.3	0.6	0.8		3.4	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	26.0
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	164	179	117	251	0	356	10	16	3	9	27
Future Volume (veh/h)	23	164	179	117	251	0	356	10	16	3	9	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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	25	178	195	127	273	0	387	11	17	3	10	29
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	273	244	172	843	0	816	21	789	81	242	613
Arrive On Green	0.02	0.15	0.15	0.11	0.24	0.00	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	1344	38	1458	60	448	1133
Grp Volume(v), veh/h	25	178	195	127	273	0	398	0	17	42	0	0
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	1382	0	1458	1641	0	0
Q Serve(g_s), s	1.2	7.6	9.5	6.0	5.1	0.0	13.7	0.0	0.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	7.6	9.5	6.0	5.1	0.0	14.6	0.0	0.4	1.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.97		1.00	0.07		0.69
Lane Grp Cap(c), veh/h	35	273	244	172	843	0	836	0	789	936	0	0
V/C Ratio(X)	0.72	0.65	0.80	0.74	0.32	0.00	0.48	0.00	0.02	0.04	0.00	0.00
Avail Cap(c_a), veh/h	122	366	328	285	1085	0	836	0	789	936	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	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.0	31.9	32.7	34.8	25.2	0.0	11.7	0.0	8.5	8.7	0.0	0.0
Incr Delay (d2), s/veh	24.0	2.6	9.6	6.1	0.2	0.0	1.9	0.0	0.1	0.1	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	0.8	3.9	4.8	3.0	2.5	0.0	6.1	0.0	0.2	0.5	0.0	0.0
LnGrp Delay(d),s/veh	63.0	34.5	42.4	40.9	25.4	0.0	13.7	0.0	8.6	8.8	0.0	0.0
LnGrp LOS	E	C	D	D	C		B		A	A		
Approach Vol, veh/h		398			400			415			42	
Approach Delay, s/veh		40.2			30.3			13.5			8.8	
Approach LOS		D			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		47.4	14.4	18.4		47.4	7.7	25.1
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		43.4	14.0	16.6		43.4	6.0	24.6
Max Q Clear Time (g_c+I1), s		16.6	8.0	11.5		3.0	3.2	7.1
Green Ext Time (p_c), s		3.2	0.9	0.8		3.4	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	27.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	194	208	112	306	0	413	13	19	3	9	28
Future Volume (veh/h)	31	194	208	112	306	0	413	13	19	3	9	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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	34	211	226	122	333	0	449	14	21	3	10	30
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	295	264	145	814	0	838	24	827	79	245	648
Arrive On Green	0.03	0.17	0.17	0.09	0.23	0.00	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	1339	42	1458	63	432	1143
Grp Volume(v), veh/h	34	211	226	122	333	0	463	0	21	43	0	0
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	1381	0	1458	1638	0	0
Q Serve(g_s), s	1.9	10.2	12.5	6.6	7.2	0.0	18.3	0.0	0.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.9	10.2	12.5	6.6	7.2	0.0	19.4	0.0	0.6	1.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.97		1.00	0.07		0.70
Lane Grp Cap(c), veh/h	42	295	264	145	814	0	862	0	827	971	0	0
V/C Ratio(X)	0.82	0.72	0.86	0.84	0.41	0.00	0.54	0.00	0.03	0.04	0.00	0.00
Avail Cap(c_a), veh/h	91	324	290	145	814	0	862	0	827	971	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	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.6	35.5	36.5	40.4	29.5	0.0	12.6	0.0	8.6	8.7	0.0	0.0
Incr Delay (d2), s/veh	30.6	6.6	20.3	33.3	0.3	0.0	2.4	0.0	0.1	0.1	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	1.2	5.5	6.9	4.3	3.6	0.0	7.9	0.0	0.2	0.5	0.0	0.0
LnGrp Delay(d),s/veh	74.2	42.1	56.8	73.7	29.8	0.0	15.0	0.0	8.6	8.8	0.0	0.0
LnGrp LOS	E	D	E	E	C		B		A	A		
Approach Vol, veh/h		471			455			484			43	
Approach Delay, s/veh		51.5			41.6			14.7			8.8	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		55.0	14.0	21.0		55.0	8.3	26.7
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		49.5	8.0	16.5		49.5	5.0	19.5
Max Q Clear Time (g_c+I1), s		21.4	8.6	14.5		3.0	3.9	9.2
Green Ext Time (p_c), s		3.8	0.0	0.5		4.1	0.0	3.1

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)	31	228	208	164	329	0	413	13	19	3	9	28
Future Volume (veh/h)	31	228	208	164	329	0	413	13	19	3	9	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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	34	248	226	178	358	0	449	14	21	3	10	30
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	295	258	206	941	0	799	23	789	75	233	618
Arrive On Green	0.02	0.16	0.16	0.13	0.27	0.00	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	1634	1789	1567	1634	3632	0	1340	42	1458	64	432	1143
Grp Volume(v), veh/h	34	245	229	178	358	0	463	0	21	43	0	0
Grp Sat Flow(s),veh/h/ln	1634	1770	1586	1634	1770	0	1382	0	1458	1638	0	0
Q Serve(g_s), s	2.0	12.8	13.4	10.2	7.9	0.0	20.6	0.0	0.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	12.8	13.4	10.2	7.9	0.0	21.7	0.0	0.6	1.2	0.0	0.0
Prop In Lane	1.00		0.99	1.00		0.00	0.97		1.00	0.07		0.70
Lane Grp Cap(c), veh/h	41	292	262	206	941	0	822	0	789	927	0	0
V/C Ratio(X)	0.84	0.84	0.87	0.86	0.38	0.00	0.56	0.00	0.03	0.05	0.00	0.00
Avail Cap(c_a), veh/h	86	307	275	206	941	0	822	0	789	927	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	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.2	38.5	38.8	40.8	28.5	0.0	14.9	0.0	10.2	10.3	0.0	0.0
Incr Delay (d2), s/veh	33.4	17.9	24.6	29.5	0.3	0.0	2.8	0.0	0.1	0.1	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	1.3	7.7	7.6	6.3	3.9	0.0	8.9	0.0	0.3	0.5	0.0	0.0
LnGrp Delay(d),s/veh	79.6	56.4	63.4	70.3	28.8	0.0	17.7	0.0	10.2	10.4	0.0	0.0
LnGrp LOS	E	E	E	E	C		B		B	B		
Approach Vol, veh/h		508			536			484			43	
Approach Delay, s/veh		61.1			42.6			17.4			10.4	
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		55.5	18.0	21.7		55.5	8.4	31.3
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		51.5	12.0	16.5		51.5	5.0	23.5
Max Q Clear Time (g_c+I1), s		23.7	12.2	15.4		3.2	4.0	9.9
Green Ext Time (p_c), s		3.8	0.0	0.3		4.1	0.0	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	39.9
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	228	208	164	329	0	413	13	19	3	9	28
Future Volume (veh/h)	31	228	208	164	329	0	413	13	19	3	9	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	1716	1863	1750	1716	1863	1750	1716	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	34	248	226	178	358	0	449	14	21	3	10	30
Adj No. of Lanes	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	641	562	213	1640	0	984	621	486	58	150	382
Arrive On Green	0.03	0.36	0.36	0.13	0.46	0.00	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1634	1789	1567	1634	3632	0	2433	1863	1458	47	450	1147
Grp Volume(v), veh/h	34	245	229	178	358	0	449	14	21	43	0	0
Grp Sat Flow(s),veh/h/ln	1634	1770	1586	1634	1770	0	1217	1863	1458	1644	0	0
Q Serve(g_s), s	1.9	9.3	9.7	9.6	5.4	0.0	11.4	0.5	0.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.9	9.3	9.7	9.6	5.4	0.0	13.0	0.5	0.9	1.6	0.0	0.0
Prop In Lane	1.00		0.99	1.00		0.00	1.00		1.00	0.07		0.70
Lane Grp Cap(c), veh/h	42	634	569	213	1640	0	984	621	486	591	0	0
V/C Ratio(X)	0.82	0.39	0.40	0.84	0.22	0.00	0.46	0.02	0.04	0.07	0.00	0.00
Avail Cap(c_a), veh/h	127	634	569	399	1640	0	984	621	486	591	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)	0.54	0.54	0.54	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.6	21.5	21.6	38.2	14.4	0.0	24.2	20.2	20.3	20.5	0.0	0.0
Incr Delay (d2), s/veh	18.4	1.0	1.1	8.3	0.3	0.0	1.5	0.1	0.2	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	1.1	4.7	4.4	4.8	2.7	0.0	4.7	0.2	0.4	0.8	0.0	0.0
LnGrp Delay(d),s/veh	62.1	22.5	22.8	46.5	14.7	0.0	25.7	20.2	20.5	20.8	0.0	0.0
LnGrp LOS	E	C	C	D	B		C	C	C	C		
Approach Vol, veh/h		508			536			484			43	
Approach Delay, s/veh		25.3			25.3			25.3			20.8	
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		34.0	17.7	38.3		34.0	8.3	47.7
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		30.0	22.0	22.0		30.0	7.0	37.0
Max Q Clear Time (g_c+I1), s		15.0	11.6	11.7		3.6	3.9	7.4
Green Ext Time (p_c), s		2.2	0.3	3.3		2.5	0.0	4.9

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)	42	254	241	142	412	0	479	18	22	3	10	30
Future Volume (veh/h)	42	254	241	142	412	0	479	18	22	3	10	30
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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	46	276	262	154	448	0	521	20	24	3	11	33
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	324	290	145	842	0	188	4	802	43	129	305
Arrive On Green	0.03	0.18	0.18	0.09	0.24	0.00	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	199	8	1458	0	235	555
Grp Volume(v), veh/h	46	276	262	154	448	0	541	0	24	47	0	0
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	206	0	1458	790	0	0
Q Serve(g_s), s	2.5	13.6	14.6	8.0	9.9	0.0	0.0	0.0	0.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	13.6	14.6	8.0	9.9	0.0	49.5	0.0	0.7	49.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.96		1.00	0.06		0.70
Lane Grp Cap(c), veh/h	56	324	290	145	842	0	192	0	802	477	0	0
V/C Ratio(X)	0.82	0.85	0.90	1.06	0.53	0.00	2.82	0.00	0.03	0.10	0.00	0.00
Avail Cap(c_a), veh/h	91	324	290	145	842	0	192	0	802	477	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	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.2	35.6	36.0	41.0	29.9	0.0	30.4	0.0	9.3	13.1	0.0	0.0
Incr Delay (d2), s/veh	25.3	18.9	29.2	91.6	0.6	0.0	832.6	0.0	0.1	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	1.5	8.3	8.7	7.3	4.9	0.0	49.1	0.0	0.3	0.6	0.0	0.0
LnGrp Delay(d),s/veh	68.5	54.5	65.2	132.7	30.6	0.0	863.0	0.0	9.3	13.5	0.0	0.0
LnGrp LOS	E	D	E	F	C		F		A	B		
Approach Vol, veh/h		584			602			565			47	
Approach Delay, s/veh		60.4			56.7			826.7			13.5	
Approach LOS		E			E			F			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		53.5	14.0	22.5		53.5	9.1	27.4
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		49.5	8.0	16.5		49.5	5.0	19.5
Max Q Clear Time (g_c+I1), s		51.5	10.0	16.6		51.5	4.5	11.9
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	298.7
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	296	241	208	440	0	479	18	22	3	10	30
Future Volume (veh/h)	42	296	241	208	440	0	479	18	22	3	10	30
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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	46	322	262	226	478	0	521	20	24	3	11	33
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	322	257	204	929	0	178	4	782	40	123	291
Arrive On Green	0.03	0.17	0.17	0.13	0.26	0.00	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	1634	1875	1493	1634	3632	0	194	7	1458	0	230	542
Grp Volume(v), veh/h	46	303	281	226	478	0	541	0	24	47	0	0
Grp Sat Flow(s),veh/h/ln	1634	1770	1599	1634	1770	0	201	0	1458	771	0	0
Q Serve(g_s), s	2.7	16.5	16.5	12.0	11.1	0.0	0.0	0.0	0.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	16.5	16.5	12.0	11.1	0.0	51.5	0.0	0.7	51.5	0.0	0.0
Prop In Lane	1.00		0.93	1.00		0.00	0.96		1.00	0.06		0.70
Lane Grp Cap(c), veh/h	56	304	275	204	929	0	182	0	782	454	0	0
V/C Ratio(X)	0.82	1.00	1.02	1.11	0.51	0.00	2.98	0.00	0.03	0.10	0.00	0.00
Avail Cap(c_a), veh/h	85	304	275	204	929	0	182	0	782	454	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	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.0	39.7	39.8	42.0	30.2	0.0	32.7	0.0	10.5	14.6	0.0	0.0
Incr Delay (d2), s/veh	29.3	50.9	59.7	94.4	0.5	0.0	905.1	0.0	0.1	0.5	0.0	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	1.7	12.3	11.8	10.7	5.4	0.0	50.5	0.0	0.3	0.6	0.0	0.0
LnGrp Delay(d),s/veh	75.3	90.7	99.6	136.4	30.7	0.0	937.8	0.0	10.6	15.0	0.0	0.0
LnGrp LOS	E	F	F	F	C		F		B	B		
Approach Vol, veh/h		630			704			565			47	
Approach Delay, s/veh		93.5			64.6			898.4			15.0	
Approach LOS		F			E			F			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		55.5	18.0	22.5		55.5	9.3	31.2
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		51.5	12.0	16.5		51.5	5.0	23.5
Max Q Clear Time (g_c+I1), s		53.5	14.0	18.5		53.5	4.7	13.1
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	314.8
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	296	241	208	440	0	479	18	22	3	10	30
Future Volume (veh/h)	42	296	241	208	440	0	479	18	22	3	10	30
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	1716	1863	1750	1716	1863	1750	1716	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	46	322	262	226	478	0	521	20	24	3	11	33
Adj No. of Lanes	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	616	491	262	1609	0	983	621	486	56	150	385
Arrive On Green	0.03	0.33	0.33	0.16	0.45	0.00	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1634	1875	1493	1634	3632	0	2424	1863	1458	40	450	1154
Grp Volume(v), veh/h	46	303	281	226	478	0	521	20	24	47	0	0
Grp Sat Flow(s),veh/h/ln	1634	1770	1599	1634	1770	0	1212	1863	1458	1644	0	0
Q Serve(g_s), s	2.5	12.5	12.9	12.1	7.7	0.0	14.0	0.7	1.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	12.5	12.9	12.1	7.7	0.0	15.7	0.7	1.0	1.8	0.0	0.0
Prop In Lane	1.00		0.93	1.00		0.00	1.00		1.00	0.06		0.70
Lane Grp Cap(c), veh/h	56	581	525	262	1609	0	983	621	486	591	0	0
V/C Ratio(X)	0.82	0.52	0.53	0.86	0.30	0.00	0.53	0.03	0.05	0.08	0.00	0.00
Avail Cap(c_a), veh/h	127	581	525	399	1609	0	983	621	486	591	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)	0.49	0.49	0.49	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.2	24.5	24.6	36.8	15.5	0.0	25.1	20.2	20.3	20.6	0.0	0.0
Incr Delay (d2), s/veh	13.3	1.7	1.9	11.6	0.5	0.0	2.0	0.1	0.2	0.3	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	1.3	6.3	6.0	6.3	3.8	0.0	5.7	0.3	0.4	0.8	0.0	0.0
LnGrp Delay(d),s/veh	56.4	26.1	26.5	48.4	16.0	0.0	27.1	20.3	20.5	20.8	0.0	0.0
LnGrp LOS	E	C	C	D	B		C	C	C	C		
Approach Vol, veh/h		630			704			565			47	
Approach Delay, s/veh		28.5			26.4			26.6			20.8	
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		34.0	20.4	35.6		34.0	9.1	46.9
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		30.0	22.0	22.0		30.0	7.0	37.0
Max Q Clear Time (g_c+I1), s		17.7	14.1	14.9		3.8	4.5	9.7
Green Ext Time (p_c), s		2.4	0.4	3.3		3.0	0.0	6.5

Intersection Summary	
HCM 2010 Ctrl Delay	27.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	119	293	23	93	0	364	14	103	0	5	9
Future Volume (veh/h)	18	119	293	23	93	0	364	14	103	0	5	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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	20	129	318	25	101	0	396	15	112	0	5	10
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	389	348	34	195	0	852	29	834	0	318	636
Arrive On Green	0.19	0.22	0.22	0.02	0.06	0.00	0.57	0.57	0.57	0.00	0.57	0.57
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	1345	51	1458	0	556	1111
Grp Volume(v), veh/h	20	129	318	25	101	0	411	0	112	0	0	15
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	1396	0	1458	0	0	1667
Q Serve(g_s), s	0.9	5.3	16.8	1.3	2.4	0.0	15.3	0.0	3.0	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.9	5.3	16.8	1.3	2.4	0.0	15.6	0.0	3.0	0.0	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.00	0.96		1.00	0.00		0.67
Lane Grp Cap(c), veh/h	304	389	348	34	195	0	881	0	834	0	0	954
V/C Ratio(X)	0.07	0.33	0.91	0.73	0.52	0.00	0.47	0.00	0.13	0.00	0.00	0.02
Avail Cap(c_a), veh/h	304	393	351	114	827	0	881	0	834	0	0	954
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	28.7	28.1	32.6	41.7	39.3	0.0	11.3	0.0	8.5	0.0	0.0	7.9
Incr Delay (d2), s/veh	0.1	0.5	27.2	25.5	2.1	0.0	1.8	0.0	0.3	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	0.4	2.6	10.0	0.8	1.2	0.0	6.3	0.0	1.3	0.0	0.0	0.2
LnGrp Delay(d),s/veh	28.8	28.6	59.8	67.2	41.5	0.0	13.0	0.0	8.8	0.0	0.0	7.9
LnGrp LOS	C	C	E	E	D		B		A			A
Approach Vol, veh/h		467			126			523			15	
Approach Delay, s/veh		49.8			46.6			12.1			7.9	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		53.0	7.8	24.8		53.0	21.9	10.7
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		49.0	6.0	19.0		49.0	5.0	20.0
Max Q Clear Time (g_c+I1), s		17.6	3.3	18.8		2.3	2.9	4.4
Green Ext Time (p_c), s		3.5	0.0	0.1		3.6	0.5	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	31.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	189	293	41	101	0	364	14	103	0	5	9
Future Volume (veh/h)	18	189	293	41	101	0	364	14	103	0	5	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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	20	205	318	45	110	0	396	15	112	0	5	10
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	387	346	55	204	0	840	29	822	0	313	626
Arrive On Green	0.19	0.22	0.22	0.03	0.06	0.00	0.56	0.56	0.56	0.00	0.56	0.56
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	1345	51	1458	0	556	1111
Grp Volume(v), veh/h	20	205	318	45	110	0	411	0	112	0	0	15
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	1396	0	1458	0	0	1667
Q Serve(g_s), s	0.9	8.9	17.1	2.4	2.6	0.0	15.8	0.0	3.2	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.9	8.9	17.1	2.4	2.6	0.0	16.1	0.0	3.2	0.0	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.00	0.96		1.00	0.00		0.67
Lane Grp Cap(c), veh/h	318	387	346	55	204	0	868	0	822	0	0	940
V/C Ratio(X)	0.06	0.53	0.92	0.82	0.54	0.00	0.47	0.00	0.14	0.00	0.00	0.02
Avail Cap(c_a), veh/h	318	387	346	113	814	0	868	0	822	0	0	940
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	28.6	30.0	33.2	41.7	39.8	0.0	11.9	0.0	9.0	0.0	0.0	8.3
Incr Delay (d2), s/veh	0.1	1.4	28.7	25.2	2.2	0.0	1.8	0.0	0.3	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	0.4	4.5	10.2	1.5	1.3	0.0	6.5	0.0	1.4	0.0	0.0	0.2
LnGrp Delay(d),s/veh	28.6	31.4	61.9	67.0	42.0	0.0	13.7	0.0	9.3	0.0	0.0	8.4
LnGrp LOS	C	C	E	E	D		B		A			A
Approach Vol, veh/h		543			155			523			15	
Approach Delay, s/veh		49.2			49.3			12.8			8.4	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		53.0	8.9	25.0		53.0	22.9	11.0
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		49.0	6.0	19.0		49.0	5.0	20.0
Max Q Clear Time (g_c+I1), s		18.1	4.4	19.1		2.3	2.9	4.6
Green Ext Time (p_c), s		3.5	0.0	0.0		3.6	0.6	0.4

Intersection Summary

HCM 2010 Ctrl Delay	33.3
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	182	340	41	125	0	422	19	120	0	5	9
Future Volume (veh/h)	24	182	340	41	125	0	422	19	120	0	5	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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	26	198	370	45	136	0	459	21	130	0	5	10
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	330	295	55	703	0	882	37	875	0	333	667
Arrive On Green	0.02	0.19	0.19	0.03	0.20	0.00	0.60	0.60	0.60	0.00	0.60	0.60
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	1339	61	1458	0	556	1111
Grp Volume(v), veh/h	26	198	370	45	136	0	480	0	130	0	0	15
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	1400	0	1458	0	0	1667
Q Serve(g_s), s	1.4	9.1	16.6	2.4	2.8	0.0	18.6	0.0	3.5	0.0	0.0	0.3
Cycle Q Clear(g_c), s	1.4	9.1	16.6	2.4	2.8	0.0	18.9	0.0	3.5	0.0	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.00	0.96		1.00	0.00		0.67
Lane Grp Cap(c), veh/h	35	330	295	55	703	0	919	0	875	0	0	1000
V/C Ratio(X)	0.75	0.60	1.25	0.82	0.19	0.00	0.52	0.00	0.15	0.00	0.00	0.01
Avail Cap(c_a), veh/h	73	330	295	73	703	0	919	0	875	0	0	1000
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	43.3	33.1	36.2	42.7	29.7	0.0	11.0	0.0	7.8	0.0	0.0	7.2
Incr Delay (d2), s/veh	26.7	3.0	138.5	40.0	0.1	0.0	2.1	0.0	0.4	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	0.9	4.7	18.6	1.7	1.4	0.0	7.7	0.0	1.5	0.0	0.0	0.2
LnGrp Delay(d),s/veh	70.0	36.1	174.6	82.8	29.8	0.0	13.1	0.0	8.2	0.0	0.0	7.2
LnGrp LOS	E	D	F	F	C		B		A			A
Approach Vol, veh/h		594			181			610			15	
Approach Delay, s/veh		123.9			43.0			12.1			7.2	
Approach LOS		F			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		57.4	9.0	22.6		57.4	7.9	23.7
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		53.4	4.0	16.6		53.4	4.0	16.6
Max Q Clear Time (g_c+I1), s		20.9	4.4	18.6		2.3	3.4	4.8
Green Ext Time (p_c), s		4.2	0.0	0.0		4.4	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	63.5
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	252	340	59	133	0	422	19	120	0	5	9
Future Volume (veh/h)	24	252	340	59	133	0	422	19	120	0	5	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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	26	274	370	64	145	0	459	21	130	0	5	10
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	326	292	73	735	0	872	36	865	0	330	659
Arrive On Green	0.02	0.18	0.18	0.04	0.21	0.00	0.59	0.59	0.59	0.00	0.59	0.59
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	1338	61	1458	0	556	1111
Grp Volume(v), veh/h	26	274	370	64	145	0	480	0	130	0	0	15
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	1400	0	1458	0	0	1667
Q Serve(g_s), s	1.4	13.4	16.6	3.5	3.0	0.0	19.1	0.0	3.6	0.0	0.0	0.3
Cycle Q Clear(g_c), s	1.4	13.4	16.6	3.5	3.0	0.0	19.4	0.0	3.6	0.0	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.00	0.96		1.00	0.00		0.67
Lane Grp Cap(c), veh/h	35	326	292	73	735	0	909	0	865	0	0	989
V/C Ratio(X)	0.75	0.84	1.27	0.88	0.20	0.00	0.53	0.00	0.15	0.00	0.00	0.02
Avail Cap(c_a), veh/h	73	326	292	73	735	0	909	0	865	0	0	989
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	43.8	35.4	36.7	42.8	29.5	0.0	11.5	0.0	8.2	0.0	0.0	7.5
Incr Delay (d2), s/veh	27.0	17.4	144.5	66.6	0.1	0.0	2.2	0.0	0.4	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	0.9	8.1	18.9	2.9	1.5	0.0	7.9	0.0	1.5	0.0	0.0	0.2
LnGrp Delay(d),s/veh	70.8	52.8	181.2	109.4	29.6	0.0	13.7	0.0	8.5	0.0	0.0	7.5
LnGrp LOS	E	D	F	F	C		B		A			A
Approach Vol, veh/h		670			209			610			15	
Approach Delay, s/veh		124.4			54.0			12.6			7.5	
Approach LOS		F			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		57.4	10.0	22.6		57.4	7.9	24.7
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		53.4	4.0	16.6		53.4	4.0	16.6
Max Q Clear Time (g_c+I1), s		21.4	5.5	18.6		2.3	3.4	5.0
Green Ext Time (p_c), s		4.2	0.0	0.0		4.4	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	68.1
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	252	340	59	133	0	422	19	120	0	5	9
Future Volume (veh/h)	24	252	340	59	133	0	422	19	120	0	5	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	1716	1863	1750	1716	1863	1750	1716	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	26	274	370	64	145	0	459	21	130	0	5	10
Adj No. of Lanes	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	778	696	81	1655	0	974	621	486	0	185	370
Arrive On Green	0.02	0.44	0.44	0.05	0.47	0.00	0.33	0.33	0.33	0.00	0.33	0.33
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	2489	1863	1458	0	556	1111
Grp Volume(v), veh/h	26	274	370	64	145	0	459	21	130	0	0	15
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	1244	1863	1458	0	0	1667
Q Serve(g_s), s	1.4	9.2	15.4	3.5	2.0	0.0	13.7	0.7	5.9	0.0	0.0	0.5
Cycle Q Clear(g_c), s	1.4	9.2	15.4	3.5	2.0	0.0	14.2	0.7	5.9	0.0	0.0	0.5
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.67
Lane Grp Cap(c), veh/h	35	778	696	81	1655	0	974	621	486	0	0	556
V/C Ratio(X)	0.75	0.35	0.53	0.79	0.09	0.00	0.47	0.03	0.27	0.00	0.00	0.03
Avail Cap(c_a), veh/h	127	778	696	399	1655	0	974	621	486	0	0	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.54	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	43.8	16.7	18.5	42.3	13.3	0.0	25.0	20.2	22.0	0.0	0.0	20.2
Incr Delay (d2), s/veh	15.9	0.7	1.6	15.6	0.1	0.0	1.6	0.1	1.3	0.0	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	0.8	4.6	7.0	1.9	1.0	0.0	4.9	0.4	2.5	0.0	0.0	0.3
LnGrp Delay(d),s/veh	59.7	17.4	20.0	57.9	13.4	0.0	26.6	20.3	23.3	0.0	0.0	20.3
LnGrp LOS	E	B	C	E	B		C	C	C			C
Approach Vol, veh/h		670			209			610			15	
Approach Delay, s/veh		20.5			27.0			25.7			20.3	
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		34.0	10.5	45.5		34.0	7.9	48.1
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		30.0	22.0	22.0		30.0	7.0	37.0
Max Q Clear Time (g_c+I1), s		16.2	5.5	17.4		2.5	3.4	4.0
Green Ext Time (p_c), s		2.3	0.1	1.8		2.8	0.0	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	237	395	52	168	0	490	25	139	0	6	10
Future Volume (veh/h)	33	237	395	52	168	0	490	25	139	0	6	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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	36	258	429	57	183	0	533	27	151	0	7	11
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	327	292	70	713	0	868	40	866	0	389	610
Arrive On Green	0.03	0.18	0.18	0.04	0.20	0.00	0.59	0.59	0.59	0.00	0.59	0.59
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	1329	67	1458	0	654	1028
Grp Volume(v), veh/h	36	258	429	57	183	0	560	0	151	0	0	18
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	1396	0	1458	0	0	1681
Q Serve(g_s), s	2.0	12.5	16.6	3.1	3.9	0.0	24.4	0.0	4.2	0.0	0.0	0.4
Cycle Q Clear(g_c), s	2.0	12.5	16.6	3.1	3.9	0.0	24.8	0.0	4.2	0.0	0.0	0.4
Prop In Lane	1.00		1.00	1.00		0.00	0.95		1.00	0.00		0.61
Lane Grp Cap(c), veh/h	43	327	292	70	713	0	908	0	866	0	0	999
V/C Ratio(X)	0.83	0.79	1.47	0.81	0.26	0.00	0.62	0.00	0.17	0.00	0.00	0.02
Avail Cap(c_a), veh/h	73	327	292	73	713	0	908	0	866	0	0	999
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	43.6	35.0	36.6	42.6	30.2	0.0	12.6	0.0	8.3	0.0	0.0	7.5
Incr Delay (d2), s/veh	31.9	12.2	228.0	46.4	0.2	0.0	3.1	0.0	0.4	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	1.3	7.2	25.7	2.3	1.9	0.0	10.1	0.0	1.8	0.0	0.0	0.2
LnGrp Delay(d),s/veh	75.5	47.2	264.6	89.0	30.4	0.0	15.7	0.0	8.7	0.0	0.0	7.5
LnGrp LOS	E	D	F	F	C		B		A			A
Approach Vol, veh/h		723			240			711			18	
Approach Delay, s/veh		177.6			44.3			14.2			7.5	
Approach LOS		F			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		57.4	9.9	22.6		57.4	8.4	24.1
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		53.4	4.0	16.6		53.4	4.0	16.6
Max Q Clear Time (g_c+I1), s		26.8	5.1	18.6		2.4	4.0	5.9
Green Ext Time (p_c), s		5.0	0.0	0.0		5.4	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	88.2
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	323	395	75	178	0	490	25	139	0	6	10
Future Volume (veh/h)	33	323	395	75	178	0	490	25	139	0	6	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	1716	1863	1750	1716	1863	1750	1750	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	36	351	429	82	193	0	533	27	151	0	7	11
Adj No. of Lanes	1	2	0	1	2	0	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	326	292	73	717	0	866	40	865	0	388	610
Arrive On Green	0.03	0.18	0.18	0.04	0.20	0.00	0.59	0.59	0.59	0.00	0.59	0.59
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	1329	67	1458	0	654	1028
Grp Volume(v), veh/h	36	351	429	82	193	0	560	0	151	0	0	18
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	1396	0	1458	0	0	1681
Q Serve(g_s), s	2.0	16.6	16.6	4.0	4.1	0.0	24.5	0.0	4.2	0.0	0.0	0.4
Cycle Q Clear(g_c), s	2.0	16.6	16.6	4.0	4.1	0.0	24.9	0.0	4.2	0.0	0.0	0.4
Prop In Lane	1.00		1.00	1.00		0.00	0.95		1.00	0.00		0.61
Lane Grp Cap(c), veh/h	43	326	292	73	717	0	906	0	865	0	0	998
V/C Ratio(X)	0.84	1.08	1.47	1.13	0.27	0.00	0.62	0.00	0.17	0.00	0.00	0.02
Avail Cap(c_a), veh/h	73	326	292	73	717	0	906	0	865	0	0	998
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	43.6	36.7	36.7	43.0	30.3	0.0	12.6	0.0	8.3	0.0	0.0	7.5
Incr Delay (d2), s/veh	32.0	71.3	228.9	145.0	0.2	0.0	3.2	0.0	0.4	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	14.5	25.8	4.7	2.0	0.0	10.1	0.0	1.8	0.0	0.0	0.2
LnGrp Delay(d),s/veh	75.6	108.0	265.6	188.0	30.5	0.0	15.8	0.0	8.7	0.0	0.0	7.6
LnGrp LOS	E	F	F	F	C		B		A			A
Approach Vol, veh/h		816			275			711			18	
Approach Delay, s/veh		189.4			77.5			14.3			7.6	
Approach LOS		F			E			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		57.4	10.0	22.6		57.4	8.4	24.2
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		53.4	4.0	16.6		53.4	4.0	16.6
Max Q Clear Time (g_c+I1), s		26.9	6.0	18.6		2.4	4.0	6.1
Green Ext Time (p_c), s		5.0	0.0	0.0		5.4	0.0	0.8

Intersection Summary

HCM 2010 Ctrl Delay	102.3
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	323	395	75	178	0	490	25	139	0	6	10
Future Volume (veh/h)	33	323	395	75	178	0	490	25	139	0	6	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	1716	1863	1750	1716	1863	1750	1716	1863	1716	1750	1863	1750
Adj Flow Rate, veh/h	36	351	429	82	193	0	533	27	151	0	7	11
Adj No. of Lanes	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	752	673	104	1637	0	969	621	486	0	218	343
Arrive On Green	0.03	0.43	0.43	0.06	0.46	0.00	0.33	0.33	0.33	0.00	0.33	0.33
Sat Flow, veh/h	1634	1770	1583	1634	3632	0	2482	1863	1458	0	654	1028
Grp Volume(v), veh/h	36	351	429	82	193	0	533	27	151	0	0	18
Grp Sat Flow(s),veh/h/ln	1634	1770	1583	1634	1770	0	1241	1863	1458	0	0	1681
Q Serve(g_s), s	2.0	12.8	19.2	4.5	2.8	0.0	16.6	0.9	6.9	0.0	0.0	0.6
Cycle Q Clear(g_c), s	2.0	12.8	19.2	4.5	2.8	0.0	17.2	0.9	6.9	0.0	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.61
Lane Grp Cap(c), veh/h	43	752	673	104	1637	0	969	621	486	0	0	560
V/C Ratio(X)	0.84	0.47	0.64	0.79	0.12	0.00	0.55	0.04	0.31	0.00	0.00	0.03
Avail Cap(c_a), veh/h	127	752	673	399	1637	0	969	621	486	0	0	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.46	0.46	0.46	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	43.6	18.6	20.4	41.5	13.7	0.0	26.0	20.3	22.3	0.0	0.0	20.2
Incr Delay (d2), s/veh	17.2	1.0	2.1	12.3	0.1	0.0	2.2	0.1	1.7	0.0	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	1.1	6.4	8.7	2.4	1.4	0.0	6.0	0.5	3.0	0.0	0.0	0.3
LnGrp Delay(d),s/veh	60.8	19.5	22.5	53.8	13.9	0.0	28.3	20.4	24.0	0.0	0.0	20.3
LnGrp LOS	E	B	C	D	B		C	C	C			C
Approach Vol, veh/h		816			275			711			18	
Approach Delay, s/veh		22.9			25.8			27.1			20.3	
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		34.0	11.7	44.3		34.0	8.4	47.6
Change Period (Y+Rc), s		4.0	6.0	6.0		4.0	6.0	6.0
Max Green Setting (Gmax), s		30.0	22.0	22.0		30.0	7.0	37.0
Max Q Clear Time (g_c+I1), s		19.2	6.5	21.2		2.6	4.0	4.8
Green Ext Time (p_c), s		2.5	0.1	0.4		3.3	0.0	6.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C

Intersection 3
Porterville Hwy (SR 65) & Lerdo Hwy

Intersection

Int Delay, s/veh 3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	5	229	87	368	403	12
Future Vol, veh/h	5	229	87	368	403	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	30	370	-	-	-
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	249	95	400	438	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1034	445	451	0	-	0
Stage 1	445	-	-	-	-	-
Stage 2	589	-	-	-	-	-
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	257	613	1109	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	235	613	1109	-	-	-
Mov Cap-2 Maneuver	235	-	-	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	507	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1109	-	235	613	-	-
HCM Lane V/C Ratio	0.085	-	0.023	0.406	-	-
HCM Control Delay (s)	8.5	-	20.7	14.8	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.1	2	-	-

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	5	263	162	387	412	12
Future Vol, veh/h	5	263	162	387	412	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	30	370	-	-	-
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	286	176	421	448	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1227	454	461	0	-	0
Stage 1	454	-	-	-	-	-
Stage 2	773	-	-	-	-	-
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	197	606	1100	-	-	-
Stage 1	640	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	165	606	1100	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	640	-	-	-	-	-
Stage 2	382	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1100	-	165	606	-	-
HCM Lane V/C Ratio	0.16	-	0.033	0.472	-	-
HCM Control Delay (s)	8.9	-	27.6	16.1	-	-
HCM Lane LOS	A	-	D	C	-	-
HCM 95th %tile Q(veh)	0.6	-	0.1	2.5	-	-

Intersection

Int Delay, s/veh 4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	6	285	133	491	470	13
Future Vol, veh/h	6	285	133	491	470	13
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	30	370	-	-	-
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	310	145	534	511	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1341	518	525	0	-	0
Stage 1	518	-	-	-	-	-
Stage 2	823	-	-	-	-	-
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	168	558	1042	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	145	558	1042	-	-	-
Mov Cap-2 Maneuver	145	-	-	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	371	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.4	1.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1042	-	145	558	-	-
HCM Lane V/C Ratio	0.139	-	0.045	0.555	-	-
HCM Control Delay (s)	9	-	31	19.2	-	-
HCM Lane LOS	A	-	D	C	-	-
HCM 95th %tile Q(veh)	0.5	-	0.1	3.4	-	-

Intersection

Int Delay, s/veh 6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	6	319	208	510	479	13
Future Vol, veh/h	6	319	208	510	479	13
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	30	370	-	-	-
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	347	226	554	521	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1535	528	535	0	-	0
Stage 1	528	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
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	128	550	1033	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	100	550	1033	-	-	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	276	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.4	2.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1033	-	100	550	-	-
HCM Lane V/C Ratio	0.219	-	0.065	0.63	-	-
HCM Control Delay (s)	9.5	-	43.5	22	-	-
HCM Lane LOS	A	-	E	C	-	-
HCM 95th %tile Q(veh)	0.8	-	0.2	4.4	-	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	319	208	510	479	13
Future Volume (veh/h)	6	319	208	510	479	13
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	1716	1716	1716	1863	1863	1716
Adj Flow Rate, veh/h	7	347	226	554	521	14
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	411	367	495	1249	1249	978
Arrive On Green	0.25	0.25	0.67	0.67	0.67	0.67
Sat Flow, veh/h	1634	1458	798	1863	1863	1458
Grp Volume(v), veh/h	7	347	226	554	521	14
Grp Sat Flow(s),veh/h/ln	1634	1458	798	1863	1863	1458
Q Serve(g_s), s	0.4	26.9	20.8	16.0	14.7	0.4
Cycle Q Clear(g_c), s	0.4	26.9	35.5	16.0	14.7	0.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	411	367	495	1249	1249	978
V/C Ratio(X)	0.02	0.95	0.46	0.44	0.42	0.01
Avail Cap(c_a), veh/h	413	369	495	1249	1249	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.88	0.88	1.00	1.00
Uniform Delay (d), s/veh	32.4	42.3	16.8	8.9	8.7	6.3
Incr Delay (d2), s/veh	0.0	33.1	2.7	1.0	1.0	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	0.2	14.2	4.9	8.5	7.9	0.2
LnGrp Delay(d),s/veh	32.4	75.4	19.5	9.9	9.7	6.3
LnGrp LOS	C	E	B	A	A	A
Approach Vol, veh/h	354			780	535	
Approach Delay, s/veh	74.6			12.7	9.6	
Approach LOS	E			B	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		81.6		33.4		81.6		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		76.9		29.1		76.9		
Max Q Clear Time (g_c+I1), s		37.5		28.9		16.7		
Green Ext Time (p_c), s		9.3		0.0		9.8		

Intersection Summary

HCM 2010 Ctrl Delay	24.8
HCM 2010 LOS	C

Intersection

Int Delay, s/veh 6.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	8	327	158	616	523	15
Future Vol, veh/h	8	327	158	616	523	15
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	30	370	-	-	-
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	9	355	172	670	568	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1590	577	585	0	-	0
Stage 1	577	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
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	118	516	990	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	97	516	990	-	-	-
Mov Cap-2 Maneuver	97	-	-	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	290	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.5	1.9	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	990	-	97	516	-	-
HCM Lane V/C Ratio	0.173	-	0.09	0.689	-	-
HCM Control Delay (s)	9.4	-	45.7	26	-	-
HCM Lane LOS	A	-	E	D	-	-
HCM 95th %tile Q(veh)	0.6	-	0.3	5.3	-	-

Intersection

Int Delay, s/veh 8.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	8	369	252	639	534	15
Future Vol, veh/h	8	369	252	639	534	15
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	30	370	-	-	-
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	9	401	274	695	580	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1831	589	597	0	-	0
Stage 1	589	-	-	-	-	-
Stage 2	1242	-	-	-	-	-
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	84	508	980	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	272	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	61	508	980	-	-	-
Mov Cap-2 Maneuver	61	-	-	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	196	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	34.5	2.9	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	980	-	61	508	-	-
HCM Lane V/C Ratio	0.28	-	0.143	0.79	-	-
HCM Control Delay (s)	10.1	-	73.6	33.7	-	-
HCM Lane LOS	B	-	F	D	-	-
HCM 95th %tile Q(veh)	1.1	-	0.5	7.3	-	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	369	252	639	534	15
Future Volume (veh/h)	8	369	252	639	534	15
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	1716	1716	1716	1863	1863	1716
Adj Flow Rate, veh/h	9	401	274	695	580	16
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	413	369	454	1246	1246	975
Arrive On Green	0.25	0.25	0.67	0.67	0.67	0.67
Sat Flow, veh/h	1634	1458	754	1863	1863	1458
Grp Volume(v), veh/h	9	401	274	695	580	16
Grp Sat Flow(s),veh/h/ln	1634	1458	754	1863	1863	1458
Q Serve(g_s), s	0.5	29.1	31.6	22.7	17.2	0.4
Cycle Q Clear(g_c), s	0.5	29.1	48.8	22.7	17.2	0.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	413	369	454	1246	1246	975
V/C Ratio(X)	0.02	1.09	0.60	0.56	0.47	0.02
Avail Cap(c_a), veh/h	413	369	454	1246	1246	975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.81	0.81	1.00	1.00
Uniform Delay (d), s/veh	32.3	43.0	20.9	10.1	9.2	6.4
Incr Delay (d2), s/veh	0.0	72.1	4.8	1.5	1.3	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	0.2	19.1	7.1	12.1	9.1	0.2
LnGrp Delay(d),s/veh	32.3	115.0	25.7	11.5	10.4	6.4
LnGrp LOS	C	F	C	B	B	A
Approach Vol, veh/h	410			969	596	
Approach Delay, s/veh	113.2			15.5	10.3	
Approach LOS	F			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		81.4		33.6		81.4		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		76.9		29.1		76.9		
Max Q Clear Time (g_c+I1), s		50.8		31.1		19.2		
Green Ext Time (p_c), s		11.0		0.0		13.6		

Intersection Summary

HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

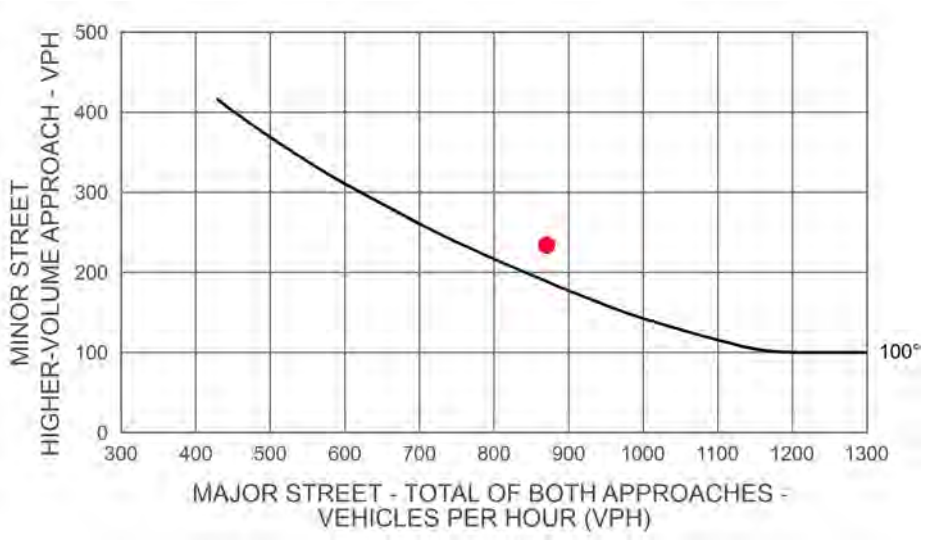
Scenario: PM Existing
Intersection #: 3

(Major Street)
Porterville Hwy (SR 65)

		12	**11**	**10**				
		12	403	0				
(Minor Street) Lerdo Hwy	**1**	5					0	**6**
	2	0					0	**5**
	3	229					0	**4**
		87	368	0				
		7	**8**	**9**				

(Major Street)
Porterville Hwy (SR 65)

Major Total: 870
Minor High Volume: 234



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

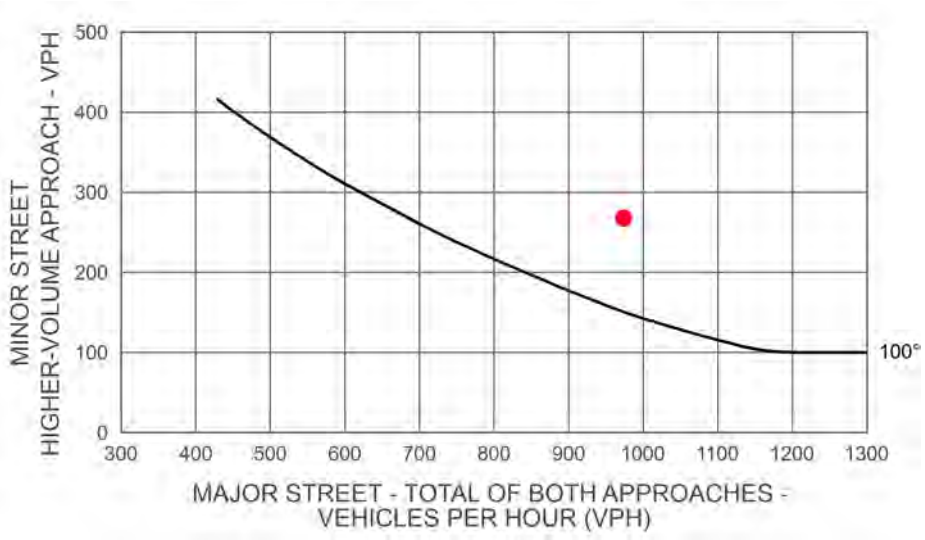
Scenario: PM Existing+Project Phase I
Intersection #: 3

(Major Street)
Porterville Hwy (SR 65)

		12	**11**	**10**				
		12	412	0				
(Minor Street) Lerdo Hwy	**1**	5					0	**6**
	2	0					0	**5**
	3	263					0	**4**
		162	387	0				
		7	**8**	**9**				

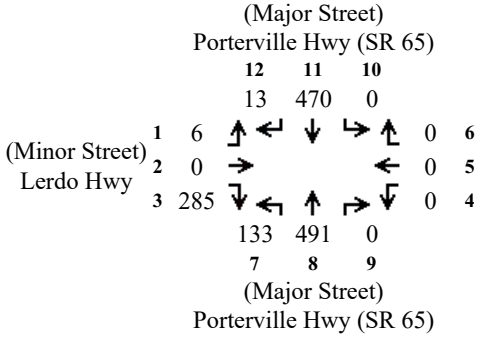
(Major Street)
Porterville Hwy (SR 65)

Major Total: 973
Minor High Volume: 268



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 3

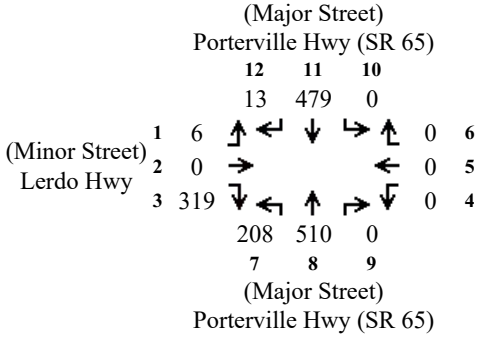


Major Total: 1107
Minor High Volume: 291



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 3



Major Total: 1210
Minor High Volume: 325



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 3

(Major Street)
Porterville Hwy (SR 65)

		12	**11**	**10**				
		15	523	0				
(Minor Street) Lerdo Hwy	**1**	8					0	**6**
	2	0					0	**5**
	3	327					0	**4**
		158	616	0				
		7	**8**	**9**				

(Major Street)
Porterville Hwy (SR 65)

Major Total: 1312
Minor High Volume: 335



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project Phase I & II
Intersection #: 3

(Major Street)
Porterville Hwy (SR 65)

		12	**11**	**10**				
		15	534	0				
1	8						0	**6**
2	0						0	**5**
3	369						0	**4**
		252	639	0				
		7	**8**	**9**				

(Minor Street)
Lerdo Hwy

(Major Street)
Porterville Hwy (SR 65)

Major Total: 1440
Minor High Volume: 377



Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	8	77	151	256	358	10
Future Vol, veh/h	8	77	151	256	358	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	30	370	-	-	-
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	9	84	164	278	389	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1002	395	400	0	-	0
Stage 1	395	-	-	-	-	-
Stage 2	607	-	-	-	-	-
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	269	654	1159	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	544	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	231	654	1159	-	-	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	467	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	3.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1159	-	231	654	-	-
HCM Lane V/C Ratio	0.142	-	0.038	0.128	-	-
HCM Control Delay (s)	8.6	-	21.2	11.3	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.1	0.4	-	-

Intersection

Int Delay, s/veh 3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	8	147	177	263	376	10
Future Vol, veh/h	8	147	177	263	376	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	30	370	-	-	-
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	9	160	192	286	409	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1085	414	420	0	-	0
Stage 1	414	-	-	-	-	-
Stage 2	671	-	-	-	-	-
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	240	638	1139	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	200	638	1139	-	-	-
Mov Cap-2 Maneuver	200	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	422	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	3.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1139	-	200	638	-	-
HCM Lane V/C Ratio	0.169	-	0.043	0.25	-	-
HCM Control Delay (s)	8.8	-	23.8	12.5	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.1	1	-	-

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	10	111	197	335	425	11
Future Vol, veh/h	10	111	197	335	425	11
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	30	370	-	-	-
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	11	121	214	364	462	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1260	468	474	0	-	0
Stage 1	468	-	-	-	-	-
Stage 2	792	-	-	-	-	-
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	188	595	1088	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	151	595	1088	-	-	-
Mov Cap-2 Maneuver	151	-	-	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	358	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	3.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1088	-	151	595	-	-
HCM Lane V/C Ratio	0.197	-	0.072	0.203	-	-
HCM Control Delay (s)	9.1	-	30.7	12.6	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.7	-	0.2	0.8	-	-

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	10	181	223	342	443	11
Future Vol, veh/h	10	181	223	342	443	11
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	30	370	-	-	-
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	11	197	242	372	482	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1344	487	493	0	-	0
Stage 1	487	-	-	-	-	-
Stage 2	857	-	-	-	-	-
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	167	581	1071	-	-	-
Stage 1	618	-	-	-	-	-
Stage 2	416	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	129	581	1071	-	-	-
Mov Cap-2 Maneuver	129	-	-	-	-	-
Stage 1	618	-	-	-	-	-
Stage 2	322	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	3.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1071	-	129	581	-	-
HCM Lane V/C Ratio	0.226	-	0.084	0.339	-	-
HCM Control Delay (s)	9.3	-	35.5	14.3	-	-
HCM Lane LOS	A	-	E	B	-	-
HCM 95th %tile Q(veh)	0.9	-	0.3	1.5	-	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	181	223	342	443	11
Future Volume (veh/h)	10	181	223	342	443	11
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	1716	1716	1716	1863	1863	1716
Adj Flow Rate, veh/h	11	197	242	372	482	12
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	251	224	632	1431	1431	1121
Arrive On Green	0.15	0.15	0.77	0.77	0.77	0.77
Sat Flow, veh/h	1634	1458	828	1863	1863	1458
Grp Volume(v), veh/h	11	197	242	372	482	12
Grp Sat Flow(s),veh/h/ln	1634	1458	828	1863	1863	1458
Q Serve(g_s), s	0.7	15.2	14.8	6.6	9.3	0.2
Cycle Q Clear(g_c), s	0.7	15.2	24.1	6.6	9.3	0.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	251	224	632	1431	1431	1121
V/C Ratio(X)	0.04	0.88	0.38	0.26	0.34	0.01
Avail Cap(c_a), veh/h	413	369	632	1431	1431	1121
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.94	0.94	1.00	1.00
Uniform Delay (d), s/veh	41.5	47.7	7.9	3.9	4.2	3.1
Incr Delay (d2), s/veh	0.1	12.9	1.7	0.4	0.6	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	0.3	6.9	3.7	3.6	4.9	0.1
LnGrp Delay(d),s/veh	41.6	60.5	9.6	4.3	4.8	3.1
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	208			614	494	
Approach Delay, s/veh	59.5			6.4	4.8	
Approach LOS	E			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		92.9		22.1		92.9		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		76.9		29.1		76.9		
Max Q Clear Time (g_c+I1), s		26.1		17.2		11.3		
Green Ext Time (p_c), s		7.4		0.5		7.4		

Intersection Summary

HCM 2010 Ctrl Delay	14.2
HCM 2010 LOS	B

Intersection

Int Delay, s/veh 3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	13	126	241	421	471	12
Future Vol, veh/h	13	126	241	421	471	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	30	370	-	-	-
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	137	262	458	512	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1500	518	525	0	-	0
Stage 1	518	-	-	-	-	-
Stage 2	982	-	-	-	-	-
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	134	558	1042	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	100	558	1042	-	-	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	272	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.6	3.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1042	-	100	558	-	-
HCM Lane V/C Ratio	0.251	-	0.141	0.245	-	-
HCM Control Delay (s)	9.6	-	46.8	13.5	-	-
HCM Lane LOS	A	-	E	B	-	-
HCM 95th %tile Q(veh)	1	-	0.5	1	-	-

Intersection

Int Delay, s/veh 4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	13	212	274	429	493	12
Future Vol, veh/h	13	212	274	429	493	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	30	370	-	-	-
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	230	298	466	536	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1604	542	549	0	-	0
Stage 1	542	-	-	-	-	-
Stage 2	1062	-	-	-	-	-
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	116	540	1021	-	-	-
Stage 1	583	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	82	540	1021	-	-	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	583	-	-	-	-	-
Stage 2	235	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	3.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1021	-	82	540	-	-
HCM Lane V/C Ratio	0.292	-	0.172	0.427	-	-
HCM Control Delay (s)	10	-	57.8	16.5	-	-
HCM Lane LOS	A	-	F	C	-	-
HCM 95th %tile Q(veh)	1.2	-	0.6	2.1	-	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	212	274	429	493	12
Future Volume (veh/h)	13	212	274	429	493	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	1716	1716	1716	1863	1863	1716
Adj Flow Rate, veh/h	14	230	298	466	536	13
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	287	257	569	1389	1389	1088
Arrive On Green	0.18	0.18	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1634	1458	787	1863	1863	1458
Grp Volume(v), veh/h	14	230	298	466	536	13
Grp Sat Flow(s),veh/h/ln	1634	1458	787	1863	1863	1458
Q Serve(g_s), s	0.8	17.7	25.0	9.8	11.8	0.3
Cycle Q Clear(g_c), s	0.8	17.7	36.8	9.8	11.8	0.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	287	257	569	1389	1389	1088
V/C Ratio(X)	0.05	0.90	0.52	0.34	0.39	0.01
Avail Cap(c_a), veh/h	413	369	569	1389	1389	1088
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.91	0.91	1.00	1.00
Uniform Delay (d), s/veh	39.4	46.4	11.8	5.0	5.2	3.7
Incr Delay (d2), s/veh	0.1	18.0	3.1	0.6	0.8	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	0.4	8.4	5.9	5.1	6.3	0.1
LnGrp Delay(d),s/veh	39.5	64.3	14.9	5.5	6.0	3.8
LnGrp LOS	D	E	B	A	A	A
Approach Vol, veh/h	244			764	549	
Approach Delay, s/veh	62.9			9.2	6.0	
Approach LOS	E			A	A	

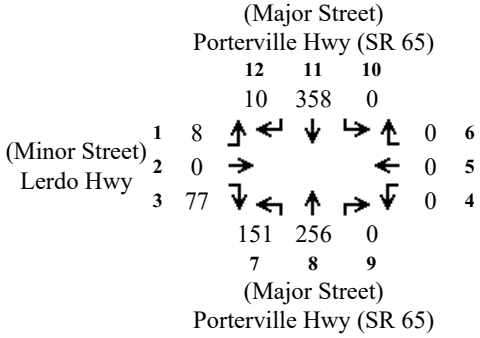
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		90.3		24.7		90.3		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		76.9		29.1		76.9		
Max Q Clear Time (g_c+I1), s		38.8		19.7		13.8		
Green Ext Time (p_c), s		9.4		0.5		9.9		

Intersection Summary

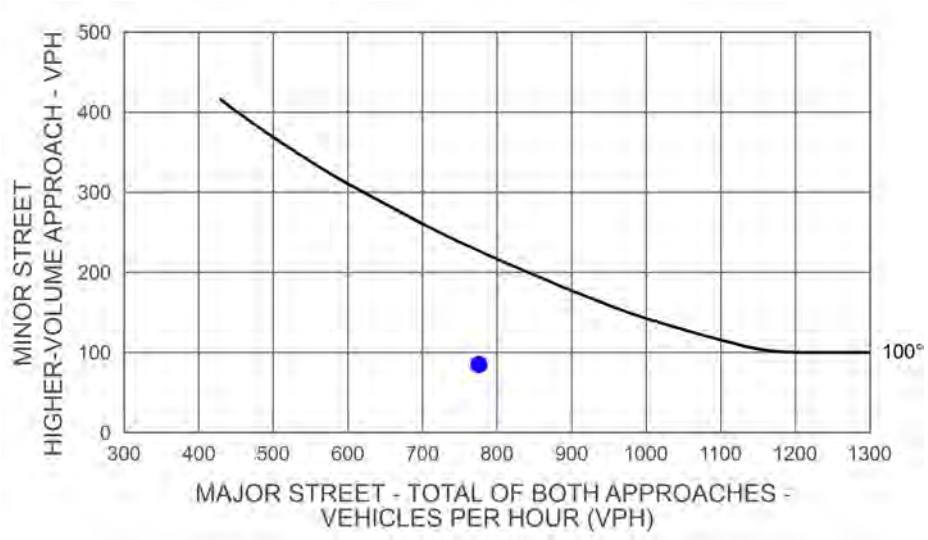
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 3

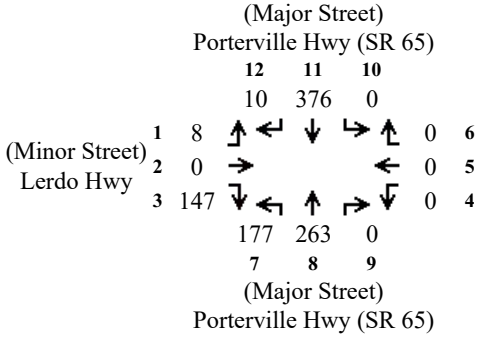


Major Total: 775
Minor High Volume: 85

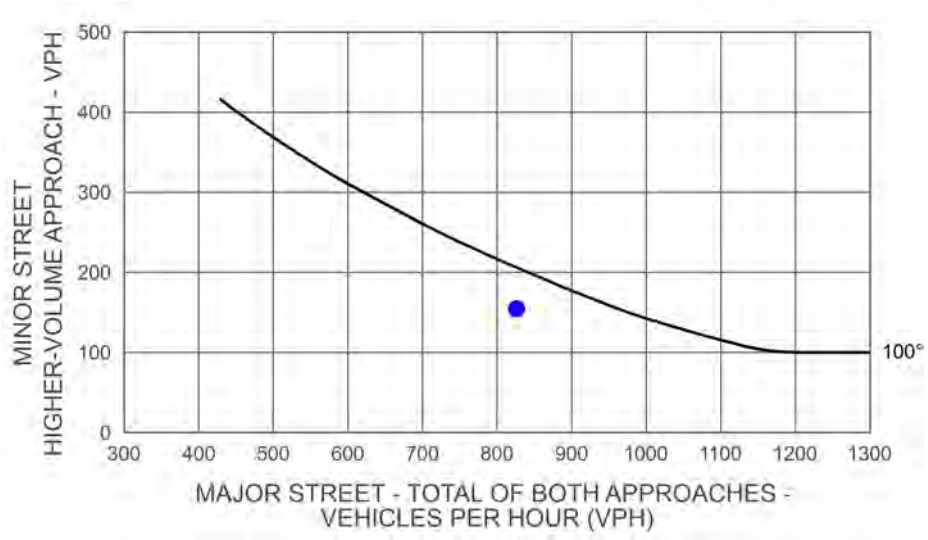


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project Phase I
Intersection #: 3

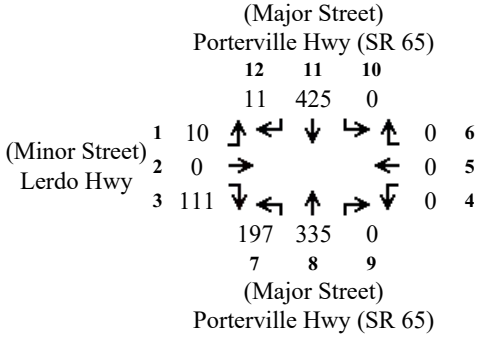


Major Total: 826
Minor High Volume: 155

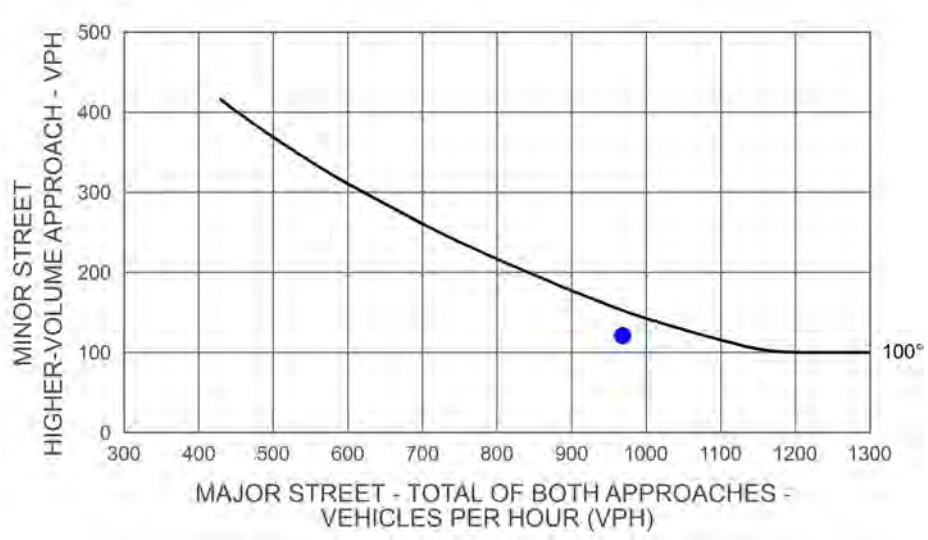


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 3



Major Total: 968
Minor High Volume: 121



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

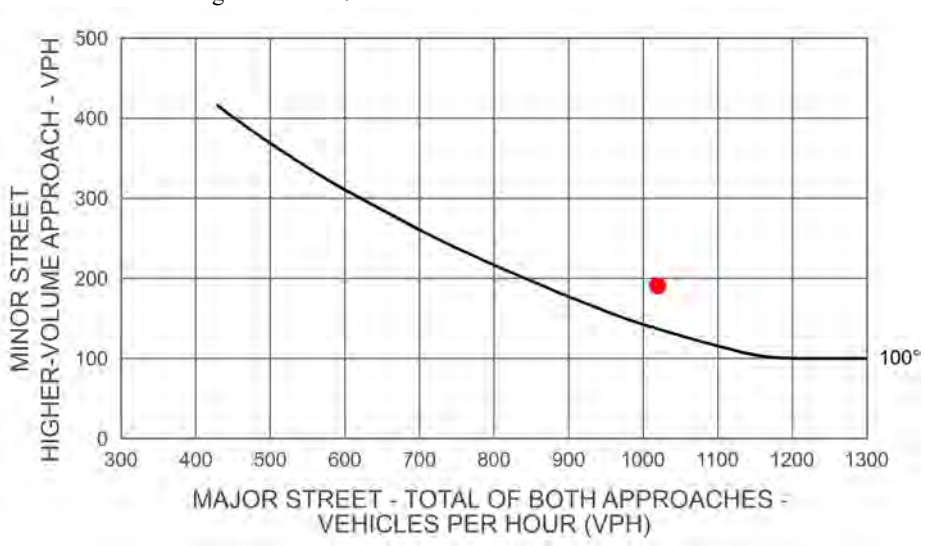
Scenario: AM Future+Project
Intersection #: 3

(Major Street)
Porterville Hwy (SR 65)

		12	**11**	**10**				
		11	443	0				
(Minor Street) Lerdo Hwy	**1**	10					0	**6**
	2	0					0	**5**
	3	181					0	**4**
		223	342	0				
		7	**8**	**9**				

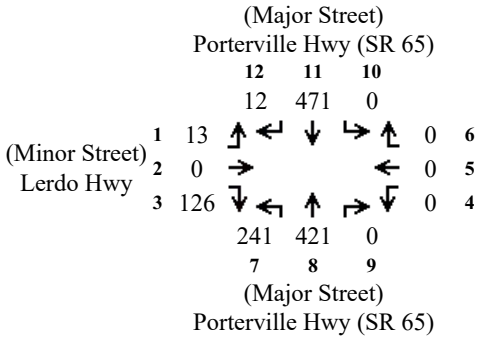
(Major Street)
Porterville Hwy (SR 65)

Major Total: 1019
Minor High Volume: 191



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future
Intersection #: 3



Major Total: 1145
Minor High Volume: 139



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project Phase I & II
Intersection #: 3

(Major Street)
Porterville Hwy (SR 65)

		12	**11**	**10**				
		12	493	0				
(Minor Street) Lerdo Hwy	**1**	13					0	**6**
	2	0					0	**5**
	3	212					0	**4**
		274	429	0				
		7	**8**	**9**				

(Major Street)
Porterville Hwy (SR 65)

Major Total: 1208
Minor High Volume: 225



Intersection 4
Porterville Hwy (SR 65) & James Rd

Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	7	44	1	87	9	365	29	242	382	2
Future Vol, veh/h	0	3	7	44	1	87	9	365	29	242	382	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	0	3	8	48	1	95	10	397	32	263	415	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1422	1390	416	1380	1375	412	417	0	0	428	0	0
Stage 1	942	942	-	432	432	-	-	-	-	-	-	-
Stage 2	480	448	-	948	943	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	114	142	637	122	145	640	1142	-	-	1131	-	-
Stage 1	316	342	-	602	582	-	-	-	-	-	-	-
Stage 2	567	573	-	313	341	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	78	108	637	96	110	640	1142	-	-	1131	-	-
Mov Cap-2 Maneuver	78	108	-	96	110	-	-	-	-	-	-	-
Stage 1	312	262	-	595	575	-	-	-	-	-	-	-
Stage 2	477	566	-	234	262	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.6	48.1	0.2	3.5
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1142	-	-	258	219	1131	-	-
HCM Lane V/C Ratio	0.009	-	-	0.042	0.655	0.233	-	-
HCM Control Delay (s)	8.2	0	-	19.6	48.1	9.1	-	-
HCM Lane LOS	A	A	-	C	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	4	0.9	-	-

Intersection

Int Delay, s/veh 10.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	7	44	1	87	9	459	29	242	425	2
Future Vol, veh/h	0	3	7	44	1	87	9	459	29	242	425	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	0	3	8	48	1	95	10	499	32	263	462	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1571	1539	463	1529	1524	515	464	0	0	530	0	0
Stage 1	989	989	-	534	534	-	-	-	-	-	-	-
Stage 2	582	550	-	995	990	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	90	116	599	96	118	560	1097	-	-	1037	-	-
Stage 1	297	325	-	530	524	-	-	-	-	-	-	-
Stage 2	499	516	-	295	324	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	59	85	599	73	87	560	1097	-	-	1037	-	-
Mov Cap-2 Maneuver	59	85	-	73	87	-	-	-	-	-	-	-
Stage 1	293	243	-	523	517	-	-	-	-	-	-	-
Stage 2	408	509	-	214	242	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.8	84.8	0.2	3.5
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1097	-	-	213	172	1037	-	-
HCM Lane V/C Ratio	0.009	-	-	0.051	0.834	0.254	-	-
HCM Control Delay (s)	8.3	0	-	22.8	84.8	9.6	-	-
HCM Lane LOS	A	A	-	C	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	5.8	1	-	-

Intersection
Int Delay, s/veh 34.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	8	51	1	101	11	478	34	299	511	2
Future Vol, veh/h	0	3	8	51	1	101	11	478	34	299	511	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	0	3	9	55	1	110	12	520	37	325	555	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1824	1787	557	1775	1770	538	558	0	0	557	0	0
Stage 1	1207	1207	-	562	562	-	-	-	-	-	-	-
Stage 2	617	580	-	1213	1208	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	59	81	530	64	83	543	1013	-	-	1014	-	-
Stage 1	224	256	-	512	510	-	-	-	-	-	-	-
Stage 2	477	500	-	222	256	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	34	54	530	~ 45	55	543	1013	-	-	1014	-	-
Mov Cap-2 Maneuver	34	54	-	~ 45	55	-	-	-	-	-	-	-
Stage 1	220	174	-	503	501	-	-	-	-	-	-	-
Stage 2	373	492	-	146	174	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30	$ 317	0.2	3.8
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1013	-	-	156	114	1014	-	-
HCM Lane V/C Ratio	0.012	-	-	0.077	1.459	0.321	-	-
HCM Control Delay (s)	8.6	0	-	30	$ 317	10.2	-	-
HCM Lane LOS	A	A	-	D	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	11.8	1.4	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection
Int Delay, s/veh 50.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	8	51	1	101	11	572	34	299	554	2
Future Vol, veh/h	0	3	8	51	1	101	11	572	34	299	554	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	0	3	9	55	1	110	12	622	37	325	602	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1973	1936	603	1923	1918	640	604	0	0	659	0	0
Stage 1	1253	1253	-	664	664	-	-	-	-	-	-	-
Stage 2	720	683	-	1259	1254	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	47	66	499	~ 51	67	475	974	-	-	929	-	-
Stage 1	211	244	-	450	458	-	-	-	-	-	-	-
Stage 2	419	449	-	209	243	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	25	42	499	~ 34	43	475	974	-	-	929	-	-
Mov Cap-2 Maneuver	25	42	-	~ 34	43	-	-	-	-	-	-	-
Stage 1	207	159	-	441	449	-	-	-	-	-	-	-
Stage 2	315	440	-	131	158	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	36.5	$ 519.8	0.2	3.8
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	974	-	-	126	88	929	-	-
HCM Lane V/C Ratio	0.012	-	-	0.095	1.89	0.35	-	-
HCM Control Delay (s)	8.7	0	-	36.5	$ 519.8	10.9	-	-
HCM Lane LOS	A	A	-	E	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	14.2	1.6	-	-

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)	0	3	8	51	1	101	11	572	34	299	554	2
Future Volume (veh/h)	0	3	8	51	1	101	11	572	34	299	554	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	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	3	9	55	1	110	12	622	37	325	602	2
Adj No. of Lanes	0	1	0	0	1	0	0	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	2	2	2	2	2	2
Cap, veh/h	0	53	160	107	14	133	50	1323	78	650	1430	5
Arrive On Green	0.00	0.13	0.13	0.13	0.13	0.13	0.77	0.77	0.77	0.77	0.77	0.77
Sat Flow, veh/h	0	411	1234	413	108	1023	12	1717	101	772	1855	6
Grp Volume(v), veh/h	0	0	12	166	0	0	671	0	0	325	0	604
Grp Sat Flow(s),veh/h/ln	0	0	1645	1544	0	0	1830	0	0	772	0	1862
Q Serve(g_s), s	0.0	0.0	0.6	7.3	0.0	0.0	0.0	0.0	0.0	8.3	0.0	9.9
Cycle Q Clear(g_c), s	0.0	0.0	0.6	9.4	0.0	0.0	11.8	0.0	0.0	20.1	0.0	9.9
Prop In Lane	0.00		0.75	0.33		0.66	0.02		0.06	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	213	253	0	0	1451	0	0	650	0	1434
V/C Ratio(X)	0.00	0.00	0.06	0.66	0.00	0.00	0.46	0.00	0.00	0.50	0.00	0.42
Avail Cap(c_a), veh/h	0	0	329	360	0	0	1451	0	0	650	0	1434
HCM Platoon Ratio	1.00	1.00	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	0.92	0.00	0.00	0.84	0.00	0.84
Uniform Delay (d), s/veh	0.0	0.0	34.3	38.1	0.0	0.0	3.7	0.0	0.0	5.0	0.0	3.5
Incr Delay (d2), s/veh	0.0	0.0	0.1	2.9	0.0	0.0	1.0	0.0	0.0	2.3	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	0.0	0.0	0.3	4.2	0.0	0.0	6.2	0.0	0.0	4.0	0.0	5.3
LnGrp Delay(d),s/veh	0.0	0.0	34.5	41.0	0.0	0.0	4.7	0.0	0.0	7.3	0.0	4.3
LnGrp LOS			C	D			A			A		A
Approach Vol, veh/h		12			166			671			929	
Approach Delay, s/veh		34.5			41.0			4.7			5.3	
Approach LOS		C			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		73.8		16.2		73.8		16.2
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		63.0		18.0		63.0		18.0
Max Q Clear Time (g_c+I1), s		13.8		2.6		22.1		11.4
Green Ext Time (p_c), s		14.0		0.7		13.4		0.4

Intersection Summary

HCM 2010 Ctrl Delay	8.6
HCM 2010 LOS	A

Intersection
Int Delay, s/veh 129.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	4	9	59	1	117	12	552	40	370	622	3
Future Vol, veh/h	0	4	9	59	1	117	12	552	40	370	622	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	0	4	10	64	1	127	13	600	43	402	676	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2194	2152	678	2137	2132	622	679	0	0	643	0	0
Stage 1	1482	1482	-	648	648	-	-	-	-	-	-	-
Stage 2	712	670	-	1489	1484	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	32	48	452	~ 36	49	487	913	-	-	942	-	-
Stage 1	156	189	-	459	466	-	-	-	-	-	-	-
Stage 2	423	455	-	155	188	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	15	27	452	~ 20	27	487	913	-	-	942	-	-
Mov Cap-2 Maneuver	15	27	-	~ 20	27	-	-	-	-	-	-	-
Stage 1	153	108	-	449	456	-	-	-	-	-	-	-
Stage 2	305	445	-	83	108	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	62	$ 1279.8	0.2	4.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	913	-	-	77	55	942	-	-
HCM Lane V/C Ratio	0.014	-	-	0.184	3.498	0.427	-	-
HCM Control Delay (s)	9	0	-	62	$ 1279.8	11.6	-	-
HCM Lane LOS	A	A	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.6	20.7	2.2	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection
Int Delay, s/veh 199.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	4	9	59	1	117	12	669	40	370	675	3
Future Vol, veh/h	0	4	9	59	1	117	12	669	40	370	675	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	0	4	10	64	1	127	13	727	43	402	734	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2379	2337	735	2322	2316	749	737	0	0	771	0	0
Stage 1	1540	1540	-	775	775	-	-	-	-	-	-	-
Stage 2	839	797	-	1547	1541	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	24	37	420	~ 26	38	412	869	-	-	844	-	-
Stage 1	144	177	-	391	408	-	-	-	-	-	-	-
Stage 2	360	399	-	143	177	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	10	19	420	~ 13	19	412	869	-	-	844	-	-
Mov Cap-2 Maneuver	10	19	-	~ 13	19	-	-	-	-	-	-	-
Stage 1	140	93	-	381	397	-	-	-	-	-	-	-
Stage 2	242	389	-	70	93	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	89.7	$ 2176	0.2	4.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	869	-	-	56	36	844	-	-
HCM Lane V/C Ratio	0.015	-	-	0.252	5.344	0.477	-	-
HCM Control Delay (s)	9.2	0	-	89.7	$ 2176	13.1	-	-
HCM Lane LOS	A	A	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9	22.7	2.6	-	-

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)	0	4	9	59	1	117	12	669	40	370	675	3
Future Volume (veh/h)	0	4	9	59	1	117	12	669	40	370	675	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	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	4	10	64	1	127	13	727	43	402	734	3
Adj No. of Lanes	0	1	0	0	1	0	0	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	2	2	2	2	2	2
Cap, veh/h	0	69	174	115	15	150	49	1292	76	554	1396	6
Arrive On Green	0.00	0.15	0.15	0.15	0.15	0.15	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	0	473	1182	423	99	1019	11	1716	100	696	1854	8
Grp Volume(v), veh/h	0	0	14	192	0	0	783	0	0	402	0	737
Grp Sat Flow(s),veh/h/ln	0	0	1654	1541	0	0	1827	0	0	696	0	1861
Q Serve(g_s), s	0.0	0.0	0.7	8.7	0.0	0.0	0.0	0.0	0.0	29.3	0.0	14.6
Cycle Q Clear(g_c), s	0.0	0.0	0.7	10.9	0.0	0.0	16.4	0.0	0.0	45.7	0.0	14.6
Prop In Lane	0.00		0.71	0.33		0.66	0.02		0.05	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	243	280	0	0	1417	0	0	554	0	1402
V/C Ratio(X)	0.00	0.00	0.06	0.69	0.00	0.00	0.55	0.00	0.00	0.73	0.00	0.53
Avail Cap(c_a), veh/h	0	0	331	360	0	0	1417	0	0	554	0	1402
HCM Platoon Ratio	1.00	1.00	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	0.86	0.00	0.00	0.80	0.00	0.80
Uniform Delay (d), s/veh	0.0	0.0	33.0	37.3	0.0	0.0	4.8	0.0	0.0	10.2	0.0	4.5
Incr Delay (d2), s/veh	0.0	0.0	0.1	3.7	0.0	0.0	1.3	0.0	0.0	6.5	0.0	1.1
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	0.3	4.9	0.0	0.0	8.8	0.0	0.0	8.4	0.0	7.8
LnGrp Delay(d),s/veh	0.0	0.0	33.1	41.0	0.0	0.0	6.1	0.0	0.0	16.7	0.0	5.7
LnGrp LOS			C	D			A			B		A
Approach Vol, veh/h		14			192			783			1139	
Approach Delay, s/veh		33.1			41.0			6.1			9.6	
Approach LOS		C			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		72.3		17.7		72.3		17.7
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		63.0		18.0		63.0		18.0
Max Q Clear Time (g_c+I1), s		18.4		2.7		47.7		12.9
Green Ext Time (p_c), s		19.9		0.8		10.6		0.4

Intersection Summary

HCM 2010 Ctrl Delay		11.3
HCM 2010 LOS		B

Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

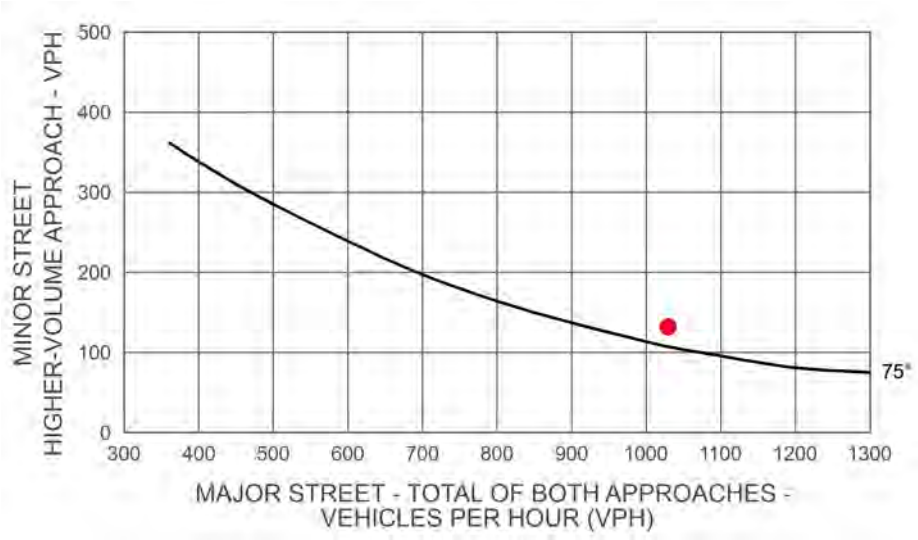
Scenario: PM Existing
Intersection #: 4

(Major Street)
Porterville Hwy (SR 65)

		12	**11**	**10**				
		2	382	242				
1	0					87	**6**	(Minor Street)
2	3					1	**5**	James Rd
3	7					44	**4**	
		9	365	29				
		7	**8**	**9**				

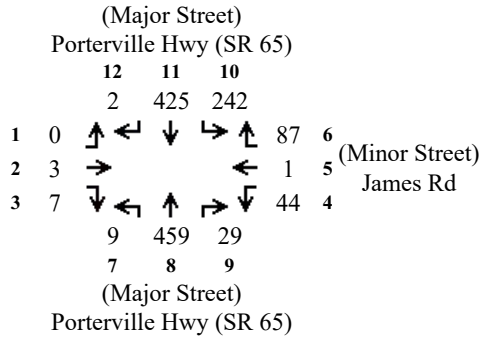
(Major Street)
Porterville Hwy (SR 65)

Major Total: 1029
Minor High Volume: 132

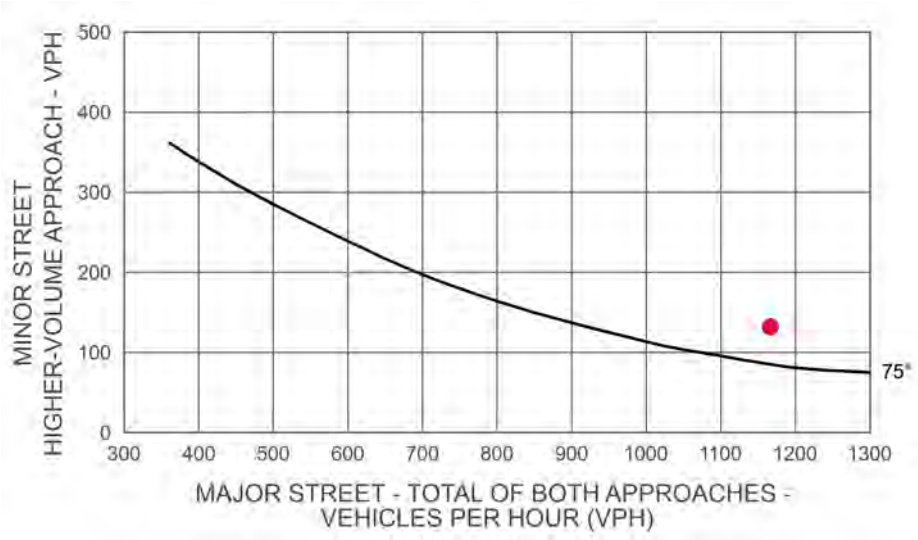


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Existing+Project Phase I
Intersection #: 4

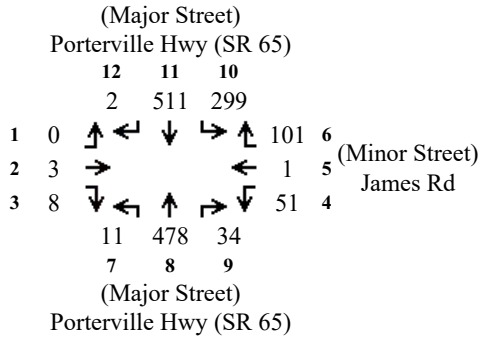


Major Total: 1166
Minor High Volume: 132

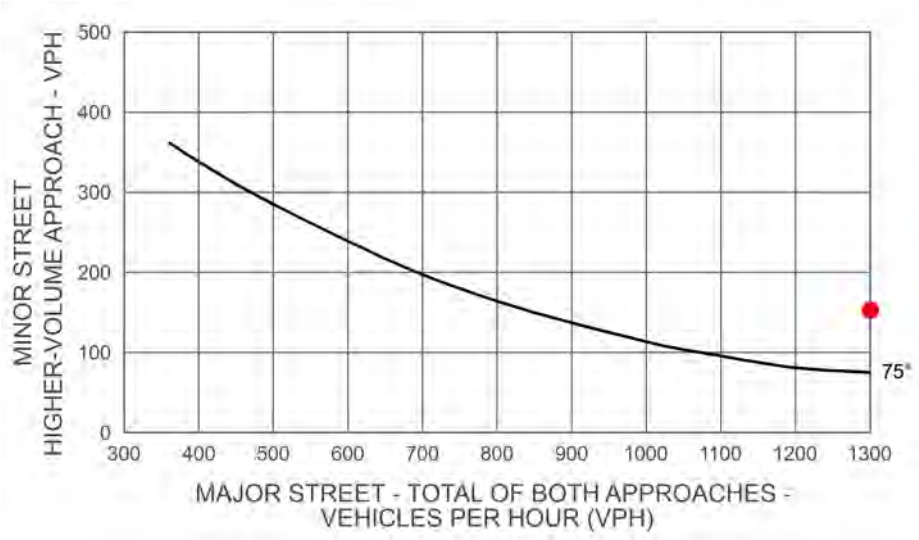


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 4

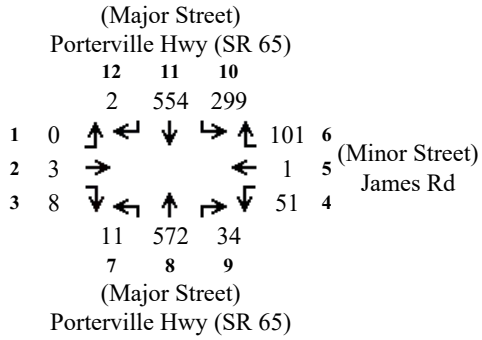


Major Total: 1335
Minor High Volume: 153

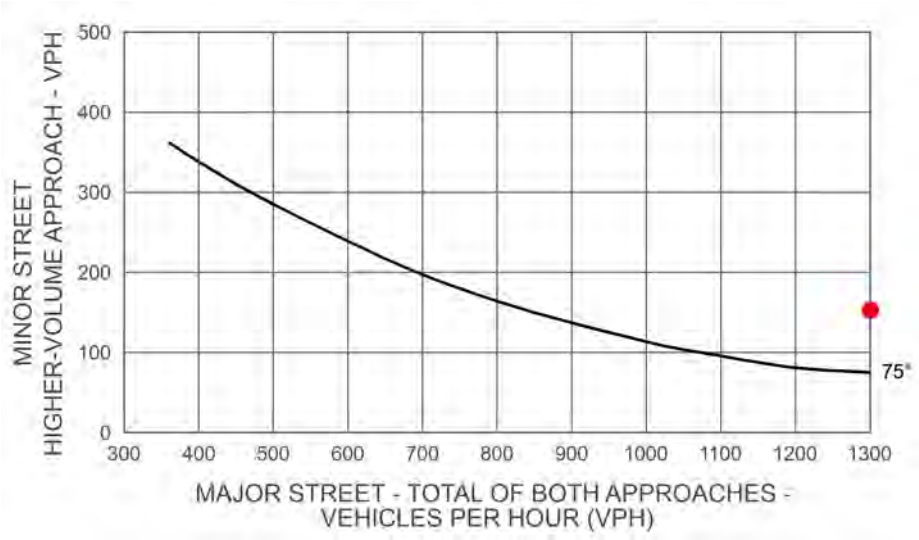


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 4

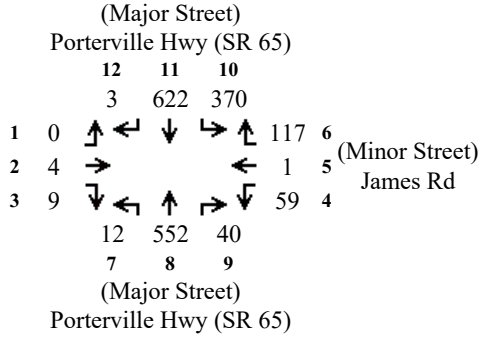


Major Total: 1472
Minor High Volume: 153



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 4

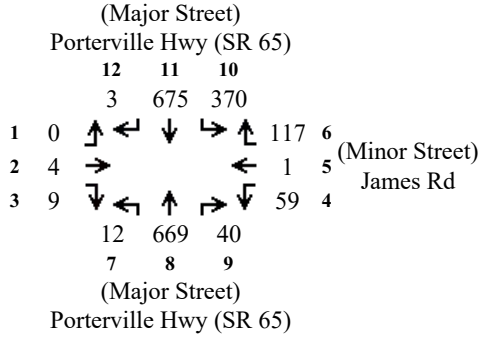


Major Total: 1599
Minor High Volume: 177



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project Phase I & II
Intersection #: 4



Major Total: 1769
Minor High Volume: 177



Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	0	11	19	2	121	4	270	90	92	356	0
Future Vol, veh/h	1	0	11	19	2	121	4	270	90	92	356	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	1	0	12	21	2	132	4	293	98	100	387	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1005	987	387	944	938	342	387	0	0	391	0	0
Stage 1	587	587	-	351	351	-	-	-	-	-	-	-
Stage 2	418	400	-	593	587	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	220	247	661	242	264	701	1171	-	-	1168	-	-
Stage 1	496	497	-	666	632	-	-	-	-	-	-	-
Stage 2	612	602	-	492	497	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	165	225	661	221	240	701	1171	-	-	1168	-	-
Mov Cap-2 Maneuver	165	225	-	221	240	-	-	-	-	-	-	-
Stage 1	494	454	-	663	629	-	-	-	-	-	-	-
Stage 2	493	600	-	442	454	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	14.5	0.1	1.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1171	-	-	529	532	1168	-	-
HCM Lane V/C Ratio	0.004	-	-	0.025	0.29	0.086	-	-
HCM Control Delay (s)	8.1	0	-	12	14.5	8.4	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.2	0.3	-	-

Intersection

Int Delay, s/veh 3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	0	11	19	2	121	4	303	90	92	444	0
Future Vol, veh/h	1	0	11	19	2	121	4	303	90	92	444	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	1	0	12	21	2	132	4	329	98	100	483	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1137	1119	483	1076	1070	378	483	0	0	427	0	0
Stage 1	683	683	-	387	387	-	-	-	-	-	-	-
Stage 2	454	436	-	689	683	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	179	207	584	197	221	669	1080	-	-	1132	-	-
Stage 1	439	449	-	637	610	-	-	-	-	-	-	-
Stage 2	586	580	-	436	449	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	132	188	584	179	200	669	1080	-	-	1132	-	-
Mov Cap-2 Maneuver	132	188	-	179	200	-	-	-	-	-	-	-
Stage 1	437	409	-	634	607	-	-	-	-	-	-	-
Stage 2	467	577	-	389	409	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	16.1	0.1	1.5
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1080	-	-	454	478	1132	-	-
HCM Lane V/C Ratio	0.004	-	-	0.029	0.323	0.088	-	-
HCM Control Delay (s)	8.3	0	-	13.2	16.1	8.5	-	-
HCM Lane LOS	A	A	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.4	0.3	-	-

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	0	13	22	2	140	5	337	106	114	487	0
Future Vol, veh/h	1	0	13	22	2	140	5	337	106	114	487	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	1	0	14	24	2	152	5	366	115	124	529	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1289	1269	529	1219	1212	424	529	0	0	482	0	0
Stage 1	777	777	-	435	435	-	-	-	-	-	-	-
Stage 2	512	492	-	784	777	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	141	168	550	157	182	630	1038	-	-	1081	-	-
Stage 1	390	407	-	600	580	-	-	-	-	-	-	-
Stage 2	545	548	-	386	407	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	96	148	550	139	160	630	1038	-	-	1081	-	-
Mov Cap-2 Maneuver	96	148	-	139	160	-	-	-	-	-	-	-
Stage 1	387	360	-	596	576	-	-	-	-	-	-	-
Stage 2	409	544	-	333	360	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	19.9	0.1	1.7
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1038	-	-	411	417	1081	-	-
HCM Lane V/C Ratio	0.005	-	-	0.037	0.427	0.115	-	-
HCM Control Delay (s)	8.5	0	-	14.1	19.9	8.8	-	-
HCM Lane LOS	A	A	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	2.1	0.4	-	-

Intersection

Int Delay, s/veh 3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	0	13	22	2	140	5	370	106	114	575	0
Future Vol, veh/h	1	0	13	22	2	140	5	370	106	114	575	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	1	0	14	24	2	152	5	402	115	124	625	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1421	1401	625	1351	1344	460	625	0	0	517	0	0
Stage 1	873	873	-	471	471	-	-	-	-	-	-	-
Stage 2	548	528	-	880	873	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	114	140	485	127	152	601	956	-	-	1049	-	-
Stage 1	345	368	-	573	560	-	-	-	-	-	-	-
Stage 2	521	528	-	342	368	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	76	123	485	112	133	601	956	-	-	1049	-	-
Mov Cap-2 Maneuver	76	123	-	112	133	-	-	-	-	-	-	-
Stage 1	343	324	-	569	556	-	-	-	-	-	-	-
Stage 2	385	524	-	293	324	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.8	23.5	0.1	1.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	956	-	-	350	369	1049	-	-
HCM Lane V/C Ratio	0.006	-	-	0.043	0.483	0.118	-	-
HCM Control Delay (s)	8.8	0	-	15.8	23.5	8.9	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	2.5	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	13	22	2	140	5	370	106	114	575	0
Future Volume (veh/h)	1	0	13	22	2	140	5	370	106	114	575	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	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	1	0	14	24	2	152	5	402	115	124	625	0
Adj No. of Lanes	0	1	0	0	1	0	0	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	2	2	2	2	2	2
Cap, veh/h	46	11	203	63	13	183	43	1063	301	743	1424	0
Arrive On Green	0.14	0.00	0.14	0.14	0.14	0.14	0.76	0.76	0.76	0.76	0.76	0.00
Sat Flow, veh/h	26	80	1497	132	99	1349	4	1390	394	881	1863	0
Grp Volume(v), veh/h	15	0	0	178	0	0	522	0	0	124	625	0
Grp Sat Flow(s),veh/h/ln	1604	0	0	1580	0	0	1788	0	0	881	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	10.7	0.0
Cycle Q Clear(g_c), s	0.7	0.0	0.0	9.8	0.0	0.0	8.7	0.0	0.0	4.0	10.7	0.0
Prop In Lane	0.07		0.93	0.13		0.85	0.01		0.22	1.00		0.00
Lane Grp Cap(c), veh/h	260	0	0	259	0	0	1407	0	0	743	1424	0
V/C Ratio(X)	0.06	0.00	0.00	0.69	0.00	0.00	0.37	0.00	0.00	0.17	0.44	0.00
Avail Cap(c_a), veh/h	360	0	0	360	0	0	1407	0	0	743	1424	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	0.94	0.00	0.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	34.0	0.0	0.0	37.9	0.0	0.0	3.5	0.0	0.0	3.0	3.8	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	3.2	0.0	0.0	0.7	0.0	0.0	0.4	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	0.3	0.0	0.0	4.5	0.0	0.0	4.5	0.0	0.0	1.0	5.7	0.0
LnGrp Delay(d),s/veh	34.1	0.0	0.0	41.1	0.0	0.0	4.2	0.0	0.0	3.4	4.7	0.0
LnGrp LOS	C			D			A			A	A	
Approach Vol, veh/h		15			178			522			749	
Approach Delay, s/veh		34.1			41.1			4.2			4.4	
Approach LOS		C			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		73.3		16.7		73.3		16.7
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		63.0		18.0		63.0		18.0
Max Q Clear Time (g_c+I1), s		10.7		2.7		12.7		11.8
Green Ext Time (p_c), s		9.2		0.8		9.2		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A

Intersection

Int Delay, s/veh 5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	0	15	26	3	163	6	392	124	141	591	0
Future Vol, veh/h	1	0	15	26	3	163	6	392	124	141	591	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	1	0	16	28	3	177	7	426	135	153	642	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1546	1523	642	1464	1456	493	642	0	0	561	0	0
Stage 1	949	949	-	507	507	-	-	-	-	-	-	-
Stage 2	597	574	-	957	949	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	93	118	474	106	130	576	943	-	-	1010	-	-
Stage 1	313	339	-	548	539	-	-	-	-	-	-	-
Stage 2	490	503	-	310	339	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	55	99	474	90	109	576	943	-	-	1010	-	-
Mov Cap-2 Maneuver	55	99	-	90	109	-	-	-	-	-	-	-
Stage 1	310	288	-	542	533	-	-	-	-	-	-	-
Stage 2	333	497	-	254	288	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.9	35.1	0.1	1.8
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	943	-	-	321	320	1010	-	-
HCM Lane V/C Ratio	0.007	-	-	0.054	0.652	0.152	-	-
HCM Control Delay (s)	8.8	0	-	16.9	35.1	9.2	-	-
HCM Lane LOS	A	A	-	C	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	4.3	0.5	-	-

Intersection

Int Delay, s/veh 7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	0	15	26	3	163	6	433	124	141	699	0
Future Vol, veh/h	1	0	15	26	3	163	6	433	124	141	699	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	-	-	-	-	-	-	-	-	-	330	-	-
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	2	2	2	2	2	2
Mvmt Flow	1	0	16	28	3	177	7	471	135	153	760	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1707	1684	760	1625	1617	538	760	0	0	605	0	0
Stage 1	1066	1066	-	551	551	-	-	-	-	-	-	-
Stage 2	641	618	-	1074	1066	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	72	94	406	82	103	543	852	-	-	973	-	-
Stage 1	269	299	-	519	515	-	-	-	-	-	-	-
Stage 2	463	481	-	266	299	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	41	78	406	69	86	543	852	-	-	973	-	-
Mov Cap-2 Maneuver	41	78	-	69	86	-	-	-	-	-	-	-
Stage 1	266	252	-	512	508	-	-	-	-	-	-	-
Stage 2	306	475	-	215	252	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.8	52.4	0.1	1.6
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	852	-	-	261	270	973	-	-
HCM Lane V/C Ratio	0.008	-	-	0.067	0.773	0.158	-	-
HCM Control Delay (s)	9.3	0	-	19.8	52.4	9.4	-	-
HCM Lane LOS	A	A	-	C	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	5.8	0.6	-	-

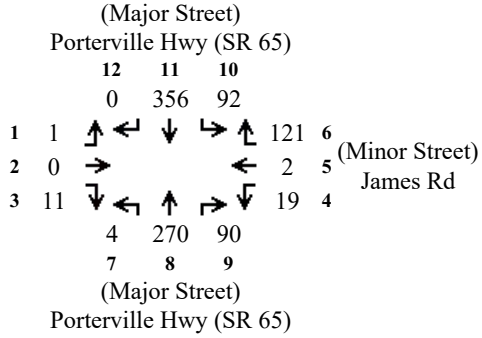
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	15	26	3	163	6	433	124	141	699	0
Future Volume (veh/h)	1	0	15	26	3	163	6	433	124	141	699	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	1	0	16	28	3	177	7	471	135	153	760	0
Adj No. of Lanes	0	1	0	0	1	0	0	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	2	2	2	2	2	2
Cap, veh/h	46	11	233	66	16	207	45	1033	293	653	1389	0
Arrive On Green	0.15	0.00	0.15	0.15	0.15	0.15	0.75	0.75	0.75	0.75	0.75	0.00
Sat Flow, veh/h	22	73	1510	134	101	1344	6	1386	393	811	1863	0
Grp Volume(v), veh/h	17	0	0	208	0	0	613	0	0	153	760	0
Grp Sat Flow(s),veh/h/ln	1604	0	0	1580	0	0	1784	0	0	811	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	15.8	0.0
Cycle Q Clear(g_c), s	0.8	0.0	0.0	11.5	0.0	0.0	11.9	0.0	0.0	8.4	15.8	0.0
Prop In Lane	0.06		0.94	0.13		0.85	0.01		0.22	1.00		0.00
Lane Grp Cap(c), veh/h	290	0	0	289	0	0	1371	0	0	653	1389	0
V/C Ratio(X)	0.06	0.00	0.00	0.72	0.00	0.00	0.45	0.00	0.00	0.23	0.55	0.00
Avail Cap(c_a), veh/h	361	0	0	360	0	0	1371	0	0	653	1389	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	0.90	0.00	0.00	0.89	0.89	0.00
Uniform Delay (d), s/veh	32.5	0.0	0.0	37.0	0.0	0.0	4.4	0.0	0.0	4.0	4.9	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	5.2	0.0	0.0	0.9	0.0	0.0	0.7	1.4	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	0.4	0.0	0.0	5.4	0.0	0.0	6.2	0.0	0.0	1.4	8.3	0.0
LnGrp Delay(d),s/veh	32.6	0.0	0.0	42.2	0.0	0.0	5.4	0.0	0.0	4.7	6.3	0.0
LnGrp LOS	C			D			A			A	A	
Approach Vol, veh/h		17			208			613			913	
Approach Delay, s/veh		32.6			42.2			5.4			6.0	
Approach LOS		C			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		71.6		18.4		71.6		18.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		63.0		18.0		63.0		18.0
Max Q Clear Time (g_c+I1), s		13.9		2.8		17.8		13.5
Green Ext Time (p_c), s		12.9		1.0		12.7		0.4

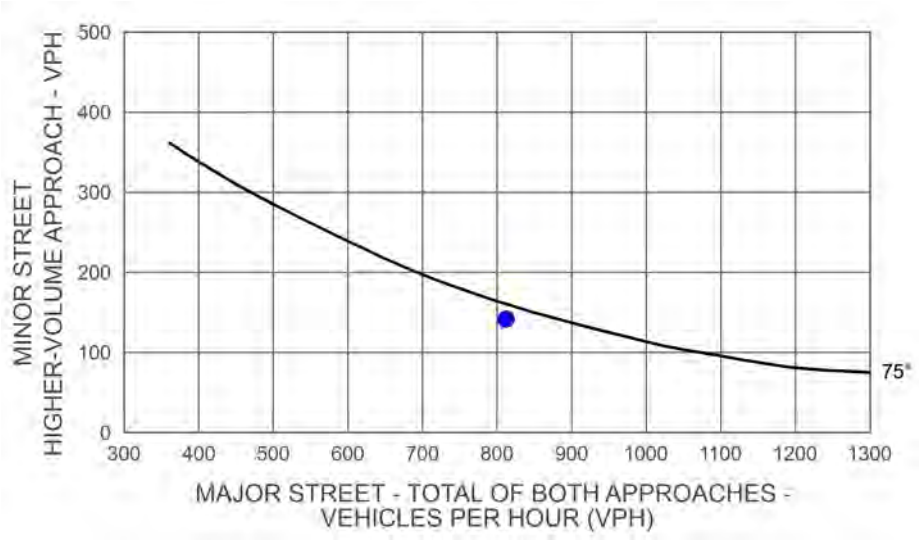
Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 4



Major Total: 812
Minor High Volume: 142



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

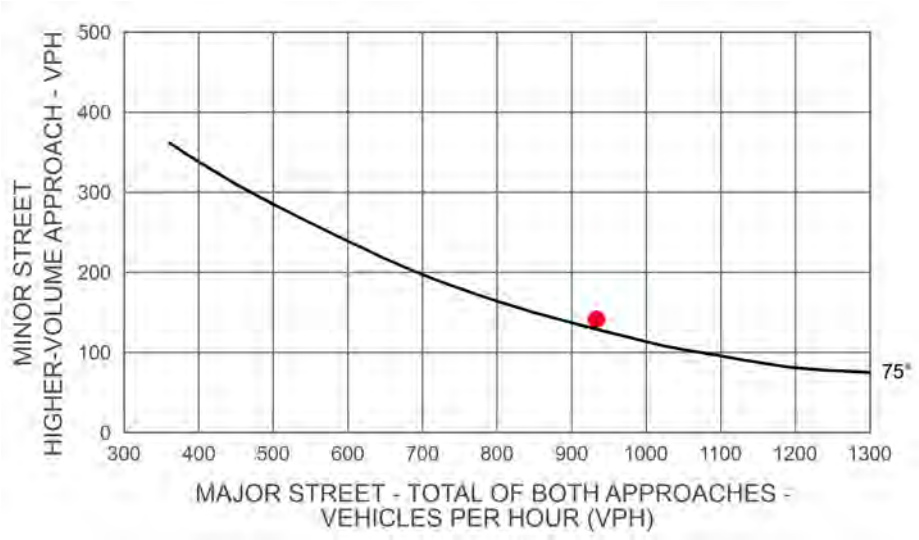
Scenario: AM Existing+Project Phase I
Intersection #: 4

(Major Street)
Porterville Hwy (SR 65)

		12	**11**	**10**				
		0	444	92				
1	1					121	**6**	(Minor Street)
2	0					2	**5**	James Rd
3	11					19	**4**	
		4	303	90				
		7	**8**	**9**				

(Major Street)
Porterville Hwy (SR 65)

Major Total: 933
Minor High Volume: 142



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

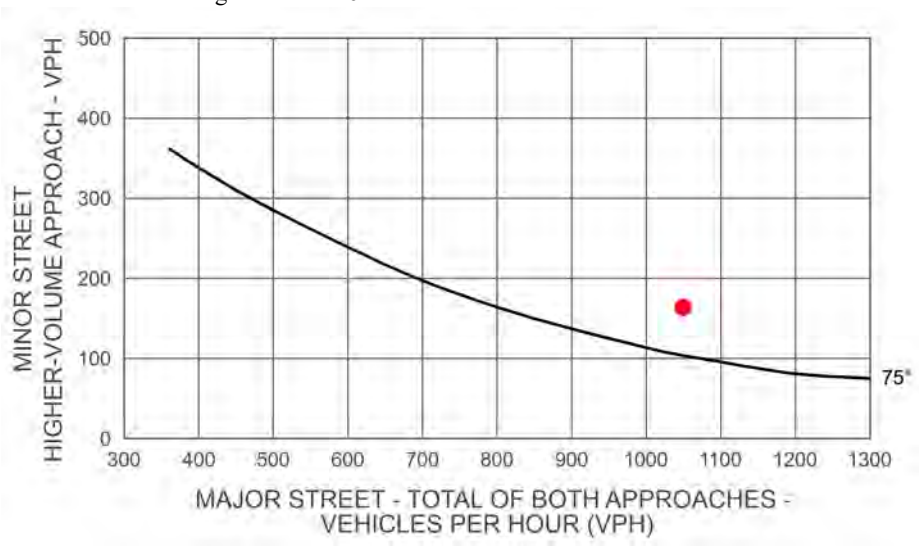
Scenario: AM Future
Intersection #: 4

(Major Street)
Porterville Hwy (SR 65)

		12	**11**	**10**			
		0	487	114			
1	1				140	**6**	(Minor Street)
2	0				2	**5**	James Rd
3	13				22	**4**	
		5	337	106			
		7	**8**	**9**			

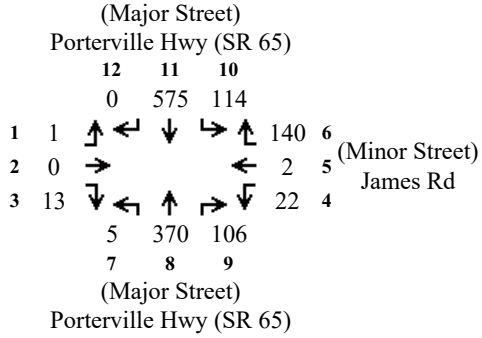
(Major Street)
Porterville Hwy (SR 65)

Major Total: 1049
Minor High Volume: 164

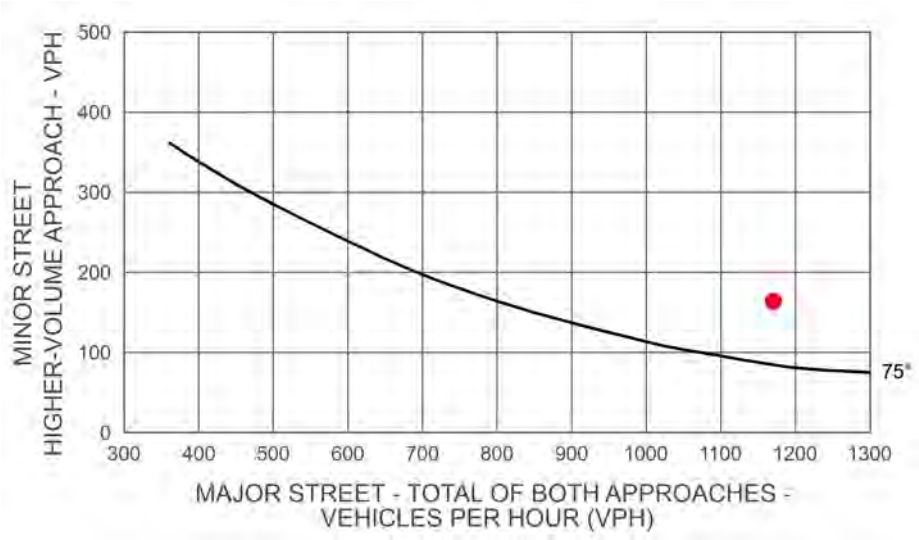


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 4

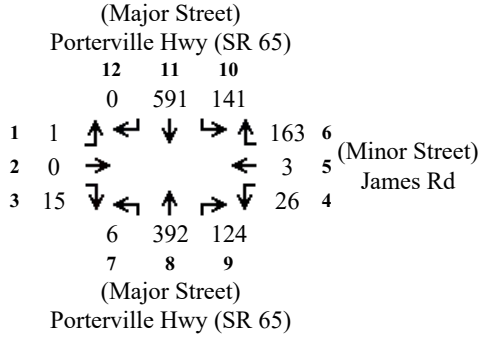


Major Total: 1170
Minor High Volume: 164

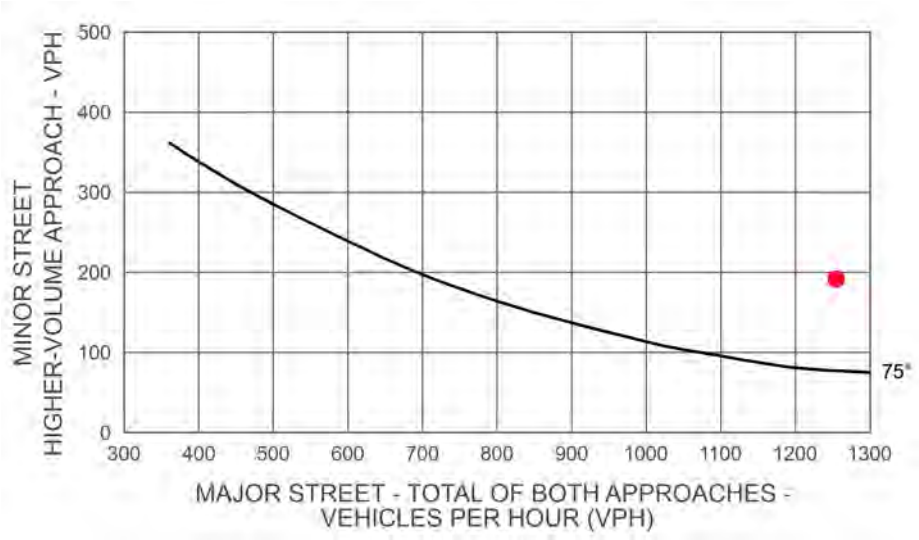


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future
Intersection #: 4

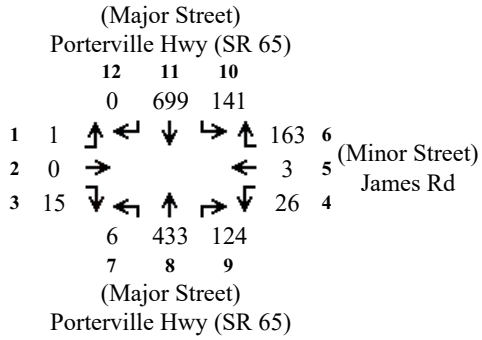


Major Total: 1254
Minor High Volume: 192

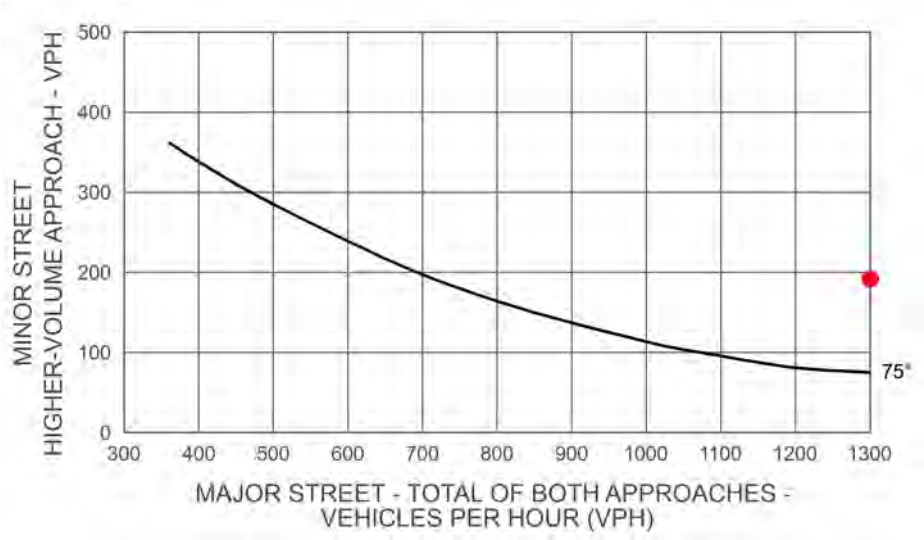


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project Phase I & II
Intersection #: 4



Major Total: 1403
Minor High Volume: 192



Intersection 5
Quinn Rd & Imperial St

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	0	0	4	0	0	41
Future Vol, veh/h	0	0	4	0	0	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	4	0	0	45

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	0	0	9	0
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	9	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	-	-	1011	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	1014	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	1011	-
Mov Cap-2 Maneuver	-	-	-	-	1011	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	1014	-

Approach	EB	WB	NB
HCM Control Delay, s	0		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	564	49	4	255	22	41
Future Vol, veh/h	564	49	4	255	22	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	613	53	4	277	24	45

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	666	0	926	640
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	923	-	298	475
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	923	-	297	475
Mov Cap-2 Maneuver	-	-	-	-	297	-
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	759	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	393	-	-	923	-
HCM Lane V/C Ratio	0.174	-	-	0.005	-
HCM Control Delay (s)	16.1	-	-	8.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	0	0	4	0	0	43
Future Vol, veh/h	0	0	4	0	0	43
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, %	2	2	2	2	2	2
Mvmt Flow	0	0	4	0	0	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	0	0	9	0
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	9	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	-	-	1011	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	1014	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	1011	-
Mov Cap-2 Maneuver	-	-	-	-	1011	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	1014	-

Approach	EB	WB	NB
HCM Control Delay, s	0		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	564	49	4	255	22	43
Future Vol, veh/h	564	49	4	255	22	43
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, %	2	2	2	2	2	2
Mvmt Flow	613	53	4	277	24	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	666	0	926	640
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	923	-	298	475
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	923	-	297	475
Mov Cap-2 Maneuver	-	-	-	-	297	-
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	759	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	395	-	-	923	-
HCM Lane V/C Ratio	0.179	-	-	0.005	-
HCM Control Delay (s)	16.1	-	-	8.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	564	49	4	255	22	43
Future Vol, veh/h	564	49	4	255	22	43
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, %	2	2	2	2	2	2
Mvmt Flow	613	53	4	277	24	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	666	0	926	640
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	923	-	298	475
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	923	-	297	475
Mov Cap-2 Maneuver	-	-	-	-	297	-
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	759	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	395	-	-	923	-
HCM Lane V/C Ratio	0.179	-	-	0.005	-
HCM Control Delay (s)	16.1	-	-	8.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	0	0	4	0	0	45
Future Vol, veh/h	0	0	4	0	0	45
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, %	2	2	2	2	2	2
Mvmt Flow	0	0	4	0	0	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	0	0	9	0
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	9	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	-	-	1011	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	1014	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	1011	-
Mov Cap-2 Maneuver	-	-	-	-	1011	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	1014	-

Approach	EB	WB	NB
HCM Control Delay, s	0		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	697	60	4	314	27	45
Future Vol, veh/h	697	60	4	314	27	45
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, %	2	2	2	2	2	2
Mvmt Flow	758	65	4	341	29	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	823	0	1140	790
Stage 1	-	-	-	-	790	-
Stage 2	-	-	-	-	350	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	807	-	222	390
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	807	-	221	390
Mov Cap-2 Maneuver	-	-	-	-	221	-
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	709	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	303	-	-	807	-
HCM Lane V/C Ratio	0.258	-	-	0.005	-
HCM Control Delay (s)	21	-	-	9.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0	-

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	697	60	4	314	27	45
Future Vol, veh/h	697	60	4	314	27	45
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, %	2	2	2	2	2	2
Mvmt Flow	758	65	4	341	29	49

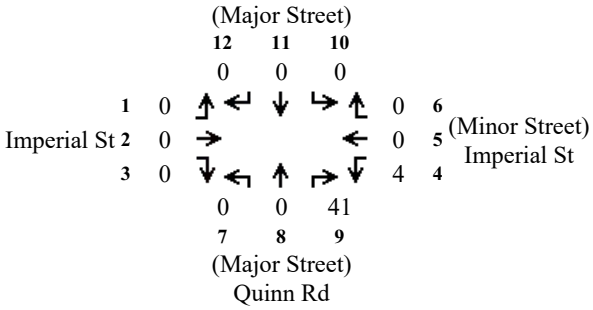
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	823	0	1140	790
Stage 1	-	-	-	-	790	-
Stage 2	-	-	-	-	350	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	807	-	222	390
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	807	-	221	390
Mov Cap-2 Maneuver	-	-	-	-	221	-
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	709	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	21
HCM LOS			C

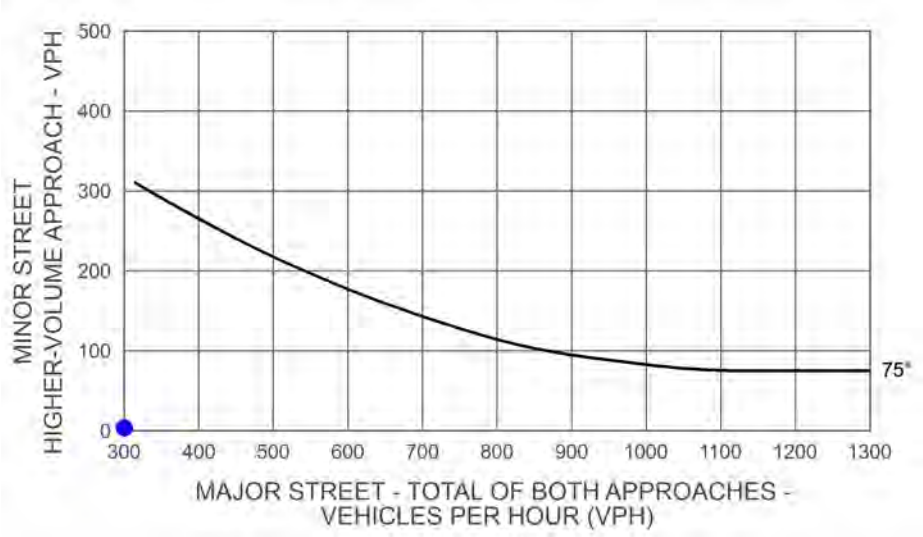
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	303	-	-	807	-
HCM Lane V/C Ratio	0.258	-	-	0.005	-
HCM Control Delay (s)	21	-	-	9.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0	-

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 5

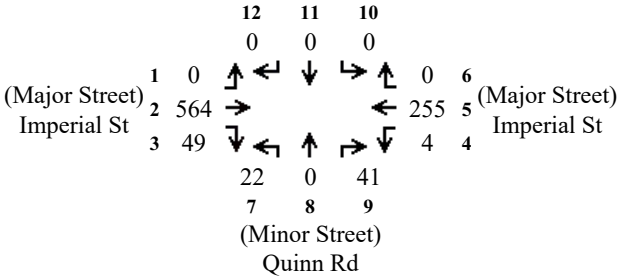


Major Total: 41
Minor High Volume: 4

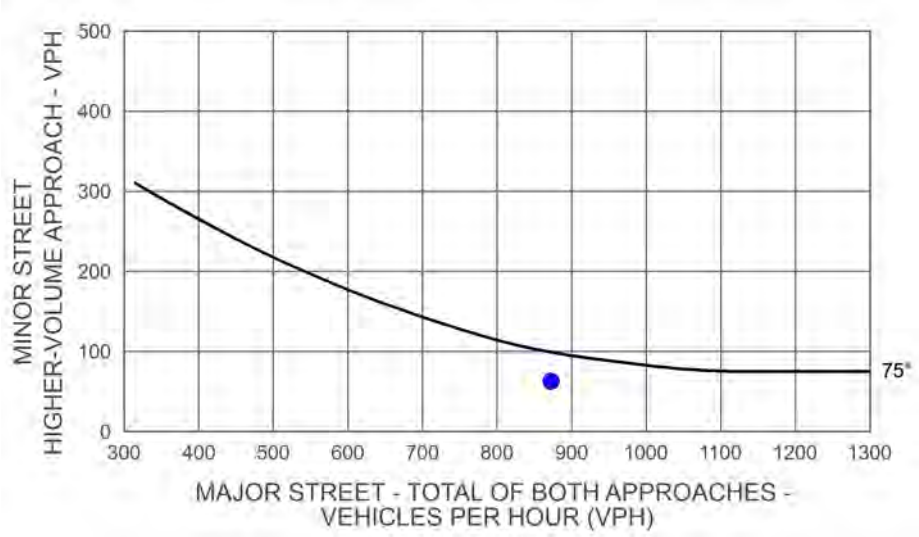


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project Phase I
Intersection #: 5

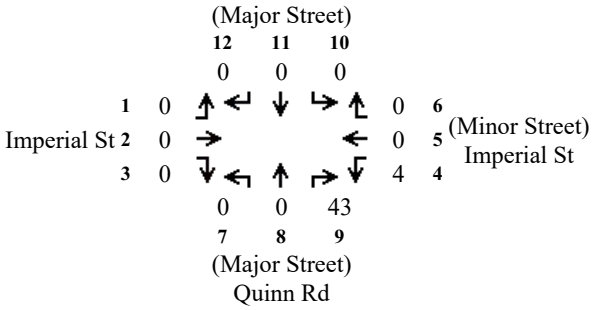


Major Total: 872
Minor High Volume: 63

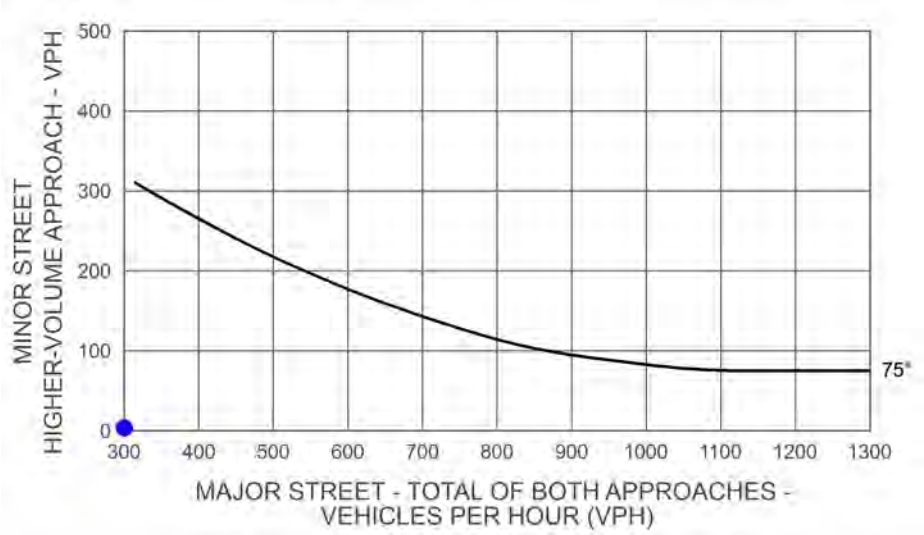


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 5

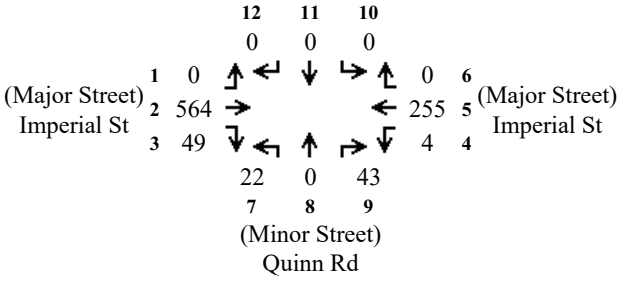


Major Total: 43
Minor High Volume: 4

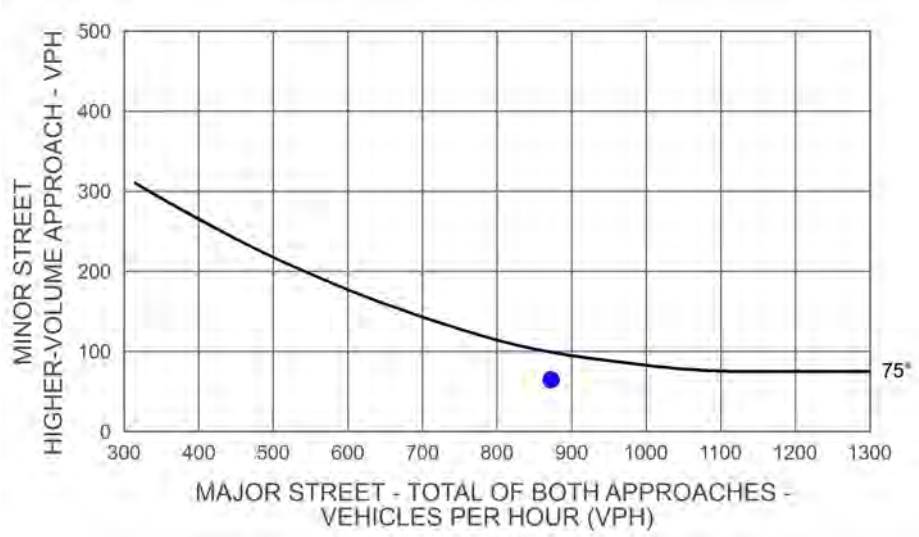


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 5

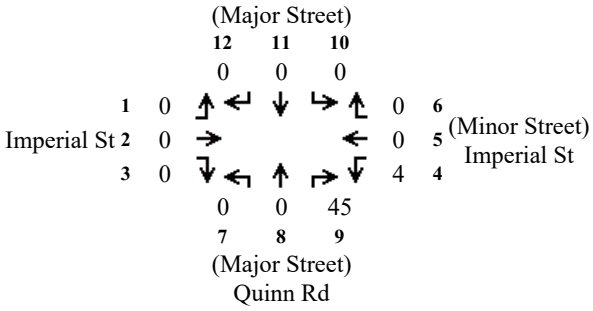


Major Total: 872
Minor High Volume: 65

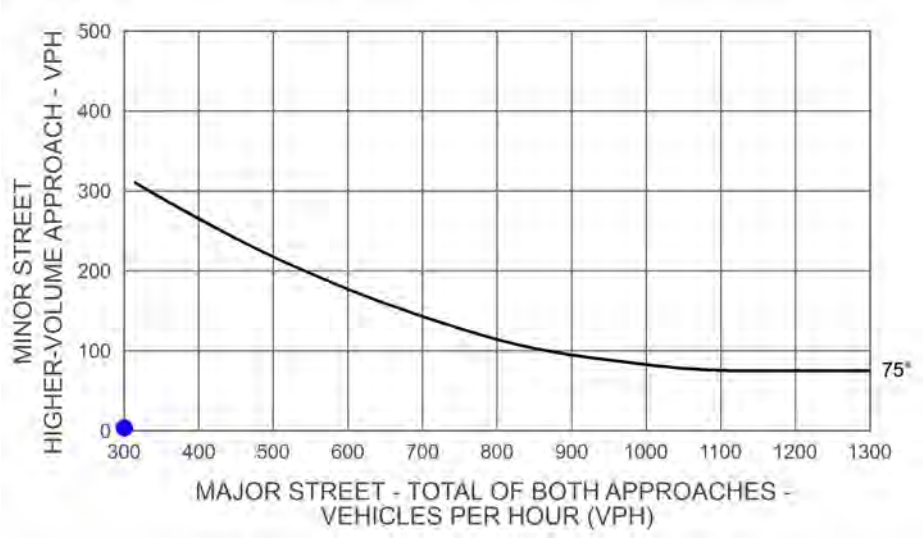


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 5



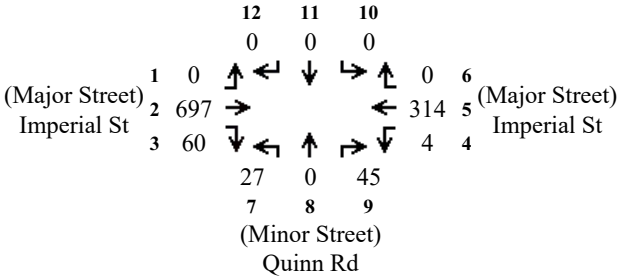
Major Total: 45
Minor High Volume: 4



Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

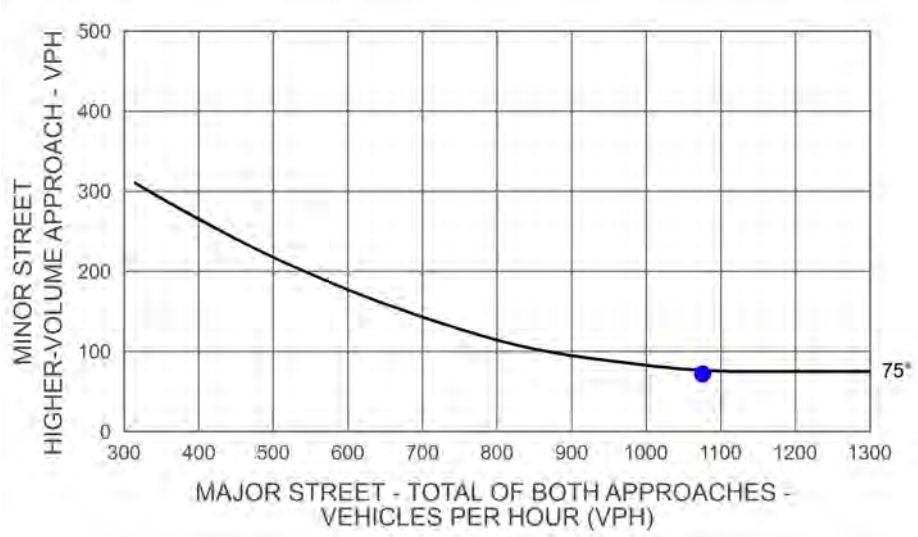
Scenario: PM Future+Project Phase I & II

Intersection #: 5



Major Total: 1075

Minor High Volume: 72



Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	0	0	20	0	0	52
Future Vol, veh/h	0	0	20	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	22	0	0	57

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	0	0	43	0
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	43	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	-	-	968	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	979	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	968	-
Mov Cap-2 Maneuver	-	-	-	-	968	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	979	-

Approach	EB	WB	NB
HCM Control Delay, s	0		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection

Int Delay, s/veh 1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	197	17	20	524	46	52
Future Vol, veh/h	197	17	20	524	46	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, %	2	2	2	2	2	2
Mvmt Flow	214	18	22	570	50	57

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	233	0	836	223
Stage 1	-	-	-	-	223	-
Stage 2	-	-	-	-	613	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1335	-	337	817
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	541	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1335	-	329	817
Mov Cap-2 Maneuver	-	-	-	-	329	-
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	528	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	482	-	-	1335	-
HCM Lane V/C Ratio	0.221	-	-	0.016	-
HCM Control Delay (s)	14.6	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	0	0	21	0	0	55
Future Vol, veh/h	0	0	21	0	0	55
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, %	2	2	2	2	2	2
Mvmt Flow	0	0	23	0	0	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	0	0	46	0
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	46	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	-	-	964	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	976	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	964	-
Mov Cap-2 Maneuver	-	-	-	-	964	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	976	-

Approach	EB	WB	NB
HCM Control Delay, s	0		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection

Int Delay, s/veh 1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	197	17	21	524	46	55
Future Vol, veh/h	197	17	21	524	46	55
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, %	2	2	2	2	2	2
Mvmt Flow	214	18	23	570	50	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	233	0	838	223
Stage 1	-	-	-	-	223	-
Stage 2	-	-	-	-	615	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1335	-	336	817
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	539	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1335	-	328	817
Mov Cap-2 Maneuver	-	-	-	-	328	-
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	526	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	487	-	-	1335	-
HCM Lane V/C Ratio	0.225	-	-	0.017	-
HCM Control Delay (s)	14.5	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection

Int Delay, s/veh 1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	197	17	21	524	46	55
Future Vol, veh/h	197	17	21	524	46	55
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, %	2	2	2	2	2	2
Mvmt Flow	214	18	23	570	50	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	233	0	838	223
Stage 1	-	-	-	-	223	-
Stage 2	-	-	-	-	615	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1335	-	336	817
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	539	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1335	-	328	817
Mov Cap-2 Maneuver	-	-	-	-	328	-
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	526	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	487	-	-	1335	-
HCM Lane V/C Ratio	0.225	-	-	0.017	-
HCM Control Delay (s)	14.5	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	0	0	22	0	0	57
Future Vol, veh/h	0	0	22	0	0	57
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, %	2	2	2	2	2	2
Mvmt Flow	0	0	24	0	0	62

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	0	0	48	0
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	48	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	-	-	962	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	974	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	962	-
Mov Cap-2 Maneuver	-	-	-	-	962	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	974	-

Approach	EB	WB	NB
HCM Control Delay, s	0		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection

Int Delay, s/veh 2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	246	22	22	641	55	57
Future Vol, veh/h	246	22	22	641	55	57
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, %	2	2	2	2	2	2
Mvmt Flow	267	24	24	697	60	62

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	291	0	1024	279
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	745	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1271	-	261	760
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	469	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1271	-	253	760
Mov Cap-2 Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	454	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	18.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	383	-	-	1271	-
HCM Lane V/C Ratio	0.318	-	-	0.019	-
HCM Control Delay (s)	18.7	-	-	7.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.3	-	-	0.1	-

Intersection

Int Delay, s/veh 2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	246	22	22	641	55	57
Future Vol, veh/h	246	22	22	641	55	57
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, %	2	2	2	2	2	2
Mvmt Flow	267	24	24	697	60	62

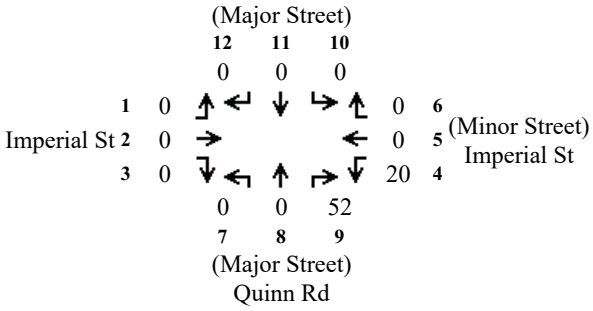
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	291	0	1024	279
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	745	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1271	-	261	760
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	469	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1271	-	253	760
Mov Cap-2 Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	454	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	18.7
HCM LOS			C

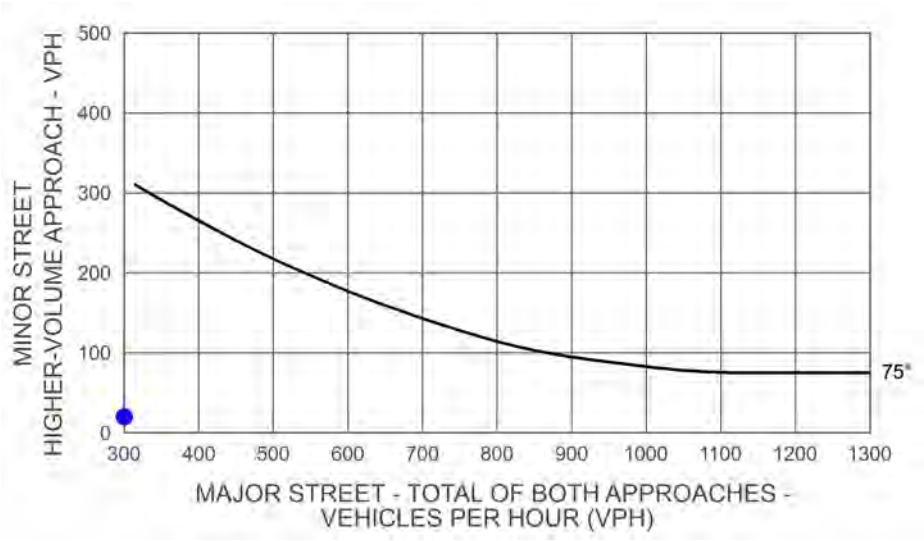
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	383	-	-	1271	-
HCM Lane V/C Ratio	0.318	-	-	0.019	-
HCM Control Delay (s)	18.7	-	-	7.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.3	-	-	0.1	-

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 5



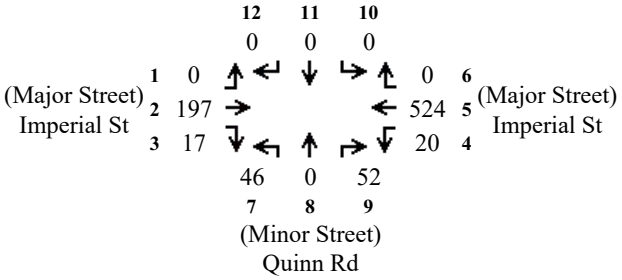
Major Total: 52
Minor High Volume: 20



Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

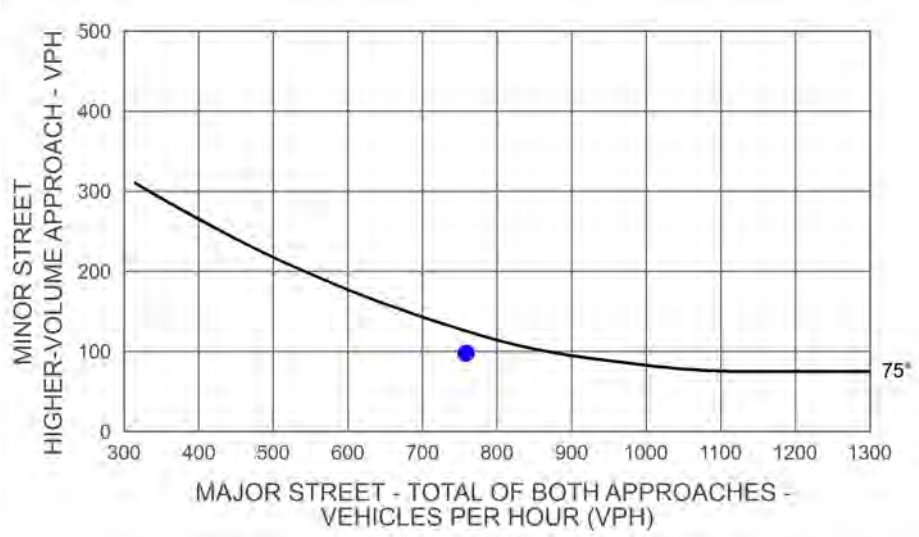
Scenario: AM Existing+Project Phase I

Intersection #: 5



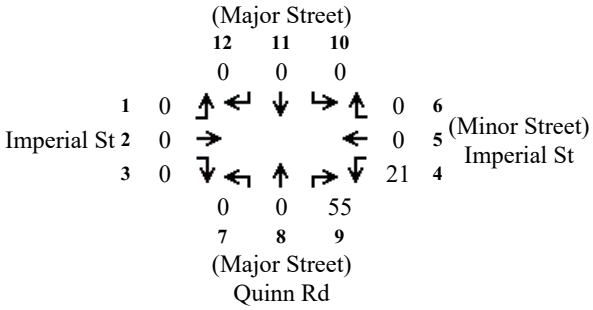
Major Total: 758

Minor High Volume: 98

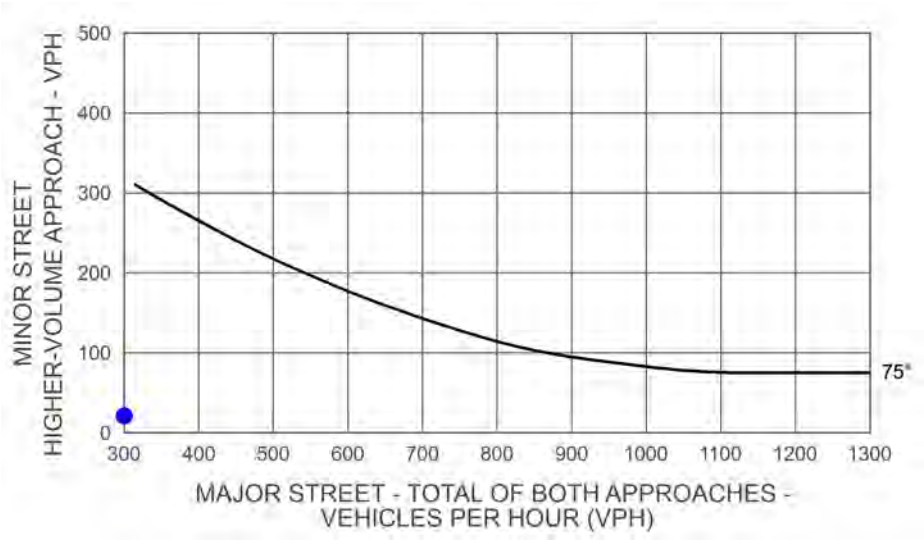


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 5

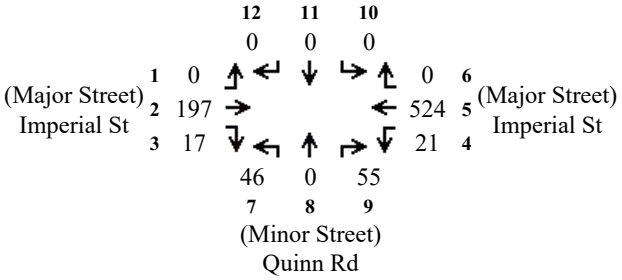


Major Total: 55
Minor High Volume: 21

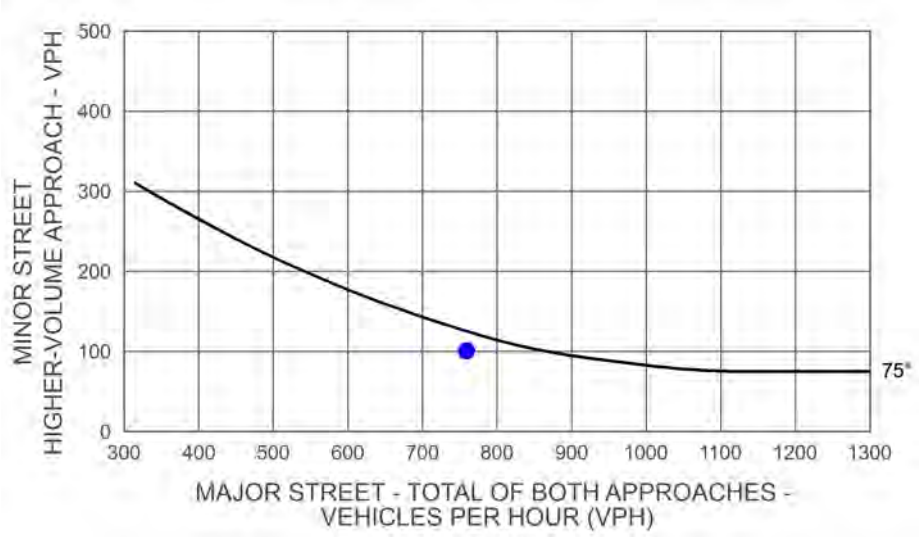


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 5

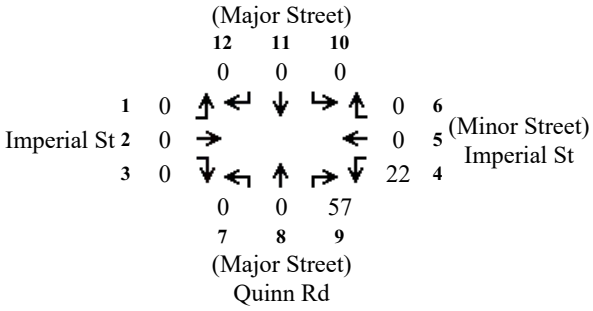


Major Total: 759
Minor High Volume: 101

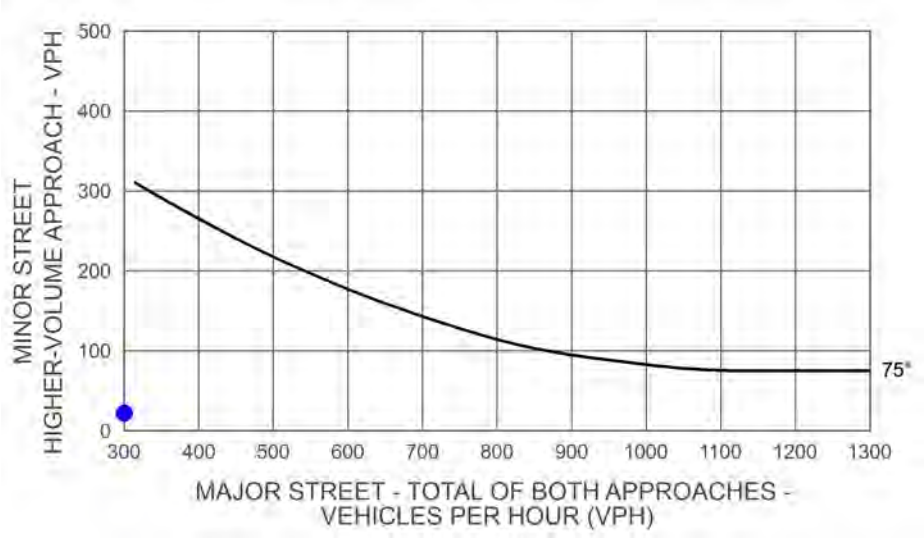


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 5

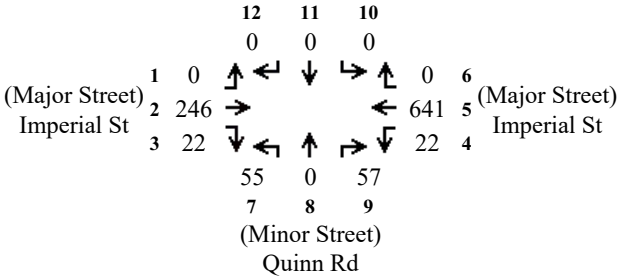


Major Total: 57
Minor High Volume: 22

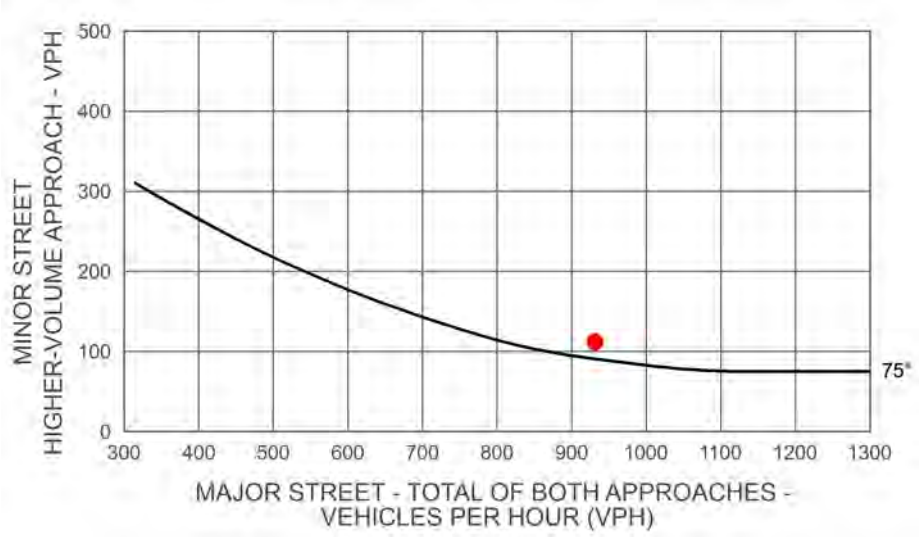


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project Phase I & II
Intersection #: 5



Major Total: 931
Minor High Volume: 112



Intersection 6
Porterville Hwy (SR 65) & Imperial St

Intersection
Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	1	8	3	394	406	1
Future Vol, veh/h	1	8	3	394	406	1
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	-	550	-	-	-
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	1	9	3	428	441	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	877	442	442	0	-	0
Stage 1	442	-	-	-	-	-
Stage 2	435	-	-	-	-	-
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	319	615	1118	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	318	615	1118	-	-	-
Mov Cap-2 Maneuver	318	-	-	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	651	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1118	-	557	-	-
HCM Lane V/C Ratio	0.003	-	0.018	-	-
HCM Control Delay (s)	8.2	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection
Int Delay, s/veh 122.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	95	478	215	394	406	44
Future Vol, veh/h	95	478	215	394	406	44
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	-	550	-	-	-
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	103	520	234	428	441	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1361	465	489	0	-	0
Stage 1	465	-	-	-	-	-
Stage 2	896	-	-	-	-	-
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	163	597	1074	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	127	597	1074	-	-	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	312	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 344.6	3.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1074	-	370	-	-
HCM Lane V/C Ratio	0.218	-	1.683	-	-
HCM Control Delay (s)	9.3	-	$ 344.6	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.8	-	37.8	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	1	10	4	538	542	1
Future Vol, veh/h	1	10	4	538	542	1
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	-	550	-	-	-
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	1	11	4	585	589	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1183	590	590	0	-	0
Stage 1	590	-	-	-	-	-
Stage 2	593	-	-	-	-	-
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	209	508	985	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	552	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	208	508	985	-	-	-
Mov Cap-2 Maneuver	208	-	-	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	550	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	985	-	449	-	-
HCM Lane V/C Ratio	0.004	-	0.027	-	-
HCM Control Delay (s)	8.7	-	13.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection
Int Delay, s/veh 195.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	95	480	216	538	542	44
Future Vol, veh/h	95	480	216	538	542	44
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	-	550	-	-	-
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	103	522	235	585	589	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1667	613	637	0	-	0
Stage 1	613	-	-	-	-	-
Stage 2	1054	-	-	-	-	-
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	106	~ 492	947	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	335	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 80	~ 492	947	-	-	-
Mov Cap-2 Maneuver	~ 80	-	-	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	252	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 648.6	2.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	947	-	266	-	-
HCM Lane V/C Ratio	0.248	-	2.35	-	-
HCM Control Delay (s)	10.1	-	$ 648.6	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	1	-	49.6	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	480	216	538	542	44
Future Volume (veh/h)	95	480	216	538	542	44
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	1716	1716	1716	1863	1863	1716
Adj Flow Rate, veh/h	103	522	235	585	589	48
Adj No. of Lanes	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	390	612	288	1301	921	721
Arrive On Green	0.24	0.24	0.18	0.70	0.49	0.49
Sat Flow, veh/h	1634	2567	1634	1863	1863	1458
Grp Volume(v), veh/h	103	522	235	585	589	48
Grp Sat Flow(s),veh/h/ln	1634	1283	1634	1863	1863	1458
Q Serve(g_s), s	4.6	17.5	12.5	12.4	21.0	0.5
Cycle Q Clear(g_c), s	4.6	17.5	12.5	12.4	21.0	0.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	390	612	288	1301	921	721
V/C Ratio(X)	0.26	0.85	0.82	0.45	0.64	0.07
Avail Cap(c_a), veh/h	414	650	288	1301	921	721
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	0.92	0.92
Uniform Delay (d), s/veh	27.9	32.8	35.7	6.0	16.8	1.5
Incr Delay (d2), s/veh	0.4	10.2	16.6	1.1	3.1	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	2.1	12.3	6.9	6.7	11.6	1.4
LnGrp Delay(d),s/veh	28.2	43.0	52.3	7.1	19.9	1.7
LnGrp LOS	C	D	D	A	B	A
Approach Vol, veh/h	625			820	637	
Approach Delay, s/veh	40.5			20.0	18.6	
Approach LOS	D			C	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		65.3		24.7	18.3	47.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		21.5	12.5	42.5		
Max Q Clear Time (g_c+I1), s		14.4		19.5	14.5	23.0		
Green Ext Time (p_c), s		3.3		0.7	0.0	2.4		

Intersection Summary

HCM 2010 Ctrl Delay	25.7
HCM 2010 LOS	C

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	1	12	5	654	662	2
Future Vol, veh/h	1	12	5	654	662	2
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	-	550	-	-	-
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	1	13	5	711	720	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1443	721	722	0	-	0
Stage 1	721	-	-	-	-	-
Stage 2	722	-	-	-	-	-
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	146	427	880	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	145	427	880	-	-	-
Mov Cap-2 Maneuver	145	-	-	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	478	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.1	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	880	-	371	-	-
HCM Lane V/C Ratio	0.006	-	0.038	-	-
HCM Control Delay (s)	9.1	-	15.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection
Int Delay, s/veh 518.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	118	592	266	654	662	55
Future Vol, veh/h	118	592	266	654	662	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	-	550	-	-	-
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	128	643	289	711	720	60

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2038	749	779	0	-	0
Stage 1	749	-	-	-	-	-
Stage 2	1289	-	-	-	-	-
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	~ 62	~ 412	838	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	258	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 41	~ 412	838	-	-	-
Mov Cap-2 Maneuver	~ 41	-	-	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	169	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 1708.9	3.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	838	-	165	-	-
HCM Lane V/C Ratio	0.345	-	4.677	-	-
HCM Control Delay (s)	11.5	-	$ 1708.9	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	1.5	-	79.5	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	118	592	266	654	662	55
Future Volume (veh/h)	118	592	266	654	662	55
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	1716	1716	1716	1863	1863	1716
Adj Flow Rate, veh/h	128	643	289	711	720	60
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	414	650	427	1273	970	760
Arrive On Green	0.25	0.25	0.13	0.68	0.52	0.52
Sat Flow, veh/h	1634	2567	3170	1863	1863	1458
Grp Volume(v), veh/h	128	643	289	711	720	60
Grp Sat Flow(s),veh/h/ln	1634	1283	1585	1863	1863	1458
Q Serve(g_s), s	5.7	22.5	7.8	17.6	27.2	1.8
Cycle Q Clear(g_c), s	5.7	22.5	7.8	17.6	27.2	1.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	414	650	427	1273	970	760
V/C Ratio(X)	0.31	0.99	0.68	0.56	0.74	0.08
Avail Cap(c_a), veh/h	414	650	511	1273	970	760
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	0.85	0.85
Uniform Delay (d), s/veh	27.2	33.5	37.1	7.3	16.8	10.8
Incr Delay (d2), s/veh	0.4	32.4	2.8	1.8	4.4	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	16.9	3.6	9.5	15.0	2.2
LnGrp Delay(d),s/veh	27.6	65.9	39.9	9.1	21.2	10.9
LnGrp LOS	C	E	D	A	C	B
Approach Vol, veh/h	771			1000	780	
Approach Delay, s/veh	59.5			18.0	20.4	
Approach LOS	E			B	C	

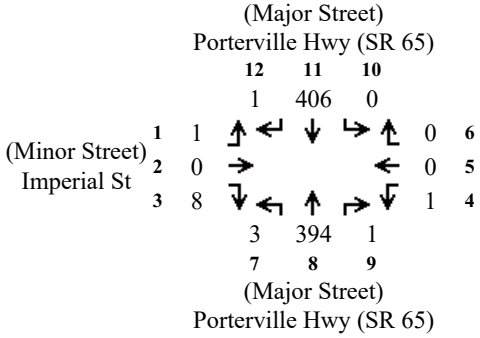
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		64.0		26.0	14.6	49.4		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		21.5	12.5	42.5		
Max Q Clear Time (g_c+I1), s		19.6		24.5	9.8	29.2		
Green Ext Time (p_c), s		7.4		0.0	0.3	5.4		

Intersection Summary

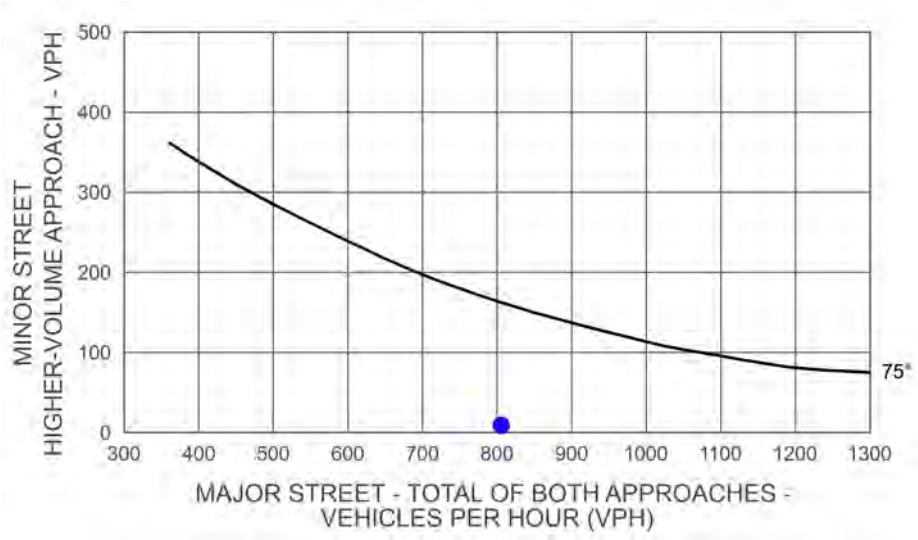
HCM 2010 Ctrl Delay	31.3
HCM 2010 LOS	C

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 6

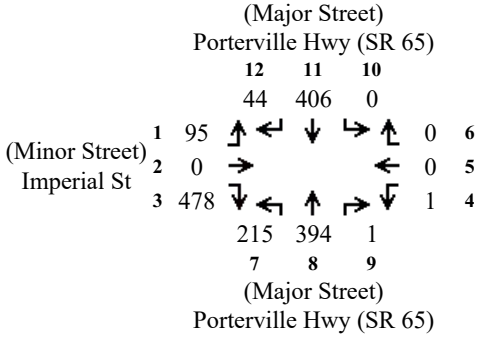


Major Total: 805
Minor High Volume: 9

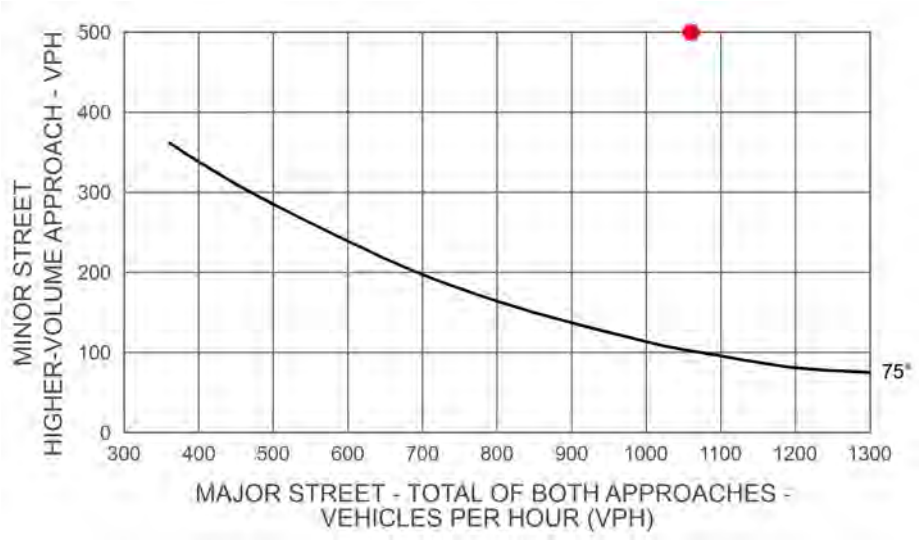


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Existing+Project Phase I
Intersection #: 6

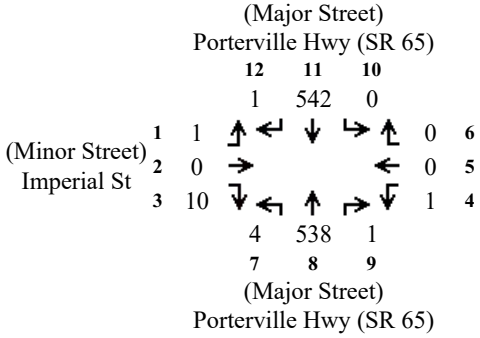


Major Total: 1060
Minor High Volume: 573

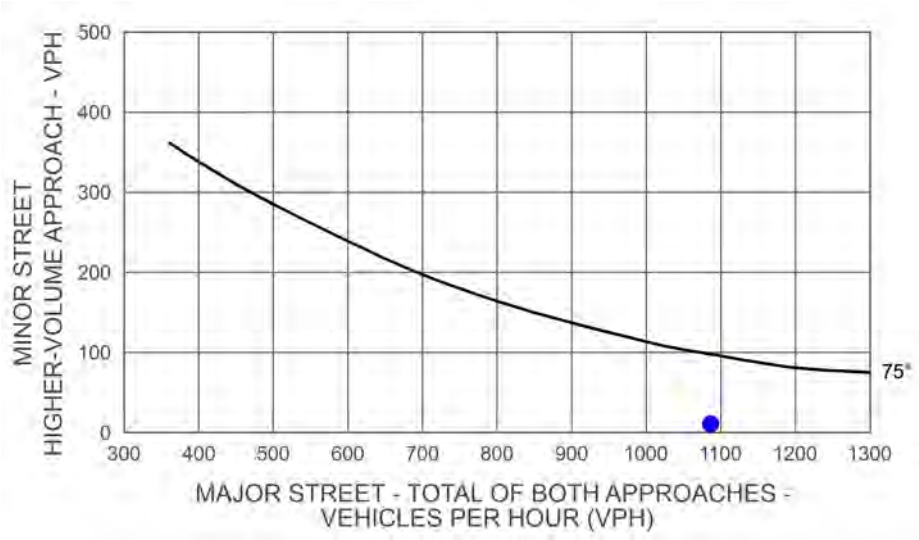


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 6



Major Total: 1086
Minor High Volume: 11



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 6

(Major Street)
Porterville Hwy (SR 65)

		12	**11**	**10**			
		44	542	0			
(Minor Street) Imperial St	**1** 95					0	**6**
	2 0					0	**5**
	3 480					1	**4**
		216	538	1			
		7	**8**	**9**			

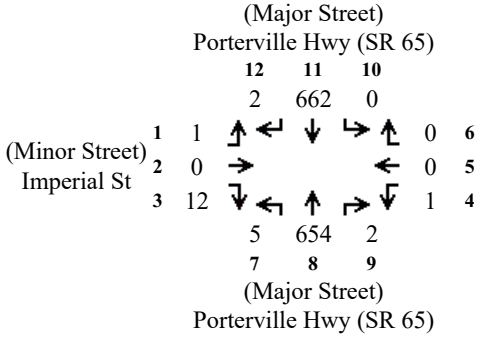
(Major Street)
Porterville Hwy (SR 65)

Major Total: 1341
Minor High Volume: 575

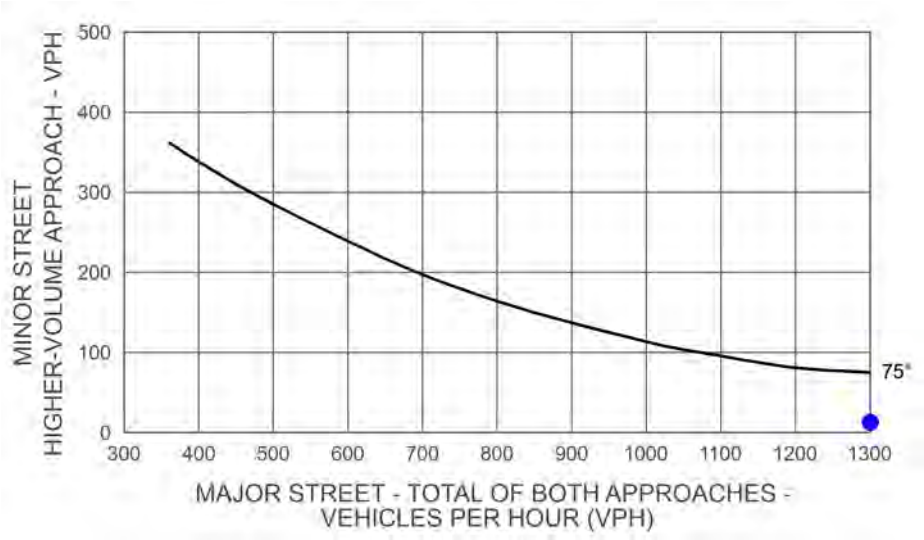


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 6

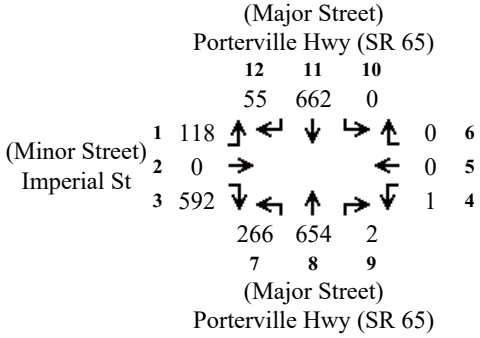


Major Total: 1325
Minor High Volume: 13



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project Phase I & II
Intersection #: 6



Major Total: 1639
Minor High Volume: 710



Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	6	5	12	411	588	8
Future Vol, veh/h	6	5	12	411	588	8
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	-	550	-	-	-
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	5	13	447	639	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1116	643	648	0	-	0
Stage 1	643	-	-	-	-	-
Stage 2	473	-	-	-	-	-
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	230	473	938	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	227	473	938	-	-	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	618	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	938	-	297	-	-
HCM Lane V/C Ratio	0.014	-	0.04	-	-
HCM Control Delay (s)	8.9	-	17.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection
Int Delay, s/veh 78

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	39	169	448	411	588	96
Future Vol, veh/h	39	169	448	411	588	96
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	-	550	-	-	-
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	42	184	487	447	639	104

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2112	691	743	0	-	0
Stage 1	691	-	-	-	-	-
Stage 2	1421	-	-	-	-	-
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	56	445	864	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	223	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 24	445	864	-	-	-
Mov Cap-2 Maneuver	~ 24	-	-	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	97	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 625.7	7.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	864	-	104	-	-
HCM Lane V/C Ratio	0.564	-	2.174	-	-
HCM Control Delay (s)	14.4	-	$ 625.7	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	3.6	-	19.6	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	7	6	15	529	775	10
Future Vol, veh/h	7	6	15	529	775	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	-	550	-	-	-
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	8	7	16	575	842	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1456	848	853	0	-	0
Stage 1	848	-	-	-	-	-
Stage 2	608	-	-	-	-	-
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	143	361	786	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	140	361	786	-	-	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.9	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	786	-	195	-	-
HCM Lane V/C Ratio	0.021	-	0.072	-	-
HCM Control Delay (s)	9.7	-	24.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection
Int Delay, s/veh 180

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	40	170	451	529	775	98
Future Vol, veh/h	40	170	451	529	775	98
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	-	550	-	-	-
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	43	185	490	575	842	107

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2451	896	949	0	-	0
Stage 1	896	-	-	-	-	-
Stage 2	1555	-	-	-	-	-
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	~ 34	339	724	-	-	-
Stage 1	399	-	-	-	-	-
Stage 2	192	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 11	339	724	-	-	-
Mov Cap-2 Maneuver	~ 11	-	-	-	-	-
Stage 1	399	-	-	-	-	-
Stage 2	62	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 1725.8	9.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	724	-	51	-	-
HCM Lane V/C Ratio	0.677	-	4.476	-	-
HCM Control Delay (s)	19.7	-	$ 1725.8	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	5.3	-	25.5	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	170	451	529	775	98
Future Volume (veh/h)	40	170	451	529	775	98
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	1716	1716	1716	1863	1863	1716
Adj Flow Rate, veh/h	43	185	490	575	842	107
Adj No. of Lanes	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	186	292	491	1533	921	721
Arrive On Green	0.11	0.11	0.30	0.82	0.49	0.49
Sat Flow, veh/h	1634	2567	1634	1863	1863	1458
Grp Volume(v), veh/h	43	185	490	575	842	107
Grp Sat Flow(s),veh/h/ln	1634	1283	1634	1863	1863	1458
Q Serve(g_s), s	2.2	6.2	27.0	7.1	37.5	2.0
Cycle Q Clear(g_c), s	2.2	6.2	27.0	7.1	37.5	2.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	186	292	491	1533	921	721
V/C Ratio(X)	0.23	0.63	1.00	0.38	0.91	0.15
Avail Cap(c_a), veh/h	414	650	491	1533	921	721
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	0.91	0.91
Uniform Delay (d), s/veh	36.3	38.1	31.4	2.0	21.0	4.5
Incr Delay (d2), s/veh	0.6	2.3	39.8	0.7	14.0	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	1.0	4.4	17.5	3.8	22.8	3.5
LnGrp Delay(d),s/veh	36.9	40.4	71.2	2.7	35.0	4.9
LnGrp LOS	D	D	E	A	C	A
Approach Vol, veh/h	228			1065	949	
Approach Delay, s/veh	39.7			34.2	31.6	
Approach LOS	D			C	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		76.6		13.4	29.6	47.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		21.5	12.5	42.5		
Max Q Clear Time (g_c+I1), s		9.1		8.2	29.0	39.5		
Green Ext Time (p_c), s		4.6		0.8	0.0	1.3		

Intersection Summary

HCM 2010 Ctrl Delay	33.7
HCM 2010 LOS	C

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	9	7	18	650	949	12
Future Vol, veh/h	9	7	18	650	949	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	-	550	-	-	-
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	10	8	20	707	1032	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1784	1038	1045	0	-	0
Stage 1	1038	-	-	-	-	-
Stage 2	746	-	-	-	-	-
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	90	280	666	-	-	-
Stage 1	341	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	87	280	666	-	-	-
Mov Cap-2 Maneuver	87	-	-	-	-	-
Stage 1	341	-	-	-	-	-
Stage 2	455	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.4	0.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	666	-	125	-	-
HCM Lane V/C Ratio	0.029	-	0.139	-	-
HCM Control Delay (s)	10.6	-	38.4	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection
Int Delay, s/veh 26.7

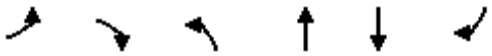
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	50	212	551	650	949	120
Future Vol, veh/h	50	212	551	650	949	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	550	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	230	599	707	1032	130

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3001	1097	1162	0	-	0
Stage 1	1097	-	-	-	-	-
Stage 2	1904	-	-	-	-	-
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	~ 15	259	601	-	-	-
Stage 1	320	-	-	-	-	-
Stage 2	128	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	259	601	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	320	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	127.2	28.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	601	-	259	-	-
HCM Lane V/C Ratio	0.997	-	1.1	-	-
HCM Control Delay (s)	62	-	127.2	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	14.9	-	12.1	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	212	551	650	949	120
Future Volume (veh/h)	50	212	551	650	949	120
Number	7	14	5	2	6	16
Initial Q, 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
Work Zone On Approach	No			No	No	
Lanes Open During Work Zone						
Adj Sat Flow, veh/h/ln	1723	1723	2166	1870	1870	1723
Adj Flow Rate, veh/h	54	230	599	707	1032	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Opposing Right Turn Influence	Yes		Yes			
Cap, veh/h	117	184	737	1624	1230	960
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.07	0.18	0.87	0.66	0.66
Unsig. Movement Delay						
Ln Grp Delay, s/veh	45.1	193.7	44.1	2.2	18.4	2.1
Ln Grp LOS	D	F	D	A	B	A
Approach Vol, veh/h	284			1306	1162	
Approach Delay, s/veh	165.4			21.4	16.6	
Approach LOS	F			C	B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4	6	5		
Case No		4.0		9.0	7.0	2.0		
Phs Duration (G+Y+Rc), s		85.0		10.0	65.0	20.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green (Gmax), s		80.5		5.5	60.5	15.5		
Max Allow Headway (MAH), s		4.0		4.4	4.0	4.1		
Max Q Clear (g_c+I1), s		9.6		8.8	42.0	15.6		
Green Ext Time (g_e), s		3.1		0.0	5.6	0.0		
Prob of Phs Call (p_c)		1.00		1.00	1.00	1.00		
Prob of Max Out (p_x)		0.00		1.00	0.00	1.00		

Left-Turn Movement Data								
Assigned Mvmt				7	1	5		
Mvmt Sat Flow, veh/h				1641	0	4001		

Through Movement Data								
Assigned Mvmt		2		4	6			
Mvmt Sat Flow, veh/h		1870		0	1870			

Right-Turn Movement Data								
Assigned Mvmt		12		14	16			
Mvmt Sat Flow, veh/h		0		2569	1460			

Left Lane Group Data								
Assigned Mvmt	0	0	0	7	1	5	0	0
Lane Assignment				L	L (Prot)			

Lanes in Grp	0	0	0	1	0	2	0	0
Grp Vol (v), veh/h	0	0	0	54	0	599	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1641	0	2001	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.0	0.0	13.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.0	0.0	13.6	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1641	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	62.5	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	117	0	737	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.46	0.00	0.81	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	117	0	737	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	42.3	0.0	37.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.8	0.0	6.9	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
Control Delay (d), s/veh	0.0	0.0	0.0	45.1	0.0	44.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.2	0.0	6.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.3	0.0	6.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.32	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	0	0
Lane Assignment		T			T			
Lanes in Grp	0	1	0	0	1	0	0	0
Grp Vol (v), veh/h	0	707	0	0	1032	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	0	1870	0	0	0
Q Serve Time (g_s), s	0.0	7.6	0.0	0.0	40.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.6	0.0	0.0	40.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1624	0	0	1231	0	0	0
V/C Ratio (X)	0.00	0.44	0.00	0.00	0.84	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1624	0	0	1231	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.85	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	1.3	0.0	0.0	12.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	6.0	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
Control Delay (d), s/veh	0.0	2.2	0.0	0.0	18.4	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	11.6	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	2.0	0.0	0.0	0.0

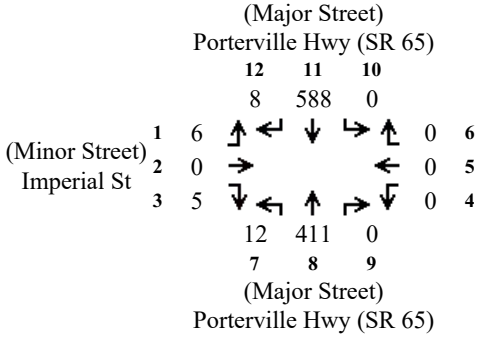
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	0.0	13.6	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	16	0	0	0
Lane Assignment				R	R			
Lanes in Grp	0	0	0	2	1	0	0	0
Grp Vol (v), veh/h	0	0	0	230	130	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1285	1460	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	6.8	1.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.8	1.6	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	184	960	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	1.25	0.14	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	184	960	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.85	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	44.1	1.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	149.6	0.2	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
Control Delay (d), s/veh	0.0	0.0	0.0	193.7	2.1	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.7	4.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	3.8	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	8.5	4.1	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.11	0.02	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

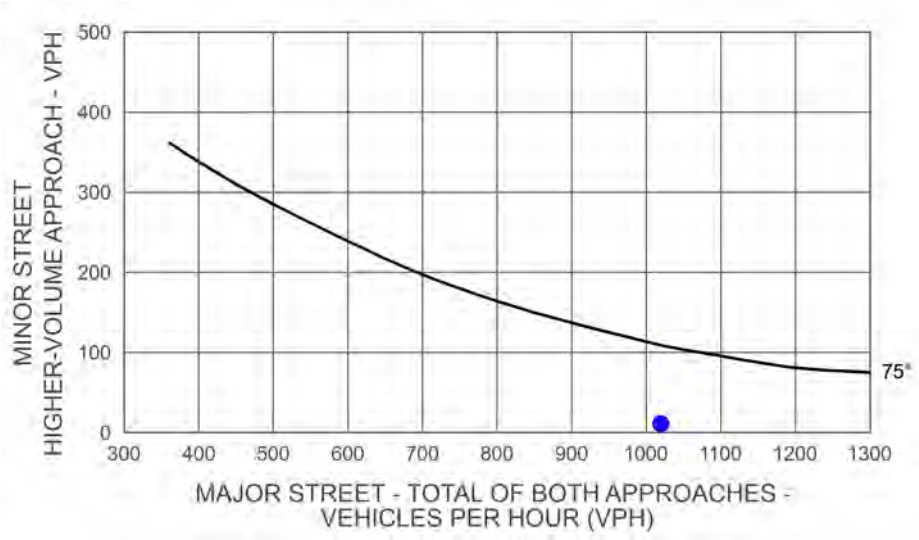
Intersection Summary	
HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 6

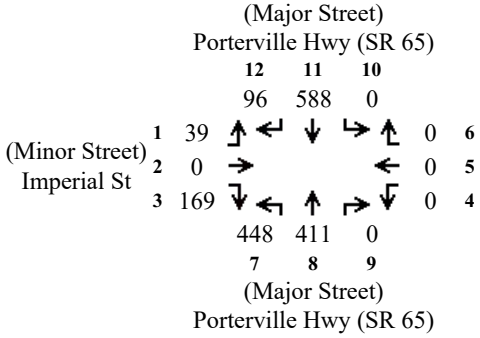


Major Total: 1019
Minor High Volume: 11

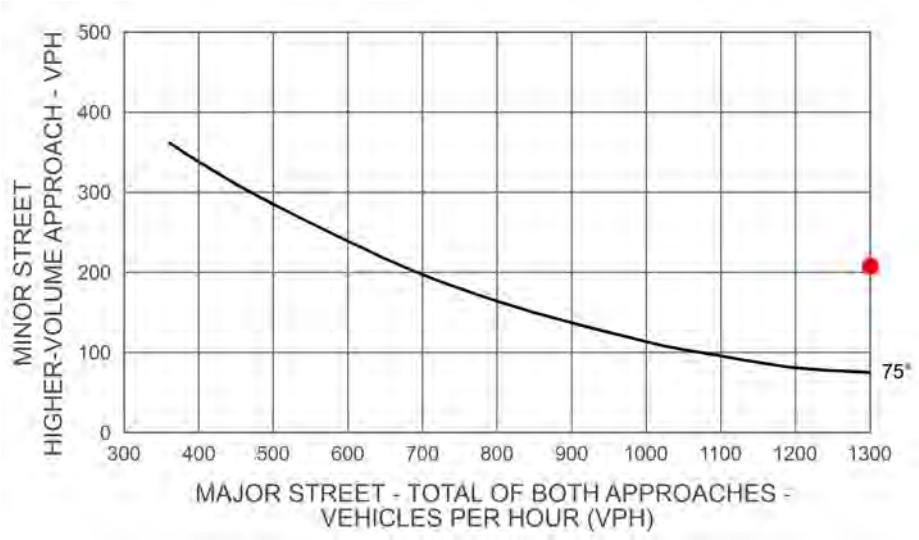


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Existing+Project Phase I
Intersection #: 6

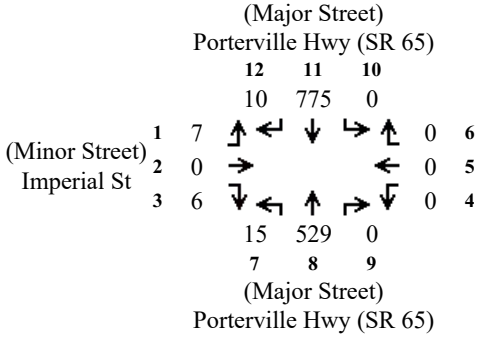


Major Total: 1543
Minor High Volume: 208

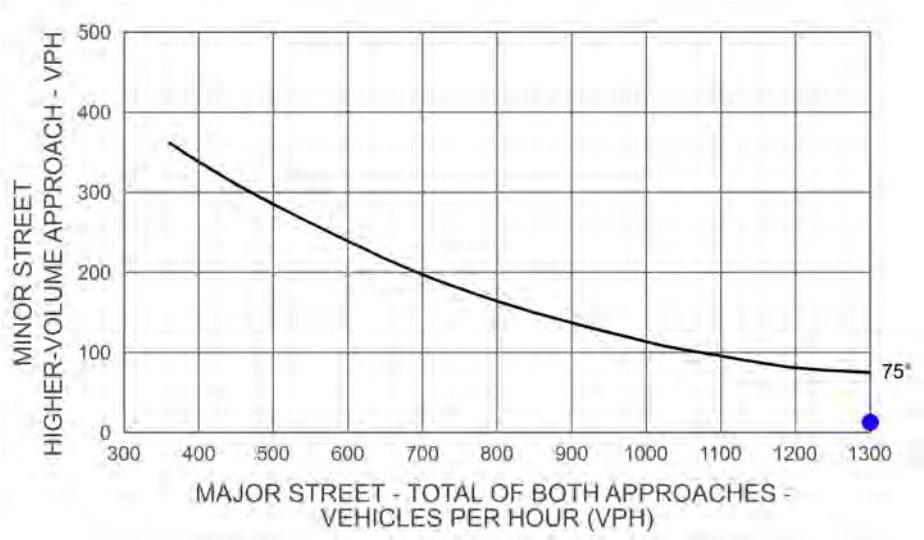


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 6

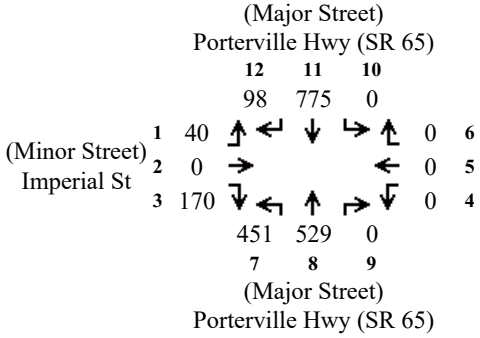


Major Total: 1329
Minor High Volume: 13

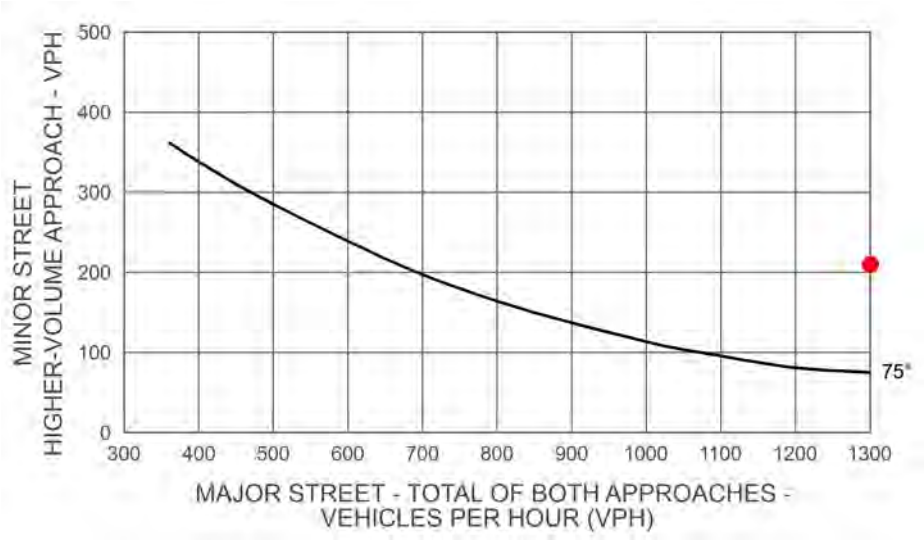


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 6

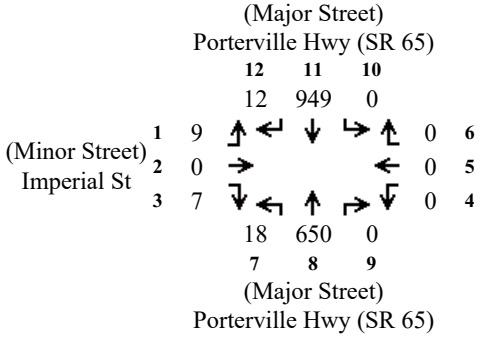


Major Total: 1853
Minor High Volume: 210

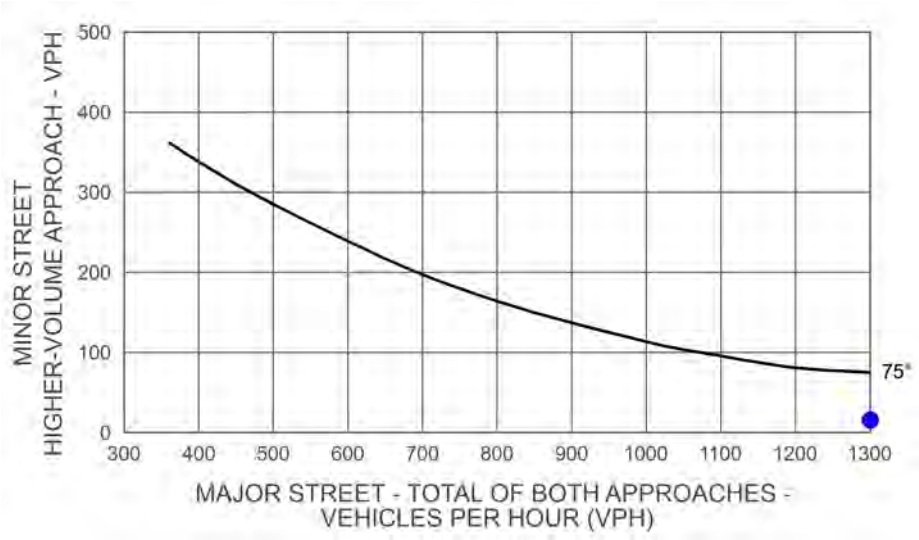


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 6

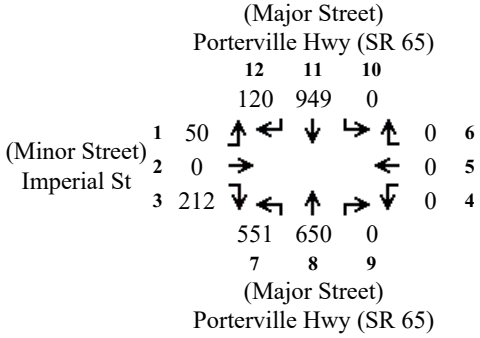


Major Total: 1629
Minor High Volume: 16

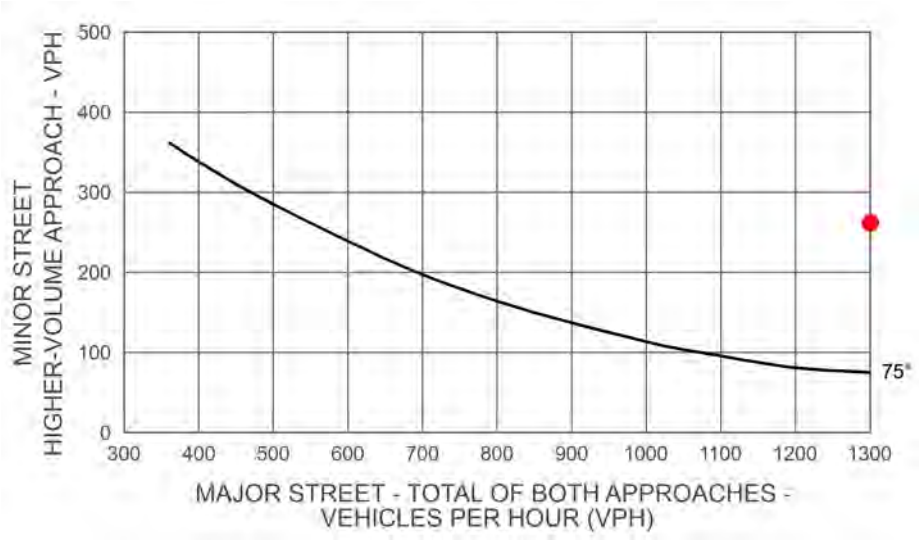


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project Phase I & II
Intersection #: 6



Major Total: 2270
Minor High Volume: 262



Intersection 7
Quinn Rd & Saco Rd/Mc Murtrey Ave

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	17	4	126	0	16	3	8	0	50	68	6	0	7	173	23
Future Vol, veh/h	0	17	4	126	0	16	3	8	0	50	68	6	0	7	173	23
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	18	4	137	0	17	3	9	0	54	74	7	0	8	188	25
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	8.8	8.9	9.1	9.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	3%	0%	27%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	97%	0%	73%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	68	6	17	130	16	11	7	173	23
LT Vol	50	0	0	17	0	16	0	7	0	0
Through Vol	0	68	0	0	4	0	3	0	173	0
RT Vol	0	0	6	0	126	0	8	0	0	23
Lane Flow Rate	54	74	7	18	141	17	12	8	188	25
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.091	0.113	0.009	0.031	0.192	0.03	0.018	0.012	0.28	0.032
Departure Headway (Hd)	6.017	5.514	4.81	6.061	4.883	6.308	5.298	5.857	5.354	4.651
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	646	738	589	731	564	670	608	668	765
Service Time	3.785	3.282	2.578	3.82	2.643	4.087	3.077	3.619	3.116	2.412
HCM Lane V/C Ratio	0.091	0.115	0.009	0.031	0.193	0.03	0.018	0.013	0.281	0.033
HCM Control Delay	9.4	9	7.6	9	8.8	9.3	8.2	8.7	10.2	7.6
HCM Lane LOS	A	A	A	A	A	A	A	A	B	A
HCM 95th-tile Q	0.3	0.4	0	0.1	0.7	0.1	0.1	0	1.1	0.1

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	17	4	173	0	16	3	8	0	70	90	6	0	7	222	23
Future Vol, veh/h	0	17	4	173	0	16	3	8	0	70	90	6	0	7	222	23
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	18	4	188	0	17	3	9	0	76	98	7	0	8	241	25
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	10	9.4	9.9	11.5
HCM LOS	A	A	A	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	2%	0%	27%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	98%	0%	73%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	90	6	17	177	16	11	7	222	23
LT Vol	70	0	0	17	0	16	0	7	0	0
Through Vol	0	90	0	0	4	0	3	0	222	0
RT Vol	0	0	6	0	173	0	8	0	0	23
Lane Flow Rate	76	98	7	18	192	17	12	8	241	25
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.136	0.161	0.009	0.033	0.282	0.033	0.019	0.013	0.384	0.035
Departure Headway (Hd)	6.421	5.916	5.211	6.454	5.271	6.853	5.842	6.229	5.725	5.02
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	559	608	688	556	683	523	613	576	630	714
Service Time	4.147	3.643	2.937	4.18	2.996	4.587	3.575	3.952	3.448	2.743
HCM Lane V/C Ratio	0.136	0.161	0.01	0.032	0.281	0.033	0.02	0.014	0.383	0.035
HCM Control Delay	10.2	9.8	8	9.4	10.1	9.8	8.7	9	12	7.9
HCM Lane LOS	B	A	A	A	B	A	A	A	B	A
HCM 95th-tile Q	0.5	0.6	0	0.1	1.2	0.1	0.1	0	1.8	0.1

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	18	4	132	0	17	3	8	0	53	71	6	0	7	182	24
Future Vol, veh/h	0	18	4	132	0	17	3	8	0	53	71	6	0	7	182	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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	20	4	143	0	18	3	9	0	58	77	7	0	8	198	26
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	9	9	9.2	10.1
HCM LOS	A	A	A	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	3%	0%	27%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	97%	0%	73%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	71	6	18	136	17	11	7	182	24
LT Vol	53	0	0	18	0	17	0	7	0	0
Through Vol	0	71	0	0	4	0	3	0	182	0
RT Vol	0	0	6	0	132	0	8	0	0	24
Lane Flow Rate	58	77	7	20	148	18	12	8	198	26
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.097	0.119	0.009	0.033	0.203	0.033	0.018	0.012	0.297	0.034
Departure Headway (Hd)	6.068	5.566	4.862	6.114	4.936	6.375	5.365	5.899	5.397	4.693
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	586	639	729	583	721	557	660	603	661	756
Service Time	3.846	3.343	2.639	3.88	2.702	4.163	3.152	3.669	3.166	2.462
HCM Lane V/C Ratio	0.099	0.121	0.01	0.034	0.205	0.032	0.018	0.013	0.3	0.034
HCM Control Delay	9.5	9.1	7.7	9.1	9	9.4	8.3	8.7	10.5	7.6
HCM Lane LOS	A	A	A	A	A	A	A	A	B	A
HCM 95th-tile Q	0.3	0.4	0	0.1	0.8	0.1	0.1	0	1.2	0.1

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	18	4	179	0	17	3	8	0	73	93	6	0	7	231	24
Future Vol, veh/h	0	18	4	179	0	17	3	8	0	73	93	6	0	7	231	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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	20	4	195	0	18	3	9	0	79	101	7	0	8	251	26
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	10.2	9.5	10	11.9
HCM LOS	B	A	A	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	2%	0%	27%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	98%	0%	73%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	93	6	18	183	17	11	7	231	24
LT Vol	73	0	0	18	0	17	0	7	0	0
Through Vol	0	93	0	0	4	0	3	0	231	0
RT Vol	0	0	6	0	179	0	8	0	0	24
Lane Flow Rate	79	101	7	20	199	18	12	8	251	26
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.143	0.168	0.01	0.035	0.295	0.036	0.02	0.013	0.403	0.037
Departure Headway (Hd)	6.487	5.983	5.276	6.515	5.331	6.934	5.922	6.284	5.78	5.075
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	554	600	679	550	674	516	604	570	623	706
Service Time	4.217	3.712	3.006	4.247	3.063	4.673	3.661	4.012	3.508	2.802
HCM Lane V/C Ratio	0.143	0.168	0.01	0.036	0.295	0.035	0.02	0.014	0.403	0.037
HCM Control Delay	10.3	9.9	8.1	9.5	10.3	9.9	8.8	9.1	12.4	8
HCM Lane LOS	B	A	A	A	B	A	A	A	B	A
HCM 95th-tile Q	0.5	0.6	0	0.1	1.2	0.1	0.1	0	1.9	0.1

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	18	4	179	0	17	3	8	0	73	93	6	0	7	231	24
Future Vol, veh/h	0	18	4	179	0	17	3	8	0	73	93	6	0	7	231	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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	20	4	195	0	18	3	9	0	79	101	7	0	8	251	26
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	10.2	9.5	10	11.9
HCM LOS	B	A	A	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	2%	0%	27%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	98%	0%	73%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	93	6	18	183	17	11	7	231	24
LT Vol	73	0	0	18	0	17	0	7	0	0
Through Vol	0	93	0	0	4	0	3	0	231	0
RT Vol	0	0	6	0	179	0	8	0	0	24
Lane Flow Rate	79	101	7	20	199	18	12	8	251	26
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.143	0.168	0.01	0.035	0.295	0.036	0.02	0.013	0.403	0.037
Departure Headway (Hd)	6.487	5.983	5.276	6.515	5.331	6.934	5.922	6.284	5.78	5.075
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	554	600	679	550	674	516	604	570	623	706
Service Time	4.217	3.712	3.006	4.247	3.063	4.673	3.661	4.012	3.508	2.802
HCM Lane V/C Ratio	0.143	0.168	0.01	0.036	0.295	0.035	0.02	0.014	0.403	0.037
HCM Control Delay	10.3	9.9	8.1	9.5	10.3	9.9	8.8	9.1	12.4	8
HCM Lane LOS	B	A	A	A	B	A	A	A	B	A
HCM 95th-tile Q	0.5	0.6	0	0.1	1.2	0.1	0.1	0	1.9	0.1

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	19	4	139	0	18	3	9	0	55	75	7	0	8	191	25
Future Vol, veh/h	0	19	4	139	0	18	3	9	0	55	75	7	0	8	191	25
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	21	4	151	0	20	3	10	0	60	82	8	0	9	208	27
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	9.2	9	9.3	10.3
HCM LOS	A	A	A	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	3%	0%	25%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	97%	0%	75%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	75	7	19	143	18	12	8	191	25
LT Vol	55	0	0	19	0	18	0	8	0	0
Through Vol	0	75	0	0	4	0	3	0	191	0
RT Vol	0	0	7	0	139	0	9	0	0	25
Lane Flow Rate	60	82	8	21	155	20	13	9	208	27
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.102	0.127	0.01	0.035	0.216	0.035	0.02	0.014	0.314	0.036
Departure Headway (Hd)	6.13	5.627	4.922	6.175	4.995	6.449	5.423	5.953	5.45	4.746
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	580	632	719	577	713	550	652	597	654	747
Service Time	3.916	3.412	2.708	3.947	2.768	4.247	3.221	3.728	3.225	2.521
HCM Lane V/C Ratio	0.103	0.13	0.011	0.036	0.217	0.036	0.02	0.015	0.318	0.036
HCM Control Delay	9.6	9.2	7.8	9.2	9.2	9.5	8.3	8.8	10.7	7.7
HCM Lane LOS	A	A	A	A	A	A	A	A	B	A
HCM 95th-tile Q	0.3	0.4	0	0.1	0.8	0.1	0.1	0	1.3	0.1

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	19	4	196	0	18	3	9	0	81	102	7	0	8	251	25
Future Vol, veh/h	0	19	4	196	0	18	3	9	0	81	102	7	0	8	251	25
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	21	4	213	0	20	3	10	0	88	111	8	0	9	273	27
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	10.8	9.7	10.4	12.8
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	2%	0%	25%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	98%	0%	75%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	81	102	7	19	200	18	12	8	251	25
LT Vol	81	0	0	19	0	18	0	8	0	0
Through Vol	0	102	0	0	4	0	3	0	251	0
RT Vol	0	0	7	0	196	0	9	0	0	25
Lane Flow Rate	88	111	8	21	217	20	13	9	273	27
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.163	0.189	0.011	0.038	0.331	0.039	0.022	0.016	0.449	0.039
Departure Headway (Hd)	6.648	6.143	5.436	6.675	5.489	7.147	6.118	6.432	5.927	5.221
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	540	584	658	537	654	501	584	557	608	686
Service Time	4.382	3.877	3.17	4.411	3.226	4.894	3.865	4.161	3.656	2.95
HCM Lane V/C Ratio	0.163	0.19	0.012	0.039	0.332	0.04	0.022	0.016	0.449	0.039
HCM Control Delay	10.7	10.3	8.2	9.7	10.9	10.2	9	9.3	13.4	8.2
HCM Lane LOS	B	B	A	A	B	B	A	A	B	A
HCM 95th-tile Q	0.6	0.7	0	0.1	1.4	0.1	0.1	0	2.3	0.1

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

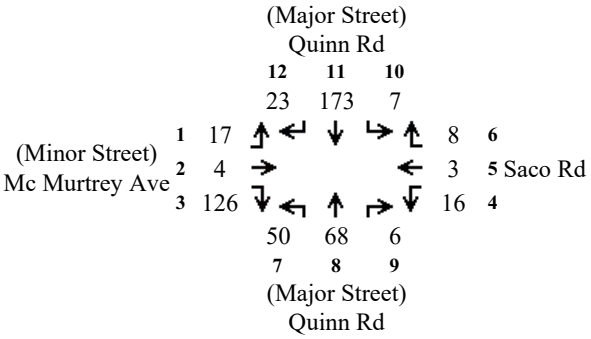
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	19	4	196	0	18	3	9	0	81	102	7	0	8	251	25
Future Vol, veh/h	0	19	4	196	0	18	3	9	0	81	102	7	0	8	251	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	21	4	213	0	20	3	10	0	88	111	8	0	9	273	27
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	10.8	9.7	10.4	12.8
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	2%	0%	25%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	98%	0%	75%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	81	102	7	19	200	18	12	8	251	25
LT Vol	81	0	0	19	0	18	0	8	0	0
Through Vol	0	102	0	0	4	0	3	0	251	0
RT Vol	0	0	7	0	196	0	9	0	0	25
Lane Flow Rate	88	111	8	21	217	20	13	9	273	27
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.163	0.189	0.011	0.038	0.331	0.039	0.022	0.016	0.449	0.039
Departure Headway (Hd)	6.648	6.143	5.436	6.675	5.489	7.147	6.118	6.432	5.927	5.221
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	540	584	658	537	654	501	584	557	608	686
Service Time	4.382	3.877	3.17	4.411	3.226	4.894	3.865	4.161	3.656	2.95
HCM Lane V/C Ratio	0.163	0.19	0.012	0.039	0.332	0.04	0.022	0.016	0.449	0.039
HCM Control Delay	10.7	10.3	8.2	9.7	10.9	10.2	9	9.3	13.4	8.2
HCM Lane LOS	B	B	A	A	B	B	A	A	B	A
HCM 95th-tile Q	0.6	0.7	0	0.1	1.4	0.1	0.1	0	2.3	0.1

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 7

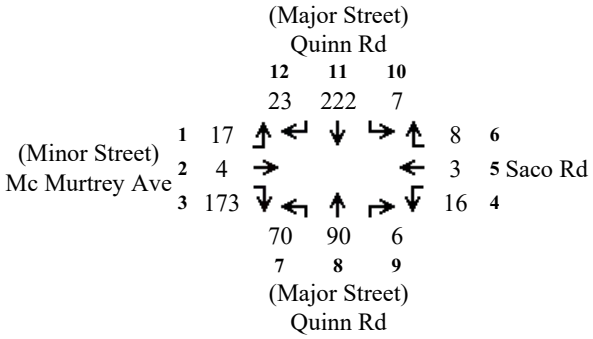


Major Total: 327
Minor High Volume: 147

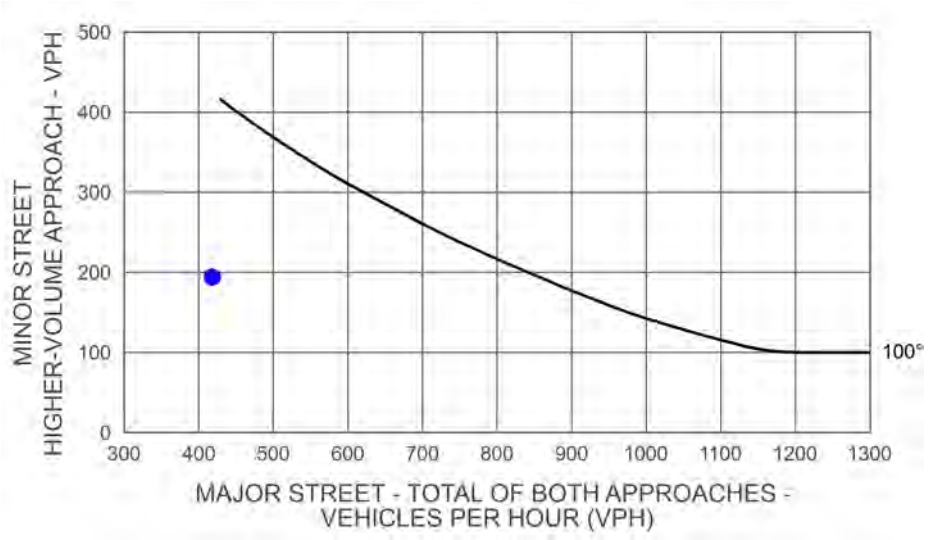


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project Phase I
Intersection #: 7

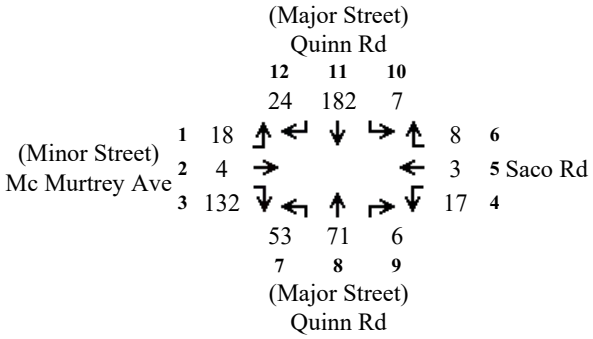


Major Total: 418
Minor High Volume: 194



Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 7

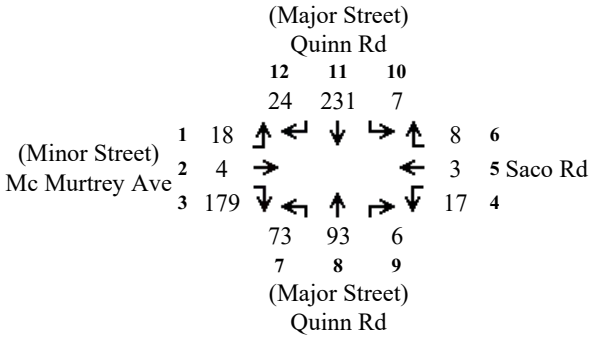


Major Total: 343
Minor High Volume: 154



Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 7

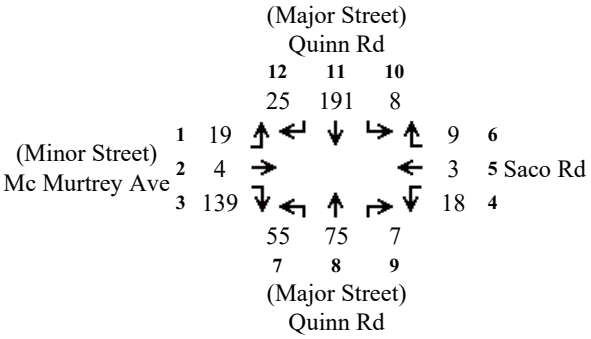


Major Total: 434
Minor High Volume: 201



Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 7

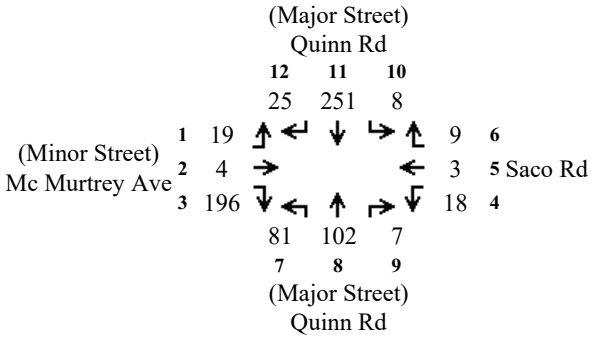


Major Total: 361
Minor High Volume: 162

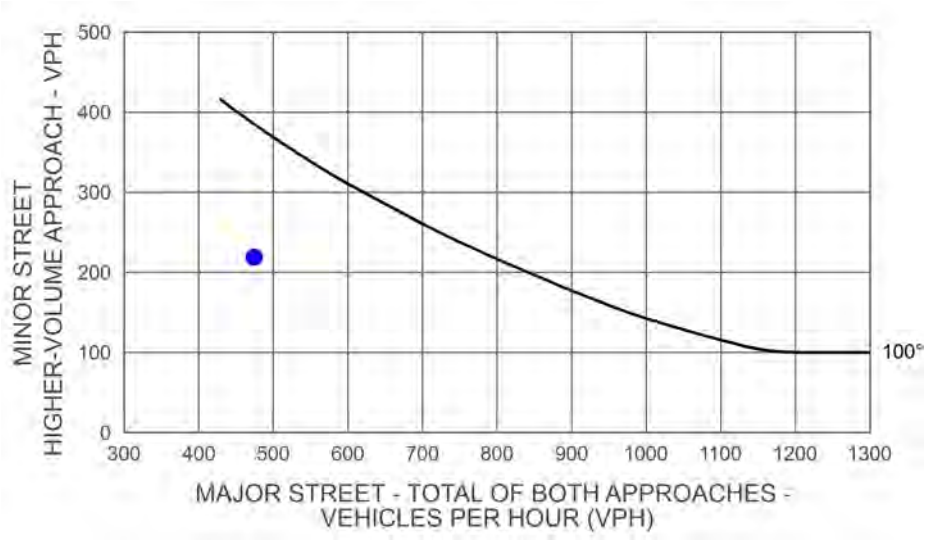


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project Phase I & II
Intersection #: 7



Major Total: 474
Minor High Volume: 219



Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	11	2	51	0	6	1	2	0	115	158	14	0	4	70	18
Future Vol, veh/h	0	11	2	51	0	6	1	2	0	115	158	14	0	4	70	18
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	2	55	0	7	1	2	0	125	172	15	0	4	76	20
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	8.3	8.7	9.2	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	4%	0%	33%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	96%	0%	67%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	158	14	11	53	6	3	4	70	18
LT Vol	115	0	0	11	0	6	0	4	0	0
Through Vol	0	158	0	0	2	0	1	0	70	0
RT Vol	0	0	14	0	51	0	2	0	0	18
Lane Flow Rate	125	172	15	12	58	7	3	4	76	20
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.19	0.237	0.018	0.02	0.079	0.011	0.005	0.007	0.114	0.025
Departure Headway (Hd)	5.467	4.966	4.264	6.104	4.933	6.222	5.256	5.872	5.371	4.669
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	658	723	839	586	725	574	679	610	667	766
Service Time	3.196	2.694	1.993	3.842	2.67	3.969	3.003	3.606	3.105	2.403
HCM Lane V/C Ratio	0.19	0.238	0.018	0.02	0.08	0.012	0.004	0.007	0.114	0.026
HCM Control Delay	9.5	9.2	7.1	9	8.1	9	8	8.6	8.8	7.5
HCM Lane LOS	A	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.7	0.9	0.1	0.1	0.3	0	0	0	0.4	0.1

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	11	2	67	0	6	1	2	0	156	204	14	0	4	87	18
Future Vol, veh/h	0	11	2	67	0	6	1	2	0	156	204	14	0	4	87	18
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	2	73	0	7	1	2	0	170	222	15	0	4	95	20
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	8.7	9.1	10.1	9
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	3%	0%	33%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	97%	0%	67%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	204	14	11	69	6	3	4	87	18
LT Vol	156	0	0	11	0	6	0	4	0	0
Through Vol	0	204	0	0	2	0	1	0	87	0
RT Vol	0	0	14	0	67	0	2	0	0	18
Lane Flow Rate	170	222	15	12	75	7	3	4	95	20
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.263	0.312	0.018	0.021	0.109	0.012	0.005	0.007	0.147	0.027
Departure Headway (Hd)	5.574	5.072	4.371	6.386	5.208	6.545	5.579	6.114	5.612	4.91
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	644	707	816	559	686	544	637	584	636	726
Service Time	3.315	2.814	2.112	4.141	2.963	4.315	3.349	3.868	3.366	2.663
HCM Lane V/C Ratio	0.264	0.314	0.018	0.021	0.109	0.013	0.005	0.007	0.149	0.028
HCM Control Delay	10.3	10.1	7.2	9.3	8.6	9.4	8.4	8.9	9.3	7.8
HCM Lane LOS	B	B	A	A	A	A	A	A	A	A
HCM 95th-tile Q	1.1	1.3	0.1	0.1	0.4	0	0	0	0.5	0.1

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	12	2	54	0	6	1	2	0	121	166	15	0	4	74	19
Future Vol, veh/h	0	12	2	54	0	6	1	2	0	121	166	15	0	4	74	19
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	2	59	0	7	1	2	0	132	180	16	0	4	80	21
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	8.3	8.8	9.4	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	4%	0%	33%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	96%	0%	67%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	121	166	15	12	56	6	3	4	74	19
LT Vol	121	0	0	12	0	6	0	4	0	0
Through Vol	0	166	0	0	2	0	1	0	74	0
RT Vol	0	0	15	0	54	0	2	0	0	19
Lane Flow Rate	132	180	16	13	61	7	3	4	80	21
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.201	0.25	0.019	0.022	0.084	0.011	0.005	0.007	0.121	0.027
Departure Headway (Hd)	5.493	4.992	4.291	6.158	4.985	6.287	5.32	5.919	5.417	4.715
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	654	720	833	581	717	568	670	605	661	758
Service Time	3.223	2.722	2.021	3.898	2.725	4.036	3.07	3.654	3.153	2.451
HCM Lane V/C Ratio	0.202	0.25	0.019	0.022	0.085	0.012	0.004	0.007	0.121	0.028
HCM Control Delay	9.6	9.4	7.1	9	8.2	9.1	8.1	8.7	8.9	7.6
HCM Lane LOS	A	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.7	1	0.1	0.1	0.3	0	0	0	0.4	0.1

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	12	2	70	0	6	1	2	0	162	212	15	0	4	91	19
Future Vol, veh/h	0	12	2	70	0	6	1	2	0	162	212	15	0	4	91	19
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	2	76	0	7	1	2	0	176	230	16	0	4	99	21
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	8.8	9.1	10.3	9.2
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	3%	0%	33%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	97%	0%	67%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	162	212	15	12	72	6	3	4	91	19
LT Vol	162	0	0	12	0	6	0	4	0	0
Through Vol	0	212	0	0	2	0	1	0	91	0
RT Vol	0	0	15	0	70	0	2	0	0	19
Lane Flow Rate	176	230	16	13	78	7	3	4	99	21
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.274	0.326	0.02	0.023	0.114	0.012	0.005	0.007	0.155	0.028
Departure Headway (Hd)	5.6	5.099	4.397	6.438	5.26	6.608	5.642	6.161	5.659	4.956
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	641	703	811	554	678	539	630	579	631	718
Service Time	3.343	2.842	2.139	4.197	3.018	4.383	3.416	3.917	3.415	2.712
HCM Lane V/C Ratio	0.275	0.327	0.02	0.023	0.115	0.013	0.005	0.007	0.157	0.029
HCM Control Delay	10.5	10.3	7.2	9.3	8.7	9.5	8.4	9	9.5	7.9
HCM Lane LOS	B	B	A	A	A	A	A	A	A	A
HCM 95th-tile Q	1.1	1.4	0.1	0.1	0.4	0	0	0	0.5	0.1

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	12	2	70	0	6	1	2	0	162	212	15	0	4	91	19
Future Vol, veh/h	0	12	2	70	0	6	1	2	0	162	212	15	0	4	91	19
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	2	76	0	7	1	2	0	176	230	16	0	4	99	21
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	8.8	9.1	10.3	9.2
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	3%	0%	33%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	97%	0%	67%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	162	212	15	12	72	6	3	4	91	19
LT Vol	162	0	0	12	0	6	0	4	0	0
Through Vol	0	212	0	0	2	0	1	0	91	0
RT Vol	0	0	15	0	70	0	2	0	0	19
Lane Flow Rate	176	230	16	13	78	7	3	4	99	21
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.274	0.326	0.02	0.023	0.114	0.012	0.005	0.007	0.155	0.028
Departure Headway (Hd)	5.6	5.099	4.397	6.438	5.26	6.608	5.642	6.161	5.659	4.956
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	641	703	811	554	678	539	630	579	631	718
Service Time	3.343	2.842	2.139	4.197	3.018	4.383	3.416	3.917	3.415	2.712
HCM Lane V/C Ratio	0.275	0.327	0.02	0.023	0.115	0.013	0.005	0.007	0.157	0.029
HCM Control Delay	10.5	10.3	7.2	9.3	8.7	9.5	8.4	9	9.5	7.9
HCM Lane LOS	B	B	A	A	A	A	A	A	A	A
HCM 95th-tile Q	1.1	1.4	0.1	0.1	0.4	0	0	0	0.5	0.1

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	12	2	56	0	7	1	2	0	127	175	15	0	4	77	20
Future Vol, veh/h	0	12	2	56	0	7	1	2	0	127	175	15	0	4	77	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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	2	61	0	8	1	2	0	138	190	16	0	4	84	22
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	8.4	8.9	9.5	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	3%	0%	33%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	97%	0%	67%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	127	175	15	12	58	7	3	4	77	20
LT Vol	127	0	0	12	0	7	0	4	0	0
Through Vol	0	175	0	0	2	0	1	0	77	0
RT Vol	0	0	15	0	56	0	2	0	0	20
Lane Flow Rate	138	190	16	13	63	8	3	4	84	22
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.211	0.265	0.02	0.023	0.088	0.013	0.005	0.007	0.127	0.029
Departure Headway (Hd)	5.512	5.011	4.309	6.211	5.037	6.343	5.377	5.959	5.457	4.756
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	650	715	828	576	709	563	663	600	655	750
Service Time	3.25	2.749	2.047	3.957	2.783	4.1	3.134	3.703	3.202	2.5
HCM Lane V/C Ratio	0.212	0.266	0.019	0.023	0.089	0.014	0.005	0.007	0.128	0.029
HCM Control Delay	9.7	9.6	7.1	9.1	8.3	9.2	8.2	8.7	9	7.6
HCM Lane LOS	A	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.8	1.1	0.1	0.1	0.3	0	0	0	0.4	0.1

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	12	2	76	0	7	1	2	0	180	230	15	0	4	99	20
Future Vol, veh/h	0	12	2	76	0	7	1	2	0	180	230	15	0	4	99	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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	2	83	0	8	1	2	0	196	250	16	0	4	108	22
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	9	9.3	10.7	9.4
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	3%	0%	33%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	97%	0%	67%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	180	230	15	12	78	7	3	4	99	20
LT Vol	180	0	0	12	0	7	0	4	0	0
Through Vol	0	230	0	0	2	0	1	0	99	0
RT Vol	0	0	15	0	76	0	2	0	0	20
Lane Flow Rate	196	250	16	13	85	8	3	4	108	22
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.307	0.358	0.02	0.024	0.127	0.014	0.005	0.008	0.172	0.031
Departure Headway (Hd)	5.649	5.148	4.445	6.56	5.38	6.743	5.777	6.262	5.76	5.057
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	634	695	800	543	661	527	613	569	619	702
Service Time	3.408	2.906	2.204	4.333	3.153	4.539	3.572	4.032	3.53	2.827
HCM Lane V/C Ratio	0.309	0.36	0.02	0.024	0.129	0.015	0.005	0.007	0.174	0.031
HCM Control Delay	10.9	10.8	7.3	9.5	8.9	9.6	8.6	9.1	9.7	8
HCM Lane LOS	B	B	A	A	A	A	A	A	A	A
HCM 95th-tile Q	1.3	1.6	0.1	0.1	0.4	0	0	0	0.6	0.1

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

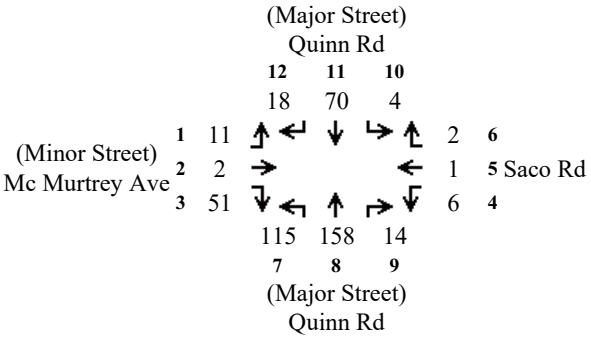
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	12	2	76	0	7	1	2	0	180	230	15	0	4	99	20
Future Vol, veh/h	0	12	2	76	0	7	1	2	0	180	230	15	0	4	99	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	2	83	0	8	1	2	0	196	250	16	0	4	108	22
Number of Lanes	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	9	9.3	10.7	9.4
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	3%	0%	33%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	97%	0%	67%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	180	230	15	12	78	7	3	4	99	20
LT Vol	180	0	0	12	0	7	0	4	0	0
Through Vol	0	230	0	0	2	0	1	0	99	0
RT Vol	0	0	15	0	76	0	2	0	0	20
Lane Flow Rate	196	250	16	13	85	8	3	4	108	22
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.307	0.358	0.02	0.024	0.127	0.014	0.005	0.008	0.172	0.031
Departure Headway (Hd)	5.649	5.148	4.445	6.56	5.38	6.743	5.777	6.262	5.76	5.057
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	634	695	800	543	661	527	613	569	619	702
Service Time	3.408	2.906	2.204	4.333	3.153	4.539	3.572	4.032	3.53	2.827
HCM Lane V/C Ratio	0.309	0.36	0.02	0.024	0.129	0.015	0.005	0.007	0.174	0.031
HCM Control Delay	10.9	10.8	7.3	9.5	8.9	9.6	8.6	9.1	9.7	8
HCM Lane LOS	B	B	A	A	A	A	A	A	A	A
HCM 95th-tile Q	1.3	1.6	0.1	0.1	0.4	0	0	0	0.6	0.1

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 7

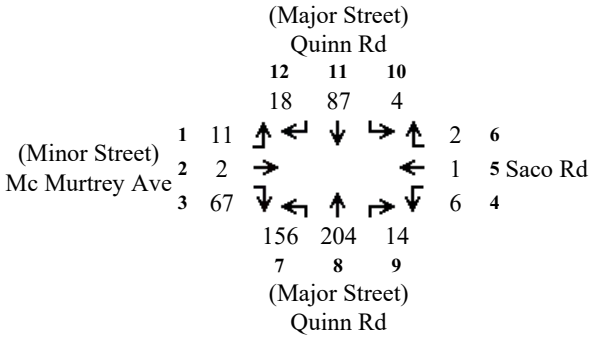


Major Total: 379
Minor High Volume: 64

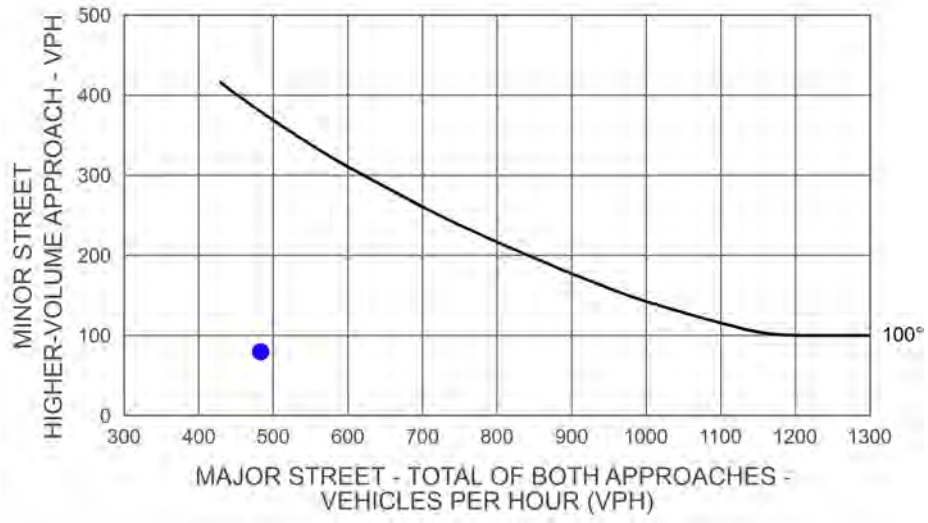


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project Phase I
Intersection #: 7

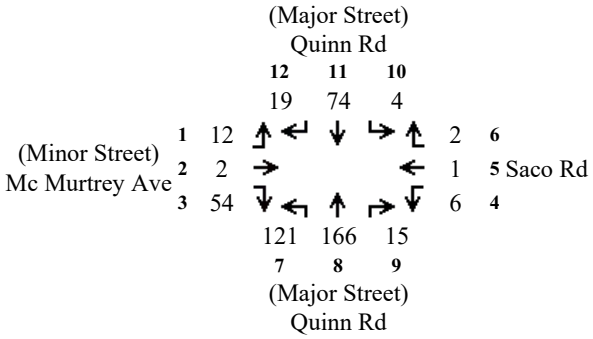


Major Total: 483
Minor High Volume: 80

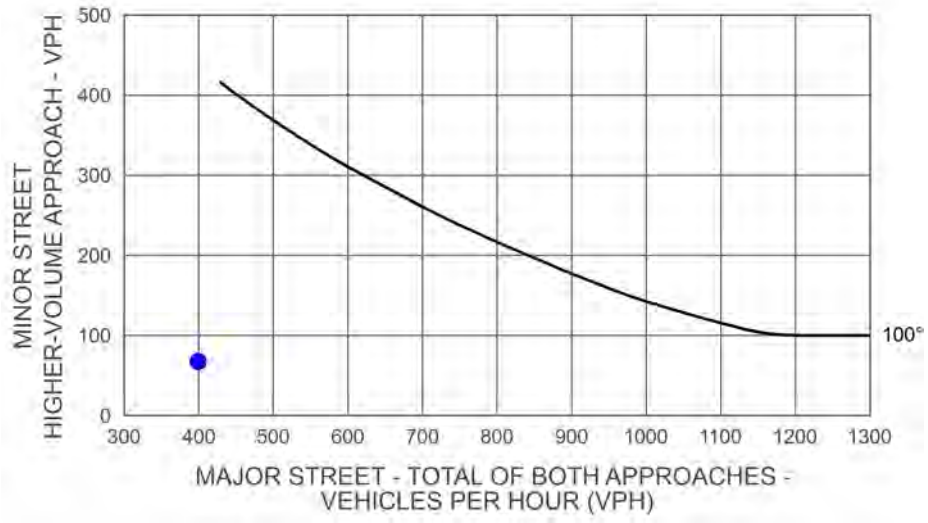


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 7

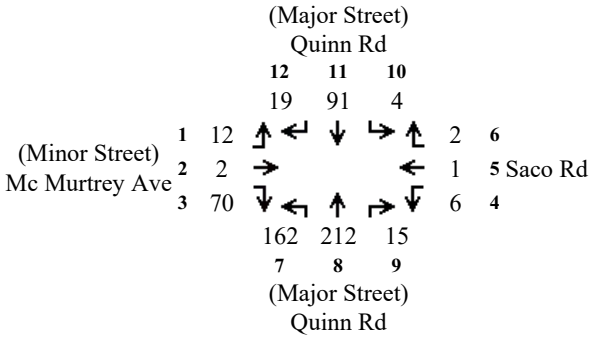


Major Total: 399
Minor High Volume: 68

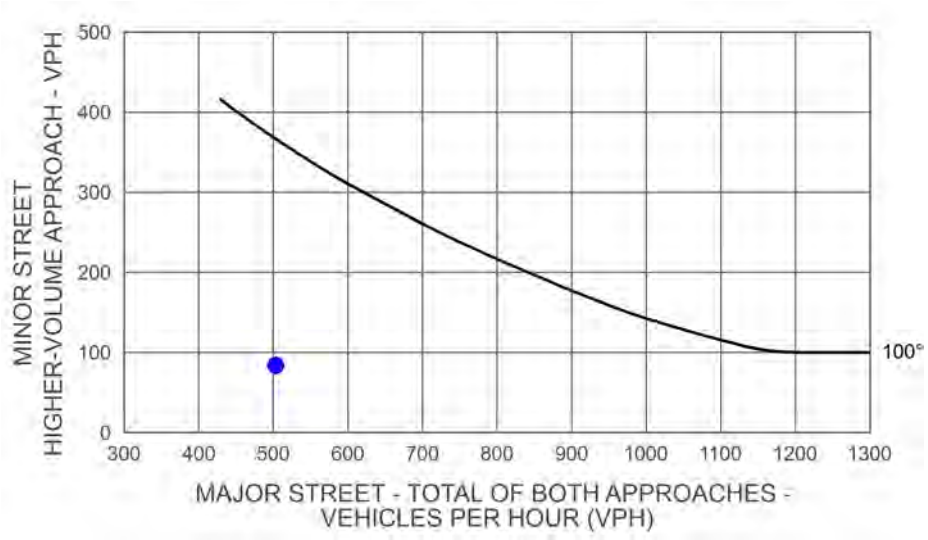


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 7

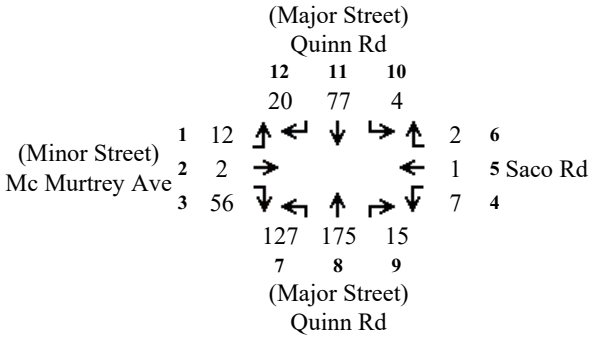


Major Total: 503
Minor High Volume: 84

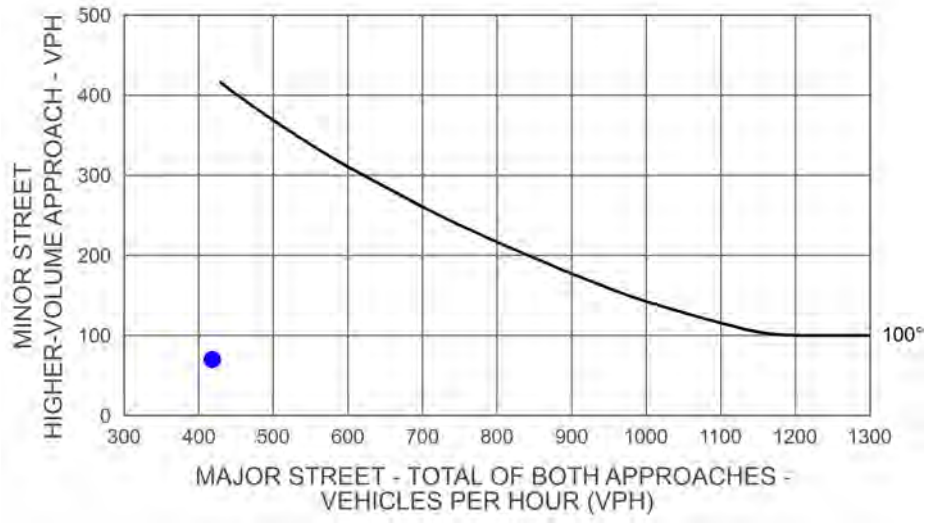


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 7

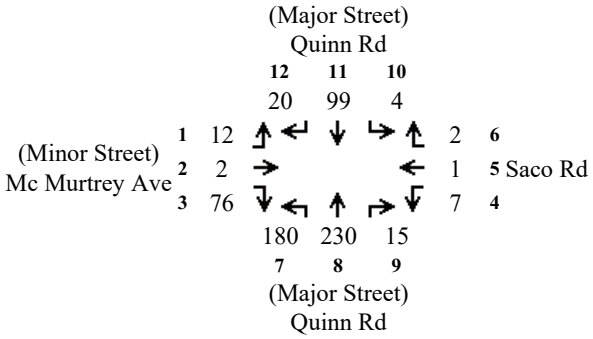


Major Total: 418
Minor High Volume: 70

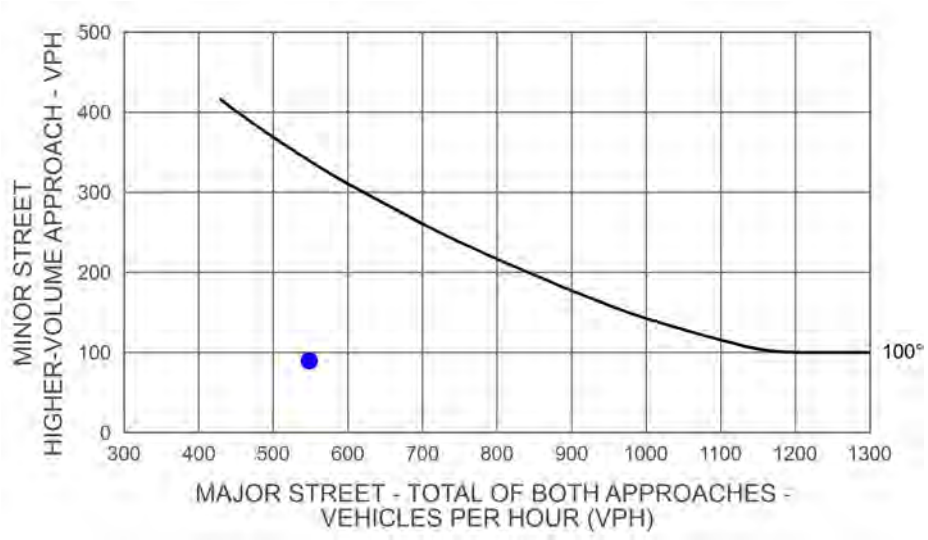


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project Phase I & II
Intersection #: 7



Major Total: 548
Minor High Volume: 90



Intersection 8
Calloway Dr & 7th Standard Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	956	126	518	522	139	61	118	216	97	122	15
Future Volume (veh/h)	15	956	126	518	522	139	61	118	216	97	122	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		0.99	1.00		1.00	1.00		1.00	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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	16	1039	137	563	567	151	66	128	235	105	133	16
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	97	1003	423	1018	2876	847	154	377	287	155	377	285
Arrive On Green	0.03	0.29	0.29	0.32	0.58	0.58	0.05	0.20	0.20	0.05	0.20	0.20
Sat Flow, veh/h	3170	3438	1451	3170	4940	1455	3079	1863	1417	3079	1863	1406
Grp Volume(v), veh/h	16	1039	137	563	567	151	66	128	235	105	133	16
Grp Sat Flow(s),veh/h/ln	1585	1719	1451	1585	1647	1455	1540	1863	1417	1540	1863	1406
Q Serve(g_s), s	0.6	34.7	6.9	17.4	6.4	3.7	2.5	7.0	18.9	4.0	7.3	1.1
Cycle Q Clear(g_c), s	0.6	34.7	6.9	17.4	6.4	3.7	2.5	7.0	18.9	4.0	7.3	1.1
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	97	1003	423	1018	2876	847	154	377	287	155	377	285
V/C Ratio(X)	0.16	1.04	0.32	0.55	0.20	0.18	0.43	0.34	0.82	0.68	0.35	0.06
Avail Cap(c_a), veh/h	160	1003	423	1018	2876	847	155	584	444	155	584	441
HCM Platoon Ratio	1.00	1.00	1.00	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	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	42.2	20.4	33.3	11.7	4.7	54.9	40.6	45.4	55.5	40.7	38.3
Incr Delay (d2), s/veh	0.8	38.3	2.0	0.6	0.1	0.4	1.9	0.5	6.9	11.1	0.6	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	21.8	3.0	7.7	3.0	1.5	1.1	3.6	7.9	1.9	3.8	0.4
LnGrp Delay(d),s/veh	57.0	80.4	22.4	33.9	11.9	5.1	56.7	41.2	52.3	66.6	41.3	38.3
LnGrp LOS	E	F	C	C	B	A	E	D	D	E	D	D
Approach Vol, veh/h		1192			1281			429			254	
Approach Delay, s/veh		73.4			20.8			49.6			51.6	
Approach LOS		E			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	10.0	28.1	42.2	38.7	10.0	28.1	7.6	73.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	4.0	35.3	23.0	32.7	4.0	35.3	4.0	51.7
Max Q Clear Time (g_c+I1), s	6.0	20.9	19.4	36.7	4.5	9.3	2.6	8.4
Green Ext Time (p_c), s	0.0	1.2	1.5	0.0	0.0	0.9	0.0	6.5

Intersection Summary	
HCM 2010 Ctrl Delay	47.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	973	126	552	560	141	61	118	231	98	122	15
Future Volume (veh/h)	15	973	126	552	560	141	61	118	231	98	122	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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	16	1058	137	600	609	153	66	128	251	107	133	16
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	102	1053	445	878	2722	801	160	404	307	168	409	309
Arrive On Green	0.03	0.31	0.31	0.28	0.55	0.55	0.05	0.22	0.22	0.05	0.22	0.22
Sat Flow, veh/h	3170	3438	1451	3170	4940	1454	3079	1863	1417	3079	1863	1407
Grp Volume(v), veh/h	16	1058	137	600	609	153	66	128	251	107	133	16
Grp Sat Flow(s),veh/h/ln	1585	1719	1451	1585	1647	1454	1540	1863	1417	1540	1863	1407
Q Serve(g_s), s	0.5	33.7	6.1	18.6	6.9	3.7	2.3	6.4	18.6	3.7	6.6	1.0
Cycle Q Clear(g_c), s	0.5	33.7	6.1	18.6	6.9	3.7	2.3	6.4	18.6	3.7	6.6	1.0
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	102	1053	445	878	2722	801	160	404	307	168	409	309
V/C Ratio(X)	0.16	1.00	0.31	0.68	0.22	0.19	0.41	0.32	0.82	0.64	0.33	0.05
Avail Cap(c_a), veh/h	173	1053	445	878	2722	801	168	632	480	168	632	477
HCM Platoon Ratio	1.00	1.00	1.00	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	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	38.2	17.2	35.5	12.6	5.0	50.5	36.2	41.0	50.9	36.1	33.9
Incr Delay (d2), s/veh	0.7	28.8	1.8	1.9	0.2	0.4	1.7	0.4	6.1	7.7	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	0.2	20.2	2.7	8.3	3.2	1.6	1.0	3.3	7.8	1.8	3.5	0.4
LnGrp Delay(d),s/veh	52.5	67.0	19.0	37.3	12.8	5.5	52.2	36.7	47.2	58.7	36.6	34.0
LnGrp LOS	D	F	B	D	B	A	D	D	D	E	D	C
Approach Vol, veh/h		1211			1362			445			256	
Approach Delay, s/veh		61.4			22.8			44.9			45.6	
Approach LOS		E			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	10.0	27.8	34.5	37.7	9.7	28.1	7.5	64.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	4.0	35.3	15.0	31.7	4.0	35.3	4.0	42.7
Max Q Clear Time (g_c+I1), s	5.7	20.6	20.6	35.7	4.3	8.6	2.5	8.9
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.0	0.9	0.0	6.9

Intersection Summary	
HCM 2010 Ctrl Delay	41.8
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1307	169	709	727	194	63	122	335	106	126	16
Future Volume (veh/h)	20	1307	169	709	727	194	63	122	335	106	126	16
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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	22	1421	184	771	790	211	68	133	364	115	137	17
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	111	1218	514	524	2393	704	666	539	410	161	233	175
Arrive On Green	0.03	0.35	0.35	0.17	0.48	0.48	0.22	0.29	0.29	0.05	0.13	0.13
Sat Flow, veh/h	3170	3438	1452	3170	4940	1454	3079	1863	1417	3079	1863	1400
Grp Volume(v), veh/h	22	1421	184	771	790	211	68	133	364	115	137	17
Grp Sat Flow(s),veh/h/ln	1585	1719	1452	1585	1647	1454	1540	1863	1417	1540	1863	1400
Q Serve(g_s), s	0.8	40.7	5.4	19.0	11.3	10.1	2.0	6.3	28.3	4.2	8.0	1.0
Cycle Q Clear(g_c), s	0.8	40.7	5.4	19.0	11.3	10.1	2.0	6.3	28.3	4.2	8.0	1.0
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	111	1218	514	524	2393	704	666	539	410	161	233	175
V/C Ratio(X)	0.20	1.17	0.36	1.47	0.33	0.30	0.10	0.25	0.89	0.72	0.59	0.10
Avail Cap(c_a), veh/h	165	1218	514	524	2393	704	666	604	459	161	604	454
HCM Platoon Ratio	1.00	1.00	1.00	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	0.48	0.48	0.48	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	37.1	7.0	48.0	18.2	17.9	36.1	31.3	39.1	53.7	47.5	31.5
Incr Delay (d2), s/veh	0.9	84.4	1.9	217.5	0.2	0.5	0.1	0.2	17.4	14.1	2.3	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	0.4	33.6	2.4	24.1	5.2	4.1	0.9	3.3	13.0	2.1	4.3	0.4
LnGrp Delay(d),s/veh	54.8	121.5	8.9	265.5	18.4	18.4	36.2	31.5	56.5	67.8	49.8	31.7
LnGrp LOS	D	F	A	F	B	B	D	C	E	E	D	C
Approach Vol, veh/h		1627			1772			565			269	
Approach Delay, s/veh		107.9			125.9			48.2			56.3	
Approach LOS		F			F			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	10.0	37.3	23.0	44.7	28.9	18.4	8.0	59.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	4.0	35.3	17.0	34.7	4.0	35.3	4.0	47.7
Max Q Clear Time (g_c+I1), s	6.2	30.3	21.0	42.7	4.0	10.0	2.8	13.3
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.0	0.5	0.0	17.6

Intersection Summary	
HCM 2010 Ctrl Delay	104.2
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1324	169	743	765	196	63	122	350	107	126	16
Future Volume (veh/h)	20	1324	169	743	765	196	63	122	350	107	126	16
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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	22	1439	184	808	832	213	68	133	380	116	137	17
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	108	1136	480	581	2370	697	706	549	417	180	230	173
Arrive On Green	0.03	0.33	0.33	0.18	0.48	0.48	0.23	0.29	0.29	0.06	0.12	0.12
Sat Flow, veh/h	3170	3438	1452	3170	4940	1454	3079	1863	1417	3079	1863	1399
Grp Volume(v), veh/h	22	1439	184	808	832	213	68	133	380	116	137	17
Grp Sat Flow(s),veh/h/ln	1585	1719	1452	1585	1647	1454	1540	1863	1417	1540	1863	1399
Q Serve(g_s), s	0.8	39.6	5.9	22.0	12.6	10.7	2.1	6.5	31.0	4.4	8.3	1.1
Cycle Q Clear(g_c), s	0.8	39.6	5.9	22.0	12.6	10.7	2.1	6.5	31.0	4.4	8.3	1.1
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	108	1136	480	581	2370	697	706	549	417	180	230	173
V/C Ratio(X)	0.20	1.27	0.38	1.39	0.35	0.31	0.10	0.24	0.91	0.65	0.60	0.10
Avail Cap(c_a), veh/h	158	1136	480	581	2370	697	706	563	429	180	579	435
HCM Platoon Ratio	1.00	1.00	1.00	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	0.48	0.48	0.48	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.4	40.2	8.0	49.0	19.5	19.0	36.4	32.1	40.8	55.3	49.7	33.5
Incr Delay (d2), s/veh	0.9	127.2	2.3	180.8	0.2	0.5	0.1	0.2	23.0	7.7	2.5	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	0.4	38.8	2.7	24.2	5.7	4.4	0.9	3.4	14.8	2.1	4.5	0.4
LnGrp Delay(d),s/veh	57.3	167.4	10.3	229.8	19.7	19.6	36.5	32.4	63.7	63.0	52.2	33.7
LnGrp LOS	E	F	B	F	B	B	D	C	E	E	D	C
Approach Vol, veh/h		1645			1853			581			270	
Approach Delay, s/veh		148.4			111.3			53.4			55.7	
Approach LOS		F			F			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	11.0	39.4	26.0	43.6	31.5	18.8	8.1	61.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	34.3	20.0	36.7	4.0	35.3	4.0	52.7
Max Q Clear Time (g_c+I1), s	6.4	33.0	24.0	41.6	4.1	10.3	2.8	14.6
Green Ext Time (p_c), s	0.0	0.3	0.0	0.0	0.0	0.5	0.0	19.1

Intersection Summary	
HCM 2010 Ctrl Delay	114.1
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1324	169	743	765	196	63	122	350	107	126	16
Future Volume (veh/h)	20	1324	169	743	765	196	63	122	350	107	126	16
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		1.00	1.00		1.00	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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	22	1439	184	808	832	213	68	133	380	116	137	17
Adj No. of Lanes	2	3	2	2	3	2	1	1	2	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	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	108	1573	811	922	2843	1471	79	370	496	93	386	291
Arrive On Green	0.03	0.32	0.32	0.29	0.58	0.58	0.05	0.20	0.20	0.06	0.21	0.21
Sat Flow, veh/h	3170	4940	2547	3170	4940	2556	1587	1863	2493	1587	1863	1406
Grp Volume(v), veh/h	22	1439	184	808	832	213	68	133	380	116	137	17
Grp Sat Flow(s),veh/h/ln	1585	1647	1273	1585	1647	1278	1587	1863	1247	1587	1863	1406
Q Serve(g_s), s	0.8	33.6	6.4	29.1	10.3	4.6	5.1	7.4	17.3	7.0	7.6	1.2
Cycle Q Clear(g_c), s	0.8	33.6	6.4	29.1	10.3	4.6	5.1	7.4	17.3	7.0	7.6	1.2
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	108	1573	811	922	2843	1471	79	370	496	93	386	291
V/C Ratio(X)	0.20	0.91	0.23	0.88	0.29	0.14	0.86	0.36	0.77	1.25	0.35	0.06
Avail Cap(c_a), veh/h	158	1593	821	922	2843	1471	79	563	754	93	579	437
HCM Platoon Ratio	1.00	1.00	1.00	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	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.4	39.3	30.0	40.5	13.0	11.8	56.6	41.5	45.4	56.5	40.7	38.2
Incr Delay (d2), s/veh	0.9	8.5	0.1	8.2	0.2	0.2	56.2	0.6	2.6	176.0	0.6	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	16.6	2.3	13.7	4.8	1.7	3.5	3.9	6.1	7.6	3.9	0.5
LnGrp Delay(d),s/veh	57.3	47.8	30.2	48.7	13.2	12.0	112.8	42.1	48.0	232.5	41.3	38.3
LnGrp LOS	E	D	C	D	B	B	F	D	D	F	D	D
Approach Vol, veh/h		1645			1853			581			270	
Approach Delay, s/veh		46.0			28.5			54.2			123.2	
Approach LOS		D			C			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	11.0	27.9	38.9	42.2	10.0	28.9	8.1	73.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	34.3	20.0	36.7	4.0	35.3	4.0	52.7
Max Q Clear Time (g_c+I1), s	9.0	19.3	31.1	35.6	7.1	9.6	2.8	12.3
Green Ext Time (p_c), s	0.0	2.6	0.0	0.6	0.0	2.9	0.0	19.6

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)	27	1749	228	786	968	258	65	127	343	110	131	16
Future Volume (veh/h)	27	1749	228	786	968	258	65	127	343	110	131	16
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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	29	1901	248	854	1052	280	71	138	373	120	142	17
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	196	1321	558	423	2252	663	687	542	412	180	235	176
Arrive On Green	0.06	0.38	0.38	0.13	0.46	0.46	0.22	0.29	0.29	0.06	0.13	0.13
Sat Flow, veh/h	3170	3438	1453	3170	4940	1454	3079	1863	1417	3079	1863	1400
Grp Volume(v), veh/h	29	1901	248	854	1052	280	71	138	373	120	142	17
Grp Sat Flow(s),veh/h/ln	1585	1719	1453	1585	1647	1454	1540	1863	1417	1540	1863	1400
Q Serve(g_s), s	1.0	46.1	7.2	16.0	17.7	11.0	2.2	6.8	30.4	4.6	8.7	1.3
Cycle Q Clear(g_c), s	1.0	46.1	7.2	16.0	17.7	11.0	2.2	6.8	30.4	4.6	8.7	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	196	1321	558	423	2252	663	687	542	412	180	235	176
V/C Ratio(X)	0.15	1.44	0.44	2.02	0.47	0.42	0.10	0.25	0.91	0.67	0.60	0.10
Avail Cap(c_a), veh/h	196	1321	558	423	2252	663	687	563	429	180	579	435
HCM Platoon Ratio	1.00	1.00	1.00	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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	36.9	6.2	52.0	22.6	11.1	37.1	32.6	41.0	55.4	49.6	46.4
Incr Delay (d2), s/veh	0.3	201.9	2.6	460.0	0.1	0.2	0.1	0.2	22.0	9.1	2.5	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	58.9	3.3	34.0	8.0	4.4	0.9	3.5	14.4	2.2	4.6	0.5
LnGrp Delay(d),s/veh	53.6	238.8	8.8	512.0	22.6	11.2	37.1	32.8	63.0	64.5	52.1	46.6
LnGrp LOS	D	F	A	F	C	B	D	C	E	E	D	D
Approach Vol, veh/h		2178			2186			582			279	
Approach Delay, s/veh		210.1			212.4			52.7			57.1	
Approach LOS		F			F			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	11.0	38.9	20.0	50.1	30.8	19.1	11.4	58.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	34.3	14.0	42.7	4.0	35.3	4.0	52.7
Max Q Clear Time (g_c+I1), s	6.6	32.4	18.0	48.1	4.2	10.7	3.0	19.7
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.0	0.5	0.8	6.8

Intersection Summary	
HCM 2010 Ctrl Delay	185.4
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	1770	228	827	1015	261	65	127	361	111	131	16
Future Volume (veh/h)	27	1770	228	827	1015	261	65	127	361	111	131	16
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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	29	1924	248	899	1103	284	71	138	392	121	142	17
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	118	1257	531	449	2321	683	719	561	427	180	235	176
Arrive On Green	0.04	0.37	0.37	0.14	0.47	0.47	0.23	0.30	0.30	0.06	0.13	0.13
Sat Flow, veh/h	3170	3438	1452	3170	4940	1454	3079	1863	1417	3079	1863	1400
Grp Volume(v), veh/h	29	1924	248	899	1103	284	71	138	392	121	142	17
Grp Sat Flow(s),veh/h/ln	1585	1719	1452	1585	1647	1454	1540	1863	1417	1540	1863	1400
Q Serve(g_s), s	1.1	43.9	7.4	17.0	18.3	15.4	2.2	6.7	32.1	4.6	8.7	1.1
Cycle Q Clear(g_c), s	1.1	43.9	7.4	17.0	18.3	15.4	2.2	6.7	32.1	4.6	8.7	1.1
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	118	1257	531	449	2321	683	719	561	427	180	235	176
V/C Ratio(X)	0.25	1.53	0.47	2.00	0.48	0.42	0.10	0.25	0.92	0.67	0.60	0.10
Avail Cap(c_a), veh/h	158	1257	531	449	2321	683	719	563	429	180	579	435
HCM Platoon Ratio	1.00	1.00	1.00	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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	38.1	6.6	51.5	21.7	21.0	36.1	31.6	40.5	55.4	49.6	33.0
Incr Delay (d2), s/veh	1.1	243.1	2.9	451.6	0.1	0.2	0.1	0.2	24.7	9.5	2.5	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	63.2	3.4	35.6	8.3	6.2	0.9	3.5	15.4	2.2	4.6	0.4
LnGrp Delay(d),s/veh	57.2	281.2	9.5	503.1	21.8	21.1	36.1	31.9	65.2	64.9	52.1	33.2
LnGrp LOS	E	F	A	F	C	C	D	C	E	E	D	C
Approach Vol, veh/h		2201			2286			601			280	
Approach Delay, s/veh		247.6			211.0			54.1			56.5	
Approach LOS		F			F			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	11.0	40.1	21.0	47.9	32.0	19.1	8.5	60.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	34.3	15.0	41.7	4.0	35.3	4.0	52.7
Max Q Clear Time (g_c+I1), s	6.6	34.1	19.0	45.9	4.2	10.7	3.1	20.3
Green Ext Time (p_c), s	0.0	0.1	0.0	0.0	0.0	0.5	0.0	25.0

Intersection Summary	
HCM 2010 Ctrl Delay	200.4
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	1770	228	827	1015	261	65	127	361	111	131	16
Future Volume (veh/h)	27	1770	228	827	1015	261	65	127	361	111	131	16
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		1.00	1.00		1.00	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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	29	1924	248	899	1103	284	71	138	392	121	142	17
Adj No. of Lanes	2	3	2	2	3	2	1	1	2	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	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	118	1593	821	894	2802	1449	79	380	508	93	395	298
Arrive On Green	0.04	0.32	0.32	0.28	0.57	0.57	0.05	0.20	0.20	0.06	0.21	0.21
Sat Flow, veh/h	3170	4940	2547	3170	4940	2555	1587	1863	2493	1587	1863	1407
Grp Volume(v), veh/h	29	1924	248	899	1103	284	71	138	392	121	142	17
Grp Sat Flow(s),veh/h/ln	1585	1647	1273	1585	1647	1278	1587	1863	1247	1587	1863	1407
Q Serve(g_s), s	1.1	38.7	8.8	33.8	14.9	6.5	5.3	7.6	17.8	7.0	7.8	1.2
Cycle Q Clear(g_c), s	1.1	38.7	8.8	33.8	14.9	6.5	5.3	7.6	17.8	7.0	7.8	1.2
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	118	1593	821	894	2802	1449	79	380	508	93	395	298
V/C Ratio(X)	0.25	1.21	0.30	1.01	0.39	0.20	0.89	0.36	0.77	1.31	0.36	0.06
Avail Cap(c_a), veh/h	158	1593	821	894	2802	1449	79	563	754	93	579	437
HCM Platoon Ratio	1.00	1.00	1.00	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	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	40.6	30.5	43.1	14.5	12.6	56.7	41.1	45.1	56.5	40.3	37.7
Incr Delay (d2), s/veh	1.1	99.6	0.2	25.2	0.3	0.2	66.7	0.6	2.9	196.3	0.6	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	0.5	32.2	3.1	17.9	6.8	2.3	3.8	4.0	6.3	8.1	4.1	0.5
LnGrp Delay(d),s/veh	57.2	140.3	30.7	68.2	14.7	12.8	123.4	41.7	48.0	252.8	40.9	37.8
LnGrp LOS	E	F	C	F	B	B	F	D	D	F	D	D
Approach Vol, veh/h		2201			2286			601			280	
Approach Delay, s/veh		126.8			35.5			55.5			132.3	
Approach LOS		F			D			E			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	11.0	28.5	37.8	42.7	10.0	29.5	8.5	72.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	34.3	20.0	36.7	4.0	35.3	4.0	52.7
Max Q Clear Time (g_c+I1), s	9.0	19.8	35.8	40.7	7.3	9.8	3.1	16.9
Green Ext Time (p_c), s	0.0	2.6	0.0	0.0	0.0	3.0	0.0	26.6

Intersection Summary	
HCM 2010 Ctrl Delay	80.2
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	405	29	170	694	60	89	66	469	202	131	22
Future Volume (veh/h)	7	405	29	170	694	60	89	66	469	202	131	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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	8	440	32	185	754	65	97	72	510	220	142	24
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	101	717	302	347	1414	415	219	740	563	292	784	594
Arrive On Green	0.03	0.21	0.21	0.11	0.29	0.29	0.07	0.40	0.40	0.09	0.42	0.42
Sat Flow, veh/h	3170	3438	1448	3170	4940	1451	3079	1863	1417	3079	1863	1412
Grp Volume(v), veh/h	8	440	32	185	754	65	97	72	510	220	142	24
Grp Sat Flow(s),veh/h/ln	1585	1719	1448	1585	1647	1451	1540	1863	1417	1540	1863	1412
Q Serve(g_s), s	0.2	9.8	1.1	4.7	10.8	1.9	2.5	2.0	28.6	5.9	4.0	0.8
Cycle Q Clear(g_c), s	0.2	9.8	1.1	4.7	10.8	1.9	2.5	2.0	28.6	5.9	4.0	0.8
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	101	717	302	347	1414	415	219	740	563	292	784	594
V/C Ratio(X)	0.08	0.61	0.11	0.53	0.53	0.16	0.44	0.10	0.91	0.75	0.18	0.04
Avail Cap(c_a), veh/h	225	1427	601	376	2284	671	219	795	605	292	839	636
HCM Platoon Ratio	1.00	1.00	1.00	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	39.6	30.3	14.4	35.5	25.4	10.0	37.6	15.9	23.9	37.2	15.3	14.4
Incr Delay (d2), s/veh	0.3	0.9	0.2	1.3	0.3	0.2	1.4	0.1	16.7	10.5	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	0.1	4.7	0.6	2.1	4.9	1.1	1.1	1.1	13.8	2.9	2.1	0.3
LnGrp Delay(d),s/veh	40.0	31.2	14.6	36.8	25.7	10.2	39.0	16.0	40.6	47.8	15.4	14.4
LnGrp LOS	D	C	B	D	C	B	D	B	D	D	B	B
Approach Vol, veh/h		480			1004			679			386	
Approach Delay, s/veh		30.2			26.7			37.8			33.8	
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	12.0	37.5	13.2	21.6	10.0	39.5	6.7	28.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	6.0	34.0	8.0	33.0	4.0	36.0	4.0	37.0
Max Q Clear Time (g_c+I1), s	7.9	30.6	6.7	11.8	4.5	6.0	2.2	12.8
Green Ext Time (p_c), s	0.0	0.9	0.7	1.8	0.0	1.5	0.0	4.5

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)	7	440	29	182	707	61	89	66	500	204	131	22
Future Volume (veh/h)	7	440	29	182	707	61	89	66	500	204	131	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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	8	478	32	198	768	66	97	72	543	222	142	24
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	97	740	312	343	1447	425	208	756	575	278	798	605
Arrive On Green	0.03	0.22	0.22	0.11	0.29	0.29	0.07	0.41	0.41	0.09	0.43	0.43
Sat Flow, veh/h	3170	3438	1448	3170	4940	1451	3079	1863	1417	3079	1863	1412
Grp Volume(v), veh/h	8	478	32	198	768	66	97	72	543	222	142	24
Grp Sat Flow(s),veh/h/ln	1585	1719	1448	1585	1647	1451	1540	1863	1417	1540	1863	1412
Q Serve(g_s), s	0.2	11.2	1.2	5.3	11.5	2.0	2.7	2.1	32.7	6.3	4.2	0.9
Cycle Q Clear(g_c), s	0.2	11.2	1.2	5.3	11.5	2.0	2.7	2.1	32.7	6.3	4.2	0.9
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	97	740	312	343	1447	425	208	756	575	278	798	605
V/C Ratio(X)	0.08	0.65	0.10	0.58	0.53	0.16	0.47	0.10	0.94	0.80	0.18	0.04
Avail Cap(c_a), veh/h	214	1357	572	357	2172	638	208	756	575	278	798	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	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	41.8	31.7	15.4	37.6	26.3	10.8	39.8	16.3	25.4	39.6	15.7	14.7
Incr Delay (d2), s/veh	0.4	1.0	0.1	2.1	0.3	0.2	1.6	0.1	24.5	15.1	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	0.1	5.4	0.6	2.4	5.3	1.2	1.2	1.1	16.7	3.2	2.2	0.3
LnGrp Delay(d),s/veh	42.1	32.7	15.5	39.7	26.6	10.9	41.4	16.3	49.9	54.7	15.8	14.8
LnGrp LOS	D	C	B	D	C	B	D	B	D	D	B	B
Approach Vol, veh/h		518			1032			712			388	
Approach Delay, s/veh		31.8			28.1			45.3			38.0	
Approach LOS		C			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	12.0	40.0	13.6	23.1	10.0	42.0	6.7	30.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	6.0	34.0	8.0	33.0	4.0	36.0	4.0	37.0
Max Q Clear Time (g_c+I1), s	8.3	34.7	7.3	13.2	4.7	6.2	2.2	13.5
Green Ext Time (p_c), s	0.0	0.0	0.4	2.0	0.0	1.6	0.0	4.6

Intersection Summary	
HCM 2010 Ctrl Delay	34.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	575	39	200	947	85	92	68	605	218	136	23
Future Volume (veh/h)	9	575	39	200	947	85	92	68	605	218	136	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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	10	625	42	217	1029	92	100	74	658	237	148	25
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	84	1049	443	242	1753	515	196	774	588	209	781	592
Arrive On Green	0.03	0.31	0.31	0.08	0.35	0.35	0.06	0.42	0.42	0.07	0.42	0.42
Sat Flow, veh/h	3170	3438	1451	3170	4940	1452	3079	1863	1417	3079	1863	1412
Grp Volume(v), veh/h	10	625	42	217	1029	92	100	74	658	237	148	25
Grp Sat Flow(s),veh/h/ln	1585	1719	1451	1585	1647	1452	1540	1863	1417	1540	1863	1412
Q Serve(g_s), s	0.4	18.2	1.9	8.0	20.0	3.8	3.7	2.9	49.0	8.0	5.9	1.2
Cycle Q Clear(g_c), s	0.4	18.2	1.9	8.0	20.0	3.8	3.7	2.9	49.0	8.0	5.9	1.2
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	84	1049	443	242	1753	515	196	774	588	209	781	592
V/C Ratio(X)	0.12	0.60	0.09	0.90	0.59	0.18	0.51	0.10	1.12	1.14	0.19	0.04
Avail Cap(c_a), veh/h	161	1049	443	242	1753	515	209	774	588	209	781	592
HCM Platoon Ratio	1.00	1.00	1.00	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	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	34.8	17.0	54.0	31.0	14.2	53.5	21.0	34.5	55.0	21.6	20.2
Incr Delay (d2), s/veh	0.6	2.5	0.4	26.3	1.1	0.6	2.1	0.1	74.1	103.4	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	0.2	9.0	0.8	4.4	9.2	1.6	1.6	1.5	31.2	6.4	3.1	0.5
LnGrp Delay(d),s/veh	56.7	37.3	17.5	80.3	32.1	14.8	55.5	21.1	108.6	158.4	21.7	20.3
LnGrp LOS	E	D	B	F	C	B	E	C	F	F	C	C
Approach Vol, veh/h		677			1338			832			410	
Approach Delay, s/veh		36.4			38.7			94.4			100.7	
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	12.0	53.0	13.0	40.0	11.5	53.5	7.1	45.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	6.0	47.0	7.0	34.0	6.0	47.0	4.0	37.0
Max Q Clear Time (g_c+I1), s	10.0	51.0	10.0	20.2	5.7	7.9	2.4	22.0
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	1.7	0.0	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	60.3
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	610	39	212	960	86	92	68	636	220	136	23
Future Volume (veh/h)	9	610	39	212	960	86	92	68	636	220	136	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		0.99	1.00		1.00	1.00		1.00	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	1716	1810	1716	1716	1810	1716	1667	1863	1810	1667	1863	1667
Adj Flow Rate, veh/h	10	663	42	230	1043	93	100	74	691	239	148	25
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	165	1016	429	303	1675	492	1042	761	629	187	245	184
Arrive On Green	0.05	0.30	0.30	0.10	0.34	0.34	0.34	0.41	0.41	0.06	0.13	0.13
Sat Flow, veh/h	3170	3438	1451	3170	4940	1452	3079	1863	1538	3079	1863	1400
Grp Volume(v), veh/h	10	663	42	230	1043	93	100	74	691	239	148	25
Grp Sat Flow(s),veh/h/ln	1585	1719	1451	1585	1647	1452	1540	1863	1538	1540	1863	1400
Q Serve(g_s), s	0.3	19.4	2.4	8.1	20.3	5.2	2.6	2.8	47.0	7.0	8.6	1.8
Cycle Q Clear(g_c), s	0.3	19.4	2.4	8.1	20.3	5.2	2.6	2.8	47.0	7.0	8.6	1.8
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	165	1016	429	303	1675	492	1042	761	629	187	245	184
V/C Ratio(X)	0.06	0.65	0.10	0.76	0.62	0.19	0.10	0.10	1.10	1.28	0.60	0.14
Avail Cap(c_a), veh/h	165	1016	429	303	1675	492	1042	761	629	187	761	572
HCM Platoon Ratio	1.00	1.00	1.00	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	0.73	0.73	0.73	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	35.3	29.4	50.7	31.8	26.8	26.0	20.9	34.0	54.0	47.1	44.2
Incr Delay (d2), s/veh	0.2	3.3	0.5	7.9	1.3	0.6	0.0	0.1	66.1	158.5	2.4	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	9.7	1.0	3.9	9.5	2.2	1.1	1.5	31.4	7.1	4.6	0.7
LnGrp Delay(d),s/veh	52.0	38.6	29.8	58.6	33.1	27.5	26.1	21.0	100.1	212.5	49.5	44.5
LnGrp LOS	D	D	C	E	C	C	C	C	F	F	D	D
Approach Vol, veh/h		715			1366			865			412	
Approach Delay, s/veh		38.3			37.0			84.8			143.8	
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	11.0	51.0	15.0	38.0	42.9	19.1	10.0	43.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	45.0	9.0	32.0	5.0	45.0	4.0	37.0
Max Q Clear Time (g_c+I1), s	9.0	49.0	10.1	21.4	4.6	10.6	2.3	22.3
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.1	0.6	0.2	4.6

Intersection Summary	
HCM 2010 Ctrl Delay	62.7
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	610	39	212	960	86	92	68	636	220	136	23
Future Volume (veh/h)	9	610	39	212	960	86	92	68	636	220	136	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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	10	663	42	230	1043	93	100	74	691	239	148	25
Adj No. of Lanes	2	3	2	2	3	2	1	1	2	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	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	85	1318	679	402	1812	935	148	535	715	286	697	528
Arrive On Green	0.03	0.27	0.27	0.13	0.37	0.37	0.09	0.29	0.29	0.18	0.37	0.37
Sat Flow, veh/h	3170	4940	2543	3170	4940	2549	1587	1863	2493	1587	1863	1411
Grp Volume(v), veh/h	10	663	42	230	1043	93	100	74	691	239	148	25
Grp Sat Flow(s),veh/h/ln	1585	1647	1271	1585	1647	1275	1587	1863	1247	1587	1863	1411
Q Serve(g_s), s	0.4	13.1	1.4	7.9	19.5	2.8	7.0	3.4	31.4	16.7	6.2	1.3
Cycle Q Clear(g_c), s	0.4	13.1	1.4	7.9	19.5	2.8	7.0	3.4	31.4	16.7	6.2	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	85	1318	679	402	1812	935	148	535	715	286	697	528
V/C Ratio(X)	0.12	0.50	0.06	0.57	0.58	0.10	0.68	0.14	0.97	0.84	0.21	0.05
Avail Cap(c_a), veh/h	165	1443	743	402	1812	935	193	535	715	290	697	528
HCM Platoon Ratio	1.00	1.00	1.00	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	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	35.7	31.4	47.3	29.2	23.9	50.5	30.4	40.4	45.5	24.5	22.9
Incr Delay (d2), s/veh	0.6	0.3	0.0	1.9	1.3	0.2	6.0	0.1	25.4	18.5	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	0.2	6.0	0.5	3.6	9.1	1.0	3.3	1.8	13.4	8.8	3.2	0.5
LnGrp Delay(d),s/veh	55.2	36.0	31.5	49.1	30.5	24.1	56.4	30.6	65.8	64.0	24.6	23.0
LnGrp LOS	E	D	C	D	C	C	E	C	E	E	C	C
Approach Vol, veh/h		715			1366			865			412	
Approach Delay, s/veh		36.0			33.2			61.7			47.4	
Approach LOS		D			C			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	24.7	37.0	18.6	34.7	14.7	47.0	7.1	46.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	31.0	9.4	31.6	12.0	38.0	4.0	37.0
Max Q Clear Time (g_c+I1), s	18.7	33.4	9.9	15.1	9.0	8.2	2.4	21.5
Green Ext Time (p_c), s	0.0	0.0	0.0	8.0	0.1	4.8	0.0	7.7

Intersection Summary	
HCM 2010 Ctrl Delay	42.9
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	762	52	226	1267	112	95	71	622	226	140	24
Future Volume (veh/h)	13	762	52	226	1267	112	95	71	622	226	140	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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	14	828	57	246	1377	122	103	77	676	246	152	26
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	93	1049	443	242	1739	511	199	774	588	209	779	591
Arrive On Green	0.03	0.31	0.31	0.08	0.35	0.35	0.06	0.42	0.42	0.07	0.42	0.42
Sat Flow, veh/h	3170	3438	1451	3170	4940	1452	3079	1863	1417	3079	1863	1412
Grp Volume(v), veh/h	14	828	57	246	1377	122	103	77	676	246	152	26
Grp Sat Flow(s),veh/h/ln	1585	1719	1451	1585	1647	1452	1540	1863	1417	1540	1863	1412
Q Serve(g_s), s	0.5	26.0	2.6	9.0	29.6	5.2	3.8	3.0	49.0	8.0	6.1	1.3
Cycle Q Clear(g_c), s	0.5	26.0	2.6	9.0	29.6	5.2	3.8	3.0	49.0	8.0	6.1	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	93	1049	443	242	1739	511	199	774	588	209	779	591
V/C Ratio(X)	0.15	0.79	0.13	1.02	0.79	0.24	0.52	0.10	1.15	1.18	0.20	0.04
Avail Cap(c_a), veh/h	161	1049	443	242	1739	511	209	774	588	209	779	591
HCM Platoon Ratio	1.00	1.00	1.00	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	0.47	0.47	0.47	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	37.5	17.2	54.5	34.4	14.8	53.4	21.0	34.5	55.0	21.7	20.3
Incr Delay (d2), s/veh	0.7	6.0	0.6	44.0	1.8	0.5	2.1	0.1	85.6	118.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	13.2	1.1	5.4	13.7	2.2	1.7	1.5	33.1	6.8	3.2	0.5
LnGrp Delay(d),s/veh	56.6	43.6	17.8	98.6	36.2	15.3	55.5	21.1	120.1	173.7	21.8	20.4
LnGrp LOS	E	D	B	F	D	B	E	C	F	F	C	C
Approach Vol, veh/h		899			1745			856			424	
Approach Delay, s/veh		42.1			43.5			103.4			109.9	
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	12.0	53.0	13.0	40.0	11.6	53.4	7.5	45.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	6.0	47.0	7.0	34.0	6.0	47.0	4.0	37.0
Max Q Clear Time (g_c+I1), s	10.0	51.0	11.0	28.0	5.8	8.1	2.5	31.6
Green Ext Time (p_c), s	0.0	0.0	0.0	2.1	0.0	1.8	0.0	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	63.4
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	805	52	240	1284	113	95	71	659	228	140	24
Future Volume (veh/h)	13	805	52	240	1284	113	95	71	659	228	140	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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	14	875	57	261	1396	123	103	77	716	248	152	26
Adj No. of Lanes	2	2	1	2	3	1	2	1	1	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, %	2	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	93	1049	443	242	1739	511	199	774	588	209	779	591
Arrive On Green	0.03	0.31	0.31	0.08	0.35	0.35	0.06	0.42	0.42	0.07	0.42	0.42
Sat Flow, veh/h	3170	3438	1451	3170	4940	1452	3079	1863	1417	3079	1863	1412
Grp Volume(v), veh/h	14	875	57	261	1396	123	103	77	716	248	152	26
Grp Sat Flow(s),veh/h/ln	1585	1719	1451	1585	1647	1452	1540	1863	1417	1540	1863	1412
Q Serve(g_s), s	0.5	28.0	2.6	9.0	30.1	5.2	3.8	3.0	49.0	8.0	6.1	1.3
Cycle Q Clear(g_c), s	0.5	28.0	2.6	9.0	30.1	5.2	3.8	3.0	49.0	8.0	6.1	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	93	1049	443	242	1739	511	199	774	588	209	779	591
V/C Ratio(X)	0.15	0.83	0.13	1.08	0.80	0.24	0.52	0.10	1.22	1.19	0.20	0.04
Avail Cap(c_a), veh/h	161	1049	443	242	1739	511	209	774	588	209	779	591
HCM Platoon Ratio	1.00	1.00	1.00	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	0.37	0.37	0.37	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	38.2	17.2	54.5	34.5	14.8	53.4	21.0	34.5	55.0	21.7	20.3
Incr Delay (d2), s/veh	0.7	7.8	0.6	58.7	1.5	0.4	2.1	0.1	112.6	122.3	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	0.2	14.4	1.1	5.9	14.0	2.2	1.7	1.5	37.5	6.9	3.2	0.5
LnGrp Delay(d),s/veh	56.6	46.0	17.8	113.2	36.1	15.2	55.5	21.1	147.1	177.3	21.8	20.4
LnGrp LOS	E	D	B	F	D	B	E	C	F	F	C	C
Approach Vol, veh/h		946			1780			896			426	
Approach Delay, s/veh		44.5			46.0			125.7			112.2	
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	12.0	53.0	13.0	40.0	11.6	53.4	7.5	45.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	6.0	47.0	7.0	34.0	6.0	47.0	4.0	37.0
Max Q Clear Time (g_c+I1), s	10.0	51.0	11.0	30.0	5.8	8.1	2.5	32.1
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	1.8	0.0	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	70.2
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	805	52	240	1284	113	95	71	659	228	140	24
Future Volume (veh/h)	13	805	52	240	1284	113	95	71	659	228	140	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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	14	875	57	261	1396	123	103	77	716	248	152	26
Adj No. of Lanes	2	3	2	2	3	2	1	1	2	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	5	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	99	1389	715	421	1890	976	147	466	623	298	643	487
Arrive On Green	0.03	0.28	0.28	0.13	0.38	0.38	0.09	0.25	0.25	0.19	0.35	0.35
Sat Flow, veh/h	3170	4940	2544	3170	4940	2550	1587	1863	2493	1587	1863	1411
Grp Volume(v), veh/h	14	875	57	261	1396	123	103	77	716	248	152	26
Grp Sat Flow(s),veh/h/ln	1585	1647	1272	1585	1647	1275	1587	1863	1247	1587	1863	1411
Q Serve(g_s), s	0.5	16.7	1.8	8.4	26.3	3.4	6.8	3.5	27.0	16.2	6.3	1.3
Cycle Q Clear(g_c), s	0.5	16.7	1.8	8.4	26.3	3.4	6.8	3.5	27.0	16.2	6.3	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	99	1389	715	421	1890	976	147	466	623	298	643	487
V/C Ratio(X)	0.14	0.63	0.08	0.62	0.74	0.13	0.70	0.17	1.15	0.83	0.24	0.05
Avail Cap(c_a), veh/h	176	1509	777	421	1890	976	147	466	623	309	655	496
HCM Platoon Ratio	1.00	1.00	1.00	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	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	33.9	28.5	44.3	28.7	21.6	47.5	31.7	40.5	42.2	25.2	23.6
Incr Delay (d2), s/veh	0.6	0.7	0.0	2.5	2.4	0.2	13.8	0.2	84.6	16.8	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	0.2	7.7	0.6	3.8	12.3	1.2	3.5	1.8	16.6	8.5	3.2	0.5
LnGrp Delay(d),s/veh	51.6	34.7	28.6	46.8	31.0	21.9	61.4	31.9	125.1	59.0	25.4	23.6
LnGrp LOS	D	C	C	D	C	C	E	C	F	E	C	C
Approach Vol, veh/h		946			1780			896			426	
Approach Delay, s/veh		34.5			32.7			109.7			44.9	
Approach LOS		C			C			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	24.3	31.0	18.3	34.4	14.0	41.3	7.4	45.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	25.0	9.0	31.0	8.0	36.0	4.0	36.0
Max Q Clear Time (g_c+I1), s	18.2	29.0	10.4	18.7	8.8	8.3	2.5	28.3
Green Ext Time (p_c), s	0.1	0.0	0.0	8.6	0.0	5.0	0.0	6.0

Intersection Summary	
HCM 2010 Ctrl Delay	51.5
HCM 2010 LOS	D

Intersection 9
Coffee Rd & 7th Standard Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	1163	118	408	995	21	114	5	299	34	20	19
Future Volume (veh/h)	11	1163	118	408	995	21	114	5	299	34	20	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		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	1716	1814	1750	1716	1810	1716	1667	1810	1750	1667	1836	1750
Adj Flow Rate, veh/h	12	1264	128	443	1082	23	124	5	325	37	22	21
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	45	1185	120	521	1893	799	374	6	377	62	46	44
Arrive On Green	0.03	0.26	0.26	0.64	1.00	1.00	0.24	0.25	0.24	0.04	0.05	0.04
Sat Flow, veh/h	1634	4572	463	1634	3438	1452	1587	23	1509	1587	865	826
Grp Volume(v), veh/h	12	913	479	443	1082	23	124	0	330	37	0	43
Grp Sat Flow(s),veh/h/ln	1634	1651	1733	1634	1719	1452	1587	0	1533	1587	0	1691
Q Serve(g_s), s	0.9	31.1	31.1	25.7	0.0	0.0	7.8	0.0	24.8	2.8	0.0	3.0
Cycle Q Clear(g_c), s	0.9	31.1	31.1	25.7	0.0	0.0	7.8	0.0	24.8	2.8	0.0	3.0
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.98	1.00		0.49
Lane Grp Cap(c), veh/h	45	856	449	521	1893	799	374	0	383	62	0	90
V/C Ratio(X)	0.27	1.07	1.07	0.85	0.57	0.03	0.33	0.00	0.86	0.60	0.00	0.48
Avail Cap(c_a), veh/h	82	856	449	521	1893	799	374	0	503	73	0	386
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	0.72	0.72	0.72	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.1	44.5	44.5	19.4	0.0	0.0	38.0	0.0	43.7	56.7	0.0	55.5
Incr Delay (d2), s/veh	2.1	45.2	54.2	9.5	0.9	0.0	0.5	0.0	11.5	9.5	0.0	3.9
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	0.4	19.5	21.6	12.7	0.2	0.0	3.5	0.0	11.7	1.4	0.0	1.5
LnGrp Delay(d),s/veh	59.2	89.7	98.7	29.0	0.9	0.0	38.6	0.0	55.2	66.2	0.0	59.5
LnGrp LOS	E	F	F	C	A	A	D		E	E		E
Approach Vol, veh/h		1404			1548			454			80	
Approach Delay, s/veh		92.5			8.9			50.6			62.6	
Approach LOS		F			A			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	8.7	34.0	42.3	35.1	32.3	10.4	7.3	70.1
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	26.0	29.1	16.2	26.1	4.0	51.1
Max Q Clear Time (g_c+I1), s	4.8	26.8	27.7	33.1	9.8	5.0	2.9	2.0
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	1.1	0.1	0.0	8.5

Intersection Summary	
HCM 2010 Ctrl Delay	49.2
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	1196	118	445	1069	24	114	5	316	36	20	19
Future Volume (veh/h)	11	1196	118	445	1069	24	114	5	316	36	20	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		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	1716	1814	1750	1716	1810	1716	1667	1810	1750	1667	1836	1750
Adj Flow Rate, veh/h	12	1300	128	484	1162	26	124	5	343	39	22	21
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	45	1509	149	384	1845	779	393	6	394	64	46	44
Arrive On Green	0.03	0.33	0.33	0.47	1.00	1.00	0.25	0.26	0.25	0.04	0.05	0.04
Sat Flow, veh/h	1634	4585	451	1634	3438	1452	1587	22	1511	1587	865	826
Grp Volume(v), veh/h	12	936	492	484	1162	26	124	0	348	39	0	43
Grp Sat Flow(s),veh/h/ln	1634	1651	1735	1634	1719	1452	1587	0	1533	1587	0	1691
Q Serve(g_s), s	0.9	31.6	31.6	28.0	0.0	0.0	7.6	0.0	25.9	2.9	0.0	2.9
Cycle Q Clear(g_c), s	0.9	31.6	31.6	28.0	0.0	0.0	7.6	0.0	25.9	2.9	0.0	2.9
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.99	1.00		0.49
Lane Grp Cap(c), veh/h	45	1087	571	384	1845	779	393	0	399	64	0	90
V/C Ratio(X)	0.26	0.86	0.86	1.26	0.63	0.03	0.32	0.00	0.87	0.61	0.00	0.48
Avail Cap(c_a), veh/h	82	1087	571	384	1845	779	393	0	508	73	0	389
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	0.68	0.68	0.68	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.7	37.4	37.4	31.5	0.0	0.0	36.5	0.0	42.7	56.1	0.0	55.0
Incr Delay (d2), s/veh	2.2	6.7	11.8	130.3	1.1	0.1	0.5	0.0	12.7	10.7	0.0	3.9
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	0.4	15.4	17.0	26.4	0.3	0.0	3.4	0.0	12.4	1.5	0.0	1.5
LnGrp Delay(d),s/veh	58.8	44.0	49.2	161.8	1.1	0.1	37.0	0.0	55.4	66.9	0.0	58.9
LnGrp LOS	E	D	D	F	A	A	D		E	E		E
Approach Vol, veh/h		1440			1672			472			82	
Approach Delay, s/veh		45.9			47.6			50.6			62.7	
Approach LOS		D			D			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	8.8	35.0	32.0	43.2	33.5	10.3	7.3	67.9
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	26.0	28.1	16.2	26.1	4.0	50.1
Max Q Clear Time (g_c+I1), s	4.9	27.9	30.0	33.6	9.6	4.9	2.9	2.0
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	1.1	0.1	0.0	19.4

Intersection Summary	
HCM 2010 Ctrl Delay	47.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1701	159	642	1486	28	153	7	567	37	22	21
Future Volume (veh/h)	15	1701	159	642	1486	28	153	7	567	37	22	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		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	1716	1814	1750	1716	1810	1716	1667	1810	1750	1667	1836	1750
Adj Flow Rate, veh/h	16	1849	173	698	1615	30	166	8	616	40	24	23
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	50	1408	131	313	1604	677	499	6	497	66	48	46
Arrive On Green	0.03	0.31	0.31	0.38	0.93	0.93	0.31	0.33	0.32	0.04	0.06	0.04
Sat Flow, veh/h	1634	4610	429	1634	3438	1451	1587	20	1515	1587	863	827
Grp Volume(v), veh/h	16	1322	700	698	1615	30	166	0	624	40	0	47
Grp Sat Flow(s),veh/h/ln	1634	1651	1738	1634	1719	1451	1587	0	1534	1587	0	1690
Q Serve(g_s), s	1.2	36.6	36.6	23.0	56.0	0.2	9.6	0.0	39.4	3.0	0.0	3.3
Cycle Q Clear(g_c), s	1.2	36.6	36.6	23.0	56.0	0.2	9.6	0.0	39.4	3.0	0.0	3.3
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.99	1.00		0.49
Lane Grp Cap(c), veh/h	50	1008	531	313	1604	677	499	0	504	66	0	93
V/C Ratio(X)	0.32	1.31	1.32	2.23	1.01	0.04	0.33	0.00	1.24	0.61	0.00	0.50
Avail Cap(c_a), veh/h	82	1008	531	313	1604	677	499	0	504	73	0	294
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.24	0.24	0.24	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.0	41.7	41.7	37.0	4.0	2.1	31.5	0.0	40.9	56.6	0.0	55.4
Incr Delay (d2), s/veh	0.3	140.8	145.0	555.5	12.8	0.0	0.4	0.0	123.5	11.8	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	0.5	36.4	38.9	58.6	23.3	0.1	4.2	0.0	33.9	1.5	0.0	1.6
LnGrp Delay(d),s/veh	57.3	182.5	186.7	592.5	16.8	2.2	31.9	0.0	164.4	68.4	0.0	59.5
LnGrp LOS	E	F	F	F	F	A	C		F	E		E
Approach Vol, veh/h		2038			2343			790			87	
Approach Delay, s/veh		182.9			188.1			136.6			63.6	
Approach LOS		F			F			F			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	43.4	27.0	40.6	41.7	10.6	7.7	60.0
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	21.0	34.1	22.7	19.6	4.0	51.1
Max Q Clear Time (g_c+I1), s	5.0	41.4	25.0	38.6	11.6	5.3	3.2	58.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	2.9	0.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	176.3
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1734	159	679	1560	31	153	7	584	39	22	21
Future Volume (veh/h)	15	1734	159	679	1560	31	153	7	584	39	22	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		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	1716	1814	1750	1716	1810	1716	1667	1810	1750	1667	1836	1750
Adj Flow Rate, veh/h	16	1885	173	738	1696	34	166	8	635	42	24	23
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	50	1390	127	318	1598	674	502	6	497	68	48	46
Arrive On Green	0.03	0.30	0.30	0.39	0.93	0.93	0.32	0.33	0.32	0.04	0.06	0.04
Sat Flow, veh/h	1634	4619	422	1634	3438	1450	1587	19	1515	1587	863	827
Grp Volume(v), veh/h	16	1345	713	738	1696	34	166	0	643	42	0	47
Grp Sat Flow(s),veh/h/ln	1634	1651	1739	1634	1719	1450	1587	0	1534	1587	0	1690
Q Serve(g_s), s	1.2	36.1	36.1	23.3	55.8	0.2	9.6	0.0	39.4	3.1	0.0	3.3
Cycle Q Clear(g_c), s	1.2	36.1	36.1	23.3	55.8	0.2	9.6	0.0	39.4	3.1	0.0	3.3
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.99	1.00		0.49
Lane Grp Cap(c), veh/h	50	993	523	318	1598	674	502	0	504	68	0	93
V/C Ratio(X)	0.32	1.35	1.36	2.32	1.06	0.05	0.33	0.00	1.28	0.62	0.00	0.50
Avail Cap(c_a), veh/h	82	993	523	318	1598	674	502	0	504	73	0	294
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.14	0.14	0.14	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.0	42.0	42.0	36.7	4.2	2.3	31.3	0.0	40.9	56.4	0.0	55.4
Incr Delay (d2), s/veh	0.3	159.9	164.6	596.3	30.0	0.0	0.4	0.0	139.1	13.2	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	0.5	38.5	41.2	63.1	27.0	0.1	4.2	0.0	36.1	1.6	0.0	1.6
LnGrp Delay(d),s/veh	57.3	201.8	206.6	632.9	34.2	2.3	31.7	0.0	180.1	69.7	0.0	59.5
LnGrp LOS	E	F	F	F	F	A	C		F	E		E
Approach Vol, veh/h		2074			2468			809			89	
Approach Delay, s/veh		202.4			212.8			149.6			64.3	
Approach LOS		F			F			F			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	9.2	43.4	27.3	40.1	41.9	10.6	7.7	59.8
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	21.0	34.1	22.7	19.6	4.0	51.1
Max Q Clear Time (g_c+I1), s	5.1	41.4	25.3	38.1	11.6	5.3	3.2	57.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	3.0	0.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	197.0
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1734	159	679	1560	31	153	7	584	39	22	21
Future Volume (veh/h)	15	1734	159	679	1560	31	153	7	584	39	22	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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1836	1750
Adj Flow Rate, veh/h	16	1885	173	738	1696	34	166	8	635	42	24	23
Adj No. of Lanes	1	3	1	3	3	1	2	1	2	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	5	2	2	5	2	5	2	5	5	2	2
Cap, veh/h	50	1707	504	855	2473	727	863	545	699	68	48	46
Arrive On Green	0.03	0.35	0.35	0.37	1.00	1.00	0.28	0.29	0.28	0.04	0.06	0.04
Sat Flow, veh/h	1634	4940	1458	4608	4940	1451	3079	1863	2480	1587	863	827
Grp Volume(v), veh/h	16	1885	173	738	1696	34	166	8	635	42	0	47
Grp Sat Flow(s),veh/h/ln	1634	1647	1458	1536	1647	1451	1540	1863	1240	1587	0	1690
Q Serve(g_s), s	1.2	41.5	4.4	17.8	0.0	0.0	4.9	0.4	29.7	3.1	0.0	3.3
Cycle Q Clear(g_c), s	1.2	41.5	4.4	17.8	0.0	0.0	4.9	0.4	29.7	3.1	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	50	1707	504	855	2473	727	863	545	699	68	0	93
V/C Ratio(X)	0.32	1.10	0.34	0.86	0.69	0.05	0.19	0.01	0.91	0.62	0.00	0.50
Avail Cap(c_a), veh/h	82	1707	504	883	2473	727	863	612	787	73	0	294
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	0.41	0.69	0.69	0.69	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.0	39.3	5.1	36.3	0.0	0.0	32.9	30.2	41.6	56.4	0.0	55.4
Incr Delay (d2), s/veh	1.5	51.0	0.8	6.2	1.1	0.1	0.1	0.0	13.5	13.2	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	0.5	26.9	1.9	8.0	0.2	0.0	2.1	0.2	11.5	1.6	0.0	1.6
LnGrp Delay(d),s/veh	58.5	90.3	5.9	42.5	1.1	0.1	33.0	30.2	55.1	69.7	0.0	59.5
LnGrp LOS	E	F	A	D	A	A	C	C	E	E		E
Approach Vol, veh/h		2074			2468			809			89	
Approach Delay, s/veh		83.0			13.5			50.3			64.3	
Approach LOS		F			B			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	9.2	39.1	26.3	45.5	37.6	10.6	7.7	64.1
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	21.0	34.1	22.7	19.6	4.0	51.1
Max Q Clear Time (g_c+I1), s	5.1	31.7	19.8	43.5	6.9	5.3	3.2	2.0
Green Ext Time (p_c), s	0.0	1.8	0.5	0.0	3.7	0.1	0.0	35.8

Intersection Summary	
HCM 2010 Ctrl Delay	46.3
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2239	213	703	1946	38	206	9	705	40	24	23
Future Volume (veh/h)	20	2239	213	703	1946	38	206	9	705	40	24	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		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	1716	1814	1750	1716	1810	1716	1667	1810	1750	1667	1836	1750
Adj Flow Rate, veh/h	22	2434	232	764	2115	41	224	10	766	43	26	25
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	56	1396	130	313	1583	668	499	6	497	70	50	48
Arrive On Green	0.03	0.30	0.30	0.25	0.61	0.61	0.31	0.33	0.32	0.04	0.06	0.05
Sat Flow, veh/h	1634	4609	430	1634	3438	1450	1587	20	1515	1587	862	828
Grp Volume(v), veh/h	22	1729	937	764	2115	41	224	0	776	43	0	51
Grp Sat Flow(s),veh/h/ln	1634	1651	1738	1634	1719	1450	1587	0	1534	1587	0	1690
Q Serve(g_s), s	1.6	36.3	36.3	23.0	55.3	1.4	13.5	0.0	39.4	3.2	0.0	3.5
Cycle Q Clear(g_c), s	1.6	36.3	36.3	23.0	55.3	1.4	13.5	0.0	39.4	3.2	0.0	3.5
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.99	1.00		0.49
Lane Grp Cap(c), veh/h	56	1000	526	313	1583	668	499	0	504	70	0	97
V/C Ratio(X)	0.40	1.73	1.78	2.44	1.34	0.06	0.45	0.00	1.54	0.62	0.00	0.52
Avail Cap(c_a), veh/h	82	1000	526	313	1583	668	499	0	504	73	0	294
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.8	41.8	41.8	44.7	23.2	12.8	32.8	0.0	40.9	56.4	0.0	55.3
Incr Delay (d2), s/veh	0.4	328.5	351.7	648.6	151.5	0.0	0.6	0.0	252.9	13.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	62.1	68.8	66.8	59.1	0.5	6.0	0.0	52.1	1.7	0.0	1.8
LnGrp Delay(d),s/veh	57.2	370.3	393.5	693.3	174.7	12.8	33.5	0.0	293.9	70.3	0.0	59.6
LnGrp LOS	E	F	F	F	F	B	C		F	E		E
Approach Vol, veh/h		2688			2920			1000			94	
Approach Delay, s/veh		375.8			308.2			235.5			64.5	
Approach LOS		F			F			F			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	9.3	43.4	27.0	40.3	41.7	10.9	8.1	59.3
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	21.0	34.1	22.7	19.6	4.0	51.1
Max Q Clear Time (g_c+I1), s	5.2	41.4	25.0	38.3	15.5	5.5	3.6	57.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	3.0	0.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	321.0
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2279	213	749	2037	42	206	9	726	42	24	23
Future Volume (veh/h)	20	2279	213	749	2037	42	206	9	726	42	24	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		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	1716	1814	1750	1716	1810	1716	1667	1810	1750	1667	1836	1750
Adj Flow Rate, veh/h	22	2477	232	814	2214	46	224	10	789	46	26	25
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	56	1389	127	313	1576	665	502	6	497	73	50	48
Arrive On Green	0.03	0.30	0.30	0.38	0.92	0.92	0.32	0.33	0.32	0.05	0.06	0.05
Sat Flow, veh/h	1634	4618	423	1634	3438	1450	1587	19	1515	1587	862	828
Grp Volume(v), veh/h	22	1755	954	814	2214	46	224	0	799	46	0	51
Grp Sat Flow(s),veh/h/ln	1634	1651	1739	1634	1719	1450	1587	0	1534	1587	0	1690
Q Serve(g_s), s	1.6	36.1	36.1	23.0	55.0	0.3	13.5	0.0	39.4	3.4	0.0	3.5
Cycle Q Clear(g_c), s	1.6	36.1	36.1	23.0	55.0	0.3	13.5	0.0	39.4	3.4	0.0	3.5
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.99	1.00		0.49
Lane Grp Cap(c), veh/h	56	993	523	313	1576	665	502	0	504	73	0	97
V/C Ratio(X)	0.40	1.77	1.82	2.60	1.40	0.07	0.45	0.00	1.59	0.63	0.00	0.52
Avail Cap(c_a), veh/h	82	993	523	313	1576	665	502	0	504	73	0	294
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.8	42.0	42.0	37.0	5.0	2.7	32.6	0.0	40.9	56.3	0.0	55.3
Incr Delay (d2), s/veh	0.4	345.7	370.8	720.5	182.4	0.0	0.6	0.0	273.1	16.4	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	64.1	71.2	72.9	60.9	0.1	6.0	0.0	54.9	1.8	0.0	1.8
LnGrp Delay(d),s/veh	57.2	387.7	412.7	757.5	187.3	2.7	33.3	0.0	314.0	72.6	0.0	59.6
LnGrp LOS	E	F	F	F	F	A	C		F	E		E
Approach Vol, veh/h		2731			3074			1023			97	
Approach Delay, s/veh		393.8			335.5			252.5			65.8	
Approach LOS		F			F			F			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	9.5	43.4	27.0	40.1	42.0	10.9	8.1	59.0
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	21.0	34.1	22.7	19.6	4.0	51.1
Max Q Clear Time (g_c+I1), s	5.4	41.4	25.0	38.1	15.5	5.5	3.6	57.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	3.1	0.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	342.5
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2279	213	749	2037	42	206	9	726	42	24	23
Future Volume (veh/h)	20	2279	213	749	2037	42	206	9	726	42	24	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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1836	1750
Adj Flow Rate, veh/h	22	2477	232	814	2214	46	224	10	789	46	26	25
Adj No. of Lanes	1	3	1	3	3	1	2	1	2	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	5	2	2	5	2	5	2	5	5	2	2
Cap, veh/h	56	1486	439	883	2265	665	975	612	788	73	50	48
Arrive On Green	0.03	0.30	0.30	0.38	0.92	0.92	0.32	0.33	0.32	0.05	0.06	0.05
Sat Flow, veh/h	1634	4940	1458	4608	4940	1450	3079	1863	2482	1587	862	828
Grp Volume(v), veh/h	22	2477	232	814	2214	46	224	10	789	46	0	51
Grp Sat Flow(s),veh/h/ln	1634	1647	1458	1536	1647	1450	1540	1863	1241	1587	0	1690
Q Serve(g_s), s	1.6	36.1	6.4	20.2	43.1	0.3	6.4	0.4	38.1	3.4	0.0	3.5
Cycle Q Clear(g_c), s	1.6	36.1	6.4	20.2	43.1	0.3	6.4	0.4	38.1	3.4	0.0	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	56	1486	439	883	2265	665	975	612	788	73	0	97
V/C Ratio(X)	0.40	1.67	0.53	0.92	0.98	0.07	0.23	0.02	1.00	0.63	0.00	0.52
Avail Cap(c_a), veh/h	82	1486	439	883	2265	665	975	612	788	73	0	294
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.35	0.35	0.35	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.8	42.0	5.7	36.1	4.5	2.7	30.2	27.2	40.9	56.3	0.0	55.3
Incr Delay (d2), s/veh	0.4	300.3	0.4	6.3	7.1	0.1	0.1	0.0	32.4	16.4	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	57.7	2.6	9.0	17.5	0.1	2.8	0.2	16.6	1.8	0.0	1.8
LnGrp Delay(d),s/veh	57.2	342.3	6.1	42.4	11.6	2.8	30.3	27.2	73.4	72.6	0.0	59.6
LnGrp LOS	E	F	A	D	B	A	C	C	F	E		E
Approach Vol, veh/h		2731			3074			1023			97	
Approach Delay, s/veh		311.4			19.6			63.5			65.8	
Approach LOS		F			B			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	9.5	43.4	27.0	40.1	42.0	10.9	8.1	59.0
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	21.0	34.1	22.7	19.6	4.0	51.1
Max Q Clear Time (g_c+I1), s	5.4	40.1	22.2	38.1	8.4	5.5	3.6	45.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	4.6	0.1	0.0	6.0

Intersection Summary	
HCM 2010 Ctrl Delay	141.8
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1012	72	231	671	41	96	17	468	14	4	12
Future Volume (veh/h)	20	1012	72	231	671	41	96	17	468	14	4	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		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	1716	1813	1750	1716	1810	1716	1667	1811	1750	1667	1822	1750
Adj Flow Rate, veh/h	22	1100	78	251	729	45	104	18	509	15	4	13
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	59	1420	101	278	1496	631	532	19	533	40	18	59
Arrive On Green	0.04	0.30	0.30	0.34	0.87	0.87	0.34	0.36	0.35	0.03	0.05	0.04
Sat Flow, veh/h	1634	4719	334	1634	3438	1450	1587	53	1488	1587	378	1227
Grp Volume(v), veh/h	22	769	409	251	729	45	104	0	527	15	0	17
Grp Sat Flow(s),veh/h/ln	1634	1650	1754	1634	1719	1450	1587	0	1541	1587	0	1605
Q Serve(g_s), s	1.4	23.4	23.4	16.1	5.2	0.5	5.1	0.0	36.7	1.0	0.0	1.1
Cycle Q Clear(g_c), s	1.4	23.4	23.4	16.1	5.2	0.5	5.1	0.0	36.7	1.0	0.0	1.1
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.97	1.00		0.76
Lane Grp Cap(c), veh/h	59	993	528	278	1496	631	532	0	552	40	0	77
V/C Ratio(X)	0.37	0.77	0.78	0.90	0.49	0.07	0.20	0.00	0.95	0.38	0.00	0.22
Avail Cap(c_a), veh/h	89	993	528	278	1496	631	532	0	552	79	0	400
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	0.94	0.94	0.94	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	35.0	35.1	35.4	4.4	4.1	26.0	0.0	35.1	52.8	0.0	50.8
Incr Delay (d2), s/veh	2.7	4.1	7.6	28.8	1.1	0.2	0.2	0.0	27.3	5.7	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	0.7	11.1	12.4	9.3	2.4	0.2	2.3	0.0	19.7	0.5	0.0	0.5
LnGrp Delay(d),s/veh	54.5	39.2	42.6	64.2	5.4	4.3	26.2	0.0	62.4	58.5	0.0	52.3
LnGrp LOS	D	D	D	E	A	A	C		E	E		D
Approach Vol, veh/h		1200			1025			631			32	
Approach Delay, s/veh		40.6			19.8			56.4			55.2	
Approach LOS		D			B			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	6.8	43.4	22.7	37.1	40.9	9.3	8.0	51.9
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	14.0	31.1	16.2	26.1	4.0	41.1
Max Q Clear Time (g_c+I1), s	3.0	38.7	18.1	25.4	7.1	3.1	3.4	7.2
Green Ext Time (p_c), s	0.0	0.0	0.0	2.6	2.0	0.0	0.0	4.6

Intersection Summary	
HCM 2010 Ctrl Delay	36.8
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1080	72	244	697	42	96	17	503	18	4	12
Future Volume (veh/h)	20	1080	72	244	697	42	96	17	503	18	4	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		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	1716	1813	1750	1716	1810	1716	1667	1811	1750	1667	1822	1750
Adj Flow Rate, veh/h	22	1174	78	265	758	46	104	18	547	20	4	13
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	59	1427	95	273	1485	626	537	18	534	45	18	59
Arrive On Green	0.04	0.30	0.30	0.33	0.86	0.86	0.34	0.36	0.35	0.03	0.05	0.04
Sat Flow, veh/h	1634	4742	315	1634	3438	1450	1587	49	1491	1587	378	1227
Grp Volume(v), veh/h	22	817	435	265	758	46	104	0	565	20	0	17
Grp Sat Flow(s),veh/h/ln	1634	1650	1757	1634	1719	1450	1587	0	1540	1587	0	1605
Q Serve(g_s), s	1.4	25.3	25.3	17.6	5.9	0.5	5.1	0.0	39.4	1.4	0.0	1.1
Cycle Q Clear(g_c), s	1.4	25.3	25.3	17.6	5.9	0.5	5.1	0.0	39.4	1.4	0.0	1.1
Prop In Lane	1.00		0.18	1.00		1.00	1.00		0.97	1.00		0.76
Lane Grp Cap(c), veh/h	59	993	529	273	1485	626	537	0	552	45	0	77
V/C Ratio(X)	0.37	0.82	0.82	0.97	0.51	0.07	0.19	0.00	1.02	0.44	0.00	0.22
Avail Cap(c_a), veh/h	89	993	529	273	1485	626	537	0	552	79	0	400
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	35.7	35.7	36.4	4.7	4.3	25.8	0.0	35.9	52.6	0.0	50.8
Incr Delay (d2), s/veh	2.5	5.1	9.2	44.6	1.2	0.2	0.2	0.0	44.6	6.7	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	0.7	12.2	13.6	11.2	2.8	0.2	2.3	0.0	23.5	0.7	0.0	0.5
LnGrp Delay(d),s/veh	54.3	40.8	44.9	81.0	5.8	4.5	25.9	0.0	80.5	59.2	0.0	52.3
LnGrp LOS	D	D	D	F	A	A	C		F	E		D
Approach Vol, veh/h		1274			1069			669			37	
Approach Delay, s/veh		42.5			24.4			72.0			56.0	
Approach LOS		D			C			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	7.1	43.4	22.4	37.1	41.2	9.3	8.0	51.5
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	14.0	31.1	16.2	26.1	4.0	41.1
Max Q Clear Time (g_c+I1), s	3.4	41.4	19.6	27.3	7.1	3.1	3.4	7.9
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	2.2	0.0	0.0	4.8

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)	27	1520	97	277	929	55	129	23	807	15	4	13
Future Volume (veh/h)	27	1520	97	277	929	55	129	23	807	15	4	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		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	1716	1813	1750	1716	1810	1716	1667	1811	1750	1667	1821	1750
Adj Flow Rate, veh/h	29	1652	105	301	1010	60	140	25	877	16	4	14
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	119	1512	96	188	1238	522	613	17	609	39	16	56
Arrive On Green	0.07	0.32	0.32	0.23	0.72	0.72	0.39	0.41	0.40	0.02	0.04	0.03
Sat Flow, veh/h	1634	4756	302	1634	3438	1448	1587	43	1497	1587	356	1245
Grp Volume(v), veh/h	29	1145	612	301	1010	60	140	0	902	16	0	18
Grp Sat Flow(s),veh/h/ln	1634	1649	1759	1634	1719	1448	1587	0	1540	1587	0	1601
Q Serve(g_s), s	2.0	37.5	37.5	13.6	23.5	1.5	7.0	0.0	48.0	1.2	0.0	1.3
Cycle Q Clear(g_c), s	2.0	37.5	37.5	13.6	23.5	1.5	7.0	0.0	48.0	1.2	0.0	1.3
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.97	1.00		0.78
Lane Grp Cap(c), veh/h	119	1048	559	188	1238	522	613	0	626	39	0	72
V/C Ratio(X)	0.24	1.09	1.09	1.60	0.82	0.12	0.23	0.00	1.44	0.41	0.00	0.25
Avail Cap(c_a), veh/h	119	1048	559	188	1238	522	613	0	626	74	0	377
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	0.89	0.89	0.89	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.6	40.3	40.3	45.4	13.8	10.8	24.4	0.0	35.6	56.7	0.0	54.9
Incr Delay (d2), s/veh	0.6	50.5	56.9	289.9	5.4	0.4	0.2	0.0	206.9	6.8	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	0.9	24.4	27.0	21.2	11.6	0.6	3.1	0.0	56.4	0.6	0.0	0.6
LnGrp Delay(d),s/veh	52.2	90.7	97.2	335.2	19.2	11.2	24.6	0.0	242.6	63.5	0.0	56.7
LnGrp LOS	D	F	F	F	B	B	C		F	E		E
Approach Vol, veh/h		1786			1371			1042			34	
Approach Delay, s/veh		92.3			88.3			213.3			59.9	
Approach LOS		F			F			F			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	6.9	52.0	17.6	41.5	49.6	9.3	12.6	46.5
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	46.7	9.0	35.5	24.4	26.5	4.0	40.5
Max Q Clear Time (g_c+I1), s	3.2	50.0	15.6	39.5	9.0	3.3	4.0	25.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.4	0.0	0.0	4.3

Intersection Summary	
HCM 2010 Ctrl Delay	120.5
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	1588	97	290	955	56	129	23	842	19	4	13
Future Volume (veh/h)	27	1588	97	290	955	56	129	23	842	19	4	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		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	1716	1812	1750	1716	1810	1716	1667	1811	1750	1667	1821	1750
Adj Flow Rate, veh/h	29	1726	105	315	1038	61	140	25	915	21	4	14
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	114	1516	92	183	1238	522	618	17	610	44	16	56
Arrive On Green	0.07	0.32	0.32	0.22	0.72	0.72	0.39	0.41	0.40	0.03	0.04	0.03
Sat Flow, veh/h	1634	4770	290	1634	3438	1448	1587	41	1499	1587	356	1245
Grp Volume(v), veh/h	29	1193	638	315	1038	61	140	0	940	21	0	18
Grp Sat Flow(s),veh/h/ln	1634	1649	1761	1634	1719	1448	1587	0	1540	1587	0	1601
Q Serve(g_s), s	2.0	37.5	37.5	13.2	25.1	1.5	7.0	0.0	48.0	1.5	0.0	1.3
Cycle Q Clear(g_c), s	2.0	37.5	37.5	13.2	25.1	1.5	7.0	0.0	48.0	1.5	0.0	1.3
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.97	1.00		0.78
Lane Grp Cap(c), veh/h	114	1048	560	183	1238	522	618	0	626	44	0	72
V/C Ratio(X)	0.25	1.14	1.14	1.72	0.84	0.12	0.23	0.00	1.50	0.48	0.00	0.25
Avail Cap(c_a), veh/h	114	1048	560	183	1238	522	618	0	626	74	0	377
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.37	0.37	0.37	0.88	0.88	0.88	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.0	40.3	40.3	45.8	14.1	10.8	24.1	0.0	35.6	56.5	0.0	54.9
Incr Delay (d2), s/veh	0.4	66.9	71.5	342.8	6.1	0.4	0.2	0.0	233.7	7.9	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	0.9	26.8	29.3	23.4	12.6	0.7	3.1	0.0	61.0	0.8	0.0	0.6
LnGrp Delay(d),s/veh	52.4	107.1	111.7	388.6	20.2	11.2	24.3	0.0	269.3	64.4	0.0	56.7
LnGrp LOS	D	F	F	F	C	B	C		F	E		E
Approach Vol, veh/h		1860			1414			1080			39	
Approach Delay, s/veh		107.8			101.9			237.6			60.9	
Approach LOS		F			F			F			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	52.0	17.2	41.5	50.0	9.3	12.2	46.5
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	46.7	9.0	35.5	24.4	26.5	4.0	40.5
Max Q Clear Time (g_c+I1), s	3.5	50.0	15.2	39.5	9.0	3.3	4.0	27.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.4	0.0	0.0	4.3

Intersection Summary	
HCM 2010 Ctrl Delay	137.4
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	1588	97	290	955	56	129	23	842	19	4	13
Future Volume (veh/h)	27	1588	97	290	955	56	129	23	842	19	4	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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1821	1750
Adj Flow Rate, veh/h	29	1726	105	315	1038	61	140	25	915	21	4	14
Adj No. of Lanes	1	3	1	3	3	1	2	1	2	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	5	2	2	5	2	5	2	5	5	2	2
Cap, veh/h	62	2007	593	481	2336	686	960	612	788	44	16	55
Arrive On Green	0.04	0.41	0.41	0.21	0.95	0.95	0.31	0.33	0.32	0.03	0.04	0.03
Sat Flow, veh/h	1634	4940	1458	4608	4940	1451	3079	1863	2482	1587	356	1245
Grp Volume(v), veh/h	29	1726	105	315	1038	61	140	25	915	21	0	18
Grp Sat Flow(s),veh/h/ln	1634	1647	1458	1536	1647	1451	1540	1863	1241	1587	0	1601
Q Serve(g_s), s	2.1	38.3	1.7	7.5	2.4	0.3	3.9	1.1	38.1	1.6	0.0	1.3
Cycle Q Clear(g_c), s	2.1	38.3	1.7	7.5	2.4	0.3	3.9	1.1	38.1	1.6	0.0	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.78
Lane Grp Cap(c), veh/h	62	2007	593	481	2336	686	960	612	788	44	0	71
V/C Ratio(X)	0.47	0.86	0.18	0.65	0.44	0.09	0.15	0.04	1.16	0.48	0.00	0.25
Avail Cap(c_a), veh/h	82	2007	593	883	2336	686	960	612	788	73	0	279
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.6	32.5	2.1	45.5	1.8	1.7	29.8	27.4	40.9	57.5	0.0	55.9
Incr Delay (d2), s/veh	3.7	3.5	0.4	1.4	0.6	0.2	0.1	0.0	86.4	7.9	0.0	1.9
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	18.1	0.7	3.2	0.9	0.2	1.7	0.6	22.5	0.8	0.0	0.6
LnGrp Delay(d),s/veh	60.2	36.0	2.6	46.9	2.3	2.0	29.8	27.5	127.4	65.4	0.0	57.8
LnGrp LOS	E	D	A	D	A	A	C	C	F	E		E
Approach Vol, veh/h		1860			1414			1080			39	
Approach Delay, s/veh		34.5			12.3			112.4			61.9	
Approach LOS		C			B			F			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	43.4	16.5	52.8	41.4	9.3	8.5	60.8
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	21.0	34.1	22.7	19.6	4.0	51.1
Max Q Clear Time (g_c+I1), s	3.6	40.1	9.5	40.3	5.9	3.3	4.1	4.4
Green Ext Time (p_c), s	0.0	0.0	1.0	0.0	5.3	0.0	0.0	24.3

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)	36	1988	130	311	1239	74	173	31	1023	17	5	14
Future Volume (veh/h)	36	1988	130	311	1239	74	173	31	1023	17	5	14
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		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	1716	1813	1750	1716	1810	1716	1667	1811	1750	1667	1823	1750
Adj Flow Rate, veh/h	39	2161	141	338	1347	80	188	34	1112	18	5	15
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	117	1509	98	187	1238	522	615	19	608	41	18	54
Arrive On Green	0.07	0.32	0.32	0.23	0.72	0.72	0.39	0.41	0.40	0.03	0.04	0.03
Sat Flow, veh/h	1634	4750	308	1634	3438	1448	1587	46	1495	1587	402	1207
Grp Volume(v), veh/h	39	1496	806	338	1347	80	188	0	1146	18	0	20
Grp Sat Flow(s),veh/h/ln	1634	1650	1758	1634	1719	1448	1587	0	1541	1587	0	1610
Q Serve(g_s), s	2.7	37.5	37.5	13.5	42.5	2.0	9.7	0.0	48.0	1.3	0.0	1.4
Cycle Q Clear(g_c), s	2.7	37.5	37.5	13.5	42.5	2.0	9.7	0.0	48.0	1.3	0.0	1.4
Prop In Lane	1.00		0.18	1.00		1.00	1.00		0.97	1.00		0.75
Lane Grp Cap(c), veh/h	117	1048	559	187	1238	522	615	0	627	41	0	72
V/C Ratio(X)	0.33	1.43	1.44	1.81	1.09	0.15	0.31	0.00	1.83	0.44	0.00	0.28
Avail Cap(c_a), veh/h	117	1048	559	187	1238	522	615	0	627	74	0	379
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.33	0.33	0.33	0.78	0.78	0.78	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.1	40.2	40.3	45.5	16.5	10.8	25.1	0.0	35.6	56.7	0.0	55.0
Incr Delay (d2), s/veh	0.5	194.1	202.1	381.2	50.4	0.5	0.3	0.0	379.2	7.4	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	1.2	45.3	49.5	25.8	27.9	0.8	4.3	0.0	86.4	0.7	0.0	0.7
LnGrp Delay(d),s/veh	52.6	234.4	242.4	426.7	66.9	11.3	25.4	0.0	414.8	64.0	0.0	57.0
LnGrp LOS	D	F	F	F	F	B	C		F	E		E
Approach Vol, veh/h		2341			1765			1334			38	
Approach Delay, s/veh		234.1			133.3			359.9			60.3	
Approach LOS		F			F			F			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	7.0	52.0	17.5	41.5	49.7	9.3	12.5	46.5
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	46.7	9.0	35.5	24.4	26.5	4.0	40.5
Max Q Clear Time (g_c+I1), s	3.3	50.0	15.5	39.5	11.7	3.4	4.7	44.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	231.1
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	2070	130	328	1271	75	173	31	1066	21	5	14
Future Volume (veh/h)	36	2070	130	328	1271	75	173	31	1066	21	5	14
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		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	1716	1813	1750	1716	1810	1716	1667	1811	1750	1667	1823	1750
Adj Flow Rate, veh/h	39	2250	141	357	1382	82	188	34	1159	23	5	15
Adj No. of Lanes	1	3	0	1	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, %	2	5	5	2	5	2	5	2	2	5	2	2
Cap, veh/h	112	1514	94	182	1238	522	620	18	609	46	18	54
Arrive On Green	0.07	0.32	0.32	0.22	0.72	0.72	0.39	0.41	0.40	0.03	0.04	0.03
Sat Flow, veh/h	1634	4763	296	1634	3438	1448	1587	44	1496	1587	402	1207
Grp Volume(v), veh/h	39	1553	838	357	1382	82	188	0	1193	23	0	20
Grp Sat Flow(s),veh/h/ln	1634	1649	1760	1634	1719	1448	1587	0	1540	1587	0	1610
Q Serve(g_s), s	2.7	37.5	37.5	13.1	42.5	2.1	9.7	0.0	48.0	1.7	0.0	1.4
Cycle Q Clear(g_c), s	2.7	37.5	37.5	13.1	42.5	2.1	9.7	0.0	48.0	1.7	0.0	1.4
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.97	1.00		0.75
Lane Grp Cap(c), veh/h	112	1048	559	182	1238	522	620	0	627	46	0	72
V/C Ratio(X)	0.35	1.48	1.50	1.97	1.12	0.16	0.30	0.00	1.90	0.51	0.00	0.28
Avail Cap(c_a), veh/h	112	1048	559	182	1238	522	620	0	627	74	0	379
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.20	0.20	0.20	0.75	0.75	0.75	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.4	40.2	40.3	45.9	16.5	10.9	24.9	0.0	35.6	56.5	0.0	55.0
Incr Delay (d2), s/veh	0.4	217.5	226.3	449.2	61.2	0.5	0.3	0.0	412.8	8.4	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	1.2	48.7	53.3	28.5	29.8	0.9	4.3	0.0	92.2	0.8	0.0	0.7
LnGrp Delay(d),s/veh	52.8	257.8	266.5	495.1	77.7	11.3	25.1	0.0	448.4	64.9	0.0	57.0
LnGrp LOS	D	F	F	F	F	B	C		F	E		E
Approach Vol, veh/h		2430			1821			1381			43	
Approach Delay, s/veh		257.5			156.5			390.8			61.2	
Approach LOS		F			F			F			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	7.4	52.0	17.1	41.5	50.1	9.3	12.1	46.5
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	46.7	9.0	35.5	24.4	26.5	4.0	40.5
Max Q Clear Time (g_c+I1), s	3.7	50.0	15.1	39.5	11.7	3.4	4.7	44.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	256.1
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	2070	130	328	1271	75	173	31	1066	21	5	14
Future Volume (veh/h)	36	2070	130	328	1271	75	173	31	1066	21	5	14
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		0.99	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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1823	1750
Adj Flow Rate, veh/h	39	2250	141	357	1382	82	188	34	1159	23	5	15
Adj No. of Lanes	1	3	1	3	3	1	2	1	3	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	5	2	2	5	2	5	2	5	5	2	2
Cap, veh/h	75	2229	658	310	2334	685	932	594	1149	45	18	54
Arrive On Green	0.05	0.45	0.45	0.07	0.47	0.47	0.30	0.32	0.31	0.03	0.04	0.03
Sat Flow, veh/h	1634	4940	1458	4608	4940	1451	3079	1863	3204	1587	402	1207
Grp Volume(v), veh/h	39	2250	141	357	1382	82	188	34	1159	23	0	20
Grp Sat Flow(s),veh/h/ln	1634	1647	1458	1536	1647	1451	1540	1863	1068	1587	0	1610
Q Serve(g_s), s	2.8	53.7	1.9	8.0	24.4	2.8	5.4	1.5	32.2	1.7	0.0	1.4
Cycle Q Clear(g_c), s	2.8	53.7	1.9	8.0	24.4	2.8	5.4	1.5	32.2	1.7	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.75
Lane Grp Cap(c), veh/h	75	2229	658	310	2334	685	932	594	1149	45	0	72
V/C Ratio(X)	0.52	1.01	0.21	1.15	0.59	0.12	0.20	0.06	1.01	0.51	0.00	0.28
Avail Cap(c_a), veh/h	96	2229	658	310	2334	685	932	617	1189	73	0	371
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	0.87	0.87	0.87	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.5	32.7	1.4	55.5	23.0	10.0	30.8	28.1	22.2	57.0	0.0	55.5
Incr Delay (d2), s/veh	3.3	17.1	0.4	95.8	1.0	0.3	0.1	0.0	28.2	8.6	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	1.3	27.9	0.8	6.1	11.2	1.2	2.3	0.8	12.4	0.9	0.0	0.7
LnGrp Delay(d),s/veh	58.8	49.8	1.8	151.3	24.0	10.3	30.9	28.2	50.4	65.5	0.0	57.6
LnGrp LOS	E	F	A	F	C	B	C	C	F	E		E
Approach Vol, veh/h		2430			1821			1381			43	
Approach Delay, s/veh		47.2			48.3			47.2			61.8	
Approach LOS		D			D			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	7.4	41.9	12.0	57.7	40.0	9.3	9.5	60.2
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.2	38.1	6.0	48.1	16.2	26.1	5.0	49.1
Max Q Clear Time (g_c+I1), s	3.7	34.2	10.0	55.7	7.4	3.4	4.8	26.4
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.5	0.0	0.0	19.7

Intersection Summary	
HCM 2010 Ctrl Delay	47.6
HCM 2010 LOS	D

Intersection 10
Golden State Hwy & 7th Standard Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1387	107	150	1077	2	48	0	149	211	148	397
Future Volume (veh/h)	0	1387	107	150	1077	2	48	0	149	211	148	397
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		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	1716	1813	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	0	1508	116	163	1171	2	52	0	162	229	161	432
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	1	1932	149	212	1977	839	79	0	210	296	512	390
Arrive On Green	0.00	0.82	0.82	0.13	0.57	0.57	0.05	0.00	0.12	0.19	0.28	0.28
Sat Flow, veh/h	1634	4687	360	1634	3438	1458	1587	0	1519	1587	1863	1417
Grp Volume(v), veh/h	0	1062	562	163	1171	2	52	0	162	229	161	432
Grp Sat Flow(s),veh/h/ln	1634	1650	1747	1634	1719	1458	1587	0	1519	1587	1863	1417
Q Serve(g_s), s	0.0	19.0	19.0	11.6	26.3	0.0	3.9	0.0	12.4	16.5	8.2	33.0
Cycle Q Clear(g_c), s	0.0	19.0	19.0	11.6	26.3	0.0	3.9	0.0	12.4	16.5	8.2	33.0
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1	1360	720	212	1977	839	79	0	210	296	512	390
V/C Ratio(X)	0.00	0.78	0.78	0.77	0.59	0.00	0.66	0.00	0.77	0.77	0.31	1.11
Avail Cap(c_a), veh/h	82	1360	720	218	1977	839	79	0	266	296	512	390
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.66	0.66	0.83	0.83	0.83	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	7.9	7.9	50.5	16.4	1.4	56.0	0.0	50.8	46.4	34.5	43.5
Incr Delay (d2), s/veh	0.0	3.0	5.6	12.8	1.1	0.0	17.8	0.0	10.1	12.0	0.3	78.4
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	8.5	9.5	6.0	12.7	0.0	2.1	0.0	5.8	8.2	4.3	21.4
LnGrp Delay(d),s/veh	0.0	10.9	13.5	63.3	17.5	1.4	73.7	0.0	61.0	58.4	34.9	121.9
LnGrp LOS		B	B	E	B	A	E		E	E	C	F
Approach Vol, veh/h		1624			1336			214			822	
Approach Delay, s/veh		11.8			23.1			64.1			87.2	
Approach LOS		B			C			E			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	26.4	20.6	19.5	53.5	10.0	37.0	0.0	73.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	16.0	19.0	14.0	47.0	4.0	31.0	4.0	57.0
Max Q Clear Time (g_c+I1), s	18.5	14.4	13.6	21.0	5.9	35.0	0.0	28.3
Green Ext Time (p_c), s	0.0	0.2	0.0	16.0	0.0	0.0	0.0	17.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1439	107	150	1191	2	48	0	149	242	148	397
Future Volume (veh/h)	0	1439	107	150	1191	2	48	0	149	242	148	397
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		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	1716	1813	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	0	1564	116	163	1295	2	52	0	162	263	161	432
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	1	1955	145	206	1979	839	80	0	209	295	509	387
Arrive On Green	0.00	0.83	0.83	0.25	1.00	1.00	0.05	0.00	0.12	0.19	0.27	0.27
Sat Flow, veh/h	1634	4701	348	1634	3438	1458	1587	0	1519	1587	1863	1417
Grp Volume(v), veh/h	0	1098	582	163	1295	2	52	0	162	263	161	432
Grp Sat Flow(s),veh/h/ln	1634	1650	1749	1634	1719	1458	1587	0	1519	1587	1863	1417
Q Serve(g_s), s	0.0	19.9	19.9	11.1	0.0	0.0	3.8	0.0	12.3	19.2	8.2	32.5
Cycle Q Clear(g_c), s	0.0	19.9	19.9	11.1	0.0	0.0	3.8	0.0	12.3	19.2	8.2	32.5
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1	1373	728	206	1979	839	80	0	209	295	509	387
V/C Ratio(X)	0.00	0.80	0.80	0.79	0.65	0.00	0.65	0.00	0.78	0.89	0.32	1.12
Avail Cap(c_a), veh/h	82	1373	728	206	1979	839	80	0	223	295	509	387
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.78	0.78	0.78	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	7.5	7.5	43.0	0.0	0.0	55.5	0.0	50.5	47.3	34.4	43.3
Incr Delay (d2), s/veh	0.0	0.5	0.9	14.9	1.3	0.0	17.0	0.0	14.7	26.8	0.4	81.2
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	8.5	9.1	5.8	0.4	0.0	2.1	0.0	6.0	10.6	4.3	21.5
LnGrp Delay(d),s/veh	0.0	8.0	8.4	58.0	1.3	0.0	72.4	0.0	65.3	74.0	34.8	124.5
LnGrp LOS		A	A	E	A	A	E		E	E	C	F
Approach Vol, veh/h		1680			1460			214			856	
Approach Delay, s/veh		8.1			7.6			67.0			92.1	
Approach LOS		A			A			E			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	26.1	20.4	19.0	53.5	10.0	36.5	0.0	72.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	15.5	13.0	47.5	4.0	30.5	4.0	56.5
Max Q Clear Time (g_c+I1), s	21.2	14.3	13.1	21.9	5.8	34.5	0.0	2.0
Green Ext Time (p_c), s	0.0	0.1	0.0	8.5	0.0	0.0	0.0	8.4

Intersection Summary	
HCM 2010 Ctrl Delay	28.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2082	144	236	1783	3	65	0	200	386	163	437
Future Volume (veh/h)	0	2082	144	236	1783	3	65	0	200	386	163	437
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		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	1716	1813	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	0	2263	157	257	1938	3	71	0	217	420	177	475
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	1	2187	150	191	2106	893	93	0	235	212	427	325
Arrive On Green	0.00	0.93	0.93	0.23	1.00	1.00	0.06	0.00	0.14	0.13	0.23	0.23
Sat Flow, veh/h	1634	4728	325	1634	3438	1458	1587	0	1521	1587	1863	1417
Grp Volume(v), veh/h	0	1572	848	257	1938	3	71	0	217	420	177	475
Grp Sat Flow(s),veh/h/ln	1634	1650	1753	1634	1719	1458	1587	0	1521	1587	1863	1417
Q Serve(g_s), s	0.0	55.5	55.5	14.0	0.0	0.0	5.3	0.0	16.9	16.0	9.7	27.5
Cycle Q Clear(g_c), s	0.0	55.5	55.5	14.0	0.0	0.0	5.3	0.0	16.9	16.0	9.7	27.5
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1	1526	811	191	2106	893	93	0	235	212	427	325
V/C Ratio(X)	0.00	1.03	1.05	1.35	0.92	0.00	0.77	0.00	0.93	1.98	0.41	1.46
Avail Cap(c_a), veh/h	95	1526	811	191	2106	893	93	0	235	212	427	325
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.41	0.41	0.41	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.5	4.5	46.0	0.0	0.0	55.7	0.0	51.1	52.0	39.4	46.3
Incr Delay (d2), s/veh	0.0	16.6	24.2	170.4	3.7	0.0	31.2	0.0	38.9	459.6	0.6	224.6
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	23.4	26.6	15.3	1.1	0.0	3.1	0.0	9.7	34.0	5.1	31.0
LnGrp Delay(d),s/veh	0.0	21.1	28.7	216.4	3.7	0.0	86.9	0.0	90.0	511.6	40.0	270.9
LnGrp LOS		F	F	F	A	A	F		F	F	D	F
Approach Vol, veh/h		2420			2198			288			1072	
Approach Delay, s/veh		23.8			28.5			89.2			327.1	
Approach LOS		C			C			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	20.0	22.5	18.0	59.5	11.0	31.5	0.0	77.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	16.5	12.0	53.5	5.0	25.5	5.0	60.5
Max Q Clear Time (g_c+I1), s	18.0	18.9	16.0	57.5	7.3	29.5	0.0	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.6

Intersection Summary	
HCM 2010 Ctrl Delay	83.1
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2134	144	236	1897	3	65	0	200	417	163	437
Future Volume (veh/h)	0	2134	144	236	1897	3	65	0	200	417	163	437
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		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	1716	1813	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	0	2320	157	257	2062	3	71	0	217	453	177	475
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	1	2191	147	191	2106	893	93	0	235	212	427	325
Arrive On Green	0.00	0.93	0.93	0.23	1.00	1.00	0.06	0.00	0.14	0.13	0.23	0.23
Sat Flow, veh/h	1634	4737	317	1634	3438	1458	1587	0	1521	1587	1863	1417
Grp Volume(v), veh/h	0	1608	869	257	2062	3	71	0	217	453	177	475
Grp Sat Flow(s),veh/h/ln	1634	1650	1755	1634	1719	1458	1587	0	1521	1587	1863	1417
Q Serve(g_s), s	0.0	55.5	55.5	14.0	0.0	0.0	5.3	0.0	16.9	16.0	9.7	27.5
Cycle Q Clear(g_c), s	0.0	55.5	55.5	14.0	0.0	0.0	5.3	0.0	16.9	16.0	9.7	27.5
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1	1526	812	191	2106	893	93	0	235	212	427	325
V/C Ratio(X)	0.00	1.05	1.07	1.35	0.98	0.00	0.77	0.00	0.93	2.14	0.41	1.46
Avail Cap(c_a), veh/h	95	1526	812	191	2106	893	93	0	235	212	427	325
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.23	0.23	0.23	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.5	4.5	46.0	0.0	0.0	55.7	0.0	51.1	52.0	39.4	46.3
Incr Delay (d2), s/veh	0.0	26.2	34.5	164.7	5.7	0.0	31.2	0.0	38.9	528.7	0.6	224.6
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	25.5	29.0	15.0	1.7	0.0	3.1	0.0	9.7	38.1	5.1	31.0
LnGrp Delay(d),s/veh	0.0	30.7	39.0	210.7	5.7	0.0	86.9	0.0	90.0	580.7	40.0	270.9
LnGrp LOS		F	F	F	A	A	F		F	F	D	F
Approach Vol, veh/h		2477			2322			288			1105	
Approach Delay, s/veh		33.6			28.4			89.2			360.9	
Approach LOS		C			C			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	20.0	22.5	18.0	59.5	11.0	31.5	0.0	77.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	16.5	12.0	53.5	5.0	25.5	5.0	60.5
Max Q Clear Time (g_c+I1), s	18.0	18.9	16.0	57.5	7.3	29.5	0.0	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1

Intersection Summary	
HCM 2010 Ctrl Delay	92.7
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2134	144	236	1897	3	65	0	200	417	163	437
Future Volume (veh/h)	0	2134	144	236	1897	3	65	0	200	417	163	437
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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	0	2320	157	257	2062	3	71	0	217	453	177	475
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	2	1	2
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	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	1	2278	669	191	3019	891	141	201	127	558	373	499
Arrive On Green	0.00	0.61	0.61	0.08	0.41	0.41	0.09	0.00	0.09	0.18	0.20	0.20
Sat Flow, veh/h	1634	4940	1450	1634	4940	1458	1587	1863	1393	3079	1863	2493
Grp Volume(v), veh/h	0	2320	157	257	2062	3	71	0	217	453	177	475
Grp Sat Flow(s),veh/h/ln	1634	1647	1450	1634	1647	1458	1587	1863	1393	1540	1863	1247
Q Serve(g_s), s	0.0	55.3	3.8	14.0	41.1	0.0	5.1	0.0	8.5	16.9	10.1	20.7
Cycle Q Clear(g_c), s	0.0	55.3	3.8	14.0	41.1	0.0	5.1	0.0	8.5	16.9	10.1	20.7
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	1	2278	669	191	3019	891	141	201	127	558	373	499
V/C Ratio(X)	0.00	1.02	0.23	1.35	0.68	0.00	0.50	0.00	1.71	0.81	0.48	0.95
Avail Cap(c_a), veh/h	95	2278	669	191	3019	891	245	287	192	616	373	499
HCM Platoon Ratio	1.33	1.33	1.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.48	0.48	0.23	0.23	0.23	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.2	5.8	55.3	25.9	1.4	52.1	0.0	33.2	47.2	42.4	39.9
Incr Delay (d2), s/veh	0.0	18.0	0.4	164.7	0.3	0.0	2.8	0.0	350.9	7.5	0.9	28.6
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	28.5	1.6	15.0	18.8	0.0	2.4	0.0	15.6	7.8	5.3	9.1
LnGrp Delay(d),s/veh	0.0	41.2	6.1	220.0	26.2	1.4	54.9	0.0	384.1	54.6	43.4	68.5
LnGrp LOS		F	A	F	C	A	D		F	D	D	E
Approach Vol, veh/h		2477			2322			288			1105	
Approach Delay, s/veh		39.0			47.6			302.9			58.8	
Approach LOS		D			D			F			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	25.8	16.9	18.0	59.3	14.7	28.0	0.0	77.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	22.0	16.5	12.0	45.5	16.5	22.0	5.0	52.5
Max Q Clear Time (g_c+I1), s	18.9	10.5	16.0	57.3	7.1	22.7	0.0	43.1
Green Ext Time (p_c), s	0.7	0.4	0.0	0.0	1.6	0.0	0.0	9.1

Intersection Summary	
HCM 2010 Ctrl Delay	58.0
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2723	193	305	2281	4	87	0	269	410	180	482
Future Volume (veh/h)	0	2723	193	305	2281	4	87	0	269	410	180	482
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		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	1716	1813	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	0	2960	210	332	2479	4	95	0	292	446	196	524
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	1	2185	151	191	2106	893	93	0	235	212	427	325
Arrive On Green	0.00	0.93	0.93	0.23	1.00	1.00	0.06	0.00	0.14	0.13	0.23	0.23
Sat Flow, veh/h	1634	4725	327	1634	3438	1458	1587	0	1521	1587	1863	1417
Grp Volume(v), veh/h	0	2046	1124	332	2479	4	95	0	292	446	196	524
Grp Sat Flow(s),veh/h/ln	1634	1650	1753	1634	1719	1458	1587	0	1521	1587	1863	1417
Q Serve(g_s), s	0.0	55.5	55.5	14.0	0.0	0.0	7.0	0.0	18.5	16.0	10.9	27.5
Cycle Q Clear(g_c), s	0.0	55.5	55.5	14.0	0.0	0.0	7.0	0.0	18.5	16.0	10.9	27.5
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1	1526	811	191	2106	893	93	0	235	212	427	325
V/C Ratio(X)	0.00	1.34	1.39	1.74	1.18	0.00	1.03	0.00	1.25	2.11	0.46	1.61
Avail Cap(c_a), veh/h	95	1526	811	191	2106	893	93	0	235	212	427	325
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.09	0.09	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.5	4.5	46.0	0.0	0.0	56.5	0.0	51.8	52.0	39.8	46.3
Incr Delay (d2), s/veh	0.0	153.7	174.6	335.7	80.3	0.0	100.8	0.0	140.8	514.0	0.8	290.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	52.5	60.5	24.0	23.5	0.0	5.7	0.0	16.9	37.2	5.7	36.9
LnGrp Delay(d),s/veh	0.0	158.2	179.1	381.7	80.3	0.0	157.6	0.0	192.5	566.0	40.6	336.4
LnGrp LOS		F	F	F	F	A	F		F	F	D	F
Approach Vol, veh/h		3170			2815			387			1166	
Approach Delay, s/veh		165.6			115.7			184.0			374.5	
Approach LOS		F			F			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	20.0	22.5	18.0	59.5	11.0	31.5	0.0	77.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	16.5	12.0	53.5	5.0	25.5	5.0	60.5
Max Q Clear Time (g_c+I1), s	18.0	20.5	16.0	57.5	9.0	29.5	0.0	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0

Intersection Summary	
HCM 2010 Ctrl Delay	180.2
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2786	193	305	2422	4	87	0	269	449	180	482
Future Volume (veh/h)	0	2786	193	305	2422	4	87	0	269	449	180	482
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		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	1716	1813	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	0	3028	210	332	2633	4	95	0	292	488	196	524
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	1	2189	148	191	2106	893	93	0	235	212	427	325
Arrive On Green	0.00	0.62	0.62	0.23	1.00	1.00	0.06	0.00	0.14	0.13	0.23	0.23
Sat Flow, veh/h	1634	4733	321	1634	3438	1458	1587	0	1521	1587	1863	1417
Grp Volume(v), veh/h	0	2090	1148	332	2633	4	95	0	292	488	196	524
Grp Sat Flow(s),veh/h/ln	1634	1650	1754	1634	1719	1458	1587	0	1521	1587	1863	1417
Q Serve(g_s), s	0.0	55.5	55.5	14.0	0.0	0.0	7.0	0.0	18.5	16.0	10.9	27.5
Cycle Q Clear(g_c), s	0.0	55.5	55.5	14.0	0.0	0.0	7.0	0.0	18.5	16.0	10.9	27.5
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1	1526	811	191	2106	893	93	0	235	212	427	325
V/C Ratio(X)	0.00	1.37	1.42	1.74	1.25	0.00	1.03	0.00	1.25	2.31	0.46	1.61
Avail Cap(c_a), veh/h	95	1526	811	191	2106	893	93	0	235	212	427	325
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.09	0.09	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.1	23.1	46.0	0.0	0.0	56.5	0.0	51.8	52.0	39.8	46.3
Incr Delay (d2), s/veh	0.0	166.6	187.5	335.7	113.0	0.0	100.8	0.0	140.8	602.3	0.8	290.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	60.2	68.7	24.0	33.1	0.0	5.7	0.0	16.9	42.4	5.7	36.9
LnGrp Delay(d),s/veh	0.0	189.7	210.6	381.7	113.0	0.0	157.6	0.0	192.5	654.3	40.6	336.4
LnGrp LOS		F	F	F	F	A	F		F	F	D	F
Approach Vol, veh/h		3238			2969			387			1208	
Approach Delay, s/veh		197.1			142.9			184.0			416.8	
Approach LOS		F			F			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	20.0	22.5	18.0	59.5	11.0	31.5	0.0	77.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	16.5	12.0	53.5	5.0	25.5	5.0	60.5
Max Q Clear Time (g_c+I1), s	18.0	20.5	16.0	57.5	9.0	29.5	0.0	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9

Intersection Summary	
HCM 2010 Ctrl Delay	209.9
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2786	193	305	2422	4	87	0	269	449	180	482
Future Volume (veh/h)	0	2786	193	305	2422	4	87	0	269	449	180	482
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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	0	3028	210	332	2633	4	95	0	292	488	196	524
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	2	1	2
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	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	1	2206	648	191	2947	870	164	211	135	586	373	499
Arrive On Green	0.00	0.59	0.59	0.04	0.20	0.20	0.10	0.00	0.10	0.19	0.20	0.20
Sat Flow, veh/h	1634	4940	1450	1634	4940	1458	1587	1863	1395	3079	1863	2493
Grp Volume(v), veh/h	0	3028	210	332	2633	4	95	0	292	488	196	524
Grp Sat Flow(s),veh/h/ln	1634	1647	1450	1634	1647	1458	1587	1863	1395	1540	1863	1247
Q Serve(g_s), s	0.0	53.6	5.5	14.0	62.3	0.1	6.8	0.0	9.0	18.3	11.3	22.0
Cycle Q Clear(g_c), s	0.0	53.6	5.5	14.0	62.3	0.1	6.8	0.0	9.0	18.3	11.3	22.0
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	1	2206	648	191	2947	870	164	211	135	586	373	499
V/C Ratio(X)	0.00	1.37	0.32	1.74	0.89	0.00	0.58	0.00	2.17	0.83	0.53	1.05
Avail Cap(c_a), veh/h	95	2206	648	191	2947	870	245	287	192	616	373	499
HCM Platoon Ratio	1.33	1.33	1.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.09	0.09	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	24.4	6.1	57.7	44.5	2.0	51.3	0.0	32.9	46.7	42.9	40.3
Incr Delay (d2), s/veh	0.0	167.9	0.1	335.7	0.5	0.0	3.2	0.0	550.7	9.2	1.4	54.3
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	58.3	2.2	24.1	28.6	0.0	3.2	0.0	24.0	8.5	6.0	11.3
LnGrp Delay(d),s/veh	0.0	192.2	6.2	393.4	44.9	2.0	54.5	0.0	583.5	56.0	44.3	94.6
LnGrp LOS		F	A	F	D	A	D		F	E	D	F
Approach Vol, veh/h		3238			2969			387			1208	
Approach Delay, s/veh		180.2			83.8			453.7			70.8	
Approach LOS		F			F			F			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	26.8	17.6	18.0	57.6	16.4	28.0	0.0	75.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	22.0	16.5	12.0	45.5	16.5	22.0	5.0	52.5
Max Q Clear Time (g_c+I1), s	20.3	11.0	16.0	55.6	8.8	24.0	0.0	64.3
Green Ext Time (p_c), s	0.5	0.6	0.0	0.0	1.6	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	140.1
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	909	35	65	652	0	21	0	131	168	69	185
Future Volume (veh/h)	2	909	35	65	652	0	21	0	131	168	69	185
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		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	1716	1811	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	2	988	38	71	709	0	23	0	142	183	75	201
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	140	2465	95	140	1735	736	139	0	195	216	330	251
Arrive On Green	0.17	1.00	1.00	0.17	1.00	0.00	0.09	0.00	0.11	0.14	0.18	0.18
Sat Flow, veh/h	1634	4886	188	1634	3438	1458	1587	0	1517	1587	1863	1417
Grp Volume(v), veh/h	2	666	360	71	709	0	23	0	142	183	75	201
Grp Sat Flow(s),veh/h/ln	1634	1648	1777	1634	1719	1458	1587	0	1517	1587	1863	1417
Q Serve(g_s), s	0.1	0.0	0.0	4.3	0.0	0.0	1.5	0.0	10.0	12.4	3.8	15.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	4.3	0.0	0.0	1.5	0.0	10.0	12.4	3.8	15.0
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	140	1663	897	140	1735	736	139	0	195	216	330	251
V/C Ratio(X)	0.01	0.40	0.40	0.51	0.41	0.00	0.17	0.00	0.73	0.85	0.23	0.80
Avail Cap(c_a), veh/h	140	1663	897	140	1735	736	139	0	241	216	432	328
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.88	0.88	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	0.0	0.0	43.5	0.0	0.0	46.5	0.0	47.1	46.4	38.8	43.4
Incr Delay (d2), s/veh	0.0	0.6	1.1	2.7	0.6	0.0	0.6	0.0	8.3	25.3	0.3	10.1
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	0.1	0.3	2.0	0.2	0.0	0.7	0.0	4.6	7.0	2.0	6.5
LnGrp Delay(d),s/veh	41.8	0.6	1.1	46.2	0.6	0.0	47.1	0.0	55.4	71.6	39.1	53.5
LnGrp LOS	D	A	A	D	A		D		E	E	D	D
Approach Vol, veh/h		1028			780			165			459	
Approach Delay, s/veh		0.9			4.8			54.2			58.4	
Approach LOS		A			A			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	19.0	18.1	13.4	59.5	13.6	23.5	13.4	59.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	13.0	15.5	4.0	53.5	5.0	23.5	4.0	53.5
Max Q Clear Time (g_c+I1), s	14.4	12.0	6.3	2.0	3.5	17.0	2.1	2.0
Green Ext Time (p_c), s	0.0	0.1	0.0	4.6	0.1	0.5	0.0	3.2

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)	2	1016	35	65	692	0	21	0	131	232	69	185
Future Volume (veh/h)	2	1016	35	65	692	0	21	0	131	232	69	185
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		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	1716	1811	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	2	1104	38	71	752	0	23	0	142	252	75	201
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	140	2476	85	140	1735	736	139	0	195	216	330	251
Arrive On Green	0.17	1.00	1.00	0.17	1.00	0.00	0.09	0.00	0.11	0.14	0.18	0.18
Sat Flow, veh/h	1634	4908	169	1634	3438	1458	1587	0	1517	1587	1863	1417
Grp Volume(v), veh/h	2	741	401	71	752	0	23	0	142	252	75	201
Grp Sat Flow(s),veh/h/ln	1634	1648	1780	1634	1719	1458	1587	0	1517	1587	1863	1417
Q Serve(g_s), s	0.1	0.0	0.0	4.3	0.0	0.0	1.5	0.0	10.0	15.0	3.8	15.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	4.3	0.0	0.0	1.5	0.0	10.0	15.0	3.8	15.0
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	1663	898	140	1735	736	139	0	195	216	330	251
V/C Ratio(X)	0.01	0.45	0.45	0.51	0.43	0.00	0.17	0.00	0.73	1.16	0.23	0.80
Avail Cap(c_a), veh/h	140	1663	898	140	1735	736	139	0	241	216	432	328
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.86	0.86	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	0.0	0.0	43.5	0.0	0.0	46.5	0.0	47.1	47.5	38.8	43.4
Incr Delay (d2), s/veh	0.0	0.7	1.3	2.6	0.7	0.0	0.6	0.0	8.3	112.6	0.3	10.1
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	0.2	0.3	2.0	0.2	0.0	0.7	0.0	4.6	13.3	2.0	6.5
LnGrp Delay(d),s/veh	41.8	0.7	1.3	46.1	0.7	0.0	47.1	0.0	55.4	160.1	39.1	53.5
LnGrp LOS	D	A	A	D	A		D		E	F	D	D
Approach Vol, veh/h		1144			823			165			528	
Approach Delay, s/veh		1.0			4.6			54.2			102.3	
Approach LOS		A			A			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	19.0	18.1	13.4	59.5	13.6	23.5	13.4	59.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	13.0	15.5	4.0	53.5	5.0	23.5	4.0	53.5
Max Q Clear Time (g_c+I1), s	17.0	12.0	6.3	2.0	3.5	17.0	2.1	2.0
Green Ext Time (p_c), s	0.0	0.1	0.0	5.3	0.2	0.5	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	25.5
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1560	47	91	914	0	28	0	176	399	76	204
Future Volume (veh/h)	3	1560	47	91	914	0	28	0	176	399	76	204
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		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	1716	1811	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	3	1696	51	99	993	0	30	0	191	434	83	222
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	33	2382	72	146	1899	805	195	0	238	215	316	240
Arrive On Green	0.04	0.97	0.97	0.18	1.00	0.00	0.12	0.00	0.14	0.14	0.17	0.17
Sat Flow, veh/h	1634	4932	148	1634	3438	1458	1587	0	1522	1587	1863	1417
Grp Volume(v), veh/h	3	1133	614	99	993	0	30	0	191	434	83	222
Grp Sat Flow(s),veh/h/ln	1634	1648	1784	1634	1719	1458	1587	0	1522	1587	1863	1417
Q Serve(g_s), s	0.2	4.4	4.4	6.7	0.0	0.0	2.0	0.0	14.4	16.0	4.6	15.5
Cycle Q Clear(g_c), s	0.2	4.4	4.4	6.7	0.0	0.0	2.0	0.0	14.4	16.0	4.6	15.5
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	1592	862	146	1899	805	195	0	238	215	316	240
V/C Ratio(X)	0.09	0.71	0.71	0.68	0.52	0.00	0.15	0.00	0.80	2.02	0.26	0.92
Avail Cap(c_a), veh/h	125	1592	862	146	1899	805	195	0	258	215	379	288
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.16	0.16	0.16	0.68	0.68	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	1.1	1.1	46.9	0.0	0.0	46.3	0.0	49.0	51.0	42.6	35.1
Incr Delay (d2), s/veh	0.2	0.5	0.8	8.4	0.7	0.0	0.4	0.0	15.5	473.4	0.4	30.8
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	0.1	1.4	1.6	3.4	0.2	0.0	0.9	0.0	7.0	35.3	2.4	8.1
LnGrp Delay(d),s/veh	55.8	1.6	1.9	55.2	0.7	0.0	46.7	0.0	64.5	524.4	43.0	65.9
LnGrp LOS	E	A	A	E	A		D		E	F	D	E
Approach Vol, veh/h		1750			1092			221			739	
Approach Delay, s/veh		1.8			5.7			62.1			332.6	
Approach LOS		A			A			E			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	20.0	22.5	14.5	61.0	18.5	24.0	6.4	69.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	18.0	7.0	55.0	10.0	22.0	7.0	55.0
Max Q Clear Time (g_c+I1), s	18.0	16.4	8.7	6.4	4.0	17.5	2.2	2.0
Green Ext Time (p_c), s	0.0	0.1	0.0	10.2	0.4	0.5	0.0	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	70.7
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1667	47	91	954	0	28	0	176	463	76	204
Future Volume (veh/h)	3	1667	47	91	954	0	28	0	176	463	76	204
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		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	1716	1811	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	3	1812	51	99	1037	0	30	0	191	503	83	222
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	33	2387	67	146	1899	805	195	0	238	215	316	240
Arrive On Green	0.04	0.97	0.97	0.18	1.00	0.00	0.12	0.00	0.14	0.14	0.17	0.17
Sat Flow, veh/h	1634	4942	139	1634	3438	1458	1587	0	1522	1587	1863	1417
Grp Volume(v), veh/h	3	1208	655	99	1037	0	30	0	191	503	83	222
Grp Sat Flow(s),veh/h/ln	1634	1648	1786	1634	1719	1458	1587	0	1522	1587	1863	1417
Q Serve(g_s), s	0.2	5.5	5.5	6.7	0.0	0.0	2.0	0.0	14.4	16.0	4.6	15.5
Cycle Q Clear(g_c), s	0.2	5.5	5.5	6.7	0.0	0.0	2.0	0.0	14.4	16.0	4.6	15.5
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	1592	863	146	1899	805	195	0	238	215	316	240
V/C Ratio(X)	0.09	0.76	0.76	0.68	0.55	0.00	0.15	0.00	0.80	2.34	0.26	0.92
Avail Cap(c_a), veh/h	125	1592	863	146	1899	805	195	0	258	215	379	288
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.66	0.66	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	1.1	1.1	46.9	0.0	0.0	46.3	0.0	49.0	51.0	42.6	35.1
Incr Delay (d2), s/veh	0.1	0.3	0.6	8.1	0.8	0.0	0.4	0.0	15.5	616.0	0.4	30.8
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	0.1	1.4	1.6	3.4	0.2	0.0	0.9	0.0	7.0	43.8	2.4	8.1
LnGrp Delay(d),s/veh	55.7	1.4	1.7	55.0	0.8	0.0	46.7	0.0	64.5	667.0	43.0	65.9
LnGrp LOS	E	A	A	D	A		D		E	F	D	E
Approach Vol, veh/h		1866			1136			221			808	
Approach Delay, s/veh		1.6			5.5			62.1			437.7	
Approach LOS		A			A			E			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	20.0	22.5	14.5	61.0	18.5	24.0	6.4	69.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	18.0	7.0	55.0	10.0	22.0	7.0	55.0
Max Q Clear Time (g_c+I1), s	18.0	16.4	8.7	7.5	4.0	17.5	2.2	2.0
Green Ext Time (p_c), s	0.0	0.1	0.0	11.4	0.4	0.5	0.0	5.8

Intersection Summary	
HCM 2010 Ctrl Delay	93.4
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1667	47	91	954	0	28	0	176	463	76	204
Future Volume (veh/h)	3	1667	47	91	954	0	28	0	176	463	76	204
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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	3	1812	51	99	1037	0	30	0	191	503	83	222
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	2	1	2
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	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	32	2310	678	147	2656	784	307	216	139	595	216	289
Arrive On Green	0.04	0.94	0.94	0.09	0.54	0.00	0.19	0.00	0.10	0.19	0.12	0.12
Sat Flow, veh/h	1634	4940	1451	1634	4940	1458	1587	1863	1395	3079	1863	2493
Grp Volume(v), veh/h	3	1812	51	99	1037	0	30	0	191	503	83	222
Grp Sat Flow(s),veh/h/ln	1634	1647	1451	1634	1647	1458	1587	1863	1395	1540	1863	1247
Q Serve(g_s), s	0.2	10.7	0.1	7.0	14.7	0.0	1.9	0.0	9.6	18.9	4.9	9.0
Cycle Q Clear(g_c), s	0.2	10.7	0.1	7.0	14.7	0.0	1.9	0.0	9.6	18.9	4.9	9.0
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	32	2310	678	147	2656	784	307	216	139	595	216	289
V/C Ratio(X)	0.09	0.78	0.08	0.68	0.39	0.00	0.10	0.00	1.38	0.85	0.38	0.77
Avail Cap(c_a), veh/h	95	2310	678	191	2656	784	307	287	192	616	373	499
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	0.81	0.81	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	2.4	0.4	52.9	16.2	0.0	39.8	0.0	35.3	46.7	49.1	38.5
Incr Delay (d2), s/veh	0.7	1.6	0.1	4.9	0.4	0.0	0.1	0.0	208.3	10.3	1.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.0	0.1	3.4	6.7	0.0	0.8	0.0	11.7	8.9	2.6	3.2
LnGrp Delay(d),s/veh	57.3	4.0	0.5	57.9	16.6	0.0	39.9	0.0	243.6	57.0	50.2	42.8
LnGrp LOS	E	A	A	E	B		D		F	E	D	D
Approach Vol, veh/h		1866			1136			221			808	
Approach Delay, s/veh		4.0			20.2			215.9			52.4	
Approach LOS		A			C			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	27.2	17.9	14.8	60.1	27.2	17.9	6.4	68.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	22.0	16.5	12.0	45.5	16.5	22.0	5.0	52.5
Max Q Clear Time (g_c+I1), s	20.9	11.6	9.0	12.7	3.9	11.0	2.2	16.7
Green Ext Time (p_c), s	0.3	0.3	0.1	20.1	1.9	0.9	0.0	21.1

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)	4	1980	63	121	1216	0	38	0	237	418	84	224
Future Volume (veh/h)	4	1980	63	121	1216	0	38	0	237	418	84	224
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		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	1716	1811	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	4	2152	68	132	1322	0	41	0	258	454	91	243
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	35	2378	75	125	1850	785	197	0	258	215	338	257
Arrive On Green	0.04	0.97	0.97	0.15	1.00	0.00	0.12	0.00	0.15	0.14	0.18	0.18
Sat Flow, veh/h	1634	4924	155	1634	3438	1458	1587	0	1523	1587	1863	1417
Grp Volume(v), veh/h	4	1439	781	132	1322	0	41	0	258	454	91	243
Grp Sat Flow(s),veh/h/ln	1634	1648	1783	1634	1719	1458	1587	0	1523	1587	1863	1417
Q Serve(g_s), s	0.3	13.7	14.2	9.0	0.0	0.0	2.7	0.0	20.0	16.0	5.0	17.0
Cycle Q Clear(g_c), s	0.3	13.7	14.2	9.0	0.0	0.0	2.7	0.0	20.0	16.0	5.0	17.0
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	35	1592	861	125	1850	785	197	0	258	215	338	257
V/C Ratio(X)	0.12	0.90	0.91	1.06	0.71	0.00	0.21	0.00	1.00	2.11	0.27	0.95
Avail Cap(c_a), veh/h	125	1592	861	125	1850	785	197	0	258	215	379	288
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.39	0.39	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	1.3	1.3	50.0	0.0	0.0	46.5	0.0	50.0	51.0	41.6	34.5
Incr Delay (d2), s/veh	0.1	0.9	1.8	67.0	0.9	0.0	0.5	0.0	55.9	514.7	0.4	36.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.4	4.3	6.3	0.2	0.0	1.2	0.0	12.4	37.8	2.6	9.3
LnGrp Delay(d),s/veh	55.6	2.2	3.0	117.1	0.9	0.0	47.0	0.0	105.9	565.7	42.0	71.4
LnGrp LOS	E	A	A	F	A		D		F	F	D	E
Approach Vol, veh/h		2224			1454			299			788	
Approach Delay, s/veh		2.6			11.5			97.8			352.8	
Approach LOS		A			B			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	20.0	24.0	13.0	61.0	18.6	25.4	6.5	67.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	18.0	7.0	55.0	10.0	22.0	7.0	55.0
Max Q Clear Time (g_c+I1), s	18.0	22.0	11.0	16.2	4.7	19.0	2.3	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	15.1	0.5	0.4	0.0	8.4

Intersection Summary	
HCM 2010 Ctrl Delay	69.2
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	2108	63	121	1266	0	38	0	237	498	84	224
Future Volume (veh/h)	4	2108	63	121	1266	0	38	0	237	498	84	224
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		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	1716	1811	1750	1716	1810	1716	1667	1810	1750	1667	1863	1667
Adj Flow Rate, veh/h	4	2291	68	132	1376	0	41	0	258	541	91	243
Adj No. of Lanes	1	3	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	5	5	2	5	2	5	2	2	5	2	5
Cap, veh/h	35	2384	70	125	1850	785	197	0	258	215	338	257
Arrive On Green	0.04	0.97	0.97	0.15	1.00	0.00	0.12	0.00	0.15	0.14	0.18	0.18
Sat Flow, veh/h	1634	4935	146	1634	3438	1458	1587	0	1523	1587	1863	1417
Grp Volume(v), veh/h	4	1527	832	132	1376	0	41	0	258	541	91	243
Grp Sat Flow(s),veh/h/ln	1634	1648	1784	1634	1719	1458	1587	0	1523	1587	1863	1417
Q Serve(g_s), s	0.3	25.3	27.4	9.0	0.0	0.0	2.7	0.0	20.0	16.0	5.0	17.0
Cycle Q Clear(g_c), s	0.3	25.3	27.4	9.0	0.0	0.0	2.7	0.0	20.0	16.0	5.0	17.0
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	35	1592	862	125	1850	785	197	0	258	215	338	257
V/C Ratio(X)	0.12	0.96	0.96	1.06	0.74	0.00	0.21	0.00	1.00	2.51	0.27	0.95
Avail Cap(c_a), veh/h	125	1592	862	125	1850	785	197	0	258	215	379	288
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.36	0.36	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	1.5	1.5	50.0	0.0	0.0	46.5	0.0	50.0	51.0	41.6	34.5
Incr Delay (d2), s/veh	0.1	2.1	4.1	64.9	1.0	0.0	0.5	0.0	55.9	694.7	0.4	36.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.4	7.9	6.3	0.3	0.0	1.2	0.0	12.4	48.5	2.6	9.3
LnGrp Delay(d),s/veh	55.6	3.6	5.6	115.1	1.0	0.0	47.0	0.0	105.9	745.7	42.0	71.4
LnGrp LOS	E	A	A	F	A		D		F	F	D	E
Approach Vol, veh/h		2363			1508			299			875	
Approach Delay, s/veh		4.4			11.0			97.8			485.3	
Approach LOS		A			B			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	20.0	24.0	13.0	61.0	18.6	25.4	6.5	67.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	18.0	7.0	55.0	10.0	22.0	7.0	55.0
Max Q Clear Time (g_c+I1), s	18.0	22.0	11.0	29.4	4.7	19.0	2.3	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	13.9	0.5	0.4	0.0	9.0

Intersection Summary	
HCM 2010 Ctrl Delay	95.3
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	2108	63	121	1266	0	38	0	237	498	84	224
Future Volume (veh/h)	4	2108	63	121	1266	0	38	0	237	498	84	224
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		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	1716	1810	1716	1716	1810	1716	1667	1863	1667	1667	1863	1667
Adj Flow Rate, veh/h	4	2291	68	132	1376	0	41	0	258	541	91	243
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	2	1	2
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	2	2	5	2	5	2	5	5	2	5
Cap, veh/h	34	2185	641	183	2636	778	300	209	133	616	229	307
Arrive On Green	0.02	0.44	0.44	0.04	0.18	0.00	0.19	0.00	0.10	0.20	0.12	0.12
Sat Flow, veh/h	1634	4940	1450	1634	4940	1458	1587	1863	1394	3079	1863	2493
Grp Volume(v), veh/h	4	2291	68	132	1376	0	41	0	258	541	91	243
Grp Sat Flow(s),veh/h/ln	1634	1647	1450	1634	1647	1458	1587	1863	1394	1540	1863	1247
Q Serve(g_s), s	0.3	53.1	1.6	9.6	30.3	0.0	2.6	0.0	9.0	20.5	5.4	9.8
Cycle Q Clear(g_c), s	0.3	53.1	1.6	9.6	30.3	0.0	2.6	0.0	9.0	20.5	5.4	9.8
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	34	2185	641	183	2636	778	300	209	133	616	229	307
V/C Ratio(X)	0.12	1.05	0.11	0.72	0.52	0.00	0.14	0.00	1.94	0.88	0.40	0.79
Avail Cap(c_a), veh/h	95	2185	641	191	2636	778	300	287	192	616	373	499
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.67	0.67	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	33.5	4.5	55.9	35.5	0.0	40.5	0.0	33.3	46.6	48.5	38.0
Incr Delay (d2), s/veh	0.1	23.4	0.0	8.3	0.5	0.0	0.2	0.0	447.7	13.7	1.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	28.8	0.6	4.8	14.0	0.0	1.1	0.0	20.0	9.9	2.9	3.6
LnGrp Delay(d),s/veh	57.8	56.8	4.6	64.2	36.0	0.0	40.7	0.0	481.0	60.3	49.6	42.6
LnGrp LOS	E	F	A	E	D		D		F	E	D	D
Approach Vol, veh/h		2363			1508			299			875	
Approach Delay, s/veh		55.3			38.5			420.7			54.2	
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	28.0	17.5	17.5	57.1	26.7	18.8	6.5	68.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	22.0	16.5	12.0	45.5	16.5	22.0	5.0	52.5
Max Q Clear Time (g_c+I1), s	22.5	11.0	11.6	55.1	4.6	11.8	2.3	32.3
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	2.0	1.0	0.0	17.5

Intersection Summary	
HCM 2010 Ctrl Delay	71.8
HCM 2010 LOS	E

Intersection 11
Quinn Rd/SR 99 NB Ramp & Merle Haggard Dr/7th Standard Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	851	208	0	790	30	392	56	74	120	0	231
Future Volume (veh/h)	117	851	208	0	790	30	392	56	74	120	0	231
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	127	925	226	0	859	33	426	61	80	130	0	251
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	656	2382	863	0	1239	362	645	316	147	230	0	0
Arrive On Green	0.40	0.69	0.69	0.00	0.50	0.50	0.21	0.10	0.10	0.07	0.00	0.01
Sat Flow, veh/h	1634	3438	1245	0	5152	1458	3079	3034	1410	3109	130	
Grp Volume(v), veh/h	127	925	226	0	859	33	426	61	80	130	44.0	
Grp Sat Flow(s),veh/h/ln	1634	1719	1245	0	1663	1458	1540	1517	1410	1554	D	
Q Serve(g_s), s	4.7	10.5	6.3	0.0	12.3	1.1	11.8	1.7	5.0	3.8		
Cycle Q Clear(g_c), s	4.7	10.5	6.3	0.0	12.3	1.1	11.8	1.7	5.0	3.8		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	656	2382	863	0	1239	362	645	316	147	230		
V/C Ratio(X)	0.19	0.39	0.26	0.00	0.69	0.09	0.66	0.19	0.55	0.56		
Avail Cap(c_a), veh/h	656	2382	863	0	1239	362	645	1249	581	254		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.59	0.59	0.59	0.00	0.95	0.95	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.1	6.0	5.4	0.0	20.7	17.9	33.7	38.1	39.6	41.6		
Incr Delay (d2), s/veh	0.1	0.3	0.4	0.0	3.0	0.5	2.5	0.3	3.1	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		
%ile BackOfQ(50%),veh/ln	2.1	5.0	7.7	0.0	5.8	1.3	5.3	0.7	2.1	1.7		
LnGrp Delay(d),s/veh	18.1	6.3	5.8	0.0	23.7	18.3	36.2	38.4	42.7	44.0		
LnGrp LOS	B	A	A		C	B	D	D	D	D		
Approach Vol, veh/h		1278			892			567				
Approach Delay, s/veh		7.4			23.5			37.4				
Approach LOS		A			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	10.9	13.7		68.4	24.6		41.3	27.1
Change Period (Y+Rc), s	* 5.3	4.2		6.0	5.3		6.0	6.0
Max Green Setting (Gmax), s	* 6.3	38.1		33.1	15.8		6.0	21.1
Max Q Clear Time (g_c+I1), s	5.8	7.0		12.5	13.8		6.7	14.3
Green Ext Time (p_c), s	0.0	0.5		5.7	0.5		0.0	2.3

Intersection Summary

HCM 2010 Ctrl Delay	20.0
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	917	208	0	936	35	392	76	74	177	0	270
Future Volume (veh/h)	134	917	208	0	936	35	392	76	74	177	0	270
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	146	997	226	0	1017	38	426	83	80	192	0	293
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	577	2448	887	0	1622	474	651	296	137	278	0	0
Arrive On Green	0.71	1.00	1.00	0.00	0.65	0.65	0.21	0.10	0.10	0.09	0.00	0.01
Sat Flow, veh/h	1634	3438	1246	0	5152	1458	3079	3034	1408	3109	192	
Grp Volume(v), veh/h	146	997	226	0	1017	38	426	83	80	192	57.0	
Grp Sat Flow(s),veh/h/ln	1634	1719	1246	0	1663	1458	1540	1517	1408	1554	E	
Q Serve(g_s), s	3.8	0.0	0.0	0.0	14.3	1.1	15.1	3.0	6.5	7.1		
Cycle Q Clear(g_c), s	3.8	0.0	0.0	0.0	14.3	1.1	15.1	3.0	6.5	7.1		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	577	2448	887	0	1622	474	651	296	137	278		
V/C Ratio(X)	0.25	0.41	0.25	0.00	0.63	0.08	0.65	0.28	0.58	0.69		
Avail Cap(c_a), veh/h	577	2448	887	0	1622	474	651	976	453	340		
HCM Platoon Ratio	2.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.55	0.55	0.55	0.00	0.95	0.95	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.8	0.0	0.0	0.0	16.5	14.2	42.9	49.8	51.4	52.6		
Incr Delay (d2), s/veh	0.1	0.3	0.4	0.0	1.7	0.3	2.4	0.5	3.9	4.5		
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		
%ile BackOfQ(50%),veh/ln	1.7	0.1	7.6	0.0	6.6	1.7	6.6	1.3	2.7	3.2		
LnGrp Delay(d),s/veh	12.0	0.3	0.4	0.0	18.3	14.5	45.3	50.3	55.2	57.0		
LnGrp LOS	B	A	A		B	B	D	D	E	E		
Approach Vol, veh/h		1369			1055			589				
Approach Delay, s/veh		1.5			18.2			47.4				
Approach LOS		A			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	14.6	15.6		88.7	30.3		46.0	42.7
Change Period (Y+Rc), s	* 5.3	4.2		6.0	5.3		6.0	6.0
Max Green Setting (Gmax), s	* 12	38.1		53.7	20.8		11.0	36.7
Max Q Clear Time (g_c+I1), s	9.1	8.5		2.0	17.1		5.8	16.3
Green Ext Time (p_c), s	0.2	0.6		7.2	1.0		2.8	4.7

Intersection Summary

HCM 2010 Ctrl Delay	18.8
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	1604	280	0	1560	41	527	75	123	164	0	310
Future Volume (veh/h)	157	1604	280	0	1560	41	527	75	123	164	0	310
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	171	1743	304	0	1696	45	573	82	134	178	0	337
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	428	2410	873	0	2024	592	687	402	187	207	0	0
Arrive On Green	0.52	1.00	1.00	0.00	0.81	0.81	0.22	0.13	0.13	0.07	0.00	0.01
Sat Flow, veh/h	1634	3438	1246	0	5152	1458	3079	3034	1414	3109	178	
Grp Volume(v), veh/h	171	1743	304	0	1696	45	573	82	134	178	83.9	
Grp Sat Flow(s),veh/h/ln	1634	1719	1246	0	1663	1458	1540	1517	1414	1554	F	
Q Serve(g_s), s	7.6	0.0	0.0	0.0	24.0	0.7	21.3	2.9	10.9	6.8		
Cycle Q Clear(g_c), s	7.6	0.0	0.0	0.0	24.0	0.7	21.3	2.9	10.9	6.8		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	428	2410	873	0	2024	592	687	402	187	207		
V/C Ratio(X)	0.40	0.72	0.35	0.00	0.84	0.08	0.83	0.20	0.72	0.86		
Avail Cap(c_a), veh/h	428	2410	873	0	2024	592	687	968	451	207		
HCM Platoon Ratio	2.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.09	0.09	0.09	0.00	0.79	0.79	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	22.9	0.0	0.0	0.0	9.0	6.8	44.5	46.4	49.9	55.4		
Incr Delay (d2), s/veh	0.1	0.2	0.1	0.0	3.5	0.2	8.7	0.2	5.0	28.4		
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		
%ile BackOfQ(50%),veh/ln	3.3	0.1	10.2	0.0	11.0	1.8	9.9	1.2	4.5	3.7		
LnGrp Delay(d),s/veh	23.0	0.2	0.1	0.0	12.4	7.0	53.2	46.7	54.9	83.9		
LnGrp LOS	C	A	A		B	A	D	D	D	F		
Approach Vol, veh/h		2218			1741			789				
Approach Delay, s/veh		1.9			12.3			52.8				
Approach LOS		A			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	12.0	19.9		88.1	31.9		35.4	52.7
Change Period (Y+Rc), s	* 5.3	4.2		6.0	5.3		6.0	6.0
Max Green Setting (Gmax), s	* 6.7	38.1		59.7	20.8		7.0	46.7
Max Q Clear Time (g_c+I1), s	8.8	12.9		2.0	23.3		9.6	26.0
Green Ext Time (p_c), s	0.0	0.8		17.6	0.0		0.0	8.9

Intersection Summary

HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	1670	280	0	1706	46	527	95	123	221	0	349
Future Volume (veh/h)	174	1670	280	0	1706	46	527	95	123	221	0	349
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	189	1815	304	0	1854	50	573	103	134	240	0	379
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	123	2379	862	0	2911	851	715	403	188	233	0	0
Arrive On Green	0.15	1.00	1.00	0.00	1.00	1.00	0.23	0.13	0.13	0.08	0.00	0.01
Sat Flow, veh/h	1634	3438	1245	0	5152	1458	3079	3034	1414	3109	240	
Grp Volume(v), veh/h	189	1815	304	0	1854	50	573	103	134	240	122.3	
Grp Sat Flow(s),veh/h/ln	1634	1719	1245	0	1663	1458	1540	1517	1414	1554	F	
Q Serve(g_s), s	9.0	0.0	0.0	0.0	0.0	0.0	21.1	3.7	10.9	9.0		
Cycle Q Clear(g_c), s	9.0	0.0	0.0	0.0	0.0	0.0	21.1	3.7	10.9	9.0		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	123	2379	862	0	2911	851	715	403	188	233		
V/C Ratio(X)	1.54	0.76	0.35	0.00	0.64	0.06	0.80	0.26	0.71	1.03		
Avail Cap(c_a), veh/h	123	2379	862	0	2911	851	715	968	451	233		
HCM Platoon Ratio	2.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.09	0.09	0.09	0.00	0.68	0.68	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	51.0	0.0	0.0	0.0	0.0	0.0	43.5	46.7	49.8	55.5		
Incr Delay (d2), s/veh	247.7	0.2	0.1	0.0	0.7	0.1	6.5	0.3	4.9	66.7		
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		
%ile BackOfQ(50%),veh/ln	12.4	0.1	10.2	0.0	0.2	1.7	9.6	1.5	4.5	6.0		
LnGrp Delay(d),s/veh	298.7	0.2	0.1	0.0	0.7	0.1	50.0	47.0	54.8	122.3		
LnGrp LOS	F	A	A		A	A	D	D	D	F		
Approach Vol, veh/h		2308			1904			810				
Approach Delay, s/veh		24.6			0.7			50.4				
Approach LOS		C			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	13.0	20.0		87.0	33.0		13.0	74.0
Change Period (Y+Rc), s	* 5.3	4.2		6.0	5.3		6.0	6.0
Max Green Setting (Gmax), s	* 7.7	38.1		58.7	18.8		7.0	45.7
Max Q Clear Time (g_c+I1), s	11.0	12.9		2.0	23.1		11.0	2.0
Green Ext Time (p_c), s	0.0	0.9		43.3	0.0		0.0	35.3

Intersection Summary

HCM 2010 Ctrl Delay	24.4
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	1670	280	0	1706	46	527	95	123	221	0	349
Future Volume (veh/h)	174	1670	280	0	1706	46	527	95	123	221	0	349
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	189	1815	304	0	1854	50	573	103	134	240	0	379
Adj No. of Lanes	1	3	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	123	3418	862	0	2911	851	715	403	188	233	0	0
Arrive On Green	0.05	0.46	0.46	0.00	1.00	1.00	0.23	0.13	0.13	0.08	0.00	0.01
Sat Flow, veh/h	1634	4940	1245	0	5152	1458	3079	3034	1414	3109	240	
Grp Volume(v), veh/h	189	1815	304	0	1854	50	573	103	134	240	122.3	
Grp Sat Flow(s),veh/h/ln	1634	1647	1245	0	1663	1458	1540	1517	1414	1554	F	
Q Serve(g_s), s	9.0	31.4	18.8	0.0	0.0	0.0	21.1	3.7	10.9	9.0		
Cycle Q Clear(g_c), s	9.0	31.4	18.8	0.0	0.0	0.0	21.1	3.7	10.9	9.0		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	123	3418	862	0	2911	851	715	403	188	233		
V/C Ratio(X)	1.54	0.53	0.35	0.00	0.64	0.06	0.80	0.26	0.71	1.03		
Avail Cap(c_a), veh/h	123	3418	862	0	2911	851	715	968	451	233		
HCM Platoon Ratio	0.67	0.67	0.67	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.09	0.09	0.09	0.00	0.68	0.68	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	57.0	18.3	14.9	0.0	0.0	0.0	43.5	46.7	49.8	55.5		
Incr Delay (d2), s/veh	247.7	0.1	0.1	0.0	0.7	0.1	6.5	0.3	4.9	66.7		
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		
%ile BackOfQ(50%),veh/ln	12.5	14.3	15.4	0.0	0.2	1.7	9.6	1.5	4.5	6.0		
LnGrp Delay(d),s/veh	304.7	18.4	15.1	0.0	0.7	0.1	50.0	47.0	54.8	122.3		
LnGrp LOS	F	B	B		A	A	D	D	D	F		
Approach Vol, veh/h		2308			1904			810				
Approach Delay, s/veh		41.4			0.7			50.4				
Approach LOS		D			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	13.0	20.0		87.0	33.0		13.0	74.0
Change Period (Y+Rc), s	* 5.3	4.2		6.0	5.3		6.0	6.0
Max Green Setting (Gmax), s	* 7.7	38.1		58.7	18.8		7.0	45.7
Max Q Clear Time (g_c+I1), s	11.0	12.9		33.4	23.1		11.0	2.0
Green Ext Time (p_c), s	0.0	0.9		22.0	0.0		0.0	34.8

Intersection Summary

HCM 2010 Ctrl Delay	31.8
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	1997	376	0	1776	49	708	101	158	220	0	417
Future Volume (veh/h)	211	1997	376	0	1776	49	708	101	158	220	0	417
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	229	2171	409	0	1930	53	770	110	172	239	0	453
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	386	2323	841	0	2024	592	766	479	224	207	0	0
Arrive On Green	0.47	1.00	1.00	0.00	0.81	0.81	0.25	0.16	0.16	0.07	0.00	0.01
Sat Flow, veh/h	1634	3438	1245	0	5152	1458	3079	3034	1417	3109	239	
Grp Volume(v), veh/h	229	2171	409	0	1930	53	770	110	172	239	165.9	
Grp Sat Flow(s),veh/h/ln	1634	1719	1245	0	1663	1458	1540	1517	1417	1554	F	
Q Serve(g_s), s	12.3	0.0	0.0	0.0	38.7	0.9	29.8	3.8	14.0	8.0		
Cycle Q Clear(g_c), s	12.3	0.0	0.0	0.0	38.7	0.9	29.8	3.8	14.0	8.0		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	386	2323	841	0	2024	592	766	479	224	207		
V/C Ratio(X)	0.59	0.93	0.49	0.00	0.95	0.09	1.01	0.23	0.77	1.15		
Avail Cap(c_a), veh/h	386	2323	841	0	2024	592	766	968	452	207		
HCM Platoon Ratio	2.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.09	0.09	0.09	0.00	0.66	0.66	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	27.4	0.0	0.0	0.0	10.4	6.8	45.1	44.2	48.4	56.0		
Incr Delay (d2), s/veh	0.2	1.0	0.2	0.0	8.5	0.2	34.0	0.2	5.5	109.9		
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		
%ile BackOfQ(50%),veh/ln	5.5	0.3	13.7	0.0	18.0	2.1	16.3	1.6	5.8	6.6		
LnGrp Delay(d),s/veh	27.6	1.0	0.2	0.0	18.9	7.0	79.0	44.4	54.0	165.9		
LnGrp LOS	C	A	A		B	A	F	D	D	F		
Approach Vol, veh/h		2809			1983			1052				
Approach Delay, s/veh		3.0			18.6			71.3				
Approach LOS		A			B			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	12.0	22.9		85.1	34.9		32.4	52.7
Change Period (Y+Rc), s	* 5.3	4.2		6.0	5.3		6.0	6.0
Max Green Setting (Gmax), s	* 6.7	38.1		59.7	20.8		7.0	46.7
Max Q Clear Time (g_c+I1), s	10.0	16.0		2.0	31.8		14.3	40.7
Green Ext Time (p_c), s	0.0	1.0		28.8	0.0		0.0	4.4

Intersection Summary

HCM 2010 Ctrl Delay	26.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	232	2078	376	0	1956	55	708	127	158	290	0	464
Future Volume (veh/h)	232	2078	376	0	1956	55	708	127	158	290	0	464
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		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	1716	1810	1471	0	1827	1716	1810	1597	1683	1827	0	1667
Adj Flow Rate, veh/h	252	2259	409	0	2126	60	770	138	172	315	0	504
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	385	2291	830	0	1983	580	862	481	225	253	0	0
Arrive On Green	0.47	1.00	1.00	0.00	0.80	0.80	0.26	0.16	0.16	0.07	0.00	0.01
Sat Flow, veh/h	1634	3438	1245	0	5152	1458	3343	3034	1417	3375	315	
Grp Volume(v), veh/h	252	2259	409	0	2126	60	770	138	172	315	194.1	
Grp Sat Flow(s),veh/h/ln	1634	1719	1245	0	1663	1458	1672	1517	1417	1688	F	
Q Serve(g_s), s	14.2	0.0	0.0	0.0	47.7	1.1	26.7	4.8	14.0	9.0		
Cycle Q Clear(g_c), s	14.2	0.0	0.0	0.0	47.7	1.1	26.7	4.8	14.0	9.0		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	385	2291	830	0	1983	580	862	481	225	253		
V/C Ratio(X)	0.65	0.99	0.49	0.00	1.07	0.10	0.89	0.29	0.77	1.24		
Avail Cap(c_a), veh/h	385	2291	830	0	1983	580	862	968	452	253		
HCM Platoon Ratio	2.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.09	0.09	0.09	0.00	0.46	0.46	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	28.0	0.0	0.0	0.0	12.3	7.5	42.9	44.5	48.4	55.5		
Incr Delay (d2), s/veh	0.4	3.3	0.2	0.0	37.9	0.2	11.7	0.3	5.4	138.6		
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		
%ile BackOfQ(50%),veh/ln	6.3	1.0	13.7	0.0	27.5	2.4	13.7	2.0	5.8	9.1		
LnGrp Delay(d),s/veh	28.4	3.3	0.2	0.0	50.2	7.7	54.7	44.8	53.7	194.1		
LnGrp LOS	C	A	A		F	A	D	D	D	F		
Approach Vol, veh/h		2920			2186			1080				
Approach Delay, s/veh		5.0			49.0			53.3				
Approach LOS		A			D			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	13.0	23.0		84.0	36.0		32.3	51.7
Change Period (Y+Rc), s	* 5.3	4.2		6.0	5.3		6.0	6.0
Max Green Setting (Gmax), s	* 7.7	38.1		58.7	18.8		7.0	45.7
Max Q Clear Time (g_c+I1), s	11.0	16.0		2.0	28.7		16.2	49.7
Green Ext Time (p_c), s	0.0	1.2		30.8	0.0		0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	37.0
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	232	2078	376	0	1956	55	708	127	158	290	0	464
Future Volume (veh/h)	232	2078	376	0	1956	55	708	127	158	290	0	464
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	252	2259	409	0	2126	60	770	138	172	315	0	504
Adj No. of Lanes	1	3	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	123	3292	830	0	2784	814	794	481	225	233	0	0
Arrive On Green	0.05	0.45	0.45	0.00	1.00	1.00	0.26	0.16	0.16	0.07	0.00	0.01
Sat Flow, veh/h	1634	4940	1245	0	5152	1458	3079	3034	1417	3109	315	
Grp Volume(v), veh/h	252	2259	409	0	2126	60	770	138	172	315	239.0	
Grp Sat Flow(s),veh/h/ln	1634	1647	1245	0	1663	1458	1540	1517	1417	1554	F	
Q Serve(g_s), s	9.0	43.8	28.0	0.0	0.0	0.0	29.7	4.8	14.0	9.0		
Cycle Q Clear(g_c), s	9.0	43.8	28.0	0.0	0.0	0.0	29.7	4.8	14.0	9.0		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	123	3292	830	0	2784	814	794	481	225	233		
V/C Ratio(X)	2.06	0.69	0.49	0.00	0.76	0.07	0.97	0.29	0.77	1.35		
Avail Cap(c_a), veh/h	123	3292	830	0	2784	814	794	968	452	233		
HCM Platoon Ratio	0.67	0.67	0.67	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.09	0.09	0.09	0.00	0.46	0.46	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	57.0	23.2	18.8	0.0	0.0	0.0	44.1	44.5	48.4	55.5		
Incr Delay (d2), s/veh	477.9	0.1	0.2	0.0	0.9	0.1	24.7	0.3	5.4	183.5		
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		
%ile BackOfQ(50%),veh/ln	20.3	20.0	21.0	0.0	0.2	2.0	15.3	2.0	5.8	9.8		
LnGrp Delay(d),s/veh	534.9	23.3	19.0	0.0	0.9	0.1	68.8	44.8	53.7	239.0		
LnGrp LOS	F	C	B		A	A	E	D	D	F		
Approach Vol, veh/h		2920			2186			1080				
Approach Delay, s/veh		66.9			0.9			63.4				
Approach LOS		E			A			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	13.0	23.0		84.0	36.0		13.0	71.0
Change Period (Y+Rc), s	* 5.3	4.2		6.0	5.3		6.0	6.0
Max Green Setting (Gmax), s	* 7.7	38.1		58.7	18.8		7.0	45.7
Max Q Clear Time (g_c+I1), s	11.0	16.0		45.8	31.7		11.0	2.0
Green Ext Time (p_c), s	0.0	1.2		12.5	0.0		0.0	39.9

Intersection Summary

HCM 2010 Ctrl Delay	52.4
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	723	353	0	574	44	401	106	70	53	0	81
Future Volume (veh/h)	177	723	353	0	574	44	401	106	70	53	0	81
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	192	786	384	0	624	48	436	115	76	58	0	88
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	771	2551	925	0	1165	341	570	324	150	131	0	0
Arrive On Green	0.94	1.00	1.00	0.00	0.08	0.08	0.19	0.11	0.11	0.04	0.00	0.01
Sat Flow, veh/h	1634	3438	1246	0	5152	1458	3079	3034	1410	3109	58	
Grp Volume(v), veh/h	192	786	384	0	624	48	436	115	76	58	53.8	
Grp Sat Flow(s),veh/h/ln	1634	1719	1246	0	1663	1458	1540	1517	1410	1554	D	
Q Serve(g_s), s	0.9	0.0	0.0	0.0	13.2	2.7	14.8	3.9	5.6	2.0		
Cycle Q Clear(g_c), s	0.9	0.0	0.0	0.0	13.2	2.7	14.8	3.9	5.6	2.0		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	771	2551	925	0	1165	341	570	324	150	131		
V/C Ratio(X)	0.25	0.31	0.42	0.00	0.54	0.14	0.76	0.36	0.51	0.44		
Avail Cap(c_a), veh/h	771	2551	925	0	1165	341	570	1056	491	170		
HCM Platoon Ratio	2.00	2.00	2.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.91	0.91	0.91	0.00	0.98	0.98	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	1.6	0.0	0.0	0.0	45.0	26.1	42.5	45.6	46.4	51.4		
Incr Delay (d2), s/veh	0.2	0.3	1.3	0.0	1.7	0.8	6.1	0.7	2.6	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		
%ile BackOfQ(50%),veh/ln	0.4	0.1	12.1	0.0	6.3	2.6	6.8	1.7	2.3	0.9		
LnGrp Delay(d),s/veh	1.8	0.3	1.3	0.0	46.7	26.9	48.7	46.3	49.0	53.8		
LnGrp LOS	A	A	A		D	C	D	D	D	D		
Approach Vol, veh/h		1362			672			627				
Approach Delay, s/veh		0.8			45.3			48.3				
Approach LOS		A			D			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	8.6	15.7		85.6	24.4		55.9	29.7
Change Period (Y+Rc), s	5.3	* 4.2		6.0	4.2		6.0	6.0
Max Green Setting (Gmax), s	4.7	* 38		51.7	19.8		22.0	23.7
Max Q Clear Time (g_c+I1), s	4.0	7.6		2.0	16.8		2.9	15.2
Green Ext Time (p_c), s	0.0	1.9		6.9	0.9		5.9	2.0

Intersection Summary

HCM 2010 Ctrl Delay	23.9
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	859	353	0	625	54	401	147	70	73	0	95
Future Volume (veh/h)	212	859	353	0	625	54	401	147	70	73	0	95
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	230	934	384	0	679	59	436	160	76	79	0	103
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	764	2537	919	0	1165	341	583	310	144	158	0	0
Arrive On Green	0.94	1.00	1.00	0.00	0.08	0.08	0.19	0.10	0.10	0.05	0.00	0.01
Sat Flow, veh/h	1634	3438	1246	0	5152	1458	3079	3034	1409	3109	79	
Grp Volume(v), veh/h	230	934	384	0	679	59	436	160	76	79	53.3	
Grp Sat Flow(s),veh/h/ln	1634	1719	1246	0	1663	1458	1540	1517	1409	1554	D	
Q Serve(g_s), s	1.4	0.0	0.0	0.0	14.5	3.3	14.7	5.5	5.6	2.7		
Cycle Q Clear(g_c), s	1.4	0.0	0.0	0.0	14.5	3.3	14.7	5.5	5.6	2.7		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	764	2537	919	0	1165	341	583	310	144	158		
V/C Ratio(X)	0.30	0.37	0.42	0.00	0.58	0.17	0.75	0.52	0.53	0.50		
Avail Cap(c_a), veh/h	764	2537	919	0	1165	341	583	1056	491	170		
HCM Platoon Ratio	2.00	2.00	2.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.85	0.85	0.85	0.00	0.98	0.98	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	1.9	0.0	0.0	0.0	45.6	25.6	42.1	46.8	46.9	50.8		
Incr Delay (d2), s/veh	0.2	0.4	1.2	0.0	2.1	1.1	5.3	1.3	3.0	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		
%ile BackOfQ(50%),veh/ln	0.5	0.1	12.0	0.0	6.9	3.2	6.7	2.4	2.3	1.2		
LnGrp Delay(d),s/veh	2.1	0.4	1.2	0.0	47.7	26.6	47.4	48.1	49.8	53.3		
LnGrp LOS	A	A	A		D	C	D	D	D	D		
Approach Vol, veh/h		1548			738			672				
Approach Delay, s/veh		0.8			46.0			47.8				
Approach LOS		A			D			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	9.6	15.2		85.2	24.8		55.5	29.7
Change Period (Y+Rc), s	5.3	* 4.2		6.0	4.2		6.0	6.0
Max Green Setting (Gmax), s	4.7	* 38		51.7	19.8		22.0	23.7
Max Q Clear Time (g_c+I1), s	4.7	7.6		2.0	16.7		3.4	16.5
Green Ext Time (p_c), s	0.0	1.3		8.4	0.9		6.8	2.0

Intersection Summary

HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	1524	474	0	862	56	539	142	119	75	0	109
Future Volume (veh/h)	238	1524	474	0	862	56	539	142	119	75	0	109
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	259	1657	515	0	937	61	586	154	129	82	0	118
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	689	2481	899	0	1327	388	649	400	186	140	0	0
Arrive On Green	0.84	1.00	1.00	0.00	0.09	0.09	0.21	0.13	0.13	0.04	0.00	0.01
Sat Flow, veh/h	1634	3438	1246	0	5152	1458	3079	3034	1414	3109	82	
Grp Volume(v), veh/h	259	1657	515	0	937	61	586	154	129	82	61.5	
Grp Sat Flow(s),veh/h/ln	1634	1719	1246	0	1663	1458	1540	1517	1414	1554	E	
Q Serve(g_s), s	4.3	0.0	0.0	0.0	21.6	4.6	21.9	5.5	10.3	3.1		
Cycle Q Clear(g_c), s	4.3	0.0	0.0	0.0	21.6	4.6	21.9	5.5	10.3	3.1		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	689	2481	899	0	1327	388	649	400	186	140		
V/C Ratio(X)	0.38	0.67	0.57	0.00	0.71	0.16	0.90	0.39	0.69	0.59		
Avail Cap(c_a), veh/h	689	2481	899	0	1327	388	658	985	459	140		
HCM Platoon Ratio	2.00	2.00	2.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.31	0.31	0.31	0.00	0.94	0.94	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.7	0.0	0.0	0.0	49.3	41.6	45.4	46.9	48.9	55.3		
Incr Delay (d2), s/veh	0.1	0.4	0.8	0.0	3.0	0.8	15.8	0.6	4.5	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	0.0		
%ile BackOfQ(50%),veh/ln	1.9	0.2	17.1	0.0	10.3	3.9	10.7	2.3	4.2	1.4		
LnGrp Delay(d),s/veh	5.8	0.4	0.8	0.0	52.3	42.4	61.2	47.5	53.5	61.5		
LnGrp LOS	A	A	A		D	D	E	D	D	E		
Approach Vol, veh/h		2431			998			869				
Approach Delay, s/veh		1.1			51.7			57.6				
Approach LOS		A			D			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	9.3	19.6		89.1	28.9		53.7	35.4
Change Period (Y+Rc), s	* 5.3	4.2		6.0	* 4.2		6.0	6.0
Max Green Setting (Gmax), s	* 4	38.1		60.4	* 25		25.0	29.4
Max Q Clear Time (g_c+I1), s	5.1	12.3		2.0	23.9		6.3	23.6
Green Ext Time (p_c), s	0.0	1.1		20.2	0.3		11.9	2.3

Intersection Summary

HCM 2010 Ctrl Delay	25.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	1660	474	0	913	66	539	183	119	95	0	123
Future Volume (veh/h)	273	1660	474	0	913	66	539	183	119	95	0	123
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	297	1804	515	0	992	72	586	199	129	103	0	134
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	687	2476	897	0	1327	388	653	404	188	140	0	0
Arrive On Green	0.84	1.00	1.00	0.00	0.09	0.09	0.21	0.13	0.13	0.04	0.00	0.01
Sat Flow, veh/h	1634	3438	1246	0	5152	1458	3079	3034	1414	3109	103	
Grp Volume(v), veh/h	297	1804	515	0	992	72	586	199	129	103	74.1	
Grp Sat Flow(s),veh/h/ln	1634	1719	1246	0	1663	1458	1540	1517	1414	1554	E	
Q Serve(g_s), s	5.4	0.0	0.0	0.0	22.9	5.4	21.9	7.2	10.3	3.9		
Cycle Q Clear(g_c), s	5.4	0.0	0.0	0.0	22.9	5.4	21.9	7.2	10.3	3.9		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	687	2476	897	0	1327	388	653	404	188	140		
V/C Ratio(X)	0.43	0.73	0.57	0.00	0.75	0.19	0.90	0.49	0.68	0.74		
Avail Cap(c_a), veh/h	687	2476	897	0	1327	388	658	985	459	140		
HCM Platoon Ratio	2.00	2.00	2.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.09	0.09	0.09	0.00	0.93	0.93	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.9	0.0	0.0	0.0	49.9	42.0	45.2	47.4	48.8	55.7		
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	3.6	1.0	15.1	0.9	4.4	18.4		
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		
%ile BackOfQ(50%),veh/ln	2.3	0.1	16.9	0.0	11.0	4.6	10.6	3.1	4.2	2.0		
LnGrp Delay(d),s/veh	5.9	0.2	0.2	0.0	53.6	42.9	60.4	48.4	53.1	74.1		
LnGrp LOS	A	A	A		D	D	E	D	D	E		
Approach Vol, veh/h		2616			1064			914				
Approach Delay, s/veh		0.8			52.9			56.7				
Approach LOS		A			D			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	9.3	19.7		89.0	29.0		53.6	35.4
Change Period (Y+Rc), s	* 5.3	4.2		6.0	* 4.2		6.0	6.0
Max Green Setting (Gmax), s	* 4	38.1		60.4	* 25		25.0	29.4
Max Q Clear Time (g_c+I1), s	5.9	12.3		2.0	23.9		7.4	24.9
Green Ext Time (p_c), s	0.0	1.3		23.6	0.3		12.3	2.0

Intersection Summary

HCM 2010 Ctrl Delay	25.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	1660	474	0	913	66	539	183	119	95	0	123
Future Volume (veh/h)	273	1660	474	0	913	66	539	183	119	95	0	123
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	297	1804	515	0	992	72	586	199	129	103	0	134
Adj No. of Lanes	1	3	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	123	3501	883	0	2994	875	664	402	187	183	0	0
Arrive On Green	0.02	0.23	0.23	0.00	1.00	1.00	0.22	0.13	0.13	0.06	0.00	0.01
Sat Flow, veh/h	1634	4940	1246	0	5152	1458	3079	3034	1414	3109	103	
Grp Volume(v), veh/h	297	1804	515	0	992	72	586	199	129	103	57.7	
Grp Sat Flow(s),veh/h/ln	1634	1647	1246	0	1663	1458	1540	1517	1414	1554	E	
Q Serve(g_s), s	9.0	38.2	44.0	0.0	0.0	0.0	22.1	7.3	10.4	3.9		
Cycle Q Clear(g_c), s	9.0	38.2	44.0	0.0	0.0	0.0	22.1	7.3	10.4	3.9		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	123	3501	883	0	2994	875	664	402	187	183		
V/C Ratio(X)	2.42	0.52	0.58	0.00	0.33	0.08	0.88	0.49	0.69	0.56		
Avail Cap(c_a), veh/h	123	3501	883	0	2994	875	664	968	451	233		
HCM Platoon Ratio	0.33	0.33	0.33	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.52	0.52	0.52	0.00	0.94	0.94	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	58.5	28.0	30.3	0.0	0.0	0.0	45.6	48.3	49.7	55.0		
Incr Delay (d2), s/veh	653.4	0.3	1.5	0.0	0.3	0.2	13.3	0.9	4.4	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		
%ile BackOfQ(50%),veh/ln	26.3	17.6	30.3	0.0	0.1	2.4	10.7	3.1	4.3	1.7		
LnGrp Delay(d),s/veh	711.9	28.3	31.7	0.0	0.3	0.2	58.9	49.3	54.1	57.7		
LnGrp LOS	F	C	C		A	A	E	D	D	E		

Approach Vol, veh/h		2616			1064			914				
Approach Delay, s/veh		106.6			0.3			56.1				
Approach LOS		F			A			E				

Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5		7	8				
Phs Duration (G+Y+Rc), s	11.1	19.9		89.0	31.0		13.0	76.0				
Change Period (Y+Rc), s	* 5.3	4.2		6.0	5.3		6.0	6.0				
Max Green Setting (Gmax), s	* 7.7	38.1		58.7	18.8		7.0	45.7				
Max Q Clear Time (g_c+I1), s	5.9	12.4		46.0	24.1		11.0	2.0				
Green Ext Time (p_c), s	0.1	1.3		10.9	0.0		0.0	28.6				

Intersection Summary

HCM 2010 Ctrl Delay			71.6									
HCM 2010 LOS			E									

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	1858	638	0	1020	68	724	191	151	100	0	146
Future Volume (veh/h)	320	1858	638	0	1020	68	724	191	151	100	0	146
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	348	2020	693	0	1109	74	787	208	164	109	0	159
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	649	2398	869	0	1327	388	723	473	221	140	0	0
Arrive On Green	0.79	1.00	1.00	0.00	0.09	0.09	0.23	0.16	0.16	0.04	0.00	0.01
Sat Flow, veh/h	1634	3438	1246	0	5152	1458	3079	3034	1417	3109	109	
Grp Volume(v), veh/h	348	2020	693	0	1109	74	787	208	164	109	79.9	
Grp Sat Flow(s),veh/h/ln	1634	1719	1246	0	1663	1458	1540	1517	1417	1554	E	
Q Serve(g_s), s	9.0	0.0	0.0	0.0	25.8	5.6	27.7	7.3	13.0	4.1		
Cycle Q Clear(g_c), s	9.0	0.0	0.0	0.0	25.8	5.6	27.7	7.3	13.0	4.1		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	649	2398	869	0	1327	388	723	473	221	140		
V/C Ratio(X)	0.54	0.84	0.80	0.00	0.84	0.19	1.09	0.44	0.74	0.78		
Avail Cap(c_a), veh/h	649	2398	869	0	1327	388	723	985	460	140		
HCM Platoon Ratio	2.00	2.00	2.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.09	0.09	0.09	0.00	0.91	0.91	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.2	0.0	0.0	0.0	51.3	42.0	45.1	45.1	47.5	55.8		
Incr Delay (d2), s/veh	0.1	0.4	0.7	0.0	5.8	1.0	60.0	0.6	4.9	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		
%ile BackOfQ(50%),veh/ln	3.9	0.1	22.9	0.0	12.6	4.7	17.8	3.1	5.4	2.2		
LnGrp Delay(d),s/veh	8.3	0.4	0.7	0.0	57.1	43.0	105.2	45.8	52.4	79.9		
LnGrp LOS	A	A	A		E	D	F	D	D	E		
Approach Vol, veh/h		3061			1183			1159				
Approach Delay, s/veh		1.3			56.2			87.0				
Approach LOS		A			E			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	9.3	22.4		86.3	31.7		50.9	35.4
Change Period (Y+Rc), s	* 5.3	4.2		6.0	* 4.2		6.0	6.0
Max Green Setting (Gmax), s	* 4	38.1		60.4	* 25		25.0	29.4
Max Q Clear Time (g_c+I1), s	6.1	15.0		2.0	29.7		11.0	27.8
Green Ext Time (p_c), s	0.0	1.4		32.2	0.0		11.7	0.9

Intersection Summary

HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	2023	638	0	1084	80	724	244	151	125	0	163
Future Volume (veh/h)	363	2023	638	0	1084	80	724	244	151	125	0	163
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	395	2199	693	0	1178	87	787	265	164	136	0	177
Adj No. of Lanes	1	2	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	646	2392	866	0	1327	388	728	479	223	140	0	0
Arrive On Green	0.79	1.00	1.00	0.00	0.27	0.27	0.24	0.16	0.16	0.04	0.00	0.01
Sat Flow, veh/h	1634	3438	1246	0	5152	1458	3079	3034	1417	3109	136	
Grp Volume(v), veh/h	395	2199	693	0	1178	87	787	265	164	136	124.3	
Grp Sat Flow(s),veh/h/ln	1634	1719	1246	0	1663	1458	1540	1517	1417	1554	F	
Q Serve(g_s), s	11.5	0.0	0.0	0.0	26.8	5.5	27.9	9.5	13.0	5.2		
Cycle Q Clear(g_c), s	11.5	0.0	0.0	0.0	26.8	5.5	27.9	9.5	13.0	5.2		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	646	2392	866	0	1327	388	728	479	223	140		
V/C Ratio(X)	0.61	0.92	0.80	0.00	0.89	0.22	1.08	0.55	0.73	0.97		
Avail Cap(c_a), veh/h	646	2392	866	0	1327	388	728	985	460	140		
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.09	0.09	0.09	0.00	0.91	0.91	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.6	0.0	0.0	0.0	41.6	33.8	45.0	45.9	47.3	56.3		
Incr Delay (d2), s/veh	0.2	0.8	0.7	0.0	8.3	1.2	57.2	1.0	4.6	68.0		
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		
%ile BackOfQ(50%),veh/ln	5.1	0.3	22.9	0.0	13.4	5.1	17.6	4.0	5.4	3.5		
LnGrp Delay(d),s/veh	8.8	0.8	0.7	0.0	50.0	35.0	102.2	46.9	52.0	124.3		
LnGrp LOS	A	A	A		D	D	F	D	D	F		
Approach Vol, veh/h		3287			1265			1216				
Approach Delay, s/veh		1.7			48.9			83.4				
Approach LOS		A			D			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	9.3	22.6		86.1	31.9		50.7	35.4
Change Period (Y+Rc), s	* 5.3	4.2		6.0	* 4.2		6.0	6.0
Max Green Setting (Gmax), s	* 4	38.1		60.4	* 25		25.0	29.4
Max Q Clear Time (g_c+I1), s	7.2	15.0		2.0	29.9		13.5	28.8
Green Ext Time (p_c), s	0.0	1.7		36.6	0.0		10.2	0.4

Intersection Summary

HCM 2010 Ctrl Delay	31.5
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	2023	638	0	1084	80	724	244	151	125	0	163
Future Volume (veh/h)	363	2023	638	0	1084	80	724	244	151	125	0	163
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		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	1716	1810	1471	0	1827	1716	1667	1597	1683	1683	0	1667
Adj Flow Rate, veh/h	395	2199	693	0	1178	87	787	265	164	136	0	177
Adj No. of Lanes	1	3	1	0	3	1	2	2	1	2	0	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	5	19	0	4	2	5	19	4	4	0	5
Cap, veh/h	123	3325	838	0	2817	824	773	477	223	217	0	0
Arrive On Green	0.05	0.45	0.45	0.00	1.00	1.00	0.25	0.16	0.16	0.07	0.00	0.01
Sat Flow, veh/h	1634	4940	1245	0	5152	1458	3079	3034	1417	3109	136	
Grp Volume(v), veh/h	395	2199	693	0	1178	87	787	265	164	136	59.0	
Grp Sat Flow(s),veh/h/ln	1634	1647	1245	0	1663	1458	1540	1517	1417	1554	E	
Q Serve(g_s), s	9.0	41.8	58.5	0.0	0.0	0.0	30.1	9.7	13.2	5.1		
Cycle Q Clear(g_c), s	9.0	41.8	58.5	0.0	0.0	0.0	30.1	9.7	13.2	5.1		
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	123	3325	838	0	2817	824	773	477	223	217		
V/C Ratio(X)	3.22	0.66	0.83	0.00	0.42	0.11	1.02	0.56	0.74	0.63		
Avail Cap(c_a), veh/h	123	3325	838	0	2817	824	773	968	452	233		
HCM Platoon Ratio	0.67	0.67	0.67	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.09	0.09	0.09	0.00	0.90	0.90	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	57.0	22.2	26.8	0.0	0.0	0.0	44.9	46.7	48.2	54.3		
Incr Delay (d2), s/veh	1002.4	0.1	0.9	0.0	0.4	0.2	37.0	1.0	4.7	4.7		
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		
%ile BackOfQ(50%),veh/ln	38.2	19.0	35.7	0.0	0.1	3.0	16.7	4.1	5.5	2.3		
LnGrp Delay(d),s/veh	1059.3	22.3	27.7	0.0	0.4	0.2	82.0	47.7	52.9	59.0		
LnGrp LOS	F	C	C		A	A	F	D	D	E		
Approach Vol, veh/h		3287			1265			1216				
Approach Delay, s/veh		148.1			0.4			70.6				
Approach LOS		F			A			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5		7	8
Phs Duration (G+Y+Rc), s	12.4	22.9		84.8	35.2		13.0	71.8
Change Period (Y+Rc), s	* 5.3	4.2		6.0	5.3		6.0	6.0
Max Green Setting (Gmax), s	* 7.7	38.1		58.7	18.8		7.0	45.7
Max Q Clear Time (g_c+I1), s	7.1	15.2		60.5	32.1		11.0	2.0
Green Ext Time (p_c), s	0.0	1.7		0.0	0.0		0.0	36.1

Intersection Summary

HCM 2010 Ctrl Delay	98.4
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection 12
Industrial Pkwy Dr & Merle Haggard Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	960	36	62	711	14	87	4	28	40	2	20
Future Volume (veh/h)	57	960	36	62	711	14	87	4	28	40	2	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		0.98	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	1716	1828	1750	1716	1828	1750	1683	1831	1750	1683	1830	1750
Adj Flow Rate, veh/h	62	1043	39	67	773	15	95	4	30	43	2	22
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	105	2934	110	105	2994	58	112	19	141	107	13	141
Arrive On Green	0.13	1.00	1.00	0.06	0.59	0.59	0.07	0.10	0.09	0.07	0.10	0.09
Sat Flow, veh/h	1634	4938	184	1634	5038	98	1603	184	1377	1603	129	1420
Grp Volume(v), veh/h	62	703	379	67	510	278	95	0	34	43	0	24
Grp Sat Flow(s),veh/h/ln	1634	1664	1795	1634	1663	1810	1603	0	1560	1603	0	1549
Q Serve(g_s), s	3.3	0.0	0.0	3.7	6.8	6.8	5.5	0.0	1.9	2.4	0.0	1.3
Cycle Q Clear(g_c), s	3.3	0.0	0.0	3.7	6.8	6.8	5.5	0.0	1.9	2.4	0.0	1.3
Prop In Lane	1.00		0.10	1.00		0.05	1.00		0.88	1.00		0.92
Lane Grp Cap(c), veh/h	105	1977	1066	105	1976	1075	112	0	160	107	0	154
V/C Ratio(X)	0.59	0.36	0.36	0.64	0.26	0.26	0.85	0.00	0.21	0.40	0.00	0.16
Avail Cap(c_a), veh/h	105	1977	1066	105	1976	1075	112	0	661	107	0	636
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.3	0.0	0.0	42.4	9.0	9.0	42.8	0.0	38.8	41.6	0.0	38.9
Incr Delay (d2), s/veh	7.4	0.4	0.8	9.8	0.3	0.5	42.3	0.0	0.7	2.4	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	1.7	0.1	0.2	2.0	3.2	3.5	3.7	0.0	0.8	1.1	0.0	0.6
LnGrp Delay(d),s/veh	46.8	0.4	0.8	52.3	9.3	9.5	85.0	0.0	39.5	44.0	0.0	39.3
LnGrp LOS	D	A	A	D	A	A	F		D	D		D
Approach Vol, veh/h		1144			855			129			67	
Approach Delay, s/veh		3.1			12.7			73.0			42.3	
Approach LOS		A			B			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	10.2	13.5	10.0	59.3	10.5	13.2	10.0	59.3
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.1	4.0	24.3	5.2	36.9	4.0	24.3
Max Q Clear Time (g_c+I1), s	4.4	3.9	5.7	2.0	7.5	3.3	5.3	8.8
Green Ext Time (p_c), s	0.0	0.1	0.0	8.5	0.0	0.1	0.0	7.2

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)	57	1083	36	62	862	14	87	4	28	40	2	20
Future Volume (veh/h)	57	1083	36	62	862	14	87	4	28	40	2	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		0.98	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	1716	1828	1750	1716	1827	1750	1683	1831	1750	1683	1830	1750
Adj Flow Rate, veh/h	62	1177	39	67	937	15	95	4	30	43	2	22
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	103	3164	105	96	3206	51	133	17	127	122	11	122
Arrive On Green	0.13	1.00	1.00	0.06	0.63	0.63	0.08	0.09	0.08	0.08	0.09	0.08
Sat Flow, veh/h	1634	4961	164	1634	5058	81	1603	183	1375	1603	129	1417
Grp Volume(v), veh/h	62	789	427	67	616	336	95	0	34	43	0	24
Grp Sat Flow(s),veh/h/ln	1634	1664	1798	1634	1663	1813	1603	0	1558	1603	0	1546
Q Serve(g_s), s	4.3	0.0	0.0	4.8	9.9	9.9	6.9	0.0	2.4	3.0	0.0	1.7
Cycle Q Clear(g_c), s	4.3	0.0	0.0	4.8	9.9	9.9	6.9	0.0	2.4	3.0	0.0	1.7
Prop In Lane	1.00		0.09	1.00		0.04	1.00		0.88	1.00		0.92
Lane Grp Cap(c), veh/h	103	2122	1147	96	2108	1149	133	0	144	122	0	133
V/C Ratio(X)	0.60	0.37	0.37	0.70	0.29	0.29	0.72	0.00	0.24	0.35	0.00	0.18
Avail Cap(c_a), veh/h	110	2122	1147	96	2108	1149	175	0	555	122	0	483
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.72	0.72	0.72	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	0.0	0.0	55.0	9.8	9.8	53.2	0.0	50.6	52.2	0.0	51.0
Incr Delay (d2), s/veh	7.3	0.4	0.8	14.7	0.3	0.5	9.0	0.0	0.8	1.7	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	2.1	0.1	0.3	2.6	4.6	5.1	3.4	0.0	1.1	1.4	0.0	0.8
LnGrp Delay(d),s/veh	57.9	0.4	0.8	69.7	10.0	10.3	62.2	0.0	51.4	53.9	0.0	51.7
LnGrp LOS	E	A	A	E	B	B	E		D	D		D
Approach Vol, veh/h		1278			1019			129			67	
Approach Delay, s/veh		3.4			14.0			59.4			53.1	
Approach LOS		A			B			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	13.1	15.0	11.0	79.9	13.9	14.2	11.5	79.4
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	6.5	41.1	5.0	43.8	11.7	35.9	6.0	42.8
Max Q Clear Time (g_c+I1), s	5.0	4.4	6.8	2.0	8.9	3.7	6.3	11.9
Green Ext Time (p_c), s	0.1	0.1	0.0	12.6	0.1	0.1	0.0	11.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	1662	44	75	1462	17	98	5	32	43	2	22
Future Volume (veh/h)	70	1662	44	75	1462	17	98	5	32	43	2	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		0.98	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	1716	1828	1750	1716	1827	1750	1683	1831	1750	1683	1830	1750
Adj Flow Rate, veh/h	76	1807	48	82	1589	18	107	5	35	47	2	24
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	82	3316	88	82	3374	38	107	21	149	71	10	123
Arrive On Green	0.10	1.00	1.00	0.05	0.66	0.66	0.07	0.11	0.10	0.04	0.09	0.08
Sat Flow, veh/h	1634	4998	133	1634	5085	58	1603	196	1369	1603	119	1425
Grp Volume(v), veh/h	76	1202	653	82	1039	568	107	0	40	47	0	26
Grp Sat Flow(s),veh/h/ln	1634	1663	1804	1634	1663	1817	1603	0	1565	1603	0	1544
Q Serve(g_s), s	5.5	0.0	0.0	6.0	18.3	18.4	8.0	0.0	2.8	3.5	0.0	1.9
Cycle Q Clear(g_c), s	5.5	0.0	0.0	6.0	18.3	18.4	8.0	0.0	2.8	3.5	0.0	1.9
Prop In Lane	1.00		0.07	1.00		0.03	1.00		0.88	1.00		0.92
Lane Grp Cap(c), veh/h	82	2207	1197	82	2207	1206	107	0	170	71	0	133
V/C Ratio(X)	0.93	0.54	0.55	1.00	0.47	0.47	1.00	0.00	0.23	0.66	0.00	0.19
Avail Cap(c_a), veh/h	82	2207	1197	82	2207	1206	107	0	520	71	0	479
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.35	0.35	0.35	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.8	0.0	0.0	57.0	9.9	9.9	56.0	0.0	49.4	56.5	0.0	51.5
Incr Delay (d2), s/veh	40.3	0.3	0.6	30.8	0.1	0.1	87.5	0.0	0.7	20.9	0.0	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	3.4	0.1	0.2	3.4	8.4	9.2	6.1	0.0	1.3	2.0	0.0	0.8
LnGrp Delay(d),s/veh	94.1	0.3	0.6	87.8	9.9	10.0	143.5	0.0	50.1	77.4	0.0	52.2
LnGrp LOS	F	A	A	F	A	A	F		D	E		D
Approach Vol, veh/h		1931			1689			147			73	
Approach Delay, s/veh		4.1			13.7			118.1			68.4	
Approach LOS		A			B			F			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	9.3	17.1	10.0	83.6	12.0	14.4	10.0	83.6
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.6	4.0	50.8	6.7	35.9	4.0	50.8
Max Q Clear Time (g_c+I1), s	5.5	4.8	8.0	2.0	10.0	3.9	7.5	20.4
Green Ext Time (p_c), s	0.0	0.2	0.0	29.5	0.0	0.2	0.0	21.8

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)	70	1785	44	75	1613	17	98	5	32	43	2	22
Future Volume (veh/h)	70	1785	44	75	1613	17	98	5	32	43	2	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		0.98	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	1716	1828	1750	1716	1827	1750	1683	1831	1750	1683	1830	1750
Adj Flow Rate, veh/h	76	1940	48	82	1753	18	107	5	35	47	2	24
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	82	3369	83	82	3424	35	93	19	130	78	10	122
Arrive On Green	0.10	1.00	1.00	0.05	0.67	0.67	0.06	0.10	0.08	0.05	0.09	0.07
Sat Flow, veh/h	1634	5008	124	1634	5091	52	1603	195	1366	1603	119	1425
Grp Volume(v), veh/h	76	1288	700	82	1145	626	107	0	40	47	0	26
Grp Sat Flow(s),veh/h/ln	1634	1663	1805	1634	1663	1818	1603	0	1561	1603	0	1544
Q Serve(g_s), s	5.5	0.0	0.0	6.0	20.6	20.6	7.0	0.0	2.9	3.4	0.0	1.9
Cycle Q Clear(g_c), s	5.5	0.0	0.0	6.0	20.6	20.6	7.0	0.0	2.9	3.4	0.0	1.9
Prop In Lane	1.00		0.07	1.00		0.03	1.00		0.88	1.00		0.92
Lane Grp Cap(c), veh/h	82	2237	1214	82	2237	1223	93	0	149	78	0	132
V/C Ratio(X)	0.93	0.58	0.58	1.00	0.51	0.51	1.14	0.00	0.27	0.60	0.00	0.20
Avail Cap(c_a), veh/h	82	2237	1214	82	2237	1223	93	0	513	78	0	485
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.26	0.26	0.26	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.8	0.0	0.0	57.0	9.8	9.8	56.5	0.0	50.9	56.0	0.0	51.6
Incr Delay (d2), s/veh	33.2	0.3	0.5	30.8	0.1	0.1	137.3	0.0	1.0	12.5	0.0	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	3.2	0.1	0.2	3.4	9.4	10.3	6.7	0.0	1.3	1.8	0.0	0.8
LnGrp Delay(d),s/veh	87.0	0.3	0.5	87.8	9.9	9.9	193.8	0.0	51.9	68.5	0.0	52.3
LnGrp LOS	F	A	A	F	A	A	F		D	E		D
Approach Vol, veh/h		2064			1853			147			73	
Approach Delay, s/veh		3.6			13.4			155.2			62.7	
Approach LOS		A			B			F			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	9.8	15.5	10.0	84.7	11.0	14.3	10.0	84.7
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.1	4.0	51.3	5.7	36.4	4.0	51.3
Max Q Clear Time (g_c+I1), s	5.4	4.9	8.0	2.0	9.0	3.9	7.5	22.6
Green Ext Time (p_c), s	0.0	0.1	0.0	33.5	0.0	0.1	0.0	22.6

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)	70	1785	44	75	1613	17	98	5	32	43	2	22
Future Volume (veh/h)	70	1785	44	75	1613	17	98	5	32	43	2	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		0.98	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	1716	1827	1716	1716	1827	1750	1683	1831	1750	1683	1830	1750
Adj Flow Rate, veh/h	76	1940	48	82	1753	18	107	5	35	47	2	24
Adj No. of Lanes	1	3	1	1	3	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	4	2	2	4	4	4	2	2	4	2	2
Cap, veh/h	82	3355	977	82	3424	35	93	19	130	78	10	122
Arrive On Green	0.10	1.00	1.00	0.05	0.67	0.67	0.06	0.10	0.08	0.05	0.09	0.07
Sat Flow, veh/h	1634	4988	1453	1634	5091	52	1603	195	1366	1603	119	1425
Grp Volume(v), veh/h	76	1940	48	82	1145	626	107	0	40	47	0	26
Grp Sat Flow(s),veh/h/ln	1634	1663	1453	1634	1663	1818	1603	0	1561	1603	0	1544
Q Serve(g_s), s	5.5	0.0	0.0	6.0	20.6	20.6	7.0	0.0	2.9	3.4	0.0	1.9
Cycle Q Clear(g_c), s	5.5	0.0	0.0	6.0	20.6	20.6	7.0	0.0	2.9	3.4	0.0	1.9
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.88	1.00		0.92
Lane Grp Cap(c), veh/h	82	3355	977	82	2237	1223	93	0	149	78	0	132
V/C Ratio(X)	0.93	0.58	0.05	1.00	0.51	0.51	1.14	0.00	0.27	0.60	0.00	0.20
Avail Cap(c_a), veh/h	82	3355	977	82	2237	1223	93	0	513	78	0	485
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	0.50	0.50	0.50	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.8	0.0	0.0	57.0	9.8	9.8	56.5	0.0	50.9	56.0	0.0	51.6
Incr Delay (d2), s/veh	61.6	0.5	0.1	71.4	0.4	0.8	137.3	0.0	1.0	12.5	0.0	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	3.9	0.2	0.0	4.3	9.5	10.5	6.7	0.0	1.3	1.8	0.0	0.8
LnGrp Delay(d),s/veh	115.4	0.5	0.1	128.4	10.2	10.6	193.8	0.0	51.9	68.5	0.0	52.3
LnGrp LOS	F	A	A	F	B	B	F		D	E		D
Approach Vol, veh/h		2064			1853			147			73	
Approach Delay, s/veh		4.7			15.6			155.2			62.7	
Approach LOS		A			B			F			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	9.8	15.5	10.0	84.7	11.0	14.3	10.0	84.7
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.1	4.0	51.3	5.7	36.4	4.0	51.3
Max Q Clear Time (g_c+I1), s	5.4	4.9	8.0	2.0	9.0	3.9	7.5	22.6
Green Ext Time (p_c), s	0.0	0.1	0.0	34.8	0.0	0.1	0.0	23.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	1925	54	92	1649	21	111	5	36	47	2	23
Future Volume (veh/h)	85	1925	54	92	1649	21	111	5	36	47	2	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		0.98	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	1716	1828	1750	1716	1827	1750	1683	1831	1750	1683	1830	1750
Adj Flow Rate, veh/h	92	2092	59	100	1792	23	121	5	39	51	2	25
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	82	3313	93	82	3371	43	107	17	135	88	10	123
Arrive On Green	0.10	1.00	1.00	0.03	0.44	0.44	0.07	0.10	0.09	0.05	0.09	0.08
Sat Flow, veh/h	1634	4989	140	1634	5076	65	1603	177	1381	1603	114	1429
Grp Volume(v), veh/h	92	1394	757	100	1174	641	121	0	44	51	0	27
Grp Sat Flow(s),veh/h/ln	1634	1663	1802	1634	1663	1816	1603	0	1559	1603	0	1543
Q Serve(g_s), s	6.0	0.0	0.0	6.0	30.8	30.8	8.0	0.0	3.2	3.7	0.0	2.0
Cycle Q Clear(g_c), s	6.0	0.0	0.0	6.0	30.8	30.8	8.0	0.0	3.2	3.7	0.0	2.0
Prop In Lane	1.00		0.08	1.00		0.04	1.00		0.89	1.00		0.93
Lane Grp Cap(c), veh/h	82	2209	1197	82	2209	1206	107	0	152	88	0	133
V/C Ratio(X)	1.13	0.63	0.63	1.22	0.53	0.53	1.13	0.00	0.29	0.58	0.00	0.20
Avail Cap(c_a), veh/h	82	2209	1197	82	2209	1206	107	0	518	88	0	478
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.0	0.0	0.0	58.0	19.7	19.7	56.0	0.0	50.8	55.4	0.0	51.6
Incr Delay (d2), s/veh	70.9	0.1	0.2	110.7	0.1	0.2	127.2	0.0	1.0	9.2	0.0	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	4.3	0.0	0.1	5.2	14.1	15.5	7.3	0.0	1.4	1.9	0.0	0.9
LnGrp Delay(d),s/veh	124.9	0.1	0.2	168.7	19.8	19.9	183.2	0.0	51.9	64.6	0.0	52.3
LnGrp LOS	F	A	A	F	B	B	F		D	E		D
Approach Vol, veh/h		2243			1915			165			78	
Approach Delay, s/veh		5.3			27.6			148.2			60.3	
Approach LOS		A			C			F			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	10.6	15.7	10.0	83.7	12.0	14.3	10.0	83.7
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.6	4.0	50.8	6.7	35.9	4.0	50.8
Max Q Clear Time (g_c+I1), s	5.7	5.2	8.0	2.0	10.0	4.0	8.0	32.8
Green Ext Time (p_c), s	0.0	0.1	0.0	35.8	0.0	0.1	0.0	15.8

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)	85	2076	54	92	1835	21	111	5	36	47	2	23
Future Volume (veh/h)	85	2076	54	92	1835	21	111	5	36	47	2	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		0.99	1.00		1.00	1.00		0.98	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	1716	1828	1750	1716	1827	1750	1683	1831	1750	1683	1830	1750
Adj Flow Rate, veh/h	92	2257	59	100	1995	23	121	5	39	51	2	25
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	82	2221	58	455	3418	39	93	17	135	75	10	123
Arrive On Green	0.10	0.89	0.89	0.28	0.67	0.67	0.06	0.10	0.09	0.05	0.09	0.08
Sat Flow, veh/h	1634	5000	130	1634	5084	59	1603	177	1381	1603	114	1429
Grp Volume(v), veh/h	92	1499	817	100	1305	713	121	0	44	51	0	27
Grp Sat Flow(s),veh/h/ln	1634	1663	1804	1634	1663	1817	1603	0	1559	1603	0	1543
Q Serve(g_s), s	6.0	53.3	53.3	5.6	25.4	25.4	7.0	0.0	3.2	3.8	0.0	2.0
Cycle Q Clear(g_c), s	6.0	53.3	53.3	5.6	25.4	25.4	7.0	0.0	3.2	3.8	0.0	2.0
Prop In Lane	1.00		0.07	1.00		0.03	1.00		0.89	1.00		0.93
Lane Grp Cap(c), veh/h	82	1478	801	455	2236	1222	93	0	152	75	0	133
V/C Ratio(X)	1.13	1.01	1.02	0.22	0.58	0.58	1.29	0.00	0.29	0.68	0.00	0.20
Avail Cap(c_a), veh/h	82	1478	801	455	2236	1222	93	0	512	75	0	485
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.36	0.36	0.36	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.0	6.7	6.7	33.3	10.6	10.6	56.5	0.0	50.8	56.3	0.0	51.6
Incr Delay (d2), s/veh	70.9	11.1	14.9	0.1	0.4	0.7	191.1	0.0	1.0	22.5	0.0	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	4.3	23.6	26.5	2.6	11.7	12.9	8.1	0.0	1.4	2.1	0.0	0.9
LnGrp Delay(d),s/veh	124.9	17.8	21.6	33.4	11.0	11.4	247.6	0.0	51.9	78.9	0.0	52.3
LnGrp LOS	F	F	F	C	B	B	F		D	E		D
Approach Vol, veh/h		2408			2118			165			78	
Approach Delay, s/veh		23.2			12.2			195.4			69.7	
Approach LOS		C			B			F			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	9.6	15.7	37.4	57.3	11.0	14.3	10.0	84.7
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.1	4.0	51.3	5.7	36.4	4.0	51.3
Max Q Clear Time (g_c+I1), s	5.8	5.2	7.6	55.3	9.0	4.0	8.0	27.4
Green Ext Time (p_c), s	0.0	0.1	0.0	0.0	0.0	0.1	0.0	11.2

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)	85	2076	54	92	1835	21	111	5	36	47	2	23
Future Volume (veh/h)	85	2076	54	92	1835	21	111	5	36	47	2	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		0.98	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	1716	1827	1716	1716	1827	1750	1683	1831	1750	1683	1830	1750
Adj Flow Rate, veh/h	92	2257	59	100	1995	23	121	5	39	51	2	25
Adj No. of Lanes	1	3	1	1	3	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	4	2	2	4	4	4	2	2	4	2	2
Cap, veh/h	82	3353	977	82	3418	39	93	17	135	75	10	123
Arrive On Green	0.10	1.00	1.00	0.05	0.67	0.67	0.06	0.10	0.09	0.05	0.09	0.08
Sat Flow, veh/h	1634	4988	1453	1634	5084	59	1603	177	1381	1603	114	1429
Grp Volume(v), veh/h	92	2257	59	100	1305	713	121	0	44	51	0	27
Grp Sat Flow(s),veh/h/ln	1634	1663	1453	1634	1663	1817	1603	0	1559	1603	0	1543
Q Serve(g_s), s	6.0	0.0	0.0	6.0	25.4	25.4	7.0	0.0	3.2	3.8	0.0	2.0
Cycle Q Clear(g_c), s	6.0	0.0	0.0	6.0	25.4	25.4	7.0	0.0	3.2	3.8	0.0	2.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.89	1.00		0.93
Lane Grp Cap(c), veh/h	82	3353	977	82	2236	1222	93	0	152	75	0	133
V/C Ratio(X)	1.13	0.67	0.06	1.22	0.58	0.58	1.29	0.00	0.29	0.68	0.00	0.20
Avail Cap(c_a), veh/h	82	3353	977	82	2236	1222	93	0	512	75	0	485
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.46	0.46	0.46	0.28	0.28	0.28	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.0	0.0	0.0	57.0	10.6	10.6	56.5	0.0	50.8	56.3	0.0	51.6
Incr Delay (d2), s/veh	105.3	0.5	0.1	127.7	0.3	0.6	191.1	0.0	1.0	22.5	0.0	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	5.1	0.2	0.0	5.6	11.7	12.9	8.1	0.0	1.4	2.1	0.0	0.9
LnGrp Delay(d),s/veh	159.3	0.5	0.1	184.7	10.9	11.2	247.6	0.0	51.9	78.9	0.0	52.3
LnGrp LOS	F	A	A	F	B	B	F		D	E		D
Approach Vol, veh/h		2408			2118			165			78	
Approach Delay, s/veh		6.6			19.2			195.4			69.7	
Approach LOS		A			B			F			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	9.6	15.7	10.0	84.7	11.0	14.3	10.0	84.7
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.1	4.0	51.3	5.7	36.4	4.0	51.3
Max Q Clear Time (g_c+I1), s	5.8	5.2	8.0	2.0	9.0	4.0	8.0	27.4
Green Ext Time (p_c), s	0.0	0.1	0.0	40.8	0.0	0.1	0.0	21.6

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)	42	788	66	50	532	21	75	6	13	23	2	12
Future Volume (veh/h)	42	788	66	50	532	21	75	6	13	23	2	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		0.98	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	1716	1830	1750	1716	1828	1750	1683	1839	1750	1683	1832	1750
Adj Flow Rate, veh/h	46	857	72	54	578	23	82	7	14	25	2	13
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	85	2968	248	95	3143	125	120	50	101	114	19	121
Arrive On Green	0.10	1.00	1.00	0.12	1.00	1.00	0.07	0.09	0.08	0.07	0.09	0.08
Sat Flow, veh/h	1634	4695	393	1634	4925	195	1603	541	1082	1603	208	1353
Grp Volume(v), veh/h	46	607	322	54	390	211	82	0	21	25	0	15
Grp Sat Flow(s),veh/h/ln	1634	1665	1758	1634	1664	1793	1603	0	1624	1603	0	1561
Q Serve(g_s), s	2.9	0.0	0.0	3.4	0.0	0.0	5.5	0.0	1.3	1.6	0.0	1.0
Cycle Q Clear(g_c), s	2.9	0.0	0.0	3.4	0.0	0.0	5.5	0.0	1.3	1.6	0.0	1.0
Prop In Lane	1.00		0.22	1.00		0.11	1.00		0.67	1.00		0.87
Lane Grp Cap(c), veh/h	85	2105	1112	95	2123	1144	120	0	151	114	0	140
V/C Ratio(X)	0.54	0.29	0.29	0.57	0.18	0.18	0.68	0.00	0.14	0.22	0.00	0.11
Avail Cap(c_a), veh/h	89	2105	1112	104	2123	1144	186	0	660	114	0	528
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	0.0	47.3	0.0	0.0	49.6	0.0	46.3	48.2	0.0	46.6
Incr Delay (d2), s/veh	5.5	0.3	0.6	4.9	0.2	0.3	6.7	0.0	0.4	0.9	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	1.5	0.1	0.2	1.7	0.0	0.1	2.7	0.0	0.6	0.7	0.0	0.4
LnGrp Delay(d),s/veh	53.6	0.3	0.6	52.2	0.2	0.3	56.3	0.0	46.7	49.1	0.0	46.9
LnGrp LOS	D	A	A	D	A	A	E		D	D		D
Approach Vol, veh/h		975			655			103			40	
Approach Delay, s/veh		2.9			4.5			54.3			48.3	
Approach LOS		A			A			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	11.9	14.2	10.4	73.5	12.2	13.8	9.7	74.2
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	43.4	5.0	35.0	11.5	35.9	4.0	36.0
Max Q Clear Time (g_c+I1), s	3.6	3.3	5.4	2.0	7.5	3.0	4.9	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	7.2	0.1	0.0	0.0	7.2

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 (veh/h)	42	944	66	50	593	21	75	6	13	23	2	12
Future Volume (veh/h)	42	944	66	50	593	21	75	6	13	23	2	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		0.98	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	1716	1829	1750	1716	1828	1750	1683	1839	1750	1683	1832	1750
Adj Flow Rate, veh/h	46	1026	72	54	645	23	82	7	14	25	2	13
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	85	3011	211	95	3157	112	120	50	101	114	19	121
Arrive On Green	0.10	1.00	1.00	0.12	1.00	1.00	0.07	0.09	0.08	0.07	0.09	0.08
Sat Flow, veh/h	1634	4764	334	1634	4948	176	1603	541	1082	1603	208	1353
Grp Volume(v), veh/h	46	717	381	54	433	235	82	0	21	25	0	15
Grp Sat Flow(s),veh/h/ln	1634	1665	1769	1634	1664	1796	1603	0	1624	1603	0	1561
Q Serve(g_s), s	2.9	0.0	0.0	3.4	0.0	0.0	5.5	0.0	1.3	1.6	0.0	1.0
Cycle Q Clear(g_c), s	2.9	0.0	0.0	3.4	0.0	0.0	5.5	0.0	1.3	1.6	0.0	1.0
Prop In Lane	1.00		0.19	1.00		0.10	1.00		0.67	1.00		0.87
Lane Grp Cap(c), veh/h	85	2104	1118	95	2123	1146	120	0	151	114	0	140
V/C Ratio(X)	0.54	0.34	0.34	0.57	0.20	0.20	0.68	0.00	0.14	0.22	0.00	0.11
Avail Cap(c_a), veh/h	89	2104	1118	104	2123	1146	186	0	660	114	0	528
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	0.0	47.3	0.0	0.0	49.6	0.0	46.3	48.2	0.0	46.6
Incr Delay (d2), s/veh	5.3	0.4	0.8	5.0	0.2	0.3	6.7	0.0	0.4	0.9	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	1.5	0.1	0.2	1.7	0.1	0.1	2.7	0.0	0.6	0.7	0.0	0.4
LnGrp Delay(d),s/veh	53.3	0.4	0.8	52.3	0.2	0.3	56.3	0.0	46.7	49.1	0.0	46.9
LnGrp LOS	D	A	A	D	A	A	E		D	D		D
Approach Vol, veh/h		1144			722			103			40	
Approach Delay, s/veh		2.6			4.1			54.3			48.3	
Approach LOS		A			A			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	11.9	14.2	10.4	73.5	12.2	13.8	9.7	74.2
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	43.4	5.0	35.0	11.5	35.9	4.0	36.0
Max Q Clear Time (g_c+I1), s	3.6	3.3	5.4	2.0	7.5	3.0	4.9	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	8.8	0.1	0.0	0.0	8.9

Intersection Summary	
HCM 2010 Ctrl Delay	6.7
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	1546	81	61	810	26	85	7	15	25	2	13
Future Volume (veh/h)	51	1546	81	61	810	26	85	7	15	25	2	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		0.98	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	1716	1829	1750	1716	1828	1750	1683	1839	1750	1683	1831	1750
Adj Flow Rate, veh/h	55	1680	88	66	880	28	92	8	16	27	2	14
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	96	3246	170	83	3281	104	95	48	97	90	17	117
Arrive On Green	0.04	0.45	0.45	0.10	1.00	1.00	0.06	0.09	0.08	0.06	0.09	0.07
Sat Flow, veh/h	1634	4857	254	1634	4969	158	1603	541	1082	1603	195	1363
Grp Volume(v), veh/h	55	1151	617	66	589	319	92	0	24	27	0	16
Grp Sat Flow(s),veh/h/ln	1634	1664	1783	1634	1663	1799	1603	0	1623	1603	0	1558
Q Serve(g_s), s	3.9	29.3	29.4	4.7	0.0	0.0	6.8	0.0	1.6	1.9	0.0	1.1
Cycle Q Clear(g_c), s	3.9	29.3	29.4	4.7	0.0	0.0	6.8	0.0	1.6	1.9	0.0	1.1
Prop In Lane	1.00		0.14	1.00		0.09	1.00		0.67	1.00		0.88
Lane Grp Cap(c), veh/h	96	2224	1191	83	2197	1188	95	0	145	90	0	134
V/C Ratio(X)	0.57	0.52	0.52	0.79	0.27	0.27	0.97	0.00	0.17	0.30	0.00	0.12
Avail Cap(c_a), veh/h	111	2224	1191	83	2197	1188	95	0	542	90	0	498
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	0.68	0.68	0.68	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.2	18.9	18.9	52.4	0.0	0.0	55.4	0.0	50.1	53.5	0.0	50.3
Incr Delay (d2), s/veh	3.2	0.5	1.0	29.4	0.2	0.4	81.5	0.0	0.5	1.9	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	1.8	13.7	14.8	2.8	0.1	0.1	5.1	0.0	0.8	0.9	0.0	0.5
LnGrp Delay(d),s/veh	58.4	19.4	19.9	81.8	0.2	0.4	136.9	0.0	50.6	55.4	0.0	50.7
LnGrp LOS	E	B	B	F	A	A	F		D	E		D
Approach Vol, veh/h		1823			974			116			43	
Approach Delay, s/veh		20.8			5.8			119.0			53.6	
Approach LOS		C			A			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	10.6	14.5	10.0	82.9	11.0	14.1	10.9	81.9
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.1	4.0	49.3	5.7	36.4	6.0	47.3
Max Q Clear Time (g_c+I1), s	3.9	3.6	6.7	31.4	8.8	3.1	5.9	2.0
Green Ext Time (p_c), s	0.0	0.1	0.0	11.7	0.0	0.0	0.0	18.9

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)	51	1702	81	61	871	26	85	7	15	25	2	13
Future Volume (veh/h)	51	1702	81	61	871	26	85	7	15	25	2	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		0.98	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	1716	1829	1750	1716	1828	1750	1683	1839	1750	1683	1831	1750
Adj Flow Rate, veh/h	55	1850	88	66	947	28	92	8	16	27	2	14
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	96	3263	155	83	3289	97	95	48	97	90	17	117
Arrive On Green	0.04	0.45	0.45	0.10	1.00	1.00	0.06	0.09	0.08	0.06	0.09	0.07
Sat Flow, veh/h	1634	4883	232	1634	4981	147	1603	541	1082	1603	195	1363
Grp Volume(v), veh/h	55	1260	678	66	632	343	92	0	24	27	0	16
Grp Sat Flow(s),veh/h/ln	1634	1664	1787	1634	1663	1801	1603	0	1623	1603	0	1558
Q Serve(g_s), s	3.9	33.1	33.2	4.7	0.0	0.0	6.8	0.0	1.6	1.9	0.0	1.1
Cycle Q Clear(g_c), s	3.9	33.1	33.2	4.7	0.0	0.0	6.8	0.0	1.6	1.9	0.0	1.1
Prop In Lane	1.00		0.13	1.00		0.08	1.00		0.67	1.00		0.88
Lane Grp Cap(c), veh/h	96	2224	1194	83	2197	1190	95	0	145	90	0	134
V/C Ratio(X)	0.57	0.57	0.57	0.79	0.29	0.29	0.97	0.00	0.17	0.30	0.00	0.12
Avail Cap(c_a), veh/h	111	2224	1194	83	2197	1190	95	0	542	90	0	498
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	0.69	0.69	0.69	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.2	19.9	20.0	52.4	0.0	0.0	55.4	0.0	50.1	53.5	0.0	50.3
Incr Delay (d2), s/veh	2.6	0.5	1.0	29.8	0.2	0.4	81.5	0.0	0.5	1.9	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	1.8	15.3	16.8	2.8	0.1	0.1	5.1	0.0	0.8	0.9	0.0	0.5
LnGrp Delay(d),s/veh	57.9	20.5	20.9	82.2	0.2	0.4	136.9	0.0	50.6	55.4	0.0	50.7
LnGrp LOS	E	C	C	F	A	A	F		D	E		D
Approach Vol, veh/h		1993			1041			116			43	
Approach Delay, s/veh		21.7			5.5			119.0			53.6	
Approach LOS		C			A			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	10.6	14.5	10.0	82.9	11.0	14.1	10.9	81.9
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.1	4.0	49.3	5.7	36.4	6.0	47.3
Max Q Clear Time (g_c+I1), s	3.9	3.6	6.7	35.2	8.8	3.1	5.9	2.0
Green Ext Time (p_c), s	0.0	0.1	0.0	10.6	0.0	0.0	0.0	22.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.4
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	1702	81	61	871	26	85	7	15	25	2	13
Future Volume (veh/h)	51	1702	81	61	871	26	85	7	15	25	2	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		0.98	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	1716	1827	1716	1716	1828	1750	1683	1839	1750	1683	1831	1750
Adj Flow Rate, veh/h	55	1850	88	66	947	28	92	8	16	27	2	14
Adj No. of Lanes	1	3	1	1	3	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	4	2	2	4	4	4	2	2	4	2	2
Cap, veh/h	82	3355	977	82	3350	99	93	48	96	89	17	117
Arrive On Green	0.10	1.00	1.00	0.05	0.67	0.67	0.06	0.09	0.08	0.06	0.09	0.07
Sat Flow, veh/h	1634	4988	1453	1634	4981	147	1603	541	1082	1603	195	1363
Grp Volume(v), veh/h	55	1850	88	66	632	343	92	0	24	27	0	16
Grp Sat Flow(s),veh/h/ln	1634	1663	1453	1634	1663	1801	1603	0	1623	1603	0	1558
Q Serve(g_s), s	3.9	0.0	0.0	4.8	9.2	9.2	6.9	0.0	1.7	1.9	0.0	1.1
Cycle Q Clear(g_c), s	3.9	0.0	0.0	4.8	9.2	9.2	6.9	0.0	1.7	1.9	0.0	1.1
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.67	1.00		0.88
Lane Grp Cap(c), veh/h	82	3355	977	82	2238	1212	93	0	144	89	0	134
V/C Ratio(X)	0.67	0.55	0.09	0.81	0.28	0.28	0.98	0.00	0.17	0.30	0.00	0.12
Avail Cap(c_a), veh/h	82	3355	977	82	2238	1212	93	0	533	89	0	489
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	0.84	0.84	0.84	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.1	0.0	0.0	56.4	7.9	7.9	56.4	0.0	51.0	54.4	0.0	51.2
Incr Delay (d2), s/veh	14.8	0.5	0.1	37.8	0.3	0.5	87.7	0.0	0.5	1.9	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	2.1	0.2	0.0	3.0	4.3	4.7	5.3	0.0	0.8	0.9	0.0	0.5
LnGrp Delay(d),s/veh	67.8	0.5	0.1	94.2	8.2	8.4	144.1	0.0	51.5	56.3	0.0	51.6
LnGrp LOS	E	A	A	F	A	A	F		D	E		D
Approach Vol, veh/h		1993			1041			116			43	
Approach Delay, s/veh		2.3			13.7			125.0			54.6	
Approach LOS		A			B			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	10.7	14.6	10.0	84.7	11.0	14.3	10.0	84.7
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.1	4.0	51.3	5.7	36.4	4.0	51.3
Max Q Clear Time (g_c+I1), s	3.9	3.7	6.8	2.0	8.9	3.1	5.9	11.2
Green Ext Time (p_c), s	0.0	0.1	0.0	24.1	0.0	0.0	0.0	21.9

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	1762	99	74	950	31	96	8	17	27	2	14
Future Volume (veh/h)	63	1762	99	74	950	31	96	8	17	27	2	14
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		0.98	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	1716	1829	1750	1716	1828	1750	1683	1839	1750	1683	1831	1750
Adj Flow Rate, veh/h	68	1915	108	80	1033	34	104	9	18	29	2	15
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	111	3232	182	83	3232	106	95	48	97	89	16	118
Arrive On Green	0.02	0.22	0.22	0.10	1.00	1.00	0.06	0.09	0.08	0.06	0.09	0.07
Sat Flow, veh/h	1634	4836	272	1634	4962	163	1603	541	1082	1603	183	1373
Grp Volume(v), veh/h	68	1316	707	80	692	375	104	0	27	29	0	17
Grp Sat Flow(s),veh/h/ln	1634	1664	1780	1634	1664	1799	1603	0	1623	1603	0	1556
Q Serve(g_s), s	4.9	41.8	42.0	5.8	0.0	0.0	7.0	0.0	1.8	2.1	0.0	1.2
Cycle Q Clear(g_c), s	4.9	41.8	42.0	5.8	0.0	0.0	7.0	0.0	1.8	2.1	0.0	1.2
Prop In Lane	1.00		0.15	1.00		0.09	1.00		0.67	1.00		0.88
Lane Grp Cap(c), veh/h	111	2225	1189	83	2167	1172	95	0	145	89	0	134
V/C Ratio(X)	0.61	0.59	0.59	0.96	0.32	0.32	1.09	0.00	0.19	0.32	0.00	0.13
Avail Cap(c_a), veh/h	111	2225	1189	83	2167	1172	95	0	542	89	0	497
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.30	0.30	0.30	0.59	0.59	0.59	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.1	31.6	31.6	52.9	0.0	0.0	55.5	0.0	50.2	53.6	0.0	50.4
Incr Delay (d2), s/veh	3.0	0.3	0.7	64.2	0.2	0.4	120.0	0.0	0.6	2.1	0.0	0.4
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	2.3	19.4	21.0	4.1	0.1	0.1	6.3	0.0	0.8	1.0	0.0	0.5
LnGrp Delay(d),s/veh	59.1	31.9	32.3	117.1	0.2	0.4	175.5	0.0	50.8	55.6	0.0	50.8
LnGrp LOS	E	C	C	F	A	A	F		D	E		D
Approach Vol, veh/h		2091			1147			131			46	
Approach Delay, s/veh		32.9			8.4			149.8			53.9	
Approach LOS		C			A			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	10.6	14.5	10.0	82.9	11.0	14.1	12.0	80.9
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.1	4.0	49.3	5.7	36.4	6.0	47.3
Max Q Clear Time (g_c+I1), s	4.1	3.8	7.8	44.0	9.0	3.2	6.9	2.0
Green Ext Time (p_c), s	0.0	0.1	0.0	4.7	0.0	0.0	0.0	24.3

Intersection Summary	
HCM 2010 Ctrl Delay	29.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	1952	99	74	1026	31	96	8	17	27	2	14
Future Volume (veh/h)	63	1952	99	74	1026	31	96	8	17	27	2	14
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		0.99	1.00		0.98	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	1716	1829	1750	1716	1828	1750	1683	1839	1750	1683	1831	1750
Adj Flow Rate, veh/h	68	2122	108	80	1115	34	104	9	18	29	2	15
Adj No. of Lanes	1	3	0	1	3	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	4	4	2	4	4	4	2	2	4	2	2
Cap, veh/h	456	3276	166	82	2210	67	93	48	96	88	16	117
Arrive On Green	0.28	0.67	0.67	0.05	0.44	0.44	0.06	0.09	0.08	0.05	0.09	0.07
Sat Flow, veh/h	1634	4866	246	1634	4975	152	1603	541	1082	1603	183	1373
Grp Volume(v), veh/h	68	1448	782	80	745	404	104	0	27	29	0	17
Grp Sat Flow(s),veh/h/ln	1634	1664	1784	1634	1663	1800	1603	0	1623	1603	0	1556
Q Serve(g_s), s	3.8	30.2	30.6	5.9	19.3	19.3	7.0	0.0	1.9	2.1	0.0	1.2
Cycle Q Clear(g_c), s	3.8	30.2	30.6	5.9	19.3	19.3	7.0	0.0	1.9	2.1	0.0	1.2
Prop In Lane	1.00		0.14	1.00		0.08	1.00		0.67	1.00		0.88
Lane Grp Cap(c), veh/h	456	2241	1201	82	1478	800	93	0	144	88	0	132
V/C Ratio(X)	0.15	0.65	0.65	0.98	0.50	0.50	1.11	0.00	0.19	0.33	0.00	0.13
Avail Cap(c_a), veh/h	456	2241	1201	82	1478	800	93	0	533	88	0	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.12	0.12	0.12	0.59	0.59	0.59	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	11.3	11.4	56.9	23.9	23.9	56.5	0.0	51.1	54.6	0.0	51.3
Incr Delay (d2), s/veh	0.0	0.2	0.3	69.9	0.7	1.3	126.7	0.0	0.6	2.2	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	1.7	13.7	15.1	4.2	8.9	9.8	6.4	0.0	0.9	1.0	0.0	0.5
LnGrp Delay(d),s/veh	32.6	11.5	11.7	126.8	24.6	25.2	183.2	0.0	51.7	56.8	0.0	51.7
LnGrp LOS	C	B	B	F	C	C	F		D	E		D
Approach Vol, veh/h		2298			1229			131			46	
Approach Delay, s/veh		12.2			31.5			156.1			54.9	
Approach LOS		B			C			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	10.6	14.6	10.0	84.8	11.0	14.2	37.5	57.3
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.1	4.0	51.3	5.7	36.4	4.0	51.3
Max Q Clear Time (g_c+I1), s	4.1	3.9	7.9	32.6	9.0	3.2	5.8	21.3
Green Ext Time (p_c), s	0.0	0.1	0.0	11.1	0.0	0.0	0.0	5.2

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)	63	1952	99	74	1026	31	96	8	17	27	2	14
Future Volume (veh/h)	63	1952	99	74	1026	31	96	8	17	27	2	14
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		0.98	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	1716	1827	1716	1716	1828	1750	1683	1839	1750	1683	1831	1750
Adj Flow Rate, veh/h	68	2122	108	80	1115	34	104	9	18	29	2	15
Adj No. of Lanes	1	3	1	1	3	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	4	2	2	4	4	4	2	2	4	2	2
Cap, veh/h	82	3355	977	82	3347	102	93	48	96	89	16	118
Arrive On Green	0.10	1.00	1.00	0.05	0.67	0.67	0.06	0.09	0.08	0.06	0.09	0.07
Sat Flow, veh/h	1634	4988	1453	1634	4976	152	1603	541	1082	1603	183	1373
Grp Volume(v), veh/h	68	2122	108	80	745	404	104	0	27	29	0	17
Grp Sat Flow(s),veh/h/ln	1634	1663	1453	1634	1663	1801	1603	0	1623	1603	0	1556
Q Serve(g_s), s	4.9	0.0	0.0	5.9	11.3	11.4	7.0	0.0	1.9	2.1	0.0	1.2
Cycle Q Clear(g_c), s	4.9	0.0	0.0	5.9	11.3	11.4	7.0	0.0	1.9	2.1	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.67	1.00		0.88
Lane Grp Cap(c), veh/h	82	3355	977	82	2238	1211	93	0	144	89	0	133
V/C Ratio(X)	0.83	0.63	0.11	0.98	0.33	0.33	1.11	0.00	0.19	0.33	0.00	0.13
Avail Cap(c_a), veh/h	82	3355	977	82	2238	1211	93	0	533	89	0	489
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.47	0.47	0.77	0.77	0.77	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	0.0	56.9	8.3	8.3	56.5	0.0	51.1	54.5	0.0	51.2
Incr Delay (d2), s/veh	27.8	0.4	0.1	80.6	0.3	0.6	126.7	0.0	0.6	2.1	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	2.8	0.1	0.0	4.5	5.3	5.8	6.4	0.0	0.9	1.0	0.0	0.5
LnGrp Delay(d),s/veh	81.3	0.4	0.1	137.5	8.6	8.9	183.2	0.0	51.7	56.6	0.0	51.7
LnGrp LOS	F	A	A	F	A	A	F		D	E		D
Approach Vol, veh/h		2298			1229			131			46	
Approach Delay, s/veh		2.8			17.1			156.1			54.8	
Approach LOS		A			B			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	10.7	14.6	10.0	84.7	11.0	14.3	10.0	84.7
Change Period (Y+Rc), s	5.3	5.3	6.0	6.0	5.3	5.3	6.0	6.0
Max Green Setting (Gmax), s	4.0	38.1	4.0	51.3	5.7	36.4	4.0	51.3
Max Q Clear Time (g_c+I1), s	4.1	3.9	7.9	2.0	9.0	3.2	6.9	13.4
Green Ext Time (p_c), s	0.0	0.1	0.0	30.7	0.0	0.0	0.0	26.0

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

Intersection 13
Porterville Hwy (SR 65) & Merle Haggard Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	731	169	372	578	70	74	270	308	135	319	142
Future Volume (veh/h)	165	731	169	372	578	70	74	270	308	135	319	142
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	179	795	184	404	628	76	80	293	335	147	347	154
Adj No. of Lanes	2	2	2	2	2	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	462	1005	622	357	872	308	571	945	437	253	634	293
Arrive On Green	0.17	0.29	0.29	0.13	0.25	0.25	0.18	0.31	0.31	0.08	0.21	0.21
Sat Flow, veh/h	2717	3471	2150	2717	3471	1225	3109	3034	1404	3109	3034	1400
Grp Volume(v), veh/h	179	795	184	404	628	76	80	293	335	147	347	154
Grp Sat Flow(s),veh/h/ln	1359	1736	1075	1359	1736	1225	1554	1517	1404	1554	1517	1400
Q Serve(g_s), s	5.0	18.1	3.1	11.3	14.2	3.0	1.9	6.3	18.5	3.9	8.8	8.4
Cycle Q Clear(g_c), s	5.0	18.1	3.1	11.3	14.2	3.0	1.9	6.3	18.5	3.9	8.8	8.4
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	462	1005	622	357	872	308	571	945	437	253	634	293
V/C Ratio(X)	0.39	0.79	0.30	1.13	0.72	0.25	0.14	0.31	0.77	0.58	0.55	0.53
Avail Cap(c_a), veh/h	462	1200	743	357	1414	499	571	1447	670	253	1483	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	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	31.7	28.1	7.0	37.3	29.4	13.1	29.4	22.6	26.8	38.0	30.4	30.2
Incr Delay (d2), s/veh	0.5	3.1	0.3	87.9	1.1	0.4	0.1	0.2	2.8	3.3	0.7	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	1.9	9.0	0.9	8.6	6.9	1.4	0.8	2.7	7.5	1.8	3.7	3.4
LnGrp Delay(d),s/veh	32.2	31.2	7.3	125.3	30.6	13.5	29.5	22.7	29.6	41.4	31.1	31.7
LnGrp LOS	C	C	A	F	C	B	C	C	C	D	C	C
Approach Vol, veh/h		1158			1108			708			648	
Approach Delay, s/veh		27.6			63.9			26.7			33.6	
Approach LOS		C			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	11.0	30.8	15.3	28.9	19.8	22.0	18.6	25.6
Change Period (Y+Rc), s	6.0	6.0	5.7	6.0	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	5.0	39.0	9.6	27.7	4.0	40.0	4.0	33.3
Max Q Clear Time (g_c+I1), s	5.9	20.5	13.3	20.1	3.9	10.8	7.0	16.2
Green Ext Time (p_c), s	0.0	2.5	0.0	2.7	0.1	2.1	0.0	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	39.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	231	742	215	372	583	100	74	386	308	201	577	288
Future Volume (veh/h)	231	742	215	372	583	100	74	386	308	201	577	288
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	251	807	234	404	634	109	80	420	335	218	627	313
Adj No. of Lanes	2	2	2	2	2	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	412	953	590	293	811	286	165	1167	541	275	1275	591
Arrive On Green	0.15	0.27	0.27	0.11	0.23	0.23	0.05	0.38	0.38	0.09	0.42	0.42
Sat Flow, veh/h	2717	3471	2150	2717	3471	1225	3109	3034	1406	3109	3034	1407
Grp Volume(v), veh/h	251	807	234	404	634	109	80	420	335	218	627	313
Grp Sat Flow(s),veh/h/ln	1359	1736	1075	1359	1736	1225	1554	1517	1406	1554	1517	1407
Q Serve(g_s), s	9.8	24.8	7.8	12.2	19.4	6.4	2.8	11.2	14.1	7.8	17.1	10.4
Cycle Q Clear(g_c), s	9.8	24.8	7.8	12.2	19.4	6.4	2.8	11.2	14.1	7.8	17.1	10.4
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	412	953	590	293	811	286	165	1167	541	275	1275	591
V/C Ratio(X)	0.61	0.85	0.40	1.38	0.78	0.38	0.48	0.36	0.62	0.79	0.49	0.53
Avail Cap(c_a), veh/h	412	1038	643	293	1075	379	165	1167	541	275	1275	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	38.7	20.3	50.4	40.6	20.7	52.0	24.8	11.8	50.5	23.9	7.5
Incr Delay (d2), s/veh	2.4	5.7	0.4	188.9	2.6	0.8	2.2	0.9	5.2	14.6	1.4	3.4
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	3.8	12.6	2.3	12.3	9.5	2.2	1.3	4.8	6.2	3.9	7.4	4.6
LnGrp Delay(d),s/veh	47.2	44.5	20.7	239.3	43.2	21.4	54.2	25.7	17.0	65.0	25.3	10.9
LnGrp LOS	D	D	C	F	D	C	D	C	B	E	C	B
Approach Vol, veh/h		1292			1147			835			1158	
Approach Delay, s/veh		40.7			110.2			24.9			28.9	
Approach LOS		D			F			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	14.0	47.5	16.5	35.0	10.0	51.5	21.1	30.4
Change Period (Y+Rc), s	6.0	6.0	6.0	* 6	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	8.0	39.0	10.5	* 32	4.0	43.0	9.0	33.3
Max Q Clear Time (g_c+I1), s	9.8	16.1	14.2	26.8	4.8	19.1	11.8	21.4
Green Ext Time (p_c), s	0.0	8.2	0.0	2.2	0.0	8.3	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	52.6
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	1382	207	1110	1300	135	83	302	923	206	395	176
Future Volume (veh/h)	202	1382	207	1110	1300	135	83	302	923	206	395	176
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	220	1502	225	1207	1413	147	90	328	1003	224	429	191
Adj No. of Lanes	2	2	2	2	2	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	226	983	609	385	1186	420	185	1087	504	259	1160	537
Arrive On Green	0.06	0.19	0.19	0.19	0.45	0.45	0.06	0.36	0.36	0.08	0.38	0.38
Sat Flow, veh/h	2717	3471	2150	2717	3471	1228	3109	3034	1405	3109	3034	1406
Grp Volume(v), veh/h	220	1502	225	1207	1413	147	90	328	1003	224	429	191
Grp Sat Flow(s),veh/h/ln	1359	1736	1075	1359	1736	1228	1554	1517	1405	1554	1517	1406
Q Serve(g_s), s	9.7	34.0	8.5	17.0	41.0	9.3	3.4	9.3	26.8	8.5	12.2	11.7
Cycle Q Clear(g_c), s	9.7	34.0	8.5	17.0	41.0	9.3	3.4	9.3	26.8	8.5	12.2	11.7
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	226	983	609	385	1186	420	185	1087	504	259	1160	537
V/C Ratio(X)	0.97	1.53	0.37	3.14	1.19	0.35	0.49	0.30	1.99	0.86	0.37	0.36
Avail Cap(c_a), veh/h	226	983	609	385	1186	420	233	1087	504	259	1160	537
HCM Platoon Ratio	0.67	0.67	0.67	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	0.73	0.73	0.73	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	48.6	23.7	48.7	32.7	24.1	54.7	27.7	15.0	54.3	26.7	26.5
Incr Delay (d2), s/veh	42.9	241.0	0.3	966.1	92.6	0.4	2.0	0.7	453.2	24.8	0.9	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	5.0	49.2	2.6	58.0	34.8	3.2	1.5	4.0	73.8	4.6	5.3	4.8
LnGrp Delay(d),s/veh	99.4	289.6	24.0	1014.8	125.3	24.5	56.6	28.4	468.2	79.2	27.6	28.3
LnGrp LOS	F	F	C	F	F	C	E	C	F	E	C	C
Approach Vol, veh/h		1947			2767			1421			844	
Approach Delay, s/veh		237.4			507.9			340.6			41.4	
Approach LOS		F			F			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	14.0	47.0	21.0	38.0	11.1	49.9	14.0	45.0
Change Period (Y+Rc), s	6.0	6.0	5.7	6.0	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	8.0	41.0	15.3	32.0	7.0	42.0	8.0	39.3
Max Q Clear Time (g_c+I1), s	10.5	28.8	19.0	36.0	5.4	14.2	11.7	43.0
Green Ext Time (p_c), s	0.0	7.7	0.0	0.0	0.0	12.3	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	342.0
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	1393	253	1110	1305	165	83	418	923	272	653	322
Future Volume (veh/h)	268	1393	253	1110	1305	165	83	418	923	272	653	322
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	291	1514	275	1207	1418	179	90	454	1003	296	710	350
Adj No. of Lanes	2	2	2	2	2	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	189	996	617	307	1147	406	188	1187	550	216	1215	563
Arrive On Green	0.07	0.29	0.29	0.11	0.33	0.33	0.06	0.39	0.39	0.07	0.40	0.40
Sat Flow, veh/h	2717	3471	2150	2717	3471	1228	3109	3034	1406	3109	3034	1406
Grp Volume(v), veh/h	291	1514	275	1207	1418	179	90	454	1003	296	710	350
Grp Sat Flow(s),veh/h/ln	1359	1736	1075	1359	1736	1228	1554	1517	1406	1554	1517	1406
Q Serve(g_s), s	8.0	33.0	12.0	13.0	38.0	9.8	3.2	12.3	45.0	8.0	21.1	16.2
Cycle Q Clear(g_c), s	8.0	33.0	12.0	13.0	38.0	9.8	3.2	12.3	45.0	8.0	21.1	16.2
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	189	996	617	307	1147	406	188	1187	550	216	1215	563
V/C Ratio(X)	1.54	1.52	0.45	3.93	1.24	0.44	0.48	0.38	1.82	1.37	0.58	0.62
Avail Cap(c_a), veh/h	189	996	617	307	1147	406	216	1187	550	216	1215	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	41.0	33.5	51.0	38.5	16.9	52.3	25.1	35.0	53.5	27.0	13.9
Incr Delay (d2), s/veh	256.9	236.9	0.3	324.0	112.0	0.5	1.9	0.9	377.4	192.5	2.1	5.1
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	9.7	48.5	3.6	61.3	36.0	3.4	1.4	5.3	75.1	9.2	9.1	7.0
LnGrp Delay(d),s/veh	310.4	277.9	33.8	375.0	150.5	17.4	54.2	26.0	412.4	246.0	29.0	19.0
LnGrp LOS	F	F	C	F	F	B	D	C	F	F	C	B
Approach Vol, veh/h		2080			2804			1547			1356	
Approach Delay, s/veh		250.1			669.1			278.2			73.8	
Approach LOS		F			F			F			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	12.0	49.0	17.0	37.0	10.9	50.1	12.0	42.0
Change Period (Y+Rc), s	6.0	6.0	5.7	6.0	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	6.0	43.0	11.3	31.0	6.0	43.0	6.0	36.3
Max Q Clear Time (g_c+I1), s	10.0	47.0	15.0	35.0	5.2	23.1	10.0	40.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	13.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	375.9
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	1393	253	1110	1305	165	83	418	923	272	653	322
Future Volume (veh/h)	268	1393	253	1110	1305	165	83	418	923	272	653	322
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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	291	1514	275	1207	1418	179	90	454	1003	296	710	350
Adj No. of Lanes	2	3	1	2	3	1	1	2	2	2	2	2
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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	276	1987	498	276	1974	495	95	1059	879	316	1188	986
Arrive On Green	0.10	0.40	0.40	0.10	0.40	0.40	0.06	0.35	0.35	0.10	0.39	0.39
Sat Flow, veh/h	2717	4988	1250	2717	4988	1250	1603	3034	2517	3109	3034	2517
Grp Volume(v), veh/h	291	1514	275	1207	1418	179	90	454	1003	296	710	350
Grp Sat Flow(s),veh/h/ln	1359	1663	1250	1359	1663	1250	1603	1517	1259	1554	1517	1259
Q Serve(g_s), s	12.0	30.9	20.0	12.0	28.3	11.9	6.6	13.5	41.2	11.2	21.9	11.6
Cycle Q Clear(g_c), s	12.0	30.9	20.0	12.0	28.3	11.9	6.6	13.5	41.2	11.2	21.9	11.6
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	276	1987	498	276	1974	495	95	1059	879	316	1188	986
V/C Ratio(X)	1.05	0.76	0.55	4.37	0.72	0.36	0.95	0.43	1.14	0.94	0.60	0.36
Avail Cap(c_a), veh/h	276	1987	498	276	1974	495	95	1059	879	316	1188	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)	0.58	0.58	0.58	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	30.7	27.4	53.0	30.1	25.1	55.3	29.4	38.4	52.6	28.5	25.4
Incr Delay (d2), s/veh	56.0	1.7	2.6	521.8	1.7	1.5	74.8	0.3	77.2	34.3	0.8	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	6.6	14.5	7.2	62.9	13.3	4.3	4.9	5.7	23.7	6.3	9.3	4.1
LnGrp Delay(d),s/veh	109.0	32.3	29.9	574.8	31.8	26.6	130.1	29.7	115.6	86.9	29.3	25.6
LnGrp LOS	F	C	C	F	C	C	F	C	F	F	C	C
Approach Vol, veh/h		2080			2804			1547			1356	
Approach Delay, s/veh		42.7			695.6			91.2			40.9	
Approach LOS		D			F			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	16.0	45.2	16.0	51.3	11.0	50.2	16.0	51.3
Change Period (Y+Rc), s	6.0	6.0	5.7	6.0	6.0	6.0	6.0	* 6
Max Green Setting (Gmax), s	10.0	39.2	10.3	34.8	5.0	44.2	10.0	* 35
Max Q Clear Time (g_c+I1), s	13.2	43.2	14.0	32.9	8.6	23.9	14.0	30.3
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.0	12.9	0.0	4.4

Intersection Summary

HCM 2010 Ctrl Delay	287.2
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	1582	253	1166	1453	154	92	337	964	246	489	218
Future Volume (veh/h)	247	1582	253	1166	1453	154	92	337	964	246	489	218
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	268	1720	275	1267	1579	167	100	366	1048	267	532	237
Adj No. of Lanes	2	2	2	2	2	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	226	983	609	385	1186	420	196	1087	504	259	1149	532
Arrive On Green	0.06	0.19	0.19	0.19	0.45	0.45	0.06	0.36	0.36	0.08	0.38	0.38
Sat Flow, veh/h	2717	3471	2150	2717	3471	1228	3109	3034	1405	3109	3034	1406
Grp Volume(v), veh/h	268	1720	275	1267	1579	167	100	366	1048	267	532	237
Grp Sat Flow(s),veh/h/ln	1359	1736	1075	1359	1736	1228	1554	1517	1405	1554	1517	1406
Q Serve(g_s), s	10.0	34.0	10.5	17.0	41.0	7.9	3.7	10.6	43.0	10.0	15.9	15.1
Cycle Q Clear(g_c), s	10.0	34.0	10.5	17.0	41.0	7.9	3.7	10.6	43.0	10.0	15.9	15.1
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	226	983	609	385	1186	420	196	1087	504	259	1149	532
V/C Ratio(X)	1.18	1.75	0.45	3.29	1.33	0.40	0.51	0.34	2.08	1.03	0.46	0.45
Avail Cap(c_a), veh/h	226	983	609	385	1186	420	233	1087	504	259	1149	532
HCM Platoon Ratio	0.67	0.67	0.67	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.51	0.51	0.51	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	48.6	24.1	48.7	32.7	13.0	54.4	28.1	38.5	55.0	28.1	27.9
Incr Delay (d2), s/veh	103.4	339.1	0.3	1035.7	153.1	0.4	2.0	0.8	493.2	64.1	1.3	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	7.0	62.6	3.1	61.7	44.8	2.7	1.7	4.5	85.6	6.6	6.9	6.2
LnGrp Delay(d),s/veh	160.1	387.8	24.3	1084.4	185.9	13.4	56.5	28.9	531.7	119.1	29.4	30.5
LnGrp LOS	F	F	C	F	F	B	E	C	F	F	C	C
Approach Vol, veh/h		2263			3013			1514			1036	
Approach Delay, s/veh		316.6			554.2			378.8			52.8	
Approach LOS		F			F			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	14.0	47.0	21.0	38.0	11.6	49.4	14.0	45.0
Change Period (Y+Rc), s	6.0	6.0	5.7	6.0	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	8.0	41.0	15.3	32.0	7.0	42.0	8.0	39.3
Max Q Clear Time (g_c+I1), s	12.0	45.0	19.0	36.0	5.7	17.9	12.0	43.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	385.2
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	1596	309	1166	1459	191	92	480	964	327	808	398
Future Volume (veh/h)	328	1596	309	1166	1459	191	92	480	964	327	808	398
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	357	1735	336	1267	1586	208	100	522	1048	355	878	433
Adj No. of Lanes	2	3	2	2	3	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	182	1556	671	224	1647	406	595	1169	542	511	1086	503
Arrive On Green	0.07	0.31	0.31	0.08	0.33	0.33	0.19	0.39	0.39	0.16	0.36	0.36
Sat Flow, veh/h	2717	4988	2151	2717	4988	1228	3109	3034	1406	3109	3034	1405
Grp Volume(v), veh/h	357	1735	336	1267	1586	208	100	522	1048	355	878	433
Grp Sat Flow(s),veh/h/ln	1359	1663	1075	1359	1663	1228	1554	1517	1406	1554	1517	1405
Q Serve(g_s), s	7.3	34.0	13.9	9.0	34.0	14.9	2.9	13.9	42.0	11.7	28.5	31.2
Cycle Q Clear(g_c), s	7.3	34.0	13.9	9.0	34.0	14.9	2.9	13.9	42.0	11.7	28.5	31.2
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	182	1556	671	224	1647	406	595	1169	542	511	1086	503
V/C Ratio(X)	1.96	1.12	0.50	5.65	0.96	0.51	0.17	0.45	1.93	0.70	0.81	0.86
Avail Cap(c_a), veh/h	182	1556	671	224	1647	406	595	1169	542	511	1169	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.45	0.45	0.45	0.66	0.66	0.66	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	37.5	30.6	50.0	35.8	29.4	36.8	24.9	33.5	43.0	31.6	32.5
Incr Delay (d2), s/veh	441.7	56.5	0.2	2097.8	10.7	0.7	0.1	1.2	427.2	4.1	6.5	17.3
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	13.9	23.7	4.1	68.7	17.2	5.1	1.3	6.0	80.6	5.3	12.9	14.4
LnGrp Delay(d),s/veh	492.6	94.0	30.8	2147.8	46.6	30.2	36.9	26.1	460.7	47.1	38.1	49.7
LnGrp LOS	F	F	C	F	D	C	D	C	F	D	D	D
Approach Vol, veh/h		2428			3061			1670			1666	
Approach Delay, s/veh		143.9			915.2			299.5			43.0	
Approach LOS		F			F			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	22.2	46.0	13.3	38.0	25.2	43.0	11.3	40.0
Change Period (Y+Rc), s	6.0	6.0	6.0	* 6	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	6.0	40.0	7.3	* 32	6.0	40.0	5.0	34.3
Max Q Clear Time (g_c+I1), s	13.7	44.0	11.0	36.0	4.9	33.2	9.3	36.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.2	3.4	0.0	0.0

Intersection Summary
HCM 2010 Ctrl Delay 421.8
HCM 2010 LOS F

Notes
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	1596	309	1166	1459	191	92	480	964	327	808	398
Future Volume (veh/h)	328	1596	309	1166	1459	191	92	480	964	327	808	398
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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	357	1735	336	1267	1586	208	100	522	1048	355	878	433
Adj No. of Lanes	2	3	2	2	3	1	2	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	276	1987	876	276	1974	495	343	1059	879	316	1033	487
Arrive On Green	0.10	0.40	0.40	0.10	0.40	0.40	0.11	0.35	0.35	0.10	0.34	0.34
Sat Flow, veh/h	2717	4988	2200	2717	4988	1250	3109	3034	2517	3109	3034	1430
Grp Volume(v), veh/h	357	1735	336	1267	1586	208	100	522	1048	355	878	433
Grp Sat Flow(s),veh/h/ln	1359	1663	1100	1359	1663	1250	1554	1517	1259	1554	1517	1430
Q Serve(g_s), s	12.0	37.9	10.1	12.0	33.2	14.2	3.5	16.0	41.2	12.0	31.7	27.8
Cycle Q Clear(g_c), s	12.0	37.9	10.1	12.0	33.2	14.2	3.5	16.0	41.2	12.0	31.7	27.8
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	276	1987	876	276	1974	495	343	1059	879	316	1033	487
V/C Ratio(X)	1.29	0.87	0.38	4.59	0.80	0.42	0.29	0.49	1.19	1.12	0.85	0.89
Avail Cap(c_a), veh/h	276	1987	876	276	1974	495	343	1059	879	316	1188	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.22	0.22	0.22	0.66	0.66	0.66	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	32.8	15.8	53.0	31.6	25.8	48.2	30.2	38.4	53.0	36.1	24.9
Incr Delay (d2), s/veh	137.3	1.3	0.3	618.9	2.4	1.7	0.5	0.4	97.8	88.0	5.4	14.8
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	9.8	17.6	3.1	66.6	15.7	5.2	1.5	6.7	26.2	9.0	14.1	12.9
LnGrp Delay(d),s/veh	190.3	34.1	16.1	671.9	34.0	27.6	48.7	30.5	136.2	141.0	41.5	39.7
LnGrp LOS	F	C	B	F	C	C	D	C	F	F	D	D
Approach Vol, veh/h		2428			3061			1670			1666	
Approach Delay, s/veh		54.6			711.5			97.9			62.2	
Approach LOS		D			F			F			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	16.0	45.2	16.0	51.3	17.0	44.2	16.0	51.3
Change Period (Y+Rc), s	6.0	6.0	5.7	6.0	6.0	6.0	6.0	* 6
Max Green Setting (Gmax), s	10.0	39.2	10.3	34.8	5.0	44.2	10.0	* 35
Max Q Clear Time (g_c+I1), s	14.0	43.2	14.0	39.9	5.5	33.7	14.0	35.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	292.1
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	551	107	193	452	78	90	356	451	87	498	69
Future Volume (veh/h)	206	551	107	193	452	78	90	356	451	87	498	69
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	224	599	116	210	491	85	98	387	490	95	541	75
Adj No. of Lanes	2	2	2	2	2	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	362	733	453	291	652	230	895	1130	524	501	745	344
Arrive On Green	0.27	0.42	0.42	0.21	0.38	0.38	0.29	0.37	0.37	0.16	0.25	0.25
Sat Flow, veh/h	2717	3471	2148	2717	3471	1222	3109	3034	1406	3109	3034	1402
Grp Volume(v), veh/h	224	599	116	210	491	85	98	387	490	95	541	75
Grp Sat Flow(s),veh/h/ln	1359	1736	1074	1359	1736	1222	1554	1517	1406	1554	1517	1402
Q Serve(g_s), s	8.0	16.8	3.8	7.9	13.5	5.5	2.5	10.1	36.9	2.9	18.0	4.7
Cycle Q Clear(g_c), s	8.0	16.8	3.8	7.9	13.5	5.5	2.5	10.1	36.9	2.9	18.0	4.7
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	362	733	453	291	652	230	895	1130	524	501	745	344
V/C Ratio(X)	0.62	0.82	0.26	0.72	0.75	0.37	0.11	0.34	0.94	0.19	0.73	0.22
Avail Cap(c_a), veh/h	362	1019	631	338	1104	389	895	1131	524	501	1158	535
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	29.9	26.2	41.7	32.1	29.6	28.8	24.8	33.3	39.9	38.1	33.1
Incr Delay (d2), s/veh	3.1	3.6	0.3	6.1	1.8	1.0	0.1	0.8	26.3	0.2	6.1	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	3.1	8.3	1.1	3.2	6.6	1.9	1.1	4.4	18.1	1.3	8.1	2.0
LnGrp Delay(d),s/veh	41.0	33.5	26.5	47.8	33.9	30.6	28.8	25.7	59.5	40.1	44.2	34.5
LnGrp LOS	D	C	C	D	C	C	C	C	E	D	D	C
Approach Vol, veh/h		939			786			975			711	
Approach Delay, s/veh		34.4			37.2			43.0			42.6	
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	21.7	45.0	16.1	27.2	35.7	31.0	18.6	24.7
Change Period (Y+Rc), s	6.0	6.0	6.0	* 6	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	5.0	39.0	12.0	* 30	4.0	40.0	9.0	33.3
Max Q Clear Time (g_c+I1), s	4.9	38.9	9.9	18.8	4.5	20.0	10.0	15.5
Green Ext Time (p_c), s	0.0	0.0	0.2	2.5	0.0	2.5	0.0	2.3

Intersection Summary

HCM 2010 Ctrl Delay	39.2
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	342	555	123	193	462	140	90	593	451	110	588	120
Future Volume (veh/h)	342	555	123	193	462	140	90	593	451	110	588	120
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	372	603	134	210	502	152	98	645	490	120	639	130
Adj No. of Lanes	2	2	2	2	2	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	353	738	457	291	668	235	798	1130	524	496	835	386
Arrive On Green	0.26	0.43	0.43	0.21	0.39	0.39	0.26	0.37	0.37	0.16	0.28	0.28
Sat Flow, veh/h	2717	3471	2148	2717	3471	1223	3109	3034	1406	3109	3034	1403
Grp Volume(v), veh/h	372	603	134	210	502	152	98	645	490	120	639	130
Grp Sat Flow(s),veh/h/ln	1359	1736	1074	1359	1736	1223	1554	1517	1406	1554	1517	1403
Q Serve(g_s), s	14.3	16.8	4.5	7.9	13.8	11.2	2.7	18.6	36.9	3.7	21.3	8.1
Cycle Q Clear(g_c), s	14.3	16.8	4.5	7.9	13.8	11.2	2.7	18.6	36.9	3.7	21.3	8.1
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	353	738	457	291	668	235	798	1130	524	496	835	386
V/C Ratio(X)	1.05	0.82	0.29	0.72	0.75	0.65	0.12	0.57	0.94	0.24	0.77	0.34
Avail Cap(c_a), veh/h	353	1019	631	338	1104	389	798	1131	524	496	1158	536
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	29.7	26.2	41.7	31.5	30.8	31.4	27.5	33.2	40.4	36.6	31.8
Incr Delay (d2), s/veh	61.0	3.5	0.3	6.1	1.7	2.9	0.1	2.1	26.2	0.2	6.6	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	8.3	8.4	1.3	3.2	6.7	3.9	1.2	8.1	18.1	1.6	9.6	3.4
LnGrp Delay(d),s/veh	101.7	33.3	26.5	47.7	33.2	33.7	31.4	29.6	59.5	40.7	43.2	34.2
LnGrp LOS	F	C	C	D	C	C	C	C	E	D	D	C
Approach Vol, veh/h		1109			864			1233			889	
Approach Delay, s/veh		55.4			36.8			41.6			41.5	
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	21.6	45.0	16.1	27.4	32.2	34.3	18.3	25.2
Change Period (Y+Rc), s	6.0	6.0	6.0	* 6	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	5.0	39.0	12.0	* 30	4.0	40.0	9.0	33.3
Max Q Clear Time (g_c+I1), s	5.7	38.9	9.9	18.8	4.7	23.3	16.3	15.8
Green Ext Time (p_c), s	0.0	0.0	0.2	2.5	0.0	3.1	0.0	2.6

Intersection Summary

HCM 2010 Ctrl Delay	44.3
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	1256	131	340	713	107	101	398	1146	155	617	85
Future Volume (veh/h)	252	1256	131	340	713	107	101	398	1146	155	617	85
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	274	1365	142	370	775	116	110	433	1246	168	671	92
Adj No. of Lanes	2	2	2	2	2	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	298	1030	638	207	923	326	919	1311	608	445	849	393
Arrive On Green	0.15	0.39	0.39	0.08	0.27	0.27	0.30	0.43	0.43	0.14	0.28	0.28
Sat Flow, veh/h	2717	3471	2151	2717	3471	1226	3109	3034	1407	3109	3034	1403
Grp Volume(v), veh/h	274	1365	142	370	775	116	110	433	1246	168	671	92
Grp Sat Flow(s),veh/h/ln	1359	1736	1075	1359	1736	1226	1554	1517	1407	1554	1517	1403
Q Serve(g_s), s	11.7	35.0	5.2	9.0	24.9	9.1	3.0	11.2	51.0	5.8	24.1	6.0
Cycle Q Clear(g_c), s	11.7	35.0	5.2	9.0	24.9	9.1	3.0	11.2	51.0	5.8	24.1	6.0
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	298	1030	638	207	923	326	919	1311	608	445	849	393
V/C Ratio(X)	0.92	1.33	0.22	1.79	0.84	0.36	0.12	0.33	2.05	0.38	0.79	0.23
Avail Cap(c_a), veh/h	298	1030	638	207	1059	374	919	1311	608	445	1285	595
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	35.7	26.7	54.5	40.9	35.1	30.3	22.2	33.5	45.8	39.3	32.7
Incr Delay (d2), s/veh	27.0	151.9	0.1	371.6	5.3	0.6	0.1	0.7	477.9	0.5	7.4	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	5.5	38.4	1.6	14.1	12.6	3.1	1.3	4.8	100.5	2.5	10.9	2.5
LnGrp Delay(d),s/veh	76.9	187.6	26.8	426.1	46.3	35.8	30.4	22.9	511.4	46.3	46.7	34.1
LnGrp LOS	E	F	C	F	D	D	C	C	F	D	D	C
Approach Vol, veh/h		1781			1261			1789			931	
Approach Delay, s/veh		157.8			156.7			363.6			45.4	
Approach LOS		F			F			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	21.2	55.0	13.3	39.0	39.2	37.0	16.9	35.4
Change Period (Y+Rc), s	6.0	6.0	6.0	* 6	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	5.0	49.0	7.3	* 33	6.0	48.0	6.0	34.3
Max Q Clear Time (g_c+I1), s	7.8	53.0	11.0	37.0	5.0	26.1	13.7	26.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	3.3	0.0	2.5

Intersection Summary
HCM 2010 Ctrl Delay 203.3
HCM 2010 LOS F

Notes
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	1260	147	340	723	169	101	635	1146	178	707	136
Future Volume (veh/h)	388	1260	147	340	723	169	101	635	1146	178	707	136
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	422	1370	160	370	786	184	110	690	1246	193	768	148
Adj No. of Lanes	2	2	2	2	2	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	288	1030	638	207	936	331	828	1311	608	445	938	434
Arrive On Green	0.14	0.39	0.39	0.08	0.27	0.27	0.27	0.43	0.43	0.14	0.31	0.31
Sat Flow, veh/h	2717	3471	2151	2717	3471	1226	3109	3034	1407	3109	3034	1404
Grp Volume(v), veh/h	422	1370	160	370	786	184	110	690	1246	193	768	148
Grp Sat Flow(s),veh/h/ln	1359	1736	1075	1359	1736	1226	1554	1517	1407	1554	1517	1404
Q Serve(g_s), s	12.5	35.0	5.9	9.0	25.2	15.2	3.2	19.7	51.0	6.7	27.6	9.6
Cycle Q Clear(g_c), s	12.5	35.0	5.9	9.0	25.2	15.2	3.2	19.7	51.0	6.7	27.6	9.6
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	288	1030	638	207	936	331	828	1311	608	445	938	434
V/C Ratio(X)	1.47	1.33	0.25	1.79	0.84	0.56	0.13	0.53	2.05	0.43	0.82	0.34
Avail Cap(c_a), veh/h	288	1030	638	207	1059	374	828	1311	608	445	1285	595
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	35.7	26.9	54.5	40.7	37.0	32.9	24.6	33.5	46.2	37.7	31.5
Incr Delay (d2), s/veh	223.5	153.6	0.1	371.5	5.4	1.4	0.1	1.5	477.9	0.7	7.9	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	13.6	38.6	1.7	14.1	12.8	5.3	1.4	8.5	100.5	2.9	12.6	4.0
LnGrp Delay(d),s/veh	274.2	189.3	27.1	426.0	46.1	38.4	33.0	26.1	511.4	46.8	45.6	33.6
LnGrp LOS	F	F	C	F	D	D	C	C	F	D	D	C
Approach Vol, veh/h		1952			1340			2046			1109	
Approach Delay, s/veh		194.4			149.9			322.0			44.2	
Approach LOS		F			F			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	21.2	55.0	13.3	39.0	35.7	40.5	16.5	35.8
Change Period (Y+Rc), s	6.0	6.0	6.0	* 6	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	5.0	49.0	7.3	* 33	6.0	48.0	6.0	34.3
Max Q Clear Time (g_c+I1), s	8.7	53.0	11.0	37.0	5.2	29.6	14.5	27.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	3.9	0.0	2.6

Intersection Summary
HCM 2010 Ctrl Delay 199.8
HCM 2010 LOS F

Notes
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	1260	147	340	723	169	101	635	1146	178	707	136
Future Volume (veh/h)	388	1260	147	340	723	169	101	635	1146	178	707	136
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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	422	1370	160	370	786	184	110	690	1246	193	768	148
Adj No. of Lanes	2	3	1	2	3	1	1	2	2	2	2	2
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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	276	1593	399	276	1580	396	95	1059	879	293	1165	967
Arrive On Green	0.10	0.32	0.32	0.10	0.32	0.32	0.06	0.35	0.35	0.09	0.38	0.38
Sat Flow, veh/h	2717	4988	1250	2717	4988	1250	1603	3034	2517	3109	3034	2517
Grp Volume(v), veh/h	422	1370	160	370	786	184	110	690	1246	193	768	148
Grp Sat Flow(s),veh/h/ln	1359	1663	1250	1359	1663	1250	1603	1517	1259	1554	1517	1259
Q Serve(g_s), s	12.0	30.4	11.8	12.0	15.1	13.9	7.0	22.6	41.2	7.1	24.6	4.5
Cycle Q Clear(g_c), s	12.0	30.4	11.8	12.0	15.1	13.9	7.0	22.6	41.2	7.1	24.6	4.5
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	276	1593	399	276	1580	396	95	1059	879	293	1165	967
V/C Ratio(X)	1.53	0.86	0.40	1.34	0.50	0.46	1.16	0.65	1.42	0.66	0.66	0.15
Avail Cap(c_a), veh/h	276	1593	399	276	1580	396	95	1059	879	316	1188	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)	0.69	0.69	0.69	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	37.7	31.4	53.0	32.7	32.3	55.5	32.4	38.4	51.6	30.0	23.8
Incr Delay (d2), s/veh	249.7	4.5	2.1	174.2	1.1	3.7	140.7	1.4	194.7	4.5	1.3	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	14.1	14.6	4.3	11.2	7.1	5.2	6.8	9.7	38.0	3.2	10.6	1.6
LnGrp Delay(d),s/veh	302.7	42.2	33.4	227.2	33.8	36.0	196.2	33.8	233.1	56.1	31.3	23.9
LnGrp LOS	F	D	C	F	C	D	F	C	F	E	C	C
Approach Vol, veh/h		1952			1340			2046			1109	
Approach Delay, s/veh		97.8			87.5			163.9			34.6	
Approach LOS		F			F			F			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	15.1	45.2	16.0	41.7	11.0	49.3	16.0	41.7
Change Period (Y+Rc), s	6.0	6.0	5.7	6.0	6.0	6.0	6.0	* 6
Max Green Setting (Gmax), s	10.0	39.2	10.3	34.8	5.0	44.2	10.0	* 35
Max Q Clear Time (g_c+I1), s	9.1	43.2	14.0	32.4	9.0	26.6	14.0	17.1
Green Ext Time (p_c), s	0.1	0.0	0.0	2.1	0.0	13.1	0.0	11.5

Intersection Summary

HCM 2010 Ctrl Delay	105.8
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	309	1407	160	368	832	127	112	445	1206	180	764	106
Future Volume (veh/h)	309	1407	160	368	832	127	112	445	1206	180	764	106
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	336	1529	174	400	904	138	122	484	1311	196	830	115
Adj No. of Lanes	2	2	2	2	2	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	231	1030	638	207	1008	356	776	1311	608	445	988	458
Arrive On Green	0.11	0.39	0.39	0.10	0.39	0.39	0.25	0.43	0.43	0.14	0.33	0.33
Sat Flow, veh/h	2717	3471	2151	2717	3471	1227	3109	3034	1407	3109	3034	1405
Grp Volume(v), veh/h	336	1529	174	400	904	138	122	484	1311	196	830	115
Grp Sat Flow(s),veh/h/ln	1359	1736	1075	1359	1736	1227	1554	1517	1407	1554	1517	1405
Q Serve(g_s), s	10.0	35.0	6.5	9.0	28.9	9.6	3.6	12.7	51.0	6.8	30.0	7.1
Cycle Q Clear(g_c), s	10.0	35.0	6.5	9.0	28.9	9.6	3.6	12.7	51.0	6.8	30.0	7.1
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	231	1030	638	207	1008	356	776	1311	608	445	988	458
V/C Ratio(X)	1.45	1.49	0.27	1.93	0.90	0.39	0.16	0.37	2.16	0.44	0.84	0.25
Avail Cap(c_a), veh/h	231	1030	638	207	1059	374	776	1311	608	445	1285	595
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	35.7	27.1	53.0	34.6	28.6	34.6	22.6	33.5	46.2	36.9	29.2
Incr Delay (d2), s/veh	219.1	221.7	0.1	435.2	9.5	0.7	0.1	0.8	525.7	0.7	8.5	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	10.8	48.4	1.9	15.9	15.1	3.3	1.6	5.5	108.6	3.0	13.7	2.9
LnGrp Delay(d),s/veh	271.4	257.4	27.2	488.2	44.1	29.3	34.7	23.4	559.2	46.9	45.4	30.5
LnGrp LOS	F	F	C	F	D	C	C	C	F	D	D	C
Approach Vol, veh/h		2039			1442			1917			1141	
Approach Delay, s/veh		240.1			165.8			390.6			44.2	
Approach LOS		F			F			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	21.2	55.0	13.3	39.0	33.8	42.4	14.0	38.3
Change Period (Y+Rc), s	6.0	6.0	6.0	* 6	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	5.0	49.0	7.3	* 33	6.0	48.0	6.0	34.3
Max Q Clear Time (g_c+I1), s	8.8	53.0	11.0	37.0	5.6	32.0	12.0	30.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	3.9	0.0	1.6

Intersection Summary
HCM 2010 Ctrl Delay 233.6
HCM 2010 LOS F

Notes
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	474	1412	180	368	844	203	112	737	1206	209	876	170
Future Volume (veh/h)	474	1412	180	368	844	203	112	737	1206	209	876	170
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		0.98	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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	515	1535	196	400	917	221	122	801	1311	227	952	185
Adj No. of Lanes	2	2	2	2	2	1	2	2	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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	223	1030	638	207	1018	360	667	1311	608	445	1095	507
Arrive On Green	0.08	0.30	0.30	0.10	0.39	0.39	0.21	0.43	0.43	0.14	0.36	0.36
Sat Flow, veh/h	2717	3471	2151	2717	3471	1227	3109	3034	1407	3109	3034	1406
Grp Volume(v), veh/h	515	1535	196	400	917	221	122	801	1311	227	952	185
Grp Sat Flow(s),veh/h/ln	1359	1736	1075	1359	1736	1227	1554	1517	1407	1554	1517	1406
Q Serve(g_s), s	9.7	35.0	8.3	9.0	29.3	17.0	3.8	24.0	51.0	8.0	34.5	11.4
Cycle Q Clear(g_c), s	9.7	35.0	8.3	9.0	29.3	17.0	3.8	24.0	51.0	8.0	34.5	11.4
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	223	1030	638	207	1018	360	667	1311	608	445	1095	507
V/C Ratio(X)	2.31	1.49	0.31	1.93	0.90	0.61	0.18	0.61	2.16	0.51	0.87	0.36
Avail Cap(c_a), veh/h	223	1030	638	207	1059	374	667	1311	608	445	1285	596
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	41.5	32.1	53.0	34.4	30.6	37.9	25.8	33.5	46.7	35.1	27.8
Incr Delay (d2), s/veh	596.9	223.8	0.1	435.0	9.8	2.7	0.1	2.1	525.7	1.0	9.4	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	22.1	48.7	2.5	15.9	15.4	6.0	1.6	10.4	108.6	3.5	15.8	4.7
LnGrp Delay(d),s/veh	651.0	265.3	32.3	488.1	44.2	33.3	38.0	28.0	559.2	47.7	44.6	29.8
LnGrp LOS	F	F	C	F	D	C	D	C	F	D	D	C

Approach Vol, veh/h		2246			1538			2234			1364	
Approach Delay, s/veh		333.4			158.1			340.3			43.1	
Approach LOS		F			F			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	21.2	55.0	13.3	39.0	29.6	46.6	13.7	38.6
Change Period (Y+Rc), s	6.0	6.0	6.0	* 6	6.0	6.0	6.0	5.7
Max Green Setting (Gmax), s	5.0	49.0	7.3	* 33	6.0	48.0	6.0	34.3
Max Q Clear Time (g_c+I1), s	10.0	53.0	11.0	37.0	5.8	36.5	11.7	31.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.1	0.0	1.6

Intersection Summary

HCM 2010 Ctrl Delay	245.3	
HCM 2010 LOS	F	

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	474	1412	180	368	844	203	112	737	1206	209	876	170
Future Volume (veh/h)	474	1412	180	368	844	203	112	737	1206	209	876	170
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	1471	1827	1471	1471	1827	1471	1683	1597	1683	1683	1597	1683
Adj Flow Rate, veh/h	515	1535	196	400	917	221	122	801	1311	227	952	185
Adj No. of Lanes	2	3	1	2	3	1	1	2	2	2	2	2
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, %	19	4	19	19	4	19	4	19	4	4	19	4
Cap, veh/h	276	1987	498	276	1974	495	95	1059	879	316	1188	986
Arrive On Green	0.10	0.40	0.40	0.10	0.40	0.40	0.06	0.35	0.35	0.10	0.39	0.39
Sat Flow, veh/h	2717	4988	1250	2717	4988	1250	1603	3034	2517	3109	3034	2517
Grp Volume(v), veh/h	515	1535	196	400	917	221	122	801	1311	227	952	185
Grp Sat Flow(s),veh/h/ln	1359	1663	1250	1359	1663	1250	1603	1517	1259	1554	1517	1259
Q Serve(g_s), s	12.0	31.6	13.2	12.0	16.1	15.3	7.0	27.6	41.2	8.3	32.8	5.7
Cycle Q Clear(g_c), s	12.0	31.6	13.2	12.0	16.1	15.3	7.0	27.6	41.2	8.3	32.8	5.7
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	276	1987	498	276	1974	495	95	1059	879	316	1188	986
V/C Ratio(X)	1.86	0.77	0.39	1.45	0.46	0.45	1.28	0.76	1.49	0.72	0.80	0.19
Avail Cap(c_a), veh/h	276	1987	498	276	1974	495	95	1059	879	316	1188	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)	0.48	0.48	0.48	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	30.9	25.3	53.0	26.4	26.2	55.5	34.0	38.4	51.4	31.8	23.6
Incr Delay (d2), s/veh	395.4	1.5	1.1	219.8	0.7	2.8	186.2	3.2	227.3	7.6	4.0	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	19.7	14.8	4.7	12.9	7.5	5.7	8.0	11.9	42.0	3.9	14.4	2.0
LnGrp Delay(d),s/veh	448.4	32.3	26.5	272.8	27.1	28.9	241.7	37.1	265.7	59.0	35.9	23.7
LnGrp LOS	F	C	C	F	C	C	F	D	F	E	D	C
Approach Vol, veh/h		2246			1538			2234			1364	
Approach Delay, s/veh		127.2			91.3			182.4			38.1	
Approach LOS		F			F			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	16.0	45.2	16.0	51.3	11.0	50.2	16.0	51.3
Change Period (Y+Rc), s	6.0	6.0	5.7	6.0	6.0	6.0	6.0	* 6
Max Green Setting (Gmax), s	10.0	39.2	10.3	34.8	5.0	44.2	10.0	* 35
Max Q Clear Time (g_c+I1), s	10.3	43.2	14.0	33.6	9.0	34.8	14.0	18.1
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.0	8.3	0.0	12.5

Intersection Summary

HCM 2010 Ctrl Delay	120.0
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

Intersection 14
Pegasus Dr & Merle Haggard Dr



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	884	254	44	746	321	106
Future Volume (veh/h)	884	254	44	746	321	106
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	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	1835	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	961	276	48	811	349	115
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	1620	464	135	3029	686	315
Arrive On Green	0.42	0.42	0.08	0.60	0.22	0.22
Sat Flow, veh/h	4029	1107	1603	5253	3109	1430
Grp Volume(v), veh/h	830	407	48	811	349	115
Grp Sat Flow(s),veh/h/ln	1670	1632	1603	1695	1554	1430
Q Serve(g_s), s	8.4	8.4	1.2	3.3	4.3	3.0
Cycle Q Clear(g_c), s	8.4	8.4	1.2	3.3	4.3	3.0
Prop In Lane		0.68	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1400	684	135	3029	686	315
V/C Ratio(X)	0.59	0.59	0.36	0.27	0.51	0.36
Avail Cap(c_a), veh/h	2841	1388	295	5729	2359	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	9.8	9.8	18.8	4.2	14.9	14.4
Incr Delay (d2), s/veh	0.4	0.8	1.6	0.0	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	3.9	0.6	1.5	1.9	1.2
LnGrp Delay(d),s/veh	10.2	10.6	20.4	4.3	15.5	15.1
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	1237			859	464	
Approach Delay, s/veh	10.3			5.2	15.4	
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		13.6	7.7	22.2				29.9
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		31.7	6.3	35.3				47.3
Max Q Clear Time (g_c+I1), s		6.3	3.2	10.4				5.3
Green Ext Time (p_c), s		2.0	1.2	5.9				4.1

Intersection Summary

HCM 2010 Ctrl Delay	9.5
HCM 2010 LOS	A



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	961	254	44	781	321	106
Future Volume (veh/h)	961	254	44	781	321	106
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	1834	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	1045	276	48	849	349	115
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	2747	725	82	3973	471	217
Arrive On Green	0.70	0.70	0.05	0.78	0.15	0.15
Sat Flow, veh/h	4109	1041	1603	5253	3109	1430
Grp Volume(v), veh/h	884	437	48	849	349	115
Grp Sat Flow(s),veh/h/ln	1669	1646	1603	1695	1554	1430
Q Serve(g_s), s	13.0	13.0	3.5	5.2	12.8	8.8
Cycle Q Clear(g_c), s	13.0	13.0	3.5	5.2	12.8	8.8
Prop In Lane		0.63	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2326	1147	82	3973	471	217
V/C Ratio(X)	0.38	0.38	0.59	0.21	0.74	0.53
Avail Cap(c_a), veh/h	2326	1147	148	3973	993	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.81	0.81	1.00	1.00
Uniform Delay (d), s/veh	7.5	7.5	55.2	3.4	48.3	46.6
Incr Delay (d2), s/veh	0.3	0.6	5.3	0.1	2.3	2.0
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	6.0	1.7	2.5	5.6	3.6
LnGrp Delay(d),s/veh	7.7	8.0	60.5	3.5	50.6	48.6
LnGrp LOS	A	A	E	A	D	D
Approach Vol, veh/h	1321			897	464	
Approach Delay, s/veh	7.8			6.6	50.1	
Approach LOS	A			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		22.0	10.1	86.9				97.0
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		36.7	9.3	56.3				71.3
Max Q Clear Time (g_c+I1), s		14.8	5.5	15.0				7.2
Green Ext Time (p_c), s		1.9	0.0	14.1				15.2

Intersection Summary

HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2102	287	80	2235	326	133
Future Volume (veh/h)	2102	287	80	2235	326	133
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	1831	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2285	312	87	2429	354	145
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	3115	414	80	3972	473	218
Arrive On Green	1.00	1.00	0.05	0.78	0.15	0.15
Sat Flow, veh/h	4628	593	1603	5253	3109	1430
Grp Volume(v), veh/h	1690	907	87	2429	354	145
Grp Sat Flow(s),veh/h/ln	1666	1724	1603	1695	1554	1430
Q Serve(g_s), s	0.0	0.0	6.0	24.0	13.1	11.5
Cycle Q Clear(g_c), s	0.0	0.0	6.0	24.0	13.1	11.5
Prop In Lane		0.34	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2326	1203	80	3972	473	218
V/C Ratio(X)	0.73	0.75	1.09	0.61	0.75	0.67
Avail Cap(c_a), veh/h	2326	1203	80	3972	811	373
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	57.0	5.5	48.7	48.0
Incr Delay (d2), s/veh	0.2	0.4	56.2	0.1	2.4	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.6	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	3.9	11.0	5.8	4.8
LnGrp Delay(d),s/veh	0.2	0.4	113.8	5.6	51.1	51.5
LnGrp LOS	A	A	F	A	D	D
Approach Vol, veh/h	2597			2516	499	
Approach Delay, s/veh	0.3			9.3	51.2	
Approach LOS	A			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		22.3	10.0	87.7				97.7
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	4.3	69.0				79.0
Max Q Clear Time (g_c+I1), s		15.1	8.0	2.0				26.0
Green Ext Time (p_c), s		1.9	0.0	60.6				48.9

Intersection Summary

HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2179	287	80	2270	326	133
Future Volume (veh/h)	2179	287	80	2270	326	133
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	1831	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2368	312	87	2467	354	145
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	3131	400	80	3972	473	218
Arrive On Green	0.70	0.70	0.05	0.78	0.15	0.15
Sat Flow, veh/h	4651	574	1603	5253	3109	1430
Grp Volume(v), veh/h	1741	939	87	2467	354	145
Grp Sat Flow(s),veh/h/ln	1666	1727	1603	1695	1554	1430
Q Serve(g_s), s	39.6	43.2	6.0	24.7	13.1	11.5
Cycle Q Clear(g_c), s	39.6	43.2	6.0	24.7	13.1	11.5
Prop In Lane		0.33	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2325	1205	80	3972	473	218
V/C Ratio(X)	0.75	0.78	1.09	0.62	0.75	0.67
Avail Cap(c_a), veh/h	2325	1205	80	3972	811	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	11.5	12.0	57.0	5.6	48.7	48.0
Incr Delay (d2), s/veh	0.2	0.5	56.2	0.1	2.4	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.6	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.0	20.5	3.9	11.4	5.8	4.8
LnGrp Delay(d),s/veh	11.7	12.5	113.8	5.6	51.1	51.5
LnGrp LOS	B	B	F	A	D	D
Approach Vol, veh/h	2680			2554	499	
Approach Delay, s/veh	12.0			9.3	51.2	
Approach LOS	B			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		22.3	10.0	87.7				97.7
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	4.3	69.0				79.0
Max Q Clear Time (g_c+I1), s		15.1	8.0	45.2				26.7
Green Ext Time (p_c), s		1.9	0.0	23.0				48.8

Intersection Summary

HCM 2010 Ctrl Delay	14.2
HCM 2010 LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2179	287	80	2270	326	133
Future Volume (veh/h)	2179	287	80	2270	326	133
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	1831	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2368	312	87	2467	354	145
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	3131	400	80	3972	473	218
Arrive On Green	0.70	0.70	0.05	0.78	0.15	0.15
Sat Flow, veh/h	4651	574	1603	5253	3109	1430
Grp Volume(v), veh/h	1741	939	87	2467	354	145
Grp Sat Flow(s),veh/h/ln	1666	1727	1603	1695	1554	1430
Q Serve(g_s), s	39.6	43.2	6.0	24.7	13.1	11.5
Cycle Q Clear(g_c), s	39.6	43.2	6.0	24.7	13.1	11.5
Prop In Lane		0.33	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2325	1205	80	3972	473	218
V/C Ratio(X)	0.75	0.78	1.09	0.62	0.75	0.67
Avail Cap(c_a), veh/h	2325	1205	80	3972	811	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.21	0.21	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	11.5	12.0	57.0	5.6	48.7	48.0
Incr Delay (d2), s/veh	0.5	1.1	56.2	0.1	2.4	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.6	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.0	20.7	3.9	11.4	5.8	4.8
LnGrp Delay(d),s/veh	11.9	13.1	113.8	5.6	51.1	51.5
LnGrp LOS	B	B	F	A	D	D
Approach Vol, veh/h	2680			2554	499	
Approach Delay, s/veh	12.3			9.3	51.2	
Approach LOS	B			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		22.3	10.0	87.7				97.7
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	4.3	69.0				79.0
Max Q Clear Time (g_c+I1), s		15.1	8.0	45.2				26.7
Green Ext Time (p_c), s		1.9	0.0	23.0				48.8

Intersection Summary

HCM 2010 Ctrl Delay	14.4
HCM 2010 LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2233	325	91	2419	331	134
Future Volume (veh/h)	2233	325	91	2419	331	134
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	1831	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2427	353	99	2629	360	146
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	3084	432	80	3962	479	221
Arrive On Green	1.00	1.00	0.05	0.78	0.15	0.15
Sat Flow, veh/h	4597	620	1603	5253	3109	1430
Grp Volume(v), veh/h	1802	978	99	2629	360	146
Grp Sat Flow(s),veh/h/ln	1667	1719	1603	1695	1554	1430
Q Serve(g_s), s	0.0	0.0	6.0	28.4	13.3	11.5
Cycle Q Clear(g_c), s	0.0	0.0	6.0	28.4	13.3	11.5
Prop In Lane		0.36	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2319	1196	80	3962	479	221
V/C Ratio(X)	0.78	0.82	1.24	0.66	0.75	0.66
Avail Cap(c_a), veh/h	2319	1196	80	3962	811	373
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	57.0	6.1	48.5	47.8
Incr Delay (d2), s/veh	0.2	0.6	115.7	0.1	2.4	3.4
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	0.2	5.2	12.9	5.9	4.8
LnGrp Delay(d),s/veh	0.2	0.6	172.7	6.1	50.9	51.2
LnGrp LOS	A	A	F	A	D	D
Approach Vol, veh/h	2780			2728	506	
Approach Delay, s/veh	0.4			12.2	51.0	
Approach LOS	A			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		22.5	10.0	87.5				97.5
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	4.3	69.0				79.0
Max Q Clear Time (g_c+I1), s		15.3	8.0	2.0				30.4
Green Ext Time (p_c), s		1.9	0.0	63.1				46.5

Intersection Summary

HCM 2010 Ctrl Delay	10.0
HCM 2010 LOS	A



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2328	325	91	2462	331	134
Future Volume (veh/h)	2328	325	91	2462	331	134
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	1831	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2530	353	99	2676	360	146
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	3103	415	80	3962	479	221
Arrive On Green	0.70	0.70	0.05	0.78	0.15	0.15
Sat Flow, veh/h	4625	596	1603	5253	3109	1430
Grp Volume(v), veh/h	1863	1020	99	2676	360	146
Grp Sat Flow(s),veh/h/ln	1666	1723	1603	1695	1554	1430
Q Serve(g_s), s	46.2	53.0	6.0	29.4	13.3	11.5
Cycle Q Clear(g_c), s	46.2	53.0	6.0	29.4	13.3	11.5
Prop In Lane		0.35	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2319	1199	80	3962	479	221
V/C Ratio(X)	0.80	0.85	1.24	0.68	0.75	0.66
Avail Cap(c_a), veh/h	2319	1199	80	3962	811	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	12.6	13.6	57.0	6.2	48.5	47.8
Incr Delay (d2), s/veh	0.3	0.8	115.7	0.1	2.4	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.0	25.2	5.2	13.7	5.9	4.8
LnGrp Delay(d),s/veh	12.9	14.4	172.7	6.3	50.9	51.2
LnGrp LOS	B	B	F	A	D	D
Approach Vol, veh/h	2883			2775	506	
Approach Delay, s/veh	13.4			12.2	51.0	
Approach LOS	B			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		22.5	10.0	87.5				97.5
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	4.3	69.0				79.0
Max Q Clear Time (g_c+I1), s		15.3	8.0	55.0				31.4
Green Ext Time (p_c), s		1.9	0.0	13.9				45.9

Intersection Summary

HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2328	325	91	2462	331	134
Future Volume (veh/h)	2328	325	91	2462	331	134
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	1831	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2530	353	99	2676	360	146
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	3103	415	80	3962	479	221
Arrive On Green	0.70	0.70	0.05	0.78	0.15	0.15
Sat Flow, veh/h	4625	596	1603	5253	3109	1430
Grp Volume(v), veh/h	1863	1020	99	2676	360	146
Grp Sat Flow(s),veh/h/ln	1666	1723	1603	1695	1554	1430
Q Serve(g_s), s	46.2	53.0	6.0	29.4	13.3	11.5
Cycle Q Clear(g_c), s	46.2	53.0	6.0	29.4	13.3	11.5
Prop In Lane		0.35	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2319	1199	80	3962	479	221
V/C Ratio(X)	0.80	0.85	1.24	0.68	0.75	0.66
Avail Cap(c_a), veh/h	2319	1199	80	3962	811	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	12.6	13.6	57.0	6.2	48.5	47.8
Incr Delay (d2), s/veh	0.3	0.8	115.7	0.1	2.4	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.0	25.2	5.2	13.7	5.9	4.8
LnGrp Delay(d),s/veh	12.9	14.4	172.7	6.3	50.9	51.2
LnGrp LOS	B	B	F	A	D	D
Approach Vol, veh/h	2883			2775	506	
Approach Delay, s/veh	13.4			12.2	51.0	
Approach LOS	B			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		22.5	10.0	87.5				97.5
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	4.3	69.0				79.0
Max Q Clear Time (g_c+I1), s		15.3	8.0	55.0				31.4
Green Ext Time (p_c), s		1.9	0.0	13.9				45.9

Intersection Summary

HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	741	356	75	558	174	30
Future Volume (veh/h)	741	356	75	558	174	30
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	1838	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	805	387	82	607	189	33
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	2395	1115	126	4225	300	138
Arrive On Green	1.00	1.00	0.08	0.83	0.10	0.10
Sat Flow, veh/h	3511	1557	1603	5253	3109	1430
Grp Volume(v), veh/h	805	387	82	607	189	33
Grp Sat Flow(s),veh/h/ln	1673	1557	1603	1695	1554	1430
Q Serve(g_s), s	0.0	0.0	5.5	2.5	6.4	2.3
Cycle Q Clear(g_c), s	0.0	0.0	5.5	2.5	6.4	2.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2395	1115	126	4225	300	138
V/C Ratio(X)	0.34	0.35	0.65	0.14	0.63	0.24
Avail Cap(c_a), veh/h	2395	1115	248	4225	933	429
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.93	0.93	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	49.2	1.8	47.8	46.0
Incr Delay (d2), s/veh	0.3	0.6	5.2	0.1	2.2	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	0.1	0.2	2.6	1.2	2.8	1.0
LnGrp Delay(d),s/veh	0.3	0.6	54.4	1.9	50.0	46.9
LnGrp LOS	A	A	D	A	D	D
Approach Vol, veh/h	1192			689	222	
Approach Delay, s/veh	0.4			8.1	49.5	
Approach LOS	A			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		14.6	12.7	82.7				95.4
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		31.7	15.3	46.3				67.3
Max Q Clear Time (g_c+I1), s		8.4	7.5	2.0				4.5
Green Ext Time (p_c), s		0.9	0.1	10.7				11.1

Intersection Summary

HCM 2010 Ctrl Delay	8.1
HCM 2010 LOS	A



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	768	356	75	630	174	30
Future Volume (veh/h)	768	356	75	630	174	30
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	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	1838	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	835	387	82	685	189	33
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	1463	675	574	4225	300	138
Arrive On Green	0.87	0.87	0.36	0.83	0.10	0.10
Sat Flow, veh/h	3518	1547	1603	5253	3109	1430
Grp Volume(v), veh/h	833	389	82	685	189	33
Grp Sat Flow(s),veh/h/ln	1673	1555	1603	1695	1554	1430
Q Serve(g_s), s	6.9	7.0	3.8	2.9	6.4	2.3
Cycle Q Clear(g_c), s	6.9	7.0	3.8	2.9	6.4	2.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1460	678	574	4225	300	138
V/C Ratio(X)	0.57	0.57	0.14	0.16	0.63	0.24
Avail Cap(c_a), veh/h	1460	678	574	4225	933	429
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.90	0.90	1.00	1.00
Uniform Delay (d), s/veh	4.4	4.4	23.9	1.8	47.8	46.0
Incr Delay (d2), s/veh	1.0	2.2	0.1	0.1	2.2	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	3.0	3.2	1.7	1.4	2.8	1.0
LnGrp Delay(d),s/veh	5.4	6.6	24.0	1.9	50.0	46.9
LnGrp LOS	A	A	C	A	D	D
Approach Vol, veh/h	1222			767	222	
Approach Delay, s/veh	5.8			4.3	49.5	
Approach LOS	A			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		14.6	43.4	52.0				95.4
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		31.7	15.3	46.3				67.3
Max Q Clear Time (g_c+I1), s		8.4	5.8	9.0				4.9
Green Ext Time (p_c), s		0.9	2.4	6.3				3.6

Intersection Summary

HCM 2010 Ctrl Delay	9.7
HCM 2010 LOS	A



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2103	403	90	975	177	55
Future Volume (veh/h)	2103	403	90	975	177	55
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	1833	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2286	438	98	1060	192	60
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	2355	431	398	4254	298	137
Arrive On Green	1.00	1.00	0.25	0.84	0.10	0.10
Sat Flow, veh/h	4414	777	1603	5253	3109	1430
Grp Volume(v), veh/h	1771	953	98	1060	192	60
Grp Sat Flow(s),veh/h/ln	1668	1691	1603	1695	1554	1430
Q Serve(g_s), s	0.0	65.4	5.8	5.1	7.0	4.7
Cycle Q Clear(g_c), s	0.0	65.4	5.8	5.1	7.0	4.7
Prop In Lane		0.46	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1849	937	398	4254	298	137
V/C Ratio(X)	0.96	1.02	0.25	0.25	0.65	0.44
Avail Cap(c_a), veh/h	1849	937	398	4254	825	379
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.81	0.81	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	35.5	2.0	51.4	50.4
Incr Delay (d2), s/veh	1.8	13.4	0.3	0.1	2.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.5	2.6	2.4	3.1	1.9
LnGrp Delay(d),s/veh	1.8	13.4	35.8	2.1	53.8	52.6
LnGrp LOS	A	F	D	A	D	D
Approach Vol, veh/h	2724			1158	252	
Approach Delay, s/veh	5.9			5.0	53.5	
Approach LOS	A			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		15.3	33.3	69.4				102.7
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	7.6	63.7				77.0
Max Q Clear Time (g_c+I1), s		9.0	7.8	67.4				7.1
Green Ext Time (p_c), s		1.0	0.0	0.0				6.1

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)	2130	403	90	1047	177	55
Future Volume (veh/h)	2130	403	90	1047	177	55
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	1833	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2315	438	98	1138	192	60
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	2361	426	398	4254	298	137
Arrive On Green	1.00	1.00	0.25	0.84	0.10	0.10
Sat Flow, veh/h	4425	768	1603	5253	3109	1430
Grp Volume(v), veh/h	1788	965	98	1138	192	60
Grp Sat Flow(s),veh/h/ln	1668	1693	1603	1695	1554	1430
Q Serve(g_s), s	0.0	65.4	5.8	5.6	7.0	4.7
Cycle Q Clear(g_c), s	0.0	65.4	5.8	5.6	7.0	4.7
Prop In Lane		0.45	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1848	938	398	4254	298	137
V/C Ratio(X)	0.97	1.03	0.25	0.27	0.65	0.44
Avail Cap(c_a), veh/h	1848	938	398	4254	825	379
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.78	0.78	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	35.5	2.0	51.4	50.4
Incr Delay (d2), s/veh	2.2	17.5	0.2	0.1	2.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.6	2.6	2.6	3.1	1.9
LnGrp Delay(d),s/veh	2.2	17.5	35.8	2.2	53.8	52.6
LnGrp LOS	A	F	D	A	D	D
Approach Vol, veh/h	2753			1236	252	
Approach Delay, s/veh	7.6			4.8	53.5	
Approach LOS	A			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		15.3	33.3	69.4				102.7
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	7.6	63.7				77.0
Max Q Clear Time (g_c+I1), s		9.0	7.8	67.4				7.6
Green Ext Time (p_c), s		1.0	0.0	0.0				6.6

Intersection Summary

HCM 2010 Ctrl Delay	9.5
HCM 2010 LOS	A



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2130	403	90	1047	177	55
Future Volume (veh/h)	2130	403	90	1047	177	55
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	1833	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2315	438	98	1138	192	60
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	3216	580	80	4263	296	136
Arrive On Green	0.75	0.75	0.05	0.84	0.10	0.10
Sat Flow, veh/h	4425	769	1603	5253	3109	1430
Grp Volume(v), veh/h	1788	965	98	1138	192	60
Grp Sat Flow(s),veh/h/ln	1668	1694	1603	1695	1554	1430
Q Serve(g_s), s	34.0	39.0	6.0	5.6	7.1	4.8
Cycle Q Clear(g_c), s	34.0	39.0	6.0	5.6	7.1	4.8
Prop In Lane		0.45	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2518	1279	80	4263	296	136
V/C Ratio(X)	0.71	0.75	1.22	0.27	0.65	0.44
Avail Cap(c_a), veh/h	2518	1279	80	4263	811	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.20	0.20	0.75	0.75	1.00	1.00
Uniform Delay (d), s/veh	7.8	8.4	57.0	2.0	52.4	51.3
Incr Delay (d2), s/veh	0.3	0.8	158.7	0.1	2.4	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	18.3	6.2	2.6	3.2	2.0
LnGrp Delay(d),s/veh	8.1	9.2	215.7	2.1	54.8	53.5
LnGrp LOS	A	A	F	A	D	D
Approach Vol, veh/h	2753			1236	252	
Approach Delay, s/veh	8.5			19.1	54.5	
Approach LOS	A			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		15.4	10.0	94.6				104.6
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	4.3	69.0				79.0
Max Q Clear Time (g_c+I1), s		9.1	8.0	41.0				7.6
Green Ext Time (p_c), s		1.0	0.0	24.1				50.3

Intersection Summary

HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2213	456	109	1113	179	56
Future Volume (veh/h)	2213	456	109	1113	179	56
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	1833	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2405	496	118	1210	195	61
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	2332	451	396	4248	301	138
Arrive On Green	1.00	1.00	0.25	0.84	0.10	0.10
Sat Flow, veh/h	4372	814	1603	5253	3109	1430
Grp Volume(v), veh/h	1874	1027	118	1210	195	61
Grp Sat Flow(s),veh/h/ln	1668	1685	1603	1695	1554	1430
Q Serve(g_s), s	65.4	65.4	7.1	6.1	7.1	4.7
Cycle Q Clear(g_c), s	65.4	65.4	7.1	6.1	7.1	4.7
Prop In Lane		0.48	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1849	934	396	4248	301	138
V/C Ratio(X)	1.01	1.10	0.30	0.28	0.65	0.44
Avail Cap(c_a), veh/h	1849	934	396	4248	825	379
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.73	0.73	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	36.1	2.1	51.4	50.3
Incr Delay (d2), s/veh	10.0	46.8	0.3	0.1	2.3	2.2
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	12.1	3.1	2.8	3.2	2.0
LnGrp Delay(d),s/veh	10.0	46.8	36.4	2.2	53.7	52.5
LnGrp LOS	F	F	D	A	D	D
Approach Vol, veh/h	2901			1328	256	
Approach Delay, s/veh	23.1			5.3	53.4	
Approach LOS	C			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		15.4	33.2	69.4				102.6
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	7.6	63.7				77.0
Max Q Clear Time (g_c+I1), s		9.1	9.1	67.4				8.1
Green Ext Time (p_c), s		1.0	0.0	0.0				7.3

Intersection Summary

HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2247	456	109	1201	179	56
Future Volume (veh/h)	2247	456	109	1201	179	56
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	1833	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2442	496	118	1305	195	61
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	2339	445	396	4248	301	138
Arrive On Green	1.00	1.00	0.25	0.84	0.10	0.10
Sat Flow, veh/h	4385	803	1603	5253	3109	1430
Grp Volume(v), veh/h	1896	1042	118	1305	195	61
Grp Sat Flow(s),veh/h/ln	1668	1687	1603	1695	1554	1430
Q Serve(g_s), s	0.0	65.4	7.1	6.7	7.1	4.7
Cycle Q Clear(g_c), s	0.0	65.4	7.1	6.7	7.1	4.7
Prop In Lane		0.48	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1849	935	396	4248	301	138
V/C Ratio(X)	1.03	1.11	0.30	0.31	0.65	0.44
Avail Cap(c_a), veh/h	1849	935	396	4248	825	379
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.69	0.69	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	36.1	2.1	51.4	50.3
Incr Delay (d2), s/veh	14.3	53.1	0.3	0.1	2.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	13.8	3.1	3.1	3.2	2.0
LnGrp Delay(d),s/veh	14.3	53.1	36.4	2.3	53.7	52.5
LnGrp LOS	F	F	D	A	D	D
Approach Vol, veh/h	2938			1423	256	
Approach Delay, s/veh	28.1			5.1	53.4	
Approach LOS	C			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		15.4	33.2	69.4				102.6
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	7.6	63.7				77.0
Max Q Clear Time (g_c+I1), s		9.1	9.1	67.4				8.7
Green Ext Time (p_c), s		1.0	0.0	0.0				8.2

Intersection Summary

HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C



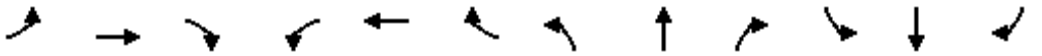
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2247	456	109	1201	179	56
Future Volume (veh/h)	2247	456	109	1201	179	56
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1833	1750	1683	1863	1683	1683
Adj Flow Rate, veh/h	2442	496	118	1305	195	61
Adj No. of Lanes	3	0	1	3	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	4	4
Cap, veh/h	3181	606	80	4257	299	138
Arrive On Green	0.75	0.75	0.05	0.84	0.10	0.10
Sat Flow, veh/h	4385	804	1603	5253	3109	1430
Grp Volume(v), veh/h	1896	1042	118	1305	195	61
Grp Sat Flow(s),veh/h/ln	1668	1688	1603	1695	1554	1430
Q Serve(g_s), s	38.9	47.6	6.0	6.7	7.3	4.8
Cycle Q Clear(g_c), s	38.9	47.6	6.0	6.7	7.3	4.8
Prop In Lane		0.48	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2515	1272	80	4257	299	138
V/C Ratio(X)	0.75	0.82	1.47	0.31	0.65	0.44
Avail Cap(c_a), veh/h	2515	1272	80	4257	811	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.63	0.63	1.00	1.00
Uniform Delay (d), s/veh	8.4	9.5	57.0	2.1	52.3	51.2
Incr Delay (d2), s/veh	0.2	0.6	250.4	0.1	2.4	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.7	21.9	8.2	3.2	3.2	2.0
LnGrp Delay(d),s/veh	8.6	10.1	307.4	2.3	54.7	53.4
LnGrp LOS	A	B	F	A	D	D
Approach Vol, veh/h	2938			1423	256	
Approach Delay, s/veh	9.1			27.6	54.4	
Approach LOS	A			C	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		15.5	10.0	94.5				104.5
Change Period (Y+Rc), s		5.3	5.7	5.7				5.7
Max Green Setting (Gmax), s		30.0	4.3	69.0				79.0
Max Q Clear Time (g_c+I1), s		9.3	8.0	49.6				8.7
Green Ext Time (p_c), s		1.0	0.0	18.0				55.7

Intersection Summary

HCM 2010 Ctrl Delay	17.3
HCM 2010 LOS	B

Intersection 15
Wings Wy & Merle Haggard Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	847	51	21	471	25	54	2	26	50	1	378
Future Volume (veh/h)	275	847	51	21	471	25	54	2	26	50	1	378
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1841	1723	1723	1841	1723	1695	1870	1695	1695	1870	1695
Adj Flow Rate, veh/h	299	921	55	23	512	27	59	2	28	54	1	411
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	4	2	2	4	2	4	2	4	4	2	4
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	398	1650	686	105	1328	552	130	86	117	972	1118	450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	0.47	0.47	0.03	0.38	0.38	0.04	0.05	0.05	0.31	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	53.9	22.9	16.9	55.0	26.6	2.7	56.3	52.5	41.0	27.9	27.0	58.3
Ln Grp LOS	D	C	B	E	C	A	E	D	D	C	C	E
Approach Vol, veh/h		1275			562			89			466	
Approach Delay, s/veh		29.9			26.6			51.4			54.7	
Approach LOS		C			C			D			D	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	2	1	3	4	5	6	7	8
Case No	3.0	2.0	2.0	3.0	2.0	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	9.3	39.7	7.8	58.2	8.8	40.2	18.4	47.7
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green (Gmax), s	38.1	4.3	4.0	46.6	4.0	38.4	14.3	36.3
Max Allow Headway (MAH), s	4.4	4.2	4.1	4.1	4.2	4.4	4.1	4.1
Max Q Clear (g_c+I1), s	3.1	3.4	2.8	23.7	4.1	33.8	12.4	14.2
Green Ext Time (g_e), s	0.1	0.0	0.0	4.5	0.0	0.8	0.2	2.2
Prob of Phs Call (p_c)	1.00	0.82	0.52	1.00	0.85	1.00	1.00	1.00
Prob of Max Out (p_x)	0.00	1.00	1.00	0.00	1.00	0.94	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt		1	3		5		7	
Mvmt Sat Flow, veh/h		3132	3183		3132		3183	

Through Movement Data								
Assigned Mvmt	2			4		6		8
Mvmt Sat Flow, veh/h	1870			3497		3554		3497

Right-Turn Movement Data								
Assigned Mvmt	12			14		16		18
Mvmt Sat Flow, veh/h	2529			1455		1430		1454

Left Lane Group Data								
Assigned Mvmt	0	1	3	0	5	0	7	0
Lane Assignment		L (Prot)	L (Prot)		L (Prot)		L (Prot)	

Lanes in Grp	0	2	2	0	2	0	2	0
Grp Vol (v), veh/h	0	54	23	0	59	0	299	0
Grp Sat Flow (s), veh/h/ln	0	1566	1591	0	1566	0	1591	0
Q Serve Time (g_s), s	0.0	1.4	0.8	0.0	2.1	0.0	10.4	0.0
Cycle Q Clear Time (g_c), s	0.0	1.4	0.8	0.0	2.1	0.0	10.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	972	105	0	130	0	398	0
V/C Ratio (X)	0.00	0.06	0.22	0.00	0.45	0.00	0.75	0.00
Avail Cap (c_a), veh/h	0	972	158	0	144	0	443	0
Upstream Filter (I)	0.00	1.00	0.83	0.00	1.00	0.00	0.82	0.00
Uniform Delay (d1), s/veh	0.0	27.8	54.2	0.0	53.8	0.0	48.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.0	2.4	0.0	5.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.9	55.0	0.0	56.3	0.0	53.9	0.0
1st-Term Q (Q1), veh/ln	0.0	0.5	0.3	0.0	0.8	0.0	4.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.3	0.0	0.9	0.0	4.3	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.05	0.00	0.09	0.00	0.47	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	2	0	0	4	0	6	0	8
Lane Assignment	T			T		T		T
Lanes in Grp	1	0	0	2	0	2	0	2
Grp Vol (v), veh/h	2	0	0	921	0	1	0	512
Grp Sat Flow (s), veh/h/ln	1870	0	0	1749	0	1777	0	1749
Q Serve Time (g_s), s	0.1	0.0	0.0	21.7	0.0	0.0	0.0	12.2
Cycle Q Clear Time (g_c), s	0.1	0.0	0.0	21.7	0.0	0.0	0.0	12.2
Lane Grp Cap (c), veh/h	86	0	0	1650	0	1118	0	1328
V/C Ratio (X)	0.02	0.00	0.00	0.56	0.00	0.00	0.00	0.39
Avail Cap (c_a), veh/h	641	0	0	1650	0	1227	0	1328
Upstream Filter (I)	1.00	0.00	0.00	0.82	0.00	1.00	0.00	0.83
Uniform Delay (d1), s/veh	52.4	0.0	0.0	21.8	0.0	27.0	0.0	25.9
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.1	0.0	0.0	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	52.5	0.0	0.0	22.9	0.0	27.0	0.0	26.6
1st-Term Q (Q1), veh/ln	0.1	0.0	0.0	8.2	0.0	0.0	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.1

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.1	0.0	0.0	8.4	0.0	0.0	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	12	0	0	14	0	16	0	18
Lane Assignment	R			R		R		R
Lanes in Grp	2	0	0	1	0	1	0	1
Grp Vol (v), veh/h	28	0	0	55	0	411	0	27
Grp Sat Flow (s), veh/h/ln	1264	0	0	1455	0	1430	0	1454
Q Serve Time (g_s), s	1.1	0.0	0.0	2.4	0.0	31.8	0.0	0.5
Cycle Q Clear Time (g_c), s	1.1	0.0	0.0	2.4	0.0	31.8	0.0	0.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	117	0	0	686	0	450	0	552
V/C Ratio (X)	0.24	0.00	0.00	0.08	0.00	0.91	0.00	0.05
Avail Cap (c_a), veh/h	866	0	0	686	0	494	0	552
Upstream Filter (I)	1.00	0.00	0.00	0.82	0.00	1.00	0.00	0.83
Uniform Delay (d1), s/veh	39.9	0.0	0.0	16.7	0.0	37.9	0.0	2.6
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.2	0.0	20.4	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
Control Delay (d), s/veh	41.0	0.0	0.0	16.9	0.0	58.3	0.0	2.7
1st-Term Q (Q1), veh/ln	0.4	0.0	0.0	0.7	0.0	10.4	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.4	0.0	0.0	0.8	0.0	13.0	0.0	0.5
%ile Storage Ratio (RQ%)	0.04	0.00	0.00	0.06	0.00	1.68	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	924	51	21	506	25	54	2	26	50	1	378
Future Volume (veh/h)	275	924	51	21	506	25	54	2	26	50	1	378
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1841	1723	1723	1841	1723	1695	1870	1695	1695	1870	1695
Adj Flow Rate, veh/h	299	1004	55	23	550	27	59	2	28	54	1	411
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	4	2	2	4	2	4	2	4	4	2	4
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	398	1650	686	105	1328	552	130	86	117	972	1118	450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	0.47	0.47	0.03	0.38	0.38	0.04	0.05	0.05	0.31	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	54.5	24.1	16.9	55.0	27.0	2.7	56.3	52.5	41.0	27.9	27.0	58.3
Ln Grp LOS	D	C	B	E	C	A	E	D	D	C	C	E
Approach Vol, veh/h		1358			600			89			466	
Approach Delay, s/veh		30.5			27.0			51.4			54.7	
Approach LOS		C			C			D			D	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	2	1	3	4	5	6	7	8
Case No	3.0	2.0	2.0	3.0	2.0	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	9.3	39.7	7.8	58.2	8.8	40.2	18.4	47.7
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green (Gmax), s	38.1	4.3	4.0	46.6	4.0	38.4	14.3	36.3
Max Allow Headway (MAH), s	4.4	4.2	4.1	4.1	4.2	4.4	4.1	4.1
Max Q Clear (g_c+I1), s	3.1	3.4	2.8	26.5	4.1	33.8	12.4	15.3
Green Ext Time (g_e), s	0.1	0.0	0.0	4.9	0.0	0.8	0.2	2.4
Prob of Phs Call (p_c)	1.00	0.82	0.52	1.00	0.85	1.00	1.00	1.00
Prob of Max Out (p_x)	0.00	1.00	1.00	0.00	1.00	0.94	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt		1	3		5		7	
Mvmt Sat Flow, veh/h		3132	3183		3132		3183	

Through Movement Data								
Assigned Mvmt	2			4		6		8
Mvmt Sat Flow, veh/h	1870			3497		3554		3497

Right-Turn Movement Data								
Assigned Mvmt	12			14		16		18
Mvmt Sat Flow, veh/h	2529			1455		1430		1454

Left Lane Group Data								
Assigned Mvmt	0	1	3	0	5	0	7	0
Lane Assignment		L (Prot)	L (Prot)		L (Prot)		L (Prot)	

Lanes in Grp	0	2	2	0	2	0	2	0
Grp Vol (v), veh/h	0	54	23	0	59	0	299	0
Grp Sat Flow (s), veh/h/ln	0	1566	1591	0	1566	0	1591	0
Q Serve Time (g_s), s	0.0	1.4	0.8	0.0	2.1	0.0	10.4	0.0
Cycle Q Clear Time (g_c), s	0.0	1.4	0.8	0.0	2.1	0.0	10.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	972	105	0	130	0	398	0
V/C Ratio (X)	0.00	0.06	0.22	0.00	0.45	0.00	0.75	0.00
Avail Cap (c_a), veh/h	0	972	158	0	144	0	443	0
Upstream Filter (I)	0.00	1.00	0.80	0.00	1.00	0.00	0.92	0.00
Uniform Delay (d1), s/veh	0.0	27.8	54.2	0.0	53.8	0.0	48.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	2.4	0.0	5.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.9	55.0	0.0	56.3	0.0	54.5	0.0
1st-Term Q (Q1), veh/ln	0.0	0.5	0.3	0.0	0.8	0.0	4.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.3	0.0	0.9	0.0	4.3	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.05	0.00	0.09	0.00	0.48	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	2	0	0	4	0	6	0	8
Lane Assignment	T			T		T		T
Lanes in Grp	1	0	0	2	0	2	0	2
Grp Vol (v), veh/h	2	0	0	1004	0	1	0	550
Grp Sat Flow (s), veh/h/ln	1870	0	0	1749	0	1777	0	1749
Q Serve Time (g_s), s	0.1	0.0	0.0	24.5	0.0	0.0	0.0	13.3
Cycle Q Clear Time (g_c), s	0.1	0.0	0.0	24.5	0.0	0.0	0.0	13.3
Lane Grp Cap (c), veh/h	86	0	0	1650	0	1118	0	1328
V/C Ratio (X)	0.02	0.00	0.00	0.61	0.00	0.00	0.00	0.41
Avail Cap (c_a), veh/h	641	0	0	1650	0	1227	0	1328
Upstream Filter (I)	1.00	0.00	0.00	0.92	0.00	1.00	0.00	0.80
Uniform Delay (d1), s/veh	52.4	0.0	0.0	22.5	0.0	27.0	0.0	26.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.5	0.0	0.0	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
Control Delay (d), s/veh	52.5	0.0	0.0	24.1	0.0	27.0	0.0	27.0
1st-Term Q (Q1), veh/ln	0.1	0.0	0.0	9.2	0.0	0.0	0.0	5.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.1

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.1	0.0	0.0	9.6	0.0	0.0	0.0	5.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	12	0	0	14	0	16	0	18
Lane Assignment	R			R		R		R
Lanes in Grp	2	0	0	1	0	1	0	1
Grp Vol (v), veh/h	28	0	0	55	0	411	0	27
Grp Sat Flow (s), veh/h/ln	1264	0	0	1455	0	1430	0	1454
Q Serve Time (g_s), s	1.1	0.0	0.0	2.4	0.0	31.8	0.0	0.5
Cycle Q Clear Time (g_c), s	1.1	0.0	0.0	2.4	0.0	31.8	0.0	0.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	117	0	0	686	0	450	0	552
V/C Ratio (X)	0.24	0.00	0.00	0.08	0.00	0.91	0.00	0.05
Avail Cap (c_a), veh/h	866	0	0	686	0	494	0	552
Upstream Filter (I)	1.00	0.00	0.00	0.92	0.00	1.00	0.00	0.80
Uniform Delay (d1), s/veh	39.9	0.0	0.0	16.7	0.0	37.9	0.0	2.6
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.2	0.0	20.4	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
Control Delay (d), s/veh	41.0	0.0	0.0	16.9	0.0	58.3	0.0	2.7
1st-Term Q (Q1), veh/ln	0.4	0.0	0.0	0.7	0.0	10.4	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.4	0.0	0.0	0.8	0.0	13.0	0.0	0.5
%ile Storage Ratio (RQ%)	0.04	0.00	0.00	0.06	0.00	1.68	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1072	1319	148	40	1156	164	163	31	49	172	15	1160
Future Volume (veh/h)	1072	1319	148	40	1156	164	163	31	49	172	15	1160
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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1165	1434	161	43	1257	178	177	34	53	187	16	1261
Adj No. of Lanes	2	2	1	2	2	1	2	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	449	1569	657	125	1215	508	137	89	120	1017	1171	471
Arrive On Green	0.14	0.45	0.45	0.04	0.35	0.35	0.04	0.05	0.05	0.33	0.33	0.33
Sat Flow, veh/h	3170	3471	1453	3170	3471	1452	3109	1863	2517	3109	3539	1424
Grp Volume(v), veh/h	1165	1434	161	43	1257	178	177	34	53	187	16	1261
Grp Sat Flow(s),veh/h/ln	1585	1736	1453	1585	1736	1452	1554	1863	1259	1554	1770	1424
Q Serve(g_s), s	17.0	46.3	6.1	1.6	42.0	10.9	5.3	2.1	2.1	5.2	0.4	39.7
Cycle Q Clear(g_c), s	17.0	46.3	6.1	1.6	42.0	10.9	5.3	2.1	2.1	5.2	0.4	39.7
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	449	1569	657	125	1215	508	137	89	120	1017	1171	471
V/C Ratio(X)	2.59	0.91	0.24	0.34	1.03	0.35	1.29	0.38	0.44	0.18	0.01	2.68
Avail Cap(c_a), veh/h	449	1569	657	151	1215	508	137	553	747	1017	1171	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	0.41	0.54	0.54	0.54	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	30.7	11.3	56.1	39.0	28.9	57.3	55.4	41.6	28.9	27.0	40.2
Incr Delay (d2), s/veh	720.1	4.5	0.4	0.9	28.5	1.0	173.8	2.7	2.5	0.1	0.0	760.7
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	52.3	23.1	2.5	0.7	24.9	4.5	5.6	1.2	0.8	2.2	0.2	115.1
LnGrp Delay(d),s/veh	771.6	35.1	11.6	57.0	67.5	29.9	231.2	58.1	44.2	29.0	27.0	800.9
LnGrp LOS	F	D	B	E	F	C	F	E	D	C	C	F
Approach Vol, veh/h		2760			1478			264			1464	
Approach Delay, s/veh		344.6			62.7			171.3			693.8	
Approach LOS		F			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	43.3	9.7	8.7	58.3	9.3	43.7	21.0	46.0
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	8.1	34.3	4.0	51.6	4.0	38.4	15.3	40.3
Max Q Clear Time (g_c+I1), s	7.2	4.1	3.6	48.3	7.3	41.7	19.0	44.0
Green Ext Time (p_c), s	0.2	0.3	0.0	3.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	352.8
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1072	1396	148	40	1191	164	163	31	49	172	15	1160
Future Volume (veh/h)	1072	1396	148	40	1191	164	163	31	49	172	15	1160
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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1165	1517	161	43	1295	178	177	34	53	187	16	1261
Adj No. of Lanes	2	2	1	2	2	1	2	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	449	1569	657	125	1215	508	137	89	120	1017	1171	471
Arrive On Green	0.14	0.45	0.45	0.04	0.35	0.35	0.04	0.05	0.05	0.33	0.33	0.33
Sat Flow, veh/h	3170	3471	1453	3170	3471	1452	3109	1863	2517	3109	3539	1424
Grp Volume(v), veh/h	1165	1517	161	43	1295	178	177	34	53	187	16	1261
Grp Sat Flow(s),veh/h/ln	1585	1736	1453	1585	1736	1452	1554	1863	1259	1554	1770	1424
Q Serve(g_s), s	17.0	51.0	6.1	1.6	42.0	10.9	5.3	2.1	2.1	5.2	0.4	39.7
Cycle Q Clear(g_c), s	17.0	51.0	6.1	1.6	42.0	10.9	5.3	2.1	2.1	5.2	0.4	39.7
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	449	1569	657	125	1215	508	137	89	120	1017	1171	471
V/C Ratio(X)	2.59	0.97	0.24	0.34	1.07	0.35	1.29	0.38	0.44	0.18	0.01	2.68
Avail Cap(c_a), veh/h	449	1569	657	151	1215	508	137	553	747	1017	1171	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.36	0.36	0.36	0.53	0.53	0.53	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	32.0	11.3	56.1	39.0	28.9	57.3	55.4	41.6	28.9	27.0	40.2
Incr Delay (d2), s/veh	719.7	7.8	0.3	0.9	39.3	1.0	173.8	2.7	2.5	0.1	0.0	760.7
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	52.3	26.1	2.5	0.7	26.7	4.5	5.6	1.2	0.8	2.2	0.2	115.1
LnGrp Delay(d),s/veh	771.2	39.8	11.6	57.0	78.3	29.9	231.2	58.1	44.2	29.0	27.0	800.9
LnGrp LOS	F	D	B	E	F	C	F	E	D	C	C	F
Approach Vol, veh/h		2843			1516			264			1464	
Approach Delay, s/veh		337.9			72.0			171.3			693.8	
Approach LOS		F			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	43.3	9.7	8.7	58.3	9.3	43.7	21.0	46.0
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	8.1	34.3	4.0	51.6	4.0	38.4	15.3	40.3
Max Q Clear Time (g_c+I1), s	7.2	4.1	3.6	53.0	7.3	41.7	19.0	44.0
Green Ext Time (p_c), s	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	350.1
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1072	1396	148	40	1191	164	163	31	49	172	15	1160
Future Volume (veh/h)	1072	1396	148	40	1191	164	163	31	49	172	15	1160
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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1165	1517	161	43	1295	178	177	34	53	187	16	1261
Adj No. of Lanes	2	3	1	2	3	1	2	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	448	2242	654	125	1735	505	137	216	87	984	1180	475
Arrive On Green	0.14	0.45	0.45	0.08	0.70	0.70	0.04	0.06	0.06	0.32	0.33	0.33
Sat Flow, veh/h	3170	4988	1453	3170	4988	1452	3109	3539	1430	3109	3539	1424
Grp Volume(v), veh/h	1165	1517	161	43	1295	178	177	34	53	187	16	1261
Grp Sat Flow(s),veh/h/ln	1585	1663	1453	1585	1663	1452	1554	1770	1430	1554	1770	1424
Q Serve(g_s), s	17.0	28.9	8.2	1.5	19.7	2.2	5.3	1.1	3.7	5.3	0.4	40.0
Cycle Q Clear(g_c), s	17.0	28.9	8.2	1.5	19.7	2.2	5.3	1.1	3.7	5.3	0.4	40.0
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	448	2242	654	125	1735	505	137	216	87	984	1180	475
V/C Ratio(X)	2.60	0.68	0.25	0.34	0.75	0.35	1.29	0.16	0.61	0.19	0.01	2.66
Avail Cap(c_a), veh/h	448	2242	654	151	1775	517	137	1053	426	984	1180	475
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.36	0.36	0.36	0.60	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	26.1	20.4	53.8	14.9	1.7	57.4	53.4	41.0	29.8	26.8	40.0
Incr Delay (d2), s/veh	722.9	0.6	0.3	1.0	1.0	0.3	173.8	0.3	6.6	0.1	0.0	751.6
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	52.4	13.3	3.4	0.7	8.8	0.8	5.6	0.5	1.6	2.3	0.2	114.8
LnGrp Delay(d),s/veh	774.4	26.7	20.8	54.7	15.9	2.0	231.2	53.7	47.6	29.9	26.8	791.6
LnGrp LOS	F	C	C	D	B	A	F	D	D	C	C	F
Approach Vol, veh/h		2843			1516			264			1464	
Approach Delay, s/veh		332.8			15.4			171.5			686.0	
Approach LOS		F			B			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	42.0	11.3	8.7	58.0	9.3	44.0	21.0	45.7
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	8.3	34.4	4.0	51.3	4.0	38.7	14.3	41.0
Max Q Clear Time (g_c+I1), s	7.3	5.7	3.5	30.9	7.3	42.0	19.0	21.7
Green Ext Time (p_c), s	0.8	0.3	0.0	15.6	0.0	0.0	0.0	14.9

Intersection Summary	
HCM 2010 Ctrl Delay	331.7
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1140	1528	161	45	1271	170	182	31	59	189	16	1290
Future Volume (veh/h)	1140	1528	161	45	1271	170	182	31	59	189	16	1290
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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1239	1661	175	49	1382	185	198	34	64	205	17	1402
Adj No. of Lanes	2	2	1	2	2	1	2	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	396	1535	643	130	1244	520	155	97	131	1030	1180	475
Arrive On Green	0.13	0.44	0.44	0.04	0.36	0.36	0.05	0.05	0.05	0.33	0.33	0.33
Sat Flow, veh/h	3170	3471	1453	3170	3471	1452	3109	1863	2517	3109	3539	1424
Grp Volume(v), veh/h	1239	1661	175	49	1382	185	198	34	64	205	17	1402
Grp Sat Flow(s),veh/h/ln	1585	1736	1453	1585	1736	1452	1554	1863	1259	1554	1770	1424
Q Serve(g_s), s	15.0	53.1	6.8	1.8	43.0	11.2	6.0	2.1	2.6	5.7	0.4	40.0
Cycle Q Clear(g_c), s	15.0	53.1	6.8	1.8	43.0	11.2	6.0	2.1	2.6	5.7	0.4	40.0
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	396	1535	643	130	1244	520	155	97	131	1030	1180	475
V/C Ratio(X)	3.13	1.08	0.27	0.38	1.11	0.36	1.27	0.35	0.49	0.20	0.01	2.95
Avail Cap(c_a), veh/h	396	1535	643	151	1244	520	155	567	766	1030	1180	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.25	0.25	0.25	0.49	0.49	0.49	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	33.5	11.6	56.0	38.5	28.3	57.0	54.9	41.3	28.7	26.8	40.0
Incr Delay (d2), s/veh	958.8	40.3	0.3	0.9	56.3	0.9	163.7	2.2	2.8	0.1	0.0	885.0
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	59.3	34.0	2.7	0.8	30.3	4.7	6.1	1.1	0.9	2.4	0.2	132.4
LnGrp Delay(d),s/veh	1011.3	73.8	11.9	56.9	94.8	29.2	220.7	57.1	44.1	28.8	26.8	925.0
LnGrp LOS	F	F	B	E	F	C	F	E	D	C	C	F
Approach Vol, veh/h		3075			1616			296			1624	
Approach Delay, s/veh		448.0			86.1			163.7			802.5	
Approach LOS		F			F			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	43.8	10.2	8.9	57.1	10.0	44.0	19.0	47.0
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	8.2	35.2	4.0	50.6	4.7	38.7	13.3	41.3
Max Q Clear Time (g_c+I1), s	7.7	4.6	3.8	55.1	8.0	42.0	17.0	45.0
Green Ext Time (p_c), s	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	433.9
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1140	1623	161	45	1314	170	182	31	59	189	16	1290
Future Volume (veh/h)	1140	1623	161	45	1314	170	182	31	59	189	16	1290
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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1239	1764	175	49	1428	185	198	34	64	205	17	1402
Adj No. of Lanes	2	2	1	2	2	1	2	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	370	1624	680	130	1361	570	155	97	131	951	1089	438
Arrive On Green	0.12	0.47	0.47	0.03	0.26	0.26	0.05	0.05	0.05	0.31	0.31	0.31
Sat Flow, veh/h	3170	3471	1454	3170	3471	1453	3109	1863	2517	3109	3539	1423
Grp Volume(v), veh/h	1239	1764	175	49	1428	185	198	34	64	205	17	1402
Grp Sat Flow(s),veh/h/ln	1585	1736	1454	1585	1736	1453	1554	1863	1259	1554	1770	1423
Q Serve(g_s), s	14.0	56.1	6.4	1.8	47.1	4.2	6.0	2.1	2.6	5.9	0.4	26.0
Cycle Q Clear(g_c), s	14.0	56.1	6.4	1.8	47.1	4.2	6.0	2.1	2.6	5.9	0.4	26.0
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	370	1624	680	130	1361	570	155	97	131	951	1089	438
V/C Ratio(X)	3.35	1.09	0.26	0.38	1.05	0.32	1.27	0.35	0.49	0.22	0.02	3.20
Avail Cap(c_a), veh/h	370	1624	680	151	1361	570	155	567	766	951	1180	474
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.17	0.17	0.17	0.51	0.51	0.51	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	31.9	10.2	56.8	44.2	3.6	57.0	54.9	41.3	30.9	28.9	20.6
Incr Delay (d2), s/veh	1058.8	41.1	0.2	0.9	32.0	0.8	163.7	2.2	2.8	0.1	0.0	995.9
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	60.5	36.1	2.6	0.8	28.6	1.8	6.1	1.1	0.9	2.5	0.2	131.4
LnGrp Delay(d),s/veh	1111.8	73.0	10.4	57.8	76.3	4.4	220.7	57.1	44.1	31.1	28.9	1016.5
LnGrp LOS	F	F	B	E	F	A	F	E	D	C	C	F
Approach Vol, veh/h		3178			1662			296			1624	
Approach Delay, s/veh		474.6			67.7			163.7			881.7	
Approach LOS		F			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	40.7	10.2	8.9	60.1	10.0	40.9	18.0	51.1
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	8.2	35.2	4.0	50.6	4.7	38.7	12.3	42.3
Max Q Clear Time (g_c+I1), s	7.9	4.6	3.8	58.1	8.0	28.0	16.0	49.1
Green Ext Time (p_c), s	0.1	0.4	0.0	0.0	0.0	7.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	458.7
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1140	1623	161	45	1314	170	182	31	59	189	16	1290
Future Volume (veh/h)	1140	1623	161	45	1314	170	182	31	59	189	16	1290
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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1239	1764	175	49	1428	185	198	34	64	205	17	1402
Adj No. of Lanes	2	3	1	2	3	1	2	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	443	2235	651	130	1742	507	137	240	97	963	1180	475
Arrive On Green	0.14	0.45	0.45	0.08	0.70	0.70	0.04	0.07	0.07	0.31	0.33	0.33
Sat Flow, veh/h	3170	4988	1453	3170	4988	1452	3109	3539	1430	3109	3539	1424
Grp Volume(v), veh/h	1239	1764	175	49	1428	185	198	34	64	205	17	1402
Grp Sat Flow(s),veh/h/ln	1585	1663	1453	1585	1663	1452	1554	1770	1430	1554	1770	1424
Q Serve(g_s), s	16.8	36.2	9.1	1.8	24.2	2.3	5.3	1.1	4.5	5.8	0.4	40.0
Cycle Q Clear(g_c), s	16.8	36.2	9.1	1.8	24.2	2.3	5.3	1.1	4.5	5.8	0.4	40.0
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	443	2235	651	130	1742	507	137	240	97	963	1180	475
V/C Ratio(X)	2.79	0.79	0.27	0.38	0.82	0.36	1.44	0.14	0.66	0.21	0.01	2.95
Avail Cap(c_a), veh/h	443	2235	651	151	1775	517	137	1053	426	963	1180	475
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.17	0.17	0.17	0.56	0.56	0.56	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	28.3	20.8	53.6	15.4	1.8	57.4	52.6	40.5	30.6	26.8	40.0
Incr Delay (d2), s/veh	808.8	0.5	0.2	1.0	1.8	0.2	235.1	0.3	7.4	0.1	0.0	885.0
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	57.1	16.8	3.6	0.8	10.9	0.8	6.8	0.5	2.0	2.5	0.2	132.4
LnGrp Delay(d),s/veh	860.5	28.8	20.9	54.6	17.2	2.1	292.4	52.9	47.9	30.7	26.8	925.0
LnGrp LOS	F	C	C	D	B	A	F	D	D	C	C	F
Approach Vol, veh/h		3178			1662			296			1624	
Approach Delay, s/veh		352.6			16.6			212.0			802.7	
Approach LOS		F			B			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	41.2	12.1	8.9	57.8	9.3	44.0	20.8	45.9
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	8.3	34.4	4.0	51.3	4.0	38.7	14.3	41.0
Max Q Clear Time (g_c+I1), s	7.8	6.5	3.8	38.2	7.3	42.0	18.8	26.2
Green Ext Time (p_c), s	0.4	0.3	0.0	11.5	0.0	0.0	0.0	12.8

Intersection Summary	
HCM 2010 Ctrl Delay	372.0
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	413	431	50	21	597	64	28	1	11	8	0	130
Future Volume (veh/h)	413	431	50	21	597	64	28	1	11	8	0	130
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	449	468	54	23	649	70	30	1	12	9	0	141
Adj No. of Lanes	2	2	1	2	2	1	2	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	188	1450	607	901	2231	935	100	84	113	365	461	184
Arrive On Green	0.06	0.42	0.42	0.28	0.64	0.64	0.03	0.04	0.04	0.12	0.00	0.13
Sat Flow, veh/h	3170	3471	1453	3170	3471	1455	3109	1863	2517	3109	3539	1414
Grp Volume(v), veh/h	449	468	54	23	649	70	30	1	12	9	0	141
Grp Sat Flow(s),veh/h/ln	1585	1736	1453	1585	1736	1455	1554	1863	1259	1554	1770	1414
Q Serve(g_s), s	7.0	10.7	2.7	0.6	9.7	0.9	1.1	0.1	0.5	0.3	0.0	9.4
Cycle Q Clear(g_c), s	7.0	10.7	2.7	0.6	9.7	0.9	1.1	0.1	0.5	0.3	0.0	9.4
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	188	1450	607	901	2231	935	100	84	113	365	461	184
V/C Ratio(X)	2.39	0.32	0.09	0.03	0.29	0.07	0.30	0.01	0.11	0.02	0.00	0.77
Avail Cap(c_a), veh/h	188	1450	607	901	2231	935	184	654	883	365	1191	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.70	0.70	0.70	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.5	23.1	20.8	30.5	9.3	1.3	55.8	53.8	54.1	46.1	0.0	34.0
Incr Delay (d2), s/veh	639.5	0.6	0.3	0.0	0.2	0.1	1.7	0.1	0.4	0.0	0.0	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	19.8	5.2	1.1	0.3	4.7	0.4	0.5	0.0	0.2	0.1	0.0	4.0
LnGrp Delay(d),s/veh	695.0	23.7	21.0	30.5	9.5	1.4	57.5	53.9	54.5	46.1	0.0	40.5
LnGrp LOS	F	C	C	C	A	A	E	D	D	D		D
Approach Vol, veh/h		971			742			43			150	
Approach Delay, s/veh		333.9			9.4			56.5			40.9	
Approach LOS		F			A			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	17.9	9.3	37.5	53.3	7.8	19.4	11.0	79.8
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	40.1	4.3	47.6	5.7	38.4	5.3	46.6
Max Q Clear Time (g_c+I1), s	2.3	2.5	2.6	12.7	3.1	11.4	9.0	11.7
Green Ext Time (p_c), s	0.0	0.0	0.6	2.2	0.0	0.5	0.0	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	178.3
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	413	458	50	21	669	64	28	1	11	8	0	130
Future Volume (veh/h)	413	458	50	21	669	64	28	1	11	8	0	130
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	449	498	54	23	727	70	30	1	12	9	0	141
Adj No. of Lanes	2	2	1	2	2	1	2	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	188	1450	607	901	2231	935	100	84	113	365	461	184
Arrive On Green	0.06	0.42	0.42	0.57	1.00	1.00	0.03	0.04	0.04	0.12	0.00	0.13
Sat Flow, veh/h	3170	3471	1453	3170	3471	1455	3109	1863	2517	3109	3539	1414
Grp Volume(v), veh/h	449	498	54	23	727	70	30	1	12	9	0	141
Grp Sat Flow(s),veh/h/ln	1585	1736	1453	1585	1736	1455	1554	1863	1259	1554	1770	1414
Q Serve(g_s), s	7.0	11.5	2.7	0.4	0.0	0.0	1.1	0.1	0.5	0.3	0.0	9.4
Cycle Q Clear(g_c), s	7.0	11.5	2.7	0.4	0.0	0.0	1.1	0.1	0.5	0.3	0.0	9.4
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	188	1450	607	901	2231	935	100	84	113	365	461	184
V/C Ratio(X)	2.39	0.34	0.09	0.03	0.33	0.07	0.30	0.01	0.11	0.02	0.00	0.77
Avail Cap(c_a), veh/h	188	1450	607	901	2231	935	184	654	883	365	1191	476
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.67	0.67	0.67	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.5	23.3	20.8	18.3	0.0	0.0	55.8	53.8	54.1	46.1	0.0	34.0
Incr Delay (d2), s/veh	639.3	0.6	0.3	0.0	0.3	0.1	1.7	0.1	0.4	0.0	0.0	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	19.8	5.7	1.1	0.2	0.1	0.0	0.5	0.0	0.2	0.1	0.0	4.0
LnGrp Delay(d),s/veh	694.8	23.9	21.0	18.3	0.3	0.1	57.5	53.9	54.5	46.1	0.0	40.5
LnGrp LOS	F	C	C	B	A	A	E	D	D	D		D
Approach Vol, veh/h		1001			820			43			150	
Approach Delay, s/veh		324.7			0.8			56.5			40.9	
Approach LOS		F			A			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	17.9	9.3	37.5	53.3	7.8	19.4	11.0	79.8
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	40.1	4.3	47.6	5.7	38.4	5.3	46.6
Max Q Clear Time (g_c+I1), s	2.3	2.5	2.4	13.5	3.1	11.4	9.0	2.0
Green Ext Time (p_c), s	0.0	0.0	0.8	2.4	0.0	0.5	0.0	3.8

Intersection Summary	
HCM 2010 Ctrl Delay	165.9
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1385	846	136	38	900	221	82	46	30	35	6	235
Future Volume (veh/h)	1385	846	136	38	900	221	82	46	30	35	6	235
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1505	920	148	41	978	240	89	50	33	38	7	255
Adj No. of Lanes	2	2	1	2	2	1	2	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	864	1967	824	124	1157	484	137	104	141	637	767	308
Arrive On Green	0.27	0.57	0.57	0.04	0.33	0.33	0.04	0.06	0.06	0.21	0.22	0.22
Sat Flow, veh/h	3170	3471	1454	3170	3471	1452	3109	1863	2517	3109	3539	1420
Grp Volume(v), veh/h	1505	920	148	41	978	240	89	50	33	38	7	255
Grp Sat Flow(s),veh/h/ln	1585	1736	1454	1585	1736	1452	1554	1863	1259	1554	1770	1420
Q Serve(g_s), s	32.7	18.7	4.0	1.5	31.4	15.8	3.4	3.1	1.3	1.2	0.2	20.6
Cycle Q Clear(g_c), s	32.7	18.7	4.0	1.5	31.4	15.8	3.4	3.1	1.3	1.2	0.2	20.6
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	864	1967	824	124	1157	484	137	104	141	637	767	308
V/C Ratio(X)	1.74	0.47	0.18	0.33	0.85	0.50	0.65	0.48	0.23	0.06	0.01	0.83
Avail Cap(c_a), veh/h	864	1967	824	151	1157	484	137	616	833	637	1171	470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.48	0.48	0.48	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	15.3	5.8	56.1	37.1	31.9	56.4	55.0	40.6	38.4	36.9	44.9
Incr Delay (d2), s/veh	336.6	0.4	0.2	0.9	4.8	2.2	10.2	3.4	0.8	0.0	0.0	7.3
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	54.6	9.1	1.6	0.7	15.7	6.6	1.7	1.7	0.5	0.5	0.1	8.7
LnGrp Delay(d),s/veh	380.3	15.7	6.0	57.1	42.0	34.2	66.6	58.4	41.4	38.4	36.9	52.2
LnGrp LOS	F	B	A	E	D	C	E	E	D	D	D	D
Approach Vol, veh/h		2573			1259			172			300	
Approach Delay, s/veh		228.4			41.0			59.4			50.1	
Approach LOS		F			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	28.6	10.7	8.7	72.0	9.3	30.0	36.7	44.0
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	38.4	4.0	51.6	4.0	38.4	17.3	38.3
Max Q Clear Time (g_c+I1), s	3.2	5.1	3.5	20.7	5.4	22.6	34.7	33.4
Green Ext Time (p_c), s	0.0	0.3	0.0	17.4	0.0	0.9	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	154.4
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1385	873	136	38	972	221	82	46	30	35	6	235
Future Volume (veh/h)	1385	873	136	38	972	221	82	46	30	35	6	235
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1505	949	148	41	1057	240	89	50	33	38	7	255
Adj No. of Lanes	2	2	1	2	2	1	2	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	864	1967	824	124	1157	484	137	104	141	637	767	308
Arrive On Green	0.27	0.57	0.57	0.04	0.33	0.33	0.04	0.06	0.06	0.21	0.22	0.22
Sat Flow, veh/h	3170	3471	1454	3170	3471	1452	3109	1863	2517	3109	3539	1420
Grp Volume(v), veh/h	1505	949	148	41	1057	240	89	50	33	38	7	255
Grp Sat Flow(s),veh/h/ln	1585	1736	1454	1585	1736	1452	1554	1863	1259	1554	1770	1420
Q Serve(g_s), s	32.7	19.6	4.0	1.5	35.0	15.8	3.4	3.1	1.3	1.2	0.2	20.6
Cycle Q Clear(g_c), s	32.7	19.6	4.0	1.5	35.0	15.8	3.4	3.1	1.3	1.2	0.2	20.6
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	864	1967	824	124	1157	484	137	104	141	637	767	308
V/C Ratio(X)	1.74	0.48	0.18	0.33	0.91	0.50	0.65	0.48	0.23	0.06	0.01	0.83
Avail Cap(c_a), veh/h	864	1967	824	151	1157	484	137	616	833	637	1171	470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.47	0.47	0.56	0.56	0.56	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	15.5	5.8	56.1	38.3	31.9	56.4	55.0	40.6	38.4	36.9	44.9
Incr Delay (d2), s/veh	336.5	0.4	0.2	0.9	7.7	2.0	10.2	3.4	0.8	0.0	0.0	7.3
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	54.6	9.5	1.6	0.7	18.0	6.6	1.7	1.7	0.5	0.5	0.1	8.7
LnGrp Delay(d),s/veh	380.2	15.9	6.0	57.0	46.0	34.0	66.6	58.4	41.4	38.4	36.9	52.2
LnGrp LOS	F	B	A	E	D	C	E	E	D	D	D	D
Approach Vol, veh/h		2602			1338			172			300	
Approach Delay, s/veh		226.0			44.2			59.4			50.1	
Approach LOS		F			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	28.6	10.7	8.7	72.0	9.3	30.0	36.7	44.0
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	38.4	4.0	51.6	4.0	38.4	17.3	38.3
Max Q Clear Time (g_c+I1), s	3.2	5.1	3.5	21.6	5.4	22.6	34.7	37.0
Green Ext Time (p_c), s	0.0	0.3	0.0	17.4	0.0	0.9	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	152.4
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1385	873	136	38	972	221	82	46	30	35	6	235
Future Volume (veh/h)	1385	873	136	38	972	221	82	46	30	35	6	235
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1505	949	148	41	1057	240	89	50	33	38	7	255
Adj No. of Lanes	2	3	1	2	3	1	2	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	819	2826	824	124	1732	504	137	174	70	658	768	308
Arrive On Green	0.26	0.57	0.57	0.08	0.69	0.69	0.04	0.05	0.05	0.21	0.22	0.22
Sat Flow, veh/h	3170	4988	1454	3170	4988	1452	3109	3539	1430	3109	3539	1420
Grp Volume(v), veh/h	1505	949	148	41	1057	240	89	50	33	38	7	255
Grp Sat Flow(s),veh/h/ln	1585	1663	1454	1585	1663	1452	1554	1770	1430	1554	1770	1420
Q Serve(g_s), s	31.0	12.2	5.9	1.5	13.5	4.8	3.4	1.6	2.3	1.2	0.2	20.6
Cycle Q Clear(g_c), s	31.0	12.2	5.9	1.5	13.5	4.8	3.4	1.6	2.3	1.2	0.2	20.6
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	819	2826	824	124	1732	504	137	174	70	658	768	308
V/C Ratio(X)	1.84	0.34	0.18	0.33	0.61	0.48	0.65	0.29	0.47	0.06	0.01	0.83
Avail Cap(c_a), veh/h	819	2826	824	151	1775	517	137	1053	426	658	1180	473
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.35	0.35	0.35	0.55	0.55	0.55	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	13.9	12.5	53.8	14.0	3.7	56.4	55.0	41.6	37.7	36.9	44.8
Incr Delay (d2), s/veh	378.8	0.1	0.2	0.9	0.3	0.4	10.2	0.9	4.8	0.0	0.0	7.1
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	56.6	5.7	2.4	0.7	6.1	1.9	1.7	0.8	1.0	0.5	0.1	8.7
LnGrp Delay(d),s/veh	423.3	14.0	12.7	54.7	14.3	4.1	66.6	55.9	46.4	37.8	36.9	52.0
LnGrp LOS	F	B	B	D	B	A	E	E	D	D	D	D
Approach Vol, veh/h		2602			1338			172			300	
Approach Delay, s/veh		250.7			13.7			59.6			49.8	
Approach LOS		F			B			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	29.4	9.9	8.7	72.0	9.3	30.0	35.0	45.7
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	8.3	34.4	4.0	51.3	4.0	38.7	14.3	41.0
Max Q Clear Time (g_c+I1), s	3.2	4.3	3.5	14.2	5.4	22.6	33.0	15.5
Green Ext Time (p_c), s	0.6	0.3	0.0	15.9	0.0	1.0	0.0	13.5

Intersection Summary	
HCM 2010 Ctrl Delay	157.7
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1486	953	149	43	1045	237	92	47	34	38	6	280
Future Volume (veh/h)	1486	953	149	43	1045	237	92	47	34	38	6	280
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1615	1036	162	47	1136	258	100	51	37	41	7	304
Adj No. of Lanes	2	2	1	2	2	1	2	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	765	1854	777	129	1157	484	137	105	142	732	877	352
Arrive On Green	0.24	0.53	0.53	0.04	0.33	0.33	0.04	0.06	0.06	0.24	0.25	0.25
Sat Flow, veh/h	3170	3471	1454	3170	3471	1452	3109	1863	2517	3109	3539	1422
Grp Volume(v), veh/h	1615	1036	162	47	1136	258	100	51	37	41	7	304
Grp Sat Flow(s),veh/h/ln	1585	1736	1454	1585	1736	1452	1554	1863	1259	1554	1770	1422
Q Serve(g_s), s	29.0	23.8	4.9	1.7	38.9	17.3	3.8	3.2	1.5	1.2	0.2	24.6
Cycle Q Clear(g_c), s	29.0	23.8	4.9	1.7	38.9	17.3	3.8	3.2	1.5	1.2	0.2	24.6
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	765	1854	777	129	1157	484	137	105	142	732	877	352
V/C Ratio(X)	2.11	0.56	0.21	0.37	0.98	0.53	0.73	0.48	0.26	0.06	0.01	0.86
Avail Cap(c_a), veh/h	765	1854	777	151	1157	484	137	616	833	732	1171	470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.38	0.38	0.38	0.53	0.53	0.53	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	18.6	7.2	56.1	39.6	32.4	56.6	54.9	40.4	35.5	34.0	43.2
Incr Delay (d2), s/veh	501.8	0.5	0.2	0.9	15.5	2.2	17.6	3.4	1.0	0.0	0.0	12.0
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	66.0	11.5	2.0	0.8	21.1	7.3	2.0	1.7	0.5	0.5	0.1	10.8
LnGrp Delay(d),s/veh	547.3	19.0	7.4	57.0	55.1	34.7	74.3	58.3	41.4	35.6	34.0	55.2
LnGrp LOS	F	B	A	E	E	C	E	E	D	D	C	E
Approach Vol, veh/h		2813			1441			188			352	
Approach Delay, s/veh		321.7			51.5			63.5			52.5	
Approach LOS		F			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	32.3	10.8	8.9	68.1	9.3	33.7	33.0	44.0
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	38.4	4.0	51.6	4.0	38.4	17.3	38.3
Max Q Clear Time (g_c+I1), s	3.2	5.2	3.7	25.8	5.8	26.6	31.0	40.9
Green Ext Time (p_c), s	0.0	0.3	0.0	17.4	0.0	1.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	210.6
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1486	987	149	43	1133	237	92	47	34	38	6	280
Future Volume (veh/h)	1486	987	149	43	1133	237	92	47	34	38	6	280
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1615	1073	162	47	1232	258	100	51	37	41	7	304
Adj No. of Lanes	2	2	1	2	2	1	2	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	739	1854	777	129	1186	496	137	105	142	732	877	352
Arrive On Green	0.23	0.53	0.53	0.04	0.34	0.34	0.04	0.06	0.06	0.24	0.25	0.25
Sat Flow, veh/h	3170	3471	1454	3170	3471	1452	3109	1863	2517	3109	3539	1422
Grp Volume(v), veh/h	1615	1073	162	47	1232	258	100	51	37	41	7	304
Grp Sat Flow(s),veh/h/ln	1585	1736	1454	1585	1736	1452	1554	1863	1259	1554	1770	1422
Q Serve(g_s), s	28.0	25.0	4.9	1.7	41.0	17.1	3.8	3.2	1.5	1.2	0.2	24.6
Cycle Q Clear(g_c), s	28.0	25.0	4.9	1.7	41.0	17.1	3.8	3.2	1.5	1.2	0.2	24.6
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	739	1854	777	129	1186	496	137	105	142	732	877	352
V/C Ratio(X)	2.19	0.58	0.21	0.37	1.04	0.52	0.73	0.48	0.26	0.06	0.01	0.86
Avail Cap(c_a), veh/h	739	1854	777	151	1186	496	137	616	833	732	1171	470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.36	0.36	0.36	0.46	0.46	0.46	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	18.9	7.2	56.1	39.5	31.6	56.6	54.9	40.4	35.5	34.0	43.2
Incr Delay (d2), s/veh	535.7	0.5	0.2	0.8	28.8	1.8	17.6	3.4	1.0	0.0	0.0	12.0
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	67.2	12.0	2.0	0.8	24.3	7.1	2.0	1.7	0.5	0.5	0.1	10.8
LnGrp Delay(d),s/veh	581.7	19.3	7.4	56.9	68.3	33.4	74.3	58.3	41.4	35.6	34.0	55.2
LnGrp LOS	F	B	A	E	F	C	E	E	D	D	C	E
Approach Vol, veh/h		2850			1537			188			352	
Approach Delay, s/veh		337.3			62.1			63.5			52.5	
Approach LOS		F			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	32.3	10.8	8.9	68.1	9.3	33.7	32.0	45.0
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	38.4	4.0	51.6	4.0	38.4	16.3	39.3
Max Q Clear Time (g_c+I1), s	3.2	5.2	3.7	27.0	5.8	26.6	30.0	43.0
Green Ext Time (p_c), s	0.0	0.3	0.0	17.1	0.0	1.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	220.7
HCM 2010 LOS	F

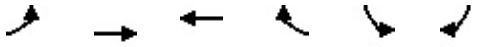


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1486	987	149	43	1133	237	92	47	34	38	6	280
Future Volume (veh/h)	1486	987	149	43	1133	237	92	47	34	38	6	280
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	1615	1073	162	47	1232	258	100	51	37	41	7	304
Adj No. of Lanes	2	3	1	2	3	1	2	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	715	2663	776	129	1740	507	137	183	74	747	878	353
Arrive On Green	0.23	0.53	0.53	0.08	0.70	0.70	0.04	0.05	0.05	0.24	0.25	0.25
Sat Flow, veh/h	3170	4988	1454	3170	4988	1452	3109	3539	1430	3109	3539	1422
Grp Volume(v), veh/h	1615	1073	162	47	1232	258	100	51	37	41	7	304
Grp Sat Flow(s),veh/h/ln	1585	1663	1454	1585	1663	1452	1554	1770	1430	1554	1770	1422
Q Serve(g_s), s	27.1	15.3	7.0	1.7	17.7	4.8	3.8	1.7	2.6	1.2	0.2	24.5
Cycle Q Clear(g_c), s	27.1	15.3	7.0	1.7	17.7	4.8	3.8	1.7	2.6	1.2	0.2	24.5
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	715	2663	776	129	1740	507	137	183	74	747	878	353
V/C Ratio(X)	2.26	0.40	0.21	0.37	0.71	0.51	0.73	0.28	0.50	0.05	0.01	0.86
Avail Cap(c_a), veh/h	715	2663	776	151	1775	517	137	1053	426	747	1180	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.13	0.13	0.13	0.54	0.54	0.54	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	16.6	14.7	53.7	14.5	3.1	56.6	54.7	41.4	35.1	34.0	43.2
Incr Delay (d2), s/veh	566.8	0.1	0.1	0.9	0.7	0.4	17.6	0.8	5.1	0.0	0.0	11.8
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	68.1	7.1	2.8	0.7	7.9	1.9	2.0	0.8	1.1	0.5	0.1	10.8
LnGrp Delay(d),s/veh	613.2	16.7	14.7	54.6	15.2	3.6	74.3	55.6	46.5	35.1	34.0	54.9
LnGrp LOS	F	B	B	D	B	A	E	E	D	D	C	D
Approach Vol, veh/h		2850			1537			188			352	
Approach Delay, s/veh		354.6			14.4			63.7			52.2	
Approach LOS		F			B			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	32.9	10.2	8.9	68.1	9.3	33.8	31.1	45.9
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	8.3	34.4	4.0	51.3	4.0	38.7	14.3	41.0
Max Q Clear Time (g_c+I1), s	3.2	4.6	3.7	17.3	5.8	26.5	29.1	19.7
Green Ext Time (p_c), s	0.7	0.3	0.0	18.5	0.0	1.0	0.0	14.0

Intersection Summary	
HCM 2010 Ctrl Delay	215.8
HCM 2010 LOS	F

Intersection 16
Landings Way & Merle Haggard Dr

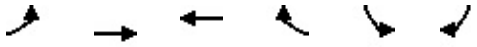


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	36	862	480	0	0	0
Future Volume (veh/h)	36	862	480	0	0	0
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	39	937	522	0	0	0
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	77	1264	872	432	876	782
Arrive On Green	0.05	0.36	0.27	0.00	0.00	0.00
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	39	937	522	0	0	0
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	2.1	21.2	12.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.1	21.2	12.8	0.0	0.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	77	1264	872	432	876	782
V/C Ratio(X)	0.51	0.74	0.60	0.00	0.00	0.00
Avail Cap(c_a), veh/h	103	2546	2000	990	876	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.97	0.00	0.00	0.00
Uniform Delay (d), s/veh	41.8	24.9	28.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.7	0.8	0.6	0.0	0.0	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	1.0	10.3	5.7	0.0	0.0	0.0
LnGrp Delay(d),s/veh	46.5	25.7	29.1	0.0	0.0	0.0
LnGrp LOS	D	C	C			
Approach Vol, veh/h		976	522		0	
Approach Delay, s/veh		26.6	29.1		0.0	
Approach LOS		C	C			

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				36.8		53.2	8.3	28.5
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				64.3		14.7	4.0	54.6
Max Q Clear Time (g_c+I1), s				23.2		0.0	4.1	14.8
Green Ext Time (p_c), s				7.9		0.0	0.0	7.9

Intersection Summary

HCM 2010 Ctrl Delay	27.4
HCM 2010 LOS	C

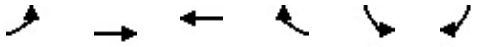


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	36	939	515	0	0	0
Future Volume (veh/h)	36	939	515	0	0	0
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	39	1021	560	0	0	0
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	71	1249	905	448	919	820
Arrive On Green	0.06	0.48	0.38	0.00	0.00	0.00
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	39	1021	560	0	0	0
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	2.8	30.2	17.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.8	30.2	17.1	0.0	0.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	71	1249	905	448	919	820
V/C Ratio(X)	0.55	0.82	0.62	0.00	0.00	0.00
Avail Cap(c_a), veh/h	78	2777	2299	1139	919	820
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.96	0.00	0.00	0.00
Uniform Delay (d), s/veh	55.4	27.9	32.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	6.1	1.2	0.7	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	14.6	7.6	0.0	0.0	0.0
LnGrp Delay(d),s/veh	61.5	29.2	32.8	0.0	0.0	0.0
LnGrp LOS	E	C	C			
Approach Vol, veh/h		1060	560		0	
Approach Delay, s/veh		30.3	32.8		0.0	
Approach LOS		C	C			

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				47.2		72.8	9.2	38.0
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				94.3		14.7	4.0	84.6
Max Q Clear Time (g_c+I1), s				32.2		0.0	4.8	19.1
Green Ext Time (p_c), s				9.2		0.0	0.0	9.2

Intersection Summary

HCM 2010 Ctrl Delay	31.2
HCM 2010 LOS	C

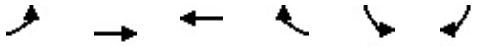


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	342	1160	708	142	252	534
Future Volume (veh/h)	342	1160	708	142	252	534
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	372	1261	770	154	274	580
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	417	2006	920	455	565	504
Arrive On Green	0.26	0.58	0.29	0.29	0.35	0.35
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	372	1261	770	154	274	580
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	25.2	27.7	26.0	8.8	15.4	40.5
Cycle Q Clear(g_c), s	25.2	27.7	26.0	8.8	15.4	40.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	417	2006	920	455	565	504
V/C Ratio(X)	0.89	0.63	0.84	0.34	0.48	1.15
Avail Cap(c_a), veh/h	455	2113	945	468	565	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.51	0.51	0.89	0.89	1.00	1.00
Uniform Delay (d), s/veh	41.3	16.1	38.4	32.3	29.1	37.2
Incr Delay (d2), s/veh	10.5	0.3	5.9	0.4	3.0	88.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	13.2	12.2	3.9	7.2	38.8
LnGrp Delay(d),s/veh	51.8	16.4	44.3	32.7	32.0	125.7
LnGrp LOS	D	B	D	C	C	F
Approach Vol, veh/h		1633	924		854	
Approach Delay, s/veh		24.4	42.4		95.7	
Approach LOS		C	D		F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				70.5		44.5	33.4	37.1
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				68.3		35.7	30.3	32.3
Max Q Clear Time (g_c+I1), s				29.7		42.5	27.2	28.0
Green Ext Time (p_c), s				14.5		0.0	0.4	3.4

Intersection Summary

HCM 2010 Ctrl Delay	47.1
HCM 2010 LOS	D

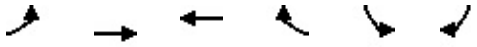


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	342	1237	743	142	252	534
Future Volume (veh/h)	342	1237	743	142	252	534
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	372	1345	808	154	274	580
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	460	2062	887	439	539	481
Arrive On Green	0.28	0.59	0.56	0.56	0.34	0.34
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	372	1345	808	154	274	580
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	24.3	29.5	26.2	6.2	15.7	38.7
Cycle Q Clear(g_c), s	24.3	29.5	26.2	6.2	15.7	38.7
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	460	2062	887	439	539	481
V/C Ratio(X)	0.81	0.65	0.91	0.35	0.51	1.21
Avail Cap(c_a), veh/h	497	2234	973	482	539	481
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.42	0.42	0.88	0.88	1.00	1.00
Uniform Delay (d), s/veh	38.4	15.5	24.3	19.9	30.5	38.2
Incr Delay (d2), s/veh	4.0	0.3	10.5	0.4	3.4	110.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	14.1	12.6	2.7	7.4	40.2
LnGrp Delay(d),s/veh	42.4	15.7	34.8	20.3	33.9	149.0
LnGrp LOS	D	B	C	C	C	F
Approach Vol, veh/h		1717	962		854	
Approach Delay, s/veh		21.5	32.5		112.1	
Approach LOS		C	C		F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				72.3		42.7	36.4	35.9
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				72.3		31.7	33.3	33.3
Max Q Clear Time (g_c+I1), s				31.5		40.7	26.3	28.2
Green Ext Time (p_c), s				10.5		0.0	4.4	2.1

Intersection Summary

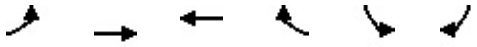
HCM 2010 Ctrl Delay	46.4
HCM 2010 LOS	D



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	342	1237	743	142	252	534
Future Volume (veh/h)	342	1237	743	142	252	534
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	1716	1827	1688	1900	1683	1683
Adj Flow Rate, veh/h	372	1345	808	154	274	580
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	4	4	4
Cap, veh/h	419	2668	954	180	639	570
Arrive On Green	0.51	1.00	0.49	0.49	0.40	0.40
Sat Flow, veh/h	1634	5152	4045	737	1603	1430
Grp Volume(v), veh/h	372	1345	636	326	274	580
Grp Sat Flow(s),veh/h/ln	1634	1663	1536	1558	1603	1430
Q Serve(g_s), s	24.4	0.0	21.6	22.0	14.9	47.8
Cycle Q Clear(g_c), s	24.4	0.0	21.6	22.0	14.9	47.8
Prop In Lane	1.00			0.47	1.00	1.00
Lane Grp Cap(c), veh/h	419	2668	752	382	639	570
V/C Ratio(X)	0.89	0.50	0.85	0.85	0.43	1.02
Avail Cap(c_a), veh/h	436	3200	1050	532	639	570
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.87	0.87	1.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	28.6	28.7	26.2	36.1
Incr Delay (d2), s/veh	15.4	0.1	4.1	8.3	2.1	42.2
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	0.0	9.4	10.1	6.9	36.9
LnGrp Delay(d),s/veh	43.0	0.1	32.8	37.0	28.3	78.3
LnGrp LOS	D	A	C	D	C	F
Approach Vol, veh/h		1717	962		854	
Approach Delay, s/veh		9.4	34.2		62.3	
Approach LOS		A	C		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				68.2		51.8	34.8	33.4
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				75.3		33.7	30.3	39.3
Max Q Clear Time (g_c+I1), s				2.0		49.8	26.4	24.0
Green Ext Time (p_c), s				10.6		0.0	2.7	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

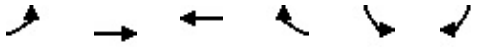


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	351	1370	796	142	252	534
Future Volume (veh/h)	351	1370	796	142	252	534
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	382	1489	865	154	274	580
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	427	2146	1025	508	495	442
Arrive On Green	0.26	0.62	0.32	0.32	0.31	0.31
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	382	1489	865	154	274	580
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	24.8	31.5	27.7	8.1	15.7	34.0
Cycle Q Clear(g_c), s	24.8	31.5	27.7	8.1	15.7	34.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	427	2146	1025	508	495	442
V/C Ratio(X)	0.89	0.69	0.84	0.30	0.55	1.31
Avail Cap(c_a), veh/h	446	2209	1046	518	495	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.23	0.23	0.86	0.86	1.00	1.00
Uniform Delay (d), s/veh	39.2	14.0	34.8	28.1	31.7	38.0
Incr Delay (d2), s/veh	5.7	0.2	5.5	0.3	4.4	156.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	15.0	13.0	3.5	7.5	41.9
LnGrp Delay(d),s/veh	44.8	14.2	40.3	28.4	36.1	194.0
LnGrp LOS	D	B	D	C	D	F
Approach Vol, veh/h		1871	1019		854	
Approach Delay, s/veh		20.5	38.5		143.4	
Approach LOS		C	D		F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				72.0		38.0	32.7	39.3
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				68.3		30.7	28.3	34.3
Max Q Clear Time (g_c+I1), s				33.5		36.0	26.8	29.7
Green Ext Time (p_c), s				17.5		0.0	0.2	3.9

Intersection Summary

HCM 2010 Ctrl Delay	53.4
HCM 2010 LOS	D

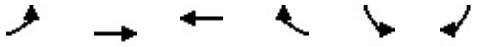


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	351	1465	839	142	252	534
Future Volume (veh/h)	351	1465	839	142	252	534
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	382	1592	912	154	274	580
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	454	2236	1064	527	463	414
Arrive On Green	0.56	1.00	0.33	0.33	0.29	0.29
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	382	1592	912	154	274	580
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	23.4	0.0	32.0	8.6	17.6	34.7
Cycle Q Clear(g_c), s	23.4	0.0	32.0	8.6	17.6	34.7
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	454	2236	1064	527	463	414
V/C Ratio(X)	0.84	0.71	0.86	0.29	0.59	1.40
Avail Cap(c_a), veh/h	498	2632	1343	665	463	414
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.84	0.84	1.00	1.00
Uniform Delay (d), s/veh	24.4	0.0	37.4	29.6	36.6	42.7
Incr Delay (d2), s/veh	1.2	0.1	4.0	0.3	5.5	195.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	0.0	14.6	3.8	8.5	45.9
LnGrp Delay(d),s/veh	25.6	0.1	41.3	29.8	42.0	237.8
LnGrp LOS	C	A	D	C	D	F
Approach Vol, veh/h		1974	1066		854	
Approach Delay, s/veh		5.0	39.7		175.0	
Approach LOS		A	D		F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				81.3		38.7	37.4	43.9
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				89.3		19.7	34.9	48.7
Max Q Clear Time (g_c+I1), s				2.0		36.7	25.4	34.0
Green Ext Time (p_c), s				14.8		0.0	6.3	4.3

Intersection Summary

HCM 2010 Ctrl Delay	51.8
HCM 2010 LOS	D

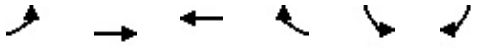


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	351	1465	839	142	252	534
Future Volume (veh/h)	351	1465	839	142	252	534
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1687	1900	1683	1683
Adj Flow Rate, veh/h	382	1592	912	154	274	580
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	4	4	4
Cap, veh/h	426	2787	1051	177	600	536
Arrive On Green	0.52	1.00	0.53	0.53	0.37	0.37
Sat Flow, veh/h	1634	5152	4124	668	1603	1430
Grp Volume(v), veh/h	382	1592	704	362	274	580
Grp Sat Flow(s),veh/h/ln	1634	1663	1536	1569	1603	1430
Q Serve(g_s), s	25.2	0.0	23.9	24.1	15.5	44.9
Cycle Q Clear(g_c), s	25.2	0.0	23.9	24.1	15.5	44.9
Prop In Lane	1.00			0.43	1.00	1.00
Lane Grp Cap(c), veh/h	426	2787	813	415	600	536
V/C Ratio(X)	0.90	0.57	0.87	0.87	0.46	1.08
Avail Cap(c_a), veh/h	436	3200	1049	536	600	536
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.84	0.84	1.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	26.4	26.4	28.3	37.5
Incr Delay (d2), s/veh	14.6	0.1	5.4	10.2	2.5	63.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	0.0	10.6	11.4	7.3	38.3
LnGrp Delay(d),s/veh	41.9	0.1	31.8	36.7	30.8	100.7
LnGrp LOS	D	A	C	D	C	F
Approach Vol, veh/h		1974	1066		854	
Approach Delay, s/veh		8.2	33.4		78.3	
Approach LOS		A	C		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				71.1		48.9	35.3	35.8
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				75.3		33.7	30.3	39.3
Max Q Clear Time (g_c+I1), s				2.0		46.9	27.2	26.1
Green Ext Time (p_c), s				13.9		0.0	2.4	3.9

Intersection Summary

HCM 2010 Ctrl Delay	30.5
HCM 2010 LOS	C

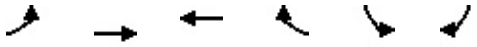


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	437	607	107	45	24
Future Volume (veh/h)	38	437	607	107	45	24
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	41	475	660	116	49	26
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	77	1291	910	451	878	784
Arrive On Green	0.05	0.37	0.28	0.28	0.55	0.55
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	41	475	660	116	49	26
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	2.5	10.0	18.6	5.7	1.4	0.8
Cycle Q Clear(g_c), s	2.5	10.0	18.6	5.7	1.4	0.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	77	1291	910	451	878	784
V/C Ratio(X)	0.53	0.37	0.73	0.26	0.06	0.03
Avail Cap(c_a), veh/h	163	2534	1886	934	878	784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.96	0.96	1.00	1.00
Uniform Delay (d), s/veh	46.5	22.8	32.2	27.6	10.5	10.4
Incr Delay (d2), s/veh	5.5	0.2	1.1	0.3	0.1	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	1.2	4.8	8.3	2.5	0.7	1.1
LnGrp Delay(d),s/veh	52.0	23.0	33.3	27.9	10.7	10.5
LnGrp LOS	D	C	C	C	B	B
Approach Vol, veh/h		516	776		75	
Approach Delay, s/veh		25.3	32.5		10.6	
Approach LOS		C	C		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				41.2		58.8	8.7	32.5
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				71.3		17.7	8.3	57.3
Max Q Clear Time (g_c+I1), s				12.0		3.4	4.5	20.6
Green Ext Time (p_c), s				6.3		0.2	0.0	6.2

Intersection Summary

HCM 2010 Ctrl Delay	28.6
HCM 2010 LOS	C

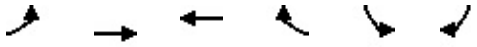


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	464	679	107	45	24
Future Volume (veh/h)	38	464	679	107	45	24
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	41	504	738	116	49	26
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	83	1270	899	445	908	810
Arrive On Green	0.10	0.73	0.28	0.28	0.57	0.57
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	41	504	738	116	49	26
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	2.8	6.5	25.5	6.7	1.6	0.9
Cycle Q Clear(g_c), s	2.8	6.5	25.5	6.7	1.6	0.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	83	1270	899	445	908	810
V/C Ratio(X)	0.49	0.40	0.82	0.26	0.05	0.03
Avail Cap(c_a), veh/h	152	2677	2059	1020	908	810
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.94	0.94	1.00	1.00
Uniform Delay (d), s/veh	51.6	10.9	39.6	32.9	11.4	11.3
Incr Delay (d2), s/veh	4.4	0.2	1.8	0.3	0.1	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	1.4	3.0	11.5	3.0	0.7	1.2
LnGrp Delay(d),s/veh	56.0	11.1	41.5	33.2	11.6	11.4
LnGrp LOS	E	B	D	C	B	B
Approach Vol, veh/h		545	854		75	
Approach Delay, s/veh		14.5	40.3		11.5	
Approach LOS		B	D		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				47.2		70.8	10.0	37.2
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				89.3		17.7	9.3	74.3
Max Q Clear Time (g_c+I1), s				8.5		3.6	4.8	27.5
Green Ext Time (p_c), s				2.4		0.2	1.0	4.0

Intersection Summary

HCM 2010 Ctrl Delay	29.3
HCM 2010 LOS	C

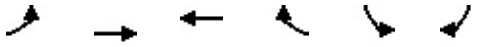


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	373	558	866	321	118	172
Future Volume (veh/h)	373	558	866	321	118	172
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	405	607	941	349	128	187
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	460	2348	1126	558	382	341
Arrive On Green	0.28	0.68	0.35	0.35	0.24	0.24
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	405	607	941	349	128	187
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	22.3	6.4	25.4	17.2	6.2	10.8
Cycle Q Clear(g_c), s	22.3	6.4	25.4	17.2	6.2	10.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	460	2348	1126	558	382	341
V/C Ratio(X)	0.88	0.26	0.84	0.63	0.33	0.55
Avail Cap(c_a), veh/h	469	2548	1292	640	382	341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.77	0.77	1.00	1.00
Uniform Delay (d), s/veh	32.2	6.0	28.0	25.3	29.6	31.4
Incr Delay (d2), s/veh	16.0	0.1	3.4	1.2	2.4	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	3.1	11.8	7.6	3.0	9.1
LnGrp Delay(d),s/veh	48.2	6.0	31.4	26.5	32.0	37.6
LnGrp LOS	D	A	C	C	C	D
Approach Vol, veh/h		1012	1290		315	
Approach Delay, s/veh		22.9	30.1		35.3	
Approach LOS		C	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				67.6		26.4	30.5	37.1
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				67.3		15.7	25.3	36.3
Max Q Clear Time (g_c+I1), s				8.4		12.8	24.3	27.4
Green Ext Time (p_c), s				4.7		0.4	0.5	4.0

Intersection Summary

HCM 2010 Ctrl Delay	27.9
HCM 2010 LOS	C

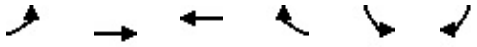


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	373	585	938	321	118	172
Future Volume (veh/h)	373	585	938	321	118	172
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	405	636	1020	349	128	187
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	461	2413	1186	587	352	314
Arrive On Green	0.28	0.70	0.37	0.37	0.22	0.22
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	405	636	1020	349	128	187
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	22.2	6.4	27.7	16.7	6.4	11.0
Cycle Q Clear(g_c), s	22.2	6.4	27.7	16.7	6.4	11.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	461	2413	1186	587	352	314
V/C Ratio(X)	0.88	0.26	0.86	0.59	0.36	0.60
Avail Cap(c_a), veh/h	469	2548	1292	640	352	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.72	0.72	1.00	1.00
Uniform Delay (d), s/veh	32.2	5.3	27.3	23.9	31.1	32.9
Incr Delay (d2), s/veh	15.8	0.1	4.2	0.9	2.9	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	3.0	12.9	7.4	3.1	9.3
LnGrp Delay(d),s/veh	48.1	5.4	31.5	24.8	34.0	41.0
LnGrp LOS	D	A	C	C	C	D
Approach Vol, veh/h		1041	1369		315	
Approach Delay, s/veh		22.0	29.8		38.2	
Approach LOS		C	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				69.4		24.6	30.5	38.9
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				67.3		15.7	25.3	36.3
Max Q Clear Time (g_c+I1), s				8.4		13.0	24.2	29.7
Green Ext Time (p_c), s				4.9		0.3	0.5	3.5

Intersection Summary

HCM 2010 Ctrl Delay	27.8
HCM 2010 LOS	C

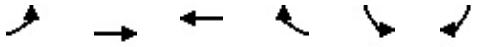


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	373	585	938	321	118	172
Future Volume (veh/h)	373	585	938	321	118	172
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1691	1900	1683	1683
Adj Flow Rate, veh/h	405	636	1020	349	128	187
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	4	4	4
Cap, veh/h	432	3092	1095	375	502	448
Arrive On Green	0.53	1.00	0.64	0.64	0.31	0.31
Sat Flow, veh/h	1634	5152	3553	1163	1603	1430
Grp Volume(v), veh/h	405	636	923	446	128	187
Grp Sat Flow(s),veh/h/ln	1634	1663	1539	1486	1603	1430
Q Serve(g_s), s	27.8	0.0	32.0	32.1	7.2	12.4
Cycle Q Clear(g_c), s	27.8	0.0	32.0	32.1	7.2	12.4
Prop In Lane	1.00			0.78	1.00	1.00
Lane Grp Cap(c), veh/h	432	3092	991	478	502	448
V/C Ratio(X)	0.94	0.21	0.93	0.93	0.25	0.42
Avail Cap(c_a), veh/h	436	3200	1052	508	502	448
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.75	0.75	1.00	1.00
Uniform Delay (d), s/veh	27.3	0.0	20.2	20.2	30.7	32.5
Incr Delay (d2), s/veh	27.2	0.0	11.1	19.2	1.2	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.6	0.0	14.6	15.2	3.3	10.8
LnGrp Delay(d),s/veh	54.5	0.0	31.2	39.4	32.0	35.4
LnGrp LOS	D	A	C	D	C	D
Approach Vol, veh/h		1041	1369		315	
Approach Delay, s/veh		21.2	33.9		34.0	
Approach LOS		C	C		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				78.4		41.6	35.8	42.6
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				75.3		33.7	30.3	39.3
Max Q Clear Time (g_c+I1), s				2.0		14.4	29.8	34.1
Green Ext Time (p_c), s				4.9		1.1	0.3	2.9

Intersection Summary

HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

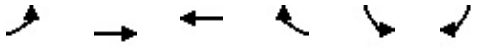


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	382	665	977	340	118	172
Future Volume (veh/h)	382	665	977	340	118	172
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	415	723	1062	370	128	187
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	466	2458	1215	602	331	296
Arrive On Green	0.29	0.71	0.38	0.38	0.21	0.21
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	415	723	1062	370	128	187
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	22.9	7.2	29.0	17.8	6.5	11.2
Cycle Q Clear(g_c), s	22.9	7.2	29.0	17.8	6.5	11.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	466	2458	1215	602	331	296
V/C Ratio(X)	0.89	0.29	0.87	0.61	0.39	0.63
Avail Cap(c_a), veh/h	469	2548	1292	640	331	296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.69	0.69	1.00	1.00
Uniform Delay (d), s/veh	32.2	5.1	27.0	23.6	32.1	34.0
Incr Delay (d2), s/veh	17.0	0.1	4.7	1.1	3.4	9.9
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	3.4	13.5	7.9	3.2	9.5
LnGrp Delay(d),s/veh	49.2	5.1	31.7	24.7	35.5	43.9
LnGrp LOS	D	A	C	C	D	D
Approach Vol, veh/h		1138	1432		315	
Approach Delay, s/veh		21.2	29.9		40.5	
Approach LOS		C	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				70.6		23.4	30.8	39.7
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				67.3		15.7	25.3	36.3
Max Q Clear Time (g_c+I1), s				9.2		13.2	24.9	31.0
Green Ext Time (p_c), s				5.5		0.3	0.2	3.1

Intersection Summary

HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C

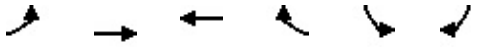


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	382	699	1065	340	118	172
Future Volume (veh/h)	382	699	1065	340	118	172
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1827	1683	1863	1683	1683
Adj Flow Rate, veh/h	415	760	1158	370	128	187
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	2	4	4
Cap, veh/h	466	2517	1270	629	304	271
Arrive On Green	0.29	0.73	0.40	0.40	0.19	0.19
Sat Flow, veh/h	1634	3563	3281	1583	1603	1430
Grp Volume(v), veh/h	415	760	1158	370	128	187
Grp Sat Flow(s),veh/h/ln	1634	1736	1599	1583	1603	1430
Q Serve(g_s), s	22.9	7.2	32.2	17.3	6.6	11.5
Cycle Q Clear(g_c), s	22.9	7.2	32.2	17.3	6.6	11.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	466	2517	1270	629	304	271
V/C Ratio(X)	0.89	0.30	0.91	0.59	0.42	0.69
Avail Cap(c_a), veh/h	469	2548	1292	640	304	271
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.59	0.59	1.00	1.00
Uniform Delay (d), s/veh	32.2	4.5	26.8	22.3	33.5	35.5
Incr Delay (d2), s/veh	16.8	0.1	6.3	0.8	4.2	13.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	3.4	15.3	7.6	3.3	9.8
LnGrp Delay(d),s/veh	48.9	4.6	33.0	23.1	37.8	48.9
LnGrp LOS	D	A	C	C	D	D
Approach Vol, veh/h		1175	1528		315	
Approach Delay, s/veh		20.3	30.6		44.4	
Approach LOS		C	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				72.2		21.8	30.8	41.3
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				67.3		15.7	25.3	36.3
Max Q Clear Time (g_c+I1), s				9.2		13.5	24.9	34.2
Green Ext Time (p_c), s				5.7		0.3	0.3	1.5

Intersection Summary

HCM 2010 Ctrl Delay	28.0
HCM 2010 LOS	C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	382	699	1065	340	118	172
Future Volume (veh/h)	382	699	1065	340	118	172
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	1716	1827	1691	1900	1683	1683
Adj Flow Rate, veh/h	415	760	1158	370	128	187
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	4	4	4	4	4
Cap, veh/h	436	3200	1184	378	467	417
Arrive On Green	0.53	1.00	0.68	0.68	0.29	0.29
Sat Flow, veh/h	1634	5152	3617	1107	1603	1430
Grp Volume(v), veh/h	415	760	1028	500	128	187
Grp Sat Flow(s),veh/h/ln	1634	1663	1538	1495	1603	1430
Q Serve(g_s), s	28.9	0.0	38.3	38.3	7.4	12.8
Cycle Q Clear(g_c), s	28.9	0.0	38.3	38.3	7.4	12.8
Prop In Lane	1.00			0.74	1.00	1.00
Lane Grp Cap(c), veh/h	436	3200	1051	511	467	417
V/C Ratio(X)	0.95	0.24	0.98	0.98	0.27	0.45
Avail Cap(c_a), veh/h	436	3200	1051	511	467	417
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.68	0.68	1.00	1.00
Uniform Delay (d), s/veh	27.3	0.0	18.6	18.6	32.7	34.6
Incr Delay (d2), s/veh	30.2	0.0	17.9	27.5	1.4	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.3	0.0	18.3	19.2	3.5	11.0
LnGrp Delay(d),s/veh	57.5	0.0	36.5	46.1	34.2	38.1
LnGrp LOS	E	A	D	D	C	D
Approach Vol, veh/h		1175	1528		315	
Approach Delay, s/veh		20.3	39.6		36.5	
Approach LOS		C	D		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				81.0		39.0	36.0	45.0
Change Period (Y+Rc), s				5.7		5.3	5.7	5.7
Max Green Setting (Gmax), s				75.3		33.7	30.3	39.3
Max Q Clear Time (g_c+I1), s				2.0		14.8	30.9	40.3
Green Ext Time (p_c), s				5.8		1.1	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	31.8
HCM 2010 LOS	C

Intersection 17
Airport Dr & Merle Haggard Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	615	143	33	263	1	63	67	46	9	139	153
Future Volume (veh/h)	64	615	143	33	263	1	63	67	46	9	139	153
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	70	668	155	36	286	1	68	73	50	10	151	166
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	521	2102	883	68	1141	479	103	296	117	208	279	214
Arrive On Green	0.32	0.61	0.61	0.01	0.11	0.11	0.06	0.08	0.08	0.13	0.15	0.15
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1405	1603	1863	1430
Grp Volume(v), veh/h	70	668	155	36	286	1	68	73	50	10	151	166
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1405	1603	1863	1430
Q Serve(g_s), s	3.5	10.8	3.2	2.5	8.7	0.1	4.8	2.2	3.3	0.6	8.6	12.8
Cycle Q Clear(g_c), s	3.5	10.8	3.2	2.5	8.7	0.1	4.8	2.2	3.3	0.6	8.6	12.8
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	521	2102	883	68	1141	479	103	296	117	208	279	214
V/C Ratio(X)	0.13	0.32	0.18	0.53	0.25	0.00	0.66	0.25	0.43	0.05	0.54	0.78
Avail Cap(c_a), veh/h	521	2102	883	128	1141	479	195	1237	491	208	538	413
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	11.1	3.4	55.6	38.3	34.4	52.6	49.3	36.5	43.8	45.3	47.0
Incr Delay (d2), s/veh	0.1	0.3	0.3	6.2	0.5	0.0	7.1	0.4	2.4	0.1	1.6	5.9
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	1.6	5.2	1.3	1.3	4.3	0.0	2.3	1.1	1.4	0.3	4.6	5.4
LnGrp Delay(d),s/veh	28.0	11.4	3.7	61.8	38.8	34.5	59.7	49.7	39.0	43.9	46.9	53.0
LnGrp LOS	C	B	A	E	D	C	E	D	D	D	D	D
Approach Vol, veh/h		893			323			191			327	
Approach Delay, s/veh		11.3			41.4			50.5			49.9	
Approach LOS		B			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	19.0	13.6	8.8	73.6	11.4	21.2	40.6	41.8
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	5.7	38.9	7.3	41.1	12.7	31.9	12.3	36.1
Max Q Clear Time (g_c+I1), s	2.6	5.3	4.5	12.8	6.8	14.8	5.5	10.7
Green Ext Time (p_c), s	0.0	0.5	0.0	4.0	0.1	1.1	2.3	1.1

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)	64	665	170	33	285	1	76	67	46	9	139	153
Future Volume (veh/h)	64	665	170	33	285	1	76	67	46	9	139	153
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	70	723	185	36	310	1	83	73	50	10	151	166
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	109	1264	531	457	2005	842	120	306	122	218	275	211
Arrive On Green	0.13	0.73	0.73	0.28	0.58	0.58	0.07	0.09	0.09	0.14	0.15	0.15
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1405	1603	1863	1430
Grp Volume(v), veh/h	70	723	185	36	310	1	83	73	50	10	151	166
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1405	1603	1863	1430
Q Serve(g_s), s	4.9	11.6	4.1	1.9	5.0	0.0	6.1	2.3	4.0	0.7	9.0	13.4
Cycle Q Clear(g_c), s	4.9	11.6	4.1	1.9	5.0	0.0	6.1	2.3	4.0	0.7	9.0	13.4
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	109	1264	531	457	2005	842	120	306	122	218	275	211
V/C Ratio(X)	0.64	0.57	0.35	0.08	0.15	0.00	0.69	0.24	0.41	0.05	0.55	0.79
Avail Cap(c_a), veh/h	218	1264	531	457	2005	842	240	1218	484	218	486	373
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	0.62	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	11.9	6.0	31.8	11.8	2.2	54.2	51.1	51.9	45.1	47.4	49.3
Incr Delay (d2), s/veh	3.9	1.2	1.1	0.1	0.2	0.0	7.0	0.4	2.2	0.1	1.7	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	5.6	1.7	0.9	2.4	0.0	2.9	1.1	1.7	0.3	4.8	5.7
LnGrp Delay(d),s/veh	54.6	13.1	7.1	31.9	11.9	2.2	61.1	51.5	54.1	45.1	49.1	55.6
LnGrp LOS	D	B	A	C	B	A	E	D	D	D	D	E
Approach Vol, veh/h		978			347			206			327	
Approach Delay, s/veh		15.0			14.0			56.0			52.3	
Approach LOS		B			B			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	20.3	14.4	37.6	47.7	13.0	21.7	12.0	73.3
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	6.7	40.0	9.3	42.0	16.7	30.0	14.3	37.0
Max Q Clear Time (g_c+I1), s	2.7	6.0	3.9	13.6	8.1	15.4	6.9	7.0
Green Ext Time (p_c), s	0.5	0.5	0.1	4.2	0.1	1.0	0.1	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	25.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	874	373	39	447	15	223	75	51	17	150	160
Future Volume (veh/h)	79	874	373	39	447	15	223	75	51	17	150	160
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	86	950	405	42	486	16	242	82	55	18	163	174
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	129	1784	750	75	1670	702	286	302	120	355	239	184
Arrive On Green	0.08	0.51	0.51	0.05	0.48	0.48	0.18	0.09	0.09	0.22	0.13	0.13
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1405	1603	1863	1430
Grp Volume(v), veh/h	86	950	405	42	486	16	242	82	55	18	163	174
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1405	1603	1863	1430
Q Serve(g_s), s	6.1	22.0	9.8	3.0	10.1	0.3	17.5	2.6	3.8	1.1	10.0	11.7
Cycle Q Clear(g_c), s	6.1	22.0	9.8	3.0	10.1	0.3	17.5	2.6	3.8	1.1	10.0	11.7
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	129	1784	750	75	1670	702	286	302	120	355	239	184
V/C Ratio(X)	0.67	0.53	0.54	0.56	0.29	0.02	0.85	0.27	0.46	0.05	0.68	0.95
Avail Cap(c_a), veh/h	191	1784	750	109	1670	702	414	1268	504	355	279	215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	19.5	3.7	56.1	18.8	2.5	47.7	51.4	38.1	36.8	50.0	33.9
Incr Delay (d2), s/veh	4.6	0.9	2.2	6.2	0.4	0.1	10.4	0.5	2.7	0.1	5.4	43.8
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	2.9	10.8	4.3	1.5	5.0	0.1	8.6	1.3	1.6	0.5	5.5	6.9
LnGrp Delay(d),s/veh	58.4	20.4	5.9	62.2	19.2	2.5	58.1	51.9	40.8	36.8	55.4	77.8
LnGrp LOS	E	C	A	E	B	A	E	D	D	D	E	E
Approach Vol, veh/h		1441			544			379			355	
Approach Delay, s/veh		18.6			22.0			54.2			65.4	
Approach LOS		B			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	30.6	14.2	9.5	65.7	25.4	19.4	13.4	61.7
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.7	41.7	6.3	45.3	29.7	16.7	12.3	39.3
Max Q Clear Time (g_c+I1), s	3.1	5.8	5.0	24.0	19.5	13.7	8.1	12.1
Green Ext Time (p_c), s	0.2	0.5	0.0	9.1	0.6	0.4	0.1	10.0

Intersection Summary	
HCM 2010 Ctrl Delay	30.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	924	400	39	469	15	236	75	51	17	150	160
Future Volume (veh/h)	79	924	400	39	469	15	236	75	51	17	150	160
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	86	1004	435	42	510	16	257	82	55	18	163	174
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	296	1663	699	76	1195	502	302	306	122	399	274	210
Arrive On Green	0.06	0.16	0.16	0.05	0.34	0.34	0.19	0.09	0.09	0.25	0.15	0.15
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1405	1603	1863	1430
Grp Volume(v), veh/h	86	1004	435	42	510	16	257	82	55	18	163	174
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1405	1603	1863	1430
Q Serve(g_s), s	5.8	31.0	14.3	2.9	13.0	0.8	17.8	2.5	3.6	1.0	9.4	13.6
Cycle Q Clear(g_c), s	5.8	31.0	14.3	2.9	13.0	0.8	17.8	2.5	3.6	1.0	9.4	13.6
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	296	1663	699	76	1195	502	302	306	122	399	274	210
V/C Ratio(X)	0.29	0.60	0.62	0.56	0.43	0.03	0.85	0.27	0.45	0.05	0.60	0.83
Avail Cap(c_a), veh/h	296	1663	699	107	1195	502	408	1243	494	399	275	211
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	38.3	7.8	53.7	29.0	25.0	45.1	49.1	35.9	32.8	45.9	47.6
Incr Delay (d2), s/veh	0.4	1.2	3.1	6.0	1.1	0.1	12.0	0.5	2.6	0.0	3.4	22.9
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	2.7	15.2	6.4	1.4	6.4	0.4	8.9	1.2	1.5	0.4	5.1	6.7
LnGrp Delay(d),s/veh	47.4	39.5	10.9	59.7	30.0	25.1	57.1	49.6	38.6	32.8	49.3	70.6
LnGrp LOS	D	D	B	E	C	C	E	D	D	C	D	E
Approach Vol, veh/h		1525			568			394			355	
Approach Delay, s/veh		31.8			32.1			52.9			58.9	
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	32.7	13.9	9.3	59.1	25.7	20.9	24.8	43.6
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.6	39.1	5.8	43.5	28.0	15.7	11.4	37.9
Max Q Clear Time (g_c+I1), s	3.0	5.6	4.9	33.0	19.8	15.6	7.8	15.0
Green Ext Time (p_c), s	0.2	0.5	0.0	5.2	0.6	0.0	2.1	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	38.2
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	924	400	39	469	15	236	75	51	17	150	160
Future Volume (veh/h)	79	924	400	39	469	15	236	75	51	17	150	160
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	86	1004	435	42	510	16	257	82	55	18	163	174
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	275	1710	718	75	1284	540	299	301	120	390	264	203
Arrive On Green	0.06	0.16	0.16	0.05	0.37	0.37	0.19	0.09	0.09	0.24	0.14	0.14
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1405	1603	1863	1430
Grp Volume(v), veh/h	86	1004	435	42	510	16	257	82	55	18	163	174
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1405	1603	1863	1430
Q Serve(g_s), s	6.1	32.1	14.8	3.0	13.0	0.8	18.6	2.6	3.8	1.0	9.9	14.3
Cycle Q Clear(g_c), s	6.1	32.1	14.8	3.0	13.0	0.8	18.6	2.6	3.8	1.0	9.9	14.3
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	275	1710	718	75	1284	540	299	301	120	390	264	203
V/C Ratio(X)	0.31	0.59	0.61	0.56	0.40	0.03	0.86	0.27	0.46	0.05	0.62	0.86
Avail Cap(c_a), veh/h	275	1710	718	109	1284	540	374	1171	465	390	264	203
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	39.0	7.8	56.1	27.9	24.1	47.3	51.4	38.1	34.8	48.4	50.3
Incr Delay (d2), s/veh	0.6	1.3	3.3	6.2	0.9	0.1	15.1	0.5	2.7	0.0	4.3	28.9
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	2.8	15.8	6.6	1.5	6.4	0.4	9.5	1.3	1.6	0.5	5.4	7.3
LnGrp Delay(d),s/veh	50.6	40.3	11.1	62.3	28.8	24.2	62.3	51.9	40.8	34.8	52.7	79.2
LnGrp LOS	D	D	B	E	C	C	E	D	D	C	D	E
Approach Vol, veh/h		1525			568			394			355	
Approach Delay, s/veh		32.5			31.1			57.1			64.8	
Approach LOS		C			C			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	33.2	14.2	9.5	63.1	26.4	21.0	24.2	48.4
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	38.4	6.3	49.3	26.7	15.7	12.9	42.7
Max Q Clear Time (g_c+I1), s	3.0	5.8	5.0	34.1	20.6	16.3	8.1	15.0
Green Ext Time (p_c), s	0.1	0.5	0.0	6.4	0.5	0.0	2.9	2.2

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)	91	985	399	46	504	15	231	83	57	17	152	163
Future Volume (veh/h)	91	985	399	46	504	15	231	83	57	17	152	163
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	99	1071	434	50	548	16	251	90	62	18	165	177
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	143	1745	733	85	1622	681	292	315	125	357	241	185
Arrive On Green	0.09	0.50	0.50	0.05	0.47	0.47	0.18	0.09	0.09	0.22	0.13	0.13
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1406	1603	1863	1430
Grp Volume(v), veh/h	99	1071	434	50	548	16	251	90	62	18	165	177
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1406	1603	1863	1430
Q Serve(g_s), s	7.1	26.6	11.2	3.6	12.0	0.3	18.2	2.9	4.3	1.1	10.2	11.8
Cycle Q Clear(g_c), s	7.1	26.6	11.2	3.6	12.0	0.3	18.2	2.9	4.3	1.1	10.2	11.8
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	143	1745	733	85	1622	681	292	315	125	357	241	185
V/C Ratio(X)	0.69	0.61	0.59	0.59	0.34	0.02	0.86	0.29	0.49	0.05	0.68	0.96
Avail Cap(c_a), veh/h	199	1745	733	109	1622	681	347	1162	462	357	292	224
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	21.5	4.1	55.6	20.2	2.8	47.6	51.1	37.3	36.7	49.9	33.0
Incr Delay (d2), s/veh	4.1	1.1	2.4	5.9	0.5	0.1	16.8	0.5	3.0	0.1	5.0	43.9
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	3.4	12.9	4.9	1.8	5.8	0.1	9.4	1.4	1.8	0.5	5.6	6.9
LnGrp Delay(d),s/veh	57.3	22.6	6.6	61.5	20.7	2.9	64.3	51.6	40.3	36.7	54.9	76.9
LnGrp LOS	E	C	A	E	C	A	E	D	D	D	D	E
Approach Vol, veh/h		1604			614			403			360	
Approach Delay, s/veh		20.4			23.6			57.8			64.8	
Approach LOS		C			C			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	30.7	14.7	10.2	64.3	25.9	19.5	14.5	60.1
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.1	38.1	6.3	49.5	24.7	17.5	12.9	42.9
Max Q Clear Time (g_c+I1), s	3.1	6.3	5.6	28.6	20.2	13.8	9.1	14.0
Green Ext Time (p_c), s	0.1	0.6	0.0	10.3	0.4	0.5	0.1	11.9

Intersection Summary	
HCM 2010 Ctrl Delay	31.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	1046	433	46	532	15	246	83	57	17	152	163
Future Volume (veh/h)	91	1046	433	46	532	15	246	83	57	17	152	163
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	99	1137	471	50	578	16	267	90	62	18	165	177
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	144	1682	707	86	1558	654	308	320	127	374	246	189
Arrive On Green	0.09	0.48	0.48	0.05	0.45	0.45	0.19	0.09	0.09	0.23	0.13	0.13
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1407	1603	1863	1430
Grp Volume(v), veh/h	99	1137	471	50	578	16	267	90	62	18	165	177
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1407	1603	1863	1430
Q Serve(g_s), s	6.8	28.9	12.3	3.4	12.7	0.3	18.6	2.7	4.1	1.0	9.7	11.2
Cycle Q Clear(g_c), s	6.8	28.9	12.3	3.4	12.7	0.3	18.6	2.7	4.1	1.0	9.7	11.2
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	144	1682	707	86	1558	654	308	320	127	374	246	189
V/C Ratio(X)	0.69	0.68	0.67	0.58	0.37	0.02	0.87	0.28	0.49	0.05	0.67	0.94
Avail Cap(c_a), veh/h	199	1682	707	99	1558	654	332	1209	481	374	337	259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	22.7	4.3	53.2	21.0	2.8	45.1	48.8	35.2	34.2	47.5	31.0
Incr Delay (d2), s/veh	3.9	1.5	3.4	5.9	0.6	0.1	20.0	0.5	2.9	0.1	3.2	33.3
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	3.2	14.1	5.5	1.7	6.2	0.1	9.9	1.4	1.7	0.5	5.2	6.2
LnGrp Delay(d),s/veh	54.7	24.2	7.6	59.1	21.6	2.8	65.1	49.3	38.1	34.2	50.7	64.4
LnGrp LOS	D	C	A	E	C	A	E	D	D	C	D	E
Approach Vol, veh/h		1707			644			419			360	
Approach Delay, s/veh		21.4			24.0			57.7			56.6	
Approach LOS		C			C			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	30.8	14.4	10.0	59.7	26.1	19.2	14.2	55.6
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	38.0	5.3	45.7	22.5	19.5	12.3	38.7
Max Q Clear Time (g_c+I1), s	3.0	6.1	5.4	30.9	20.6	13.2	8.8	14.7
Green Ext Time (p_c), s	0.1	0.6	0.0	9.0	0.2	0.7	0.1	12.0

Intersection Summary	
HCM 2010 Ctrl Delay	30.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	1046	433	46	532	15	246	83	57	17	152	163
Future Volume (veh/h)	91	1046	433	46	532	15	246	83	57	17	152	163
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	99	1137	471	50	578	16	267	90	62	18	165	177
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	265	1667	700	85	1284	540	309	315	125	393	264	203
Arrive On Green	0.05	0.16	0.16	0.05	0.37	0.37	0.19	0.09	0.09	0.25	0.14	0.14
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1406	1603	1863	1430
Grp Volume(v), veh/h	99	1137	471	50	578	16	267	90	62	18	165	177
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1406	1603	1863	1430
Q Serve(g_s), s	7.0	37.1	16.3	3.6	15.1	0.8	19.4	2.9	4.3	1.0	10.0	14.5
Cycle Q Clear(g_c), s	7.0	37.1	16.3	3.6	15.1	0.8	19.4	2.9	4.3	1.0	10.0	14.5
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	265	1667	700	85	1284	540	309	315	125	393	264	203
V/C Ratio(X)	0.37	0.68	0.67	0.59	0.45	0.03	0.86	0.29	0.49	0.05	0.63	0.87
Avail Cap(c_a), veh/h	265	1667	700	109	1284	540	374	1171	465	393	264	203
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	41.8	8.3	55.6	28.6	24.1	46.9	51.1	37.3	34.6	48.5	50.4
Incr Delay (d2), s/veh	0.7	1.9	4.3	5.9	1.1	0.1	16.2	0.5	3.0	0.0	4.6	31.6
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	3.2	18.3	7.4	1.8	7.4	0.4	10.0	1.4	1.8	0.5	5.5	7.5
LnGrp Delay(d),s/veh	51.6	43.8	12.6	61.6	29.6	24.2	63.2	51.6	40.3	34.6	53.1	82.1
LnGrp LOS	D	D	B	E	C	C	E	D	D	C	D	F
Approach Vol, veh/h		1707			644			419			360	
Approach Delay, s/veh		35.6			32.0			57.3			66.4	
Approach LOS		D			C			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	33.4	14.7	10.2	61.6	27.1	21.0	23.5	48.4
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	38.4	6.3	49.3	26.7	15.7	12.9	42.7
Max Q Clear Time (g_c+I1), s	3.0	6.3	5.6	39.1	21.4	16.5	9.0	17.1
Green Ext Time (p_c), s	0.1	0.6	0.0	5.7	0.5	0.0	2.6	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	41.3
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	260	65	38	378	4	109	76	10	2	61	123
Future Volume (veh/h)	96	260	65	38	378	4	109	76	10	2	61	123
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	104	283	71	41	411	4	118	83	11	2	66	134
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	150	1168	491	526	1965	826	160	267	106	210	198	152
Arrive On Green	0.09	0.34	0.34	0.64	1.00	1.00	0.10	0.08	0.08	0.13	0.11	0.11
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1402	1603	1863	1430
Grp Volume(v), veh/h	104	283	71	41	411	4	118	83	11	2	66	134
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1402	1603	1863	1430
Q Serve(g_s), s	7.3	7.0	4.0	1.1	0.0	0.0	8.4	2.6	0.9	0.1	3.9	8.7
Cycle Q Clear(g_c), s	7.3	7.0	4.0	1.1	0.0	0.0	8.4	2.6	0.9	0.1	3.9	8.7
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	150	1168	491	526	1965	826	160	267	106	210	198	152
V/C Ratio(X)	0.69	0.24	0.14	0.08	0.21	0.00	0.74	0.31	0.10	0.01	0.33	0.88
Avail Cap(c_a), veh/h	291	1168	491	526	1965	826	326	1239	491	210	415	319
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	28.3	27.3	14.5	0.0	0.0	51.6	51.6	50.8	44.6	48.8	33.0
Incr Delay (d2), s/veh	5.4	0.5	0.6	0.1	0.2	0.0	6.5	0.7	0.4	0.0	1.0	14.7
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	3.5	3.4	1.7	0.5	0.1	0.0	4.0	1.3	0.3	0.1	2.1	4.0
LnGrp Delay(d),s/veh	57.3	28.8	27.9	14.5	0.2	0.0	58.1	52.3	51.2	44.7	49.8	47.7
LnGrp LOS	E	C	C	B	A	A	E	D	D	D	D	D
Approach Vol, veh/h		458			456			212			202	
Approach Delay, s/veh		35.1			1.5			55.5			48.3	
Approach LOS		D			A			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	19.4	12.9	42.0	43.7	15.8	16.6	14.9	70.8
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	7.7	40.0	10.3	38.0	22.7	25.0	19.3	29.0
Max Q Clear Time (g_c+I1), s	2.1	4.6	3.1	9.0	10.4	10.7	9.3	2.0
Green Ext Time (p_c), s	0.1	0.3	0.1	1.4	0.3	0.6	0.2	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	28.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	278	75	38	423	4	135	76	10	2	61	123
Future Volume (veh/h)	96	278	75	38	423	4	135	76	10	2	61	123
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	104	302	82	41	460	4	147	83	11	2	66	134
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	152	2014	846	75	1850	777	193	276	109	241	201	154
Arrive On Green	0.09	0.58	0.58	0.05	0.53	0.53	0.12	0.08	0.08	0.15	0.11	0.11
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1403	1603	1863	1430
Grp Volume(v), veh/h	104	302	82	41	460	4	147	83	11	2	66	134
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1403	1603	1863	1430
Q Serve(g_s), s	6.8	4.4	1.3	2.7	7.8	0.1	9.8	2.4	0.7	0.1	3.6	8.0
Cycle Q Clear(g_c), s	6.8	4.4	1.3	2.7	7.8	0.1	9.8	2.4	0.7	0.1	3.6	8.0
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	152	2014	846	75	1850	777	193	276	109	241	201	154
V/C Ratio(X)	0.68	0.15	0.10	0.54	0.25	0.01	0.76	0.30	0.10	0.01	0.33	0.87
Avail Cap(c_a), veh/h	267	2014	846	149	1850	777	335	1326	525	241	430	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)	0.95	0.95	0.95	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	10.6	2.2	51.3	13.8	2.5	46.9	47.9	33.7	39.8	45.4	29.9
Incr Delay (d2), s/veh	5.1	0.2	0.2	5.9	0.3	0.0	6.1	0.6	0.4	0.0	0.9	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	3.3	2.1	0.6	1.3	3.9	0.0	4.7	1.2	0.3	0.1	1.9	3.7
LnGrp Delay(d),s/veh	53.4	10.8	2.5	57.3	14.1	2.5	53.0	48.5	34.1	39.8	46.3	43.5
LnGrp LOS	D	B	A	E	B	A	D	D	C	D	D	D
Approach Vol, veh/h		488			505			241			202	
Approach Delay, s/veh		18.4			17.6			50.6			44.4	
Approach LOS		B			B			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	20.5	12.6	9.1	67.8	17.2	15.9	14.3	62.6
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	5.9	39.9	8.3	33.9	21.7	24.1	16.3	25.9
Max Q Clear Time (g_c+I1), s	2.1	4.4	4.7	6.4	11.8	10.0	8.8	9.8
Green Ext Time (p_c), s	0.1	0.3	0.0	3.7	0.3	0.6	0.1	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	27.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	339	142	45	608	14	312	85	11	2	62	131
Future Volume (veh/h)	113	339	142	45	608	14	312	85	11	2	62	131
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	123	368	154	49	661	15	339	92	12	2	67	142
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	172	1570	660	86	1387	583	386	285	113	431	202	155
Arrive On Green	0.11	0.45	0.45	0.05	0.40	0.40	0.24	0.08	0.08	0.27	0.11	0.11
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1404	1603	1863	1430
Grp Volume(v), veh/h	123	368	154	49	661	15	339	92	12	2	67	142
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1404	1603	1863	1430
Q Serve(g_s), s	8.0	7.1	2.6	3.2	15.5	0.3	22.4	2.7	0.7	0.1	3.7	8.4
Cycle Q Clear(g_c), s	8.0	7.1	2.6	3.2	15.5	0.3	22.4	2.7	0.7	0.1	3.7	8.4
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	172	1570	660	86	1387	583	386	285	113	431	202	155
V/C Ratio(X)	0.72	0.23	0.23	0.57	0.48	0.03	0.88	0.32	0.11	0.00	0.33	0.91
Avail Cap(c_a), veh/h	223	1570	660	138	1387	583	495	1438	570	431	271	208
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	18.4	2.5	50.9	24.5	2.9	40.2	47.7	32.9	29.4	45.3	29.1
Incr Delay (d2), s/veh	7.2	0.3	0.8	5.6	1.1	0.1	13.5	0.6	0.4	0.0	0.9	33.3
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	4.0	3.5	1.2	1.6	7.7	0.1	11.3	1.3	0.3	0.0	1.9	4.7
LnGrp Delay(d),s/veh	54.8	18.8	3.3	56.5	25.6	3.0	53.7	48.4	33.4	29.4	46.3	62.4
LnGrp LOS	D	B	A	E	C	A	D	D	C	C	D	E
Approach Vol, veh/h		645			725			443			211	
Approach Delay, s/veh		22.0			27.2			52.0			57.0	
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	33.6	12.9	9.8	53.8	30.5	15.9	15.6	48.0
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	43.4	7.6	33.0	32.7	14.7	13.3	27.3
Max Q Clear Time (g_c+I1), s	2.1	4.7	5.2	9.1	24.4	10.4	10.0	17.5
Green Ext Time (p_c), s	0.3	0.4	0.0	5.4	0.8	0.3	0.1	3.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	357	152	45	653	14	338	85	11	2	62	131
Future Volume (veh/h)	113	357	152	45	653	14	338	85	11	2	62	131
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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	123	388	165	49	710	15	367	92	12	2	67	142
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	172	1506	633	86	1324	556	416	1254	505	22	202	155
Arrive On Green	0.10	0.43	0.43	0.05	0.38	0.38	0.26	0.35	0.35	0.01	0.11	0.11
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1424	1603	1863	1430
Grp Volume(v), veh/h	123	388	165	49	710	15	367	92	12	2	67	142
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1424	1603	1863	1430
Q Serve(g_s), s	8.0	7.8	2.8	3.2	17.5	0.7	24.2	1.9	0.6	0.1	3.7	8.4
Cycle Q Clear(g_c), s	8.0	7.8	2.8	3.2	17.5	0.7	24.2	1.9	0.6	0.1	3.7	8.4
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	172	1506	633	86	1324	556	416	1254	505	22	202	155
V/C Ratio(X)	0.72	0.26	0.26	0.57	0.54	0.03	0.88	0.07	0.02	0.09	0.33	0.91
Avail Cap(c_a), veh/h	208	1506	633	138	1324	556	495	1438	579	77	271	208
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	19.8	2.6	50.9	26.5	21.3	39.1	23.5	23.1	53.5	45.3	29.1
Incr Delay (d2), s/veh	8.7	0.4	1.0	5.6	1.5	0.1	15.0	0.0	0.0	1.7	0.9	33.3
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	4.0	3.9	1.3	1.6	8.7	0.3	12.4	0.9	0.2	0.1	1.9	4.7
LnGrp Delay(d),s/veh	56.3	20.2	3.5	56.5	27.9	21.4	54.1	23.6	23.1	55.2	46.3	62.4
LnGrp LOS	E	C	A	E	C	C	D	C	C	E	D	E
Approach Vol, veh/h		676			774			471			211	
Approach Delay, s/veh		22.7			29.6			47.3			57.2	
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	5.5	43.0	9.8	51.7	32.6	15.9	15.5	45.9
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	43.4	7.6	33.0	32.7	14.7	12.3	28.3
Max Q Clear Time (g_c+I1), s	2.1	3.9	5.2	9.8	26.2	10.4	10.0	19.5
Green Ext Time (p_c), s	0.0	1.9	0.0	5.9	1.1	0.3	0.1	3.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	357	152	45	653	14	338	85	11	2	62	131
Future Volume (veh/h)	113	357	152	45	653	14	338	85	11	2	62	131
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	123	388	165	49	710	15	367	92	12	2	67	142
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	226	1586	666	84	1284	540	374	274	109	450	233	179
Arrive On Green	0.05	0.15	0.15	0.05	0.37	0.37	0.23	0.08	0.08	0.28	0.13	0.13
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1403	1603	1863	1430
Grp Volume(v), veh/h	123	388	165	49	710	15	367	92	12	2	67	142
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1403	1603	1863	1430
Q Serve(g_s), s	8.8	11.8	4.7	3.5	19.4	0.8	27.3	3.0	0.8	0.1	3.9	11.6
Cycle Q Clear(g_c), s	8.8	11.8	4.7	3.5	19.4	0.8	27.3	3.0	0.8	0.1	3.9	11.6
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	226	1586	666	84	1284	540	374	274	109	450	233	179
V/C Ratio(X)	0.54	0.24	0.25	0.59	0.55	0.03	0.98	0.34	0.11	0.00	0.29	0.79
Avail Cap(c_a), veh/h	226	1586	666	109	1284	540	374	1171	464	450	264	203
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	32.7	5.1	55.7	29.9	24.1	45.7	52.4	37.1	31.1	47.6	51.0
Incr Delay (d2), s/veh	2.7	0.4	0.9	6.0	1.6	0.1	41.5	0.7	0.4	0.0	0.7	17.3
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	4.2	5.8	2.1	1.7	9.6	0.3	16.4	1.5	0.3	0.0	2.1	5.4
LnGrp Delay(d),s/veh	56.2	33.1	6.0	61.7	31.6	24.2	87.2	53.1	37.5	31.1	48.3	68.2
LnGrp LOS	E	C	A	E	C	C	F	D	D	C	D	E
Approach Vol, veh/h		676			774			471			211	
Approach Delay, s/veh		30.7			33.3			79.3			61.6	
Approach LOS		C			C			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	37.7	13.3	10.1	58.8	32.0	19.0	20.6	48.4
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	38.4	6.3	49.3	26.7	15.7	12.9	42.7
Max Q Clear Time (g_c+I1), s	2.1	5.0	5.5	13.8	29.3	13.6	10.8	21.4
Green Ext Time (p_c), s	0.3	0.4	0.0	2.8	0.0	0.2	0.4	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	45.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	386	154	53	690	15	326	94	12	2	63	134
Future Volume (veh/h)	131	386	154	53	690	15	326	94	12	2	63	134
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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	142	420	167	58	750	16	354	102	13	2	68	146
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	193	1477	621	98	1276	536	403	1229	495	23	206	158
Arrive On Green	0.12	0.43	0.43	0.06	0.37	0.37	0.25	0.35	0.35	0.01	0.11	0.11
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1424	1603	1863	1430
Grp Volume(v), veh/h	142	420	167	58	750	16	354	102	13	2	68	146
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1424	1603	1863	1430
Q Serve(g_s), s	8.8	8.3	2.9	3.6	18.3	0.7	22.3	2.0	0.6	0.1	3.5	8.0
Cycle Q Clear(g_c), s	8.8	8.3	2.9	3.6	18.3	0.7	22.3	2.0	0.6	0.1	3.5	8.0
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	193	1477	621	98	1276	536	403	1229	495	23	206	158
V/C Ratio(X)	0.74	0.28	0.27	0.59	0.59	0.03	0.88	0.08	0.03	0.09	0.33	0.92
Avail Cap(c_a), veh/h	218	1477	621	154	1276	536	458	1372	552	81	284	218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	19.7	2.7	48.1	26.8	21.2	37.8	23.0	22.6	51.0	43.1	26.3
Incr Delay (d2), s/veh	10.4	0.5	1.0	5.2	1.9	0.1	16.1	0.0	0.0	1.6	0.9	33.5
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	4.5	4.1	1.3	1.8	9.1	0.3	11.6	1.0	0.3	0.1	1.9	4.6
LnGrp Delay(d),s/veh	55.2	20.2	3.8	53.3	28.6	21.3	53.9	23.1	22.6	52.6	44.0	59.8
LnGrp LOS	E	C	A	D	C	C	D	C	C	D	D	E
Approach Vol, veh/h		729			824			469			216	
Approach Delay, s/veh		23.2			30.2			46.3			54.7	
Approach LOS		C			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	5.5	40.5	10.3	48.7	30.4	15.6	16.4	42.6
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	39.4	8.2	31.4	28.7	14.7	12.3	27.3
Max Q Clear Time (g_c+I1), s	2.1	4.0	5.6	10.3	24.3	10.0	10.8	20.3
Green Ext Time (p_c), s	0.0	1.9	0.0	6.1	0.8	0.3	0.1	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	33.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	408	166	53	747	15	356	94	12	2	63	134
Future Volume (veh/h)	131	408	166	53	747	15	356	94	12	2	63	134
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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	142	443	180	58	812	16	387	102	13	2	68	146
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	194	1381	580	99	1179	495	432	1296	522	24	208	160
Arrive On Green	0.12	0.40	0.40	0.06	0.34	0.34	0.27	0.37	0.37	0.02	0.11	0.11
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1424	1603	1863	1430
Grp Volume(v), veh/h	142	443	180	58	812	16	387	102	13	2	68	146
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1424	1603	1863	1430
Q Serve(g_s), s	8.4	8.8	3.1	3.5	20.2	0.7	23.3	1.9	0.6	0.1	3.4	7.5
Cycle Q Clear(g_c), s	8.4	8.8	3.1	3.5	20.2	0.7	23.3	1.9	0.6	0.1	3.4	7.5
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	194	1381	580	99	1179	495	432	1296	522	24	208	160
V/C Ratio(X)	0.73	0.32	0.31	0.58	0.69	0.03	0.90	0.08	0.02	0.08	0.33	0.91
Avail Cap(c_a), veh/h	203	1381	580	158	1179	495	452	1391	560	85	305	235
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	20.8	2.7	45.7	28.5	22.0	35.2	20.7	20.3	48.6	40.9	24.5
Incr Delay (d2), s/veh	11.6	0.6	1.3	4.9	3.1	0.1	19.7	0.0	0.0	1.4	0.9	27.9
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	4.4	4.3	1.4	1.7	10.1	0.3	12.7	0.9	0.2	0.1	1.8	4.2
LnGrp Delay(d),s/veh	54.1	21.4	4.1	50.7	31.5	22.2	54.8	20.7	20.3	50.0	41.8	52.4
LnGrp LOS	D	C	A	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		765			886			502			216	
Approach Delay, s/veh		23.4			32.6			47.0			49.1	
Approach LOS		C			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	5.5	40.6	10.1	43.8	30.9	15.2	15.9	38.0
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	38.0	8.0	28.0	26.9	15.1	10.7	25.3
Max Q Clear Time (g_c+I1), s	2.1	3.9	5.5	10.8	25.3	9.5	10.4	22.2
Green Ext Time (p_c), s	0.0	2.1	0.0	6.2	0.4	0.4	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	408	166	53	747	15	356	94	12	2	63	134
Future Volume (veh/h)	131	408	166	53	747	15	356	94	12	2	63	134
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		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	1716	1827	1716	1716	1827	1716	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	142	443	180	58	812	16	387	102	13	2	68	146
Adj No. of Lanes	1	2	1	1	2	1	1	2	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	4	2	2	4	2	4	2	4	4	2	4
Cap, veh/h	221	1553	653	95	1284	540	374	284	113	450	238	183
Arrive On Green	0.04	0.15	0.15	0.06	0.37	0.37	0.23	0.08	0.08	0.28	0.13	0.13
Sat Flow, veh/h	1634	3471	1458	1634	3471	1458	1603	3539	1404	1603	1863	1430
Grp Volume(v), veh/h	142	443	180	58	812	16	387	102	13	2	68	146
Grp Sat Flow(s),veh/h/ln	1634	1736	1458	1634	1736	1458	1603	1770	1404	1603	1863	1430
Q Serve(g_s), s	10.3	13.6	5.3	4.2	23.1	0.8	28.0	3.3	0.9	0.1	4.0	11.9
Cycle Q Clear(g_c), s	10.3	13.6	5.3	4.2	23.1	0.8	28.0	3.3	0.9	0.1	4.0	11.9
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	221	1553	653	95	1284	540	374	284	113	450	238	183
V/C Ratio(X)	0.64	0.29	0.28	0.61	0.63	0.03	1.03	0.36	0.12	0.00	0.29	0.80
Avail Cap(c_a), veh/h	221	1553	653	109	1284	540	374	1171	464	450	264	203
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	34.1	5.6	55.2	31.1	24.1	46.0	52.3	36.2	31.1	47.4	50.8
Incr Delay (d2), s/veh	6.0	0.5	1.0	7.1	2.2	0.1	55.9	0.8	0.4	0.0	0.7	18.3
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	6.7	2.3	2.1	11.4	0.4	18.2	1.6	0.3	0.0	2.1	5.6
LnGrp Delay(d),s/veh	60.4	34.5	6.6	62.2	33.3	24.2	101.9	53.0	36.7	31.1	48.0	69.1
LnGrp LOS	E	C	A	E	C	C	F	D	D	C	D	E
Approach Vol, veh/h		765			886			502			216	
Approach Delay, s/veh		32.8			35.0			90.2			62.1	
Approach LOS		C			D			F			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	37.7	13.6	11.0	57.7	32.0	19.3	20.3	48.4
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	4.0	38.4	6.3	49.3	26.7	15.7	12.9	42.7
Max Q Clear Time (g_c+I1), s	2.1	5.3	6.2	15.6	30.0	13.9	12.3	25.1
Green Ext Time (p_c), s	0.3	0.4	0.0	3.3	0.0	0.1	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	48.5
HCM 2010 LOS	D

Intersection 18
McCray & 7th Standard Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	516	82	13	233	26	37	54	14	19	56	40
Future Volume (veh/h)	61	516	82	13	233	26	37	54	14	19	56	40
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		0.97	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	1716	1827	1716	1716	1830	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	66	561	89	14	253	28	40	59	15	21	61	43
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	108	2443	1001	45	2097	230	63	195	145	40	169	125
Arrive On Green	0.02	0.23	0.23	0.03	0.67	0.65	0.04	0.10	0.10	0.02	0.09	0.09
Sat Flow, veh/h	1634	3471	1423	1634	3153	345	1603	1863	1387	1603	1863	1383
Grp Volume(v), veh/h	66	561	89	14	138	143	40	59	15	21	61	43
Grp Sat Flow(s),veh/h/ln	1634	1736	1423	1634	1739	1759	1603	1863	1387	1603	1863	1383
Q Serve(g_s), s	4.6	15.1	3.0	1.0	3.3	3.4	2.8	3.4	1.1	1.5	3.5	2.8
Cycle Q Clear(g_c), s	4.6	15.1	3.0	1.0	3.3	3.4	2.8	3.4	1.1	1.5	3.5	2.8
Prop In Lane	1.00		1.00	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	108	2443	1001	45	1157	1170	63	195	145	40	169	125
V/C Ratio(X)	0.61	0.23	0.09	0.31	0.12	0.12	0.64	0.30	0.10	0.53	0.36	0.34
Avail Cap(c_a), veh/h	256	2443	1001	128	1157	1170	181	599	446	153	567	421
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	18.9	4.3	54.9	7.0	7.1	54.4	47.6	46.6	55.4	49.2	34.1
Incr Delay (d2), s/veh	5.3	0.2	0.2	3.9	0.2	0.2	10.2	0.9	0.3	10.4	1.3	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	2.3	7.3	1.2	0.5	1.6	1.7	1.4	1.8	0.4	0.8	1.9	1.1
LnGrp Delay(d),s/veh	60.1	19.1	4.5	58.8	7.2	7.3	64.7	48.4	46.9	65.8	50.5	35.7
LnGrp LOS	E	B	A	E	A	A	E	D	D	E	D	D
Approach Vol, veh/h		716			295			114			125	
Approach Delay, s/veh		21.0			9.7			53.9			48.0	
Approach LOS		C			A			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	6.9	16.1	7.1	84.9	8.5	14.4	11.6	80.5
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	10.1	36.1	7.3	40.3	12.1	34.1	16.3	31.3
Max Q Clear Time (g_c+I1), s	3.5	5.4	3.0	17.1	4.8	5.5	6.6	5.4
Green Ext Time (p_c), s	0.0	0.4	0.0	3.8	0.2	0.3	0.1	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	24.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	561	87	13	253	26	39	54	14	19	56	40
Future Volume (veh/h)	61	561	87	13	253	26	39	54	14	19	56	40
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		0.97	1.00		0.97	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	1716	1827	1716	1716	1830	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	66	610	95	14	275	28	42	59	15	21	61	43
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	112	1121	457	588	1955	197	66	191	142	62	186	138
Arrive On Green	0.07	0.32	0.32	0.36	0.61	0.60	0.04	0.10	0.10	0.04	0.10	0.10
Sat Flow, veh/h	1634	3471	1415	1634	3182	321	1603	1863	1387	1603	1863	1386
Grp Volume(v), veh/h	66	610	95	14	149	154	42	59	15	21	61	43
Grp Sat Flow(s),veh/h/ln	1634	1736	1415	1634	1739	1764	1603	1863	1387	1603	1863	1386
Q Serve(g_s), s	3.6	13.1	3.3	0.5	3.3	3.4	2.3	2.7	0.9	1.2	2.8	2.6
Cycle Q Clear(g_c), s	3.6	13.1	3.3	0.5	3.3	3.4	2.3	2.7	0.9	1.2	2.8	2.6
Prop In Lane	1.00		1.00	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	112	1121	457	588	1068	1084	66	191	142	62	186	138
V/C Ratio(X)	0.59	0.54	0.21	0.02	0.14	0.14	0.64	0.31	0.11	0.34	0.33	0.31
Avail Cap(c_a), veh/h	174	1121	457	588	1068	1084	123	714	532	88	673	501
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	25.3	12.7	18.8	7.4	7.5	43.0	37.9	37.1	42.6	38.1	38.0
Incr Delay (d2), s/veh	4.6	1.8	1.0	0.0	0.3	0.3	9.7	0.9	0.3	3.2	1.0	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	1.8	6.6	1.4	0.2	1.7	1.7	1.2	1.4	0.4	0.6	1.5	1.1
LnGrp Delay(d),s/veh	45.8	27.1	13.7	18.8	7.7	7.8	52.7	38.8	37.4	45.8	39.1	39.3
LnGrp LOS	D	C	B	B	A	A	D	D	D	D	D	D
Approach Vol, veh/h		771			317			116			125	
Approach Delay, s/veh		27.0			8.2			43.6			40.3	
Approach LOS		C			A			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	7.5	13.3	36.8	33.4	7.8	13.1	10.2	59.9
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	4.1	34.0	4.0	27.7	6.1	32.0	8.0	23.7
Max Q Clear Time (g_c+I1), s	3.2	4.7	2.5	15.1	4.3	4.8	5.6	5.4
Green Ext Time (p_c), s	0.0	0.2	0.0	2.5	0.0	0.4	0.0	1.0

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)	77	706	165	17	384	34	104	61	16	19	56	44
Future Volume (veh/h)	77	706	165	17	384	34	104	61	16	19	56	44
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		0.97	1.00		0.97	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	1716	1827	1716	1716	1830	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	84	767	179	18	417	37	113	66	17	21	61	48
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	134	1121	457	498	1761	155	153	197	147	145	188	140
Arrive On Green	0.08	0.32	0.32	0.30	0.55	0.53	0.10	0.11	0.11	0.09	0.10	0.10
Sat Flow, veh/h	1634	3471	1415	1634	3224	285	1603	1863	1387	1603	1863	1386
Grp Volume(v), veh/h	84	767	179	18	224	230	113	66	17	21	61	48
Grp Sat Flow(s),veh/h/ln	1634	1736	1415	1634	1738	1771	1603	1863	1387	1603	1863	1386
Q Serve(g_s), s	4.5	17.5	6.0	0.7	6.1	6.2	6.2	3.0	1.0	1.1	2.8	2.9
Cycle Q Clear(g_c), s	4.5	17.5	6.0	0.7	6.1	6.2	6.2	3.0	1.0	1.1	2.8	2.9
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	1121	457	498	949	967	153	197	147	145	188	140
V/C Ratio(X)	0.63	0.68	0.39	0.04	0.24	0.24	0.74	0.34	0.12	0.14	0.32	0.34
Avail Cap(c_a), veh/h	162	1121	457	498	949	967	158	716	534	145	633	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	26.8	10.8	22.2	10.8	10.9	40.1	37.7	36.8	38.1	38.0	38.1
Incr Delay (d2), s/veh	4.5	2.8	2.1	0.0	0.6	0.6	16.2	1.0	0.3	0.5	1.0	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	2.2	8.7	2.6	0.3	3.1	3.2	3.4	1.6	0.4	0.5	1.5	1.2
LnGrp Delay(d),s/veh	44.9	29.6	12.9	22.3	11.3	11.4	56.3	38.7	37.2	38.6	39.0	39.6
LnGrp LOS	D	C	B	C	B	B	E	D	D	D	D	D
Approach Vol, veh/h		1030			472			196			130	
Approach Delay, s/veh		27.9			11.8			48.7			39.2	
Approach LOS		C			B			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	12.2	13.6	31.8	33.4	12.7	13.2	11.5	53.7
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	4.0	34.1	4.0	27.7	8.1	30.0	7.3	24.4
Max Q Clear Time (g_c+I1), s	3.1	5.0	2.7	19.5	8.2	4.9	6.5	8.2
Green Ext Time (p_c), s	0.0	0.3	0.3	2.8	0.0	0.4	0.0	1.5

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)	77	751	170	17	404	34	106	61	16	19	56	44
Future Volume (veh/h)	77	751	170	17	404	34	106	61	16	19	56	44
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		0.97	1.00		0.98	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	1716	1827	1716	1716	1830	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	84	816	185	18	439	37	115	66	17	21	61	48
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	130	1268	518	478	1875	157	153	310	233	41	181	134
Arrive On Green	0.08	0.37	0.37	0.29	0.58	0.56	0.10	0.17	0.17	0.03	0.10	0.10
Sat Flow, veh/h	1634	3471	1416	1634	3240	272	1603	1863	1397	1603	1863	1385
Grp Volume(v), veh/h	84	816	185	18	235	241	115	66	17	21	61	48
Grp Sat Flow(s),veh/h/ln	1634	1736	1416	1634	1738	1773	1603	1863	1397	1603	1863	1385
Q Serve(g_s), s	5.3	20.9	7.0	0.8	7.0	7.1	7.5	3.3	0.6	1.4	3.3	3.5
Cycle Q Clear(g_c), s	5.3	20.9	7.0	0.8	7.0	7.1	7.5	3.3	0.6	1.4	3.3	3.5
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	1268	518	478	1006	1026	153	310	233	41	181	134
V/C Ratio(X)	0.65	0.64	0.36	0.04	0.23	0.24	0.75	0.21	0.07	0.51	0.34	0.36
Avail Cap(c_a), veh/h	211	1268	518	478	1006	1026	225	695	521	90	538	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	28.2	11.5	27.1	11.0	11.1	47.2	38.5	10.9	51.5	45.1	45.2
Incr Delay (d2), s/veh	4.2	2.0	1.5	0.0	0.5	0.5	7.9	0.3	0.1	9.3	1.1	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	2.6	10.3	2.9	0.4	3.5	3.7	3.7	1.7	0.2	0.7	1.7	1.4
LnGrp Delay(d),s/veh	52.0	30.1	13.0	27.1	11.5	11.6	55.1	38.9	11.1	60.8	46.2	46.8
LnGrp LOS	D	C	B	C	B	B	E	D	B	E	D	D
Approach Vol, veh/h		1085			494			198			130	
Approach Delay, s/veh		28.9			12.1			45.9			48.8	
Approach LOS		C			B			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	6.8	21.8	35.3	43.1	14.2	14.4	12.5	65.9
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	5.1	39.0	4.3	37.4	14.1	30.0	12.1	29.6
Max Q Clear Time (g_c+I1), s	3.4	5.3	2.8	22.9	9.5	5.5	7.3	9.1
Green Ext Time (p_c), s	0.0	0.7	0.0	4.0	0.1	0.7	0.1	1.7

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)	77	751	170	17	404	34	106	61	16	19	56	44
Future Volume (veh/h)	77	751	170	17	404	34	106	61	16	19	56	44
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		0.97	1.00		0.98	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	1716	1827	1716	1716	1830	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	84	816	185	18	439	37	115	66	17	21	61	48
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	130	1268	518	478	1875	157	153	310	233	41	181	134
Arrive On Green	0.08	0.37	0.37	0.29	0.58	0.56	0.10	0.17	0.17	0.03	0.10	0.10
Sat Flow, veh/h	1634	3471	1416	1634	3240	272	1603	1863	1397	1603	1863	1385
Grp Volume(v), veh/h	84	816	185	18	235	241	115	66	17	21	61	48
Grp Sat Flow(s),veh/h/ln	1634	1736	1416	1634	1738	1773	1603	1863	1397	1603	1863	1385
Q Serve(g_s), s	5.3	20.9	7.0	0.8	7.0	7.1	7.5	3.3	0.6	1.4	3.3	3.5
Cycle Q Clear(g_c), s	5.3	20.9	7.0	0.8	7.0	7.1	7.5	3.3	0.6	1.4	3.3	3.5
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	1268	518	478	1006	1026	153	310	233	41	181	134
V/C Ratio(X)	0.65	0.64	0.36	0.04	0.23	0.24	0.75	0.21	0.07	0.51	0.34	0.36
Avail Cap(c_a), veh/h	211	1268	518	478	1006	1026	225	695	521	90	538	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	28.2	11.5	27.1	11.0	11.1	47.2	38.5	10.9	51.5	45.1	45.2
Incr Delay (d2), s/veh	4.3	2.0	1.5	0.0	0.5	0.5	7.9	0.3	0.1	9.3	1.1	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	2.6	10.3	2.9	0.4	3.5	3.7	3.7	1.7	0.2	0.7	1.7	1.4
LnGrp Delay(d),s/veh	52.1	30.2	13.1	27.1	11.5	11.6	55.1	38.9	11.1	60.8	46.2	46.8
LnGrp LOS	D	C	B	C	B	B	E	D	B	E	D	D
Approach Vol, veh/h		1085			494			198			130	
Approach Delay, s/veh		29.0			12.1			45.9			48.8	
Approach LOS		C			B			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	6.8	21.8	35.3	43.1	14.2	14.4	12.5	65.9
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	5.1	39.0	4.3	37.4	14.1	30.0	12.1	29.6
Max Q Clear Time (g_c+I1), s	3.4	5.3	2.8	22.9	9.5	5.5	7.3	9.1
Green Ext Time (p_c), s	0.0	0.7	0.0	4.0	0.1	0.7	0.1	1.7

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)	90	817	183	22	471	43	109	69	18	19	55	43
Future Volume (veh/h)	90	817	183	22	471	43	109	69	18	19	55	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		0.97	1.00		0.97	1.00		0.97	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	1716	1827	1716	1716	1830	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	98	888	199	24	512	47	118	75	20	21	60	47
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	150	1121	457	494	1714	157	158	205	153	142	187	139
Arrive On Green	0.09	0.32	0.32	0.30	0.53	0.51	0.10	0.11	0.11	0.09	0.10	0.10
Sat Flow, veh/h	1634	3471	1415	1634	3213	294	1603	1863	1388	1603	1863	1386
Grp Volume(v), veh/h	98	888	199	24	276	283	118	75	20	21	60	47
Grp Sat Flow(s),veh/h/ln	1634	1736	1415	1634	1738	1769	1603	1863	1388	1603	1863	1386
Q Serve(g_s), s	5.3	21.2	6.7	0.9	8.0	8.1	6.5	3.4	1.2	1.1	2.7	2.9
Cycle Q Clear(g_c), s	5.3	21.2	6.7	0.9	8.0	8.1	6.5	3.4	1.2	1.1	2.7	2.9
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	1121	457	494	927	943	158	205	153	142	187	139
V/C Ratio(X)	0.65	0.79	0.44	0.05	0.30	0.30	0.75	0.37	0.13	0.15	0.32	0.34
Avail Cap(c_a), veh/h	162	1121	457	494	927	943	158	716	534	142	633	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	28.0	10.9	22.5	11.8	11.9	39.9	37.5	36.6	38.3	38.1	38.1
Incr Delay (d2), s/veh	6.4	4.5	2.3	0.0	0.8	0.8	17.3	1.1	0.4	0.5	1.0	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	2.6	10.8	2.9	0.4	4.0	4.2	3.6	1.8	0.5	0.5	1.5	1.2
LnGrp Delay(d),s/veh	46.3	32.5	13.2	22.5	12.6	12.7	57.2	38.6	36.9	38.7	39.1	39.6
LnGrp LOS	D	C	B	C	B	B	E	D	D	D	D	D
Approach Vol, veh/h		1185			583			213			128	
Approach Delay, s/veh		30.4			13.1			48.8			39.2	
Approach LOS		C			B			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	12.1	14.0	31.5	33.4	13.0	13.1	12.4	52.5
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	4.0	34.1	4.0	27.7	8.1	30.0	7.3	24.4
Max Q Clear Time (g_c+I1), s	3.1	5.4	2.9	23.2	8.5	4.9	7.3	10.1
Green Ext Time (p_c), s	0.0	0.3	0.3	2.1	0.0	0.4	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	28.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	872	189	22	496	43	112	69	18	19	55	43
Future Volume (veh/h)	90	872	189	22	496	43	112	69	18	19	55	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		0.97	1.00		0.97	1.00		0.98	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	1716	1827	1716	1716	1830	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	98	948	205	24	539	47	122	75	20	21	60	47
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	146	1268	518	471	1823	159	160	318	239	41	180	134
Arrive On Green	0.09	0.37	0.37	0.29	0.56	0.55	0.10	0.17	0.17	0.03	0.10	0.10
Sat Flow, veh/h	1634	3471	1416	1634	3229	281	1603	1863	1397	1603	1863	1385
Grp Volume(v), veh/h	98	948	205	24	289	297	122	75	20	21	60	47
Grp Sat Flow(s),veh/h/ln	1634	1736	1416	1634	1738	1771	1603	1863	1397	1603	1863	1385
Q Serve(g_s), s	6.2	25.5	7.8	1.1	9.3	9.4	7.9	3.7	0.7	1.4	3.2	3.4
Cycle Q Clear(g_c), s	6.2	25.5	7.8	1.1	9.3	9.4	7.9	3.7	0.7	1.4	3.2	3.4
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	1268	518	471	981	1000	160	318	239	41	180	134
V/C Ratio(X)	0.67	0.75	0.40	0.05	0.29	0.30	0.76	0.24	0.08	0.51	0.33	0.35
Avail Cap(c_a), veh/h	211	1268	518	471	981	1000	225	695	521	90	538	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	29.6	11.5	27.5	12.2	12.3	46.9	38.3	10.9	51.5	45.1	45.2
Incr Delay (d2), s/veh	3.7	2.8	1.6	0.0	0.8	0.8	9.4	0.4	0.1	9.3	1.1	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	3.0	12.7	3.2	0.5	4.6	4.8	3.9	1.9	0.3	0.7	1.7	1.4
LnGrp Delay(d),s/veh	50.9	32.5	13.0	27.5	12.9	13.0	56.3	38.7	11.1	60.8	46.2	46.7
LnGrp LOS	D	C	B	C	B	B	E	D	B	E	D	D
Approach Vol, veh/h		1251			610			217			128	
Approach Delay, s/veh		30.7			13.6			46.0			48.8	
Approach LOS		C			B			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	6.8	22.3	34.9	43.1	14.7	14.4	13.5	64.4
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	5.1	39.0	4.3	37.4	14.1	30.0	12.1	29.6
Max Q Clear Time (g_c+I1), s	3.4	5.7	3.1	27.5	9.9	5.4	8.2	11.4
Green Ext Time (p_c), s	0.0	0.7	0.0	3.8	0.1	0.7	0.1	2.1

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)	90	872	189	22	496	43	112	69	18	19	55	43
Future Volume (veh/h)	90	872	189	22	496	43	112	69	18	19	55	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		0.97	1.00		0.97	1.00		0.98	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	1716	1827	1716	1716	1830	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	98	948	205	24	539	47	122	75	20	21	60	47
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	146	1268	518	471	1823	159	160	318	239	41	180	134
Arrive On Green	0.09	0.37	0.37	0.29	0.56	0.55	0.10	0.17	0.17	0.03	0.10	0.10
Sat Flow, veh/h	1634	3471	1416	1634	3229	281	1603	1863	1397	1603	1863	1385
Grp Volume(v), veh/h	98	948	205	24	289	297	122	75	20	21	60	47
Grp Sat Flow(s),veh/h/ln	1634	1736	1416	1634	1738	1771	1603	1863	1397	1603	1863	1385
Q Serve(g_s), s	6.2	25.5	7.8	1.1	9.3	9.4	7.9	3.7	0.7	1.4	3.2	3.4
Cycle Q Clear(g_c), s	6.2	25.5	7.8	1.1	9.3	9.4	7.9	3.7	0.7	1.4	3.2	3.4
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	1268	518	471	981	1000	160	318	239	41	180	134
V/C Ratio(X)	0.67	0.75	0.40	0.05	0.29	0.30	0.76	0.24	0.08	0.51	0.33	0.35
Avail Cap(c_a), veh/h	211	1268	518	471	981	1000	225	695	521	90	538	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	29.6	11.5	27.5	12.2	12.3	46.9	38.3	10.9	51.5	45.1	45.2
Incr Delay (d2), s/veh	3.8	2.9	1.6	0.0	0.8	0.8	9.4	0.4	0.1	9.3	1.1	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	3.0	12.8	3.2	0.5	4.6	4.8	3.9	1.9	0.3	0.7	1.7	1.4
LnGrp Delay(d),s/veh	51.0	32.6	13.1	27.5	12.9	13.0	56.3	38.7	11.1	60.8	46.2	46.7
LnGrp LOS	D	C	B	C	B	B	E	D	B	E	D	D
Approach Vol, veh/h		1251			610			217			128	
Approach Delay, s/veh		30.8			13.6			46.0			48.8	
Approach LOS		C			B			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	6.8	22.3	34.9	43.1	14.7	14.4	13.5	64.4
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	5.1	39.0	4.3	37.4	14.1	30.0	12.1	29.6
Max Q Clear Time (g_c+I1), s	3.4	5.7	3.1	27.5	9.9	5.4	8.2	11.4
Green Ext Time (p_c), s	0.0	0.7	0.0	3.8	0.1	0.7	0.1	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	28.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	283	25	11	271	10	51	20	24	18	31	66
Future Volume (veh/h)	16	283	25	11	271	10	51	20	24	18	31	66
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		0.97	1.00		0.96	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	1716	1827	1716	1716	1828	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	17	308	27	12	295	11	55	22	26	20	34	72
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	604	2371	972	42	1156	43	81	150	111	121	196	146
Arrive On Green	0.74	1.00	1.00	0.03	0.34	0.32	0.05	0.08	0.08	0.08	0.11	0.11
Sat Flow, veh/h	1634	3471	1422	1634	3411	127	1603	1863	1379	1603	1863	1387
Grp Volume(v), veh/h	17	308	27	12	150	156	55	22	26	20	34	72
Grp Sat Flow(s),veh/h/ln	1634	1736	1422	1634	1737	1801	1603	1863	1379	1603	1863	1387
Q Serve(g_s), s	0.3	0.0	0.0	0.9	7.4	7.4	4.0	1.3	1.8	1.4	2.0	5.8
Cycle Q Clear(g_c), s	0.3	0.0	0.0	0.9	7.4	7.4	4.0	1.3	1.8	1.4	2.0	5.8
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	604	2371	972	42	589	611	81	150	111	121	196	146
V/C Ratio(X)	0.03	0.13	0.03	0.29	0.25	0.26	0.68	0.15	0.23	0.17	0.17	0.49
Avail Cap(c_a), veh/h	604	2371	972	125	589	611	231	663	491	122	537	400
HCM Platoon Ratio	2.00	2.00	2.00	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	9.7	0.0	0.0	56.5	28.2	28.3	55.0	50.5	39.5	51.1	48.1	49.8
Incr Delay (d2), s/veh	0.0	0.1	0.1	3.8	1.0	1.0	9.4	0.4	1.1	0.6	0.4	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	0.1	0.0	0.0	0.4	3.7	3.9	2.0	0.7	0.7	0.6	1.0	2.3
LnGrp Delay(d),s/veh	9.8	0.1	0.1	60.2	29.3	29.3	64.4	50.9	40.6	51.7	48.5	52.4
LnGrp LOS	A	A	A	E	C	C	E	D	D	D	D	D
Approach Vol, veh/h		352			318			103			126	
Approach Delay, s/veh		0.6			30.4			55.5			51.3	
Approach LOS		A			C			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	12.9	13.5	7.0	84.6	10.0	16.4	47.6	44.0
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	8.1	41.1	7.3	40.3	16.1	33.1	9.3	38.3
Max Q Clear Time (g_c+I1), s	3.4	3.8	2.9	2.0	6.0	7.8	2.3	9.4
Green Ext Time (p_c), s	0.1	0.1	0.0	1.5	0.1	0.4	0.8	1.0

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)	16	299	27	11	312	10	55	20	24	18	31	66
Future Volume (veh/h)	16	299	27	11	312	10	55	20	24	18	31	66
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		0.97	1.00		0.96	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	1716	1827	1716	1716	1828	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	17	325	29	12	339	11	60	22	26	20	34	72
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	598	2358	966	42	1163	38	87	150	111	127	196	146
Arrive On Green	0.37	0.68	0.68	0.03	0.34	0.32	0.05	0.08	0.08	0.08	0.11	0.11
Sat Flow, veh/h	1634	3471	1422	1634	3430	111	1603	1863	1379	1603	1863	1387
Grp Volume(v), veh/h	17	325	29	12	171	179	60	22	26	20	34	72
Grp Sat Flow(s),veh/h/ln	1634	1736	1422	1634	1737	1804	1603	1863	1379	1603	1863	1387
Q Serve(g_s), s	0.8	3.9	0.4	0.9	8.5	8.6	4.3	1.3	1.8	1.4	2.0	5.8
Cycle Q Clear(g_c), s	0.8	3.9	0.4	0.9	8.5	8.6	4.3	1.3	1.8	1.4	2.0	5.8
Prop In Lane	1.00		1.00	1.00		0.06	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	598	2358	966	42	589	612	87	150	111	127	196	146
V/C Ratio(X)	0.03	0.14	0.03	0.29	0.29	0.29	0.69	0.15	0.23	0.16	0.17	0.49
Avail Cap(c_a), veh/h	598	2358	966	125	589	612	231	663	491	127	537	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	6.7	1.7	56.5	28.6	28.7	54.8	50.5	39.5	50.7	48.1	49.8
Incr Delay (d2), s/veh	0.0	0.1	0.1	3.8	1.2	1.2	9.2	0.4	1.1	0.6	0.4	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	0.4	1.9	0.2	0.4	4.3	4.5	2.1	0.7	0.7	0.6	1.0	2.3
LnGrp Delay(d),s/veh	24.0	6.8	1.8	60.2	29.8	29.9	64.0	50.9	40.6	51.3	48.5	52.4
LnGrp LOS	C	A	A	E	C	C	E	D	D	D	D	D
Approach Vol, veh/h		371			362			108			126	
Approach Delay, s/veh		7.2			30.9			55.7			51.2	
Approach LOS		A			C			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	13.3	13.5	7.0	84.2	10.4	16.4	47.2	44.0
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	8.1	41.1	7.3	40.3	16.1	33.1	9.3	38.3
Max Q Clear Time (g_c+I1), s	3.4	3.8	2.9	5.9	6.3	7.8	2.8	10.6
Green Ext Time (p_c), s	0.1	0.1	0.0	1.5	0.1	0.4	0.8	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	27.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	362	39	14	449	13	128	23	27	18	31	72
Future Volume (veh/h)	21	362	39	14	449	13	128	23	27	18	31	72
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		0.97	1.00		0.97	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	1716	1827	1716	1716	1828	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	23	393	42	15	488	14	139	25	29	20	34	78
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	61	1067	435	488	1960	56	181	171	127	211	206	153
Arrive On Green	0.04	0.31	0.31	0.30	0.57	0.55	0.11	0.09	0.09	0.13	0.11	0.11
Sat Flow, veh/h	1634	3471	1414	1634	3445	99	1603	1863	1384	1603	1863	1388
Grp Volume(v), veh/h	23	393	42	15	246	256	139	25	29	20	34	78
Grp Sat Flow(s),veh/h/ln	1634	1736	1414	1634	1737	1807	1603	1863	1384	1603	1863	1388
Q Serve(g_s), s	1.3	8.3	2.0	0.6	6.7	6.7	7.9	1.2	1.8	1.0	1.6	4.2
Cycle Q Clear(g_c), s	1.3	8.3	2.0	0.6	6.7	6.7	7.9	1.2	1.8	1.0	1.6	4.2
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	61	1067	435	488	988	1028	181	171	127	211	206	153
V/C Ratio(X)	0.38	0.37	0.10	0.03	0.25	0.25	0.77	0.15	0.23	0.09	0.17	0.51
Avail Cap(c_a), veh/h	106	1067	435	488	988	1028	213	745	553	211	612	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	25.4	23.2	23.3	10.2	10.2	40.5	39.3	39.6	35.9	37.9	27.9
Incr Delay (d2), s/veh	3.7	1.0	0.4	0.0	0.6	0.6	13.2	0.4	0.9	0.2	0.4	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	0.6	4.1	0.8	0.3	3.4	3.5	4.2	0.6	0.7	0.5	0.8	1.7
LnGrp Delay(d),s/veh	47.9	26.4	23.7	23.3	10.8	10.8	53.7	39.7	40.5	36.1	38.3	30.5
LnGrp LOS	D	C	C	C	B	B	D	D	D	D	D	C
Approach Vol, veh/h		458			517			193			132	
Approach Delay, s/veh		27.2			11.1			49.9			33.3	
Approach LOS		C			B			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	16.4	12.6	32.1	32.9	14.6	14.4	7.5	57.5
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	4.9	36.7	4.0	27.2	11.6	30.0	4.4	26.8
Max Q Clear Time (g_c+I1), s	3.0	3.8	2.6	10.3	9.9	6.2	3.3	8.7
Green Ext Time (p_c), s	0.1	0.2	0.3	1.6	0.1	0.4	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	24.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	378	41	14	490	13	132	23	27	18	31	72
Future Volume (veh/h)	21	378	41	14	490	13	132	23	27	18	31	72
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		0.97	1.00		0.97	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	1716	1827	1716	1716	1828	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	23	411	45	15	533	14	143	25	29	20	34	78
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	61	1067	435	484	1957	51	185	171	127	215	206	153
Arrive On Green	0.04	0.31	0.31	0.30	0.57	0.55	0.12	0.09	0.09	0.13	0.11	0.11
Sat Flow, veh/h	1634	3471	1414	1634	3455	91	1603	1863	1384	1603	1863	1388
Grp Volume(v), veh/h	23	411	45	15	268	279	143	25	29	20	34	78
Grp Sat Flow(s),veh/h/ln	1634	1736	1414	1634	1736	1809	1603	1863	1384	1603	1863	1388
Q Serve(g_s), s	1.3	8.7	2.1	0.6	7.4	7.5	8.1	1.2	1.8	1.0	1.6	4.2
Cycle Q Clear(g_c), s	1.3	8.7	2.1	0.6	7.4	7.5	8.1	1.2	1.8	1.0	1.6	4.2
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	61	1067	435	484	984	1025	185	171	127	215	206	153
V/C Ratio(X)	0.38	0.39	0.10	0.03	0.27	0.27	0.77	0.15	0.23	0.09	0.17	0.51
Avail Cap(c_a), veh/h	106	1067	435	484	984	1025	213	745	553	215	612	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	25.6	23.3	23.5	10.4	10.5	40.4	39.3	39.6	35.7	37.9	27.9
Incr Delay (d2), s/veh	3.7	1.0	0.5	0.0	0.7	0.7	14.0	0.4	0.9	0.2	0.4	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	0.6	4.3	0.9	0.3	3.8	3.9	4.3	0.6	0.7	0.5	0.8	1.7
LnGrp Delay(d),s/veh	47.9	26.6	23.7	23.5	11.1	11.1	54.4	39.7	40.5	35.9	38.3	30.5
LnGrp LOS	D	C	C	C	B	B	D	D	D	D	D	C
Approach Vol, veh/h		479			562			197			132	
Approach Delay, s/veh		27.4			11.5			50.5			33.3	
Approach LOS		C			B			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	16.6	12.6	31.9	32.9	14.9	14.4	7.5	57.2
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	4.9	36.7	4.0	27.2	11.6	30.0	4.4	26.8
Max Q Clear Time (g_c+I1), s	3.0	3.8	2.6	10.7	10.1	6.2	3.3	9.5
Green Ext Time (p_c), s	0.1	0.2	0.3	1.7	0.1	0.4	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	24.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	378	41	14	490	13	132	23	27	18	31	72
Future Volume (veh/h)	21	378	41	14	490	13	132	23	27	18	31	72
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		0.97	1.00		0.98	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	1716	1827	1716	1716	1828	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	23	411	45	15	533	14	143	25	29	20	34	78
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	56	1268	518	421	2034	53	182	377	283	40	212	158
Arrive On Green	0.03	0.37	0.37	0.26	0.59	0.57	0.11	0.20	0.20	0.03	0.11	0.11
Sat Flow, veh/h	1634	3471	1416	1634	3455	91	1603	1863	1400	1603	1863	1389
Grp Volume(v), veh/h	23	411	45	15	268	279	143	25	29	20	34	78
Grp Sat Flow(s),veh/h/ln	1634	1736	1416	1634	1736	1809	1603	1863	1400	1603	1863	1389
Q Serve(g_s), s	1.5	9.1	1.5	0.7	8.0	8.0	9.3	1.2	1.0	1.3	1.8	5.6
Cycle Q Clear(g_c), s	1.5	9.1	1.5	0.7	8.0	8.0	9.3	1.2	1.0	1.3	1.8	5.6
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	56	1268	518	421	1022	1065	182	377	283	40	212	158
V/C Ratio(X)	0.41	0.32	0.09	0.04	0.26	0.26	0.79	0.07	0.10	0.50	0.16	0.49
Avail Cap(c_a), veh/h	211	1268	518	421	1022	1065	225	695	522	90	538	401
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.6	24.4	9.5	29.7	10.7	10.7	46.2	34.5	11.0	51.5	42.8	44.5
Incr Delay (d2), s/veh	4.6	0.7	0.3	0.0	0.6	0.6	13.7	0.1	0.2	9.1	0.3	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	0.7	4.5	0.6	0.3	4.0	4.1	4.8	0.6	0.4	0.7	0.9	2.3
LnGrp Delay(d),s/veh	55.2	25.1	9.8	29.8	11.3	11.3	59.9	34.6	11.1	60.6	43.1	46.9
LnGrp LOS	E	C	A	C	B	B	E	C	B	E	D	D
Approach Vol, veh/h		479			562			197			132	
Approach Delay, s/veh		25.1			11.8			49.5			48.0	
Approach LOS		C			B			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	6.7	25.6	31.6	43.1	16.1	16.2	7.7	67.0
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	5.1	39.0	4.3	37.4	14.1	30.0	12.1	29.6
Max Q Clear Time (g_c+I1), s	3.3	3.2	2.7	11.1	11.3	7.6	3.5	10.0
Green Ext Time (p_c), s	0.0	0.6	0.0	1.9	0.1	0.6	0.0	1.9

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)	24	423	44	18	550	17	135	25	31	18	31	71
Future Volume (veh/h)	24	423	44	18	550	17	135	25	31	18	31	71
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		0.97	1.00		0.97	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	1716	1827	1716	1716	1828	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	26	460	48	20	598	18	147	27	34	20	34	77
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	64	1067	435	481	1936	58	189	177	132	213	205	152
Arrive On Green	0.04	0.31	0.31	0.29	0.56	0.54	0.12	0.10	0.10	0.13	0.11	0.11
Sat Flow, veh/h	1634	3471	1414	1634	3440	103	1603	1863	1384	1603	1863	1388
Grp Volume(v), veh/h	26	460	48	20	302	314	147	27	34	20	34	77
Grp Sat Flow(s),veh/h/ln	1634	1736	1414	1634	1737	1806	1603	1863	1384	1603	1863	1388
Q Serve(g_s), s	1.5	9.9	2.3	0.8	8.6	8.7	8.4	1.3	2.1	1.0	1.6	4.1
Cycle Q Clear(g_c), s	1.5	9.9	2.3	0.8	8.6	8.7	8.4	1.3	2.1	1.0	1.6	4.1
Prop In Lane	1.00		1.00	1.00		0.06	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	64	1067	435	481	977	1017	189	177	132	213	205	152
V/C Ratio(X)	0.41	0.43	0.11	0.04	0.31	0.31	0.78	0.15	0.26	0.09	0.17	0.51
Avail Cap(c_a), veh/h	106	1067	435	481	977	1017	213	745	554	213	612	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	26.0	23.3	23.7	10.9	10.9	40.2	39.1	39.5	35.8	37.9	27.8
Incr Delay (d2), s/veh	4.0	1.2	0.5	0.0	0.8	0.8	14.8	0.4	1.0	0.2	0.4	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	0.7	4.9	1.0	0.4	4.3	4.5	4.5	0.7	0.9	0.5	0.8	1.7
LnGrp Delay(d),s/veh	48.1	27.2	23.8	23.7	11.7	11.7	55.0	39.5	40.5	36.0	38.3	30.3
LnGrp LOS	D	C	C	C	B	B	E	D	D	D	D	C
Approach Vol, veh/h		534			636			208			131	
Approach Delay, s/veh		27.9			12.1			50.6			33.3	
Approach LOS		C			B			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	16.5	12.9	31.7	32.9	15.1	14.3	7.7	56.9
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	4.9	36.7	4.0	27.2	11.6	30.0	4.4	26.8
Max Q Clear Time (g_c+I1), s	3.0	4.1	2.8	11.9	10.4	6.1	3.5	10.7
Green Ext Time (p_c), s	0.1	0.2	0.3	1.9	0.1	0.4	0.0	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	442	46	18	601	17	141	25	31	18	31	71
Future Volume (veh/h)	24	442	46	18	601	17	141	25	31	18	31	71
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		0.97	1.00		0.97	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	1716	1827	1716	1716	1828	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	26	480	50	20	653	18	153	27	34	20	34	77
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	64	1067	435	475	1928	53	195	177	132	219	205	152
Arrive On Green	0.04	0.31	0.31	0.29	0.56	0.54	0.12	0.10	0.10	0.14	0.11	0.11
Sat Flow, veh/h	1634	3471	1414	1634	3450	95	1603	1863	1384	1603	1863	1388
Grp Volume(v), veh/h	26	480	50	20	329	342	153	27	34	20	34	77
Grp Sat Flow(s),veh/h/ln	1634	1736	1414	1634	1736	1808	1603	1863	1384	1603	1863	1388
Q Serve(g_s), s	1.5	10.4	2.4	0.8	9.7	9.7	8.7	1.3	2.1	1.0	1.6	4.1
Cycle Q Clear(g_c), s	1.5	10.4	2.4	0.8	9.7	9.7	8.7	1.3	2.1	1.0	1.6	4.1
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	64	1067	435	475	971	1011	195	177	132	219	205	152
V/C Ratio(X)	0.41	0.45	0.12	0.04	0.34	0.34	0.78	0.15	0.26	0.09	0.17	0.51
Avail Cap(c_a), veh/h	106	1067	435	475	971	1011	213	745	554	219	612	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	26.2	23.4	23.9	11.3	11.3	40.1	39.1	39.5	35.5	37.9	27.8
Incr Delay (d2), s/veh	3.9	1.3	0.5	0.0	0.9	0.9	16.0	0.4	1.0	0.2	0.4	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	0.7	5.2	1.0	0.4	4.8	5.0	4.7	0.7	0.9	0.5	0.8	1.7
LnGrp Delay(d),s/veh	48.0	27.5	23.9	24.0	12.2	12.2	56.0	39.5	40.5	35.7	38.3	30.3
LnGrp LOS	D	C	C	C	B	B	E	D	D	D	D	C
Approach Vol, veh/h		556			691			214			131	
Approach Delay, s/veh		28.1			12.6			51.5			33.2	
Approach LOS		C			B			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	16.8	12.9	31.3	32.9	15.5	14.3	7.7	56.5
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	4.9	36.7	4.0	27.2	11.6	30.0	4.4	26.8
Max Q Clear Time (g_c+I1), s	3.0	4.1	2.8	12.4	10.7	6.1	3.5	11.7
Green Ext Time (p_c), s	0.1	0.2	0.3	1.9	0.0	0.4	0.0	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	442	46	18	601	17	141	25	31	18	31	71
Future Volume (veh/h)	24	442	46	18	601	17	141	25	31	18	31	71
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		0.97	1.00		0.98	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	1716	1827	1716	1716	1828	1750	1683	1863	1683	1683	1863	1683
Adj Flow Rate, veh/h	26	480	50	20	653	18	153	27	34	20	34	77
Adj No. of Lanes	1	2	1	1	2	0	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	4	2	2	4	4	4	2	4	4	2	4
Cap, veh/h	59	1268	518	412	2005	55	192	387	291	40	211	158
Arrive On Green	0.04	0.37	0.37	0.25	0.58	0.57	0.12	0.21	0.21	0.03	0.11	0.11
Sat Flow, veh/h	1634	3471	1416	1634	3450	95	1603	1863	1400	1603	1863	1389
Grp Volume(v), veh/h	26	480	50	20	329	342	153	27	34	20	34	77
Grp Sat Flow(s),veh/h/ln	1634	1736	1416	1634	1736	1808	1603	1863	1400	1603	1863	1389
Q Serve(g_s), s	1.7	10.9	1.6	1.0	10.5	10.5	9.9	1.2	1.2	1.3	1.8	5.6
Cycle Q Clear(g_c), s	1.7	10.9	1.6	1.0	10.5	10.5	9.9	1.2	1.2	1.3	1.8	5.6
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	59	1268	518	412	1009	1051	192	387	291	40	211	158
V/C Ratio(X)	0.44	0.38	0.10	0.05	0.33	0.33	0.80	0.07	0.12	0.50	0.16	0.49
Avail Cap(c_a), veh/h	211	1268	518	412	1009	1051	225	695	522	90	538	401
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	25.0	9.2	30.3	11.6	11.6	45.8	34.1	11.0	51.5	42.8	44.5
Incr Delay (d2), s/veh	5.0	0.8	0.4	0.0	0.9	0.8	15.7	0.1	0.2	9.1	0.4	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	0.8	5.3	0.7	0.5	5.3	5.5	5.3	0.7	0.5	0.7	0.9	2.2
LnGrp Delay(d),s/veh	55.5	25.8	9.6	30.4	12.4	12.4	61.6	34.1	11.2	60.6	43.2	46.9
LnGrp LOS	E	C	A	C	B	B	E	C	B	E	D	D
Approach Vol, veh/h		556			691			214			131	
Approach Delay, s/veh		25.8			12.9			50.1			48.0	
Approach LOS		C			B			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	6.7	26.3	31.0	43.1	16.8	16.1	7.9	66.2
Change Period (Y+Rc), s	4.9	4.9	5.7	5.7	4.9	4.9	5.7	5.7
Max Green Setting (Gmax), s	5.1	39.0	4.3	37.4	14.1	30.0	12.1	29.6
Max Q Clear Time (g_c+I1), s	3.3	3.2	3.0	12.9	11.9	7.6	3.7	12.5
Green Ext Time (p_c), s	0.0	0.7	0.0	2.2	0.1	0.6	0.0	2.4

Intersection Summary	
HCM 2010 Ctrl Delay	25.3
HCM 2010 LOS	C

Intersection 19
N Chester Ave & 7th Standard Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	425	95	8	197	145	76	120	11	325	162	21
Future Volume (veh/h)	16	425	95	8	197	145	76	120	11	325	162	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		0.98	1.00		0.98	1.00		0.97	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	1716	1833	1750	1716	1842	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	17	462	103	9	214	158	83	130	12	353	176	23
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	136	760	168	65	440	308	797	449	41	432	534	210
Arrive On Green	0.08	0.27	0.24	0.04	0.23	0.20	0.26	0.14	0.11	0.27	0.15	0.15
Sat Flow, veh/h	1634	2825	625	1634	1950	1365	3109	3266	297	1603	3539	1395
Grp Volume(v), veh/h	17	284	281	9	191	181	83	70	72	353	176	23
Grp Sat Flow(s),veh/h/ln	1634	1742	1708	1634	1750	1565	1554	1767	1797	1603	1770	1395
Q Serve(g_s), s	0.5	8.0	8.2	0.3	5.3	5.8	1.1	2.0	2.0	11.6	2.5	0.8
Cycle Q Clear(g_c), s	0.5	8.0	8.2	0.3	5.3	5.8	1.1	2.0	2.0	11.6	2.5	0.8
Prop In Lane	1.00		0.37	1.00		0.87	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	136	469	460	65	395	353	797	243	247	432	534	210
V/C Ratio(X)	0.13	0.60	0.61	0.14	0.48	0.51	0.10	0.29	0.29	0.82	0.33	0.11
Avail Cap(c_a), veh/h	165	1086	1065	165	1091	976	797	979	996	484	2628	1036
HCM Platoon Ratio	1.00	1.00	1.00	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	23.9	18.0	18.3	26.1	18.9	19.8	16.0	21.8	21.9	19.3	21.4	20.6
Incr Delay (d2), s/veh	0.4	1.3	1.3	1.0	0.9	1.2	0.1	0.6	0.7	9.6	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	0.3	4.0	4.0	0.2	2.6	2.6	0.5	1.0	1.1	6.2	1.2	0.3
LnGrp Delay(d),s/veh	24.3	19.2	19.6	27.1	19.9	20.9	16.1	22.4	22.6	28.8	21.7	20.9
LnGrp LOS	C	B	B	C	B	C	B	C	C	C	C	C
Approach Vol, veh/h		582			381			225			552	
Approach Delay, s/veh		19.6			20.5			20.1			26.2	
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	19.2	11.7	6.2	19.2	18.4	12.5	8.7	16.7
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	15.7	29.9	4.0	33.4	5.1	40.5	4.0	33.4
Max Q Clear Time (g_c+I1), s	13.6	4.0	2.3	10.2	3.1	4.5	2.5	7.8
Green Ext Time (p_c), s	0.3	0.4	0.0	2.1	0.4	0.8	0.4	1.4

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)	16	448	117	8	207	145	86	120	11	325	162	21
Future Volume (veh/h)	16	448	117	8	207	145	86	120	11	325	162	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		0.98	1.00		0.98	1.00		0.97	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	1716	1834	1750	1716	1842	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	17	487	127	9	225	158	93	130	12	353	176	23
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	154	768	199	63	450	301	791	443	40	429	527	208
Arrive On Green	0.09	0.28	0.25	0.04	0.23	0.20	0.25	0.14	0.11	0.27	0.15	0.15
Sat Flow, veh/h	1634	2729	707	1634	1990	1331	3109	3266	297	1603	3539	1395
Grp Volume(v), veh/h	17	310	304	9	196	187	93	70	72	353	176	23
Grp Sat Flow(s),veh/h/ln	1634	1743	1693	1634	1749	1572	1554	1767	1797	1603	1770	1395
Q Serve(g_s), s	0.6	9.0	9.2	0.3	5.7	6.1	1.3	2.0	2.1	12.0	2.6	0.8
Cycle Q Clear(g_c), s	0.6	9.0	9.2	0.3	5.7	6.1	1.3	2.0	2.1	12.0	2.6	0.8
Prop In Lane	1.00		0.42	1.00		0.85	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	154	491	477	63	396	356	791	239	243	429	527	208
V/C Ratio(X)	0.11	0.63	0.64	0.14	0.50	0.52	0.12	0.29	0.30	0.82	0.33	0.11
Avail Cap(c_a), veh/h	161	1057	1027	161	1061	953	791	952	969	471	2507	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	24.0	18.2	18.5	26.9	19.5	20.3	16.6	22.5	22.6	19.9	22.1	21.3
Incr Delay (d2), s/veh	0.3	1.3	1.4	1.0	1.0	1.2	0.1	0.7	0.7	10.4	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	0.3	4.5	4.4	0.2	2.8	2.8	0.6	1.0	1.1	6.5	1.3	0.3
LnGrp Delay(d),s/veh	24.3	19.5	20.0	27.9	20.5	21.5	16.6	23.2	23.3	30.3	22.4	21.6
LnGrp LOS	C	B	B	C	C	C	B	C	C	C	C	C
Approach Vol, veh/h		631			392			235			552	
Approach Delay, s/veh		19.9			21.2			20.6			27.5	
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	19.5	11.8	6.2	20.3	18.7	12.6	9.4	17.1
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	15.7	29.9	4.0	33.4	5.9	39.7	4.0	33.4
Max Q Clear Time (g_c+I1), s	14.0	4.1	2.3	11.2	3.3	4.6	2.6	8.1
Green Ext Time (p_c), s	0.3	0.4	0.0	2.3	0.5	0.8	0.4	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	595	171	10	288	181	124	132	12	361	180	23
Future Volume (veh/h)	21	595	171	10	288	181	124	132	12	361	180	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		0.98	1.00		0.98	1.00		0.97	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	1716	1835	1750	1716	1841	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	23	647	186	11	313	197	135	143	13	392	196	25
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	71	857	246	55	647	396	262	443	40	469	1217	483
Arrive On Green	0.04	0.32	0.30	0.03	0.31	0.29	0.08	0.14	0.12	0.29	0.34	0.34
Sat Flow, veh/h	1634	2662	764	1634	2069	1268	3109	3271	294	1603	3539	1405
Grp Volume(v), veh/h	23	423	410	11	263	247	135	76	80	392	196	25
Grp Sat Flow(s),veh/h/ln	1634	1743	1683	1634	1749	1589	1554	1767	1798	1603	1770	1405
Q Serve(g_s), s	1.0	16.1	16.2	0.5	9.0	9.5	3.1	2.9	3.0	17.0	2.8	0.9
Cycle Q Clear(g_c), s	1.0	16.1	16.2	0.5	9.0	9.5	3.1	2.9	3.0	17.0	2.8	0.9
Prop In Lane	1.00		0.45	1.00		0.80	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	71	561	542	55	546	496	262	239	244	469	1217	483
V/C Ratio(X)	0.32	0.75	0.76	0.20	0.48	0.50	0.52	0.32	0.33	0.84	0.16	0.05
Avail Cap(c_a), veh/h	157	1036	1000	126	1006	914	479	744	758	825	2768	1099
HCM Platoon Ratio	1.00	1.00	1.00	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	34.4	22.5	22.9	34.8	20.6	21.3	32.5	28.9	29.1	24.5	16.9	16.2
Incr Delay (d2), s/veh	2.6	2.1	2.2	1.7	0.7	0.8	1.6	0.8	0.8	4.0	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	0.5	8.1	7.9	0.2	4.4	4.3	1.4	1.5	1.5	8.0	1.4	0.3
LnGrp Delay(d),s/veh	37.0	24.6	25.0	36.5	21.3	22.1	34.0	29.7	29.8	28.5	16.9	16.3
LnGrp LOS	D	C	C	D	C	C	C	C	C	C	B	B
Approach Vol, veh/h		856			521			291			613	
Approach Delay, s/veh		25.1			22.0			31.7			24.3	
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	25.7	14.0	6.5	27.8	10.2	29.5	7.2	27.1
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	36.8	29.9	4.0	42.3	10.1	56.6	5.4	40.9
Max Q Clear Time (g_c+I1), s	19.0	5.0	2.5	18.2	5.1	4.8	3.0	11.5
Green Ext Time (p_c), s	1.4	1.4	0.4	3.3	0.2	1.5	0.0	2.0

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)	21	618	193	10	298	181	134	132	12	361	180	23
Future Volume (veh/h)	21	618	193	10	298	181	134	132	12	361	180	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		0.98	1.00		0.98	1.00		0.97	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	1716	1835	1750	1716	1840	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	23	672	210	11	324	197	146	143	13	392	196	25
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	52	1282	400	40	1017	604	229	355	32	387	979	388
Arrive On Green	0.03	0.49	0.48	0.02	0.48	0.47	0.07	0.11	0.10	0.24	0.28	0.28
Sat Flow, veh/h	1634	2606	814	1634	2099	1246	3109	3270	293	1603	3539	1403
Grp Volume(v), veh/h	23	450	432	11	269	252	146	76	80	392	196	25
Grp Sat Flow(s),veh/h/ln	1634	1744	1676	1634	1748	1597	1554	1767	1797	1603	1770	1403
Q Serve(g_s), s	1.7	21.2	21.4	0.8	11.2	11.8	5.5	4.8	5.0	29.0	5.1	1.6
Cycle Q Clear(g_c), s	1.7	21.2	21.4	0.8	11.2	11.8	5.5	4.8	5.0	29.0	5.1	1.6
Prop In Lane	1.00		0.49	1.00		0.78	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	52	858	825	40	847	773	229	192	195	387	979	388
V/C Ratio(X)	0.44	0.52	0.52	0.28	0.32	0.33	0.64	0.40	0.41	1.01	0.20	0.06
Avail Cap(c_a), veh/h	82	858	825	78	847	773	288	459	467	387	1448	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	20.9	21.2	57.5	18.8	19.4	54.0	49.8	50.0	45.5	33.2	32.0
Incr Delay (d2), s/veh	5.7	2.3	2.4	3.7	1.0	1.1	3.1	1.3	1.4	48.8	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	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	10.7	10.5	0.4	5.6	5.4	2.5	2.4	2.5	18.1	2.5	0.6
LnGrp Delay(d),s/veh	62.7	23.1	23.6	61.2	19.8	20.5	57.1	51.2	51.4	94.4	33.3	32.0
LnGrp LOS	E	C	C	E	B	C	E	D	D	F	C	C
Approach Vol, veh/h		905			532			302			613	
Approach Delay, s/veh		24.4			21.0			54.1			72.3	
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	33.0	17.0	6.9	63.0	12.8	37.2	7.8	62.1
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	27.7	29.9	4.0	36.4	9.8	47.8	4.3	36.1
Max Q Clear Time (g_c+I1), s	31.0	7.0	2.8	23.4	7.5	7.1	3.7	13.8
Green Ext Time (p_c), s	0.0	1.4	0.0	4.8	0.1	1.5	0.0	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	39.9
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	618	193	10	298	181	134	132	12	361	180	23
Future Volume (veh/h)	21	618	193	10	298	181	134	132	12	361	180	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		0.98	1.00		0.98	1.00		0.97	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	1716	1835	1750	1716	1840	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	23	672	210	11	324	197	146	143	13	392	196	25
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	52	1513	472	40	1203	714	459	335	30	496	404	159
Arrive On Green	0.03	0.58	0.57	0.02	0.57	0.56	0.15	0.10	0.09	0.16	0.11	0.11
Sat Flow, veh/h	1634	2606	814	1634	2099	1246	3109	3270	293	3109	3539	1389
Grp Volume(v), veh/h	23	449	433	11	268	253	146	76	80	392	196	25
Grp Sat Flow(s),veh/h/ln	1634	1744	1677	1634	1748	1597	1554	1767	1796	1554	1770	1389
Q Serve(g_s), s	1.7	17.5	17.7	0.8	9.3	9.8	5.0	4.9	5.0	14.6	6.2	1.7
Cycle Q Clear(g_c), s	1.7	17.5	17.7	0.8	9.3	9.8	5.0	4.9	5.0	14.6	6.2	1.7
Prop In Lane	1.00		0.49	1.00		0.78	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	52	1012	973	40	1001	915	459	181	184	496	404	159
V/C Ratio(X)	0.44	0.44	0.44	0.28	0.27	0.28	0.32	0.42	0.43	0.79	0.49	0.16
Avail Cap(c_a), veh/h	82	1012	973	78	1001	915	459	459	467	751	1448	568
HCM Platoon Ratio	1.00	1.00	1.00	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	57.0	14.2	14.5	57.5	12.9	13.4	45.7	50.5	50.7	48.5	49.9	35.8
Incr Delay (d2), s/veh	5.7	1.4	1.5	3.7	0.7	0.7	0.4	1.6	1.6	3.3	0.9	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	0.8	8.8	8.5	0.4	4.7	4.5	2.2	2.5	2.6	6.5	3.1	0.7
LnGrp Delay(d),s/veh	62.7	15.6	16.0	61.2	13.6	14.1	46.1	52.1	52.3	51.8	50.8	36.3
LnGrp LOS	E	B	B	E	B	B	D	D	D	D	D	D
Approach Vol, veh/h		905			532			302			613	
Approach Delay, s/veh		17.0			14.8			49.3			50.8	
Approach LOS		B			B			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	23.1	16.3	6.9	73.6	21.7	17.7	7.8	72.7
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	27.7	29.9	4.0	36.4	9.8	47.8	4.3	36.1
Max Q Clear Time (g_c+I1), s	16.6	7.0	2.8	19.7	7.0	8.2	3.7	11.8
Green Ext Time (p_c), s	1.3	0.6	0.0	5.4	0.3	0.9	0.0	6.0

Intersection Summary	
HCM 2010 Ctrl Delay	29.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	753	207	12	343	222	132	145	13	402	200	26
Future Volume (veh/h)	27	753	207	12	343	222	132	145	13	402	200	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		0.98	1.00		0.98	1.00		0.97	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	1716	1835	1750	1716	1841	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	29	818	225	13	373	241	143	158	14	437	217	28
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	67	972	267	50	715	454	249	416	36	495	1259	500
Arrive On Green	0.04	0.36	0.34	0.03	0.35	0.33	0.08	0.13	0.11	0.31	0.36	0.36
Sat Flow, veh/h	1634	2691	740	1634	2038	1295	3109	3279	287	1603	3539	1405
Grp Volume(v), veh/h	29	530	513	13	319	295	143	84	88	437	217	28
Grp Sat Flow(s),veh/h/ln	1634	1743	1688	1634	1749	1585	1554	1767	1799	1603	1770	1405
Q Serve(g_s), s	1.6	25.9	26.0	0.7	13.4	13.9	4.1	4.1	4.2	24.0	3.9	1.2
Cycle Q Clear(g_c), s	1.6	25.9	26.0	0.7	13.4	13.9	4.1	4.1	4.2	24.0	3.9	1.2
Prop In Lane	1.00		0.44	1.00		0.82	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	67	629	610	50	613	556	249	224	228	495	1259	500
V/C Ratio(X)	0.43	0.84	0.84	0.26	0.52	0.53	0.57	0.38	0.38	0.88	0.17	0.06
Avail Cap(c_a), veh/h	125	827	801	100	803	728	382	594	605	658	2209	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	43.4	27.2	27.6	43.9	23.9	24.6	41.1	37.1	37.3	30.4	20.5	19.6
Incr Delay (d2), s/veh	4.3	6.1	6.3	2.7	0.7	0.8	2.1	1.0	1.1	10.7	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	0.8	13.4	13.1	0.4	6.6	6.2	1.8	2.1	2.1	12.0	1.9	0.5
LnGrp Delay(d),s/veh	47.8	33.3	33.9	46.6	24.6	25.4	43.2	38.2	38.3	41.2	20.6	19.7
LnGrp LOS	D	C	C	D	C	C	D	D	D	D	C	B
Approach Vol, veh/h		1072			627			315			682	
Approach Delay, s/veh		34.0			25.4			40.5			33.7	
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	32.7	15.8	6.8	37.5	11.4	37.0	7.8	36.5
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	36.8	29.9	4.0	42.3	10.1	56.6	5.4	40.9
Max Q Clear Time (g_c+I1), s	26.0	6.2	2.7	28.0	6.1	5.9	3.6	15.9
Green Ext Time (p_c), s	1.3	1.6	0.4	3.8	0.2	1.7	0.0	2.4

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)	27	780	235	12	356	222	144	145	13	402	200	26
Future Volume (veh/h)	27	780	235	12	356	222	144	145	13	402	200	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		0.98	1.00		0.98	1.00		0.97	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	1716	1835	1750	1716	1841	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	29	848	255	13	387	241	157	158	14	437	217	28
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	58	1279	384	42	986	605	240	371	32	387	983	390
Arrive On Green	0.04	0.49	0.47	0.03	0.48	0.46	0.08	0.11	0.10	0.24	0.28	0.28
Sat Flow, veh/h	1634	2633	791	1634	2070	1270	3109	3278	287	1603	3539	1403
Grp Volume(v), veh/h	29	561	542	13	326	302	157	84	88	437	217	28
Grp Sat Flow(s),veh/h/ln	1634	1743	1680	1634	1748	1592	1554	1767	1798	1603	1770	1403
Q Serve(g_s), s	2.1	29.3	29.5	0.9	14.4	14.9	5.9	5.3	5.5	29.0	5.7	1.8
Cycle Q Clear(g_c), s	2.1	29.3	29.5	0.9	14.4	14.9	5.9	5.3	5.5	29.0	5.7	1.8
Prop In Lane	1.00		0.47	1.00		0.80	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	58	847	817	42	833	759	240	200	204	387	983	390
V/C Ratio(X)	0.50	0.66	0.66	0.31	0.39	0.40	0.66	0.42	0.43	1.13	0.22	0.07
Avail Cap(c_a), veh/h	82	847	817	78	833	759	288	459	468	387	1448	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	23.4	23.8	57.4	20.2	20.8	53.8	49.6	49.7	45.5	33.3	31.9
Incr Delay (d2), s/veh	6.6	4.1	4.2	4.0	1.4	1.6	4.0	1.4	1.4	85.4	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	1.0	15.0	14.6	0.5	7.3	6.9	2.7	2.7	2.8	22.0	2.8	0.7
LnGrp Delay(d),s/veh	63.5	27.4	28.0	61.4	21.6	22.4	57.8	51.0	51.1	130.9	33.5	32.0
LnGrp LOS	E	C	C	E	C	C	E	D	D	F	C	C
Approach Vol, veh/h		1132			641			329			682	
Approach Delay, s/veh		28.6			22.8			54.3			95.8	
Approach LOS		C			C			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	33.0	17.6	7.1	62.3	13.2	37.3	8.2	61.2
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	27.7	29.9	4.0	36.4	9.8	47.8	4.3	36.1
Max Q Clear Time (g_c+I1), s	31.0	7.5	2.9	31.5	7.9	7.7	4.1	16.9
Green Ext Time (p_c), s	0.0	1.6	0.0	3.1	0.1	1.7	0.0	7.4

Intersection Summary	
HCM 2010 Ctrl Delay	46.8
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	780	235	12	356	222	144	145	13	402	200	26
Future Volume (veh/h)	27	780	235	12	356	222	144	145	13	402	200	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		0.98	1.00		0.98	1.00		0.97	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	1716	1835	1750	1716	1841	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	29	848	255	13	387	241	157	158	14	437	217	28
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	58	1476	443	42	1141	700	499	348	30	541	423	166
Arrive On Green	0.04	0.56	0.55	0.03	0.55	0.54	0.16	0.11	0.10	0.17	0.12	0.12
Sat Flow, veh/h	1634	2633	791	1634	2070	1271	3109	3278	287	3109	3539	1390
Grp Volume(v), veh/h	29	561	542	13	326	302	157	84	88	437	217	28
Grp Sat Flow(s),veh/h/ln	1634	1743	1681	1634	1748	1593	1554	1767	1798	1554	1770	1390
Q Serve(g_s), s	2.1	25.0	25.3	0.9	12.3	12.9	5.4	5.4	5.5	16.2	6.9	1.9
Cycle Q Clear(g_c), s	2.1	25.0	25.3	0.9	12.3	12.9	5.4	5.4	5.5	16.2	6.9	1.9
Prop In Lane	1.00		0.47	1.00		0.80	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	58	977	942	42	964	878	499	188	191	541	423	166
V/C Ratio(X)	0.50	0.57	0.58	0.31	0.34	0.34	0.31	0.45	0.46	0.81	0.51	0.17
Avail Cap(c_a), veh/h	82	977	942	78	964	878	499	459	467	751	1448	569
HCM Platoon Ratio	1.00	1.00	1.00	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	56.8	17.1	17.4	57.4	14.9	15.3	44.5	50.3	50.5	47.6	49.6	35.1
Incr Delay (d2), s/veh	6.6	2.5	2.6	4.0	1.0	1.1	0.4	1.7	1.7	4.6	1.0	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	1.0	12.7	12.3	0.5	6.2	5.9	2.3	2.7	2.8	7.3	3.4	0.7
LnGrp Delay(d),s/veh	63.5	19.5	20.0	61.4	15.8	16.4	44.9	52.0	52.2	52.2	50.5	35.5
LnGrp LOS	E	B	B	E	B	B	D	D	D	D	D	D
Approach Vol, veh/h		1132			641			329			682	
Approach Delay, s/veh		20.9			17.0			48.7			51.0	
Approach LOS		C			B			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	24.9	16.8	7.1	71.3	23.3	18.3	8.2	70.1
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	27.7	29.9	4.0	36.4	9.8	47.8	4.3	36.1
Max Q Clear Time (g_c+I1), s	18.2	7.5	2.9	27.3	7.4	8.9	4.1	14.9
Green Ext Time (p_c), s	1.4	0.6	0.0	4.9	0.3	1.0	0.0	7.7

Intersection Summary	
HCM 2010 Ctrl Delay	30.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	302	74	7	192	142	74	100	8	153	107	22
Future Volume (veh/h)	8	302	74	7	192	142	74	100	8	153	107	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		0.98	1.00		0.98	1.00		0.97	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	1716	1834	1750	1716	1842	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	9	328	80	8	209	154	80	109	9	166	116	24
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	82	703	169	82	495	346	471	523	43	249	574	227
Arrive On Green	0.05	0.25	0.21	0.05	0.25	0.21	0.15	0.16	0.13	0.16	0.16	0.16
Sat Flow, veh/h	1634	2775	666	1634	1953	1364	3109	3301	269	1603	3539	1396
Grp Volume(v), veh/h	9	204	204	8	186	177	80	58	60	166	116	24
Grp Sat Flow(s),veh/h/ln	1634	1742	1699	1634	1750	1567	1554	1767	1804	1603	1770	1396
Q Serve(g_s), s	0.2	4.1	4.3	0.2	3.7	4.1	0.9	1.2	1.2	4.1	1.2	0.6
Cycle Q Clear(g_c), s	0.2	4.1	4.3	0.2	3.7	4.1	0.9	1.2	1.2	4.1	1.2	0.6
Prop In Lane	1.00		0.39	1.00		0.87	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	82	441	431	82	444	397	471	280	286	249	574	227
V/C Ratio(X)	0.11	0.46	0.47	0.10	0.42	0.45	0.17	0.21	0.21	0.67	0.20	0.11
Avail Cap(c_a), veh/h	223	1462	1426	223	1468	1315	471	1318	1345	268	2716	1071
HCM Platoon Ratio	1.00	1.00	1.00	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	19.0	13.2	13.6	19.0	13.0	13.8	15.5	15.3	15.4	16.6	15.2	14.9
Incr Delay (d2), s/veh	0.6	0.8	0.8	0.5	0.6	0.8	0.2	0.4	0.4	5.6	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	0.1	2.1	2.1	0.1	1.8	1.9	0.4	0.6	0.6	2.2	0.6	0.2
LnGrp Delay(d),s/veh	19.6	14.0	14.4	19.5	13.7	14.6	15.6	15.7	15.8	22.3	15.3	15.1
LnGrp LOS	B	B	B	B	B	B	B	B	B	C	B	B
Approach Vol, veh/h		417			371			198			306	
Approach Delay, s/veh		14.3			14.2			15.7			19.1	
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	10.5	10.6	6.1	14.6	10.3	10.8	6.1	14.6
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	5.7	29.9	4.0	33.4	4.8	30.8	4.0	33.4
Max Q Clear Time (g_c+I1), s	6.1	3.2	2.2	6.3	2.9	3.2	2.2	6.1
Green Ext Time (p_c), s	0.0	0.5	0.0	1.5	0.1	0.5	0.0	1.3

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)	8	310	82	7	213	142	95	100	8	153	107	22
Future Volume (veh/h)	8	310	82	7	213	142	95	100	8	153	107	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		0.98	1.00		0.98	1.00		0.97	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	1716	1834	1750	1716	1841	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	9	337	89	8	232	154	103	109	9	166	116	24
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	81	704	183	83	528	335	468	517	42	249	571	225
Arrive On Green	0.05	0.26	0.22	0.05	0.26	0.22	0.15	0.16	0.13	0.16	0.16	0.16
Sat Flow, veh/h	1634	2726	709	1634	2037	1293	3109	3301	269	1603	3539	1396
Grp Volume(v), veh/h	9	214	212	8	198	188	103	58	60	166	116	24
Grp Sat Flow(s),veh/h/ln	1634	1743	1692	1634	1749	1581	1554	1767	1804	1603	1770	1396
Q Serve(g_s), s	0.2	4.4	4.6	0.2	4.0	4.3	1.2	1.2	1.2	4.1	1.2	0.6
Cycle Q Clear(g_c), s	0.2	4.4	4.6	0.2	4.0	4.3	1.2	1.2	1.2	4.1	1.2	0.6
Prop In Lane	1.00		0.42	1.00		0.82	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	81	450	437	83	453	410	468	277	283	249	571	225
V/C Ratio(X)	0.11	0.47	0.49	0.10	0.44	0.46	0.22	0.21	0.21	0.67	0.20	0.11
Avail Cap(c_a), veh/h	221	1450	1407	221	1455	1315	468	1306	1334	266	2692	1062
HCM Platoon Ratio	1.00	1.00	1.00	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	19.2	13.2	13.6	19.1	13.1	13.8	15.7	15.5	15.6	16.8	15.3	15.1
Incr Delay (d2), s/veh	0.6	0.8	0.8	0.5	0.7	0.8	0.2	0.4	0.4	5.8	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	0.1	2.2	2.2	0.1	2.0	2.0	0.5	0.6	0.6	2.2	0.6	0.2
LnGrp Delay(d),s/veh	19.7	14.0	14.4	19.6	13.7	14.6	16.0	15.9	16.0	22.6	15.5	15.3
LnGrp LOS	B	B	B	B	B	B	B	B	B	C	B	B
Approach Vol, veh/h		435			394			221			306	
Approach Delay, s/veh		14.3			14.2			16.0			19.3	
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	10.5	10.6	6.1	14.9	10.4	10.8	6.1	14.9
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	5.7	29.9	4.0	33.4	4.8	30.8	4.0	33.4
Max Q Clear Time (g_c+I1), s	6.1	3.2	2.2	6.6	3.2	3.2	2.2	6.3
Green Ext Time (p_c), s	0.0	0.6	0.0	1.5	0.1	0.5	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	402	108	9	283	180	130	110	9	170	119	24
Future Volume (veh/h)	10	402	108	9	283	180	130	110	9	170	119	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		0.98	1.00		0.98	1.00		0.97	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	1716	1834	1750	1716	1841	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	11	437	117	10	308	196	141	120	10	185	129	26
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	82	788	209	79	594	368	476	500	41	249	543	214
Arrive On Green	0.05	0.29	0.25	0.05	0.29	0.25	0.15	0.15	0.12	0.16	0.15	0.15
Sat Flow, veh/h	1634	2713	720	1634	2060	1275	3109	3298	271	1603	3539	1395
Grp Volume(v), veh/h	11	279	275	10	260	244	141	64	66	185	129	26
Grp Sat Flow(s),veh/h/ln	1634	1743	1690	1634	1749	1586	1554	1767	1803	1603	1770	1395
Q Serve(g_s), s	0.3	6.1	6.3	0.3	5.6	6.0	1.8	1.4	1.5	5.0	1.4	0.7
Cycle Q Clear(g_c), s	0.3	6.1	6.3	0.3	5.6	6.0	1.8	1.4	1.5	5.0	1.4	0.7
Prop In Lane	1.00		0.43	1.00		0.80	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	82	506	491	79	504	457	476	268	273	249	543	214
V/C Ratio(X)	0.13	0.55	0.56	0.13	0.52	0.53	0.30	0.24	0.24	0.74	0.24	0.12
Avail Cap(c_a), veh/h	207	1357	1316	207	1361	1235	476	1223	1248	249	2496	984
HCM Platoon Ratio	1.00	1.00	1.00	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	20.5	13.5	13.9	20.6	13.4	14.1	16.9	16.8	16.9	18.2	16.8	16.5
Incr Delay (d2), s/veh	0.7	0.9	1.0	0.7	0.8	1.0	0.3	0.5	0.5	11.4	0.2	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	0.1	3.0	3.1	0.1	2.8	2.7	0.8	0.7	0.8	2.9	0.7	0.3
LnGrp Delay(d),s/veh	21.2	14.5	14.9	21.3	14.2	15.1	17.3	17.3	17.4	29.6	17.0	16.7
LnGrp LOS	C	B	B	C	B	B	B	B	B	C	B	B
Approach Vol, veh/h		565			514			271			340	
Approach Delay, s/veh		14.8			14.8			17.3			23.8	
Approach LOS		B			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	11.0	10.8	6.2	17.1	10.9	10.9	6.3	17.0
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	5.7	29.9	4.0	33.4	5.1	30.5	4.0	33.4
Max Q Clear Time (g_c+I1), s	7.0	3.5	2.3	8.3	3.8	3.4	2.3	8.0
Green Ext Time (p_c), s	0.0	0.5	0.0	2.0	0.1	0.6	0.0	1.9

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)	10	410	116	9	304	180	151	110	9	170	119	24
Future Volume (veh/h)	10	410	116	9	304	180	151	110	9	170	119	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		0.98	1.00		0.98	1.00		0.97	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	1716	1835	1750	1716	1840	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	11	446	126	10	330	196	164	120	10	185	129	26
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	80	791	221	78	622	361	473	497	41	247	541	213
Arrive On Green	0.05	0.30	0.26	0.05	0.29	0.26	0.15	0.15	0.12	0.15	0.15	0.15
Sat Flow, veh/h	1634	2678	750	1634	2116	1227	3109	3298	271	1603	3539	1395
Grp Volume(v), veh/h	11	289	283	10	271	255	164	64	66	185	129	26
Grp Sat Flow(s),veh/h/ln	1634	1743	1685	1634	1748	1595	1554	1767	1803	1603	1770	1395
Q Serve(g_s), s	0.3	6.4	6.5	0.3	5.9	6.2	2.1	1.4	1.5	5.0	1.5	0.7
Cycle Q Clear(g_c), s	0.3	6.4	6.5	0.3	5.9	6.2	2.1	1.4	1.5	5.0	1.5	0.7
Prop In Lane	1.00		0.44	1.00		0.77	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	80	515	497	78	514	469	473	266	272	247	541	213
V/C Ratio(X)	0.14	0.56	0.57	0.13	0.53	0.54	0.35	0.24	0.24	0.75	0.24	0.12
Avail Cap(c_a), veh/h	205	1346	1301	205	1350	1232	473	1213	1238	247	2477	976
HCM Platoon Ratio	1.00	1.00	1.00	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	20.7	13.5	13.9	20.7	13.4	14.1	17.2	17.0	17.1	18.4	16.9	16.6
Incr Delay (d2), s/veh	0.8	1.0	1.0	0.7	0.8	1.0	0.4	0.5	0.5	12.0	0.2	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	0.1	3.2	3.2	0.1	2.9	2.9	0.9	0.7	0.8	3.0	0.7	0.3
LnGrp Delay(d),s/veh	21.4	14.5	14.9	21.5	14.3	15.1	17.7	17.5	17.6	30.3	17.1	16.9
LnGrp LOS	C	B	B	C	B	B	B	B	B	C	B	B
Approach Vol, veh/h		583			536			294			340	
Approach Delay, s/veh		14.8			14.8			17.6			24.3	
Approach LOS		B			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	11.0	10.9	6.2	17.4	10.9	10.9	6.2	17.4
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	5.7	29.9	4.0	33.4	5.1	30.5	4.0	33.4
Max Q Clear Time (g_c+I1), s	7.0	3.5	2.3	8.5	4.1	3.5	2.3	8.2
Green Ext Time (p_c), s	0.0	0.5	0.0	2.1	0.1	0.6	0.0	2.0

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)	10	410	116	9	304	180	151	110	9	170	119	24
Future Volume (veh/h)	10	410	116	9	304	180	151	110	9	170	119	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		0.99	1.00		0.99	1.00		0.97	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	1716	1835	1750	1716	1840	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	11	446	126	10	330	196	164	120	10	185	129	26
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	40	1750	490	39	1382	802	290	329	27	281	344	134
Arrive On Green	0.02	0.65	0.64	0.02	0.65	0.64	0.09	0.10	0.09	0.09	0.10	0.10
Sat Flow, veh/h	1634	2681	751	1634	2119	1230	3109	3297	271	3109	3539	1385
Grp Volume(v), veh/h	11	289	283	10	271	255	164	64	66	185	129	26
Grp Sat Flow(s),veh/h/ln	1634	1743	1689	1634	1748	1601	1554	1767	1801	1554	1770	1385
Q Serve(g_s), s	0.8	8.3	8.5	0.7	7.7	8.1	6.1	4.0	4.1	6.9	4.1	1.8
Cycle Q Clear(g_c), s	0.8	8.3	8.5	0.7	7.7	8.1	6.1	4.0	4.1	6.9	4.1	1.8
Prop In Lane	1.00		0.44	1.00		0.77	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	40	1138	1102	39	1140	1044	290	176	180	281	344	134
V/C Ratio(X)	0.28	0.25	0.26	0.26	0.24	0.24	0.57	0.36	0.37	0.66	0.38	0.19
Avail Cap(c_a), veh/h	82	1138	1102	78	1140	1044	290	459	468	751	1448	567
HCM Platoon Ratio	1.00	1.00	1.00	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	57.5	8.7	8.9	57.6	8.6	9.0	52.1	50.4	50.6	52.8	50.8	38.2
Incr Delay (d2), s/veh	3.7	0.5	0.6	3.5	0.5	0.6	2.6	1.2	1.3	2.6	0.7	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	0.4	4.1	4.2	0.4	3.8	3.7	2.7	2.0	2.1	3.1	2.0	0.7
LnGrp Delay(d),s/veh	61.2	9.2	9.4	61.0	9.1	9.5	54.7	51.7	51.8	55.4	51.4	38.9
LnGrp LOS	E	A	A	E	A	A	D	D	D	E	D	D
Approach Vol, veh/h		583			536			294			340	
Approach Delay, s/veh		10.3			10.3			53.4			52.6	
Approach LOS		B			B			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	14.8	16.0	6.8	82.3	15.2	15.6	6.9	82.2
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	27.7	29.9	4.0	36.4	9.8	47.8	4.3	36.1
Max Q Clear Time (g_c+I1), s	8.9	6.1	2.7	10.5	8.1	6.1	2.8	10.1
Green Ext Time (p_c), s	0.7	1.0	0.0	4.4	0.2	0.6	0.0	4.4

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)	13	515	136	11	337	220	138	121	10	189	132	27
Future Volume (veh/h)	13	515	136	11	337	220	138	121	10	189	132	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		0.98	1.00		0.98	1.00		0.97	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	1716	1834	1750	1716	1841	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	14	560	148	12	366	239	150	132	11	205	143	29
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	105	892	235	77	632	405	443	495	41	231	538	212
Arrive On Green	0.06	0.33	0.29	0.05	0.31	0.28	0.14	0.15	0.12	0.14	0.15	0.15
Sat Flow, veh/h	1634	2719	716	1634	2029	1302	3109	3298	272	1603	3539	1395
Grp Volume(v), veh/h	14	358	350	12	315	290	150	70	73	205	143	29
Grp Sat Flow(s),veh/h/ln	1634	1743	1692	1634	1749	1582	1554	1767	1803	1603	1770	1395
Q Serve(g_s), s	0.4	8.4	8.6	0.3	7.3	7.7	2.1	1.7	1.7	6.1	1.7	0.9
Cycle Q Clear(g_c), s	0.4	8.4	8.6	0.3	7.3	7.7	2.1	1.7	1.7	6.1	1.7	0.9
Prop In Lane	1.00		0.42	1.00		0.82	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	105	572	555	77	545	493	443	265	271	231	538	212
V/C Ratio(X)	0.13	0.63	0.63	0.16	0.58	0.59	0.34	0.26	0.27	0.89	0.27	0.14
Avail Cap(c_a), veh/h	192	1262	1225	192	1266	1145	443	1137	1160	231	2321	915
HCM Platoon Ratio	1.00	1.00	1.00	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	21.4	13.8	14.1	22.2	14.0	14.7	18.7	18.2	18.3	20.3	18.2	17.8
Incr Delay (d2), s/veh	0.6	1.1	1.2	0.9	1.0	1.1	0.4	0.5	0.5	31.0	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	0.2	4.2	4.1	0.2	3.6	3.4	0.9	0.9	0.9	4.7	0.9	0.3
LnGrp Delay(d),s/veh	22.0	14.9	15.3	23.1	15.0	15.9	19.2	18.8	18.9	51.3	18.4	18.1
LnGrp LOS	C	B	B	C	B	B	B	B	B	D	B	B
Approach Vol, veh/h		722			617			293			377	
Approach Delay, s/veh		15.2			15.6			19.0			36.3	
Approach LOS		B			B			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	11.0	11.3	6.3	19.9	10.9	11.4	7.1	19.1
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	5.7	29.9	4.0	33.4	5.1	30.5	4.0	33.4
Max Q Clear Time (g_c+I1), s	8.1	3.7	2.3	10.6	4.1	3.7	2.4	9.7
Green Ext Time (p_c), s	0.0	0.6	0.0	2.7	0.1	0.6	0.0	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	19.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	525	146	11	364	220	162	121	10	189	132	27
Future Volume (veh/h)	13	525	146	11	364	220	162	121	10	189	132	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		0.98	1.00		0.98	1.00		0.97	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	1716	1835	1750	1716	1840	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	14	571	159	12	396	239	176	132	11	205	143	29
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	102	896	249	77	667	397	439	493	41	229	535	211
Arrive On Green	0.06	0.33	0.30	0.05	0.32	0.28	0.14	0.15	0.12	0.14	0.15	0.15
Sat Flow, veh/h	1634	2684	745	1634	2094	1247	3109	3298	272	1603	3539	1395
Grp Volume(v), veh/h	14	370	360	12	330	305	176	70	73	205	143	29
Grp Sat Flow(s),veh/h/ln	1634	1743	1687	1634	1748	1592	1554	1767	1803	1603	1770	1395
Q Serve(g_s), s	0.4	8.8	8.9	0.3	7.8	8.1	2.5	1.7	1.8	6.2	1.8	0.9
Cycle Q Clear(g_c), s	0.4	8.8	8.9	0.3	7.8	8.1	2.5	1.7	1.8	6.2	1.8	0.9
Prop In Lane	1.00		0.44	1.00		0.78	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	102	582	563	77	557	507	439	264	270	229	535	211
V/C Ratio(X)	0.14	0.64	0.64	0.16	0.59	0.60	0.40	0.26	0.27	0.89	0.27	0.14
Avail Cap(c_a), veh/h	190	1249	1209	190	1253	1141	439	1126	1149	229	2298	906
HCM Platoon Ratio	1.00	1.00	1.00	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	21.7	13.8	14.2	22.4	14.0	14.7	19.1	18.4	18.6	20.6	18.4	18.0
Incr Delay (d2), s/veh	0.6	1.2	1.2	0.9	1.0	1.2	0.6	0.5	0.5	33.0	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	0.2	4.4	4.3	0.2	3.8	3.7	1.1	0.9	0.9	4.8	0.9	0.4
LnGrp Delay(d),s/veh	22.3	15.0	15.4	23.3	15.0	15.8	19.7	19.0	19.1	53.6	18.6	18.3
LnGrp LOS	C	B	B	C	B	B	B	B	B	D	B	B
Approach Vol, veh/h		744			647			319			377	
Approach Delay, s/veh		15.3			15.6			19.4			37.6	
Approach LOS		B			B			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	11.0	11.3	6.3	20.4	10.9	11.4	7.0	19.6
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	5.7	29.9	4.0	33.4	5.1	30.5	4.0	33.4
Max Q Clear Time (g_c+I1), s	8.2	3.8	2.3	10.9	4.5	3.8	2.4	10.1
Green Ext Time (p_c), s	0.0	0.6	0.0	2.8	0.1	0.6	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	525	146	11	364	220	162	121	10	189	132	27
Future Volume (veh/h)	13	525	146	11	364	220	162	121	10	189	132	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		0.98	1.00		0.98	1.00		0.97	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	1716	1835	1750	1716	1840	1750	1683	1860	1750	1683	1863	1683
Adj Flow Rate, veh/h	14	571	159	12	396	239	176	132	11	205	143	29
Adj No. of Lanes	1	2	0	1	2	0	2	2	0	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	4	4	2	4	4	4	2	2	4	2	4
Cap, veh/h	43	1732	481	41	1348	803	299	329	27	302	356	140
Arrive On Green	0.03	0.64	0.63	0.03	0.64	0.63	0.10	0.10	0.09	0.10	0.10	0.10
Sat Flow, veh/h	1634	2687	746	1634	2097	1249	3109	3297	271	3109	3539	1386
Grp Volume(v), veh/h	14	370	360	12	329	306	176	70	73	205	143	29
Grp Sat Flow(s),veh/h/ln	1634	1743	1690	1634	1748	1597	1554	1767	1801	1554	1770	1386
Q Serve(g_s), s	1.0	11.5	11.7	0.9	9.9	10.4	6.5	4.5	4.6	7.6	4.5	2.0
Cycle Q Clear(g_c), s	1.0	11.5	11.7	0.9	9.9	10.4	6.5	4.5	4.6	7.6	4.5	2.0
Prop In Lane	1.00		0.44	1.00		0.78	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	43	1123	1089	41	1124	1027	299	176	180	302	356	140
V/C Ratio(X)	0.32	0.33	0.33	0.29	0.29	0.30	0.59	0.40	0.41	0.68	0.40	0.21
Avail Cap(c_a), veh/h	82	1123	1089	78	1124	1027	299	459	468	751	1448	567
HCM Platoon Ratio	1.00	1.00	1.00	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	57.3	9.6	9.8	57.4	9.4	9.8	51.9	50.6	50.8	52.3	50.6	37.7
Incr Delay (d2), s/veh	4.2	0.8	0.8	3.9	0.7	0.7	3.0	1.4	1.5	2.7	0.7	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	0.5	5.7	5.7	0.4	5.0	4.8	2.9	2.2	2.3	3.4	2.3	0.8
LnGrp Delay(d),s/veh	61.5	10.4	10.7	61.3	10.1	10.5	54.9	52.1	52.3	55.0	51.3	38.4
LnGrp LOS	E	B	B	E	B	B	D	D	D	E	D	D
Approach Vol, veh/h		744			647			319			377	
Approach Delay, s/veh		11.5			11.2			53.7			52.3	
Approach LOS		B			B			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	15.7	16.0	7.0	81.3	15.6	16.1	7.2	81.2
Change Period (Y+Rc), s	5.3	5.3	5.7	5.7	5.3	5.3	5.7	5.7
Max Green Setting (Gmax), s	27.7	29.9	4.0	36.4	9.8	47.8	4.3	36.1
Max Q Clear Time (g_c+I1), s	9.6	6.6	2.9	13.7	8.5	6.5	3.0	12.4
Green Ext Time (p_c), s	0.7	0.6	0.0	5.7	0.2	0.7	0.0	5.7

Intersection Summary	
HCM 2010 Ctrl Delay	25.2
HCM 2010 LOS	C

Appendix M

Water Supply Assessment

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Water Supply Assessment

SCH# 2019060111

Malibu Vineyards Industrial Parkway Project

Prepared for:

Malibu Vineyards, L.P.
GPA 9, Map 80; GPA 23, Map 81; ZCC 13, Map 80; ZCC 92, Map 81;
PD 2, Map 80; PD 74, Map 81; PD 75, Map 81

Oildale Mutual Water Company
2836 McCray Street,
Bakersfield, CA 93308
(661) 399-5516

Technical Assistance by:

Ascent
15642 Sand Canyon, #54491
Irvine, CA 92619
(949) 569-9448

February 21, 2023

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LIST OF ABBREVIATIONS

af	acre feet
AFY	acre-feet per year
Cawelo	Cawelo Water District
CEQA	California Environmental Quality Act
cfs	cubic feet per second
Class 1	surface water service area
Class 2	groundwater service area
CVP	Central Valley Project
DWR	California Department of Water Resources
gpm	gallons per minute
GSA	Groundwater Sustainability Agency
GSP	groundwater sustainability plan
ID4	Kern County Water Agency Improvement District No. 4
KCWA	Kern County Water Agency
Kern River GSA	Kern River Groundwater Sustainability Agency
MDBM	Mount Diablo Base and Meridian
NORMWD	North of the River Municipal Water District
North Kern WSD	North Kern Water Storage District
OMWC	Oildale Mutual Water Company
RRID	Rosedale Ranch Improvement District
sf	square feet
SGMA	Sustainable Groundwater Management Act
SR 99	State Route 99
SWP	State Water Project
WSA	water supply assessment

1 INTRODUCTION AND OVERVIEW

1.1 PURPOSE

Senate Bill 610 (Wat. Code, Section 10910 et seq.) requires the preparation of a water supply assessment (WSA) in connection with the environmental review of any "project" as defined in Water Code section 10912, subdivision (a). These defined "projects" include major development proposals, such as a "proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet." (Wat. Code, 10912, subd. (a)(3)). In most circumstances, a city or county, acting as a California Environmental Quality Act (CEQA) lead agency, requests the "public water system" that supplies water to the project area to prepare such a document. The WSA must include an evaluation of sufficiency of the water supplies available to the water supplier to meet existing and anticipated future demands, including the demand associated with the project over a twenty-year horizon that includes normal, single-dry and multiple-dry years.

The WSA must identify existing water supply entitlements, water rights, or water service contracts held by the water supplier or relevant to the identified water received in prior years by the public water system. If the public water supplier includes groundwater supplies, the WSA must describe all groundwater basins from which the proposed project will be supplied. For each basin that has not been adjudicated, the assessment should indicate whether the California Department of Water Resources (DWR) has identified the basin as overdrafted or has projected that the basin will become overdrafted if present management conditions continue. In addition, the report should provide a detailed description of the efforts being undertaken in the basin to eliminate the long-term overdraft condition.

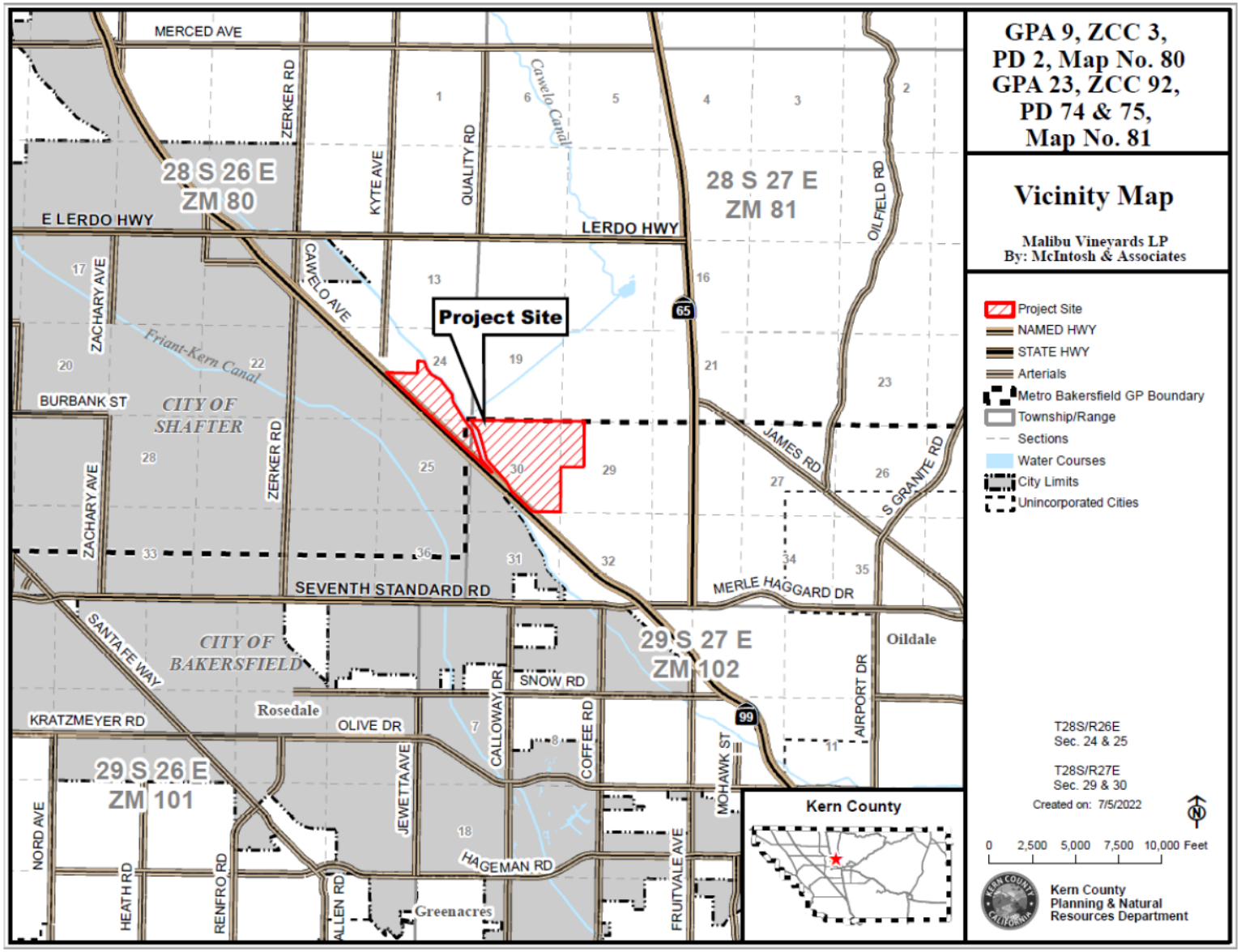
If the WSA concludes that additional water supplies are necessary, the public water supplier must submit plans for acquiring additional water supplies, including the measures that would be taken to acquire and develop those supplies. The future water supply projects and programs discussion may be based upon proposed methods of financing, estimated costs, information related to federal, state and local permits and the estimated timeframes within which the public water system expects to be able to acquire the additional supplies.

1.2 PROJECT AREA CHARACTERISTICS

The project site is located within unincorporated Kern County, north of Imperial Avenue and generally east of State Route 99 (SR 99), with site access from Saco Road and Imperial Avenue. The project site is just east of the City of Shafter, which is on the west side of SR 99, and approximately one mile north of the City of Bakersfield. Figure 1 shows the project vicinity.

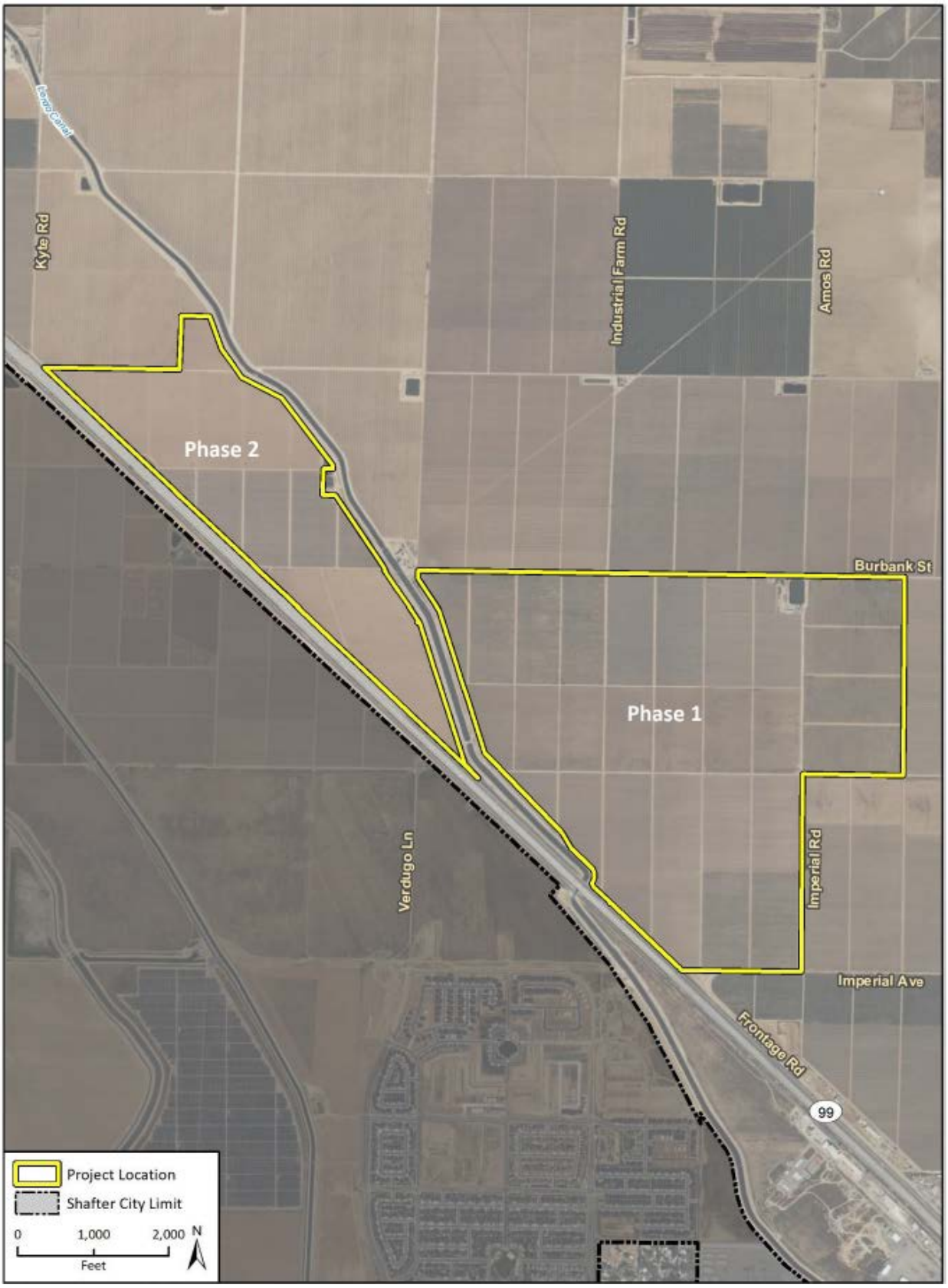
The Beardsley/Lerdo Canal trends northwest to southeast though the center of project site, dividing the two phases of the project. Phase 1 would include seven parcels consisting of approximately 534 acres, and is located between Burbank Street to the north, and Imperial Avenue to the south, with the western boundary being the Beardsley/Lerdo Canal. Phase 1 is in Kern County Zone Map 81, as portions of Sections 29 and 30, Township 28 South, Range 27 East in the Mount Diablo Base and Meridian (MDBM). Phase 2 would include 14 parcels consisting of approximately 205 acres, with the western boundary SR 99, and the eastern boundary the Beardsley/Lerdo Canal. The site is located generally south of Lerdo Highway, and north of Imperial Avenue. Phase 2 is in Zone Maps 80 and 81, as portions of Sections 24 and 25, Township 28 South, Range 26 East, MDBM, and Section 30 of Township 28 South, Range 27 East, MDBM. Figure 2 shows the project location and aerial photo of the site.

The project is located solely within the jurisdiction of Kern County, in two Zone Maps (Zone Map 80, and Zone Map 81). The project site is zoned Exclusive Agriculture (A). A portion of the project site is within the Kern County General Plan, designated as Map Code 8.1 (Intensive Agriculture), and a portion of the project site is within the Metropolitan Bakersfield General Plan, designated R-IA (Intensive Agriculture).



Source: Kern County 2022.

Figure 1 Vicinity Map



Source: Kern County 2022.

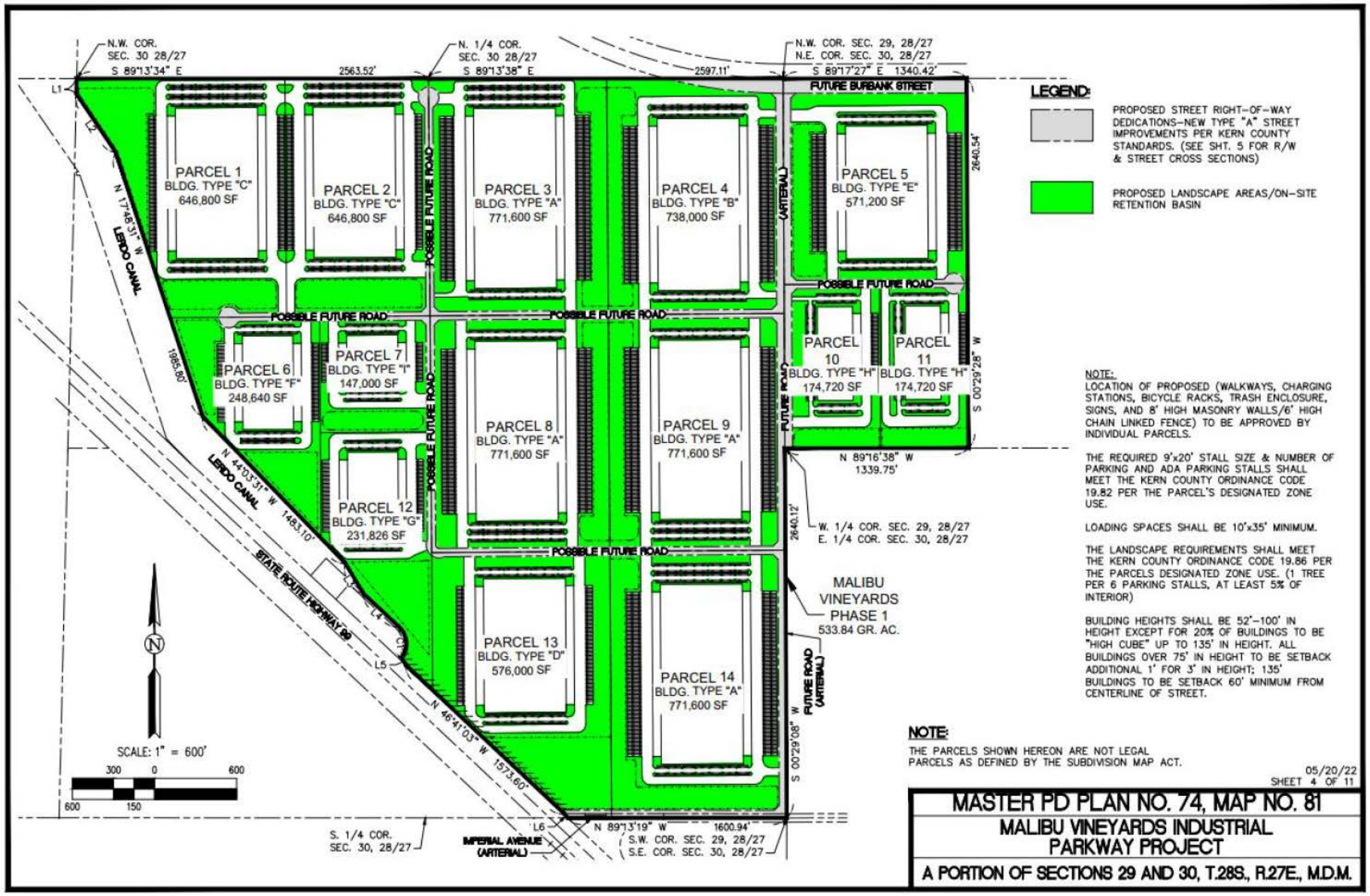
Figure 2 Project Location

1.3 PROPOSED PROJECT

The proposed Malibu Vineyards Industrial Parkway Project (proposed project) involves the development of approximately 8,907,446 square feet (sf) of industrial use space on approximately 739 acres of existing vineyard. The project is proposed by Malibu Vineyards, L.P. (project proponent), and would be developed over two phases, as described above. The industrial park would consist of 22 industrial (warehouse) buildings and additional mini warehouses, with associated office space and truck docks, parking, and access roads.

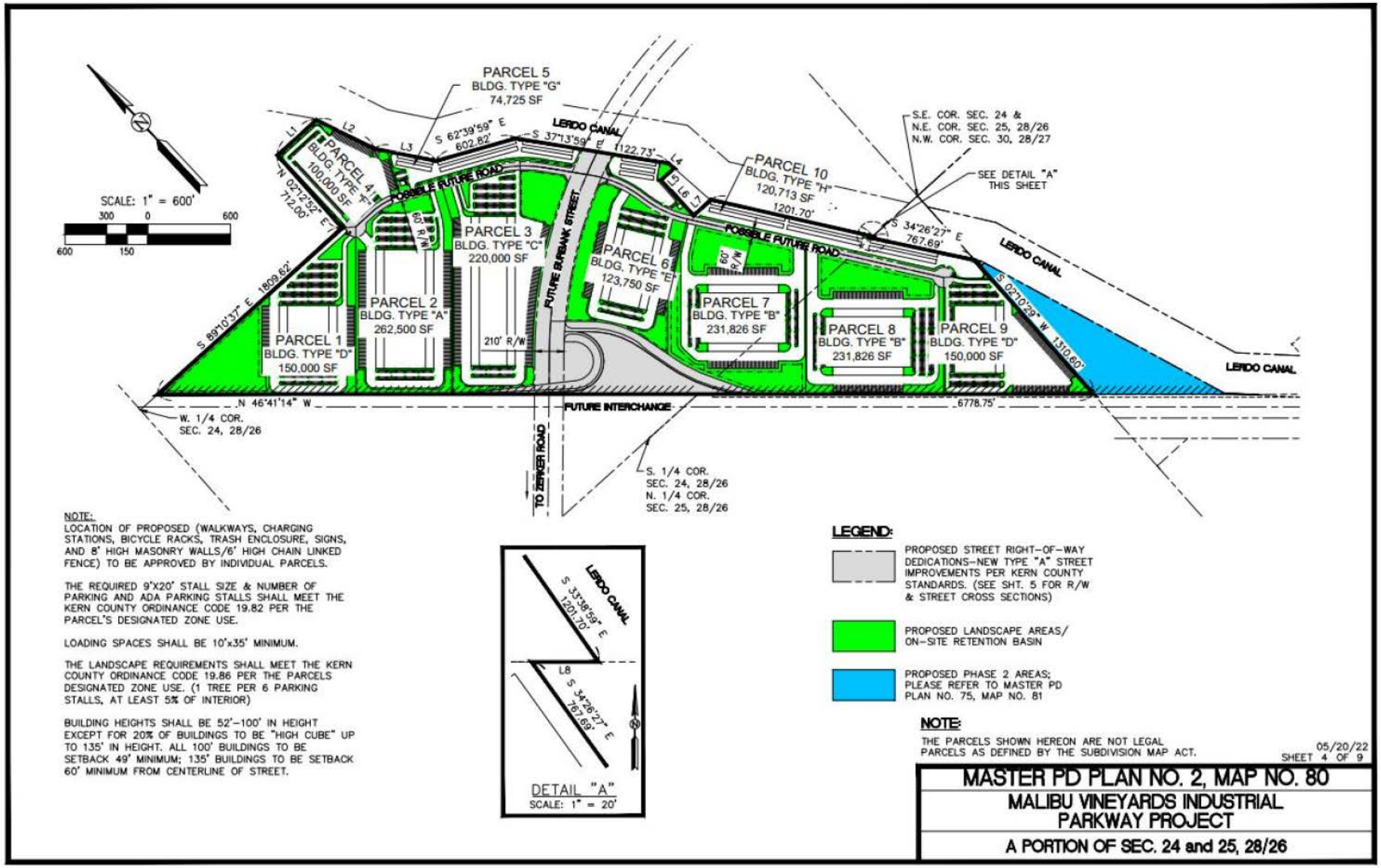
Phase 1 involves development of 14 buildings totaling up to 7,242,106 square feet of warehouse and office space (7,169,686 sf of warehouse and 65,952 sf of office) on approximately 534 acres. Phase 1 would also include 6,439,657 sf of landscape area. Phase 2 involves development of 8 buildings and additional mini warehouses totaling up to 1,665,340 sf of warehouse and office space (1,559,588 sf of warehouse and 16,653 sf of office), on approximately 205 acres. Phase 2 would also include 1,969,669 square feet of landscape area. Of the total 8,907,446 sf of industrial warehouse and office use space, up to 25 percent, or approximately 2,226,862 sf, would consist of refrigerated warehouse space. The project phasing plans are depicted in Figures 3 and 4.

The project site is generally lacking in domestic utilities, which would need to be developed in conjunction with the proposed project. Water service is proposed to be provided by Oildale Mutual Water Company (OMWC). Off-site improvements would include extension of OMWC's 6-inch domestic water line and 12-inch non-potable water line from Quinn Road along Imperial Avenue to the southeast corner of the proposed project. Before OMWC could provide water service to the project site, OMWC would need to annex the project area into its service area. The proposed annexation would involve the entirety of the approximately 739-acre project site and would need to be considered and approved by OMWC and the Kern County Local Agency Formation Commission.



Source: Kern County 2022.

Figure 3 Site Plan, Phase 1



Source: Kern County 2022.

Figure 4 Site Plan, Phase 2

1.4 DESCRIPTION OF THE SERVICE AREA

The project area is currently within the service boundaries of two water districts – phase 1 is within Cawelo Water District (Cawelo) and phase 2 is within the North Kern Water Services District (North Kern WSD). The Malibu Vineyards Industrial Parkway Project is proposed to be served by OMWC, which would need to annex the project area within its service boundary. Each of the water districts service areas is described below.

1.4.1 Cawelo

Cawelo encompasses an area of 45,724 acres, located in the north-central portion of Kern County, between U.S. Highway 99 on the west and State Highway 65 on the east, Oildale on the south and the community of McFarland on the north (Cawelo 2021). Figure 5 shows the current Cawelo service area. Cawelo was formed in 1965 under the provisions of Division 13 of the Water Code of the State of California for the purpose of obtaining water supplies to supplement the pumping of groundwater for irrigation. Cawelo provided a public entity for entering a contract for the importation of supplemental surface water from the State Water Project (SWP) through the Kern County Water Agency (KCWA). In addition to SWP supplies, other water sources include the Kern River, the Friant Division of the Central Valley Project (CVP), Poso Creek, and water recycled from local oil extraction operations. These sources of supply have been used to supplement groundwater pumped in Cawelo. (Cawelo 2021)

1.4.2 North Kern WSD

North Kern WSD is located west of U.S. Highway 99, southwest of the City of McFarland, northwest of the City of Bakersfield, and east of the cities of Shafter and Wasco. Most of the service area lies north of Seventh Standard Road, with the RRID areas lying south of Seventh Standard Road. (North Kern WSD 2021). Figure 6 shows the current North Kern WSD service area.

The North Kern WSD service area comprises two service areas totaling approximately 60,000 acres – a surface water service area (Class 1) and a groundwater service area (Class 2), each comprising about one-half of the North Kern WSD's area. North Kern WSD delivers surface water and/or pumped groundwater to satisfy all of the irrigation water requirements of the surface water service area. The remaining one-half of the North Kern WSD principally relies on groundwater pumped through the use of on-farm wells. North Kern WSD owns and operates about 100 wells, and approximately 200 privately-owned wells in the Class 2 service area are used to meet irrigation demands in this part of the service area. Delivery of surface water and groundwater in North Kern WSD is accomplished through a network of largely unlined canals; however, the system also includes some pipelines and lined canals. North Kern WSD's principal supply artery, and the most upstream of its two points of diversion from the Kern River, is the Beardsley-Lerdo system. (North Kern WSD 2021).

The irrigated acreage within North Kern WSD is approximately 55,000 acres, consisting largely of deciduous fruits and nut crops, with some lands containing field crops, pasture, and grain and hay crops. The irrigated acreage for North Kern WSD also includes approximately 9,500 acres of the Rosedale Ranch Improvement District (RRID) to supply surface water to lands under cultivation. North Kern WSD also services those portions of the City of Shafter that are still classified as agricultural, while the land that has been converted to urban use is serviced by OMWC. (North Kern WSD & SWID 2022)

1.4.3 Oildale Mutual Water Company

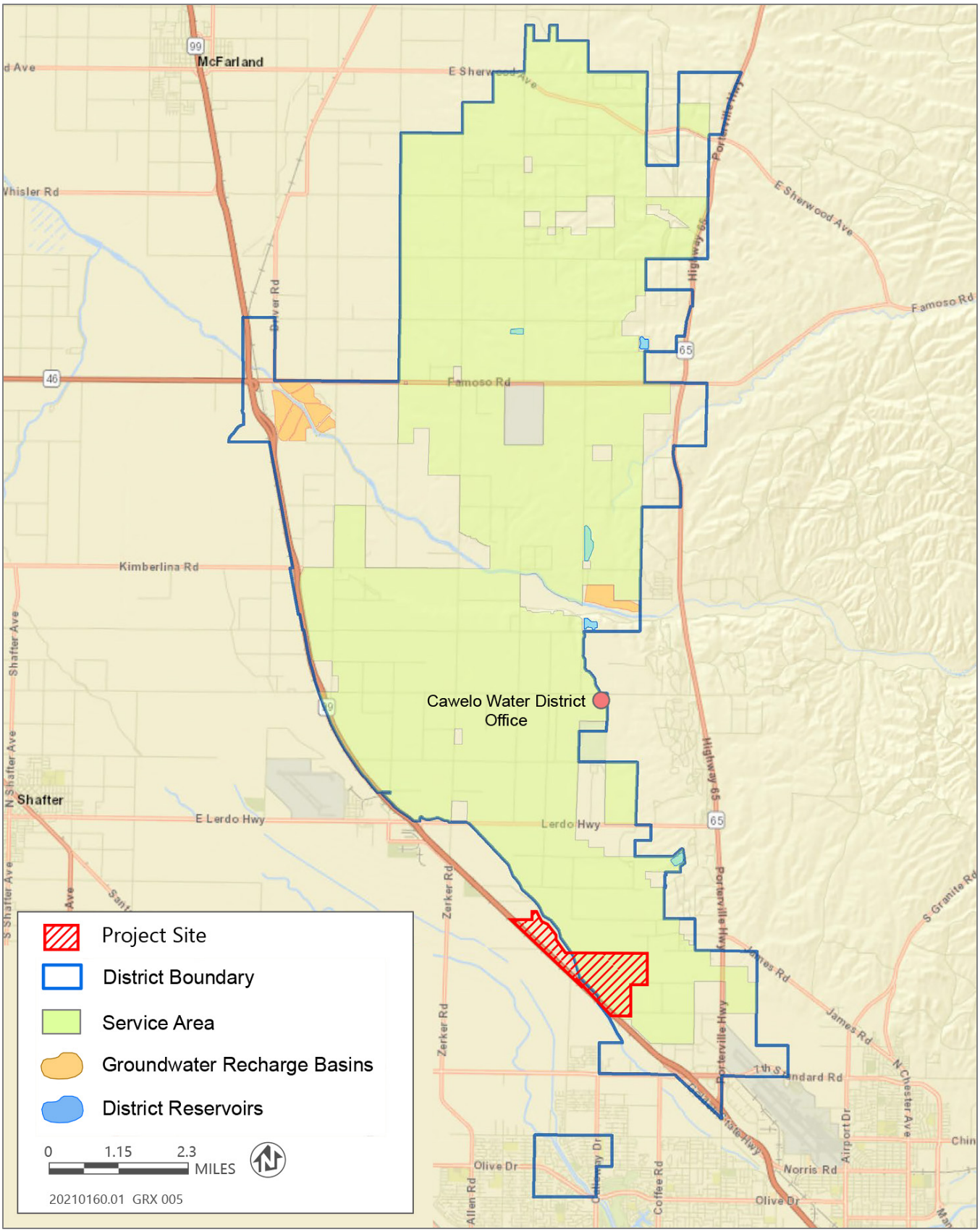
The OMWC service area encompasses approximately 16,851 acres (approximately 26.3 square miles) north of the City of Bakersfield in Kern County at the south end of the San Joaquin Valley. The Kern River is the southern boundary. The west boundary generally follows CA 99 and its frontage road north of the Kern River to Merle Haggard Drive (previously Seventh Standard Road) where it turns westerly to follow Merle Haggard Drive approximately five miles to Rudd Road. It then turns northerly approximately 1.5 miles. There it turns easterly and intersects the Kern River

Oilfield, then turns southward to return to the Kern River generally parallel to and easterly of Manor Street. (OMWC 2022) Figure 7 shows a map of the current OMWC water system service area boundary.

OMWC was incorporated in October 1919 for the purpose of providing domestic water to its customers/stockholders at cost. The water service is primarily domestic with some commercial, industrial, and landscape irrigation customers. OMWC supplies potable water to a population of approximately 37,726 residents in North Bakersfield. The sources of potable water for the system are from pumped groundwater wells that are owned and operated by OMWC and also from the wholesale water supplier, North of the River Municipal Water District (NORMWD). All water customers are considered urban, and the Company does not supply water to any commercial agricultural operations. Cawelo and North Kern WSD provide water for irrigation and crops in OMWC's service area and in the surrounding area. (OMWC 2022)

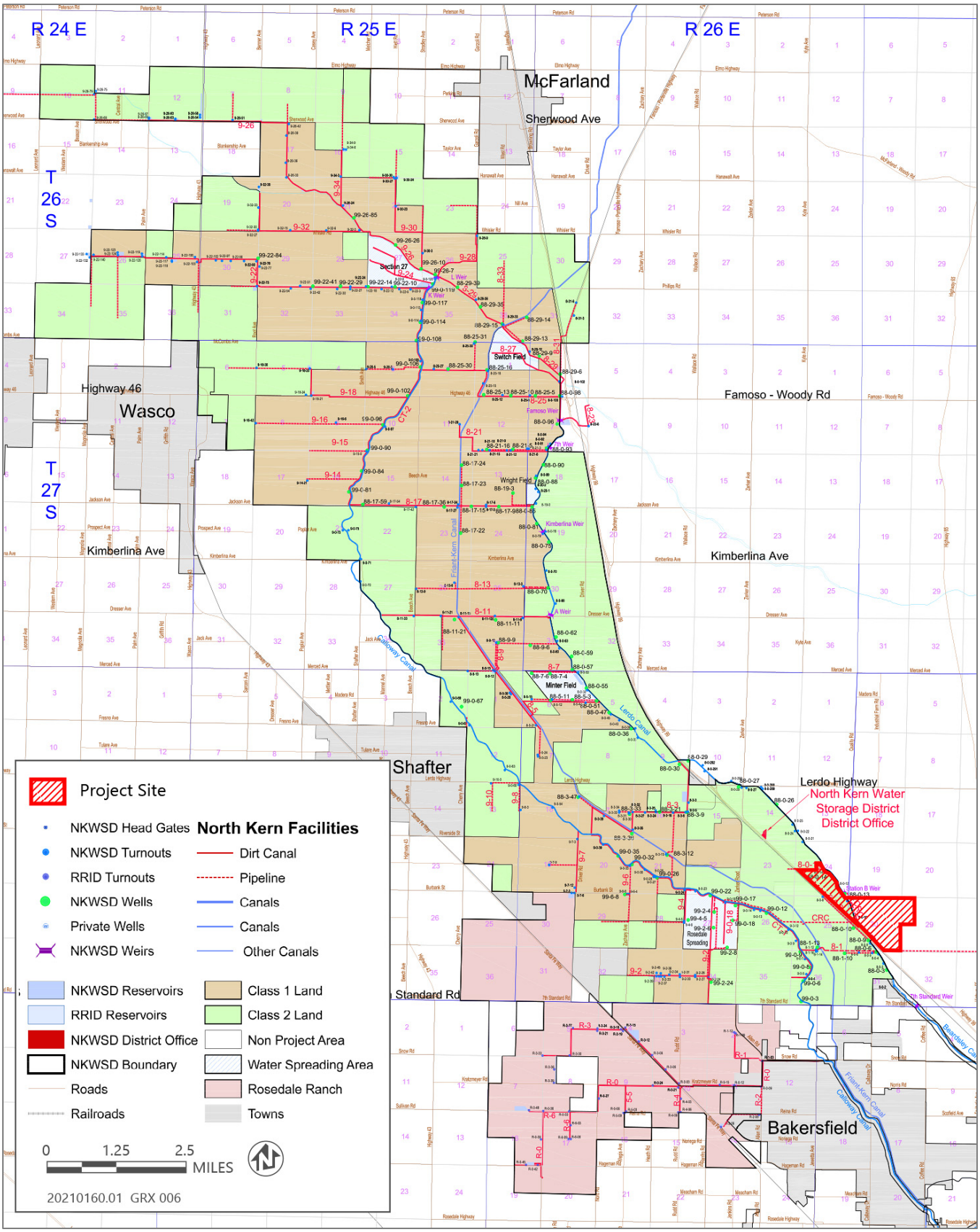
In 2006 OMWC expanded its service area boundary to include Southeast Shafter. This area includes approximately 5,226 acres of agricultural land that is being developed over the next twenty years and is currently in the process of rapid development. OMWC currently serves approximately 1,000 single family residential homes in Southeast Shafter, and it is anticipated that the number of services will continue to increase over the course of the next 5 to 10 years as the demand for new housing continues to remain strong. (OMWC 2022)

In 2014, OMWC merged the retail portion of NORMWD's service area into OMWC's service area. This resulted in an increase of 2,095 single family residential units. The number of connections reported in the 2010 UWMP was 8,110. The addition of the above areas together with residential infill, brings the total number of services to 11,693 (OMWC 2022).



Source: Cawelo 2022.

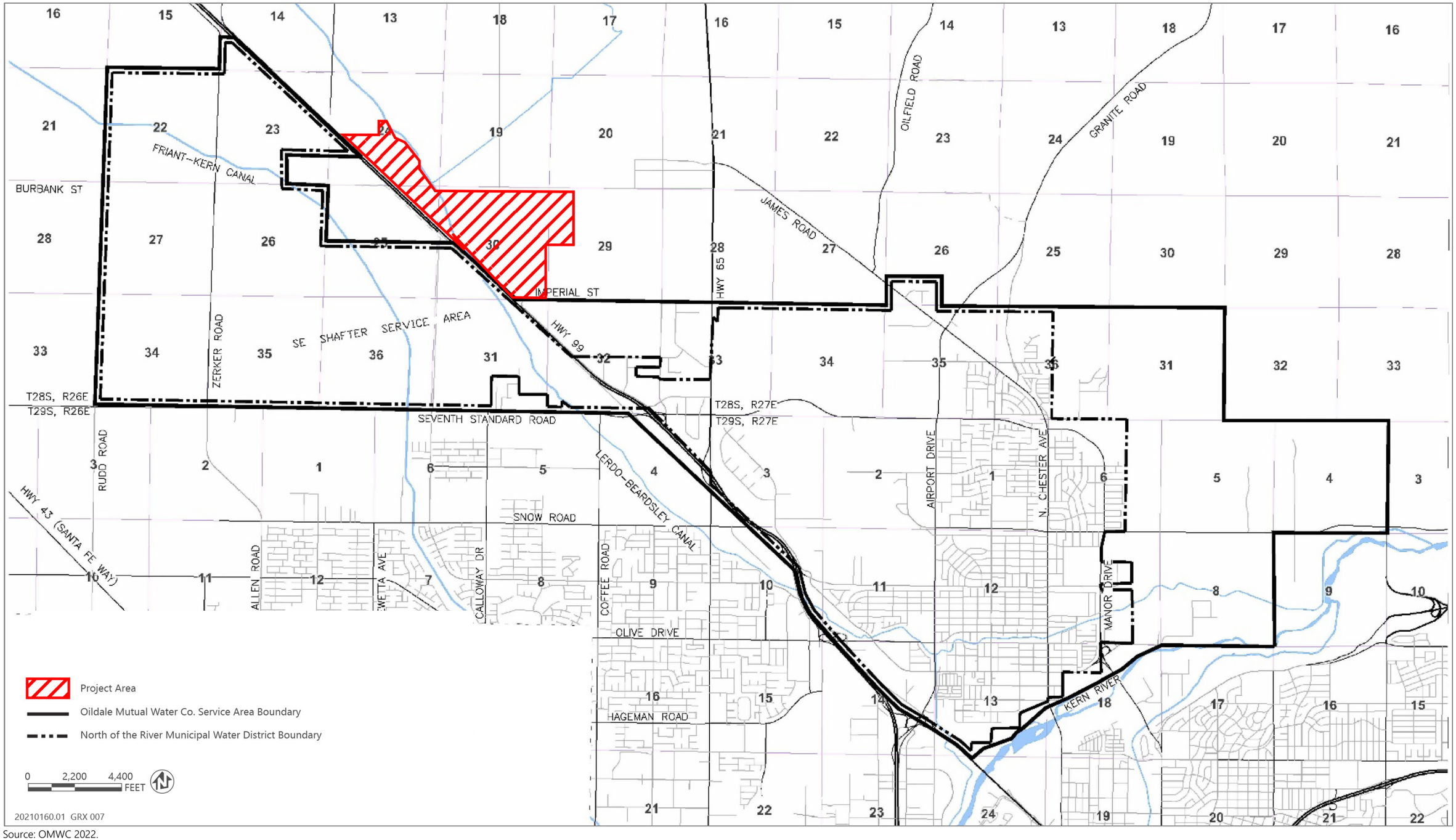
Figure 5 Cawelo Water System Service Area



Source: North Kern WSD 2022a.

Figure 6 North Kern WSD Service Area

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Source: OMWC 2022.

Figure 7 OMWC Water System Service Area

2 WATER SUPPLY ASSESSMENT

Water Code Sections 10910 – 10912 require land use lead agencies: 1) to identify the responsible public water purveyor ("public water system"), if any, for a proposed development project, and 2) to request from the responsible purveyor a WSA. The code states that where a city or county supplies water to its own constituents, the city or county must prepare its own WSA. As noted earlier, the purpose of the WSA is to assess the sufficiency of the purveyors' water supplies to satisfy the water demands of the proposed development project, while still meeting the current and projected water demands of existing customers. Water Code Sections 10910 – 10915 delineate the specific information that must be included in the WSA.

2.1 SCOPE OF WATER SUPPLY ASSESSMENT

This WSA discusses historic water supplies, current water supplies, and additional sources of supply that will be available to serve planned future growth. This information is presented consistent with the requirements of Senate Bill (SB) 610 and as detailed in the Water Code Section 10910 – 10912, and includes:

- Description of existing and projected water demand.
- Description of existing and projected water supply sources including:
  - Groundwater basins, surface water and other sources.
  - Opportunities for exchange or transfers of water on a short-term and long-term basis.
  - Any plans to acquire additional water supplies.
- Assessment of the availability of existing and projected water supply sources during normal, single-dry, and multiple-dry years within a 20-year projection.

This WSA is structured in way that clearly shows which portion of the Water Code Section is being satisfied by stating the section number and title. Additional information is provided where it is useful in the understanding of the proposed Project, its water demands, and its water supplies. This WSA contains information derived from several sources, including those listed in Chapter 4, "References".

2.2 EXISTING WATER ALLOCATION

The project site is currently agricultural land. Estimates of existing water allocations for the agricultural use are shown in Table 1 which were provided by Cawelo and North Kern WSD for Phases 1 and 2 of the project areas, respectively. As shown in the table, the Phase 1 site is allocated approximately 641 acre-feet per year (AFY) and the Phase 2 site is allocated approximately 615 AFY under current agricultural conditions.

Table 1 Summary of Existing Water Allocation

Project Phase	Site Area (acres)	Water Demand Factor (Agriculture)	Estimated Existing Water Allocation (AFY)
Phase 1	534	1.2 af/ac[1]	641
Phase 2	205	3.0 af/ac[2]	615
Total			**1,256**

Notes:

[1] Water demand factor of 1.2 acre-feet per acre for agricultural uses in Cawelo (Ansolabehere, pers. com., 2021).
[2] Water demand factor of 3 acre-feet per acre for agricultural uses in North Kern WSD (Hampton, pers. com., 2021).

2.3 PROPOSED PROJECT WATER DEMAND

To calculate projected water demands of the project, water use assumptions were used for each land use type based on the Final Water Demand Factor Study, prepared for the City of Ventura (City of Ventura 2020). Absent specific demand factors backed by evidence in the project area, this study serves as a reasonable reference point because it looked at water demand for many different land use types across a wide range of California water agencies, including the Cities of Ventura, Santa Barbara, San Luis Obispo, Thousand Oaks, and Oxnard, and Santa Margarita Water District, Irvine Ranch Water District, and Ventura County Waterworks District Number 8 (Simi Valley) (City of Ventura 2020). Table 2 provides a summary of the comparable land use and water demand factor. Based on these water demand factors, the project would use approximately 526,895 gallons per day, or approximately 591 AFY. This is a reduction of 665 AFY, which is less than half of the 1,256 AFY that is allocated for current agricultural operations. The Phase 1 demand equates to 0.91 acre-feet per acre (AF/ac) and Phase 2 demand equates to 0.52 AF/ac.

Table 2 Summary of Projected Water Demand

Project Component	Square Footage	Comparative Land Use Type (Water Demand Factor)	Estimated Water Demand
Phase 1			
Warehousing/Mini-Warehouses	7,169,686	Industrial Light[1] (60 gpd/ksf)	430,181
Office Space	65,952	Office (38 gpd/ksf)	2,506
		Phase 1 gpd	432,687
		Phase 1 AFY	485
		Phase 1 AF/ac	0.91
		Net Difference (Proposed – Existing Allocation)	-156 AFY
Phase 2			
Warehousing/Mini-Warehouses	1,559,588	Industrial Light[1] (60 gpd/ksf)	93,575
Office Space	16,653	Office (38 gpd/ksf)	633
		Phase 2 gpd	94,208
		Phase 2 AFY	106
		Phase 2 AF/ac	0.52
		Net Difference (Proposed – Existing Allocation)	-509 AFY
Total			
		Total gpd	**526,895**
		Total AFY	**591**
		Net Difference (Proposed – Existing Allocation)	**-665 AFY**

Notes: gpd=gallons per day; ksf=thousand square feet

[1] Due to the extreme variability in water use between industrial customers and the uncertainty of which kind of industrial activities may be proposed in the future, a recommended demand factor for industrial use is not included in the source report (City of Ventura 2020). The demand factor provided is consistent with values used by Irvine Ranch Water District, which were compiled in the City of Ventura Water Demand Factor Study (City of Ventura 2020).

Source: City of Ventura 2020.

2.4 SECTION 10910(A)

Determine if a proposed project is subject to California Environmental Quality Act (CEQA)

Kern County, the CEQA Lead Agency, has made the determination that the proposed Malibu Vineyards Parkway Project is subject to CEQA, and that an environmental impact report is the appropriate level of review to consider approval of the project.

2.5 SECTION 10910(B)

Identify responsible public water system that will or may supply water to the proposed project

OMWC intends to supply water to the proposed project. However, the sources of water would be allocated from Cawelo and North Kern WSD, for Phases I and II, respectively. The potable water would be from pumped groundwater wells that are owned and operated by OMWC and also from the wholesale water supplier, NORMWD. (OMWC 2022)

Off-site improvements would include extension of OMWC's six-inch domestic water line and 12-inch non-potable water line from Quinn Road along Imperial Avenue to the southeast corner of the proposed project. To facilitate water service, OMWC would need to annex the 739-acre project area into its service area. The proposed annexation would involve approximately 534 acres from Cawelo and approximately 205 acres from NKWSD for Phases 1 and 2 of the project, respectively. The annexation would need to be considered and approved by OMWC and the Kern County Local Agency Formation Commission (LAFCO). (Kern County 2022)

2.6 SECTION 10910(C)(1)

Determine if the most recent Urban Water Management Plan (UWMP) includes projected water demand associated with the project

The most recently adopted UWMP for OMWC is the 2020 OMWC UWMP, which was adopted by the OMWC Board of Directors on June 21, 2022. The UWMP does not include the proposed project's projected water demands.

2.7 SECTION 10910(C)(2)

If demands are included in most recent UWMP; incorporate information from the UWMP in the WSA

As noted above under Section 2.6, the most recent UWMP does not include the project.

2.8 SECTION 10910(C)(3)

If demands are NOT included in most recent UWMP, discuss *existing* system's water supplies available during normal, single dry, and multiple dry years during a 20-year projection to meet project demands, existing system and planned future uses; and Section 10910(c)(4) Discuss *projected* water supplies available during normal, single dry, and multiple dry years during a 20-year projection versus projected water demand including existing system, and planned future uses

2.8.1 Water Supply

OMWC WATER SUPPLIES

OMWC's sources of water supply include both groundwater wells and treated surface water supplied to its service area from the KCWA Improvement District No. 4 (ID4) Henry C. Garnett Water Purification Plant. OMWC currently operates five existing wells with a pumping capacity of about 7,500 gallons per minute (gpm) or about 4,033 AFY assuming the five wells are running for approximately 8 hours per day. Over the past five years of operation, groundwater extraction has averaged 584.9 AFY with a high of approximately 774 AFY. (OMWC 2022) The current groundwater supply available to OMWC is approximately 8,500 acre-feet per year, which is pumped from the Kern County Subbasin (DWR Basin No. 5-022.14) of the San Joaquin Valley Groundwater Basin (OMWC 2022). However, the project site is located outside of the boundaries of the ID4 service area and would not be served by existing OMWC groundwater allocations. Therefore, allocations of water supply to serve the proposed project site would need to be provided by Cawelo and North Kern WSD for phases 1 and 2, respectively.

CAWELO WATER SUPPLY

Water supply for the Cawelo GSA is from groundwater, local surface water from Poso Creek, imported water (State Water Project, Kern River, and Federal Central Valley Project), treated-produced water, and conjunctive use programs (Cawelo, 2022).

Groundwater

Groundwater in the Cawelo GSA is pumped from the underlying Kern County Subbasin, covering approximately 2,800 square miles and containing more than 40,000,000 acre-feet (AF) of groundwater in storage. The local aquifer system is replenished by percolation of overlying surface water and precipitation, groundwater inflow originating primarily from the uplands to the east, agricultural irrigation return flow, and CWD groundwater recharge and water banking programs. (Cawelo, 2022)

Most groundwater pumping within Cawelo is attributable to on-farm pumping. Cawelo maintains and operates 16 deep wells to supplement deliveries of surface water as needed. In years when the availability of imported surface water is limited, local landowners pump groundwater from privately-owned wells consistent with Cawelo's conjunctive management strategy. There are 10 small water systems in the Cawelo GSA that utilize groundwater supplies. In addition, rural domestic and commercial locations use privately-owned wells for groundwater supply. (Cawelo, 2022)

Imported Water

The primary source of surface supply for Cawelo is its allocation of State Water Project (SWP) water through the Kern County Water Agency (KCWA), the local SWP contractor. SWP water is diverted from the California Aqueduct and conveyed through the Cross Valley Canal and delivered to Cawelo via the Beardsley-Lerdo Canal. Cawelo has a contract for 38,200 AF per year (AFY) with KCWA but does not receive the full amount due to shortages in SWP supplies. Water supplies available from the SWP are governed by watershed precipitation, snow melt runoff, and other regulatory factors. Accordingly, CWD receives an annual allocation. SWP allocations are variable, with frequent shortages, and can be quite limited in a dry year such as 2014, 2021, and 2022. In a year when the SWP water supply is less than the total CWD contract amount, each water user is allocated a pro-rated share of the total. Historically, Cawelo has received an annual Article 21 allocation of approximately 6,800 AF; however, due to restrictions on pumping water from the Delta, Article 21 water has become less available to CWD and other districts over time. (Cawelo, 2022)

Water from the Central Valley Project (CVP), operated by the U.S. Bureau of Reclamation (USBR), used within the Cawelo GSA is Section 215 water, which is a temporary supply of CVP water made available in large water supply years. While Cawelo is not a long-term CVP contractor, the USBR at times has made annual contracts available to non-CVP contractors for purchase and diversion of Section 215 supplies. These are generally un-storable and unmanaged flood flows of short duration, and their availability depends on hydrologic conditions of the San Joaquin River and diversions from the Friant-Kern Canal. (Cawelo, 2022)

Given recent completion of the Calloway-to-Lerdo Intertie and the Friant-Kern Canal connection, Cawelo is now capable of receiving CVP Section 215 deliveries and other exchanges directly from the Friant-Kern Canal. In previous years, Cawelo purchased, on average, about 27,000 AFY of Kern River water from the City of Bakersfield that was delivered to Cawelo via the Lerdo Canal. The basic delivery schedule under this contract, which is no longer a reliable supply, called for 2,700 AF per month to be delivered during March and April, and 5,400 AF per month during May through August. The contract also made available for sale "miscellaneous water" which occasionally was available in addition to the contract amount. Cawelo has been in discussions with the City of Bakersfield to reach a new agreement for the diversion of Kern River water. (Cawelo, 2022)

Surface Water

Poso Creek traverses the Cawelo GSA about midway between the District's northern and southern boundaries. Poso Creek originates in the Southern Sierra Nevada and flows westward across Cawelo. Cawelo currently monitors Poso Creek at Trenton Weir near State Highway 65. The annual flow at this site has exceeded 120,000 AF, but many years it

has little to no flow. While flows are variable, some Cawelo landowners do occasionally exercise their riparian rights to divert water from Poso Creek. (Cawelo, 2022)

In 2000, Cawelo was issued a permit to divert water from Poso Creek for beneficial use at a rate of approximately 110 cubic feet per second (cfs), with the volume limited to 30,000 AF between November 1 and June 14 of the following year. An agreement between Cawelo, North Kern WSD, and Semitropic Water Storage District allocated the first 135 cfs of Poso Creek flow (as measured at the State Highway 65 gaging station) to Cawelo. (Cawelo, 2022)

The Kern River flows within and along the southern boundary of the Eastern Extension Areas of the Cawelo GSA. The Kern River originates in the Southern Sierra Nevada and flows westward across the southern portion of the Eastern Extension Area. Several stream flow gages are located on the Kern River; the United States Geological Survey (USGS) operates several gages upstream of the City of Bakersfield and flow data on the River has been collected since the 1890s. (Cawelo, 2022)

Treated Produced Water

"Produced Water" refers to water entrained in oil as oil is extracted from the ground. "Treated Produced Water" refers to water removed from the extracted oil, which is subsequently treated for beneficial reuse or reinjection. Cawelo purchases up to 36,000 AFY of treated produced water from local oil extraction operations including Chevron USA Inc. (Chevron) and California Resources Corporation (CRC) (formerly Valley Water Management Company). The treated produced water is pumped to Cawelo Reservoir B through separate pipelines from the Kern River and Kern Front Oilfields. This water is treated to conform with the Central Valley Regional Water Quality Control Board's

(CVRWQCB) waste discharge requirements and is blended with water from other sources before delivery to the Cawelo's water users where it is used for both irrigation and groundwater recharge in banking projects. Supplies from this source are dependent on local oil production because the water is entrained in oil as it is produced. In recent years, the total delivery of treated produced water has ranged between 20,000 and 37,000 AF. The volume of treated produced water will fluctuate with oil production and long-term availability cannot be predicted. (Cawelo, 2022)

NORTH KERN WATER SUPPLY

North Kern WSD primarily receives water through supplemental or imported surface water sources using their contract for Kern River water. The surface water brought in through contracts is used to meet agricultural crop demands. Non-contract water is predominately banked in the Subbasin but is also used for meeting agricultural crop demands (i.e., in-lieu recharge). Native sources such as streambed infiltration are considered minimal. Supplemental water sources for North Kern WSD include water received from the Kern River, Poso Creek, Oilfield-Produced Water, CVP water and Water Banking Leave-Behind Water. Other sources of water include wastewater recycled from the cities. (North Kern WSD & SWID 2022)

Kern River

The Kern River is approximately 164 miles long and is fed by annual snowmelt from the Southern Sierra Nevada, including Mount Whitney. The Kern River originates high in the Sierra Nevada and drains approximately 2,100 square miles of watershed area above Lake Isabella, another 300 square miles of the foothills below Lake Isabella, and about 600 square miles of alluvial fan in the Kern River Canyon. The Kern River had an unregulated flow until 1954, when the Isabella Dam and Reservoir were constructed by the U.S. Army Corps of Engineers. The primary purpose of the dam is flood control. Lake Isabella was designed to store approximately 570,000 acre-feet of water; water storage in the Lake has been limited to approximately 60 percent of capacity since 2006 due to seepage and earthquake concerns, at 340,860 total af. The U.S. Army Corps of Engineers and Kern River Watermaster operate the Isabella Dam and Reservoir, which regulates the flow of the Kern River. (KCWA 2021a).

The Kern River is the primary source of water to North Kern WSD and the metropolitan Bakersfield area and is conveyed from the River into the North Kern WSD through the Calloway Canal and the Beardsley Canal. North Kern WSD receives Kern River water through several contracts: the 1952 Agreement, the Kern Delta Settlement Agreement, and the City of Bakersfield Extension Contract (including the Kern River Canal and Irrigating Company supplies) (North Kern WSD & SWID 2022). The 1952 Agreement was established on January 1, 1952, between North Kern WSD

and the Kern County Land Company (KCLC), which provided North Kern WSD with rights in perpetuity to use all water accruing under certain Kern River water rights for the purposes of irrigation, stock watering, and underground replenishment. The City of Bakersfield (City) is the successor in interest to the KCLC with respect to the 1952 Agreement. On August 20, 2008, the North Kern WSD and City entered into Amendment No. 1 to the 1952 Agreement. This Amendment provides that the North Kern WSD may use waters diverted from the Kern River pursuant to the Agreement, whether by surface delivery or recharged as underground water replenishment for M&I purposes, otherwise known as nonagricultural water demands, provided the North Kern WSD pay the City annually for each acre-foot of Kern River water delivered for M&I uses $311 (as indexed) per gross acre-foot of all M&I water delivered or retailed. (North Kern WSD 2022b)

CVP Water

North Kern WSD occasionally diverts water from the Friant-Kern Canal during wetter years, either through temporary contracts with the USBR (e.g., Section 215), or more frequently through water banking and exchange programs with CVP contractors. Historically Section 215 water has been available infrequently and for short durations to non-long-term contractors such as North Kern WSD. (North Kern WSD & SWID 2022)

Exchange and Transfer Program

North Kern WSD participates in a water transfer and exchange program.

Poso Creek

Historically, Poso Creek flows have reached California Highway 99 in about two of every five years. Starting in 1997, the use of Poso Creek water has been governed by an agreement between North Kern WSD, Cawelo, and Semitropic Water Storage District, who collectively share the runoff of Poso Creek. Under this agreement, North Kern WSD receives flows between 135 cfs and 300 cfs and when Poso Creek is flowing at greater than 685 cfs. (North Kern WSD & SWID 2022)

Oilfield-Produced Water

In 2015, NKWSD entered into an agreement with the California Resources Corporation (CRC) for the delivery of oilfield-produced water from their Kern Front Oilfield operations. The agreement defined a minimum annual quantity of 11,700 AF and a maximum annual quantity of 21,200 AF. While the term of the agreement extends through 2035, it only provides for delivering the minimum quantity through 2025. In the first (partial) year of the agreement in 2015 North Kern WSD received approximately 2.2 TAF of oilfield-produced water. (North Kern WSD & SWID 2022)

Water Banking Leave Behind

North Kern WSD imports water for other districts as banked water. Of the banked water the district keeps a portion of "leave-behind" water, typically of 10 percent, whereas the rest is returned to the participating agency at a later another period. (North Kern WSD & SWID 2022)

Precipitation

Precipitation is a source of inflow into the North Kern WSD. Through the coordination with all the member agencies of Kern Groundwater Authority (KGA), it was estimated that the average precipitation for the area is 0.42 AF/acre per year. (North Kern WSD & SWID 2022)

Inflow to the Groundwater System

Inflow to the groundwater system occurs, but is not quantified in water budgets due to the absence of reliable data. (North Kern WSD & SWID 2022)

Urban Recovery

The City of McFarland has a wastewater treatment (WWTP) located in North Kern WSD. The effluent from the WWTP is applied to agricultural land for beneficial reuse as irrigation water for permanent tree crops in proximity to the WWTP. The annual WWTP influent volume ranges from approximately 1,600 AF to 2,200 AF, for an average WWTP influent volume of 1,700 AF. The McFarland WWTP has an average recycling rate of 64 percent, with the annual recycled water volume ranging from 1,100 AF to 1,200 AF. (North Kern WSD & SWID 2022)

CITY OF BAKERSFIELD WATER SUPPLY

As discussed above, North Kern WSD receives supplies of Kern River Water from the City pursuant to the 1952 Agreement, as amended. The City's water supply includes a Domestic Water System and a Wholesale Water System. The Domestic Water System is a retail water supplier managed by the City's Water Resources Department and operated under a service contract with California Water Service (Cal Water). The City's Wholesale Water System is operated by the City's Water Resources Department, which oversees the City's Kern River water rights and water supplies.

The Wholesale Water System provides groundwater recharge of Kern River water supplies both by transportation through the Kern River and unlined portions of the Carrier Canal and within groundwater replenishment areas such as the City's 2800 Acres recharge facility, Truxtun Lakes, Aera Park, and the Park at Riverwalk. The City's Kern River water supplies for both urban use and agricultural use average about 135,000 AFY. Approximately 100,000 AF of the 135,000 AF is designated for urban use. The City has storage rights in Lake Isabella that allows for flexibility in the management of its Kern River supplies. (City of Bakersfield, 2021)

Kern River water supplies are either delivered to surface water treatment plants for subsequent use by retail water suppliers within the City area or are replenished to the groundwater basin for the benefit of the City and other retail water suppliers through their respective groundwater wells. These supplies are pumped by the overlying retail water suppliers for use within their respective service areas. A volume of 77,528 AF of Kern River surface water was delivered through the Wholesale Water System during 2020, which is summarized in Table 3 below.

Table 3 Wholesale Actual Supply for Potable and Non-Potable Water (2020)[1]

Use Type	Additional Description	Volume (AFY)
Sales to other agencies	Cal Water Northeast Treatment Plant	11,124
Sales to other agencies	Cal Water Northeast Treatment Plant	5,918
Other potable	KCWA ID4 Henry C. Garnett Water Purification Plant	7,380
Groundwater recharge	River and Carrier Canal Recharge	53,106
	Total	**77,528**

Source: City of Bakersfield, 2021, Table 4-1

Notes:
[1] Represents actual deliveries of water to the various agencies in 2020 and may not represent overall demands within the Wholesale Water System.

Water demands are anticipated to increase in proportion to population growth. Water demands in the Wholesale Water System for delivery to surface water treatment plants and groundwater recharge are projected to total 100,000 AFY. Water demand projections for the City's Wholesale Water Service for the years 2025 through 2040 area are provided in Table 4 below. The City's projected water usage estimates are expected to adequately address climate change impacts through 2040. (City of Bakersfield, 2021)

Table 4 Projected Wholesale Demands for Potable and Raw Water (2025 – 2040)

		Volume (AFY)			
Use Type	Additional Description	2025	2030	2025	2040
Sales to other agencies	Cal Water Northeast Treatment Plant	22,400	44,800	44,800	44,800
Sales to other agencies	Cal Water Northwest Treatment Plant	9,000	9,000	9,000	9,000
Other potable	KCWA ID4 Henry C. Garnett Water Purification Plant	6,500	6,500	6,500	6,500
Groundwater recharge	River and Carrier Canal Recharge	62,100	39,700	39,700	39,700
	Total	**100,000**	**100,000**	**100,000**	**100,000**

Source: City of Bakersfield, 2021, Table 4-2

Optimization of the City's Kern River supplies is identified as a Phase One project in the Kern River Groundwater Sustainability Agency (KRGSA) Groundwater Sustainability Plan (GSP) (KRGSA, 2022). The project involves the full use of the City's available Kern River entitlement and is proposed to be implemented over time so that it can be adjusted

as needed to meet changing conditions. The City's Kern River supplies will be delivered as a first priority to meet demands of the surface water treatment plants with the remaining supplies being recharged to the groundwater basin through the Kern River channel, the 2800 Acres recharge facility, and other City facilities. (City of Bakersfield, 2021)

Additional Kern River supplies may become available to the City through an Application to Appropriate Water filed with the California State Water Resources Control Board (SWRCB). The Kern River was designated with Fully Appropriated Status (FAS) by the SWRCB in 1964. However, in February 2010, SWRCB issued an order revising the status of the Kern River, finding that the river was no longer fully appropriated. In anticipation of this action, the City filed an application with the SWRCB to obtain rights to the surplus, unappropriated, and available water in the Kern River. (City of Bakersfield, 2021)

The City's intended use of unappropriated water is to have it remain in the Kern River watercourse to support multiple reasonable and beneficial uses, including domestic purposes, municipal and industrial uses, protection of the public interest, environmental purposes, streamflow restoration, constructed wetlands, recreational uses, fish and wildlife restoration, underground aquifer supply, aquifer water quality enhancement, and underground water banking for drought and other emergencies. The SWRCB has not taken action regarding the allocation of surplus, unappropriated Kern River supplies. It is anticipated that this water may be allocated in about 10 to 15 years. If additional Kern River supplies are allocated to the City, they would become a part of the conjunctive use optimization project. (City of Bakersfield, 2021)

2.8.2 Water Supply Reliability

SUSTAINABLE GROUNDWATER BUDGET

Groundwater budgets are developed to quantify historical changes in the amount of groundwater in storage and to identify the amount of sustainable groundwater available for future use. In particular, reductions of groundwater in storage are estimated to assess the potential for undesirable results. The water budget analysis allows the response of the physical groundwater system to be correlated to current and historical groundwater use. This analysis also provides the foundation for identifying potential future deficits of groundwater based on future projections of surface water supplies and demands. A primary objective of the groundwater budget analysis is to quantify historical, current, and projected groundwater deficits so that management actions can be identified to mitigate undesirable results attributable to potential groundwater deficits. Groundwater budgets quantify inflows and outflows to the groundwater system and illustrate how these flows change over time. The annual difference between inflows and outflows represents the annual change of groundwater in storage beneath the Plan Area.

Current Baseline Water Budgets

All GSAs in the Subbasin coordinated and collaborated on the development of water modeling budgets (historical, baseline and projected). The Subbasin is estimated to have a total storage deficit of 324,326 AFY over the baseline period. (KGA 2022)

The Kern County Subbasin consists of many entities with land use or water management authority. While a majority of these entities are members of the KGA who have water management authority, they retain their local responsibility for compliance with SGMA. Cawelo GSA and North Kern WSD have their own management areas under the KGA GSP umbrella. Ultimately the members of the KGA have the responsibility to implement projects and management actions in the individual management area plans to achieve sustainability within their management areas. (KGA 2022)

The KGA has satisfied the requirements of a GSP through the commitment of each of its Member Agencies to the following actions (KGA 2022):

- Manage their respective management areas at or above their measurable objectives,
- Manage each management area to a water budget that will collectively eliminate the KGA Member Agencies' deficit by 2040, and
- Implement projects and management actions to address the deficit.

The KGA members developed a coordinated water accounting methodology. The result of that effort indicates a current baseline shortage/deficit for KGA members of -239,346 AFY. This reflects the difference between a total demand for KGA members of 1,489,171 AFY, and a total supply of 1,249,825 AFY. Each KGA member agency management area plan reflects their consistent management area water budget in their individual water budget sections. (KGA 2022)

Of the shortage/deficit of the KGA, Cawelo GSA's portion of the KGA shortage/deficit is 12,101 AFY – a difference in demand of 106,952 AFY and a water supply of 94,851 AFY (Cawelo GSA 2022). The North Kern WSD contributes a surplus of 20,389 AFY to the KGA's overall implied change in groundwater storage, which represents the difference between the demand of 174,930 AFY and a supply of 195,319 AFY. Accordingly, North Kern WSD would not be expected to have to reduce demand under "current" conditions. (North Kern WSD & SWID 2022)

Cawelo Water Budget

The Cawelo GSP identified an average hydrologic Study Period for purposes of the groundwater analyses in the basin-wide water budgets, which covers the period water year[1] (WY) 1995 through WY 2014 as the historical study period. This is coordinated and consistent with other GSPs in the Kern County Subbasin. This period covers, among other things, 10 years characterized as above normal or wet years and 10 years of below normal or dry years, including 4 critically-dry years. The recent period from WY 2015 through WY 2017 was used to represent current groundwater and surface water conditions in the GSP. (Cawelo 2022)

The water budget analysis is based on the local management operations that either recharge (inflow) or extract (outflow) groundwater. During the twenty-year historic period, Cawelo received almost two thirds on average of imported water from the Kern River and the SWP. Other sources of imported water include the Central Valley Project water and treated produced water, among other sources of water banked in the Cawelo GSA. (Cawelo 2022)

Because the proposed project would be served by groundwater, the information presented in this WSA focuses on Cawelo's groundwater budget. Groundwater extraction within the Cawelo GSA is predominantly for agricultural use. Private (unmetered) pumping for agriculture is about 78 percent of groundwater extraction occurring within the Cawelo Groundwater Sustainability Basin. During dry years, CWD pumps banked groundwater to supplement water deliveries for agriculture. Groundwater is also used at municipal and industrial facilities and domestic sites. (Cawelo 2022)

Groundwater inflows and outflows for the historic and current periods are summarized in Table 5. Irrigation return flow, part of percolation from the surface, is a consistent source of inflow to the Cawelo groundwater basin regardless of the water year type. Crop water requirements are met through precipitation and irrigation regardless of the water year type. Crops grown in Cawelo are predominantly permanent crops where the distribution change from year to year is small resulting in return flows that are similar each year. Natural recharge through stream and precipitation percolation, managed aquifer recharge, and groundwater banking are dependent on the amount of precipitation which influences surface water availability for natural or managed recharge. (Cawelo 2022)

[1] Water Year, October 1 through September 30

Table 5 Cawelo Groundwater Budget Summary

Inflows/Outflows	Historical Period (1995-2014)		Current Period (2015-2017)	
	Total (AFY)	Average (AFY)	Total (AFY)	Average (AFY)
Inflows				
Percolation from the Surface	318,332	15,917	45,094	15,031
Managed Aquifer Recharge	122,120	6,106	43,107	14,369
Stream Natural Recharge	140,994	7,050	40,468	13,489
Precipitation Percolation	37,259	1,863	4,498	1,485
Total Inflows	**618,994**	**30,950**	**133,167**	**44,389**
Outflows				
Agricultural Pumping	797,552	39,878	166,355	55,452
Urban Pumping	21,243	1.062	3,116	1,039
Groundwater Discharge to Streams	0	0	0	0
Total Outflows	**818,795**	**40,940**	**169,472**	**56,491**
Difference (Inflows - Outflows)	**-199,801**	**-9,990**	**-33,304**	**-12,101**

Source: Cawelo, 2022; Table 4-11

Inflows and outflows from the Cawelo GSA groundwater system are influence by surface water availability, which is influenced by the water year type, locally, regionally, and at the sources of imported water supplies. The largest inflow of surface water in most years is imported water which is dependent on the hydrologic conditions at the water sources. The largest most consistent outflow is evapotranspiration which is dependent on crop distribution, irrigation efficiency, and local hydrologic conditions. (Cawelo 2022)

During the 20-year historic period outflow from the Cawelo groundwater basin exceeded inflow during 14 water years. The average annual change in storage during the historic period was -9,990 acre-feet. Significant positive increase in groundwater storage only occurred in 1998 and 2011 with minor increases in four other years. 1998 and 2011 were exceptionally wet years. During the historic period, 199,801 acre-feet of groundwater has been removed from storage in the aquifer. (Cawelo 2022)

North Kern WSD Water Budget

The North Kern WSD water budget reflects the historical base period, but also captures "current" conditions following management actions and changes in water supply contracts since 2015. The current water budget represents long-term average annual inflow and outflow under the "current" conditions and is shown in Table 6 below. As shown in the table, the implied average annual change in groundwater storage is positive under "current" conditions with approximately 27,210 AFY. Accordingly, North Kern WSD would not be expected to have to reduce demand under "current" conditions. (North Kern WSD & SWID 2022)

Table 6 North Kern WSD Water Budget Summary

Inflows/Outflows	"Current" Conditions (AFY)
Inflows	
Kern River	151,900
Poso Creek	4,000
Oilfield Produced Water	4,000
Recycled	1,500
Other	5,000
OMWC	110
Rainfall	21,600
Total Inflows	**188,110**

Outflows	
Irrigated Area Evapotranspiration	155,600
Evaporation from Canals and Spreading Ponds	3,200
M&I Pumping	2,100
Total Outflows	**160,900**
Difference (Inflows - Outflows)	**27,210**

Source: North Kern WSD & SWID 2022; Table 2-26

Projected Future Water Budgets

Projected future water budgets for the Subbasin were developed for future baseline conditions and 2030 and 2070 Climate Conditions over a 50-year planning and implementation horizon. These scenario models provide a basis of comparison for evaluating proposed sustainability management actions and projects over the Sustainable Groundwater Management Act (SGMA) planning and implementation horizon.

Kern Groundwater Authority Future Water Budget

The Baseline Scenario under the KGA GSP simulates how the Subbasin aquifer would respond if the recent hydrology were repeated with current expected surface water availability and current land use. The primary difference between historical conditions and the projected future baseline is a nearly 20 percent decrease in imported surface water deliveries primarily from the SWP due to the long-term Operational Criteria and Plan (OCAP) Biological Opinion and is replaced with additional groundwater pumping. As a result, total net aquifer outflows increase by approximately 35,600 AFY, total net aquifer inflows decrease by approximately 11,600 AFY with the average groundwater pumping of 1,625,000 AFY, which includes agricultural pumping, urban pumping and exported water. This results in an additional loss of groundwater storage of about 47,200 AFY over the 50-year projected future baseline. Baseline simulation results indicate that the Subbasin has an average annual overdraft of 324,326 AFY, however, with the implementation and completion of projects and management actions as stated in the individual management area plans and GSPs from the other GSAs in the Subbasin, the baseline simulation results show that the Subbasin has an average surplus of 85,578 AFY. (KGA 2022)

The 2030 Scenario under the KGA GSP simulates how the Subbasin aquifer would respond assuming hydrologic conditions representing a potentially drier climate (no or limited amount of snowpack) and are based on the DWR Climate Change Guidance. The 2030 DWR climate change factors were applied to the Baseline Scenario Conditions. Additional adjustments were made to the imported surface water supplies from the SWP, CVP and Kern River, accounting for about an additional two percent decrease from the Baseline Conditions. The results show a net increase in aquifer inflows of about 44,700 AFY along with an increase in aquifer net outflows of about 101,200 AFY. This is mostly attributed to the climate shift to earlier rainfall making more surface water available for managed aquifer recharge during the winter but less available for irrigation in the summer resulting in higher groundwater pumping. The net change in groundwater storage is an additional decline of about 56,600 AFY due to the climate change impacts. 2030 Climate Change simulation results indicate that the Subbasin has an average annual overdraft of 372,120 AFY with the net change in groundwater storage showing an additional decline of about 47,794 AFY, compared to the Baseline, due to the climate change impacts. However, with the implementation and completion of management actions/projects as stated in the individual management area plans and GSPs from the other GSAs in the Kern Subbasin, 2030 Climate Change simulation results indicate that the Subbasin has an average deficit of approximately 46,829 AFY. (KGA 2022)

The 2070 Scenario under the KGA GSP represents how the Subbasin aquifer would respond assuming hydrologic conditions representing a potentially very dry climate and are based on the DWR Climate Change Guidance. The 2070 DWR climate change factors were applied to the Baseline Scenario Conditions. Additional adjustments were made to the imported surface water supplies from the SWP, CVP and Kern River, but these accounted for an additional six percent decrease from the Baseline Conditions. The 2070 Climate Change Scenarios were run both with and without SGMA Projects. The results show a net increase in aquifer inflows of about 66,100 AFY along with an increase in aquifer net outflows of about 231,600 AFY. This is mostly attributed to an even greater climate shift to earlier rainfall making more surface water available for managed aquifer recharge during the winter but less available

for irrigation in the summer resulting in higher groundwater pumping. 2070 Climate Change simulation results indicate that the Kern County Subbasin has an average annual overdraft of 472,336 AFY with the net change in groundwater storage showing an additional decline of about 148,010 AFY due to the climate change assumptions. With the implementation and completion of management actions/projects as stated in the individual management area plans and GSPs from the other GSAs in the Kern Subbasin, the 2070 Climate Change model results indicate an average deficit of 45,969 AFY. (KGA 2022)

Cawelo Future Water Budget

Percolation to groundwater results from precipitation and land application of water, which occurs through irrigation, water conveyance, municipal and industrial uses, and urban uses. The inflows and outflows projects for future baseline, and 2030 and 2070 climate conditions are shown in Table 7 below.

Table 7 Projected Future Groundwater Budget Summary for Baseline, 2030 Climate Change and 2070 Climate Change Conditions

Inflows/Outflows	Baseline	2030 Climate Change Conditions	2070 Climate Change Conditions
Inflows	**Total (AFY)**	**Average (AFY)**	**Average (AFY)**
Percolation from the Surface	14,888	15,573	14,888
Managed Aquifer Recharge	6,506	6,099	8,044
Stream Natural Recharge	7,050	7,100	7,050
Precipitation Percolation	1,863	1,692	1,863
Total Inflows	**30,306**	**30,464**	**33,071**
Outflows			
Agricultural Pumping	46,131	49,740	46,131
Urban Pumping	1,118	1,118	1,118
Groundwater Discharge to Streams	0	0	0
Total Outflows	**47,249**	**50,858**	**58,610**
Difference (Inflows - Outflows)	**-16,943**	**-20,394**	**-25,539**

Source: Cawelo, 2022, Table 4-19.

The projected changes in storage for the baseline and 2030 and 2070 central tendency climatic conditions decline between 2021 and 2070 and are summarized in Table 8. The volume of water added to storage during wet years does not offset the reduction in storage that is the general trend. For the baseline projection, a total of 936,358 acre-feet of water is removed from storage over the 50-year period. An additional 19 percent is removed from storage during the 50-year period under 2030 central tendency climatic conditions. Under 2070 central tendency climatic conditions, 46 percent additional water is removed from storage during the projected 50-year period.

Table 8 Future Baseline Groundwater Budget Summary Comparison

	Implementation Period (2021-2040)		Sustainability Period (2041-2070	
Inflows/Outflows	Total (AFY)	Average (AFY)	Total (AFY)	Average (AFY)
Baseline Condition				
Total Inflows	60,6124	30,306	919,633	30,654
Total Outflows	944,987	47,249	1,517,128	50,571
Inflows – Outflows	**-33,8863**	**-16,943**	**-597,495**	**-19,916**
2030 Climate Condition				
Total Inflows	609,289	30,464	915,408	30,514
Total Outflows	1,017,168	50,858	1,619,364	53,979
Inflows – Outflows	**-407,879**	**-20,394**	**70,3956**	**-23,465**
2070 Climate Condition				
Total Inflows	661,430	33,071	995,906	33,179

Total Outflows	1,172,206	5,810	1,853,945	61,798
Inflows – Outflows	**-510,776**	**-25,539**	**-858,040**	**-28,601**

Source: Cawelo, 2022, Table 4-20.

North Kern WSD Future Water Budget

Table 9 below shows the projected water budget for North Kern WSD for 2030 and 2070 climate conditions. As shown in the table, a positive implied change in storage is expected of 23,900 AFY and 15,200 AFY for 2030 and 2070 conditions, respectively. The decrease in positive storage from 2030 in 2070 indicates that it is expected that North Kern WSD will have a lesser amount of supply than was available historically or "current" conditions. (North Kern WSD & SWID 2022)

Table 9 North Kern WSD Water Budget Summary

Inflows/Outflows	2030 Conditions (AFY)	2070 Conditions (AFY)
Inflows		
Kern River	149,700	147,500
Poso Creek	3,900	3,900
Oilfield Produced Water	4,000	0
Recycled	1,500	3,000
Other	5,000	5,000
OMWC	2,000	4,100
Rainfall	20,700	20,000
Total Inflows	**186,800**	**183,500**
Outflows		
Irrigated Area Evapotranspiration	155,200	155,300
Evaporation from Canals and Spreading Ponds	3,200	3,200
M&I Pumping	4,500	9,800
Total Outflows	**162,900**	**168,300**
Difference (Inflows - Outflows)	**23,900**	**15,200**

Source: North Kern WSD & SWID 2022; Table 2-26

SGMA PROJECTS AND MANAGEMENT ACTIONS

Kern Groundwater Authority Projects and Actions

Projects and management actions for the KGA have been developed at the management area level. Table 4-1 in the KGA GSP provides a summary list of all projects and management actions (approximately 140) being considered for implementation by each member agency. This includes management projects ranging from expansion of local and regional conveyance and recharge facilities to take advantage of surplus supplies; new conveyance and recharge projects; and participation in the Delta Conveyance Project or other thru-Delta improvement projects. Management actions range from implementing district level fee structures to incentive reduced groundwater pumping; participation in local, regional, and state-wide water markets; and setting allocation for groundwater use by landowner, based on the sustainable yield of the management area. In addition to the projects and management actions that are proposed by the KGA members, the KGA has identified projects and management actions that it will implemented to further the coordination of groundwater management in the Subbasin. Table 10 list these proposed projects and management actions. (KGA 2022)

Table 10 KGA Projects and Management Actions

Project	Project Description
Subsidence Monitoring (basin-wide)	Improve the understanding of the causes and impacts of subsidence in the Subbasin. Installation of subsidence monitoring stations in 2023 with funding from the Budget Act of 2021 Sustainable Groundwater Management (SGM) Grant Program SGM Act Implementation – Round 1 Grant. Work with the DWR CA Aqueduct staff and Friant staff to continue the studies and exchange of data to improve the sustainable management criteria for each critical regional infrastructure Implementation Period: 2020 to 2025
Groundwater Modeling (basin-wide)	Improve the understanding of groundwater reactions to the implementation of projects and management actions, relationship to minimum thresholds and measurable objectives, determination of the native yield of the Subbasin, and subsurface flow within and out of the Subbasin. Continue the development of the Kern subbasin data management system that will assist in improving the understanding as well as provide access to the data to stakeholders and beneficial users. Enhancing the transparency of the data as well as addressing any minimum threshold exceedances. Implementation Period: 2020 to 2025. Funding provided through the Budget Act of 2021 Sustainable Groundwater Management (SGM) Grant Program SGM Act Implementation – Round 1 Grant.
Study of Native Yield of the Subbasin	Studies to refine the understanding and allocation of the available native groundwater yield within the Subbasin. Implementation Period: 2020 to 2025. Funding provided through the Budget Act of 2021 Sustainable Groundwater Management (SGM) Grant Program SGM Act Implementation – Round 1 Grant.
Kern County Subbasin, Basin-wide Study	▶ Basin Study: Basin Study to develop a systematic technical analysis to better represent and understand the flow of groundwater and surface water into, through and out of the Kern Subbasin. ▶ Evapotranspiration Analysis & Study: Field by Field Project compliments the Basin Study by groundwater truthing the water demand part of SGMA. The Component will provide data on the soil types and farming methods to further investigate the different crops planted and best way to meet water demands, providing a more accurate account of water usage. ▶ Subsidence Investigation and Study: Priority Area #1 Data collection: Data to set the SMC for Kern subsidence. Strategically placed extensometers would provide the data necessary to set SMC as well as considering the other activity of extractions occurring in the basin, oil extractions. ▶ New or Converted Monitoring Wells: Improve existing monitoring network throughout the Kern subbasin. Implementation Period: 2022 to 2005. Funding provided through the Budget Act of 2021 Sustainable Groundwater Management (SGM) Grant Program SGM Act Implementation – Round 1 Grant.
Subbasin Wide Consumptive Use Monitoring	Development of basin-wide consumptive use data to support water budget analyses, basin-wide modeling, groundwater native yield analysis and allocation, and annual reporting requirements Implemented in 2023. Funding provided through the Budget Act of 2021 Sustainable Groundwater Management (SGM) Grant Program SGM Act Implementation – Round 1 Grant.
Managing to Measurable Objectives	KGA members manage to checkbook water budgets as well as implement projects and management actions within their respective management areas to sustain water levels at or above the established measurable objectives. Implementation: 2020 to ongoing
Domestic Well Mitigation Program	A Domestic Well Mitigation Program will be developed and implemented by all KGA members. The purpose of this program is to mitigation the potential impact of declining groundwater elevations resulting from groundwater management actions. Implementation Period: 2020 to ongoing. Funding will be determined by individual members within their respective management areas.
KGA Monitoring Network Improvement Program	The KGA will work with its member entities, and other Subbasin GSAs, to continue to improve and reach SGMA compliance for identified representative monitoring sites. The KGA will work to identify joint projects and programs to ensure efficient installation and/or rehabilitation of monitoring wells and data collection and reporting efforts. Implementation Period: 2020 to 2025.
Basin-wide Coordination	Continuation of the Kern Subbasin Managers Group to coordinate water management activities in the Subbasin, including technical analysis, project management and coordination, identification of joint management opportunities and coordination of SGMA reporting requirements to DWR. Implementation Period: 2020 to ongoing

Project	Project Description
Annual Reporting	Coordination and facilitation of annual SGMA reporting requirements. The Kern subbasin to continue to address minimum threshold exceedances in the annual report. Implementation Period: 2020 to ongoing

Source KGA 2022: Table 4-2

With implementation of the SGMA projects and actions, change in groundwater storage in the Subbasin is expected to stabilize or slightly increase from 2041 to 2070. The change in groundwater storage for projected future baseline with SGMA Projects under the KGA GSP improves by about 409,904 AFY. This change results in a net gain in groundwater in aquifer storage over the 2041 to 2070 sustainability period of about 85,578 AFY. Over this period, the average groundwater pumping of 1,354,000 AFY for the Baseline Scenario with SGMA Projects (which includes agricultural pumping, urban pumping and exported water) is over 270,000 AFY less than the Baseline Scenario. (KGA 2022)

The change in groundwater storage for projected 2030 Climate Scenarios condition with SGMA Projects under the KGA GSP improves by about 418,949 AFY. This change results in a net deficit in groundwater in aquifer storage over the 2041 to 2070 sustainability period of about 46,829 AFY. Over this period, the average groundwater pumping of 1,444,300 AFY for the 2030 Climate Scenario with SGMA Projects, which includes agricultural pumping, urban pumping and exported water, is over 290,000 AFY less than the 2030 Climate Scenario without SGMA Projects. (KGA 2022)

The change in groundwater storage for projected 2070 Climate Scenarios condition with SGMA Projects under the KGA GSP improves by about 426,367 AFY. This change results in a net deficit in groundwater in aquifer storage over the 2041 to 2070 sustainability period of about 45,969 AFY. Over this period, the average groundwater pumping of 1,559,000 AFY for the 2070 Climate Scenario with SGMA Projects, which includes agricultural pumping, urban pumping and exported water, is over 307,000 AFY less than the 2070 Climate Scenario without SGMA Projects. (KGA 2022)

Cawelo Projects and Management Actions

The Cawelo GSA has developed a number of potential project and management actions to help address overdraft and move the Basin toward sustainability. Table 11 lists these proposed activities, along with their current status and benefits. The proposed projects and management actions would support maintenance of groundwater levels above minimum thresholds through increased recharge or through reductions in pumping. Improving the water balance in the Basin will help to mitigate overdraft. During drought, groundwater becomes more important due to limited precipitation. Projects that support groundwater levels through increased recharge help to protect groundwater resources for use during future drought, as well as help protect the Basin from the impacts of drought on groundwater storage. Projects that reduce pumping will help manage the Basin for drought preparedness by reducing demands on the Basin both before and during drought, supporting groundwater levels in non-drought years, and decreasing the impacts of drought on users, reducing the need to increase pumping when precipitation levels are low. These projects and management actions are expected to result in an average annual benefit of 31,780 AFY. (Cawelo 2022)

Table 11 Proposed SGMA Projects and Management Actions for the Cawelo GSA

Project or Management Action	Average Annual Benefit in 2040 (AFY)	Estimated Timeline
Programs		
P1. New Water Supply Purchases	5,800	Begin program in 2020
P2. Increase Recharge and Banking Capacity	400	Target 2030 implementation
P3. New Cawelo GSA Banking Partners	100	Begin program in 2020
P4. Water Treatment Facilities	15,000	Begin program in 2020
P5. Friant Pipeline Project	500	Construction in 2019

Project or Management Action	Average Annual Benefit in 2040 (AFY)	Estimated Timeline
P6. Poso Creek Flood Water Capture	40	Target 2030 implementation
P7. Surface Water Storage	500	Target 2030 implementation
P8. Out of Cawelo GSA Banking	1,250	Begin program in 2020
Management Actions		
MA1. KGA Action Plan	0	Begin in 2022
MA2. Domestic Well Mitigation Policy	0	Begin in 2022
MA3. Voluntary Land Conversion	2,000	2020 to 2040 implementation
MA4. Crop Conversion and Irrigation Efficiency	3,800	2020 to 2040 implementation
MA5. Land Acquisition	2,400	2020 to 2040 implementation
Total	**31,780**	

Source Cawelo 2022: Table 8-1

North Kern WSD Projects and Management Actions

The sustainability goal of North Kern WSD is to balance the average annual inflow and outflow of water in the district and to manage groundwater levels to the measurable objective. The projects and management actions are presented in Table 12 below.

Table 12 Proposed SGMA Projects and Management Actions for North Kern WSD GSA

Project or Management Action	Water Supply Augmentation (AFY)	Estimated Timeline
Calloway Canal Improvements: lining Snow Rd to 7th Standard Rd	1,650	2019-2021
Expand Water Banking Program	5,000	Initiated in 2020
Groundwater Banking Conveyance Improvements to North Kern WSD Recharge and Recovery	4,000	2019-2021
Beneficial Reuse of Oilfield Produced Water	11,000	Ongoing
SCADA Automation and Evapotranspiration Measurement Improvements	3,400	2020-2021
Poso Creek Weir	TBD	Initiated in 2020
Expanded Recharge (RRID)	6,000	2020
Allocation of Available North Kern WSD Supplies (RRID)	TBD	Initiated in 2020
In-Lieu Recharge Program	TBD	2020
On-Farm Efficiency/Deficit Irrigation Practices Incentive Program	0	2020-2025
On-Farm Recharge Activities Incentive Program	TBD	2020-2025
Subsurface Recharge Feasibility Study	TBD	2020-2022
Refinement of Water Budget Components	TBD	Ongoing
Conversion of Agricultural Land to Urban Use	TBD	Ongoing
Urban Water Conservation Program	0	2020-2030
Mitigation Program for Potential Impacts to Domestic Wells	TBD	2020-TBD
In-District Allocation Structure	TBD	TBD
Voluntary Land Fallowing	0	TBD
Pumping Restrictions	TBD	TBD
MT Exceedance Action Plan	N/A	Ongoing
Domestic Well Study	N/A	Ongoing

Project or Management Action	Water Supply Augmentation (AFY)	Estimated Timeline
Coordinate with ILRP, CV-SALTS, and SAFER Programs	N/A	Ongoing
Ongoing Evaluation of Groundwater Levels and Water Quality Trends	N/A	Ongoing
Total	31,780	

Source: North Kern WSD & SWID 2022; Table 5-1

Summary

As discussed above, the results demonstrate the ability of the GSP projects to achieve sustainability within the Cawelo GSA and North Kern WSD GSA and to maintain sustainability throughout the planning horizon. Because potential future overdraft conditions would be avoided, improved, and stabilized through implementation of the KGA GSP, Cawelo GSP, and North Kern WSD GSP, it can be inferred that groundwater would be available through 2070.

CITY OF BAKERSFIELD WATER RELIABILITY

The City anticipates that its sources of supplies will be available to meet demands on a consistent basis for all year types through 2040. The City's Wholesale Water System replenishes its Kern River supplies to the groundwater basin for the benefit of retail water suppliers providing service to City areas through their respective groundwater wells. The KRGSA GSP includes implementation or projects and management actions including the City's conjunctive use optimization project and proposed expansion of its recycled water use, which are anticipated to provide additional water supplies for the benefit of the groundwater basin. The City and other retail water suppliers within the Wholesale Water System service area are able to increase use of their groundwater wells during years of reduced Kern River supplies. (City of Bakersfield 2021)

The recent dry period of 2012 through 2016 is the basis of water year data for the multiple dry year scenarios with 2015 as the basis of water year data for the single dry year. The actual Kern River deliveries for the Wholesale Water System for the single dry year and multiple dry year scenarios are provided in Table 13 below. (City of Bakersfield 2021)

Table 13 Basis of Wholesale Water Year Data

Year Type	Base Year	Available Supplies if year type repeats	
		Volume Available (AFY)	% of Average Supply
Average Year	Average	100,000	100%
Single-Dry Year	2015	14,079	14%
Multiple-Dry Years 1st Year	2012	32,092	32%
Multiple-Dry Years 2nd Year	2013	22,245	22%
Multiple-Dry Years 3rd Year	2014	18,061	18%
Multiple-Dry Years 4th Year	2015	14,079	14%
Multiple-Dry Years 5th Year	2016	32,001	32%

Source: City of Bakersfield, 2021, Table 7-1

Notes:
[1] Based on the average historic City water yield per the EIR for the Kern River Flow and Municipal Water Program less agricultural deliveries and evaporation losses.

The Wholesale Water System replenishes its Kern River supplies to the groundwater basin for the benefit of retail water suppliers providing service to City areas through their respective groundwater wells. Water supplies are stored within the groundwater basin in wet years and extracted by the various retail water agencies to meet their demands when surface water supplies are reduced. The comparison of projected demands within the Wholesale Water System service area and available surface water supplies for the single dry year and multiple dry years scenarios between 2025 and 2040 are provided in Table 14 below. (City of Bakersfield 2021)

Table 14 Wholesale Single and Multiple Dry Years Supply and Demand Comparison

Description		2025	2030	2035	2040
Single Dry Year	Supply Totals	14,079	14,079	14,079	14,079
	Demand Totals	100,000	100,000	100,000	100,000
	Difference[1]	-85,921	-85,921	-85,921	-85,921
First Year	Supply Totals	32,092	32,092	32,092	32,092
	Demand Totals	100,000	100,000	100,000	100,000
	Difference[1]	-67,908	-67,908	-67,908	-67,908
Second Year	Supply Totals	22,245	22,245	22,245	22,245
	Demand Totals	100,000	100,000	100,000	100,000
	Difference[1]	-77,755	-77,755	-77,755	-77,755
Third Year	Supply Totals	18,061	18,061	18,061	18,061
	Demand Totals	100,000	100,000	100,000	100,000
	Difference[1]	-81,939	-81,939	-81,939	-81,939
Fourth Year	Supply Totals	14,079	14,079	14,079	14,079
	Demand Totals	100,000	100,000	100,000	100,000
	Difference[1]	-85,921	-85,921	-85,921	-85,921
Fifth Year	Supply Totals	32,001	32,001	32,001	32,001
	Demand Totals	100,000	100,000	100,000	100,000
	Difference[1]	-67,999	-67,999	-67,999	-67,999

Source: City of Bakersfield, 2021, Table 7-4

Notes:
[1] Kern River water supplies are replenished in wet years and stored within the groundwater basin for extraction by the various retail water suppliers during periods of reduced surface water supplies.

The Five-Year Drought Risk Assessment for the Wholesale Water System is presented in Table 15 below. The Wholesale Water System demand of 100,000 AF annually includes water supplies used for groundwater recharge. Total water use in Table 15 is shown to be equal to total supplies in each year since the Wholesale Water System replenishes its Kern River supplies to the groundwater basin for the benefit of retail water suppliers providing service to City areas through their respective groundwater wells. Water supplies are stored within the groundwater basin in wet years and extracted by the various retail water agencies to meet their demands when surface water supplies are reduced. Wholesale Water System groundwater recharge in future drought years will be reduced to match available supplies. (City of Bakersfield 2021)

Table 15 Five-Year Drought Risk Assessment

Year	Description	Total
2021	Total Water Use	32,092
	Total Supplies	32,092
	Shortfall/Surplus	0
2022	Total Water Use	22,245
	Total Supplies	22,245
	Shortfall/Surplus	0
2023	Total Water Use	18,061
	Total Supplies	18,061
	Shortfall/Surplus	0

Year	Description	Total
2024	Total Water Use	14,079
	Total Supplies	14,079
	Shortfall/Surplus	0
2025	Total Water Use	32,001
	Total Supplies	32,001
	Shortfall/Surplus	0

Source City of Bakersfield, 2021: Table 7-5

The Wholesale Water System will communicate with its retail water system customers regarding the anticipated shortage level and corresponding reductions in available water supplies. The Wholesale Water System will participate in public awareness campaigns and may implement measures to increase available supplies such as short-term water purchases or exchanges depending on the anticipated shortage gap. Additional tools and options used by the City to maximize resources and minimize the need to import water from other regions include implementation of the Kern River Conjunctive Use Optimization project and continuing efforts regarding water conservation and demand management, each of which are described further below. (City of Bakersfield 2021)

Kern River Conjunctive Use Optimization

Optimization of the City's Kern River supplies is identified as a Phase One project in the KRGSA GSP, which involves the full use of the City's available Kern River entitlement. This project is proposed to be implemented over time so that it can be adjusted as needed to meet changing conditions. The City's Kern River supplies will be delivered as a first priority to meet demands of the surface water treatment plants with the remaining supplies being recharged to the groundwater basin through the Kern River channel, the 2800 Acres recharge facility, and other City facilities. (City of Bakersfield 2021)

Water Conservation and Demand Management

The City is currently implementing several water conservation and demand management actions that will increase reliability of the water supply, including, but not limited to:

- Adopting water waste prevention ordinances
- Metering
- Conservation pricing
- Public education and outreach
- Programs to assess and manage distribution system real loss
- Water conservation program coordination and staffing support
- Asset management
- Using recycled water for irrigation
- Installing "smart" irrigation controllers in all City parks
- Closing City spray parks during drought conditions
- Reducing the time and frequency of irrigation for City parks and landscape areas during drought conditions
- Installing artificial turf at various City facilities and within street medians throughout the City
- Prohibiting natural lawn within newly constructed City medians
- Replaced bathroom fixtures with water efficient fixtures
- Reducing the frequency and duration of fire apparatus testing operations

- Update of landscape standards to reflect the current State Model Water Efficient Landscape Ordinance
- Adopting, by reference, the California Green Code sections relating to installation of low water use plumbing fixtures in new construction.

2.9 SECTION 10910(D)(1)

Identify existing water supplies for the proposed project

Existing water supplies for the project are described under Sections 2.2 and 2.8, above.

2.10 SECTION 10910(D)(2)(A)

Demonstrate existing water supply entitlements, water rights or water service contracts through written contracts or other proof

As mentioned previously, OMWC would provide potable water service to the Proposed Project pursuant to Malibu Vineyards securing allocation of water sources from Cawelo and North Kern WSD.

Malibu Vineyards has indicated the intent to supply the proposed project with the projected water demand for Phase I of the project (estimated at 485 AFY or 0.91 AF/ac) via agreements secured with Cawelo to provide up to 1.2 AF/ac. This is equivalent to the amount currently allocated to the project site for agricultural uses and represents a reduction of 156 AFY and 0.9 AF/ac compared to existing water allocations. These agreements are currently in negotiations.

North Kern WSD has indicated that it does not typically allocate supply for non-agricultural uses. However, occasionally, special purpose water could be made available for municipal and industrial (M&I) use on a limited and inconsistent basis. Alternatively, landowners have the option to secure a sufficient water resource and establish a water transfer to North Kern WSD to meet their water demand needs. (Hampton pers. com.)

Pursuant to the 1952 Agreement and Amendment No. 1, North Kern WSD may use waters diverted from the Kern River for M&I purposes provided the North Kern WSD pay the City annually for each acre-foot of Kern River water delivered for M&I uses $311 (as indexed) per gross acre-foot of all M&I water delivered or retailed (North Kern WSD 2022b). Malibu Vineyards has indicated the intent to supply the proposed project with the projected water demand for Phase II of the project (estimated at 106 AFY or 0.52 AF/ac) through Kern River water via North Kern WSD pursuant to Amendment 1 of the 1952 Agreement. This represents a reduction of 509 AFY (2.48 AF/ac) that is currently allocated to the project site for agricultural uses.

2.11 SECTION 10910(D)(2)(B)

Provide copy of capital outlay program for financing of a water supply that has been adopted by the public water system; Section 10910(d)(2)(C) Identify any federal, state, and local permits required for construction of the facilities identified for delivering the water supply to the proposed project; AND Section 10910(d)(2)(D) Identify any necessary regulatory approvals required to convey or deliver the water supply to the proposed project

A copy of the capital outlay program is available upon request at the OMWC offices located at 2836 McCray Street, Bakersfield, CA 93308, 661.399.5516. The proposed Malibu Vineyards project would require extension of OMWC's 6-inch domestic water line and 12-inch non-potable water line from Quinn Road along Imperial Avenue to the southeast corner of the proposed project. Before OMWC could provide water service to the project site, OMWC would need to annex the project area into its service area. The proposed annexation would involve the entirety of the approximately 739-acre project site and would need to be considered and approved by OMWC and the Kern County Local Agency Formation Commission.

2.12 SECTION 10910(E)

Identify other public water system or water contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system for the proposed project

Nearly all groundwater districts in Kern County have banking projects within their district's boundaries and those districts that do not overlie the groundwater basin participate in banking projects. Kern County groundwater banking includes (KCWA 2021):

- Arvin-Edison Water Storage District Water Management Program
- Berrenda Mesa Property Joint Water Banking Project
- Buena Vista Water Storage District Water Management Program
- Buena Vista Water Storage District/West Kern Water District Water Supply Project
- Cawelo Water District/Dudley Ridge Water District Conjunctive Use Program
- Cawelo Water District's Modified Famoso Water Banking Project
- City of Bakersfield 2800 Acre Groundwater Recharge Facility
- Kern Delta Water District's Groundwater Banking Program
- Kern Water Bank
- North Kern WSD Groundwater Storage Project
- Pioneer Groundwater Recharge and Recovery Project
- Rosedale-Rio Bravo Water Storage District and Improvement District No. 4 Joint Use Groundwater Recovery Project
- Rosedale-Rio Bravo Water Storage District's Groundwater Banking Program
- Semitropic Groundwater Banking Project
- West Kern Water District's Groundwater Banking Program

2.13 SECTION 10910(F)(1)

Review any information contained in the UWMP relevant to the identified groundwater supply for the proposed project

The most recently adopted UWMP for OMWC is the 2020 OMWC UWMP, which was adopted by the OMWC Board of Directors on June 21, 2022. The UWMP does not include the proposed project's projected water demand. Groundwater supplies are discussed as a portion of the total OMWC potable water supply in Section 2.8 above. Additional discussion of groundwater is provided in Sections 2.14 through 2.17 below.

2.14 SECTION 10910(F)(2)

Describe any groundwater basin from which the proposed project will be supplied. Include information as to whether the Department of Water Resources has identified the basin as over drafted or has projected that the basin will become over drafted

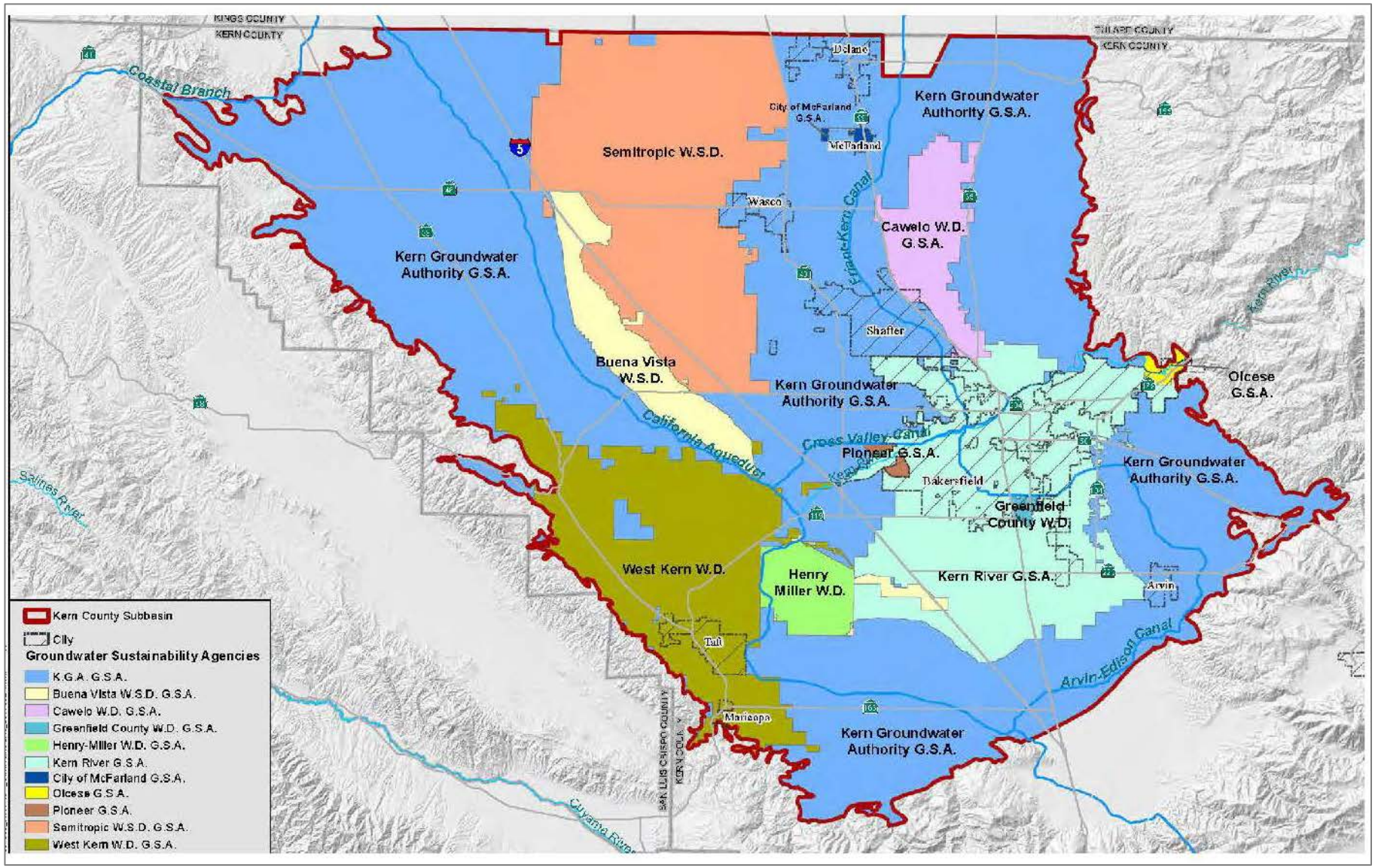
2.14.1 Groundwater Basin Description

The Kern County Subbasin (DWR Basin No. 5-022.14) is within the Tulare Lake Hydrologic Region of the San Joaquin Valley Basin and comprises an area of approximately 1,945,000 acres (3,040 square miles) in Kern County. The

subbasin is bounded to the north by the Tulare Lake and Tule Subbasin, to the east and south by crystalline bedrock of the Sierra Nevada and San Emigdio Mountains, and to the west by the marine sediments of the San Emigdio Mountains and Coast Ranges. The Kern County Water Agency estimates the total water in storage to be 40,000,000 acre-feet and dewatered aquifer storage to be 10,000,000 af. A map of the Kern County Subbasin is shown on Figure 8. (OMWC 2022)

The Kern County Subbasin consists of the upper portion of a deep structural trough between the crystalline basement rocks of the Sierra Nevada and the Coast Ranges. The deeper portions of the trough contain mostly Miocene and older marine sedimentary units. The upper trough has been infilled over time with Upper Miocene/Pliocene and younger continental sediments, which contain most of the Subbasin groundwater (Kern River GSA 2022).

The Kern County Subbasin is not adjudicated; however, in its recent evaluation of California groundwater basins, DWR determined that the subbasin is in a condition of critical overdraft. The subbasin has been prioritized by DWR as "high" and 11 different GSAs formed within the subbasins and have since adopted GSPs in accordance with the SGMA. Groundwater levels are managed within a safe basin operating range to protect the long-term sustainability of the Kern County Subbasin and to protect against land subsidence by the KGA GSA, Kern River GSA, and the Cawelo GSA. (OMWC 2022)



Source: Cawelo 2022.

Figure 8 Kern County Groundwater Subbasin and Associated Groundwater Sustainability Agencies

OMWC's service area lies within areas managed by the KGA GSA, Kern River GSA, and the Cawelo GSA (OMWC 2022). The proposed project areas overlie areas managed by the Cawelo GSA (phase 1) and the KGA GSA (phase 2); groundwater within the North Kern WSD area is managed by the KGA GSP. The Cawelo GSA makes up 3.5 percent of the Subbasin and North Kern WSD (old district excluding Rosedale Ranch Irrigation District) accounts for 3.4 percent of the Subbasin (KGA 2022). The current groundwater supply available to OMWC is approximately 8,500 acre-feet per year from the Kern County Subbasin (OMWC 2022).

On the east side of the Subbasin, the base of fresh groundwater trends parallel to nearby faulting, which provides a northwest-trending trough of fresh groundwater between Bakersfield and Wasco. This trough lies between the concealed Poso Creek fault to the northeast and the pre-Quaternary Greeley Fault on the southwest that extends from the Kern River to the Kern National Wildlife Refuge. (KGA 2022)

The groundwater aquifers of the Subbasin are geologically diverse with differing zones of confined, semiconfined, and unconfined groundwater conditions. The primary aquifer system occurs in the central-northern, central, and central southern portions of the Subbasin. It consists of the Tulare formation, Kern River formation, and overlying alluvium. On the eastern side of the Subbasin are the confined Santa Margarita, Olcese, Pyramid Hills, and Vedder Sands. Groundwater wells extract water where these aquifers are not exempted and where they are feasible for groundwater supply use without hydrocarbons. On the western side of the Subbasin, very little usable groundwater occurs. In the northwest, groundwater supply production is likely limited and may occur in alluvium and/or the Tulare Formation. (KGA 2022)

The primary aquifer system of the Subbasin is within the Tulare and Kern River formations and overlying alluvium. It includes differing zones of confined, semiconfined, and unconfined groundwater conditions, due to the presence of clays that act as local aquitards. The Corcoran Clay and other equivalent clays occur within the Tulare Formation in the central and southern parts of the Subbasin. Where extensive clays are present, some areas of the aquifer system may consist of a deeper confined zone and a shallower unconfined to semi-confined zone. Within the eastern portion of the Subbasin and in the vicinity of the Kern River Alluvial Fan, the aquifer system is made up of an unconfined to semi-confined zone. The project area overlies an area within the unconfined zone of the Eastside Alluvium and Kern River Formation in the east side main production zone, which characterizes the water quality as "good" (KGA 2022, Table 2-3).

The Kern River GSA GSP Plan Area covers 361 square miles of the Subbasin. Local surface water from the Kern River, imported water from the SWP, recycled water, and other surface water sources provide about one-half of the total water supply to the Plan Area (about 327,786 AFY on an average annual basis) to support beneficial uses. These surface water sources are supplemented by groundwater (average of about 321,871 AFY) and managed conjunctively throughout the Plan Area. (Kern River GSA 2022)

The primary land uses in the KRGSA Plan Area are estimated as follows (Kern River GSA 2022):

- 41 percent agricultural,
- 33 percent urban/residential/industrial, and
- 26 percent undeveloped.

The northern Kern River GSA Plan Area includes most of the Bakersfield city limits with primarily urban land uses. Sparsely populated or undeveloped areas cover most of the northeast Kern River GSA Plan Area. The west-central Kern River GSA Plan Area is dominated by recharge basins and groundwater banking projects, mostly along the Kern River (Kern River GSA 2022).

Groundwater within the Kern River GSA Plan Area occurs under unconfined to semi-confined conditions in the continental sediments of the Kern River Formation and overlying alluvium, collectively forming the Principal Aquifer. The Principal Aquifer consists largely of interbedded gravels, sands, silts, and clays. Although clay content generally increases with depth, clay layers are often discontinuous and most wells are screened over a large interval, making it difficult to clearly define more than one Principal Aquifer. The Subbasin extends several thousand feet beneath the Kern River GSA Plan Area with the bottom defined by either the base of the Underground Source of Drinking Water

(USDW, defined by EPA), oilfield-exempted aquifers, or oil-producing zones, whichever is shallowest (Kern River GSA 2022).

In the Cawelo GSA, the groundwater supply is derived from the unconsolidated alluvium and underlying semi-consolidated Kern River Formation. These two geologic formations appear to be hydraulically connected without an intervening, regionally extensive aquitard. Therefore, these formations are collectively considered the principal aquifer for groundwater management purposes. Groundwater levels in the alluvial aquifer fluctuates seasonally with local recharge and in response to climatic variations of droughts and wet conditions. Water levels have been measured within the Cawelo GSA since the 1930s; however, the availability of increased of water level data since the 1970s provides a more complete record of water level trends and fluctuations. In general, groundwater levels decline during periods of drought when recharge is reduced and groundwater pumping increases in response to declines in imported water. During the intervening wet periods, groundwater level trends have generally recovered to near pre-drought conditions. The development of managed aquifer recharge operations in the 1980s also helped groundwater level recovery. At the time of the preparation of the 2022 GSP, the significant statewide drought of 2012 to 2016 led to historic low groundwater levels in many parts of the Cawelo GSA. (Cawelo GSA 2022)

Groundwater in the area is generally deep, usually between 300-500 feet below ground surface (bgs). As a result, water wells are typically completed at depths well below this depth. Groundwater pumping in the Cawelo GSA primarily occurs within the upper 1,500 feet of the principal aquifer system. A review of well completion records indicates that agricultural supply wells have average well depths from 900 to 1,500 feet bgs. Public and domestic supply wells have average well depth from 600 to 1,150 feet bgs. Wells tend to be deeper in the north and eastern parts of the GSA, and shallower in the southeastern part of the GSA. (Cawelo GSA 2022)

2.14.2 Potential Undesirable Results from Groundwater Extraction

Groundwater extraction could potentially result in undesirable impacts, such as chronic lowering of groundwater levels, reduction of groundwater storage, degraded groundwater quality, and land subsidence. Each of these is discussed further in this section.

CHRONIC LOWERING OF GROUNDWATER LEVELS

Water level declines within the Kern River GSA have occurred primarily during drought cycles, which are also associated with low flows on the Kern River, less precipitation, and decreases in imported water supplies. This decrease in surface water supply is typically coupled with an increase in groundwater pumping. Collectively, these changes also result in decreases in recharge from banking activities, surface water conveyance, and surface water infiltration associated with irrigation and other outdoor water use. In addition, these drought periods are typically associated with increased recovery pumping at groundwater banking projects, which can result in significant local declines. Groundwater levels within the Kern River GSA have demonstrated the ability to recover following drought conditions. The impacts of groundwater level declines are fundamental to many of the sustainability indicators (i.e., reduction in groundwater storage, land subsidence, and degraded water quality). (Kern River GSA 2022)

Lowering of groundwater levels has the potential to impact the ability of wells to access groundwater for beneficial uses. Chronic lowering of water levels can adversely impact pumping wells and, in some cases, prevent practical or economical access to groundwater supply. With more than 1,200 active wells estimated in the Kern River GSA Plan Area, these impacts can be widespread and represent a significant economic impact on Kern River GSA groundwater users. As water levels decline, well owners face an increase in energy costs due to the extra distance that the well pump must lift the water from the aquifer to the ground surface. Well capacity can also decline and may not produce sufficient water to meet the beneficial use. (Kern River GSA 2022)

If water levels decline below the pump intake, the well will no longer produce. In this case, the pump must be lowered to depths sufficient to accommodate pumping water levels, sometimes at considerable cost. For some wells, this modification may not be feasible, and the well may need to be replaced. If water levels fall below the tops of screens, water will cascade downward to the pumping water level, entraining air during the fall. This can cause cavitation at the

pump as the mixture of air and water passes the pump impellor, resulting in vibration, potential pump damage, and a reduction in well efficiency. The introduction of oxygen can also create an environment for naturally-occurring iron bacteria to proliferate, potentially leading to biofouling and clogging. Well rehabilitation may be able to address some of the damage, but long-term well operation with water levels below the top of screens can ultimately result in inefficient wells, higher operating costs, increases in corrosion, and shorter well life. (Kern River GSA 2022)

If water levels continue to decline, the well may become dry and lose its ability to produce groundwater. Dry wells will occur first in the shallowest wells, such as is more common for a domestic well. If the dry well is the sole source of water for the well owner, drilling a deeper replacement well may be the only option for water supply – an option that may not be economically viable for the water user. (Kern River GSA 2022)

REDUCTION OF GROUNDWATER STORAGE

Reduction of groundwater storage may result from the potential depletion of groundwater supply, or overdraft. Overdraft refers to conditions when the average annual amount of groundwater outflow (e.g., groundwater extraction) are significantly more than the long-term average groundwater inflow, causing a continual depletion of groundwater supplies over time. (Kern River GSA 2022)

Overdraft conditions result from a wide variety of groundwater mismanagement (or an absence of management) involving either a net increase in outflows or a net decrease in inflows, or both. Such activities may include over-pumping, changes in land use (e.g., paving recharge areas or other reduction in reduce surface infiltration), reduction in surface water (reducing recharge), or an absence of other water supplies to meet demands. Conditions of critical overdraft have the potential to cause a chronic lowering of water levels, inelastic land subsidence, and/or reduction of surface water supply (as a reduction in baseflow to streams or an increase in induced surface water recharge). (Kern River GSA 2022)

DEGRADED GROUNDWATER QUALITY

GSAs intend to avoid management actions that would contribute to water quality degradation or unnecessarily spread groundwater contamination through pumping or other means. Degraded water quality can impair water supply, impact human health and the environment, and create the need for alternative water sources. Accordingly, degraded water quality has the potential to affect beneficial uses of groundwater including drinking water, agricultural or industrial supply, and environmental uses. Impacts to drinking water supply wells can cause expensive response actions including contaminant investigations, well modifications, increased sampling and monitoring, increased treatment costs, loss of wells, and/or a loss of water supply. Impacts to agricultural supply can cause poor yields, loss of crops, changes in irrigation methods/sources, impacts to property values, and other economic effects. Impacts to industrial supply can cause product damage, inadequate process water, increased treatment costs, degraded wastewater, and other problems. Discharge of degraded groundwater can cause harm to surface water, wetlands, and other habitats/ecosystems. (Kern River GSA 2022)

Both naturally occurring and human-related (anthropogenic) constituents of concern have been identified in the Kern River GSA. Naturally occurring constituents can be difficult to predict and control. Anthropogenic impacts can create plumes that migrate and spread contaminants downgradient (horizontally and vertically). Non-point sources can create widespread impacts that can be difficult to contain and manage. Impacts associated with releases of constituents at the surface may remain undetected for years or decades before migration through the vadose zone allows detection in underlying groundwater. Degraded water quality can be spread or exacerbated by pumping wells. (Kern River GSA 2022)

The water chemistry of Kern River GSA groundwater is similar to local surface water and contains relatively low total dissolved solids levels resulting, in part, from decades of actively managed recharge of both local and imported surface water supplies in the Kern River GSA Plan Area. In general, groundwater quality in the Kern River GSA Plan Area has been sufficient to meet its designated beneficial uses including municipal, industrial, and agricultural water supply and recreational/ environmental uses (Kern River GSA 2022).

LAND SUBSIDENCE

Historical land subsidence has been documented in the Kern River GSA Plan Area and is likely being exacerbated by water levels lowered during the recent drought. As water levels decline in the subsurface, dewatering and compaction of aquifer materials, predominantly fine-grained materials such as clay, can cause the overlying ground surface to subside. The general area of the largest historical subsidence occurs primarily in the southern and southeastern portions of the Agricultural Management Area. (Kern River GSA 2022)

Inelastic compaction is initiated when the magnitude of the greatest pressure that has acted on the clay layer since its deposition, or pre-consolidation stress, is exceeded. With respect to the effects of groundwater pumping, the pre-consolidation stress is exceeded when groundwater levels in the aquifer reach a new historically low water level. The volumetric compaction of the clay layers in the subsurface is transmitted to the land surface where it is manifested as land subsidence. (Kern River GSA 2022)

Land subsidence can impact land use and damage critical infrastructure. Adverse impacts would be more pronounced if subsidence occurred unevenly through the area (referred to as differential subsidence). The following potential impacts have been associated with land subsidence due to groundwater withdrawals (Kern River GSA 2022):

- damage to infrastructure including foundations, roads, bridges, or pipelines;
- loss of conveyance in canals, streams, or channels;
- diminished effectiveness of levees;
- collapsed or damaged water well casings; and
- land fissures.

Undesirable results for land subsidence would clearly include loss of capacity in major water conveyance infrastructure such as the Friant-Kern Canal or California Aqueduct. The California Aqueduct and the Friant-Kern Canal have been defined as regional critical infrastructure and will be managed cooperatively by all of the GSAs in the Subbasin. Subsidence damage along the Friant-Kern Canal has resulted in loss of capacity and the need for expensive repairs. The Friant-Kern Canal terminates at the Kern River in the northern KRGSA, where little to no land subsidence has been documented. The California Aqueduct is more than four miles from the closest portion of the Kern River GSA and current levels of subsidence in the Kern River GSA are unlikely to affect it. (Kern River GSA 2022)

Undesirable results could also occur if the functionality of critical infrastructure was impacted. Canals and pipelines for water conveyance and management, major roadways such as I-5 and Highway 99, municipal wells, water treatment plants, water and other utility pipelines, roads, buildings, airports, industrial pipelines, associated appurtenances and numerous other facilities that may be at risk from inelastic subsidence. Damage to any of the critical infrastructure could result in expensive repairs, loss of capacity, interruption of utility service, loss of damage to transportation corridors, impacts to the economy, and, in the event of catastrophic damage, possible risks to human health and the environment. (Kern River GSA 2022).

2.15 SECTION 10910(F)(3)

Describe the amount and location of groundwater pumped by the public water system for the past five (5) years

The following describes recent past groundwater pumping associated with OMWC, Cawelo, and North Kern WSD.

2.15.1 OMWC Groundwater Pumping

Groundwater levels are managed within a safe basin operating range to protect the long-term sustainability of the Kern County Subbasin and to protect against land subsidence by the Kern Groundwater Authority GSA, Kern River GSA, and the Cawelo GSA. Annually, water extracted from the groundwater basin averaged approximately 6,500 AFY. Reliance on groundwater as a primary water source contributed to a progressive decline in the regional water table.

Expansion of water service to the northern most part of the Service Area was restricted due to the lack of high-quality groundwater in the area. Recognizing the need for supplemental water supplies, OMWC contracted for imported water from the State Water Project via KCWA and NORMWD. In 1977 OMWC began receiving imported treated water from KCWA ID4 through NORMWD. OMWC has relied on imported water to supply over 95 percent of its total system requirements to a maximum of 7,377 AFY (2009). In the period from 1977 to 2010, groundwater extractions ranged from 6 AFY to 2,285 AFY, averaging 284 AFY. In 1991, groundwater extractions increased to 2,285 AFY due to reductions in the amount of imported SWP water delivered to OMWC. (OMWC 2022)

OMWC currently operates eight groundwater production wells as follows: Well 3, Well 12A, Well 14, Well 17, Well 23, Well 25, and Well 27. The wells have a combined production capacity of approximately 50 percent of current average daily water demand. Recent groundwater production quantities from OMWC are provided in Table 16. (OMWC 2022).

Table 16 OMWC Retail Groundwater Production from Kern County Subbasin (2016 – 2020)

Basin	Groundwater Volume Pumped (AF)				
	2016	2017	2018	2019	2020
Kern County Subbasin of San Joaquin Valley Groundwater Basin	345.12	500.61	593.47	711.36	774.02

Source: OMWC 2022: Table 6-3.

2.15.2 Cawelo Groundwater Pumping

Groundwater in the Cawelo GSA is pumped from the underlying Kern County Subbasin. Most groundwater pumping within Cawelo is attributable to on-farm pumping. Cawelo maintains and operates wells to supplement deliveries of surface water as needed. In years when the availability of imported surface water is limited, local landowners pump groundwater from privately-owned wells consistent with Cawelo's conjunctive management strategy. Private (unmetered) pumping for agriculture is about 78 percent of groundwater extraction occurring within the Cawelo Groundwater Sustainability Basin. (Cawelo GSA 2022)

There are 10 small water systems in the Cawelo GSA that utilize groundwater supplies, the largest of these being the Kern County Sheriff's Lerdo Detention Facility. Other small water systems are for industrial and commercial facilities that do not serve a permanent population. In addition, rural domestic and commercial locations use privately-owned wells for groundwater supply. (Cawelo GSA 2022)

Cawelo operates 18 wells and pumping for these wells has been tabulated monthly since initiation of pumping for each well since 1990. Estimates of pumping from privately-owned wells are not reported to Cawelo unless the water is pumped into the Cawelo system for conveyance and delivery. Although infrequent, water pumped from certain private wells is used for Cawelo purposes through an agreement with the private well owner. Table 17 summarizes the groundwater pumped by Cawelo between 2016 and 2020 and Table 18 shows and estimate of the groundwater pumped by landowners within the district. (Cawelo GSA 2022)

Table 17 Groundwater (AFY) Pumped by Cawelo (2016 – 2020)

Well Type	2016	2017	2018	2019	2020
District Wells	14,016	837	13,261	5,277	18,880
Private Wells Pumped Into Cawelo	1,835	262	10,857	564	6,587
Total	*15,851*	*1,099*	*24,118*	*5,791*	*25,467*

Source: Cawelo 2021: Table 4-5

Table 18 Groundwater (AFY) Pumped by Landowners (2016 – 2020)

	2016	2017	2018	2019	2020	Period Average
Total groundwater pumped by landowners	24,038	26,504	38,329	10,066	35,196	26,827

Source: Cawelo 2021: Table 4-6

2.15.3 North Kern WSD Groundwater Pumping

Owing to the highly variable Kern River supply, North Kern WSD supplements available surface water supplies with pumped groundwater in "dry" years and recharges the underlying groundwater using spreading ponds in "wet" years. In years of deficient surface water supply, continuity of delivery to the surface water service area is maintained by the operation of approximately 100 wells which are owned and operated by the North Kern WSD, while on-farm wells are used to meet irrigation demands in the remainder of North Kern WSD. (North Kern WSD 2021)

The average depth to groundwater in the North Kern WSD has been around 200 feet at the end of a "wet" period (1986) and around 270 feet at the end of a "dry" period (1993). Over the last 20 years, the annual (average) spring water levels have fluctuated within a band of about 50 feet. Seasonal fluctuations can be significant and are a function of the amount of groundwater pumping in a given year and the location within the North Kern WSD. In general, seasonal fluctuations are greatest in the northern portion of the North Kern WSD and are less pronounced in the south. (North Kern WSD 2021)

During the drier years, the North Kern WSD's well field is principally operated during the nine-month period extending from February through October and is operated at or near capacity from May into August. Annual pumpage from North Kern WSD's wells has ranged up to 140,000 AF. Conversely, there are years where available surface water supplies are adequate and the well field is not used at all. In fact, there have been instances where North Kern WSD wells have not been operated for several consecutive years. The volume of measured groundwater pumped within the boundaries of North Kern WSD from 2016 to 2020 for discharge into the North Kern WSD distribution system is shown in Table 19. (North Kern WSD 2021)

Table 19 North Kern WSD Agricultural Groundwater (AFY) Use (2016 – 2020)

Well Type	2016	2017	2018	2019	2020
North Kern WSD Deep Wells	92,609	0	67,023	1,462	109,178
Non-North Kern WSD Deep Wells	12,958	1,680	0	0	1,107
Total	*105,576*	*1,680*	*67,023*	*1,462*	*110,285*

Source: North Kern WSD 2021: Table IV-5

2.15.4 Kern River GSA Plan Area Groundwater Pumping

The GSP includes historical (1995 – 2014), current (2015), and projected (2020-2070) water budgets for the Kern County Groundwater Subbasin. The water budgets are determined to provide an understanding of average annual change in groundwater in storage associated with past and current inflows and outflows, and the projected changes in these flows under specified future conditions, including climate change. Consideration of the water budgets associated with Kern County Groundwater Subbasin, is inclusive of all water managed by the Kern River GSA (Kern River GSA 2022).

Average annual outflows for Kern River GSA Plan Area are summarized in in Table 20 below the periods 1995 – 2014 and 2015. As shown in the table, the average annual outflows (pumping) for the Kern River GSA Plan Area were approximately 321,871 AFY. Outflows during the critically dry year of 2015 totaled 401,177 AFY - about 25 percent higher than the average – reflecting an overall increase in agricultural and recovery pumping to supplement a decrease in surface water supplies. Agricultural pumping was estimated at an average of 175,668 AFY from 1995-2014, which represents approximately 55 percent of the total groundwater production. Municipal pumping of approximately 109,966 AFY in the same period was approximately 34 percent of the total average outflows. An additional 8 percent of pumping was conducted to recover banked groundwater. Remaining outflows included pumping from small water systems and private industrial and domestic wells. (Kern River GSA 2022)

Table 20 Groundwater Outflows within the Kern River GSA Plan Area 1995 – 2015

Outflow Component	Average Outflows 1995-2014 (AFY)	Annual Outflows 2015 (AFY)
Agricultural Pumping	175,668	196,859

Municipal Pumping	109,966	96,390
Small Water System/Private Pumping	9,038	7,201
Banking Recovery	27,199	100,727
Total Average Outflows	*321,871*	*401,177*

Source: Kern River GSA 2022: Table 4-2

2.16 SECTION 10910(F)(4)

Describe the amount and location of groundwater projected to be pumped by the public water system from any basin from which the proposed project will be supplied

2.16.1 Kern County Subbasin-Wide Projected Groundwater Pumping

As stated previously, the Kern County Subbasin is in a condition of critical overdraft. Despite the reduction in SWP deliveries, the groundwater overdraft in the entire Subbasin declined from 600,000 acre-feet per year in 1980 to an estimate of 324,300 acre-feet in 2015. This decrease in amount of overdraft per year was achieved through change in crop patterns; increase in agriculture efficiency; and increase in conjunctive use and banking projects throughout the Subbasin. With proposed projects and management actions slated for development and implementation in the Subbasin, it is forecasted that the Subbasin will achieve sustainability by 2040 with an estimated 42,144 AF of annual surplus (KGA 2022). See additional discussions in Sections 2.8 and 2.17 regarding sustainable groundwater budgets.

2.16.2 OMWC Projected Groundwater Pumping

The proposed project is expected to be supplied from groundwater allocations from Cawelo and North Kern WSD that would be pumped by OMWC. The highest annual volume of groundwater pumped by OMWC in the last five years was approximately 774 af, which equates to a continuous average production rate of approximately 480 gpm. The total pumping capacity of OMWC's five active groundwater wells is about 7,500 gpm or about 4,033 AFY assuming the five wells are running for approximately 8 hours per day. Table 21 shows the current and projected groundwater supply and demand. (OMWC 2022)

Table 21 Projected Groundwater Production Capacity and Demand (2020-2040)

Year	Annual Groundwater Production/Demand (AF)	Available Groundwater Supply Volume (AFY)	Available Groundwater Supply Capacity (gpm)	Average Pumping Time to Meet Demand Volume (hours/day)	Estimated Peak Hour Demand (gpm)
2020	774	8,500	7,500	1.5	17,201
2025	1,989	10,651	11,500	2.6	19,157
2030	4,058	11,726	13,500	4.5	20,217
2035	7,026	12,802	15,500	6.7	23,242
2040	9,734	12,802	15,500	9.3	24,743

Source: OMWC 2022: Table 6-5.

OMWC is expecting groundwater pumping to increase by about 1,000 percent by 2040. To accommodate the projected growth, OMWC is planning on increasing the utilization of its current groundwater wells and is currently in the process of drilling and equipping an additional five irrigation groundwater wells in the Southeast Shafter area. This will further increase the available system groundwater pumping capacity from 7,500 gpm to approximately 15,500 gpm to meet the estimated annual groundwater demand. Table 22 shows the additional capacity expected from the five additional groundwater wells. (OMWC 2022)

Table 22 Future OMWC Groundwater Supply Projects

Name of Future Project/ Program	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier (AF)
IW #1	2023	All Year Types	1,075
IW #2	2025	All Year Types	1,075
IW #3	2030	All Year Types	1,075
IW #4	2035	All Year Types	1,075
IW #5	2045	All Year Types	1,075

Source: OMWC 2022: Table 6-6.

The expansion of water service within the OMWC's service area is possible by utilizing a combination of existing groundwater production facilities and increased imported supplies. This expansion of water service will result in a greater reliance on both imported and groundwater supplies. According to a 1996 hydrogeologic analysis of the Oildale Groundwater Sub-basin, an increase in groundwater withdrawal of 8,500 acre-feet per year would still result in a subsurface outflow, although diminished, along the peripheral boundaries of the Oildale service area. The study supports OMWC's reliance upon groundwater as a supplemental water supply source for backup as well as future water demands in the Southeast Shafter region. (OMWC 2022)

Water demands in the SE Shafter service area are being met with groundwater. This area is located within the North Kern WSD, which has been responsible for delivery and storage of water for the benefit of the landowners within North Kern WSD's boundaries for many years. The proposed SE Shafter development is located in the southern portion of the North Kern WSD, and present land use (other than the new residential development) is agriculture. (OMWC 2022)

2.17 SECTION 10910(F)(5)

Analyze the sufficiency of the groundwater from the basin from which the proposed project will be supplied to meet the projected water demand associated with the proposed project

The sufficiency of groundwater supplies to meet projected demands is discussed in Section 2.8 above. Additionally, as described in Section 2.3, the proposed project is expected to result in a demand of approximately 591 AFY, which is less than half of the 1,256 AFY of groundwater that is used for current agricultural operations.

3 CONCLUSION

As discussed above, the projected water demand for the proposed project is approximately 591 AFY, which is less than half of the 1,256 AFY that is allocated for current agricultural operations. OMWC would pump and deliver groundwater from existing allocations from Cawelo and North Kern WSD.

Projected water demand for Phase 1 of the project (estimated at 485 AFY [i.e., 0.91 AF/ac]) would be supplied via agreements secured with Cawelo to provide up to 1.2 AF/ac, which would reduce existing water allocations for agricultural use by 156 AFY (i.e., 0.9 AF/ac). Additionally, projected water demand for Phase 2 of the project (estimated at 106 AFY [i.e., 0.52 AF/ac]) would be supplied through Kern River water via North Kern WSD pursuant to Amendment 1 of the 1952 Agreement, which would reduce existing water allocations for agricultural use by 509 AFY (2.48 AF/ac).

As indicated above in Section 2.8, implementation of the GSPs will substantially increase the quantity of groundwater stored in the Subbasin and the KGA GSA (inclusive of its member agencies') and Cawelo GSA areas in future climate change conditions; thus, sufficient groundwater supplies will continue to be available during future normal, dry, and multiple dry years. Moreover, groundwater used within Phase 2 of the project would be replenished with water from the City (via the Kern River) in accordance with Amendment 1 of the 1952 Agreement. As discussed in Section 2.8, the City has adequate water during future, normal, dry, and multiple dry years. The City anticipates that its sources of supplies will be available to meet demands on a consistent basis for all year types through 2040. The City's Wholesale Water System supplies would meet the demands of retail water suppliers by providing Kern River water or groundwater which has been replenished to the groundwater basin for the benefit of retail water suppliers during wet years. Therefore, adequate water supplies are available to meet the demands of the project and project implementation would not cause undesirable results within the KGA GSA or Cawelo GSA Plan Areas due to groundwater pumping.

4 REFERENCES

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