Appendix I
Traffic Appendix

ESA

I-1 Traffic Impact Study

Transportation Impact Study

Mt. Etna – Clairemont Mesa Community Plan Amendment and Zone Change

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ESA

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Executive Summary

ES.1 Study Purpose and Project Description

The purpose of this Transportation Impact Study (TIS) is to identify and document potential transportation related impacts associated with the proposed county-initiated Clairemont Mesa Community Plan Amendment and Zone Change (Proposed Project), as well as to recommend mitigation measures, as necessary.

The Proposed Project would allow for the redevelopment the existing County's Crime Lab site, located at 5255 Mt Etna Drive, San Diego, CA 92117, into a maximum of 448 multi-family units of which 100 percent would be affordable. In addition, a minimum of 1,500 square foot portion of the Proposed Project is expected to allow for community support services would also be permitted under the Clairemont Mesa Community Plan Amendment (CPA) and Zone Change Project. Additionally, the community support services could potentially be used for retail, so 10,000 square feet of neighborhood supporting retail was included in the analysis. While it's likely that the retail would not be built to that full extent, it provides a more conservative analysis, and the transportation impacts might be slightly overstated. Demolition of the existing and vacated Crime Lab building and associated landscaping and utilities is a part of the Proposed Project, as is rough grading of the project site following demolition. The project requires a CPA to re-designate the site from Community Commercial to Residential-High (45-73 dwelling units/acre) and propose a zone change from CO-1-2 to RM-3-9. This TIS presents a worst-case analysis of a future residential development project that would be allowed by the Community Plan Amendment and Zone Change.

Although currently unknown, the project is expected to take access via a single driveway located along Mt Etna Drive.

ES.2 Project Trip Generation, Distribution and Study Methodology

The Proposed Project trip generation estimates were derived utilizing the trip generation rates outlined in *Table 1* of the *City of San Diego Land Development Code – Trip Generation Manual 2003*. Due to the commercial component of the Project, the driveway rates and cumulative rates were both used to derive the Project's total trip generation to reflect the commercial's pass-by trips. The driveway rate for the commercial use was applied to the project driveway, as well as roadways and intersections immediately adjacent to the project site (i.e. intersections 6 and 7 in Figure 1-2). Cumulative rates were applied to all other study roadways and intersections.

Additionally, trip reductions from the City's Traffic Impact Study Manual were applied to the residential trip estimates:

Mixed-Use Land Uses Reductions

For developments that include several different types of land use, such as the Proposed Project that has residential units and community supporting retail, it is likely that a resident would utilize the retail uses in lieu of leaving the site, resulting in a reduction in trips generated. Furthermore, the Project site is located immediately adjacent to the largest commercial retail center in

Clairemont Mesa. Large businesses such as Target, Kohls, Sprouts, and Walgreens as well as restaurant dining and banking are all located within walking distance (i.e. less than ¼ a mile) of the project site location. A mixed-use reduction, also known as trip internalization, would reduce the number of trips to the site compared to the trips generated by uses in an isolated situation.

Given the Project's mixed uses and the extremely close proximity to other mixed-use developments, the following reductions were applied:

- Daily = 10%
- AM Peak Hour = 8%
- PM Peak Hour = 10%

Transit Reductions

The Project is located in a Transit Oriented Development (TOD) area, with high frequency transit services immediately adjacent to the site on Genesee Avenue. Bus Route # 41 is serviced along Genesee Avenue operating with 15-minute headways during peak hours and bus route #27 is serviced along Balboa Avenue operating with 30-minutes headways during peak hours. Transit stops for Bus Routes #41 and #27 are each within 400 feet of the Project site. Consequently, the following transit reductions were applied to account for residents using transit in lieu of driving:

- Daily = 5%
- AM Peak Hour = 9%
- PM Peak Hour = 6%

The Proposed Project is anticipated to generate a total of 3,485 daily trips, including 228 (65-in / 163-out) AM peak hour trips and 335 (207-in / 128-out) PM peak hour trips using driveway rates. These estimates were added onto the project driveway, as well as the roadways and intersections immediately adjacent to the project driveway.

The Proposed Project is anticipated to generate a total of 3,005 daily trips, including 209 (53-in / 156-out) AM peak hour trips and 283 (181-in / 102-out) PM peak hour trips using cumulative rates. These estimates were added to the study roadways and intersections within in the study area, not immediately adjacent to the project driveway.

Based on Traffic Impact Study Guidelines for the City of San Diego, a Select Zone analysis is required for trip distribution if the Proposed Project generates more than 2,400 average daily trips. Since the Proposed Project is anticipated to generate more than 2,400 daily trips, the trip distribution for the Proposed Project was developed based on a SANDAG Series 13 Transportation Forecast Select Zone Assignment. This model was developed and is being used for the on-going Clairemont Community Plan Update. Additionally, the Project's traffic analysis zone (TAZ) land use was updated to include the proposed land uses.

Based on the project trip assignment and the standards set by the City of San Diego's Traffic Impact Study Guidelines, the facilities included within the Project's key study area are listed below:

The following 20 key study area roadway segments were analyzed in this study:

1. Genesee Avenue between Appleton Street & Clairemont Mesa Boulevard;
2. Genesee Avenue between Clairemont Mesa Boulevard & Bannock Avenue;
3. Genesee Avenue between Bannock Avenue & Chateau Drive;

4. Genesee Avenue between Chateau Drive & Mount Herbert Avenue;
5. Genesee Avenue between Mount Herbert Avenue & Derrick Drive;
6. Genesee Avenue between Derrick Drive & Mount Etna Drive;
7. Genesee Avenue between Mount Etna Drive & Balboa Avenue;
8. Genesee Avenue between Balboa Avenue & Mount Alifan Drive;
9. Genesee Avenue between Mount Alifan Drive & Genesee Court;
10. Mount Everest Boulevard between Mount Etna Drive & Balboa Avenue;
11. Mount Etna Drive between Mount Everest Boulevard & Genesee Avenue;
12. Balboa Avenue between Clairemont Drive & Mount Everest Boulevard;
13. Balboa Avenue between Mount Everest Boulevard & Genesee Avenue;
14. Balboa Avenue between Genesee Avenue & Shopping Center Driveway;
15. Balboa Avenue between Shopping Center Driveway & Mount Abernathy Avenue;
16. Balboa Avenue between Mount Abernathy Avenue & Cannington Drive;
17. Balboa Avenue between Cannington Drive & Charger Boulevard;
18. Balboa Avenue between Charger Boulevard & I-805 Southbound Ramps;
19. Balboa Avenue between I-805 Southbound & I-805 Northbound Ramps; and
20. Balboa Avenue between I-805 Northbound Ramps and Ruffner Street.

The following eighteen (18) key study area intersections were analyzed in the study:

1. Genesee Avenue & Clairemont Mesa Boulevard (Signal);
2. Genesee Avenue & Bannock Avenue (Signal);
3. Genesee Avenue & Chateau Drive (Signal);
4. Genesee Avenue & Mt Herbert Avenue (Signal);
5. Genesee Avenue & Derrick Drive (Signal);
6. Mt Everest Boulevard & Mt Etna Drive (All-Way Stop Controlled);
7. Genesee Avenue & Mt Etna Drive (Signal);
8. Clairemont Drive & Balboa Avenue (Signal);
9. Mt Everest Boulevard & Balboa Avenue (Signal);
10. Genesee Avenue & Balboa Avenue (Signal);
11. Shopping Center Driveway & Balboa Avenue (Signal);
12. Mt Abernathy Avenue & Balboa Avenue (Signal);
13. Cannington Drive & Balboa Avenue (Signal);
14. Charger Boulevard & Balboa Avenue (Signal);
15. I-805 Southbound Ramps & Balboa Avenue (Signal);
16. I-805 Northbound Ramps & Balboa Avenue (Signal);
17. Genesee Avenue & Mt Alifan Drive (Signal); and
18. Project Driveway & Mt Etna Drive (Side-Street Stop Controlled).

It should be noted that the Proposed Project would not contribute enough traffic (150 peak hour trips in a single direction) to require analysis of Interstate 805 (I-805) freeway.

ES.3 Project Impacts and Mitigation Measures

Based on the significance criteria contained in the *City of San Diego Significance Determination Thresholds,* (January 2011), the timing of the required mitigation measures associated with the development of the Proposed Project was analyzed under the following three scenarios:

- Existing Plus Project Conditions
- Near-Term Base (Year 2021) Plus Project Conditions
- Horizon Year 2050 Base Plus Project Conditions

Existing Plus Project

Under this scenario, the Proposed Project's traffic volumes were added to the existing traffic volumes. This scenario is required for the environmental assessment of substantive land use or roadway network modifications and provides decision-makers and the public with development impacts referenced to an "observable" baseline.

This hypothetical scenario isolates the potential impacts of the Project by eliminating the impacts from both ambient growth and other Proposed Projects. Therefore, the Existing Plus Project analysis is presented for informational purposes only.

Near-Term Year 2021 Plus Project (Direct Impacts)

Based upon the significance criteria presented in Section 2.5 of this report, the addition of project traffic would cause a significant direct impact to three (3) roadway segments, four (4) intersections, and no ramp meters under Near-Term Year 2021 (project opening year) Plus Project conditions. The following mitigation measures would be required to mitigate the project impact to less than significant:

Roadways:

These roadways are currently built to their ultimate classifications (classification designation in the adopted Community Plan) and anticipated to operate at LOS E or F with the addition of the Proposed Project's trips. The arterial level of service and/or the connecting intersections of these segments are also anticipated to operate at unacceptable LOS E or F conditions. Consequently, the following three (3) roadways are considered to have a significant direct impact:

Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue

- Provide additional right-of-way and widen the roadway from a 2-Lane Collector to a 2-Lane Collector with a Continuous-Left-Turn-Lane (or construct left turn pocket where needed) prior to the project's total trip generation of 2,077 ADT.

This roadway is along the Project's frontage, so providing a separate left-turn lane into the Project site would provide additional capacity and would fully mitigate the significant traffic impact associated with the Proposed Project. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the classification of this roadway, additional right-of-way would be required to implement this measure; therefore, this impact would remain *significant and unavoidable*.

Balboa Avenue, between Cannington Drive and Charger Boulevard

- Reclassify the roadway from a 6-Lane Major Arterial to a 6-Lane Primary Arterial prior to the project's total trip generation of 1,811 ADT.

The significant traffic impact associated with the Proposed Project along this roadway would be fully mitigated with the implementation of this measure. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the existing land use fronting this roadway (i.e. residential and school uses) as well as the right-of-way constraints, a classification upgrade would not be feasible. Therefore, this impact would remain *significant and unavoidable*.

Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps

- Reclassify the roadway from a 6-Lane Major Arterial to a 6-Lane Expressway prior to the project's total trip generation of 1,561 ADT.

The significant traffic impact associated with the Proposed Project along this roadway would be fully mitigated with the implementation of this measure. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the planned classification of this roadway, additional right-of-way would be required to implement this measure. Therefore, this impact would remain *significant and unavoidable*.

Intersections:

The traffic generated by the Proposed Project is anticipated to create a direct impact at the following four (4) intersections:

1. *Genesee Avenue & Clairemont Mesa Boulevard* – Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 2,100 ADT.

   The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

8. *Clairemont Drive & Balboa Avenue* - Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 2,700 ADT.

The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

9. *Mt Everest Boulevard & Balboa Avenue* – Restripe the northbound and southbound approaches on Mt Everest Boulevard to provide an exclusive left-turn lane and a shared through-right turn lane, then convert the northbound and southbound approaches from split phasing to protected left-turn phasing. This improvement must be implemented prior to the project's total trip generation of 300 ADT. Implementing this improvement could be done within the existing right-of-way and would reduce intersection delays to pre-Project conditions. However, the County of San Diego cannot guarantee improvements to an intersection under the jurisdiction of the City of San Diego; therefore, this impact would remain *significant and unavoidable*.

14. *Charger Boulevard & Balboa Avenue* – Restripe the northbound shared through-left turn lane into an exclusive through lane and convert the northbound and southbound signal from split phasing to protective phasing prior to the project's total trip generation of 1,850 ADT. Implementing this improvement would reduce intersection delays to pre-Project conditions. However, the County of San Diego cannot guarantee improvements to an intersection under the jurisdiction of the City of San Diego; therefore, this impact would remain *significant and unavoidable*.

Ramp Meters:

No identified impacts. Therefore, not mitigation is required.

Horizon Year 2050 Base Plus Project

Based upon the significance criteria presented in Section 2.5 of this report, the addition of project traffic would cause significant cumulative impact to three (3) roadway segments, five (5) intersections, and no ramp meters under Horizon Year 2050 Plus Project conditions. The following mitigation measures would be required to mitigate the project impact to less than significant:

Roadways:

These roadways are anticipated to operate at LOS E or F with the addition of the Proposed Project's trips. The arterial level of service and/or the connecting intersections of these segments are also anticipated to operate at unacceptable LOS E or F conditions. Consequently, the following three (3) roadways are considered to have a significant cumulative impact:

Mt Everest Boulevard, between Mt Etna Drive and Balboa Avenue

- Provide additional right-of-way and widen the roadway from a 2-Lane Collector to a 2-Lane Collector with a Continuous-Left-Turn-Lane (or construct left turn pocket where needed) prior to the project's total trip generation of 2,852 of ADT.

The significant traffic impact associated with the Proposed Project along this roadway would be fully mitigated with the implementation of this measure. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the planned classification of this roadway, additional right-of-way would be required to implement this measure. Therefore, this impact would remain *significant and unavoidable*.

Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue

- Provide additional right-of-way and widen the roadway from a 2-Lane Collector to a 2-Lane Collector with a Continuous-Left-Turn-Lane (or construct left turn pocket where needed) prior to the project's total trip generation of 1,399 ADT.

This roadway is along the Project's frontage, so providing a separate left-turn lane into the Project site would provide additional capacity and would fully mitigate the significant traffic impact associated with the Proposed Project. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the classification of this roadway, additional right-of-way would be required to implement this measure; therefore, this impact would remain *significant and unavoidable*.

Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps

- Reclassify the roadway from a 6-Lane Major Arterial to a 6-Lane Expressway prior to prior to the project's total trip generation of 1,561 ADT.

The significant traffic impact associated with the Proposed Project along this roadway would be fully mitigated with the implementation of this measure. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the planned classification of this roadway, additional right-of-way would be required to implement this measure. Therefore, this impact would remain *significant and unavoidable*.

Intersections:

The following mitigation measures are requirement to mitigate the project intersection impact to less than significant:

1. Genesee Avenue & Clairemont Mesa Boulevard – Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 800 ADT.

The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

8. Clairemont Drive & Balboa Avenue - Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 1,300 ADT.

   The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

9. Mt Everest Boulevard & Balboa Avenue – Restripe the northbound and southbound approaches on Mt Everest Boulevard to provide an exclusive left-turn lane and a shared through-right turn lane, then convert the northbound and southbound approaches from split phasing to protected left-turn phasing. This improvement must be implemented prior to the project's total trip generation of 725 ADT. Implementing this improvement could be done within the existing right-of-way and would reduce intersection delays to pre-Project conditions. However, the County of San Diego cannot guarantee improvements to an intersection under the jurisdiction of the City of San Diego; therefore, this impact would remain *significant and unavoidable*.

10. Genesee Avenue & Balboa Avenue – Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 600 ADT.

    The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define

the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

14. Charger Boulevard & Balboa Avenue – Restripe the northbound shared through-left turn lane into an exclusive through lane and convert the northbound and southbound signal from split phasing to protective phasing prior to the project's total trip generation of 1,050 ADT. Implementing this improvement would reduce intersection delays to pre-Project conditions. However, the County of San Diego cannot guarantee improvements to an intersection under the jurisdiction of the City of San Diego; therefore, this impact would remain *significant and unavoidable*.

Ramp Meters:
No identified impacts. Therefore, not mitigation is required.

ES.4 On-Site Circulation, Access and Parking

Although currently unknown, the Proposed Project is expected to take access via a single driveway on Mt Etna Drive. The driveway would be side-street stop-controlled, and would operate at acceptable LOS A under all project study scenarios.

The Proposed Project must provide the appropriate amount of parking per the City's municipal code (Article 2, Division 5 Parking Regulations, Table 142-05D). However, the City of San Diego's *Proposed Parking Regulatory Reform for Multifamily Residential Development in Transit Priority Areas (TPAs)* (March 2019) project was recently approved by City Council on March 4, 2019. This study recommended that residential developments within TPAs are given zero minimum parking requirements. The ordinance was approved by the City Council in March 2019.

ES.5 Active Transportation and Transit Impacts

Potential impacts relating to pedestrian, bicycle and transit circulation would be considered significant if the Proposed Project would substantially increase hazards due to a design feature, or would conflict with the adopted policies plans, or programs supporting alternative transportation, as outlined in Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*. Based on an initial review of the project site plan, the Proposed Project would not generate any significant impacts associated with pedestrian, bicycle or transit facilities.

ES.6 Travel Demand Management

Implementation of a travel demand management (TDM) plan could lead to vehicle trip reduction, increased use of alternative modes, and better traffic management in the Project area. The following TDM measures are recommended:

1. Provide wayfinding signage to guide residents/retail patrons to/from bus stops on Genesee Avenue and Balboa Avenue. Exact signage location and type to be determine with coordination with City staff.

2. Provide secure bicycle parking within the Project site. Parking racks should

accommodate U-locks.

3. Designate a Transportation Coordinator (such as a board member of the homeowner's association, a consultant, or a property management company representative) to monitor the TDM Program. The Transportation Coordinator will be responsible for developing, marketing, implementing, and evaluating the proposed TDM measures included in this Plan.

4. Provide Electric Vehicle (EV) charging stations.

5. Implement raised crosswalks and curb extensions at the Genesee Avenue and Balboa Avenue intersection.

ES.7 Vehicle Miles Traveled (VMT)

Transportation is a major contributor to GHG emissions and a direct result of population and employment growth, which generates vehicle trips to move goods, provides public services, and connects people with work, school, shopping, and other activities. Growth in travel (especially vehicle travel) is due in large part to urban development patterns (i.e., the built environment). A performance measure used to quantify the amount of travel is Vehicle Miles Traveled (VMT).

The VMT estimates were derived from the SANDAG Series 13 travel demand (TDF) model that was prepared for the current adopted Community Plan Update, and was used in this analysis to estimate the Project's trip distribution and to develop the Horizon Year 2050 traffic volumes. According to the model, the regional average daily VMT per capita for residents and employees is 14.3 and 21.3, respectively. The Proposed Project's VMT would be 12.7 and 17.2 for residents and employees, respectively, which is both lower than the regional average. Given that the City has not yet adopted a significance criterion for the impending SB 743, the VMT analysis is used solely for informational purposes and not used to identify impacts.

1.0 Introduction

1.1 Purpose of the Report

The purpose of this Transportation Impact Study (TIS) is to identify and document potential transportation related impacts associated with the proposed Clairemont Mesa Community Plan Amendment and Zone Change project, as well as to recommend mitigation measures, as necessary, for any identified transportation related impacts of the Proposed Project.

1.2 Study Area and Project Background

The Proposed Project would allow for the redevelopment the existing County's Crime Lab site, located at 5255 Mt Etna Drive, San Diego, CA 92117, into a maximum of 448 multi-family units of which 100 percent would be affordable. In addition, a minimum of 1,500 square foot portion of the Proposed Project is expected to allow for community support services would also be permitted under the Clairemont Mesa Community Plan Amendment (CPA) and Zone Change Project. Additionally, the community support services could potentially be used for retail, so 10,000 square feet of neighborhood supporting retail was included in the analysis. While it's likely that the retail would not be built to that full extent, it provides a more conservative analysis, and the transportation impacts might be slightly overstated. Demolition of the existing and vacated Crime Lab building and associated landscaping and utilities is a part of the Proposed Project, as is rough grading of the project site following demolition. The project requires a CPA to re-designate the site from Community Commercial to Residential-High (45-73 dwelling units/acre) and propose a zone change from CO-1-2 to RM-3-9. This TIS presents a worst-case analysis of a future residential development project that would be allowed by the Community Plan Amendment and Zone Change.

Although currently unknown, the project is expected to take access via a single driveway located along Mt Etna Drive.

Figure 1-1 displays the project regional location and **Figure 1-2** illustrates the project study area.

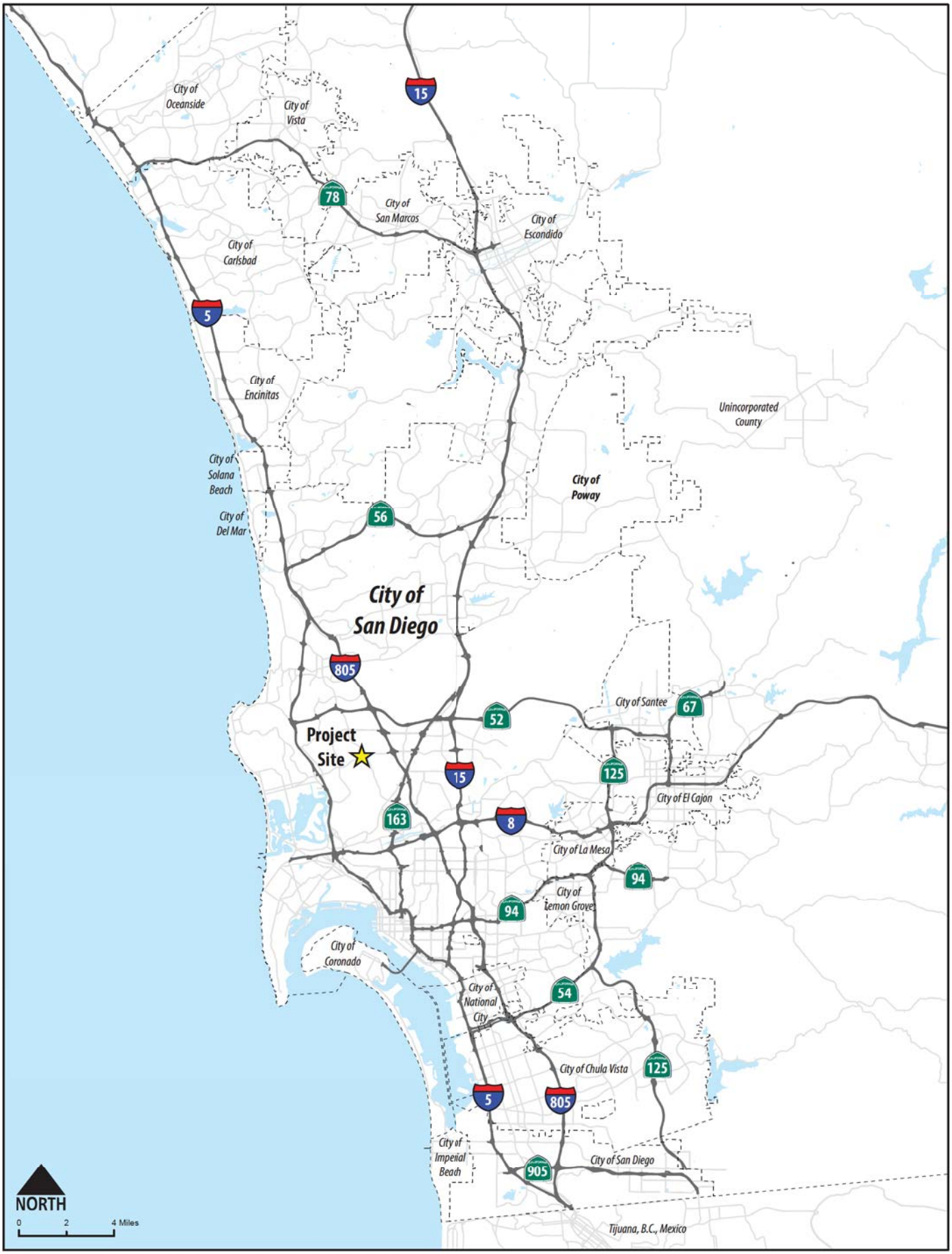
Six (6) scenarios were analyzed in this study, including:

- Existing Conditions – utilized to establish the existing baseline traffic operations within the project study area.
- Existing Plus Project Conditions – represents existing traffic conditions with the addition of the traffic from the Proposed Project.
- Near-Term Base (Year 2021) Conditions – establishes a near-term baseline against which traffic generated by the Proposed Project can be compared. Base conditions include traffic generated from nearby developing projects that are expected to be constructed and occupied before the Proposed Project. The Year 2021 represents the proposed opening year for the Proposed Project.

- Near-Term Base (Year 2021) Plus Project Conditions – represents 2021 baseline traffic conditions with the addition of traffic generated by the Proposed Project.

- Horizon Year 2050 Base Conditions – represents projected long-range baseline traffic conditions for the Year 2050. Volumes for Year 2050 Base conditions would be derived from the currently Clairemont Mesa Adopted Community Plan.

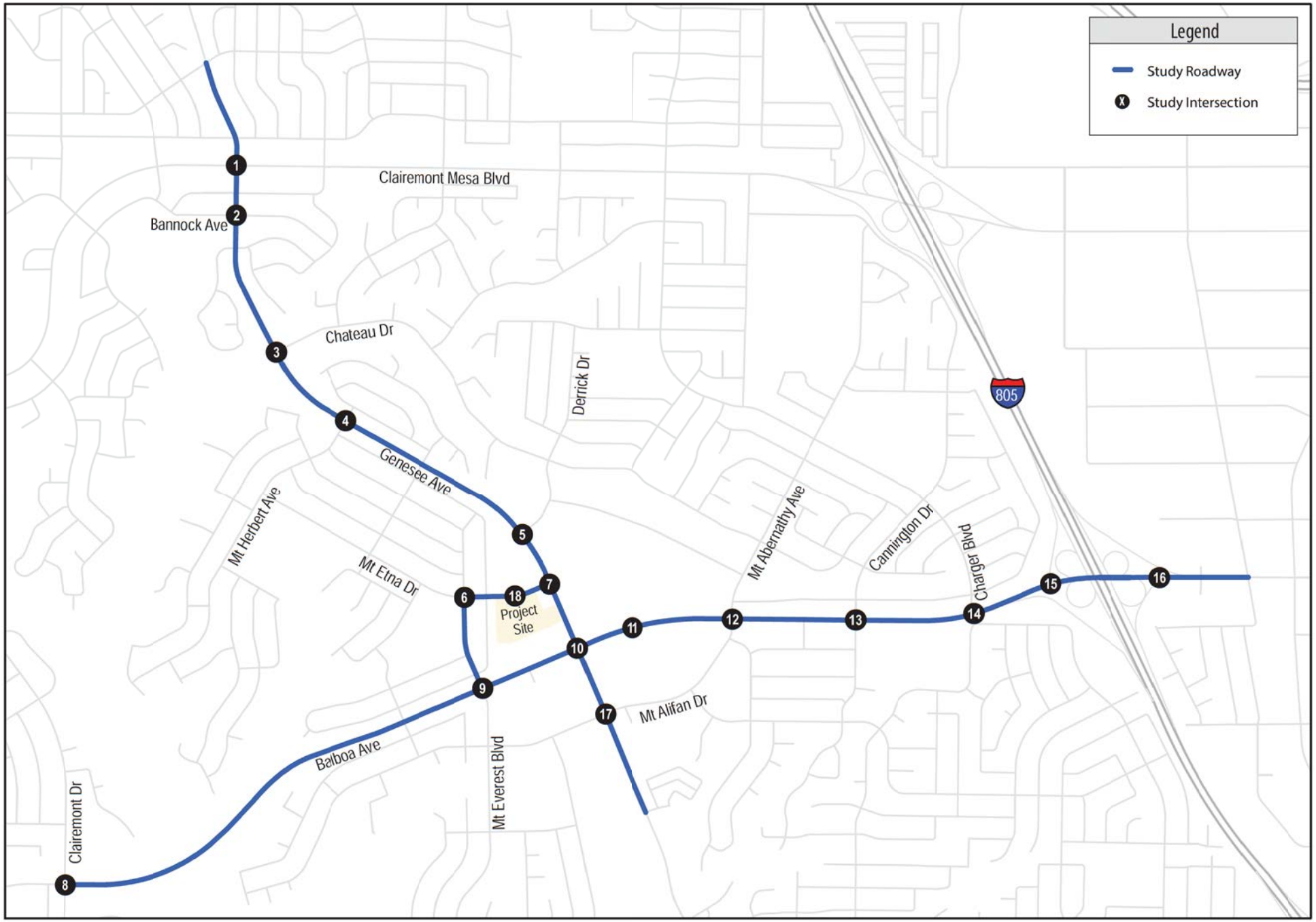
- Horizon Year 2050 Base Plus Project Conditions – represents Year 2050 base traffic conditions with the addition of traffic generated by the Proposed Project.



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

CHEN RYAN

Figure 1-1
Project Location



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

CHEN RYAN

Figure 1-2
Project Study Area

This traffic analysis was performed in accordance with *City of San Diego (City) Traffic Impact Study Manual, July 1998* (TIS Manual). The City of San Diego guidelines require that the defined study area include roadway segments, and intersections where the Proposed Project would add 50 or more peak hour trips in either direction, any metered freeway ramps where the project would add 20 or more peak hour trips, as well as all freeway segments where the Proposed Project would add 150 or more peak hour trips in either direction.

The proposed Clairemont Mesa Community Plan Amendment and Zone Change project would not contribute more than 150 peak hour trips on Interstate 5 (I-5) or Interstate 805 (I-805). Therefore, freeway impact analyses, as specified in the City's TIS Manual, were not conducted.

Mitigation measures and required site access improvements to maintain acceptable transportation operations were also documented as part of this analysis. The roadway segment analyses included herein are based upon the Level of Service (LOS) criteria outlined in the City's TIS Manual. The City's LOS standards are included in Chapter 2.

1.3 Report Organization

Following this Introduction chapter, this report is organized into the following chapters:

2.0 Analysis Methodology – This chapter describes the methodologies and standards utilized to analyze roadway and intersection traffic conditions.

3.0 Project Description – This chapter describes the Proposed Project including project traffic generation, trip distribution patterns, and project trip assignments.

4.0 Existing Conditions – This chapter describes the existing transportation network within the study area and provides analysis results for existing traffic conditions.

5.0 Existing Plus Project Conditions – This chapter describes the existing traffic network with the addition of the Proposed Project. Mitigation measures, if necessary, for project-related impacts are also identified.

6.0 Near-Term Base (Year 2021) Traffic Conditions – This chapter describes near-term developments anticipated to generate additional study area trips by Year 2021, the Proposed Project opening year. Analysis results are provided for the Year 2021 Base and Year 2021 Base Plus Project conditions, along with recommended mitigation measures (if necessary).

7.0 Horizon Year 2050 Traffic Conditions – This chapter describes projected long-range future cumulative traffic conditions. Traffic analysis results are presented for the Year 2050 Base and Year 2050 Base Plus Project conditions. Mitigation measures for project-related impacts are identified for Horizon Year 2050 Base Plus Project Conditions (if necessary).

8.0 On-Site Circulation and Parking – This chapter addresses access to the project site by all modes, and on-site circulation based on the proposed site plan. This section also discusses the required and provided parking within the project site.

9.0 Other Modes – This chapter describes active transportation facilities and transit facilities within the project study area.

10.0 Travel Demand Management (TDM) – This chapter describes potential Travel Demand Management measures that could be implemented by the Proposed Project to reduce Project related vehicle trips.

11.0 Vehicle Miles Travelled (VMT) – This chapter describes the Proposed Project's VMT in comparison to the regional average VMT.

2.0 Analysis Methodology

This TIS was performed in accordance with the requirements of the *City of San Diego Traffic Impact Study Manual, July 1998* and the *City of San Diego Significance Determination Thresholds, January 2011*. Detailed information on roadway segment and intersection analysis methodologies, standards, and thresholds are discussed in the following sections.

2.1 Level of Service Definition

Level of Service (LOS) is a quantitative measure describing operational conditions within a traffic stream, and the motorist's and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as delay, speed, travel time, freedom to maneuver, interruptions in traffic flow, queuing, comfort, and convenience. **Table 2.1** describes generalized definitions of the various LOS categories (A through F) as applied to roadway operations.

Table 2.1 Level of Service Definitions

LOS Category	Definition of Operation
A	This LOS represents a completely free-flow condition, where the operation of vehicles is virtually unaffected by the presence of other vehicles and only constrained by the geometric features of the highway and by driver preferences.
B	This LOS represents a relatively free-flow condition, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.
C	At this LOS the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles.
D	At this LOS, the ability to maneuver is notably restricted due to traffic congestion, and only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	This LOS represents operations at or near capacity. LOS E is an unstable level, with vehicles operating with minimum spacing for maintaining uniform flow. At LOS E, disruptions cannot be dissipated readily thus causing deterioration down to LOS F.
F	At this LOS, forced or breakdown of traffic flow occurs, although operations appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

Source: Highway Capacity Manual 2010

2.2 Roadway Segment Level of Service Standards and Thresholds

Roadway segment LOS standards and thresholds provide the basis for analysis of arterial roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes. **Table 2.2** presents the roadway segment capacity and LOS standards utilized to analyze roadways evaluated in this report. The actual capacity of a roadway facility varies according to its physical attributes. LOS D is considered acceptable within the City of San Diego. Typically, the performance and level of service of a roadway segment is heavily influenced by the ability of the arterial intersections to accommodate peak hour volumes.

Table 2.2 City of San Diego - Roadway Classifications and LOS Standards

Roadway Functional Classification	Lanes	Level of Service				
		A	B	C	D	E
Freeway	8	60,000	84,000	120,000	140,000	150,000
Freeway	6	45,000	63,000	90,000	110,000	120,000
Freeway	4	30,000	42,000	60,000	70,000	80,000
Expressway	6	30,000	42,000	60,000	70,000	80,000
Prime Arterial	8	35,000	50,000	70,000	75,000	80,000
Prime Arterial	6	25,000	35,000	50,000	55,000	60,000
Major Arterial	7	22,500	31,500	45,000	50,000	55,000
Major Arterial	6	20,000	28,000	40,000	45,000	50,000
Major Arterial	5	17,500	24,500	35,000	40,000	45,000
Major Arterial	4	15,000	21,000	30,000	35,000	40,000
Major Arterial	3	11,250	15,750	22,500	26,250	30,000
Major Arterial	2	7,500	10,500	15,000	17,500	20,000
Major Arterial (one-way)	3	12,500	16,500	22,500	25,000	27,500
Major Arterial (one-way)	2	10,000	13,000	17,500	20,000	22,500
Collector (w/ two-way Left-Turn lane)	4	10,000	14,000	20,000	25,000	30,000
Collector (w/ two-way Left-Turn lane)	3	7,500	10,500	15,000	18,750	22,500
Collector (w/ two-way Left-Turn lane)	2	5,000	7,000	10,000	13,000	15,000
Collector (w/o two-way Left-Turn lane)	4	5,000	7,000	10,000	13,000	15,000
Collector (w/o two-way Left-Turn lane)	3	4,000	5,000	7,500	10,000	11,000
Collector (w/o two-way Left-Turn lane)	2	2,500	3,500	5,000	6,500	8,000
Collector (w/o two-way Left-Turn lane) – no fronting property	2	4,000	5,500	7,500	9,000	10,000
Collector (one-way)	3	11,000	14,000	19,000	22,500	26,000
Collector (one-way)	2	7,500	9,500	12,500	15,500	17,500
Collector (one-way)	1	2,500	3,500	5,000	6,500	7,500
Sub-Collector (single-family)	2	-	-	2,200	-	-

Source: City of San Diego Traffic Impact Study Manual (1998)
Updated with input from City of San Diego Planning Department Mobility Staff (2017)

These standards are generally used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical attributes. Typically, the performance and LOS of a roadway segment is heavily influenced by the ability of its intersections to accommodate peak hour traffic volumes. For the purposes of this traffic analysis, LOS D is considered acceptable for circulation element roadway segments.

2.3 Peak Hour Intersection Level of Service Standards and Thresholds

This section presents the methodologies used to perform peak hour intersection capacity analysis, including both signalized and unsignalized intersections. The following assumptions were utilized in conducting all intersection level of service analyses:

- *Heavy Vehicle Factor:* A 2% heavy vehicle factor was assumed for all intersections within the study area.

- *Signal Timing:* Based on existing signal timing plans (as of March 2019), provided in **Appendix A.**

Signalized Intersection Analysis

The analysis of signalized intersections utilized the operational analysis procedures as outlined in the *2010 Highway Capacity Manual (HCM)*. This method defines LOS in terms of delay, or more specifically, average stopped delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption and lost travel time. This technique uses 1,900 vehicles per hour per lane (VPHPL) as the maximum saturation volume of an intersection. This saturation volume is adjusted to account for lane width, on-street parking, pedestrians, traffic composition (i.e., percentage trucks) and shared lane movements (i.e. through and right-turn movements originating from the same lane). The LOS criteria used for this technique are described in **Table 2.3**. The computerized analysis of intersection operations was performed utilizing the *SYNCHRO 10.0* traffic analysis software.

Table 2.3 Signalized Intersection Level of Service Criteria

Average Stopped Delay Per Vehicle (seconds)	Level of Service (LOS) Characteristics
<10.0	*LOS A* describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
10.1 – 20.0	*LOS B* describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
20.1 – 35.0	*LOS C* describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
35.1 – 55.0	*LOS D* describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
55.1 – 80.0	*LOS E* is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80.0	*LOS F* describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: Highway Capacity Manual 2000, TRB Special Report 209

Unsignalized Intersection Analysis

Unsignalized intersections, including two-way and all-way stop controlled intersections, were analyzed using the 2010 Highway Capacity Manual (Chapter 19 & Chapter 20) unsignalized intersection analysis methodology. The *SYNCHRO 10.0* Traffic Analysis software supports this methodology and was utilized to produce LOS results. The LOS for a two-way stop controlled (TWSC) intersection is determined by the computed control delay and is defined for each minor movement. **Table 2.4** summarizes the LOS criteria for unsignalized intersections. The City of San Diego considers LOS D or better during the AM and PM peak hours to be acceptable for intersection LOS.

Table 2.4 Unsignalized Intersection Level of Service Criteria

Average Control Delay (sec/veh)	Level of Service (LOS)
≤10	A
>10 and ≤15	B
>15 and ≤25	C
>25 and ≤35	D
>35 and ≤50	E
>50	F

Source: Highway Capacity Manual 2010

2.4 Ramp Metering Analysis

Ramp metering analysis was conducted to calculate delays and queues at the study area freeway on-ramps. Within the project study area, the I-805 northbound on-ramp at Balboa Avenue and the I-805 southbound on-ramp at Balboa Avenue have activated ramp meters. The demand per hour per lane was calculated using the following equation:

$$D_{vol} = \frac{(P_{vol} - H_{vol})}{N}$$

- D_{vol} (Demand Volume per hour per Lane): total peak hour demand expected to use the on-ramp (non-HOV lane only);
- P_{vol} (Peak Hour Ramp Volume): sum of all peak hour volumes using the on-ramp;
- H_{vol} (HOV lane volume): based on field observation, approximately 20% of the P_{vol} utilized the HOV lane; and
- N: number of non-HOV lanes at the on-ramp.

2.5 Determination of Significant Impacts

The *City of San Diego Significance Determination Thresholds* defines project impact thresholds by facility type. These thresholds are generally based upon an acceptable increase in the Volume / Capacity (V/C) ratio for roadway and freeway segments, and upon increases in vehicle delays for intersections and ramps.

In the City of San Diego, LOS D is considered acceptable for roadway and intersection operations. A project is considered to have a significant impact if it degrades the operations of a roadway or intersection from an acceptable LOS (D or better) to an unacceptable LOS (E or F), or if it adds additional delay to a facility already operating an unacceptable level. **Table 2.5** summarizes the impact significant thresholds as identified by the City of San Diego beyond which mitigation measures are required.

Table 2.5 Measure of Significant Project Traffic Impacts

Level of Service (LOS) with Project*	Allowable Change Due to Impact**					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec)	Delay (min.)
LOS E (or ramp meter delays > 15 min.)	0.010	1.0	0.02	1.0	2.0	2.0
LOS F (or ramp meter delays > 15 min.)	0.005	0.5	0.01	0.5	1.0	1.0

Source: City of San Diego, Significance Determination Thresholds (January 2011)

Note 1: The allowable increase in delay at a ramp meter with more than 15 minutes of delay and freeway LOS E is 2 minutes.
Note 2: The allowable increase in delay at a ramp meter with more than 15 minutes of delay and freeway LOS F is 1 minute.

* All level of service (LOS) measurements are based upon HCM procedures for peak-hour conditions. However, vehicle to capacity (V/C) ratios for roadway segments may be estimated on an ADT/24-hour traffic volume basis (using Table 2.1 or a similar LOS chart for each jurisdiction). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

** If a Proposed Project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigation (within the Traffic Impact Study report) that would maintain the traffic facility at an acceptable LOS. If the LOS with the Proposed Project becomes unacceptable (see above * note), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating significant impact changes.

3.0 Project Description and Trip Generation, Distribution, and Assignment

This section describes the Proposed Project, including land uses and estimated trip generation, trip distribution, and trip assignment.

3.1 Project Description

The Proposed Project would allow for the redevelopment the existing County's Crime Lab site, located at 5255 Mt Etna Drive, San Diego, CA 92117, into a maximum of 448 multi-family units of which 100 percent would be affordable. In addition, a minimum of 1,500 square foot portion of the Proposed Project is expected to allow for community support services would also be permitted under the Clairemont Mesa Community Plan Amendment (CPA) and Zone Change Project. Additionally, the community support services could potentially be used for retail, so 10,000 square feet of neighborhood supporting retail was included in the analysis. While it's likely that the retail would not be built to that full extent, it provides a more conservative analysis, and the transportation impacts might be slightly overstated. Demolition of the existing and vacated Crime Lab building and associated landscaping and utilities is a part of the Proposed Project, as is rough grading of the project site following demolition. The project requires a CPA to re-designate the site from Community Commercial to Residential-High (45-73 dwelling units/acre) and propose a zone change from CO-1-2 to RM-3-9. This TIS presents a worst-case analysis of a future residential development project that would be allowed by the Community Plan Amendment and Zone Change.

Although currently unknown, the project is expected to take access via a single driveway located along Mt Etna Drive.

Figure 3-1 illustrates the Proposed Project site plan.

3.2 Project Trip Generation Rate, Trip Generation, Distribution, and Assignment

Project Trip Generation

The Proposed Project trip generation estimates were derived utilizing the trip generation rates outlined in *Table 1* of the *City of San Diego Land Development Code – Trip Generation Manual 2003*. Due to the commercial component of the Project, the driveway rates and cumulative rates were both used to derive the Project's total trip generation to reflect the commercial's pass-by trips. The driveway rates for the commercial use were applied to the project driveway, as well as roadways and intersections immediately adjacent to the project site (i.e. intersections 6 and 7 shown in Figure 1-2). Cumulative rates were applied to all other study roadways and intersections. Since the existing Crime Lab site was vacant during traffic count collection for existing conditions, no additional adjustments were required for project trip generation.



Figure 3-1
Project Site Plan

Additionally, trip reductions from the City's Traffic Impact Study Manual were applied to the residential trip estimates:

Mixed-Use Land Uses Reductions

For developments that include several different types of land use, such as the Proposed Project that has residential units and neighborhood supporting retail, it is likely that a resident would utilize the retail uses in lieu of leaving the site, resulting in a reduction in trips generated. Furthermore, the Project site is located immediately adjacent to the largest commercial retail center in Clairemont Mesa. Large businesses such as Target, Kohls, Sprouts, and Walgreens as well as restaurant dining and banking are all located within walking distance (i.e. less than ¼ a mile) of the project site location. A mixed-use reduction, also known as trip internalization, would reduce the number of trips to the site compared to the trips generated by uses in an isolated situation. Given the Project's mixed uses and the extremely close proximity to other mixed-use developments, the following reductions were applied:

- Daily = 10%
- AM Peak Hour = 8%
- PM Peak Hour = 10%

Transit Reductions

The Project is located in a Transit Oriented Development (TOD) area, with high frequency transit services immediately adjacent to the site on Genesee Avenue. Bus Route # 41 is serviced along Genesee Avenue operating with 15-minute headways during peak hours and bus route #27 is serviced along Balboa Avenue operating with 30-minutes headways during peak hours. Transit stops for Bus Routes #41 and #27 are each within 400 feet of the Project site. Consequently, the following transit reductions were applied to account for residents using transit in lieu of driving:

- Daily = 5%
- AM Peak Hour = 9%
- PM Peak Hour = 6%

Table 3.1 displays the projected daily, as well as AM and PM peak hour Project trip generation using the driveway vehicle rates. **Table 3.2** displays the Project trip generation using cumulative vehicle rates.

Table 3.1 Project Trip Generation – Driveway Rates

Land Use	Units	Trip Rate	% Daily	ADT	AM Peak Hour					PM Peak Hour				
					%	Trips	Split	In	Out	%	Trips	Split	In	Out
Residential – Multi - Family	448 Units	6 / Unit	-	2,688	8%	216	(2:8)	43	173	9%	242	(7:3)	169	73
Residential Reduction due to Transit Stations*	-	-	5%	-134	9%	-19	(2:8)	-4	-5	6%	-15	(7:3)	-11	-4
Residential Reduction due to Mixed-Use Land Uses*	-	-	10%	-269	8%	-17	(2:8)	-3	-14	10%	-24	(7:3)	-17	-7
Commercial – Retail - Neighborhood	10 KSF	120 / KSF	-	1,200	4%	48	(6:4)	29	19	11%	132	(5:5)	66	66
Total				**3,485**	-	**228**	-	**65**	**163**	-	**335**	-	**207**	**128**

Source: City of San Diego Land Use Code, Driveway Rate – Trip Generation Manual, May 2003
*Reductions applied from City of San Diego Traffic Impact Study Manual (July 1998)

As shown in Table 3.1, the Proposed Project is anticipated to generate a total of 3,485 daily trips, including 228 (65-in / 163-out) AM peak hour trips and 335 (207-in / 128-out) PM peak hour trips using driveway rates. These estimates were added onto Project driveway, as well as the roadways and intersections immediately adjacent to the Project driveway.

Table 3.2 Project Trip Generation – Cumulative Rates

Land Use	Units	Trip Rate	% Daily	ADT	AM Peak Hour					PM Peak Hour				
					%	Trips	Split	In	Out	%	Trips	Split	In	Out
Residential – Multi - Family	448 Units	6 / Unit	-	2,688	8%	216	(2:8)	43	173	9%	242	(7:3)	169	73
Residential Reduction due to Transit Stations*	-	-	5%	-134	9%	-19	(2:8)	-4	-5	6%	-15	(7:3)	-11	-4
Residential Reduction due to Mixed-Use Land Uses*	-	-	10%	-269	8%	-17	(2:8)	-3	-14	10%	-24	(7:3)	-17	-7
Commercial – Retail - Neighborhood	10 KSF	72 / KSF	-	720	4%	29	(6:4)	17	12	11%	80	(5:5)	40	40
Total				**3,005**	-	**209**	-	**53**	**156**	-	**283**	-	**181**	**102**

Source: City of San Diego Land Use Code, Cumulative Rate – Trip Generation Manual, May 2003
*Reductions applied from City of San Diego Traffic Impact Study Manual (July 1998)

As shown in Table 3.2, the Proposed Project is anticipated to generate a total of 3,005 daily trips, including 209 (53-in / 156-out) AM peak hour trips and 283 (181-in / 102-out) PM peak hour trips using cumulative rates. These estimates were added to the study roadways and intersections within the study area, not immediately adjacent to the Project driveway.

Project Trip Distribution

Based on Traffic Impact Study Guidelines for the City of San Diego, a Select Zone analysis is required for trip distribution if the Proposed Project generates more than 2,400 average daily trips. Since the Proposed Project is anticipated to generate more than 2,400 daily trips, the trip distribution for the Proposed Project was developed based on a SANDAG Series 13 Transportation Forecast Select Zone Assignment shown in **Appendix B**. This model was developed and is being used for the on-going Clairemont Community Plan Update. Additionally, the Project's traffic analysis zone (TAZ) land use was updated to include the proposed land use. **Figure 3-2** displays the trip distribution patterns associated with the Proposed Project.

Project Trip Assignment

Based upon the assumed Project trip distribution, daily and AM/PM peak hour Project trips were assigned to the adjacent roadway network, as displayed in **Figure 3-3**.

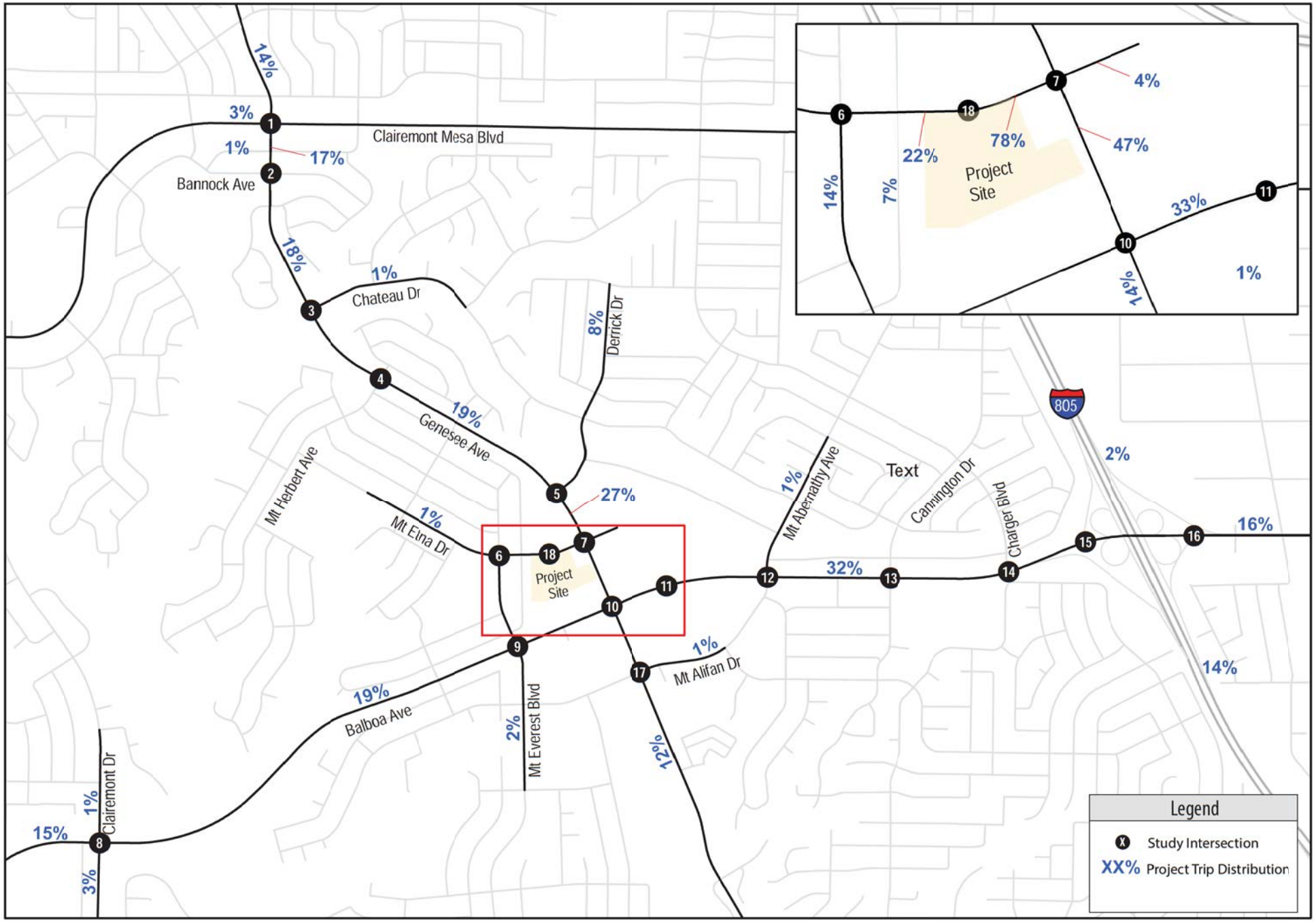


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Figure 3-2
Project Trip Distribution

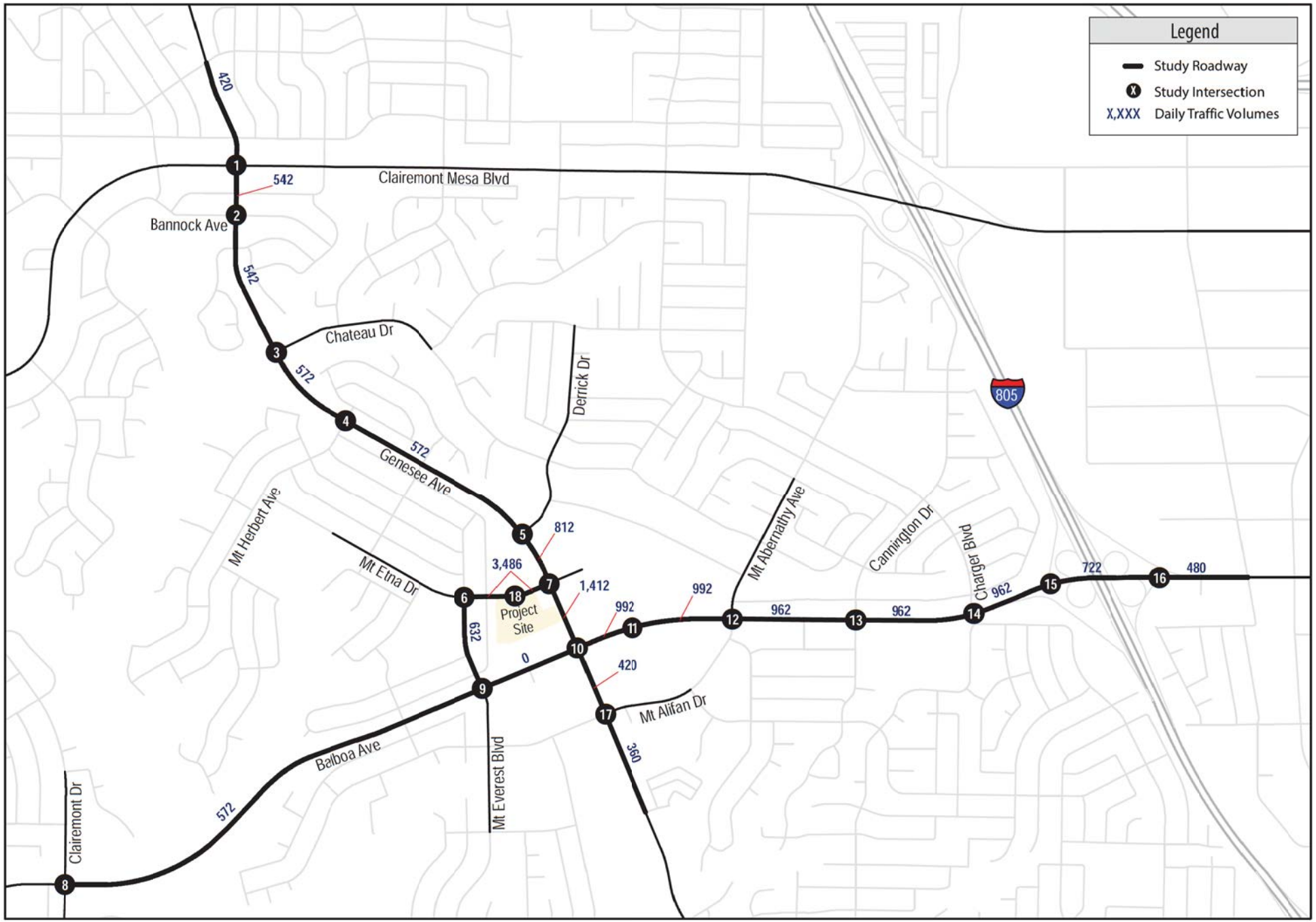

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Figure 3-3
Project Trip Assignment

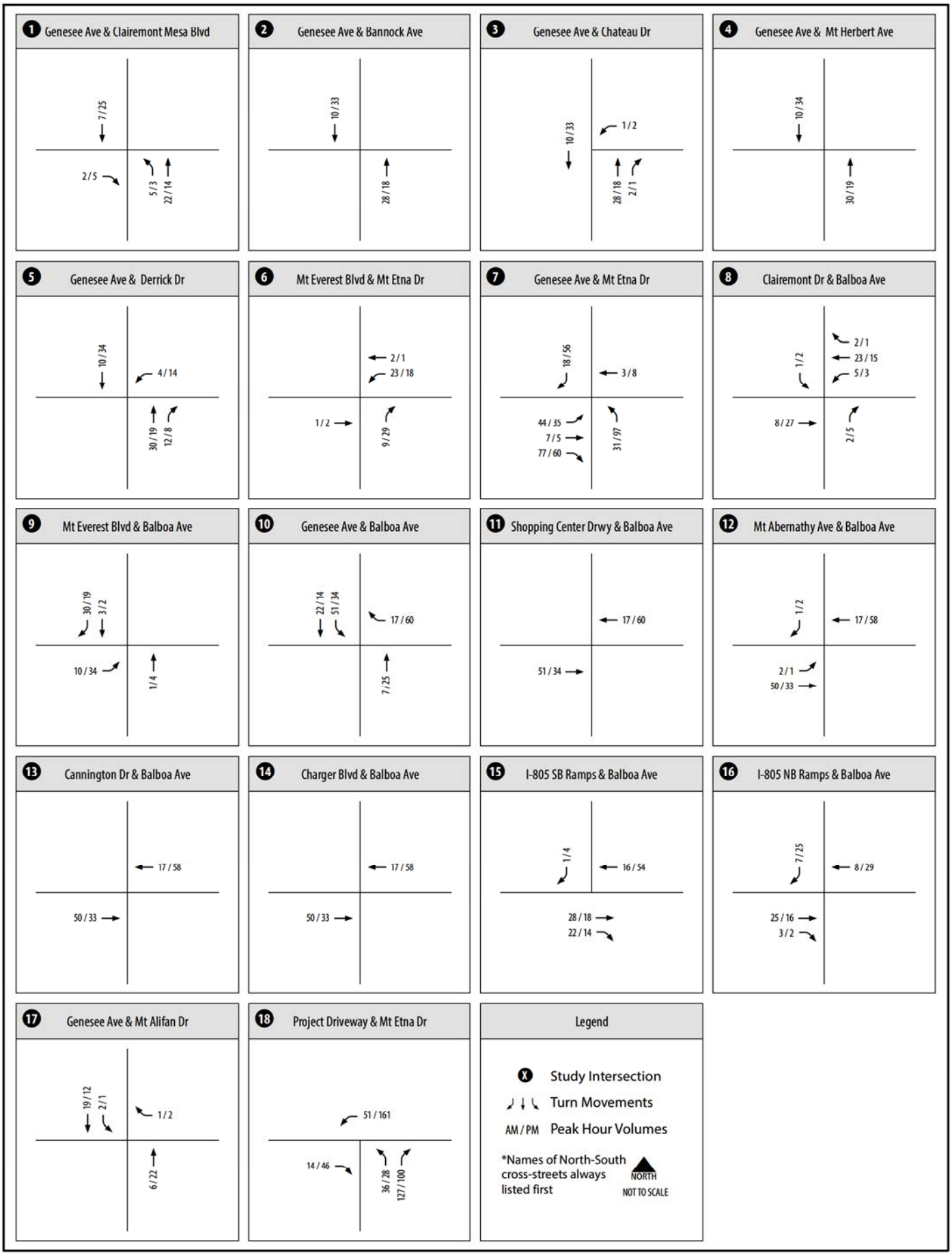

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Figure 3-3
Project Trip Assignment

4.0 Existing Conditions

This section describes key roadways segments and intersections, existing daily roadway and peak hour intersection traffic volume information, and LOS analysis results under Existing conditions.

4.1 Existing Roadway Network

Six (6) regionally and locally significant roadways traverse the study area. Each of the key roadways, as well as the associated study intersections within the study area are discussed below.

North-South Facilities

Interstate 805 (I-805) is a north-south freeway that is located approximately one and a half miles east of the Project site. Access from I-805 to the study area is taken from the Balboa Avenue interchange. Since the Proposed Project would contribute less than 150 peak hour trips to I-805, freeway analysis was not conducted.

Genesee Avenue – Genesee Avenue is a 4-lane roadway that widens to 6 lanes between Derrick Drive and Mt Etna Drive, transitions to 5 lanes between Mt Etna Drive to Mt Alifan, and narrows again back to 4 lanes after Mt Alifan. Genesee Avenue has a raised median throughout the study area with exception to the roadway segment between Clairemont Mesa Boulevard and Bannock Avenue. The posted speed limit along Genesee Avenue is 35 mph with exception to the roadway segment between Sauk Avenue and Derrick Drive which is 40 mph. Sidewalks are present on both sides of the roadway within the Project study area. On-street parallel parking is allowed along Genesee Avenue on segments south of Mt Alifan Drive and north of Sauk Avenue within the study area. Also, within the study area, Genesee Avenue has class II bike lanes throughout with exception of the class III bike route between Sauk Avenue and Appleton Street. The Clairemont Mesa Community Plan classifies this roadway as a 4-Lane Major Arterial. San Diego MTS Bus Route 41 is serviced along Genesee Avenue.

Mt Everest Boulevard – Mt Everest Boulevard is a 2-lane undivided roadway with sidewalks and on-street parallel parking present on both sides of the roadway. There are no bicycle facilities along Mt Everest within the Project study area. Mt Everest Boulevard has a posted speed limit of 25 mph within the Project study area. The Clairemont Mesa Community Plan classifies Mt Everest Boulevard, south of Balboa Avenue as a 2-lane Collector. There are not transit routes that run along Mt Everest Boulevard; however, transit stops exist for bus route #27 at the Balboa Avenue and Mt Everest Boulevard intersection.

East-West Facilities

Balboa Avenue – Balboa Avenue is currently constructed as a four to six-lane roadway within the Clairemont Mesa community. San Diego MTS Bus Route 27 is serviced along Balboa Avenue. Within the Project study area, Balboa Avenue has a posted speed limit of 45 mph with the following geometric features:

- 4-lane roadway with a raised median between Clairemont Drive and Genesee Avenue, sidewalks are located intermittently on the northern side of the roadway. Class II bike lanes are present on both side of the roadway. On-street parking is prohibited along this segment. The Clairemont Mesa Community Plan classifies this segment as a 4-Lane Major Arterial.
- 6-lane roadway with a raised median between Genesee Avenue and east of I-805. Sidewalk and Class II bike lanes are present on both side of the roadway. On-street parking is prohibited along this segment. The Clairemont Mesa Community Plan classifies this segment as a 6-Lane Major Arterial.

Mt Etna Drive – Mt Etna Dive is a 2-lane undivided roadway with sidewalks on both sides without bicycle facilities. On-street parallel parking is allowed throughout the segment with exception to the commercial fronting property extending 430 feet west of Genesee Avenue. The posted speed limit is 25 mph, between Genesee Avenue and 500 feet west of Genesee Avenue where the posted speed limit of 15 mph per hour begins paired with roadway speed bumps. There are no transit routes that run along Mt Etna Drive; however, transit stops exist for bus route #41 at the Genesee Avenue & Mt Etna Drive intersection.

Study Intersections

The following nineteen (18) key study area intersections were included within the key study area:

1. Genesee Avenue & Clairemont Mesa Boulevard (Signal);
2. Genesee Avenue & Bannock Avenue (Signal);
3. Genesee Avenue & Chateau Drive (Signal);
4. Genesee Avenue & Mt Herbert Avenue (Signal);
5. Genesee Avenue & Derrick Drive (Signal);
6. Mt Everest Boulevard & Mt Etna Drive (All-Way Stop Controlled);
7. Genesee Avenue & Mt Etna Drive (Signal);
8. Clairemont Drive & Balboa Avenue (Signal);
9. Mt Everest Boulevard & Balboa Avenue (Signal);
10. Genesee Avenue & Balboa Avenue (Signal);
11. Shopping Center Driveway & Balboa Avenue (Signal);
12. Mt Abernathy Avenue & Balboa Avenue (Signal);
13. Cannington Drive & Balboa Avenue (Signal);
14. Charger Boulevard & Balboa Avenue (Signal);
15. I-805 Southbound Ramps & Balboa Avenue (Signal);
16. I-805 Northbound Ramps & Balboa Avenue (Signal);
17. Genesee Avenue & Mt Alifan Drive (Signal); and
18. Mt Etna Drive & Project Driveway (Side-Street Stop Controlled).

It should be noted that the Proposed Project would not contribute enough traffic (150 peak hour trips in a single direction) to require analysis of Interstate 805 (I-805) freeway. The existing roadway and intersection geometrics are shown in **Figure 4-1**.

4.2 Existing Intersection and Roadway Volumes

Figure 4-2 shows both the existing daily traffic volumes for study area roadway segments and the AM/PM peak hour traffic volumes for the key study area intersections. The roadway segment and study area intersection traffic counts were conducted in January 2019 when all schools were in session and the weather was dry and normal. The count sheets are provided in **Appendix C**.

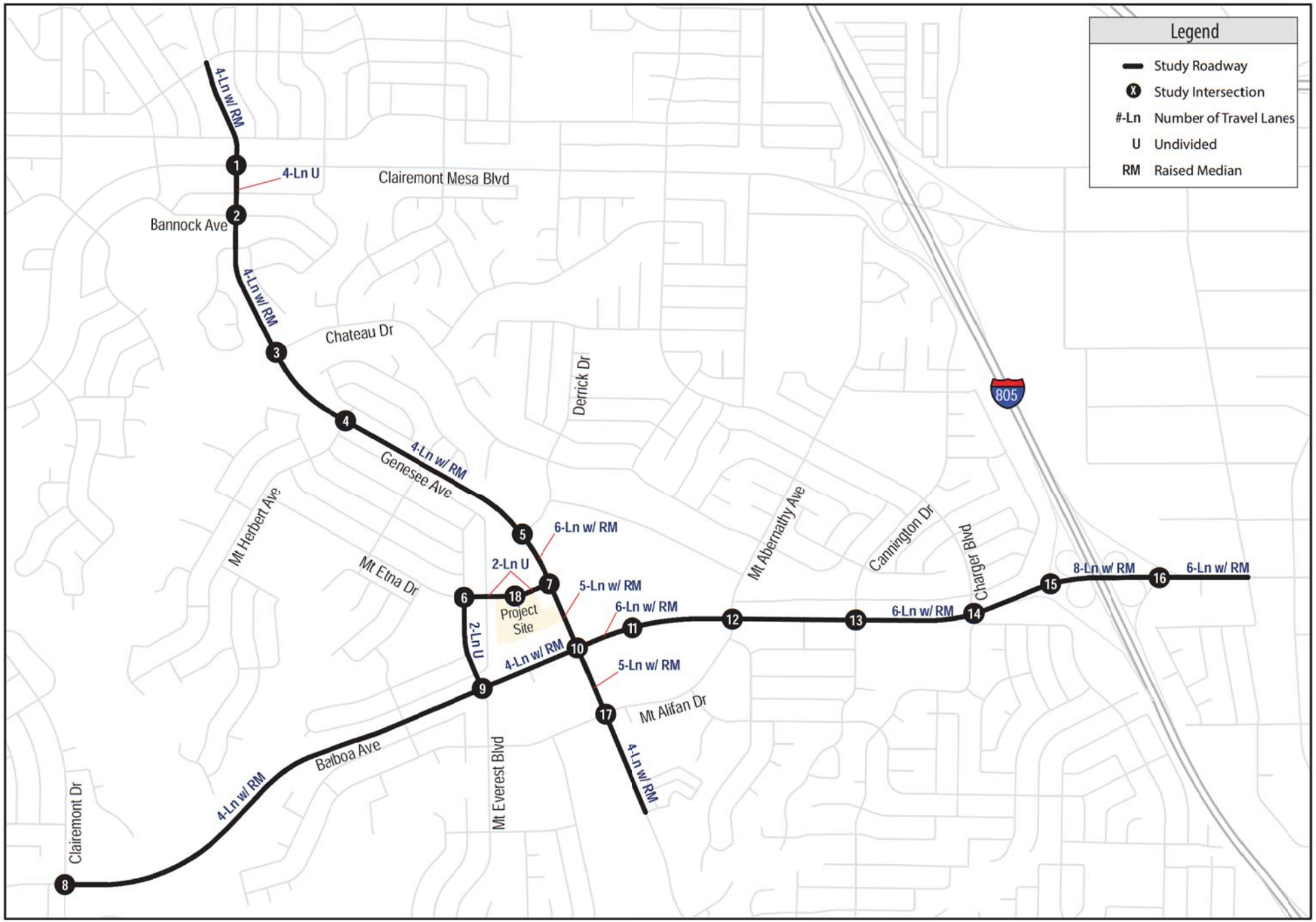

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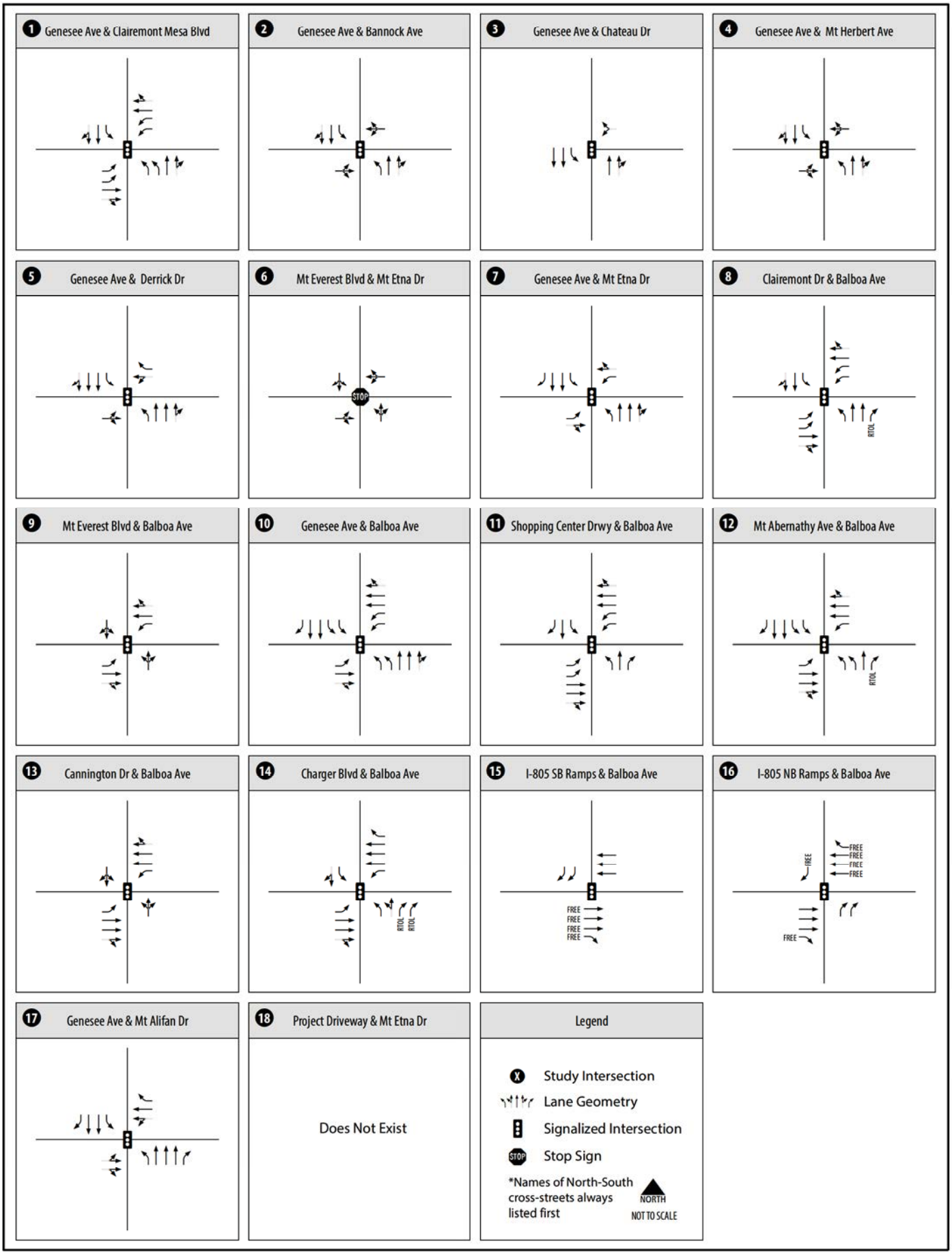
Figure 4-1
Roadway and Intersection Geometrics - Existing Conditions



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

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Figure 4-1
Roadway and Intersection Geometrics - Existing Conditions

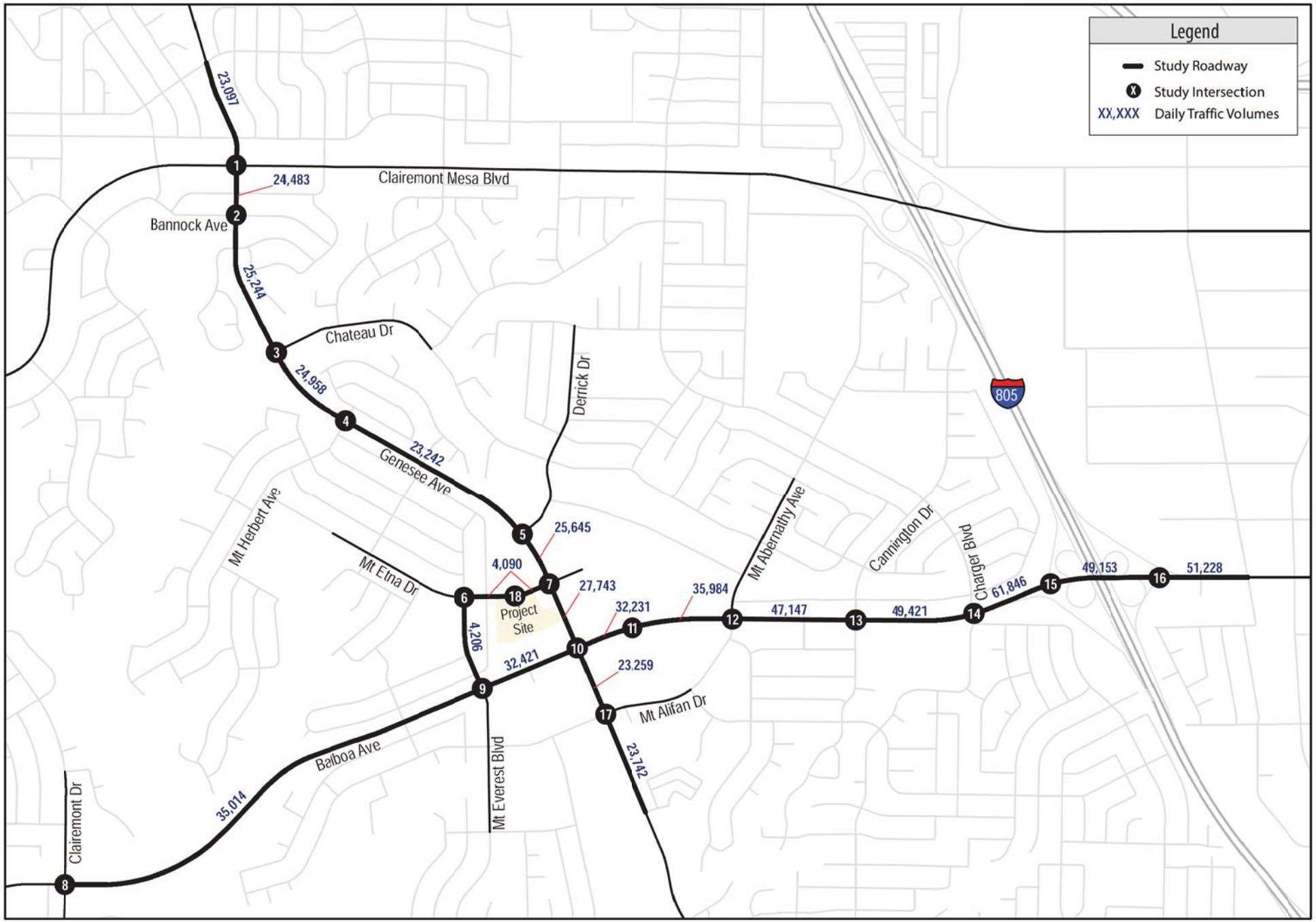

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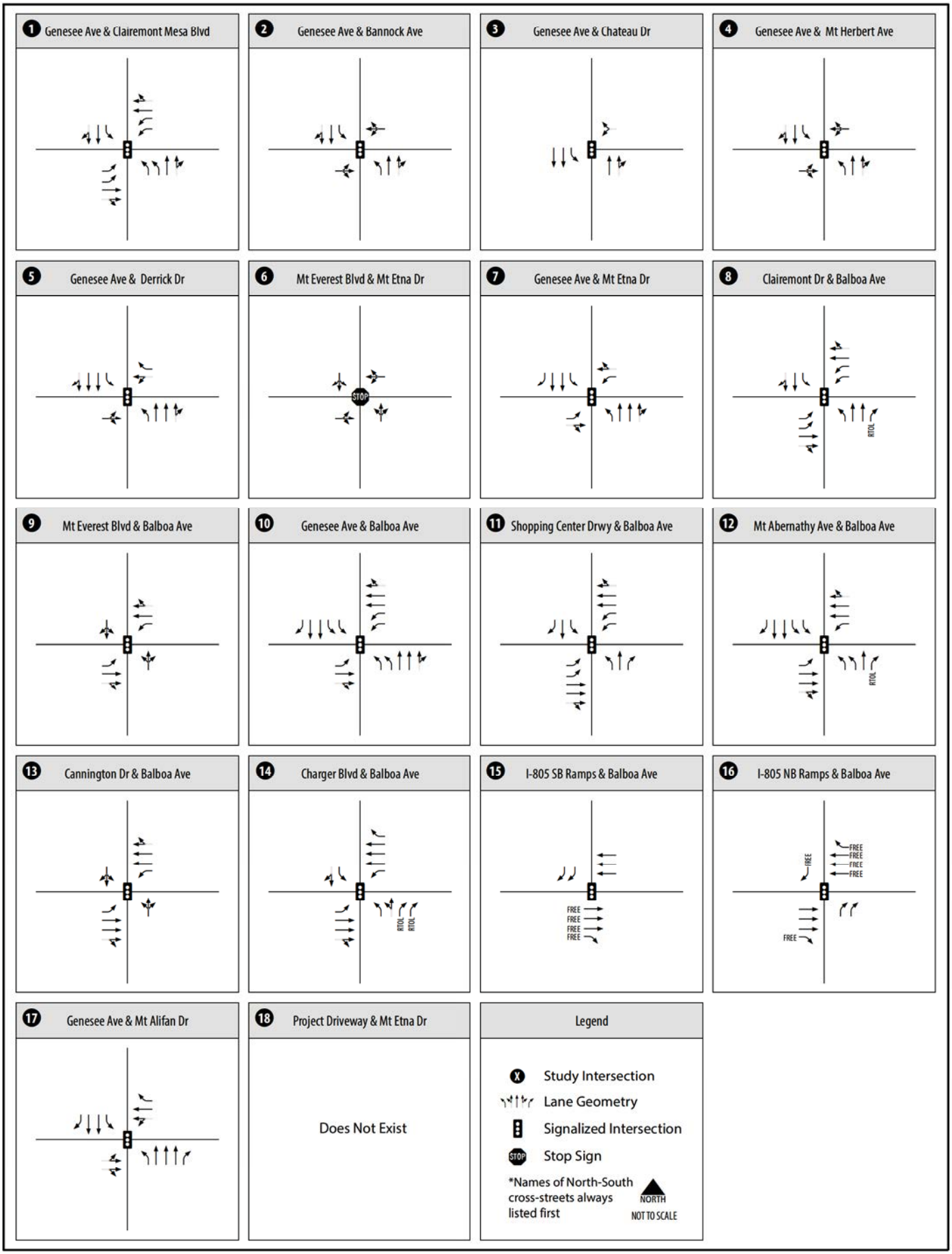
Figure 4-2
Traffic Volumes - Existing Conditions



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

[redacted]

Figure 4-1
Roadway and Intersection Geometrics - Existing Conditions

4.3 Existing Level of Service Analysis

Level of service analyses under Existing conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection level of service, as well as freeway ramp meter analysis results are discussed separately below.

Roadway Segment Analysis

Table 4.1 displays the LOS analysis results for key study area roadway segments under Existing conditions.

As shown in Table 4.1, all of the key study area roadway segments are currently operating at acceptable LOS D or better, with the exception of the following five (5) roadway segments:

- Balboa Avenue, between Clairemont Drive and Mt Everest Boulevard (LOS E);
- Balboa Avenue, between Mt Abernathy Avenue and Cannington Drive (LOS E);
- Balboa Avenue, between Cannington Drive and Charger Boulevard (LOS E);
- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps (LOS F); and
- Balboa Avenue, between I-805 Northbound Ramps and Ruffner Street (LOS F).

Intersection Analysis

Table 4.2 displays intersection level of service and average vehicle delay results for the key study area intersections under Existing conditions. Level of service calculation worksheets for Existing conditions are provided in **Appendix D**.

As shown in the Table 4.2, all of the study area intersections are currently operating at acceptable LOS D or better during both the AM and PM peak hours, with the exception of the following four (4) intersections:

- Genesee Avenue & Clairemont Mesa Boulevard – LOS E during the PM peak hour, primarily due to the heavy volume in the southbound through direction;
- Clairemont Drive & Balboa Avenue – LOS E during the PM peak hour, primarily due to the southbound left movement which experiences a particularly high delay compared to all other movements at the intersection;
- Mt Everest Boulevard & Balboa Avenue – LOS E during the AM and PM peak hours, primarily due to the high delay from the northbound and southbound directions, each serviced by a single lane in the respective directions; and
- Genesee Avenue & Balboa Avenue – LOS E during the PM peak hour primarily due to the heavy volumes on all approaches of the intersection.

Table 4.1 Roadway Segment Level of Service Results - Existing Conditions

Roadway	Segment	Functional Classification	Cross-Section	ADT	Capacity (LOS E)	V/C	LOS
Genesee Avenue	Between Appleton Street & Clairemont Mesa Boulevard	4-Ln Major Arterial	Raised Median	23,097	40,000	0.577	C
	Between Clairemont Mesa Boulevard & Bannock Avenue	4-Ln Major Arterial	Undivided	24,483	40,000	0.612	C
	Between Bannock Avenue & Chateau Drive	4-Ln Major Arterial	Raised Median	25,244	40,000	0.631	C
	Between Chateau Drive & Mt Herbert Avenue	4-Ln Major Arterial	Raised Median	24,958	40,000	0.624	C
	Between Mt Herbert Avenue & Derrick Drive	4-Ln Major Arterial	Raised Median	23,242	40,000	0.581	C
	Between Derrick Drive & Mt Etna Drive	6-Ln Major Arterial	Raised Median	25,645	50,000	0.513	B
	Between Mt Etna Drive & Balboa Avenue	5-Ln Major Arterial	Raised Median	27,743	45,000	0.617	C
	Between Balboa Avenue & Mt Alifan Drive	5-Ln Major Arterial	Raised Median	23,259	45,000	0.517	B
	Between Mt Alifan Drive & Genesee Court	4-Ln Major Arterial	Raised Median	23,742	40,000	0.594	C
Mt Everest Boulevard	Between Mt Etna Drive & Balboa Avenue	2-Ln Collector w/o CLTL	Undivided	4,206	8,000	0.526	C
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	4,090	8,000	0.511	C
Balboa Avenue	Between Clairemont Drive & Mt Everest Boulevard	4-Ln Major Arterial	Raised Median	35,014	40,000	0.875	**E**
	Between Mt Everest Boulevard & Genesee Avenue	4-Ln Major Arterial	Raised Median	32,421	40,000	0.811	D
	Between Genesee Avenue & Shopping Center Driveway	6-Ln Major Arterial	Raised Median	32,231	50,000	0.645	C
	Between Shopping Center Driveway & Mt Abernathy Avenue	6-Ln Major Arterial	Raised Median	35,984	50,000	0.720	C
	Between Mt Abernathy Avenue & Cannington Drive	6-Ln Major Arterial	Raised Median	47,147	50,000	0.943	**E**
	Between Cannington Drive & Charger Boulevard	6-Ln Major Arterial	Raised Median	49,421	50,000	0.988	**E**
	Between Charger Boulevard & I-805 Southbound Ramps	6-Ln Major Arterial	Raised Median	61,846	50,000	1.237	**F**
	Between I-805 Southbound Ramps & I-805 Northbound Ramps*	8-Ln Prime Arterial	Raised Median	49,153	80,000	0.614	B
	Between I-805 Northbound Ramps & Ruffner Street	6-Ln Major Arterial	Raised Median	51,228	50,000	1.025	**F**

Source: NDS, Chen Ryan Associates; March 2019

Notes:
*The Balboa Ave segment between the I-805 ramps are classified as a 6-lane major according to the Clairemont Community Plan; however, the actual roadway cross-section includes eight lanes (two of which are auxiliary ramp lanes).
Bold letter indicates unacceptable LOS E or F.
ADT = Average Daily Traffic.
V/C = Volume to Capacity Ratio.
LOS = Level of Service.
Ln = Lane.
CLTL = Continuous Left-Turn Lane.

Table 4.2 Peak Hour Intersection Level of Service Results - Existing Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	42.6	D	59.9	**E**
2. Genesee Avenue & Bannock Avenue	Signal	19.7	B	10.5	B
3. Genesee Avenue & Chateau Drive	Signal	11.0	B	4.7	A
4. Genesee Avenue & Mt Herbert Avenue	Signal	13.7	B	7.8	A
5. Genesee Avenue & Derrick Drive	Signal	16.9	B	50.9	D
6. Mt Everest Boulevard & Mt Etna Drive	AWSC	9.0	A	10.6	B
7. Genesee Avenue & Mt Etna Drive	Signal	20.1	C	24.5	C
8. Clairemont Drive & Balboa Avenue	Signal	37.7	D	60.1	**E**
9. Mt Everest Boulevard & Balboa Avenue	Signal	73.7	**E**	58.7	**E**
10. Genesee Avenue & Balboa Avenue	Signal	36.3	D	59.1	**E**
11. Shopping Center Driveway & Balboa Avenue	Signal	20.9	C	15.4	B
12. Mt Abernathy Avenue & Balboa Avenue	Signal	35.8	D	41.6	D
13. Cannington Drive & Balboa Avenue	Signal	10.6	B	24.0	C
14. Charger Boulevard & Balboa Avenue	Signal	43.4	D	33.3	C
15. I-805 Southbound Ramps & Balboa Avenue	Signal	9.5	A	7.5	A
16. I-805 Northbound Ramps & Balboa Avenue	Signal	8.8	A	9.1	A
17. Genesee Avenue & Mt Alifan Drive	Signal	47.6	D	50.5	D
18. Project Driveway & Mt Etna Drive	DNE	-	-	-	-

Source: NDS, Chen Ryan Associates; March 2019

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
DNE = Does Not Exist.

Ramp Metering Analysis

Table 4.3 summarizes the freeway ramp metering analysis results under Existing conditions.

Table 4.3 REVISED Ramp Metering Analysis – Existing Conditions

On-Ramp	# of Lanes		Peak Hour	SOV							HOV						
	SOV	HOV		Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min)	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)	Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min))	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)
I-805 SB On-Ramp @ Balboa Ave EB	1	1	PM	384	347	37	6.4	186	1,000	0	96	347	0	0	0	1,000	0
I-805 NB Ramp @ Balboa Ave EB	1	1	AM	314	451	0	0	0	410	0	78	451	0	0	0	410	0

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle.
[1] Demand is the peak hour demand expected to use the on-ramp.
[2] Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
[3] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[4] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[5] Queue = (Excess Demand) X 29 ft/veh.

As shown in the table, the anticipated peak hour demand does ~~not~~ exceed the ~~average~~ most restrictive meter rate at the I-805 Southbound On-Ramp @ Balboa Avenue EB by 37 vehicles and results in a queue length of 186 feet in the Single Occupancy Vehicle (SOV) lane. ~~at either of the study ramp meter locations.~~

5.0 Existing Plus Project Conditions

This section provides an analysis of existing traffic conditions with the addition of the Proposed Project. Under this scenario, the Proposed Project's traffic volumes were added to the existing traffic volumes. This scenario is required for the environmental assessment of substantive land use or roadway network modifications and provides decision-makers and the public with development impacts referenced to an "observable" baseline.

This hypothetical scenario isolates the potential impacts of the Project by eliminating the impacts from both ambient growth and other Proposed Projects. Therefore, the Existing Plus Project analysis is presented for informational purposes only.

5.1 Existing Plus Project Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Existing Plus Project conditions were assumed to be identical to the Existing conditions geometrics, as previously shown in Figure 4-1.

Existing Plus Project traffic volumes were derived by combining the existing traffic volumes (displayed in Figure 4-2) and the Project trip assignment volumes (displayed in Figure 3-4). Daily roadway and peak hour intersection volumes for this scenario are displayed in **Figures 5-1**.

5.2 Existing Plus Project Traffic Conditions

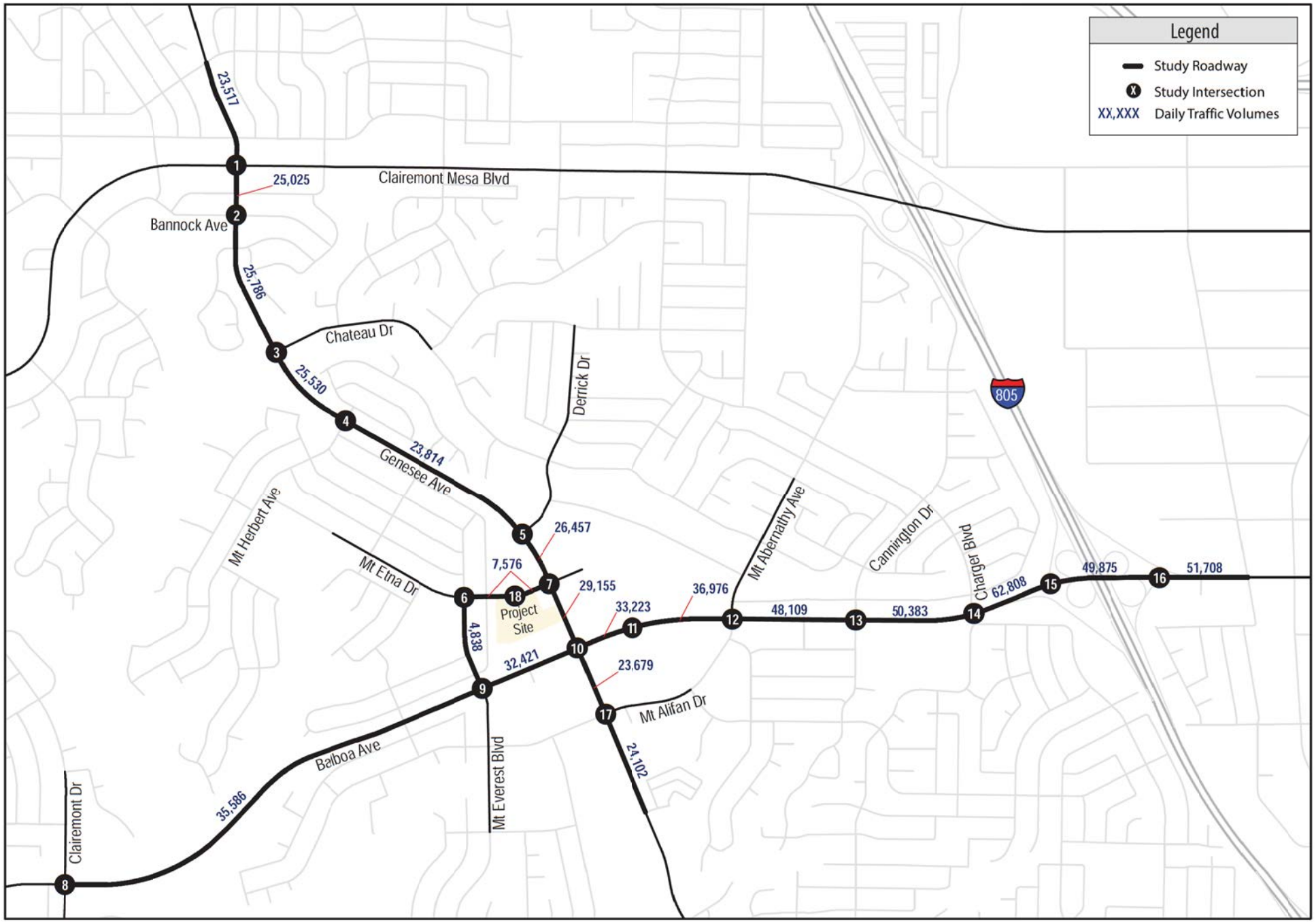
Analyses were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection level of service, as well as freeway ramp meter analysis results are discussed separately below.

Roadway Segment Analysis

Table 5.1 displays the LOS analysis results for key roadway segments under Existing Plus Project conditions.

As shown in Table 5.1, all of the study area roadway segments are projected to operate at an acceptable LOS with the addition Project traffic, with the exception of the following six (6) roadway segments:

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue (LOS E);
- Balboa Avenue, between Clairemont Drive and Mt Everest Boulevard (LOS E);
- Balboa Avenue, between Mt Abernathy Avenue and Cannington Drive (LOS E);
- Balboa Avenue, between Cannington Drive and Charger Boulevard (LOS F);
- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps (LOS F); and
- Balboa Avenue, between I-805 Northbound Ramps and Ruffner Street (LOS F).



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

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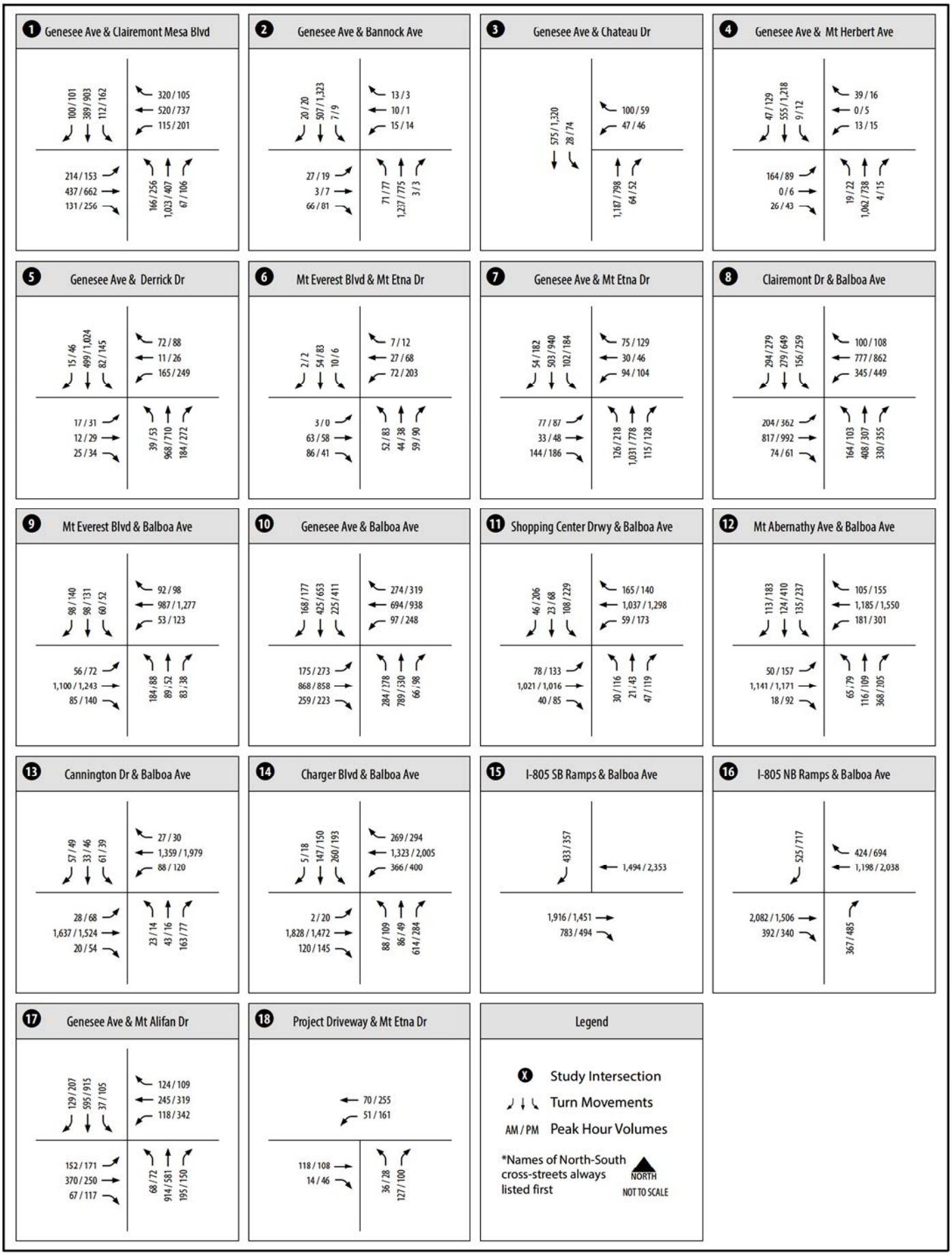
Figure 5-1

Traffic Volumes - Existing Plus Project Conditions



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

Figure 5-1
Traffic Volumes - Existing Plus Project Conditions

Table 5.1 Roadway Segment Level of Service Results - Existing Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	ADT	Capacity (LOS E)	With Project		W/O Project		Δ	S?
						V/C	LOS	V/C	LOS		
Genesee Avenue	Between Appleton Street & Clairemont Mesa Boulevard	4-Ln Major Arterial	Raised Median	23,517	40,000	0.588	C	0.577	C	0.011	N
	Between Clairemont Mesa Boulevard & Bannock Avenue	4-Ln Major Arterial	Undivided	25,025	40,000	0.626	C	0.612	C	0.014	N
	Between Bannock Avenue & Chateau Drive	4-Ln Major Arterial	Raised Median	25,786	40,000	0.645	C	0.631	C	0.014	N
	Between Chateau Drive & Mt Herbert Avenue	4-Ln Major Arterial	Raised Median	25,530	40,000	0.638	C	0.624	C	0.014	N
	Between Mt Herbert Avenue & Derrick Drive	4-Ln Major Arterial	Raised Median	23,814	40,000	0.595	C	0.581	C	0.014	N
	Between Derrick Drive & Mt Etna Drive	6-Ln Major Arterial	Raised Median	26,457	50,000	0.529	B	0.513	B	0.016	N
	Between Mt Etna Drive & Balboa Avenue	5-Ln Major Arterial	Raised Median	29,155	45,000	0.648	C	0.617	C	0.031	N
	Between Balboa Avenue & Mt Alifan Drive	5-Ln Major Arterial	Raised Median	23,679	45,000	0.526	B	0.517	B	0.009	N
	Between Mt Alifan Drive & Genesee Court	4-Ln Major Arterial	Raised Median	24,102	40,000	0.603	C	0.594	C	0.009	N
Mt Everest Boulevard	Between Mt Etna Drive & Balboa Avenue	2-Ln Collector w/o CLTL	Undivided	4,838	8,000	0.605	C	0.526	C	0.079	N
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	7,576	8,000	0.947	E	0.511	C	0.436	Y

Table 5.1 Roadway Segment Level of Service Results - Existing Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	ADT	Capacity (LOS E)	With Project		W/O Project		Δ	S?
						V/C	LOS	V/C	LOS		
Balboa Avenue	Between Clairemont Drive & Mt Everest Boulevard	4-Ln Major Arterial	Raised Median	35,586	40,000	0.89	**E**	0.875	**E**	0.014	N
	Between Mt Everest Boulevard & Genesee Avenue	4-Ln Major Arterial	Raised Median	32,421	40,000	0.811	D	0.811	D	0	N
	Between Genesee Avenue & Shopping Center Driveway	6-Ln Major Arterial	Raised Median	33,223	50,000	0.664	C	0.645	C	0.02	N
	Between Shopping Center Driveway & Mt Abernathy Avenue	6-Ln Major Arterial	Raised Median	36,976	50,000	0.74	C	0.72	C	0.02	N
	Between Mt Abernathy Avenue & Cannington Drive	6-Ln Major Arterial	Raised Median	48,109	50,000	0.962	**E**	0.943	**E**	0.019	N
	Between Cannington Drive & Charger Boulevard	6-Ln Major Arterial	Raised Median	50,383	50,000	1.008	**F**	0.988	**E**	0.019	**Y**
	Between Charger Boulevard & I-805 Southbound Ramps	6-Ln Major Arterial	Raised Median	62,808	50,000	1.256	**F**	1.237	**F**	0.019	**Y**
	Between I-805 Southbound Ramps & I-805 Northbound Ramps*	8-Ln Prime Arterial	Raised Median	49,875	80,000	0.623	B	0.614	B	0.009	N
	Between I-805 Northbound Ramps & Ruffner Street	6-Ln Major Arterial	Raised Median	51,708	50,000	1.034	**F**	1.025	**F**	0.01	N

Source: Chen Ryan Associates; March 2019

Notes:
*The Balboa Ave segment between the I-805 ramps are classified as a 6-lane major according to the Clairemont Community Plan; however, the actual roadway cross-section includes eight lanes (two of which are auxiliary ramp lanes).
Bold letter indicates unacceptable LOS E or F.
ADT = Average Daily Traffic.
V/C = Volume to Capacity Ratio.
LOS = Level of Service.
Ln = Lane.
CLTL = Continuous Left-Turn Lane.
S? = Indicates if change in V/C ratio is significant.
Δ = Change in V/C Ratio.

Of the six (6) roadway segments projected to operate at substandard level of service E or F under Existing Plus Project conditions, the following three (3) could potentially result in a significant impact based on the significance criteria outlined in Section 2.5. As noted in section 2.2, daily roadway LOS is typically used only at the planning level and does not necessarily indicate true roadway operations. Therefore, to determine if the identified roadway segments operate at acceptable levels during peak times (worst case), peak hour aerial analyses and peak hour intersection analyses were conducted to better understand the actual travel flow along the roadways. Roadway segments in which are built to their ultimate classification, the peak hour arterial LOS, and the intersections at either end of the segment are projected to operate at acceptable LOS D or better are not considered to have a significant impact, since the actual travel flow along the segment is consider to be acceptable.

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue – LOS E. The Proposed Project would add 3,486 daily trips, resulting in an increase of 0.436 in V/C ratio. Therefore, the following additional analyses were conducted to determine if the roadway segment would be significantly impacted:

    - The arterial level of service analysis identifies this roadway segment to operate at LOS E in the EB and WB directions during both the AM and PM peak hours;
    - The intersections of Mt Everest Boulevard/Mt Etna Drive and Genesee Avenue/Mt Etna Drive are projected to operate at LOS C or better during both AM and PM peak hours;
    - Therefore, the Proposed Project **would result** in a significant impact to this roadway segment.

- Balboa Avenue, between Cannington Drive and Charger Boulevard – LOS F. The Proposed Project would add 962 daily trips, resulting in an increase of 0.019 in V/C ratio. Therefore, the following additional analyses were conducted to determine if the roadway segment would be significantly impacted:

    - The arterial level of service analysis identifies this roadway segment to operate at LOS E and LOS D in the EB and WB directions, respectively, during the AM peak hour, and LOS F and LOS D in the EB and WB directions, respectively, during the PM peak hour;
    - The intersections of Mt Albertine Avenue/Cannington Drive/Balboa Avenue and Eckstrom Avenue/Charger Boulevard/Balboa Avenue are projected to operate at LOS D or better during both AM and PM peak hours;
    - Therefore, the Proposed Project **would result** in a significant impact to this roadway segment.

- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps – The Proposed Project would add 962 daily trips, resulting in an increase of 0.019 in V/C ratio. Therefore, the following additional analyses were conducted to determine if the roadway segment would be significantly impacted:

- The arterial level of service analysis identifies this roadway segment to operate at LOS B and LOS C in the EB and WB directions, respectively, during the AM peak hour, and LOS B and LOS D in the EB and WB directions, respectively, during the PM peak hour;
- The intersections of Eckstrom Avenue/Charger Boulevard/Balboa Avenue and I-805 Southbound Ramps/Balboa Avenue are projected to operate at LOS D or better during both AM and PM peak hours;
- Therefore, the Proposed Project **would not result** in a significant impact to this roadway segment.

Intersection Analysis

Table 5.2 displays intersection LOS and average vehicle delay results under Existing Plus Project conditions. Level of service calculation worksheets for the Existing Plus Project conditions are provided in **Appendix E**.

As shown in Table 5.2, all of the study area intersections would continue to operate at acceptable LOS D or better, during both the AM and PM peak hours, with the addition of Project traffic, with the exception of the following four (4) intersections:

- Genesee Avenue & Clairemont Mesa Boulevard – LOS E during the PM peak hour;
- Clairemont Drive & Balboa Avenue – LOS E during the PM peak hour;
- Mt Everest Boulevard & Balboa Avenue – LOS F during the AM peak hour and LOS E during the PM peak hour; and
- Genesee Avenue & Balboa Avenue – LOS E during the PM peak hour.

Based on the City of San Diego Significance Criteria, outlined in Section 2.5, the traffic associated with the Proposed Project would cause a significant impact to the following three (3) intersections:

- Genesee Avenue & Clairemont Mesa Boulevard;
- Clairemont Drive & Balboa Avenue; and
- Mt Everest Boulevard & Balboa Avenue.

Table 5.2 Peak Hour Intersection Level of Service Results - Existing Plus Project Conditions

Intersection	Control	AM Peak Hour Avg. Delay (sec)	AM Peak Hour LOS	PM Peak Hour Avg. Delay (sec)	PM Peak Hour LOS	Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	43.2	D	62.9	**E**	42.6 / 59.9	D / **E**	0.6 / 3.0	N / **Y**
2. Genesee Avenue & Bannock Avenue	Signal	19.8	B	10.5	B	19.7 / 10.5	B / B	0.1 / 0.0	N / N
3. Genesee Avenue & Chateau Drive	Signal	11.3	B	4.7	A	11.0 / 4.7	B / A	0.3 / 0.0	N / N
4. Genesee Avenue & Mt Herbert Avenue	Signal	13.7	B	7.7	A	13.7 / 7.8	B / A	0.0 / -0.1	N / N
5. Genesee Avenue & Derrick Drive	Signal	16.8	B	52.4	D	16.9 / 50.9	B / D	-0.1 / 1.5	N / N
6. Mt Everest Boulevard & Mt Etna Drive	AWSC	9.3	A	11.3	B	9.0 / 10.6	A / B	0.3 / 0.7	N / N
7. Genesee Avenue & Mt Etna Drive	Signal	23.8	C	26.7	C	20.1 / 24.5	C / C	3.7 / 2.2	N / N
8. Clairemont Drive & Balboa Avenue	Signal	38.3	D	62.6	**E**	37.7 / 60.1	D / **E**	0.6 / 2.5	N / ~~N~~Y
9. Mt Everest Boulevard & Balboa Avenue	Signal	84.3	**F**	60.6	**E**	73.7 / 58.7	**E** / **E**	10.6 / 1.9	N / **Y**
10. Genesee Avenue & Balboa Avenue	Signal	38.8	D	60.3	**E**	36.3 / 59.1	D / **E**	2.5 / 1.2	N / N
11. Shopping Center Driveway & Balboa Avenue	Signal	21.1	C	15.0	B	20.9 / 15.4	C / B	0.2 / -0.4	N / N
12. Mt Abernathy Avenue & Balboa Avenue	Signal	37.5	D	41.8	D	35.8 / 41.6	D / D	1.7 / 0.2	N / N
13. Cannington Drive & Balboa Avenue	Signal	10.5	B	26.6	C	10.6 / 24.0	B / C	-0.1 / 2.6	N / N
14. Charger Boulevard & Balboa Avenue	Signal	45.3	D	33.2	C	43.4 / 33.3	D / C	1.9 / -0.1	N / N
15. I-805 Southbound Ramps & Balboa Avenue	Signal	9.5	A	7.7	A	9.5 / 7.5	A / A	0.0 / 0.2	N / N
16. I-805 Northbound Ramps & Balboa Avenue	Signal	8.7	A	9.1	A	8.8 / 9.1	A / A	-0.1 / 0.0	N / N
17. Genesee Avenue & Mt Alifan Drive	Signal	47.6	D	50.5	D	47.6 / 50.5	D / D	0.0 / 0.0	N / N
18. Project Driveway & Mt Etna Drive	SSSC	10.5	B	12.2	B	DNE	DNE	10.5 / 12.2	N / N

Source: Chen Ryan Associates; March 2019

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.

Ramp Metering Analysis

Table 5.3 summarizes the freeway ramp metering analysis results under Existing Plus Project conditions.

Table 5.3A REVISED Ramp Metering Analysis – Existing Plus Project Conditions (SOV)

On-Ramp	# of Lanes SOV	# of Lanes HOV	Peak Hour	Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min)	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)	Delay w/o Project (min)	Δ Delay (min)	S?
I-805 SB On-Ramp @ Balboa Ave EB	1	1	PM	390	347	43	7.4	215	1,000	0	6.4	1.0	No
I-805 NB Ramp @ Balboa Ave EB	1	1	AM	315	451	0	0	0	410	0	0	0.0	No

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle.
[1] Demand is the peak hour demand expected to use the on-ramp.
[2] Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
[3] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[4] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[5] Queue = (Excess Demand) X 29 ft/veh.

Table 5.3B REVISED Ramp Metering Analysis – Existing Plus Project Conditions (HOV)

On-Ramp	# of Lanes SOV	# of Lanes HOV	Peak Hour	Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min)	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)	Delay w/o Project (min)	Δ Delay (min)	S?
I-805 SB On-Ramp @ Balboa Ave EB	1	1	PM	98	347	0	0	0	1,000	0	0	0.0	No
I-805 NB Ramp @ Balboa Ave EB	1	1	AM	79	451	0	0	0	410	0	0	0.0	No

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle.
[1] Demand is the peak hour demand expected to use the on-ramp.
[2] Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
[3] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[4] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[5] Queue = (Excess Demand) X 29 ft/veh.

As shown in the table, the anticipated peak hour demand anticipated to exceed the most restrictive meter rate at the I-805 Southbound On-Ramp @ Balboa Avenue EB by 43 vehicles and results in a queue length of 215 feet in the Single Occupancy Vehicle (SOV) lane.
~~would not exceed the average meter rate at either of the study ramp meter locations. Based upon the significance criteria presented in Section 2.5 of this report, the addition of Project traffic would not cause a significant impact to any of the study ramp meter locations.~~

Based on the City of San Diego Significance Criteria, outlined in Section 2.5, the traffic associated with the Proposed Project would not cause a significant impact to any of the study ramp meter locations since the change in delay is less than 2 minutes under Existing Plus Project conditions.

5.3 Impact Significance and Mitigation

As mentioned previously in this section, Existing Plus Project is a hypothetical scenario, therefore, the mitigation measures described below are presented for informational purposes only.

Based upon the significance criteria presented in Section 2.5 of this report, the addition of Project traffic would cause a significant impact to two (2) roadway segments, three (3) intersections, and no ramp meters under Existing Plus Project conditions. The following mitigation measures would be required to mitigate the Project impact to less than significant:

Roadways:

The traffic generated by the Proposed Project is anticipated to create an impact at the following two (2) roadway segments:

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue Provide additional right-of-way and widen the roadway from a 2-Lane Collector to a 2-Lane Collector with a Continuous-Left-Turn-Lane (or construct left turn pocket where needed) prior to the project's total trip generation of 2,077 ADT. This roadway is along the Project's frontage, so providing a separate left-turn lane into the Project site would provide additional capacity and would fully mitigate the significant traffic impact associated with the Proposed Project. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the classification of this roadway, additional right-of-way would be required to implement this measure; therefore, this impact would remain *significant and unavoidable*.

- Balboa Avenue, between Cannington Drive and Charger Boulevard – Reclassify the roadway from a 6-Lane Major Arterial to a 6-Lane Primary Arterial prior to the project's total trip generation of 1,811 ADT. The significant traffic impact associated with the Proposed Project along this roadway would be fully mitigated with the implementation of this measure. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the existing land use fronting this roadway (i.e. residential and school uses) as well as the right-of-way

constraints, a classification change would not be feasible. Therefore, this impact would remain *significant and unavoidable*.

Intersections:

The traffic generated by the Proposed Project is anticipated to create an impact at the following three (3) intersections:

1. Genesee Avenue & Clairemont Mesa Boulevard – Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 900 ADT.

   The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

8. Clairemont Drive & Balboa Avenue - Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 900 ADT.

   The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

9. Mt Everest Boulevard & Balboa Avenue – Restripe the northbound and southbound approaches on Mt Everest Boulevard to provide an exclusive left-turn lane and a shared through-right turn lane, then convert the northbound and southbound approaches from split phasing to protected left-turn phasing. This improvement must be implemented prior to the project's total trip generation of 650 ADT. Implementing this improvement could be done within the existing right-of-way and would reduce intersection delays to pre-Project conditions. However, the County of San Diego cannot guarantee improvements to an intersection under the jurisdiction of the City of San Diego. Therefore, this impact would remain *significant and unavoidable*.

Table 5.4 displays intersection LOS and average vehicle delay results under Existing Plus Project with Mitigation conditions. The trigger analysis worksheets and level of service calculation worksheets for the Existing Plus Project with Mitigation conditions are provided in **Appendix F**.

Table 5.4 Peak Hour Intersection Level of Service Results - Existing Plus Project with Mitigation Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec)	M?
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	39.9	D	50.8	D	42.6 / 59.9	D / **E**	-2.7 / -9.1	Y
8. Clairemont Drive & Balboa Avenue	Signal	37.9	D	55.1	**E**	37.7 / 60.1	D / **E**	0.2 / -5.0	Y
9. Mt Everest Boulevard & Balboa Avenue	Signal	38.7	D	25.4	C	73.7 / 58.7	**E / E**	-35.0 / -33.3	Y

Source: Chen Ryan Associates; March 2019

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
M? = Impact Mitigated?

As shown in Table 5.4, the proposed mitigation measures would either reduce the Proposed Project impact to less than significant or mitigated the Proposed Project impact to better than pre-Project conditions. However, the Genesee Avenue/Clairemont Mesa Boulevard and Clairemont Drive/Balboa Avenue intersections are considered to have significant and unavoidable impacts since these intersections are under the City's jurisdiction, so implementation of the mitigation is not under the control of the Project.

Ramp Meters:

No impacts were identified. Therefore, no mitigation is required.

6.0 Near-Term Base (Year 2021)

This section provides an analysis of Year 2021, which is the opening year of the Project, traffic conditions both with and without the Proposed Project. The scenarios analyzed in this section include:

- Near-Term Year 2021 Base
- Near-Term Year 2021 Base Plus Project

6.1 Near-Term Base (Year 2021) Roadway Network and Traffic Volumes

Based on review of the City's "Open DSD" website (last accessed on January 23, 2019), and consultation with City staff, six projects were identified to potentially add traffic to the Project study area. **Table 6.1** displays all cumulative projects used to develop Near-Term Year 2021 Base Volumes.

Table 6.1 Cumulative Projects

Project ID	Project	Address	Project Description
327976	Jefferson Pacific Beach	4275 Mission Bay Drive	Demolish 36,000 square feet of retail space and construction of 3-stories of residential units over ground floor retail and underground parking. Per developer site, 172 apartment units and 14,000 sq. feet of retail space.
-	HTH Clairemont	5331 Mt Alifan Drive	High Tech High is proposing to provide educational services to a maximum of 1,110 students in grades TK-12.
388165	Mt Acadia CUP TPM	3560 Mt Acadia Boulevard	Demolish an existing commercial building and construct a 59,472 sq. ft residential care facility and a 5,672 sq. ft retail building.
489476	The Summit at MB – EOT	3139 Clairemont Drive	Develop approximately 499 residential units which would replace an existing 323-unit apartment complex.
530427	Fairfield Marriott Suites CDP	4345 Mission Bay Drive	Demolish existing buildings and develop a 106-unit hotel
-	Lindbergh-Schweitzer Elementary School	4133 Mt Albertine Avenue	Relocate existing Kavod Charter School from Cubberley Elementary School to the existing Schweitzer Campus

Source: City of San Diego Open DSD, Accessed January 23, 2019

Cumulative project trips were generated using *City of San Diego Land Development Code - Trip Generation Manual 2003* and Chula Vista High Tech High trip generation rates derived for trip generation study conducted by Chen Ryan Associates in June 2017. **Table 6.2** displays the trip generation of all cumulative projects shown in Table 6.1.

Table 6.2 Cumulative Project Trip Generation

Land Use	Units	Trip Rate	ADT	AM Peak Hour					PM Peak Hour				
				%	Trips	Split	In	Out	%	Trips	Split	In	Out
Jefferson at Pacific Beach	172 MF Units	6 / DU	1,032	8.0%	83	(2:8)	17	66	9.0%	93	(7:3)	65	28
	14 Retail KSF	110 / KSF	1,540	3.0%	47	(6:4)	28	19	9.0%	139	(5:5)	70	69
HTH Clairemont*	1,110 Students	2.5 / Student	2,775	35.9%	999	(5.6:4.4)	559	440	12.0%	333	(4.5: 5.5)	150	183
HTH Clairemont* – 9th Grade Enrollment Captured in Existing Counts	100 Students	2.5 / Student	-250	35.9%	-90	(5.6:4.4)	-50	-40	12.0%	-30	(4.5: 5.5)	-14	-16
Mt Acadia CUP TPM	57 Congregate Care DU	2 / DU	114	3.0%	4	(6:4)	2	2	8.0%	10	(5:5)	5	5
	4.4 Retail KSF	40 / KSF	176	4.0%	8	(7:3)	6	2	9.0%	16	(5:5)	8	8
Fairfield Marriott Suites CDP	106 Units	8 / DU	848	5.0%	43	(6:4)	26	17	7.0%	60	(4:6)	24	36
Lindbergh – Schweitzer Elementary School	280 Students	2.9 / Student	812	31.0%	252	(6:4)	151	101	19.0%	154	(4:6)	62	93
The Summit at MB – EOT (Proposed)	499 Units	6 / DU	2,994	8.0%	240	(2:8)	48	192	9.0%	269	(7:3)	189	80
The Summit at MB – EOT (Existing)**	323 Units	6 / DU	-1,938	8.0%	-155	(2:8)	-31	-124	9.0%	-174	(7:3)	-122	-52
Cumulative Total			**8,103**		**1,431**		**756**	**675**		**870**		**437**	**434**

Source: Chen Ryan Associates; City of San Diego Land Development Code – Trip Generation Manual, May 2003

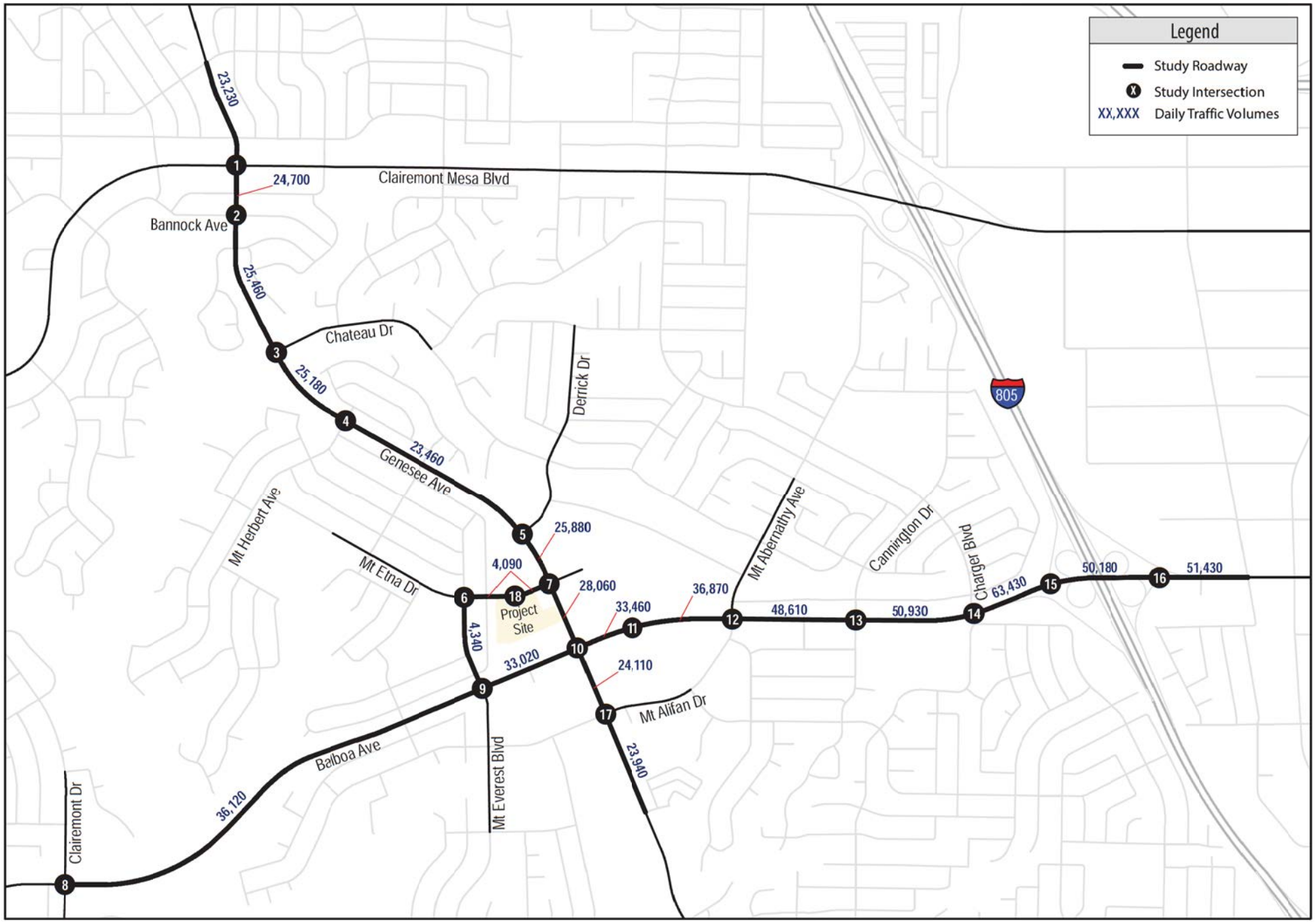
Notes:

* HTH Trip Estimates based on rates from Chula Vista High Tech High study

** Existing residential units for The Summit were removed as trip credits

Roadway and intersection geometrics under Near-Term Year 2021 Base conditions were assumed to be identical to the Existing conditions, as shown in Figure 4-1 previously.

Figure 6-1 displays average daily roadway and peak hour intersection volumes for the study roadway segments and intersections under the Near-Term Year 2021 Base conditions.



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

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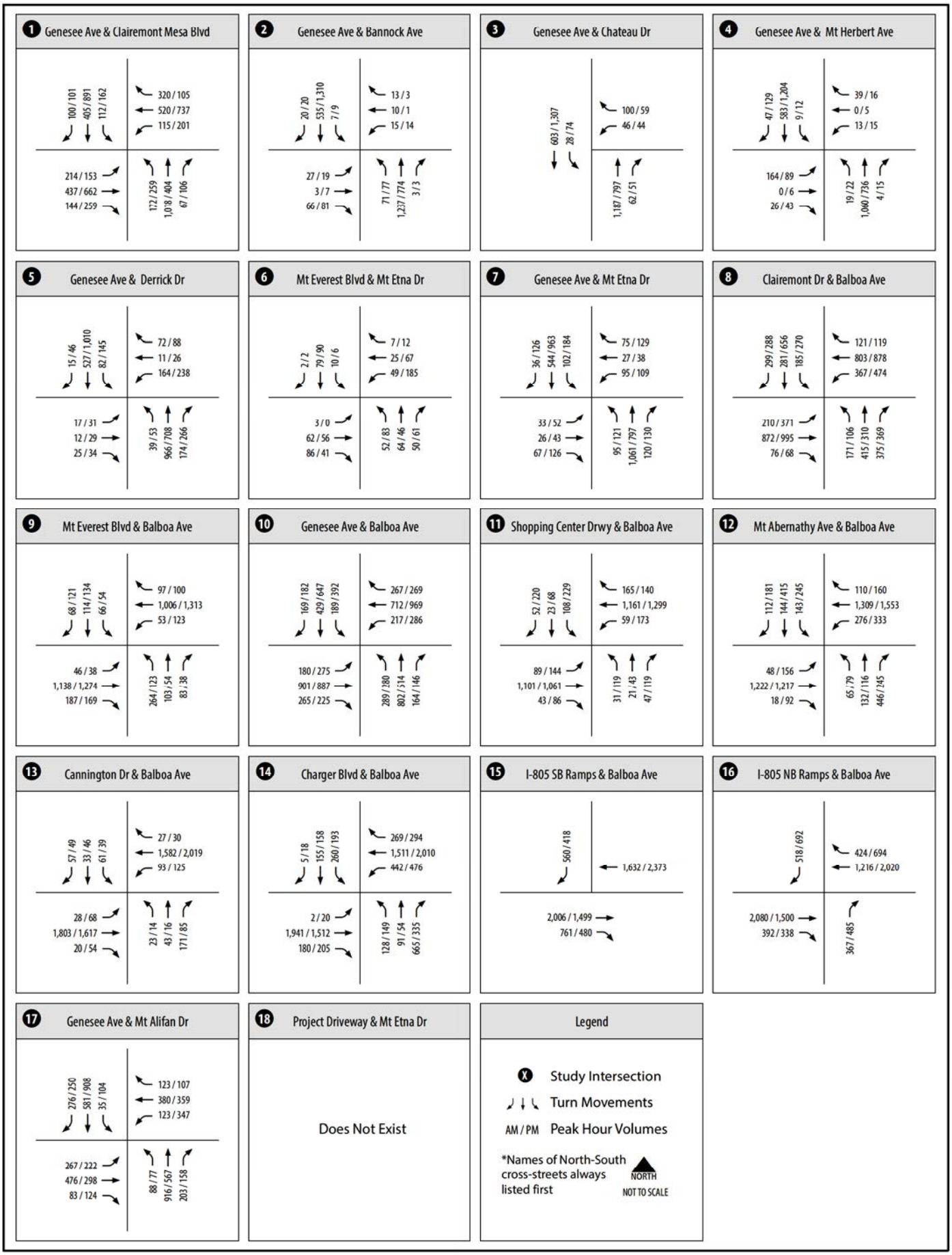
Figure 6-1
Traffic Volumes - Near-Term Year 2021
Base Conditions



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

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Figure 6-1
Traffic Volumes - Near-Term Year 2021
Base Conditions

6.2 Near-Term Base (Year 2021) Traffic Conditions

LOS analyses for the Near-Term Year 2021 Base conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection level of service, as well as freeway ramp meter analysis results for Near-Term Year 2021 Base conditions are discussed separately below.

Roadway Segment Analysis

Table 6.3 displays the Level of Service analysis results for key roadway segments under Near-Term Year 2021 Base conditions. As shown in Table 6.3, all of the study area roadway segments are projected to operate at an acceptable LOS under the Near-Term Year 2021 Base conditions with the exception of the following five (5) roadway segments:

- Balboa Avenue, between Clairemont Drive and Mt Everest Boulevard (LOS E);
- Balboa Avenue, between Mt Abernathy Avenue and Cannington Drive (LOS E);
- Balboa Avenue, between Cannington Drive and Charger Boulevard (LOS F);
- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps (LOS F); and
- Balboa Avenue, between I-805 Northbound Ramps and Ruffner Street (LOS F).

Table 6.3 Roadway Segment Level of Service Results – Near-Term Year 2021 Base Conditions

Roadway	Segment	Functional Classification	Cross-Section	ADT	Capacity (LOS E)	V/C	LOS
Genesee Avenue	Between Appleton Street & Clairemont Mesa Boulevard	4-Ln Major Arterial	Raised Median	23,230	40,000	0.581	C
	Between Clairemont Mesa Boulevard & Bannock Avenue	4-Ln Major Arterial	Undivided	24,700	40,000	0.618	C
	Between Bannock Avenue & Chateau Drive	4-Ln Major Arterial	Raised Median	25,460	40,000	0.637	C
	Between Chateau Drive & Mt Herbert Avenue	4-Ln Major Arterial	Raised Median	25,180	40,000	0.630	C
	Between Mt Herbert Avenue & Derrick Drive	4-Ln Major Arterial	Raised Median	23,460	40,000	0.587	C
	Between Derrick Drive & Mt Etna Drive	6-Ln Major Arterial	Raised Median	25,880	50,000	0.518	B
	Between Mt Etna Drive & Balboa Avenue	5-Ln Major Arterial	Raised Median	28,060	45,000	0.624	C
	Between Balboa Avenue & Mt Alifan Drive	5-Ln Major Arterial	Raised Median	24,110	45,000	0.536	B
	Between Mt Alifan Drive & Genesee Court	4-Ln Major Arterial	Raised Median	23,940	40,000	0.599	C
Mt Everest Boulevard	Between Mt Etna Drive & Balboa Avenue	2-Ln Collector w/o CLTL	Undivided	4,340	8,000	0.543	C
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	4,090	8,000	0.511	C
Balboa Avenue	Between Clairemont Drive & Mt Everest Boulevard	4-Ln Major Arterial	Raised Median	36,120	40,000	0.903	**E**
	Between Mt Everest Boulevard & Genesee Avenue	4-Ln Major Arterial	Raised Median	33,020	40,000	0.826	D
	Between Genesee Avenue & Shopping Center Driveway	6-Ln Major Arterial	Raised Median	33,460	50,000	0.669	C
	Between Shopping Center Driveway & Mt Abernathy Avenue	6-Ln Major Arterial	Raised Median	36,870	50,000	0.737	C
	Between Mt Abernathy Avenue & Cannington Drive	6-Ln Major Arterial	Raised Median	48,610	50,000	0.972	**E**
	Between Cannington Drive & Charger Boulevard	6-Ln Major Arterial	Raised Median	50,930	50,000	1.019	**F**
	Between Charger Boulevard & I-805 Southbound Ramps	6-Ln Major Arterial	Raised Median	63,430	50,000	1.269	**F**
	Between I-805 Southbound Ramps & I-805 Northbound Ramps*	8-Ln Prime Arterial	Raised Median	50,180	80,000	.627	C
	Between I-805 Northbound Ramps & Ruffner Street	6-Ln Major Arterial	Raised Median	51,430	50,000	1.029	**F**

Source: Chen Ryan Associates; March 2019

Notes:
*The Balboa Ave segment between the I-805 ramps are classified as a 6-lane major according to the Clairemont Community Plan; however, the actual roadway cross-section includes eight lanes (two of which are auxiliary ramp lanes).
Bold letter indicates unacceptable LOS E or F.
ADT = Average Daily Traffic.
V/C = Volume to Capacity Ratio.
LOS = Level of Service.
Ln = Lane.
CLTL = Continuous Left-Turn Lane.

Intersection Analysis

Table 6.4 displays intersection LOS and average vehicle delay results under Near-Term Year 2021 Base conditions. Level of service calculation worksheets for the Near-Term Year 2021 Base conditions are provided in **Appendix G**.

Table 6.4 Peak Hour Intersection Level of Service Results - Near-Term Year 2021 Base Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	43.0	D	61.5	**E**
2. Genesee Avenue & Bannock Avenue	Signal	20.0	B	10.4	B
3. Genesee Avenue & Chateau Drive	Signal	11.4	B	4.6	A
4. Genesee Avenue & Mt Herbert Avenue	Signal	13.6	B	7.7	A
5. Genesee Avenue & Derrick Drive	Signal	17.0	B	51.1	D
6. Mt Everest Boulevard & Mt Etna Drive	AWSC	9.4	A	10.8	B
7. Genesee Avenue & Mt Etna Drive	Signal	19.7	B	24.6	C
8. Clairemont Drive & Balboa Avenue	Signal	48.0	D	68.2	**E**
9. Mt Everest Boulevard & Balboa Avenue	Signal	116.5	**F**	64.7	**E**
10. Genesee Avenue & Balboa Avenue	Signal	41.1	D	59.2	**E**
11. Shopping Center Driveway & Balboa Avenue	Signal	21.1	C	15.1	B
12. Mt Abernathy Avenue & Balboa Avenue	Signal	39.1	D	44.4	D
13. Cannington Drive & Balboa Avenue	Signal	10.5	B	28.9	C
14. Charger Boulevard & Balboa Avenue	Signal	64.7	**E**	42.9	D
15. I-805 Southbound Ramps & Balboa Avenue	Signal	12.5	B	9.0	A
16. I-805 Northbound Ramps & Balboa Avenue	Signal	8.8	A	9.1	A
17. Genesee Avenue & Mt Alifan Drive	Signal	58.6	**E**	55.2	**E**
18. Mt Etna Drive & Project Driveway #1	DNE	-	-	-	-

Source: Chen Ryan Associates; March 2019

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
DNE = Does Not Exist.

As shown, all of the study area intersections are projected to operate at acceptable LOS D or better during both the AM and PM peak hours, under Near-Term Year 2021 Base conditions with the exception of the following six (6) intersections:

- Genesee Avenue & Clairemont Mesa Boulevard – LOS E during the PM peak hour;
- Clairemont Drive & Balboa Avenue – LOS E during the PM peak hour;
- Mt Everest Boulevard & Balboa Avenue – LOS F during the AM peak hour and LOS E during the PM peak hour;
- Genesee Avenue & Balboa Avenue – LOS E during the PM peak hour;
- Charger Boulevard & Balboa Avenue – LOS E during the AM peak hour; and
- Genesee Avenue & Mt Alifan Drive – LOS E during both the AM and PM peak hours.

Ramp Metering Analysis

Table 6.5 summarizes the freeway ramp metering analysis results under Near-Term Year 2021 Base Conditions.

Table 6.5 REVISED Ramp Metering Analysis – Near-Term Year 2021 Base Conditions

On-Ramp	# of Lanes		Peak Hour	SOV							HOV						
	SOV	HOV		Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min)	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)	Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min)	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)
I-805 SB On-Ramp @ Balboa Ave EB	1	1	PM	384	347	37	6.4	186	1,000	0	96	347	0	0	0	1,000	0
I-805 NB Ramp @ Balboa Ave EB	1	1	AM	314	451	0	0	0	410	0	78	451	0	0	0	410	0

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle.
[1] Demand is the peak hour demand expected to use the on-ramp.
[2] Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
[3] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[4] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[5] Queue = (Excess Demand) X 29 ft/veh.

As shown in Table 6.5, the anticipated peak hour demand is anticipated to exceed the most restrictive meter rate at the I-805 Southbound On-Ramp @ Balboa Avenue EB by 37 vehicles and results in a queue length of 186 feet in the Single Occupancy Vehicle (SOV) lane. ~~not anticipated to exceed the meter rate at either of the study ramp meter locations.~~

6.3 Near-Term Base (Year 2021) Plus Project Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Near-Term Year 2021 Base Plus Project conditions were assumed to be identical to Existing and Near-Term Year 2021 Base Conditions geometrics, as shown in Figure 4-1.

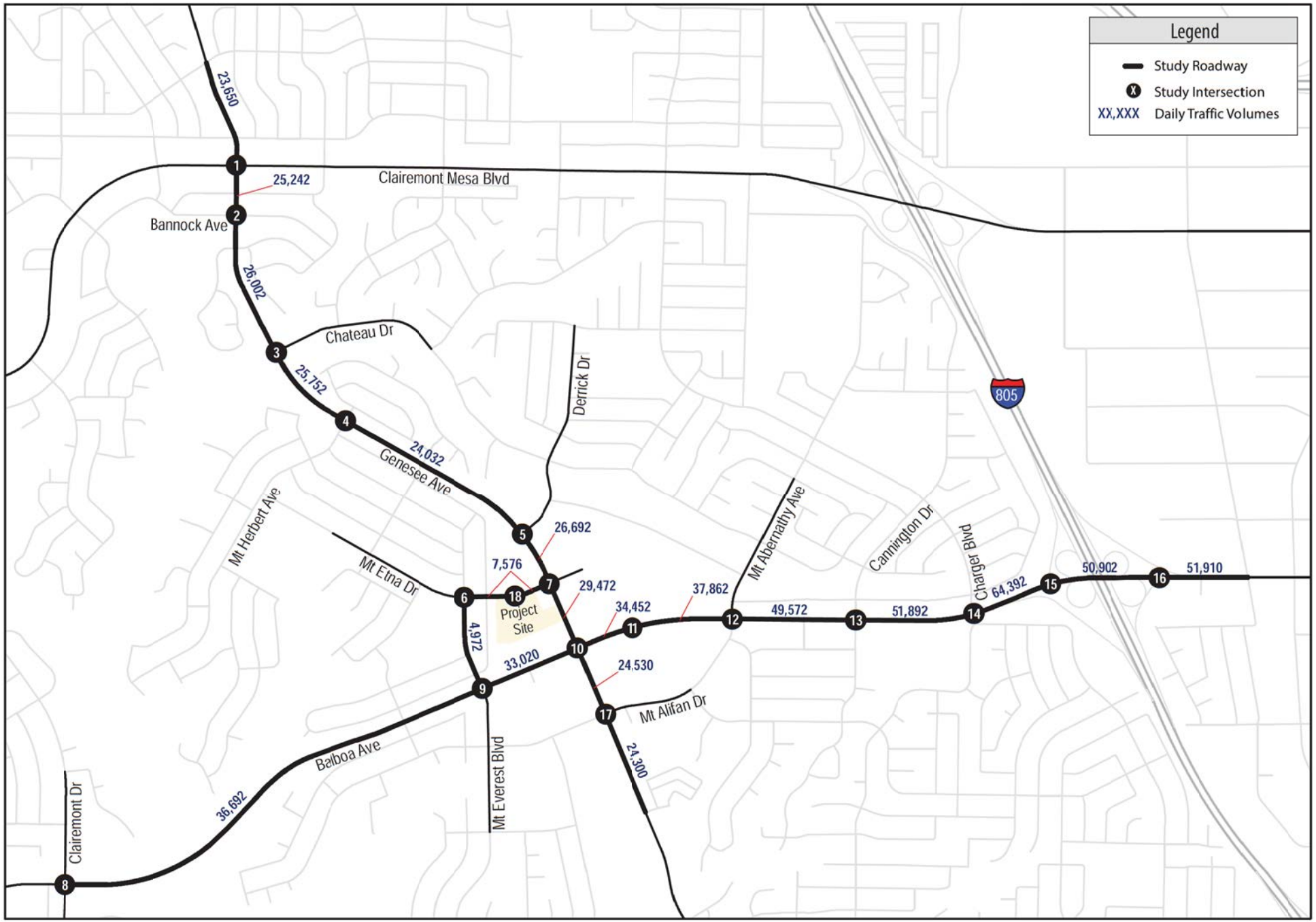
Near-Term Year 2021 Base Plus Project traffic volumes were derived by combining the Near-Term Year 2021 Base traffic volumes (displayed in Figure 6-3) and the Project trip assignment with (displayed in Figure 5-2). Daily and peak hour intersection volumes for this scenario are displayed in **Figure 6-2**.

6.4 Near-Term Base (Year 2021) Plus Project Traffic Conditions

Analyses were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection level of service, as well as freeway ramp meter analysis results are discussed in the following sections.

Roadway Segment Analysis

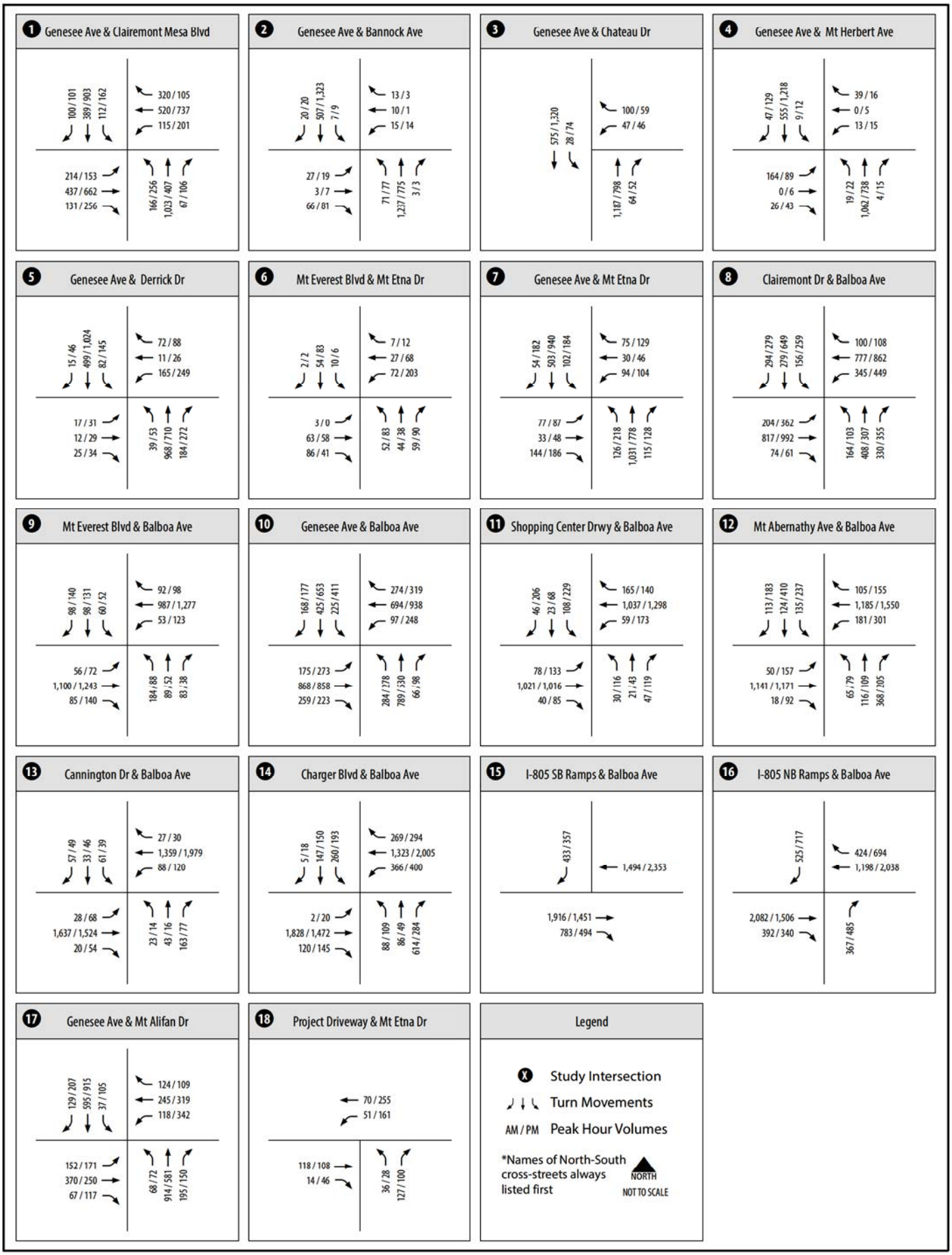
Table 6.6 displays the Level of Service analysis results for key roadway segments under Near-Term Year 2021 Base Plus Project conditions.



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

CHEN RYAN

Figure 6-2
Traffic Volumes - Near-Term Year 2021 Base Plus Project Conditions



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

CHEN RYAN

Figure 6-2
Traffic Volumes - Near-Term Year 2021 Base Plus Project Conditions

Table 6.6 Roadway Segment Level of Service Results - Near-Term Year 2021 Base Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	ADT	Capacity (LOS E)	With Project		Base		Δ	S?
						V/C	LOS	V/C	LOS		
Genesee Avenue	Between Appleton Street & Clairemont Mesa Boulevard	4-Ln Major Arterial	Raised Median	23,650	40,000	0.591	C	0.581	C	0.011	N
	Between Clairemont Mesa Boulevard & Bannock Avenue	4-Ln Major Arterial	Undivided	25,242	40,000	0.631	C	0.618	C	0.014	N
	Between Bannock Avenue & Chateau Drive	4-Ln Major Arterial	Raised Median	26,002	40,000	0.65	C	0.637	C	0.014	N
	Between Chateau Drive & Mt Herbert Avenue	4-Ln Major Arterial	Raised Median	25,752	40,000	0.644	C	0.63	C	0.014	N
	Between Mt Herbert Avenue & Derrick Drive	4-Ln Major Arterial	Raised Median	24,032	40,000	0.601	C	0.587	C	0.014	N
	Between Derrick Drive & Mt Etna Drive	6-Ln Major Arterial	Raised Median	26,692	50,000	0.534	B	0.518	B	0.016	N
	Between Mt Etna Drive & Balboa Avenue	5-Ln Major Arterial	Raised Median	29,472	45,000	0.655	C	0.624	C	0.031	N
	Between Balboa Avenue & Mt Alifan Drive	5-Ln Major Arterial	Raised Median	24,530	45,000	0.545	C	0.536	B	0.009	N
	Between Mt Alifan Drive & Genesee Court	4-Ln Major Arterial	Raised Median	24,300	40,000	0.608	C	0.599	C	0.009	N
Mt Everest Boulevard	Between Mt Etna Drive & Balboa Avenue	2-Ln Collector w/o CLTL	Undivided	4,972	8,000	0.622	C	0.543	C	0.079	N
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	7,576	8,000	0.947	**E**	0.511	C	0.436	**Y**

Table 6.6 Roadway Segment Level of Service Results - Near-Term Year 2021 Base Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	ADT	Capacity (LOS E)	With Project		Base		Δ	S?
						V/C	LOS	V/C	LOS		
Balboa Avenue	Between Clairemont Drive & Mt Everest Boulevard	4-Ln Major Arterial	Raised Median	36,692	40,000	0.917	E	0.903	E	0.014	N
	Between Mt Everest Boulevard & Genesee Avenue	4-Ln Major Arterial	Raised Median	33,020	40,000	0.826	D	0.826	D	0	N
	Between Genesee Avenue & Shopping Center Driveway	6-Ln Major Arterial	Raised Median	34,452	50,000	0.689	C	0.669	C	0.02	N
	Between Shopping Center Driveway & Mt Abernathy Avenue	6-Ln Major Arterial	Raised Median	37,862	50,000	0.757	C	0.737	C	0.02	N
	Between Mt Abernathy Avenue & Cannington Drive	6-Ln Major Arterial	Raised Median	49,572	50,000	0.991	E	0.972	E	0.019	N
	Between Cannington Drive & Charger Boulevard	6-Ln Major Arterial	Raised Median	51,892	50,000	1.038	F	1.019	F	0.019	Y
	Between Charger Boulevard & I-805 Southbound Ramps	6-Ln Major Arterial	Raised Median	64,392	50,000	1.288	F	1.269	F	0.019	Y
	Between I-805 Southbound Ramps & I-805 Northbound Ramps*	8-Ln Prime Arterial	Raised Median	50,902	80,000	0.636	C	0.627	C	0.009	N
	Between I-805 Northbound Ramps & Ruffner Street	6-Ln Major Arterial	Raised Median	51,910	50,000	1.038	F	1.029	F	0.01	N

Source: Chen Ryan Associates; March 2019

Notes:
*The Balboa Ave segment between the I-805 ramps are classified as a 6-lane major according to the Clairemont Community Plan; however, the actual roadway cross-section includes eight lanes (two of which are auxiliary ramp lanes).
Bold letter indicates unacceptable LOS E or F.
ADT = Average Daily Traffic.
V/C = Volume to Capacity Ratio.
LOS = Level of Service.
Ln = Lane.
CLTL = Continuous Left-Turn Lane.
S? = Indicates if change in V/C ratio is significant.
Δ = Change in V/C Ratio.

As shown in the Table 6.6 all of the study area roadway segments are projected to continue operating at acceptable LOS D or better under Near-Term Year 2021 Base Plus Project conditions with the exceptions of the following six (6) roadway segments:

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue (LOS E);
- Balboa Avenue, between Clairemont Drive and Mt Everest Boulevard (LOS E);
- Balboa Avenue, between Mt Abernathy Avenue and Cannington Drive (LOS E);
- Balboa Avenue, between Cannington Drive and Charger Boulevard (LOS F);
- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps (LOS F); and
- Balboa Avenue, between I-805 Northbound Ramps and Ruffner Street (LOS F).

Of these six (6) roadway segments, the following three (3) could potentially result in a significant impact based on the significance criteria outlined in Section 2.5. As noted in section 2.2, daily roadway LOS is typically used only at the planning level and does not necessarily indicate true roadway operations. Therefore, to determine if the identified roadway segments operate at acceptable levels during peak times (worst case) peak hour aerial analyses and peak hour intersection analyses were conducted to better understand the actual travel flow along the roadways. Roadway segments in which are built to their ultimate classification, the peak hour arterial LOS, and the intersections at either end of the segment are projected to operate at acceptable LOS D or better are not considered to have a significant impact, since the actual travel flow along the segment is consider to be acceptable.

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue – LOS E. The Proposed Project would add 3,486 daily trips, resulting in an increase of 0.436 in V/C ratio. Therefore, the following additional analyses were conducted to determine if the roadway segment would be significantly impacted:

    - The arterial level of service analysis identifies this roadway segment to operate at LOS E in the EB and WB directions during both the AM and PM peak hours;
    - The intersections of Mt Everest Boulevard/Mt Etna Drive and Genesee Avenue/Mt Etna Drive are projected to operate at LOS C or better during both AM and PM peak hours;
    - Therefore, the Proposed Project **would result** in a significant impact to this roadway segment.

- Balboa Avenue, between Cannington Drive and Charger Boulevard – LOS F. The Proposed Project would add 962 daily trips, resulting in an increase of 0.019 in V/C ratio. Therefore, the following additional analyses were conducted to determine if the roadway segment would be significantly impacted:

    - The arterial level of service analysis identifies this roadway segment to operate at LOS E and LOS D in the EB and WB directions, respectively, during the AM peak hour, and LOS F and LOS D in the EB and WB directions, respectively, during the PM peak hour;

- The intersections of Mt Albertine Avenue/Cannington Drive/Balboa Avenue and Eckstrom Avenue/Charger Boulevard/Balboa Avenue are projected to operate at LOS D or better during both AM and PM peak hours;
- Therefore, the Proposed Project **would result** in a significant impact to this roadway segment.

- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps – The Proposed Project would add 962 daily trips, resulting in an increase of 0.019 in V/C ratio. Therefore, the following additional analyses were conducted to determine if the roadway segment would be significantly impacted:
  - The arterial level of service analysis identifies this roadway segment to operate at LOS B and LOS C in the EB and WB directions, respectively, during the AM peak hour, and LOS B and LOS D in the EB and WB directions, respectively, during the PM peak hour;
  - The intersection of Eckstrom Avenue/Charger Boulevard/Balboa Avenue is projected to operate at LOS E in the AM peak hour and LOS D in the PM peak hour, and the I-805 Southbound Ramps/Balboa Avenue is projected to operate at LOS B or better during both AM and PM peak hours;
  - Therefore, the Proposed Project **would result** in a significant impact to this roadway segment.

Intersection Analysis

Table 6.7 displays intersection Level of Service and average vehicle delay results under Near-Term Year 2021 Base Plus Project conditions. Level of Service calculation worksheets for the Year 2021 Base Plus Project conditions are provided in **Appendix H**.

As shown in Table 6.7, all of the study area intersections are projected to operate at acceptable LOS D or better during both the AM and PM peak hours under Near-Term Year 2021 Base Plus Project conditions, with the exception of the following six (6) intersections:

- Genesee Avenue & Clairemont Mesa Boulevard – LOS E during the PM peak hour;
- Clairemont Drive & Balboa Avenue – LOS E during the PM peak hour;
- Mt Everest Boulevard & Balboa Avenue – LOS F during the AM peak hour and LOS E during the PM peak hour;
- Genesee Avenue & Balboa Avenue – LOS E during the PM peak hour;
- Charger Boulevard & Balboa Avenue – LOS E during the AM peak hour; and
- Genesee Avenue & Mt Alifan Drive – LOS E during both the AM and PM peak hours.

Based on the City of San Diego Significance Criteria, outlined in Section 2.5, the traffic associated with the Proposed Project would cause a significant impact to the following four (4) study intersections:

- Genesee Avenue & Clairemont Mesa Boulevard;
- Clairemont Drive & Balboa Avenue;
- Mt Everest Boulevard & Balboa Avenue; and
- Charger Boulevard & Balboa Avenue.

Table 6.7 Peak Hour Intersection Level of Service Results - Near-Term Year 2021 Base Plus Project Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	43.6	D	64.5	**E**	43.0 / 61.5	D / **E**	0.6 / 3.0	N / **Y**
2. Genesee Avenue & Bannock Avenue	Signal	20.1	C	10.4	B	20.0 / 10.4	B / B	0.1 / 0.0	N / N
3. Genesee Avenue & Chateau Drive	Signal	11.7	B	4.6	A	11.4 / 4.6	B / A	0.3 / 0.0	N / N
4. Genesee Avenue & Mt Herbert Avenue	Signal	13.6	B	7.6	A	13.6 / 7.7	B / A	0.0 / -0.1	N / N
5. Genesee Avenue & Derrick Drive	Signal	16.9	B	52.7	D	17.0 / 51.1	B / D	-0.1 / 1.6	N / N
6. Mt Everest Boulevard & Mt Etna Drive	AWSC	9.7	A	11.5	B	9.4 / 10.8	A / B	0.3 / 0.7	N / N
7. Genesee Avenue & Mt Etna Drive	Signal	23.4	C	26.8	C	19.7 / 24.6	B / C	3.7 / 2.2	N / N
8. Clairemont Drive & Balboa Avenue	Signal	49.1	D	70.5	**E**	48.0 / 68.2	D / **E**	1.1 / 2.3	N / **Y**
9. Mt Everest Boulevard & Balboa Avenue	Signal	133.6	**F**	66.4	**E**	116.5 / 64.7	**F** / **E**	17.1 / 1.7	**Y** / N
10. Genesee Avenue & Balboa Avenue	Signal	42.1	D	60.4	**E**	41.1 / 59.2	D / **E**	1.0 / 1.2	N / N
11. Shopping Center Driveway & Balboa Avenue	Signal	21.4	C	14.7	B	21.1 / 15.1	C / B	0.3 / -0.4	N / N
12. Mt Abernathy Avenue & Balboa Avenue	Signal	42.2	D	44.8	D	39.1 / 44.4	D / D	3.1 / 0.4	N / N
13. Cannington Drive & Balboa Avenue	Signal	10.5	B	32.6	C	10.5 / 28.9	B / C	0.0 / 3.7	N / N
14. Charger Boulevard & Balboa Avenue	Signal	68.3	**E**	42.8	D	64.7 / 42.9	**E** / D	3.6 / -0.1	**Y** / N
15. I-805 Southbound Ramps & Balboa Avenue	Signal	12.6	B	9.3	A	12.5 / 9.0	B / A	0.1 / 0.3	N / N
16. I-805 Northbound Ramps & Balboa Avenue	Signal	8.8	A	9.1	A	8.8 / 9.1	A / A	0.0 / 0.0	N / N
17. Genesee Avenue & Mt Alifan Drive	Signal	58.6	**E**	55.2	**E**	58.6 / 55.2	**E** / **E**	0.0 / 0.0	N / N
18. Mt Etna Drive & Project Driveway #1	SSSC	10.5	B	12.2	B	DNE	DNE	10.5 / 12.2	N / N

Source: Chen Ryan Associates; March 2019

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Control.
SSSC = Side-Street Stop Control.
DNE = Does Not Exist.

Ramp Metering Analysis

Table 6.8 summarizes the freeway ramp metering analysis results under Near–Term Year 2021 Base Plus Project conditions.

Table 6.8A REVISED Ramp Metering Analysis – Near-Term Year 2021 Base Plus Project Conditions (SOV)

On-Ramp	# of Lanes SOV	# of Lanes HOV	Peak Hour	Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min)	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)	Delay w/o Project (min)	Δ Delay (min)	S?
I-805 SB On-Ramp @ Balboa Ave EB	1	1	PM	390	347	43	7.4	215	1,000	0	6.4	1.0	No
I-805 NB Ramp @ Balboa Ave EB	1	1	AM	315	451	0	0	0	410	0	0	0.0	No

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle.
[1] Demand is the peak hour demand expected to use the on-ramp.
[2] Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
[3] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[4] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[5] Queue = (Excess Demand) X 29 ft/veh.

Table 6.8B REVISED Ramp Metering Analysis – Near-Term Year 2021 Base Plus Project Conditions (HOV)

On-Ramp	# of Lanes SOV	# of Lanes HOV	Peak Hour	Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min)	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)	Delay w/o Project (min)	Δ Delay (min)	S?
I-805 SB On-Ramp @ Balboa Ave EB	1	1	PM	98	347	0	0	0	1,000	0	0	0.0	No
I-805 NB Ramp @ Balboa Ave EB	1	1	AM	79	451	0	0	0	410	0	0	0.0	No

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle.
[1] Demand is the peak hour demand expected to use the on-ramp.
[2] Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
[3] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[4] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[5] Queue = (Excess Demand) X 29 ft/veh

As shown in Table 6.8, the anticipated peak hour demand is anticipated to exceed the most restrictive meter rate at the I-805 Southbound On-Ramp @ Balboa Avenue EB by 43 vehicles and results in a queue length of 215 feet in the Single Occupancy Vehicle (SOV) lane.

Based on the City of San Diego Significance Criteria, outlined in Section 2.5, the traffic associated with the Proposed Project would not cause a significant impact to any of the study ramp meter locations since the change in delay is less than 2 minutes under Near-Term Base Plus Project conditions.

6.5 Impact Significance and Mitigation

Based upon the significance criteria presented in Section 2.5 of this report, the addition of project traffic would cause a significant direct impact to three (3) roadway segments, four (4) intersections, and no ramp meters under Near-Term Year 2021 (project opening year) Plus Project conditions. The following mitigation measures would be required to mitigate the project impact to less than significant:

Roadways:

These roadways are currently built to their ultimate classifications (classification designation in the adopted Community Plan) and anticipated to operate at LOS E or F with the addition of the Proposed Project's trips. The arterial level of service and/or the connecting intersections of these segments are also anticipated to operate at unacceptable LOS E or F conditions. Consequently, the following three (3) roadways are considered to have a significant direct impact:

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue – Provide additional right-of-way and widen the roadway from a 2-Lane Collector to a 2-Lane Collector with a Continuous-Left-Turn-Lane (or construct left turn pocket where needed) prior to the project's total trip generation of 2,077 ADT. This roadway is along the Project's frontage, so providing a separate left-turn lane into the Project site would provide additional capacity and would fully mitigate the significant traffic impact associated with the Proposed Project. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the classification of this roadway, additional right-of-way would be required to implement this measure. Therefore, this impact would remain *significant and unavoidable*.

- Balboa Avenue, between Cannington Drive and Charger Boulevard – Reclassify the roadway from a 6-Lane Major Arterial to a 6-Lane Primary Arterial Provide prior to the project's total trip generation of 1,811 ADT. The significant traffic impact associated with the Proposed Project along this roadway would be fully mitigated with the implementation of this measure. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the existing land use fronting this roadway (i.e. residential and school uses) as well as the

right-of-way constraints, a classification upgrade would not be feasible. Therefore, this impact would remain *significant and unavoidable*.

- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps – Reclassify the roadway from a 6-Lane Major Arterial to a 6-Lane Expressway prior to the project's total trip generation of 1,561 ADT. The significant traffic impact associated with the Proposed Project along this roadway would be fully mitigated with the implementation of this measure. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the planned classification of this roadway, additional right-of-way would be required to implement this measure. Therefore, this impact would remain *significant and unavoidable*.

Intersections:

The traffic generated by the Proposed Project is anticipated to create an impact at the following four (4) intersections:

1. Genesee Avenue & Clairemont Mesa Boulevard – Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 2,100 ADT.

   The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

8. Clairemont Drive & Balboa Avenue - Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 2,700 ADT.

   The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

9. Mt Everest Boulevard & Balboa Avenue – Restripe the northbound and southbound approaches on Mt Everest Boulevard to provide an exclusive left-turn lane and a shared through-right turn lane, then convert the northbound and southbound approaches from split phasing to protected left-turn phasing. This improvement must be implemented prior to the project's total trip generation of 300 ADT. Implementing this improvement could be done within the existing right-of-way and would reduce intersection delays to pre-Project conditions. However, the County of San Diego cannot guarantee improvements to an intersection under the jurisdiction of the City of San Diego. Therefore, this impact would remain *significant and unavoidable*.

14. Charger Boulevard & Balboa Avenue – Restripe the northbound shared through-left turn lane into an exclusive through lane and convert the northbound and southbound signal from split phasing to protective phasing prior to the project's total trip generation of 1,850 ADT. Implementing this improvement would reduce intersection delays to pre-Project conditions. However, the County of San Diego cannot guarantee improvements to an intersection under the jurisdiction of the City of San Diego. Therefore, this impact would remain *significant and unavoidable*.

    Figure 6-3 shows a conceptual design of the Charger Boulevard and Balboa Avenue intersection mitigation.

Table 6.9 displays intersection LOS and average vehicle delay results under Near-Term Base (Year 2021) Plus Project with Mitigation conditions. The trigger analysis worksheets and level of service calculation worksheets for the Near-Term Base (Year 2021) Plus Project with Mitigation conditions are provided in **Appendix I.**

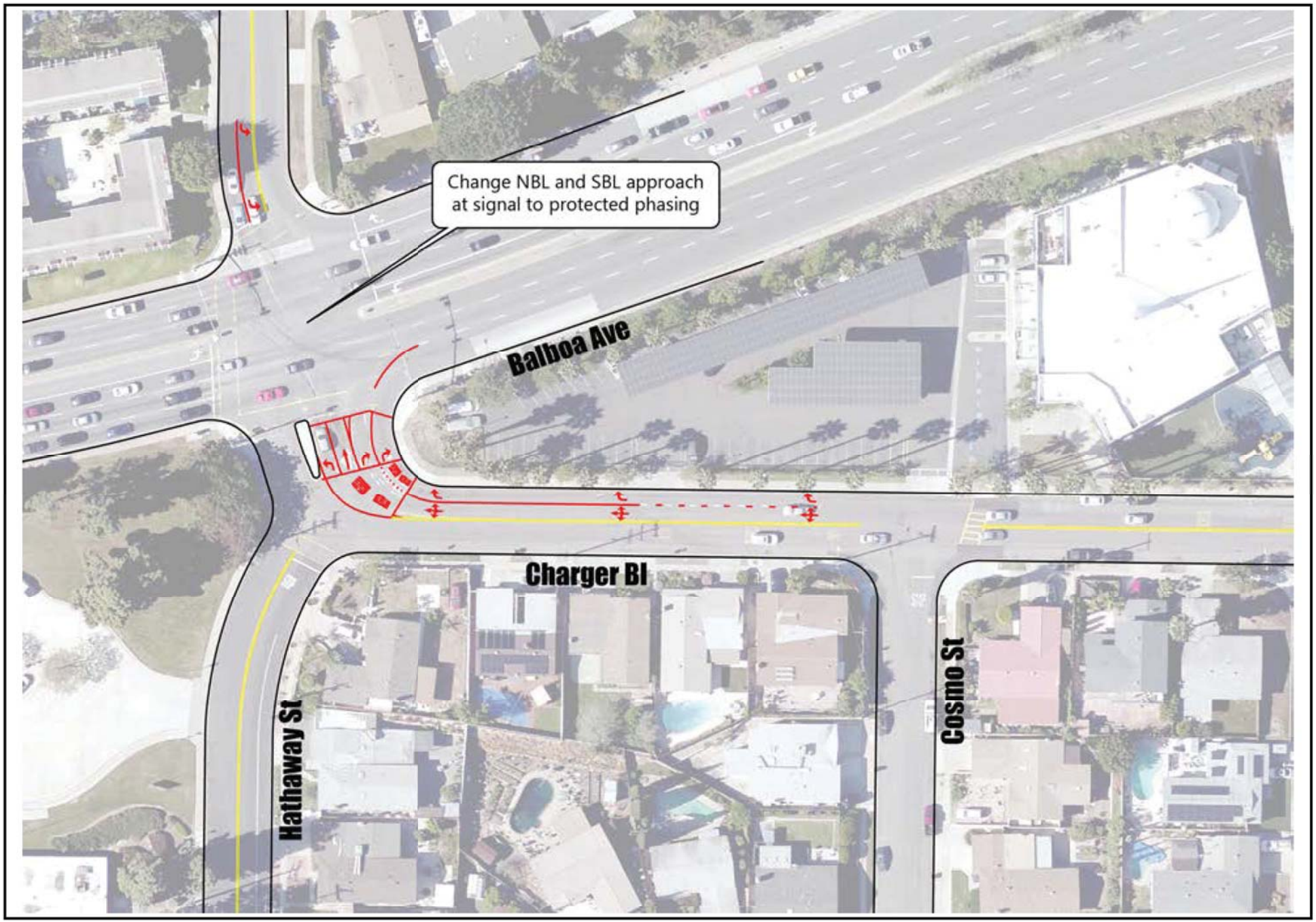


Figure 6-3
Balboa Avenue and Charger Boulevard Intersection Mitigation Conceptual Design

Table 6.9 Peak Hour Intersection Level of Service Results – Near-Term Base (Year 2021) Plus Project with Mitigation Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec)	M?
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	40.2	D	51.4	D	43.0 / 61.5	D / **E**	-2.8 / -10.1	Y
8. Clairemont Drive & Balboa Avenue	Signal	47.9	D	67.8	**E**	48.0 / 68.2	D / **E**	-0.1 / -0.4	Y
9. Mt Everest Boulevard & Balboa Avenue	Signal	66.7	**E**	28.0	C	116.5 / 64.7	**F / E**	-49.8 / -36.7	Y
14. Charger Boulevard & Balboa Avenue	Signal	53.9	D	51.4	D	64.7 / 42.9	**E** / D	-10.8 / 8.5	Y

Source: Chen Ryan Associates; March 2019

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
M? = Impact Mitigated?

As shown in Table 6.9, the proposed mitigation measures would either reduce the Proposed Project impact to less than significant or mitigated the Proposed Project impact to better than pre-Project conditions. However, the Genesee Avenue/Clairemont Mesa Boulevard and Clairemont Drive/Balboa Avenue intersections are considered to have significant and unavoidable impacts since these intersections are under the City's jurisdiction, so implementation of the mitigation is not under the control of the Project.

Ramp Meters:

No impacts were identified. Therefore, no mitigation is required.

7.0 Horizon Year 2050 Base

This section provides a description of Horizon Year 2050 Cumulative Traffic conditions both with and without the Proposed Project. Scenarios analyzed in this section include the following:

- Horizon Year 2050 Base Conditions
- Horizon Year 2050 Base Plus Project Conditions

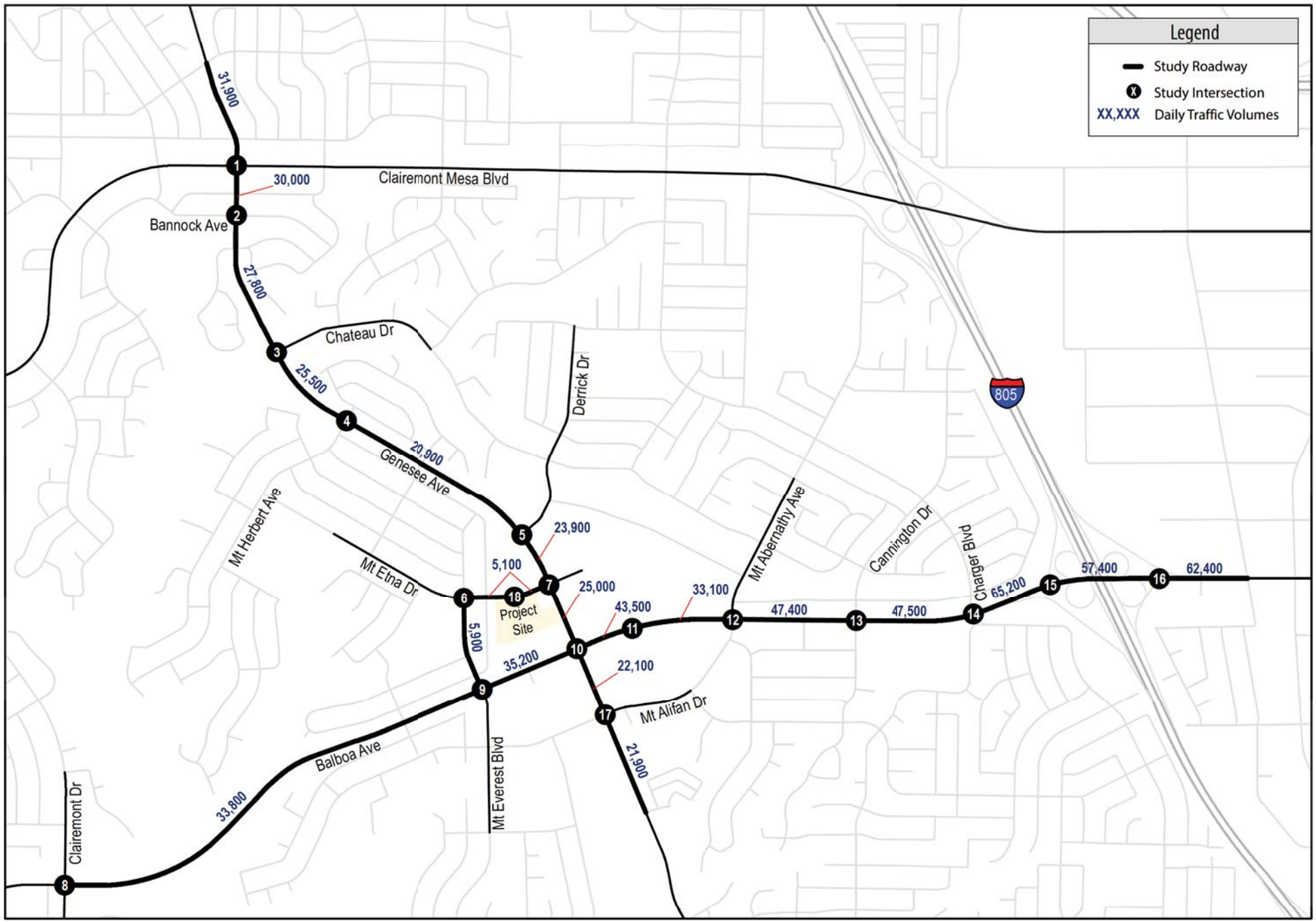
7.1 Horizon Year 2050 Base Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Horizon Year 2050 Base conditions were assumed to be identical to Existing and Near-Term Year 2021 Base Conditions geometrics, as shown in Figure 4-1.

Similar to the Select Zone analysis that was used for the Project's trip distribution, the forecast model for the Clairemont Mesa Community Plan Update was used to develop the Horizon Year 2050 volumes. The peak hour intersection turning movements were developed by comparing existing and forecasted Year 2050 ADTs, as well as peak hour approach and departure volumes, then applying the respective growth factors. Manual adjustments were also made to ensure that traffic volumes among adjacent intersections are reasonably balanced. **Figure 7-1** displays average daily roadway and peak hour intersection volumes for the study roadway segments and intersections under the Horizon Year 2050 Base Conditions.

7.2 Horizon Year 2050 Base Traffic Conditions

Level of service analyses for Horizon Year 2050 Base conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection level of service, as well as freeway ramp meter analysis results for Horizon Year 2050 Base conditions are discussed separately below.



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

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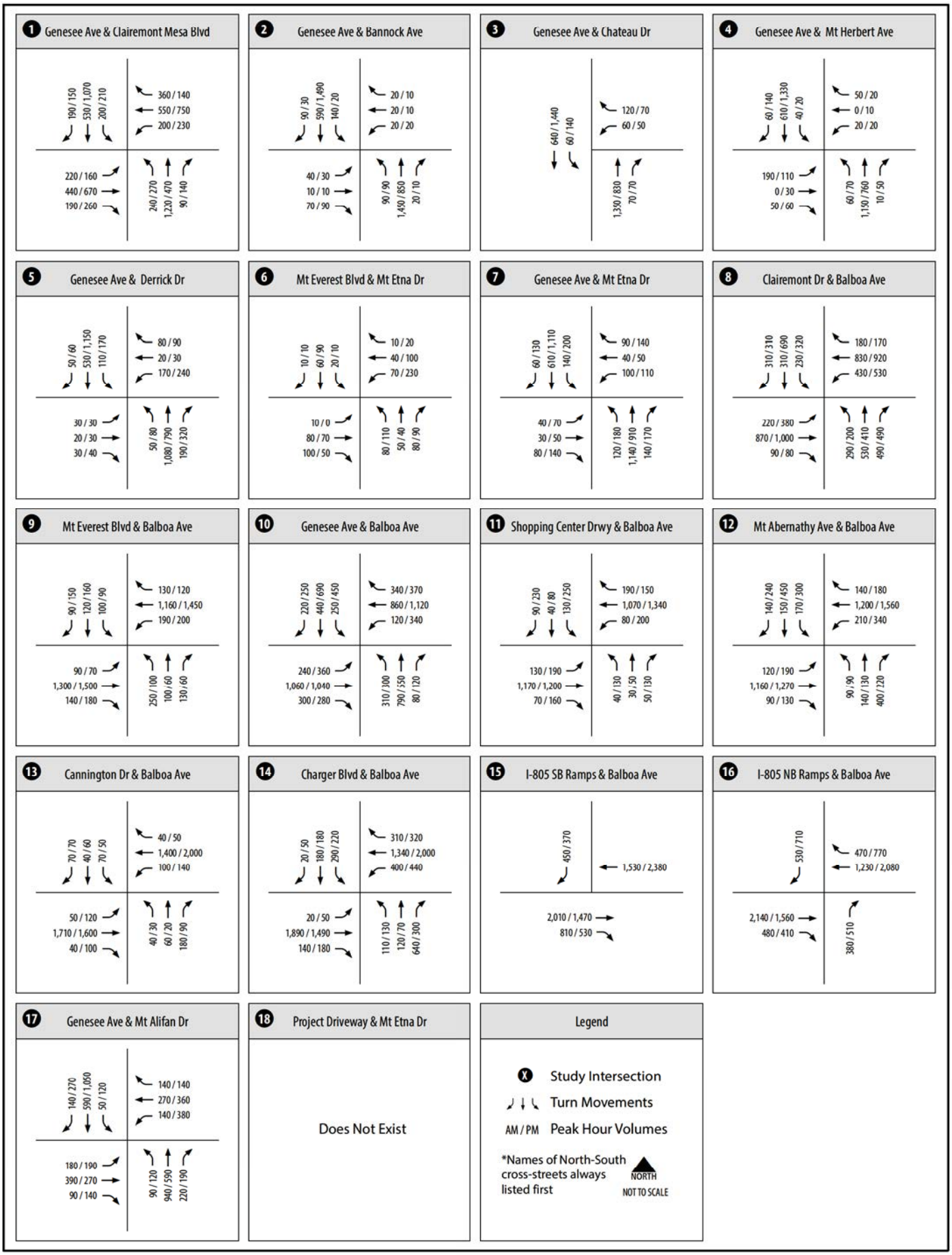
Figure 7-1
Traffic Volumes - Horizon Year 2050
Base Conditions



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

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Figure 7-1
Traffic Volumes - Horizon Year 2050
Base Conditions

Roadway Segment Analysis

Table 7.1 displays the Level of Service analysis results for key roadway segments under the Horizon Year 2050 Base conditions.

As shown, all of the study area roadway segments are projected to continue operating at acceptable LOS D or better under Horizon Year 2050 Base conditions with the exception of the following five (5) roadway segments:

- Balboa Avenue, between Mt Everest Boulevard and Genesee Avenue (LOS E);
- Balboa Avenue, between Mt Abernathy Avenue and Cannington Drive (LOS E);
- Balboa Avenue, between Cannington Drive and Charger Boulevard (LOS E);
- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps (LOS F); and
- Balboa Avenue, between I-805 Northbound Ramps and Ruffner Street (LOS F).

Table 7.1 Roadway Segment Level of Service Results - Horizon Year 2050 Base Conditions

Roadway	Segment	Functional Classification	Cross-Section	ADT	Capacity (LOS E)	V/C	LOS
Genesee Avenue	Between Appleton Street & Clairemont Mesa Boulevard	4-Ln Major Arterial	Raised Median	31,900	40,000	0.798	D
	Between Clairemont Mesa Boulevard & Bannock Avenue	4-Ln Major Arterial	Undivided	30,000	40,000	0.750	C
	Between Bannock Avenue & Chateau Drive	4-Ln Major Arterial	Raised Median	27,800	40,000	0.695	C
	Between Chateau Drive & Mt Herbert Avenue	4-Ln Major Arterial	Raised Median	25,500	40,000	0.638	C
	Between Mt Herbert Avenue & Derrick Drive	4-Ln Major Arterial	Raised Median	20,900	40,000	0.523	B
	Between Derrick Drive & Mt Etna Drive	6-Ln Major Arterial	Raised Median	23,900	50,000	0.478	B
	Between Mt Etna Drive & Balboa Avenue	5-Ln Major Arterial	Raised Median	25,000	45,000	0.556	C
	Between Balboa Avenue & Mt Alifan Drive	5-Ln Major Arterial	Raised Median	22,100	45,000	0.491	B
	Between Mt Alifan Drive & Genesee Court	4-Ln Major Arterial	Raised Median	21,900	40,000	0.548	C
Mt Everest Boulevard	Between Mt Etna Drive & Balboa Avenue	2-Ln Collector w/o CLTL	Undivided	5,900	8,000	0.738	D
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	5,100	8,000	0.638	D
Balboa Avenue	Between Clairemont Drive & Mt Everest Boulevard	4-Ln Major Arterial	Raised Median	33,800	40,000	0.845	D
	Between Mt Everest Boulevard & Genesee Avenue	4-Ln Major Arterial	Raised Median	35,200	40,000	0.880	**E**
	Between Genesee Avenue & Shopping Center Driveway	6-Ln Major Arterial	Raised Median	43,500	50,000	0.870	D
	Between Shopping Center Driveway & Mt Abernathy Avenue	6-Ln Major Arterial	Raised Median	33,100	50,000	0.662	C
	Between Mt Abernathy Avenue & Cannington Drive	6-Ln Major Arterial	Raised Median	47,400	50,000	0.948	**E**
	Between Cannington Drive & Charger Boulevard	6-Ln Major Arterial	Raised Median	47,500	50,000	0.950	**E**
	Between Charger Boulevard & I-805 Southbound Ramps	6-Ln Major Arterial	Raised Median	65,200	50,000	1.304	**F**
	Between I-805 Southbound Ramps & I-805 Northbound Ramps*	8-Ln Prime Arterial	Raised Median	57,400	80,000	0.718	C
	Between I-805 Northbound Ramps & Ruffner Street	6-Ln Major Arterial	Raised Median	62,400	50,000	1.248	**F**

Source: Chen Ryan Associates; March 2019

Notes:
*The Balboa Ave segment between the I-805 ramps are classified as a 6-lane major according to the Clairemont Community Plan; however, the actual roadway cross-section includes eight lanes (two of which are auxiliary ramp lanes).
Bold letter indicates unacceptable LOS E or F.
ADT = Average Daily Traffic.
V/C = Volume to Capacity Ratio.
LOS = Level of Service.
Ln = Lane.
CLTL = Continuous Left-Turn Lane.

Intersection Analysis

Table 7.2 displays intersection Level of Service and average vehicle delay results under Horizon Year 2050 Base conditions. Level of Service calculation worksheets are provided in **Appendix J**.

Table 7.2 Peak Hour Intersection Level of Service Results - Horizon Year 2050 Base Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	65.9	**E**	95.9	**F**
2. Genesee Avenue & Bannock Avenue	Signal	28.5	C	12.7	B
3. Genesee Avenue & Chateau Drive	Signal	12.4	B	5.9	A
4. Genesee Avenue & Mt Herbert Avenue	Signal	18.7	B	10.9	B
5. Genesee Avenue & Derrick Drive	Signal	18.0	B	51.0	D
6. Mt Everest Boulevard & Mt Etna Drive	AWSC	10.8	B	13.9	B
7. Genesee Avenue & Mt Etna Drive	Signal	21.7	C	26.6	C
8. Clairemont Drive & Balboa Avenue	Signal	65.4	**E**	100.6	**F**
9. Mt Everest Boulevard & Balboa Avenue	Signal	107.9	**F**	110.4	**F**
10. Genesee Avenue & Balboa Avenue	Signal	42.1	D	80.2	**F**
11. Shopping Center Driveway & Balboa Avenue	Signal	24.7	C	15.3	B
12. Mt Abernathy Avenue & Balboa Avenue	Signal	43.5	D	52.5	D
13. Cannington Drive & Balboa Avenue	Signal	17.2	B	33.0	C
14. Charger Boulevard & Balboa Avenue	Signal	54.3	D	48.0	D
15. I-805 Southbound Ramps & Balboa Avenue	Signal	11.1	B	9.2	A
16. I-805 Northbound Ramps & Balboa Avenue	Signal	10.5	B	10.6	B
17. Genesee Avenue & Mt Alifan Drive	Signal	50.2	D	58.4	**E**
18. Mt Etna Drive & Project Driveway #1	DNE	-	-	-	-

Source: Chen Ryan Associates; March 2019

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled
SSSC = Side-Street Stop Controlled.
DNE = Does Not Exist.

As shown in the table, all of the study area intersections are projected to operate at acceptable LOS D or better during the AM and PM peak hours under Horizon Year 2050 Base conditions, with exception of the following five (5) locations:

- Genesee Avenue & Clairemont Mesa Boulevard – LOS E during the AM peak hour and LOS F during the PM peak hour;
- Clairemont Drive & Balboa Avenue - LOS E during the AM peak hour and LOS F during the PM peak hour;
- Mt Everest Boulevard & Balboa Avenue – LOS F during both the AM and PM peak hours;
- Genesee Avenue & Balboa Avenue – LOS F during the PM peak hour; and
- Genesee Avenue & Mt Alifan Drive – LOS E during the PM peak hour.

Ramp Metering Analysis

Table 7.3 summarizes the freeway ramp metering analysis results under Horizon Year 2050 Base Conditions.

Table 7.3 REVISED Ramp Metering Analysis – Horizon Year 2050 Base Conditions

On-Ramp	# of Lanes		Peak Hour	SOV							HOV						
	SOV	HOV		Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min)	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)	Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min)	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)
I-805 SB On-Ramp @ Balboa Ave EB	1	1	PM	424	347	77	13.3	2,233	1,000	1,233	106	347	0	0	0	1,000	0
I-805 NB Ramp @ Balboa Ave EB	1	1	AM	384	451	0	0	0	410	0	96	451	0	0	0	410	0

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle.
[1] Demand is the peak hour demand expected to use the on-ramp.
[2] Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
[3] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[4] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[5] Queue = (Excess Demand) X 29 ft/veh.

As shown the Table 7.3, the anticipated peak hour demand is anticipated to exceed the ~~anticipated~~ most restrictive meter rate at the I-805 Southbound On-Ramp @ Balboa Avenue EB by ~~29~~ 2,233 feet in the Single Occupancy Vehicle (SOV) lane~~.~~

7.3 Horizon Year 2050 Base Plus Project Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Horizon Year 2050 Base Plus Project conditions were assumed to be identical to Existing and Near-Term Year 2021 Base Conditions geometrics, as shown in Figure 4-1.

Horizon Year 2050 Base Plus Project traffic volumes were derived by combining the Horizon Year 2050 Base traffic volumes (displayed in Figure 7-1) and the Project trip assignment (displayed in Figure 5-2). Daily and peak hour intersection volumes for this scenario are displayed in **Figure 7-2**.

7.4 Horizon Year 2050 Base Plus Project Traffic Conditions

Level of service analyses for Horizon Year 2050 Base Plus Project conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection level of service, as well as freeway ramp meter analysis results for Horizon Year 2050 Base Plus Project conditions are discussed separately below.

Roadway Segment Analysis

Table 7.4 displays the Level of Service analysis results for key roadway segments under Horizon Year 2050 Base Plus Project conditions.

As shown in the Table 7.4 all of the study area roadway segments are projected to continue operating at acceptable LOS D or better under Horizon Year 2050 Base Plus Project conditions with the exception of the following seven (7) roadway segments:

- Mt Everest Boulevard, between Mt Etna Drive and Balboa Avenue (LOS E);
- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue (LOS F);
- Balboa Avenue, between Mt Everest Boulevard and Genesee Avenue (LOS E);
- Balboa Avenue, between Mt Abernathy Avenue and Cannington Drive (LOS E);
- Balboa Avenue, between Cannington Drive and Charger Boulevard (LOS E);
- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps (LOS F); and
- Balboa Avenue, between I-805 Northbound Ramps and Ruffner Street (LOS F).

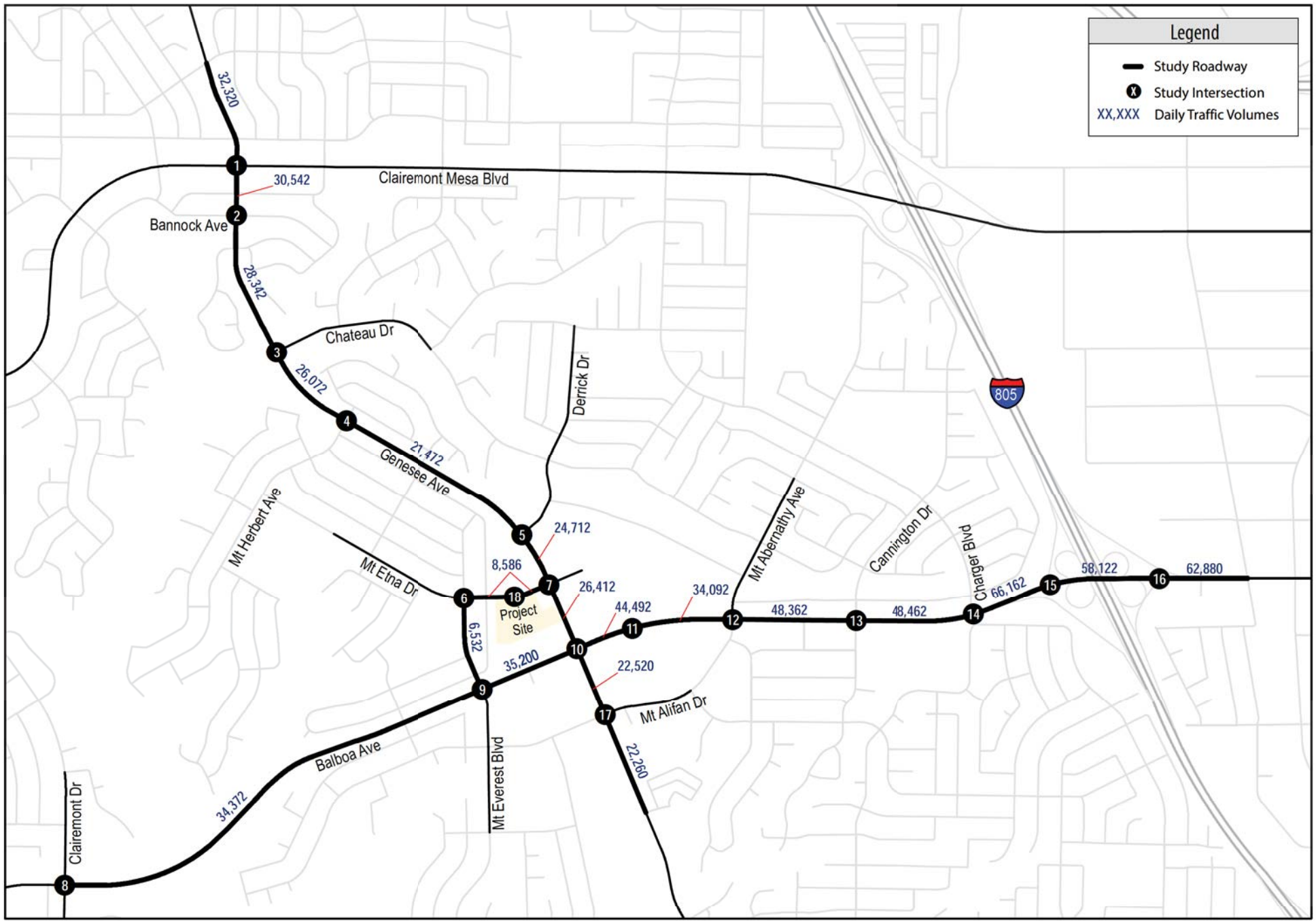

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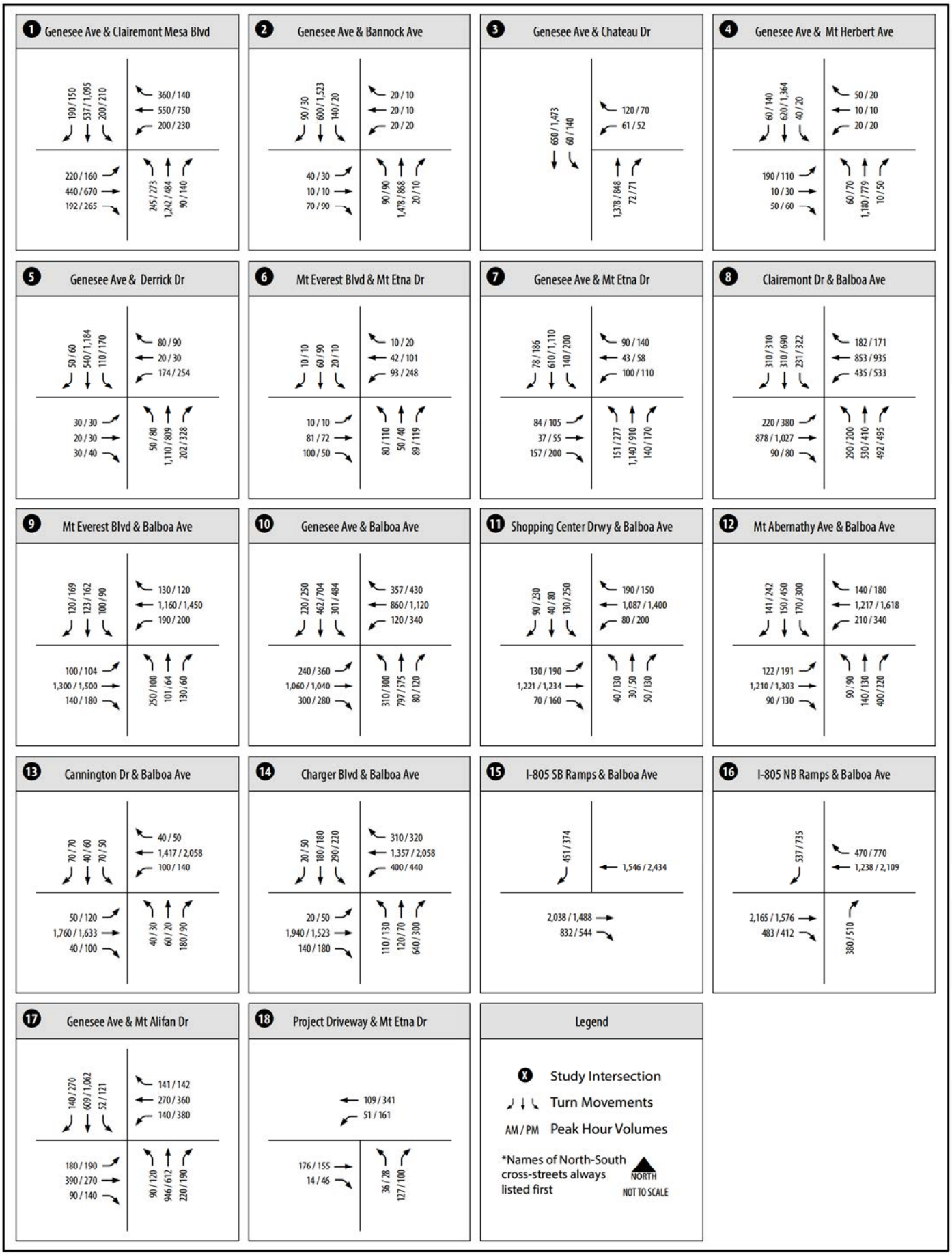
Figure 7-2
Traffic Volumes - Horizon Year 2050 Base Plus Project Conditions



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

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Figure 7-2
Traffic Volumes - Horizon Year 2050 Base Plus Project Conditions

Table 7.4 Roadway Segment Level of Service Results - Horizon Year 2050 Base Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	ADT	Capacity (LOS E)	With Project		Base		Δ	S?
						V/C	LOS	V/C	LOS		
Genesee Avenue	Between Appleton Street & Clairemont Mesa Boulevard	4-Ln Major Arterial	Raised Median	32,320	40,000	0.808	D	0.798	D	0.011	N
	Between Clairemont Mesa Boulevard & Bannock Avenue	4-Ln Major Arterial	Undivided	30,542	40,000	0.764	D	0.75	C	0.014	N
	Between Bannock Avenue & Chateau Drive	4-Ln Major Arterial	Raised Median	28,342	40,000	0.709	C	0.695	C	0.014	N
	Between Chateau Drive & Mt Herbert Avenue	4-Ln Major Arterial	Raised Median	26,072	40,000	0.652	C	0.638	C	0.014	N
	Between Mt Herbert Avenue & Derrick Drive	4-Ln Major Arterial	Raised Median	21,472	40,000	0.537	C	0.523	B	0.014	N
	Between Derrick Drive & Mt Etna Drive	6-Ln Major Arterial	Raised Median	24,712	50,000	0.494	B	0.478	B	0.016	N
	Between Mt Etna Drive & Balboa Avenue	5-Ln Major Arterial	Raised Median	26,412	45,000	0.587	C	0.556	C	0.031	N
	Between Balboa Avenue & Mt Alifan Drive	5-Ln Major Arterial	Raised Median	22,520	45,000	0.5	B	0.491	B	0.009	N
	Between Mt Alifan Drive & Genesee Court	4-Ln Major Arterial	Raised Median	22,260	40,000	0.557	C	0.548	C	0.009	N
Mt Everest Boulevard	Between Mt Etna Drive & Balboa Avenue	2-Ln Collector w/o CLTL	Undivided	6,532	8,000	0.817	**E**	0.738	D	0.079	**Y**
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	8,586	8,000	1.073	**F**	0.638	D	0.436	**Y**

Table 7.4 Roadway Segment Level of Service Results - Horizon Year 2050 Base Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	ADT	Capacity (LOS E)	With Project		Base		Δ	S?
						V/C	LOS	V/C	LOS		
Balboa Avenue	Between Clairemont Drive & Mt Everest Boulevard	4-Ln Major Arterial	Raised Median	34,372	40,000	0.859	D	0.845	D	0.014	N
	Between Mt Everest Boulevard & Genesee Avenue	4-Ln Major Arterial	Raised Median	35,200	40,000	0.880	**E**	0.880	**E**	0	N
	Between Genesee Avenue & Shopping Center Driveway	6-Ln Major Arterial	Raised Median	44,492	50,000	0.89	D	0.87	D	0.02	N
	Between Shopping Center Driveway & Mt Abernathy Avenue	6-Ln Major Arterial	Raised Median	34,092	50,000	0.682	C	0.662	C	0.02	N
	Between Mt Abernathy Avenue & Cannington Drive	6-Ln Major Arterial	Raised Median	48,362	50,000	0.967	**E**	0.948	**E**	0.019	N
	Between Cannington Drive & Charger Boulevard	6-Ln Major Arterial	Raised Median	48,462	50,000	0.969	**E**	0.95	**E**	0.019	N
	Between Charger Boulevard & I-805 Southbound Ramps	6-Ln Major Arterial	Raised Median	66,162	50,000	1.323	**F**	1.304	**F**	0.019	**Y**
	Between I-805 Southbound Ramps & I-805 Northbound Ramps*	8-Ln Prime Arterial	Raised Median	58,122	80,000	0.727	C	0.718	C	0.009	N
	Between I-805 Northbound Ramps & Ruffner Street	6-Ln Major Arterial	Raised Median	62,880	50,000	1.258	**F**	1.248	**F**	0.008	N

Source: Chen Ryan Associates; March 2019

Notes:

*The Balboa Ave segment between the I-805 ramps are classified as a 6-lane major according to the Clairemont Community Plan; however, the actual roadway cross-section includes eight lanes (two of which are auxiliary ramp lanes).

Bold letter indicates unacceptable LOS E or F.

ADT = Average Daily Traffic.

V/C = Volume to Capacity Ratio.

LOS = Level of Service.

Ln = Lane.

CLTL = Continuous Left-Turn Lane.

S? = Indicates if change in V/C ratio is significant.

Δ = Change in V/C Ratio.

Of these seven (7) roadway segments, the following three (3) could potentially result in a significant impact based on the significance criteria outlined in Section 2.5. As noted in section 2.2, daily roadway LOS is typically used only at the planning level and does not necessarily indicate true roadway operations. Therefore, to determine if the identified roadway segments operate at acceptable levels during peak times (worst case) peak hour aerial analyses and peak hour intersection analyses were conducted to better understand the actual travel flow along the roadways. Roadway segments in which are built to their ultimate classification, the peak hour arterial LOS, and the intersections at either end of the segment are projected to operate at acceptable LOS D or better are not considered to have a significant impact, since the actual travel flow along the segment is consider to be acceptable.

- Mt Everest Boulevard, between Mt Etna Drive and Balboa Avenue – LOS E. The Proposed Project would add 632 daily trips, resulting in an increase of 0.079 in V/C ratio. Therefore, the following additional analyses were conducted to determine if the roadway segment would be significantly impacted:

    - The arterial level of service analysis identifies this roadway segment to operate at LOS F in the SB direction during both the AM and PM peak hours;
    - The intersections of Mt Everest Boulevard/Mt Etna Drive and Mt Everest is projected to operate at LOS C or better during both AM and PM peak hours, but the intersection of Mt Everest Boulevard/Balboa Avenue is projected to operate at LOS E or F during the AM and PM peak hours.
    - Therefore, the Proposed Project **would result** in a significant impact to this roadway segment.
    -

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue – LOS E. The Proposed Project would add 3,486 daily trips, resulting in an increase of 0.436 in V/C ratio. Therefore, the following additional analyses were conducted to determine if the roadway segment would be significantly impacted:

    - The arterial level of service analysis identifies this roadway segment to operate at LOS E in the EB and WB directions during both the AM and PM peak hours;
    - The intersections of Mt Everest Boulevard/Mt Etna Drive and Genesee Avenue/Mt Etna Drive are projected to operate at LOS C or better during both AM and PM peak hours;
    - Therefore, the Proposed Project **would result** in a significant impact to this roadway segment.

- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps – The Proposed Project would add 962 daily trips, resulting in an increase of 0.019 in V/C ratio. Therefore, the following additional analyses were conducted to determine if the roadway segment would be significantly impacted:
    - The arterial level of service analysis identifies this roadway segment to operate at LOS B and LOS C in the EB and WB directions, respectively, during the AM peak

hour, and LOS B and LOS D in the EB and WB directions, respectively, during the PM peak hour;

- The intersection of Eckstrom Avenue/Charger Boulevard/Balboa Avenue is projected to operate at LOS E in the AM peak hour and LOS D in the PM peak hour, and the I-805 Southbound Ramps/Balboa Avenue is projected to operate at LOS B or better during both AM and PM peak hours;
- Therefore, the Proposed Project **would result** in a significant impact to this roadway segment.

Intersection Analysis

Table 7.5 displays intersection Level of Service and average vehicle delay results under Horizon Year 2050 Base Plus Project conditions. Level of Service calculation worksheets for this scenario are provided in **Appendix K**.

As shown in Table 7.5, all of the study area intersections would continue to operate at acceptable LOS D or better during the AM and PM peak hours under Horizon Year 2050 Base Plus Project conditions, except for the following six (6) intersections:

- Genesee Avenue & Clairemont Mesa Boulevard – LOS E during the AM peak hour and LOS F during the PM peak hour;
- Clairemont Drive & Balboa Avenue – LOS E during the AM peak hour and LOS F during the PM peak hour;
- Mt Everest Boulevard & Balboa Avenue – LOS F during both the AM and PM peak hours;
- Genesee Avenue & Balboa Avenue – LOS F during the PM peak hour;
- Charger Boulevard & Balboa Avenue – LOS E during the AM peak hour; and
- Genesee Avenue & Mt Alifan Drive –LOS E during the PM peak hour.

Based upon the impact significance criteria presented in Section 2.5, the addition of the Proposed Project traffic would result in a cumulative impact to the following five (5) study intersections:

- Genesee Avenue & Clairemont Mesa Boulevard;
- Clairemont Drive & Balboa Avenue;
- Mt Everest Boulevard & Balboa Avenue;
- Genesee Avenue & Balboa Avenue; and
- Charger Boulevard & Balboa Avenue.

Table 7.5 Peak Hour Intersection Level of Service Results - Horizon Year 2050 Base Plus Project Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	68.2	**E**	100.0	**F**	65.9 / 95.9	**E / F**	2.3 / 4.1	**Y / Y**
2. Genesee Avenue & Bannock Avenue	Signal	28.7	C	12.8	B	28.5 / 12.7	C / B	0.2 / 0.1	N / N
3. Genesee Avenue & Chateau Drive	Signal	13.2	B	5.8	A	12.4 / 5.9	B / A	0.8 / -0.1	N / N
4. Genesee Avenue & Mt Herbert Avenue	Signal	18.8	B	10.8	B	18.7 / 10.9	B / B	0.1 / -0.1	N / N
5. Genesee Avenue & Derrick Drive	Signal	17.9	B	52.7	D	18 / 51	B / D	-0.1 / 1.7	N / N
6. Mt Everest Boulevard & Mt Etna Drive	AWSC	11.4	B	15.3	C	10.8 / 13.9	B / B	0.6 / 1.4	N / N
7. Genesee Avenue & Mt Etna Drive	Signal	25.2	C	28.9	C	21.7 / 26.6	C / C	3.5 / 2.3	N / N
8. Clairemont Drive & Balboa Avenue	Signal	66.6	**E**	103.2	**F**	65.4 / 100.6	**E / F**	1.2 / 2.6	N / **Y**
9. Mt Everest Boulevard & Balboa Avenue	Signal	112.7	**F**	114.9	**F**	107.9 / 110.4	**F / F**	4.8 / 4.5	**Y / Y**
10. Genesee Avenue & Balboa Avenue	Signal	45.3	D	87.6	**F**	42.1 / 80.2	D / **F**	3.2 / 7.4	N / **Y**
11. Shopping Center Driveway & Balboa Avenue	Signal	24.9	C	15.0	B	24.7 / 15.3	C / B	0.2 / -0.3	N / N
12. Mt Abernathy Avenue & Balboa Avenue	Signal	46.9	D	53.1	D	43.5 / 52.5	D / D	3.4 / 0.6	N / N
13. Cannington Drive & Balboa Avenue	Signal	17.4	B	36.6	D	17.2 / 33	B / C	0.2 / 3.6	N / N
14. Charger Boulevard & Balboa Avenue	Signal	57.3	**E**	47.8	D	54.3 / 48	D / D	3.0 / -0.2	**Y** / N
15. I-805 Southbound Ramps & Balboa Avenue	Signal	11.2	B	9.5	A	11.1 / 9.2	B / A	0.1 / 0.3	N / N
16. I-805 Northbound Ramps & Balboa Avenue	Signal	10.6	B	10.6	B	10.5 / 10.6	B / B	0.1 / 0.0	N / N
17. Genesee Avenue & Mt Alifan Drive	Signal	50.2	D	58.6	**E**	50.2 / 58.4	D / **E**	0.0 / 0.2	N / N
18. Mt Etna Drive & Project Driveway #1	SSSC	11.2	B	13.5	B	DNE	DNE	11.2 / 13.5	N / N

Source: Chen Ryan Associates; March 2019

Notes:
Bold letters indicate unacceptable LOS E or F operations.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
DNE = Does Not Exist.

Ramp Metering Analysis

Table 7.6 summarizes the freeway ramp metering analysis results under Horizon Year 2050 Base Plus Project conditions.

Table 7.6A REVISED Ramp Metering Analysis – Horizon Year 2050 Base Plus Project Conditions (SOV)

On-Ramp	# of Lanes SOV	# of Lanes HOV	Peak Hour	Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min)	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)	Delay w/o Project (min)	Δ Delay (min)	S?
I-805 SB On-Ramp @ Balboa Ave EB	1	1	PM	430	347	83	14.4	2,407	1,000	1,407	13.3	1.1	No
I-805 NB Ramp @ Balboa Ave EB	1	1	AM	386	451	0	0	0	410	0	0	0.0	No

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle.
[1] Demand is the peak hour demand expected to use the on-ramp.
[2] Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
[3] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[4] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[5] Queue = (Excess Demand) X 29 ft/veh.

Table 7.6B REVISED Ramp Metering Analysis – Horizon Year 2050 Base Plus Project Conditions (HOV)

On-Ramp	# of Lanes SOV	# of Lanes HOV	Peak Hour	Demand[1] (veh/hr) per lane	Meter Rate[2] (veh/hr) per lane	Excess Demand[3] (veh/hr) per lane	Max Obs. Delay[4] (min)	Max Obs Queue[5] (ft)	Storage Length (ft)	Excess Queue (ft)	Delay w/o Project (min)	Δ Delay (min)	S?
I-805 SB On-Ramp @ Balboa Ave EB	1	1	PM	108	347	0	0	0	1,000	0	0	0.0	No
I-805 NB Ramp @ Balboa Ave EB	1	1	AM	96	451	0	0	0	410	0	0	0.0	No

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle.
[1] Demand is the peak hour demand expected to use the on-ramp.
[2] Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
[3] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[4] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[5] Queue = (Excess Demand) X 29 ft/veh.

As shown in the table, the anticipated peak hour demand is anticipated to exceed the anticipated meter rate at the I-805 Southbound Ramp @ Balboa Avenue EB during the PM peak hour by ~~12~~ 83vehicles and result in a queue length of ~~348~~ 1,407 feet in the Single Occupancy Vehicle (SOV) lane.~~.~~

Based on the City of San Diego Significance Criteria, outlined in Section 2.5, the traffic associated with the Proposed Project would not cause a significant impact to any of the study ramp meter since the change in delay is less than 2 minutes under Horizon Year 2050 Base Plus Project conditions.

7.5 Impact Significance and Mitigation

Based upon the significance criteria presented in Section 2.5 of this report, the addition of project traffic would cause a significant cumulative impact to three (3) roadway segments, five (5) intersections, and no ramp meters under Horizon Year 2050 Base Plus Project conditions. The following mitigation measures would be required to mitigate the project impact to less than significant:

Roadways:

The traffic generated by the Proposed Project is anticipated to create an impact at the following three (3) roadway segments:

- Mt Everest Boulevard, between Mt Etna Drive and Balboa Avenue – Provide additional right-of-way and widen the roadway from a 2-Lane Collector to a 2-Lane Collector with a Continuous-Left-Turn-Lane (or construct left turn pocket where needed) prior to the project's total trip generation of 2,852 ADT. The significant traffic impact associated with the Proposed Project along this roadway would be fully mitigated with the implementation of this measure. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the planned classification of this roadway, additional right-of-way would be required to implement this measure. Therefore, this impact would remain *significant and unavoidable*.

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue – Provide additional right-of-way and widen the roadway from a 2-Lane Collector to a 2-Lane Collector with a Continuous-Left-Turn-Lane (or construct left turn pocket where needed) prior to the project's total trip generation of 1,399 ADT. This roadway is along the Project's frontage, so providing a separate left-turn lane into the Project site would provide additional capacity and would fully mitigate the significant traffic impact associated with the Proposed Project. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the classification of this roadway, additional right-of-way would be required to implement this measure. Therefore, this impact would remain *significant and unavoidable*.

- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps – Reclassify the roadway from a 6-Lane Major Arterial to a 6-Lane Expressway prior to the project's total trip generation of 1,561 ADT. The significant traffic impact associated with the Proposed Project along this roadway would be fully mitigated with the implementation of this measure. However, this roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the planned classification of this roadway, additional right-of-way would be required to implement this measure. Therefore, this impact would remain *significant and unavoidable*.

Intersections:

The traffic generated by the Proposed Project is anticipated to create an impact at the following five (5) intersections:

1. Genesee Avenue & Clairemont Mesa Boulevard – Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 800 ADT. The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

8. Clairemont Drive & Balboa Avenue - Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 1,300 ADT. The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

9. Mt Everest Boulevard & Balboa Avenue – Restripe the northbound and southbound approaches on Mt Everest Boulevard to provide an exclusive left-turn lane and a shared through-right turn lane, then convert the northbound and southbound approaches from

split phasing to protected left-turn phasing. This improvement must be implemented prior to the project's total trip generation of 725 ADT. Implementing this improvement could be done within the existing right-of-way and would reduce intersection delays to pre-Project conditions. However, the County of San Diego cannot guarantee improvements to an intersection under the jurisdiction of the City of San Diego. Therefore, this impact would remain *significant and unavoidable*.

10. Genesee Avenue & Balboa Avenue – Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway prior to the project's total trip generation of 600 ADT. The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

14. Charger Boulevard & Balboa Avenue – Restripe the northbound shared through-left turn lane into an exclusive through lane and convert the northbound and southbound signal from split phasing to protective phasing prior to the project's total trip generation of 1,050 ADT. Implementing this improvement would reduce intersection delays to pre-Project conditions. However, the County of San Diego cannot guarantee improvements to an intersection under the jurisdiction of the City of San Diego. Therefore, this impact would remain *significant and unavoidable*.

    Figure 6-3 shows a conceptual design of the Charger Boulevard and Balboa Avenue intersection mitigation.

Table 7.7 displays intersection LOS and average vehicle delay results under Horizon Year 2050 Base Plus Project with Mitigation conditions. The trigger analysis worksheets and level of service calculation worksheets for the Horizon Year 2050 Base Plus Project with Mitigation conditions are provided in **Appendix L**.

Table 7.7 Peak Hour Intersection Level of Service Results – Horizon Year 2050 Base Plus Project with Mitigation Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec)	M?
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	46.1	D	60.6	**E**	65.9 / 95.9	**E / F**	-19.8 / -35.3	Y
8. Clairemont Drive & Balboa Avenue	Signal	64.4	**E**	97.5	**F**	65.4 / 100.6	**E / F**	-1.0 / -3.1	Y
9. Mt Everest Boulevard & Balboa Avenue	Signal	104.3	**F**	59.4	**E**	107.9 / 110.4	**F /F**	-3.6 / -51.0	Y
10. Genesee Avenue & Balboa Avenue	Signal	41.4	D	77.5	**E**	42.1 / 80.2	D / **F**	-0.7 / -2.7	Y
14. Charger Boulevard & Balboa Avenue	Signal	47.1	D	48.0	D	54.3 / 48	**E** / D	-7.2 / 0.0	Y

Source: Chen Ryan Associates; March 2019

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
M? = Impact Mitigated?

As shown in Table 7.7 the proposed mitigation measures would either reduce the Proposed Project impact to less than significant or mitigated the Proposed Project impact to better than pre-Project conditions. However, the Genesee Avenue/Clairemont Mesa Boulevard, Clairemont Drive/Balboa Avenue, and Genesee Avenue/Balboa Avenue intersections are considered to have significant and unavoidable impacts since these intersections are under the City's jurisdiction, so implementation of the mitigation is not under the control of the Project.

Ramp Meter:

No identified impacts. Therefore, not mitigation is required.

8.0 On-Site Circulation and Parking

This chapter addresses access to the project site by all modes, on-site circulation based on the proposed site plan, and assess to on-site parking that would be provided by the Proposed Project.

8.1 Site Access and On-Site Circulation

Although currently unknown, the Proposed Project is expected to take access via a single driveway located along Mt Etna Drive. The driveway would be side street stop-controlled intersection. No changes have been provided/indicated to restriping to create exclusive left-turn lanes/pocket right-turn lanes. The driveway would operate at acceptable LOS A for all project study scenarios.

8.2 Parking

Per City municipal code (Article 2, Division 5 Parking Regulations, Table 142-05D) regarding affordable housing land uses, the following parking requirement would be applicable to the Proposed Project:

Affordable Housing Dwelling Units Parking Ratios – Family Housing

STUDIO:
High Parking Demand: 0.5 spaces/dwelling unit
Medium Parking Demand: 0.2 spaces/dwelling unit
Low Parking Demand: 0.1 spaces/dwelling unit

1 BEDROOM:
High Parking Demand: 1.0 spaces/dwelling unit
Medium Parking Demand: 0.6 spaces/dwelling unit
Low Parking Demand: 0.33 spaces/dwelling unit

2 BEDROOMS:
High Parking Demand: 1.3 spaces/dwelling unit
Medium Parking Demand: 1.1 spaces/dwelling unit
Low Parking Demand: 0.5 spaces/dwelling unit

3 BEDROOMS:
High Parking Demand: 1.75 spaces/dwelling unit
Medium Parking Demand: 1.4 spaces/dwelling unit
Low Parking Demand: 0.75 spaces/dwelling unit

The City of San Diego's *Proposed Parking Regulatory Reform for Multifamily Residential Development in Transit Priority Areas (TPAs)* (March 2019) project was recently approved by City Council on March 4, 2019. This project recommended that residential developments within TPAs are given zero minimum parking requirements. The ordinance was approved by the City Council in March 2019.

9.0 Other Modes

This chapter discusses the project's potential impacts to active transportation modes (bicycling and walking) and transit.

9.1 Active Transportation Facilities and Connectivity

Pedestrians

Sidewalks are provided on both sides of Mt Etna Drive along the project frontage. The sidewalk along Mt Etna Drive on the north side of fronts commercial plaza across from the project site. Heading west, the sidewalk then continues to the nearby residential neighborhoods. A single continental crosswalk is currently provided on the west leg of the Genesee Avenue and Mt Etna Drive intersection less than 150 feet northeast from the project site and a standard crosswalk for all other legs.

Mt Etna Drive provides east/west connectivity from the Proposed Project site to nearby residential neighborhoods, as well as to nearby commercial shopping centers such as the Genesee Plaza Shopping Center and the Liberty Park Plaza shopping center. To improve pedestrian walkability along Mt Etna Drive, a posted speed limit of 15 mph is posted as you enter the residential neighborhood accompanied by road speed bumps that end at the Mt Everest and Mt Etna Drive all ways stop intersection.

The streets immediately surrounding the project site all include sidewalks. All of the signalized intersections within the project study area include striped crosswalks, pedestrian signal heads, and American with Disabilities Act (ADA)-compliant ramps, where crossings are allowed, with the exception of the following:

Pedestrian crossing is not allowed at the following locations:

- The south leg of Genesee Avenue & Chateau Drive
- The west leg of Cannington Drive and Balboa Avenue
- The east leg of Charger Boulevard & Balboa Avenue

Missing yellow truncated domes on the pedestrian ramps at the following locations:

- The southwest corner of the Genesee Avenue & Derrick Drive intersection
- The southwest corner of the Genesee Avenue & Mt Alifan Drive intersection

The north leg of the I-805 SB Ramps & Balboa Avenue does not have yellow truncated domes on the pedestrian ramps at either crossing point. The south leg of this intersection as well as the two loop ramps currently lack the following features:

- Pedestrian signal heads
- Yellow truncated domes on the pedestrian ramps.

The south leg of the I-805 NB Ramps & Balboa Avenue does not have yellow truncated domes on the pedestrian ramps at either crossing point. The north leg of this intersection as well as the two loop ramps currently lack the following features:

- Pedestrian signal heads
- Yellow truncated domes on the pedestrian ramps.

Bicyclists

There are currently no bicycle facilities directly accessing the project site on Mt Etna Drive, however, Class II Bike lanes are provided on both sides Genesee Avenue. The Class II bike lane adjacent to the project site on the east has been painted green for high visibility as the lane approaches the Genesee Avenue and Balboa Avenue intersection to the south and sits adjacent to right turn pocket.

Transit

The project site is not directly served by transit. However, MTS Bus Route #27 and #41 have multiple stops/stations within a mile of the project site.

MTS Bus Route #27 – MTS Bus Route #27 connects between Pacific Beach to the west and Kearny Mesa Transit Center bus stop to the east. The Balboa Avenue and Genesee Avenue bus stop is the closest bus stop to the project site within 400 feet. MTS Bus Route #27 runs at 30-minute headways during peak periods and 60-minute headways during off-peak period on weekdays and 60 minutes headways on Saturdays. MTS Bus Route #27 does not operate on Sundays. MTS Bus Route #27 runs from approximately from 5:30 AM to 10:00 PM on weekdays and 6:00 AM and 8:30 PM on Saturdays.

MTS Bus Route #41 – MTS Bus Route #41 connects between UCSD/UTC to the north and Fashion Valley bus stop to the south. The Genesee Avenue and Mt Etna Drive bus stop is the closest bus stop to the project site within 400 feet. MTS Bus Route #41 runs at 15-minute headways during peak periods and 30-minute headways during off-peak period on weekdays. When UCSD is in session, MTS Bus Route #41 runs at 6-minute headways between 6:47 and 9:32AM towards UCSD and between 2:59PM and 5:29PM towards Fashion Valley. MTS Bus Route #41 also runs at 30-minute headways during peak period and 60-minute off-peak periods on the weekends. MTS Bus Route #41 runs from approximately 5:20AM and 11:40PM on weekdays, 6:30 AM and 10:00 PM on Sundays, and 6:00 AM and 10:30 PM on Saturdays.

Project Impacts

Potential impacts relating to pedestrian, bicycle and transit circulation would be considered significant if the Proposed Project would substantially increase hazards due to a design feature, or would conflict with the adopted policies plans, or programs supporting alternative transportation, as outlined in Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*. Based on an initial review of the project site plan the Proposed Project would not generate any significant impacts associated with pedestrian, bicycle or transit facilities.

10.0 Travel Demand Management (TDM)

Implementation of a travel demand management (TDM) plan could lead to vehicle trip reduction, increased use of alternative modes, and better traffic management in the vicinity of the Project area. Based upon review of the Proposed Project site plan, the Proposed Project location in relation to near-by land uses and non-auto facilities, the following TDM measures are recommended:

1. Provide wayfinding signage to guide residents/retail patrons to/from bus stops on Genesee Avenue and Balboa Avenue. Exact signage location and type to be determine with coordination with City staff.

2. Provide secure bicycle parking within the community. Parking racks should accommodate U-locks.

3. Designate a Transportation Coordinator (such as a board member of the homeowner's association, a consultant, or a property management company representative) to monitor the TDM Program. The Transportation Coordinator will be responsible for developing, marketing, implementing, and evaluating the proposed TDM measures included in this Plan. The Transportation Coordinator's duties would include the following:
    - Create and distribute a "new resident" information packet identifying components of the TDM Plan, including but not limited to: carpool, vanpool and rideshare, transit route maps and service schedules, websites with relevant TDM information.
    - Provide information and resources regarding transit options and SANDAG's iCommute program on a yearly basis.
    - The Transportation Coordinator will coordinate with the nearby schools (e.g. Mt. Everest Academy, High Tech High Mesa, Sequoia Elementary School) to implement a "Walking School Bus" program (if feasible), whereby neighborhood students are accompanied by a "chaperone" (e.g., parental supervision) to safely walk to and from the school.

    The Transportation Coordinator will coordinate with the nearby schools to provide student biking information to residents as a part of the "new resident" package.

4. Provide Electric Vehicle (EV) charging stations.

5. Implement raised crosswalks and curb extensions at the Genesee Avenue and Balboa Avenue intersection.

A final TDM plan will be developed in coordination with the City of San Diego.

11.0 Vehicle Miles Traveled (VMT)

Transportation is a major contributor to GHG emissions and a direct result of population and employment growth, which generates vehicle trips to move goods, provides public services, and connects people with work, school, shopping, and other activities. Growth in travel (especially vehicle travel) is due in large part to urban development patterns (i.e., the built environment). A performance measure used to quantify the amount of travel is Vehicle Miles Traveled (VMT).

The VMT estimates were derived from travel demand (TDF) model, used in this analysis to estimate the Project's trip distribution and to develop the Horizon Year 2050 traffic volumes. **Table 11.1** displays the VMT results for regional average and the Proposed Project. According to the model, the regional average daily VMT per capita for residents is 14.3 and the regional average daily work-related VMT per employee is 21.3. The Proposed Project's VMT would be 12.7 and 17.2 for residents and employees, respectively, which is both lower than the regional average. Given that the City has not yet adopted a significance criterion for the impending SB 743, the VMT analysis is used solely for informational purposes and not used to identify impacts. **Appendix M** includes the SANDAG Series 13 model VMT analysis worksheet.

Table 11.1 Vehicle Miles Traveled

	Regional VMT Average Per Capita	Proposed Project
Residential (Households)	14.3	12.7
Retail (Employment)	21.3	17.2

Source: SANDAG Series 13 Travel Demand Model

Appendix A
Signal Timing Plans

INTERSECTION: Clairemont Mesa Blvd & Genesee Ave OBED ROD. [illegible] 06 223 [illegible]ogram

Group Assignment: 4013
Field Master Assignment: NONE
N/S Street Name: GENESEE
E/W Street Name: CLAIREMONT MESA
Last Database Change
System Ref. Number: 264

N

Row	Column # --> / Phase # -->	1	2	3	4	5	6	7	8
		Clmt Mesa			Genesee		Clmt Mesa		Genesee
		Phase							
0	Ped Walk		7		7		7		7
1	Ped FDW		21		24		21		24
2	Min Green	4	15 ~~10~~	4	10	4	15 ~~10~~	4	10
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	3.2	2.0	2.0	2.0	3.2	2.0	2.0
6	Max Gap	2.0	3.2	2.0	2.0	2.0	3.2	2.0	2.0
7	Min Gap	2.0	0.2	2.0	2.0	2.0	0.2	2.0	2.0
8	Max Limit	30	40	30	40	30	40	30	40
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1		
D	Every		1.0				1.0		
E	Yellow	3.4	4.0	3.4	3.9	3.4	4.0	3.4	3.9
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing
F + E + Row

	F	Row
Permit	1234567	0
Red Lock		1
Yellow Lock		2
Min Recall	2 6	3
Ped Recall		4
Peds (View)	2 4 6 8	5
Rest In Walk		6
Red Rest		7
Dbl Entry		8
Max Recall		9
Soft Recall		A
Max 2		B
Cond Serv		C
Ped Lock	12345678	D
Yellow Start	2 6	E
1st Phases	3 7	F

Phase Functions <F Page>
F + F + Row

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + O

Start / Revert Times

Drop Number	2	C + 0 + 0
Zone Number	2	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	19	C + 0 + 3
QuicNet Channel	CDM39:	(QuicNet)

Communication Addresses

C + F + O	F	Row
Free Lag	2 4 6 8	0

Lag Phases <C Page>

Overlap Timing

	Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A				
Overlap B	B				
Overlap C	C				
Overlap D	D				

<F Page>
F + COLOR +

<D Page>
D + 0 + OVERLAP

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Downtime Flash	255	(minutes)

Downtime Before Auto Manual Flash
F + 0 + 8

Disable Ports	234

Disable Communication Ports
D + D + 9

Timing Sheet By: LEM
Approved By: FLG
Drawing Number:
Timing Implemented On: 4/23/10

9

Row	Time	Function	Day of Week	Column F Phases/Bits
0	00 : 01	E	1234567	1
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

<D Page>

D + F + ROW

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh. Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	4
8	Ped 8P	8
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration

F + F + ROW

<E Page>

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	LV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Configuration

For access, set F + 9 + E = 1

E + E + ROW

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Preempt Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7 Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign 5 Outputs
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8-F Seconds

Program Information

C + C + 0 = program
C + C + F = version

Remote Download

C + 0 + A = 1 -255
w/ F + E + E bit 5 on

Disable Parity	0	D+8+0

Dial-Up Telephone Communications
(If set to a non zero value, parity will be disabled)

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		1.8
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

Detector Delay & Carryover <D Page>

D + X (across) + ROW

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Row	0 Detector #
0	
1	System Det. # 1 0
2	System Det. # 2 0
3	System Det. # 3 0
4	System Det. # 4 0
5	System Det. # 5 0
6	System Det. # 6 0
7	System Det. # 7 0
8	System Det. # 8 0

System Detectors <D Page>

Max ON (min)	5	D+A+F
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+D+6
Short Failure	0.5	F+D+7

Power Cycle Correction (Default = 0.5)

INTERSECTION: Clairemont Mesa Blvd & Genese[illegible]ve

223 F[illegible]ram

Coordination Timing By: FLG
Implemented On: 10/27/2009

ROW	Plan Name →	1	2 PM	3	4	5	6 AM-PEAK	7 AM	8 MID	9
0	Cycle Length:		126				108	108	112	
1	Phase 1 - ForceOff		78				13	13	14	
2	Phase 2 - ForceOff		0				0	0	0	
3	Phase 3 - ForceOff		22				30	30	32	
4	Phase 4 - ForceOff		59				67	67	69	
5	Phase 5 - ForceOff		78				85	85	84	
6	Phase 6 - ForceOff		0				0	0	0	
7	Phase 7 - ForceOff		20				67	67	69	
8	Phase 8 - ForceOff		59				53	53	52	
9	Ring Offset									
A	Offset A		15				48	48	18	
B	Offset B									
C	Offset C									
D	Permissive		12				11	11	11	
E	Hold Release		255				104	255	255	
F	Ped Rest		2				0	0	0	

Coordination <C Page>
C + Plan + ROW

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + E
Max Cycle	C + B + E

ROW	Time	Plan	Offset	Day of Week
0	07 : 00	7	A	23456
1	09 : 00	6	A	23456
2	09 : 30	8	A	23456
3	15 : 30	2	A	23456
4	18 : 30	E	A	1234567
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination
<9 Key with C+C+8=1>

	E
Plan 1	
Plan 2	2 6
Plan 3	
Plan 4	
Plan 5	
Plan 6	2 6
Plan 7	2 6
Plan 8	2 6
Plan 9	
Coord Ped*	
NEMA Hold	

Sync Phases
C + E + FUNCTION #

ROW		F
0	Free Lag	2 4 6 8
1	Plan 1 - Lag	
2	Plan 2 - Lag	2 4 6 8
3	Plan 3 - Lag	
4	Plan 4 - Lag	
5	Plan 5 - Lag	
6	Plan 6 - Lag	1 4 67
7	Plan 7 - Lag	1 4 67
8	Plan 8 - Lag	1 4 67
9	Plan 9 - Lag	
A	Coord Max *	
B	Coord Lag *	
C		
D		
E		
F		

Lag Phases <C Page>
C + F + FUNCTION #

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or F = Free
15 or [illegible] = Flash

Transition Type	0

TBC Transition
C + D + 0

Transition Type
0 = Shortway
Non-zero = Longther.

INTERSECTION: Bannock Ave @ Genesee Ave

223 Program

Group Assignment: 4042
Field Master Assignment: NONE

N/S Street Name: GENESEE
E/W Street Name: BANNOCK

Last Database Change:
System Ref. Number:

N

Row	Column # ---> / Phase # --->	1 (Genesee)	2 (Genesee)	3	4 (Bannock)	5	6 (Genesee)	7	8
0	Ped Walk		7		7		7		
1	Ped FDW		11		21		9		
2	Min Green	4	10		4	4	10		
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	2.3		2.0	2.0	5.4		
6	Max Gap	2.0	2.3		2.0	2.0	5.4		
7	Min Gap	2.0	0.2		2.0	2.0	0.2		
8	Max Limit	25	40		30	25	40		
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1		
D	Every		1.4				0.6		
E	Yellow	3.4	3.9		3.9	3.4	4.0		
F	Red Clear	1.0	1.0		1.0	1.0	1.0		

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	
EV-B Clear	
EV-C Delay	0
EV-C Clear	0
EV-D Delay	
EV-D Clear	
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing
F + E + Row

	F	Row
Permit	12_456__	0
Red Lock		1
Yellow Lock		2
Min Recall		3
Ped Recall		4
Peds (View)	_2_4_6__	5
Rest In Walk		6
Red Rest		7
Dbl Entry		8
Max Recall		9
Soft Recall	_2___6__	A
Max 2		B
Cond Serv		C
Ped Lock	12345678	D
Yellow Start	_2___6__	E
1st Phases	___4___	F

Phase Functions <F Page>
F + F + Row

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + O

Start / Revert Times

Drop Number	3	C + 0 + 0
Zone Number	3	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	21	C + 0 + 3
QuicNet Channel	COM40:	(QuicNet)

Communication Addresses

C + F + O	F	Row
Free Lag	_2_4_6__	0
	Lag Phases	<C Page>

Overlap Timing

	Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A				
Overlap B	B				
Overlap C	C				
Overlap D	D				

<F Page>
F + COLOR +

<D Page>
D + 0 + OVERLAP

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Downtime Flash	255	(minutes)

Downtime Before Auto Manual Flash
F + 0 +8

Disable Ports	234

Disable Communication Ports
D + D + 9

Timing Sheet By: LEM
Approved By: FLG
Drawing Number: 18862-1
Timing Implemented On: 04/19/10

INTERSECTION: Bannock Ave @ Genesee Ave

223 Program

Coordination Timing By: G
Implemented On: 11/12/2009

Row	Column # → / Plan Name →	1	2	3	4	5	6	7	8	9
			PM					AM	MID	
0	Cycle Length		126					108	112	
1	Phase 1 - ForceOff		55					76	80	
2	Phase 2 - ForceOff		0					0	0	
3	Phase 3 - ForceOff									
4	Phase 4 - ForceOff		34					51	56	
5	Phase 5 - ForceOff		52					14	20	
6	Phase 6 - ForceOff		0					0	0	
7	Phase 7 - ForceOff									
8	Phase 8 - ForceOff									
9	Ring Offset									
A	Offset A		86					8	97	
B	Offset B									
C	Offset C									
D	Fundamental		12					11	11	
E	Hold Release		255					255	255	
F	Ped Shift		0					0	0	

Coordination <C Page>

C + Plan + ROW

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + L
Max Cycle	C + B + F

Row	Time	Plan	Offset	Day of Week
0	07 : 00	7	A	23456
1	09 : 00	E	A	1234567
2	11 : 30	8	A	23456
3	13 : 00	E	A	1234567
4	15 : 30	2	A	23456
5	18 : 00	E	A	1234567
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination

<9 Key with C+0+9+1>

	E	Row		F
		0	Free Lag	2 4 6
Plan 1		1	Plan 1 - Lag	
Plan 2	2 6	2	Plan 2 - Lag	2 4 6
Plan 3		3	Plan 3 - Lag	
Plan 4		4	Plan 4 - Lag	
Plan 5		5	Plan 5 - Lag	
Plan 6		6	Plan 6 - Lag	
Plan 7	2 6	7	Plan 7 - Lag	2 45
Plan 8	2 6	8	Plan 8 - Lag	2 45
Plan 9		9	Plan 9 - Lag	
Coord Ped*		A	Coord Max *	
NEMA Hold		B	Coord Lag *	
		C		
		D		
		E		
		F		

Sync Phases

C + E + FUNCTION #

Lag Phases <C Page>

C + F + FUNCTION #

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Transition Type 0

TBC Transition
C + D + D

Transition Type
0 = Shortway
Non Zero = Lengthen

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Delay & Carryover <D Page>

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

D + X (across) + ROW

Row	Detector Numbers 1 2 3 4 5 6 7 8	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Row	0 Detector #
0	
1	System Det. # 1 0
2	System Det. # 2 0
3	System Det. # 3 0
4	System Det. # 4 0
5	System Det. # 5 0
6	System Det. # 6 0
7	System Det. # 7 0
8	System Det. # 8 0

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number	0	F+C+2
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+D+6
Short Failure	0.5	F+D+7

Power Cycle Correction (Default = 0.5)

INTERSECTION: Bannock Ave @ Genesee Ave

223 Program

Row	Time	Function	Day of Week	Column F: Phases/Bits
0	00 : 01	E	1234567	1
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

<D Page>

D + F + ROW

TOD Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest in Walk
7 = Rec Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Force Off Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	4
8	Ped 8P	
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration

E + F + ROW

<E Page>

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Immed Service	
4	Ped 2 Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	FY-A Phases	2 5
B	FY-B Phases	
C	FY-C Phases	1 6
D	FY-D Phases	
E	Extra 1 Config. bits	1 345
F	IC Select (Interconnect)	2

Configuration

For access, set F + 9 + E = 1

F + E + ROW

Extra 1 Flags
1 = TSC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = FY Advance
5 = Remote Download
6 = Special Event
7 = Preempt Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7 Wire Master
8 = Offset Interrupter

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign Outputs
1 = Right Turn Overlap
2 = TOD Outputs
3 = FY Beacon - Steady
4 = FY Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date

8-0 Hour, Minute, Day-of-Week

8-1 Day-of-Month, Year, Month

8-F Seconds

Disable Parity: 0 (1=1+2)

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

Program Information

C + C + 0 = program

C + C + 1 = version

Remote Download

C + 0 + 4 = 1-255

w/ E + E + a bit 5 on

INTERSECTION: Chateau Dr @ Genesee Ave

223 Program

Group Assignment: 4019
Field Master Assignment: NONE
N/S Street Name: GENESEE AVE
E/W Street Name: CHATEAU DR
Last Database Change:
System Ref. Number:

Row		Genesee 1	2	3	4	5	Genesee 6	7	Chateau 8
	Column # ---->	Phase							
	Phase # ---->	1	2	3	4	5	6	7	8
0	Ped Walk		7						7
1	Ped FDW		11						17
2	Min Green	4	10				10		4
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	4.4				4.3		2.0
6	Max Gap	2.0	4.4				4.3		2.0
7	Min Gap	2.0	0.2				0.2		2.0
8	Max Limit	30	60				60		40
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs	6	6						
C	Reduce By		0.1				0.1		
D	Every		0.7				0.7		
E	Yellow	3.4	4.7				4.8		3.9
F	Red Clear	2.0	1.0				1.0		2.0

Phase Timing - Bank 1
F + Phase + Row
<F Page>

Row		E
0	RR-1 Delay	
1	RR-1 Clear	
2	EV-A Delay	0
3	EV-A Clear	0
4	EV-B Delay	
5	EV-B Clear	
6	EV-C Delay	0
7	EV-C Clear	0
8	EV-D Delay	0
9	EV-D Clear	0
A	RR-2 Delay	
B	RR-2 Clear	
C	View EV Delay	---
D	View EV Clear	---
E	View RR Delay	---
F	View RR Clear	---

Preempt Timing
F + E + Row

Row		F
0	Permit	12___6_8
1	Red Lock	
2	Yellow Lock	
3	Min Recall	
4	Ped Recall	
5	Peds (View)	_2_____8
6	Rest In Walk	
7	Red Rest	
8	Dbl Entry	
9	Max Recall	
A	Soft Recall	_2___6__
B	Max 2	
C	Cond Serv	
D	Ped Lock	12345678
E	Yellow Start	_2___6__
F	1st Phases	_____8

Phase Functions <F Page>
F + F + Row

Max Initial	0
Red Revert	5.0
All Red Start	0.0

F + 0 + E
F + 0 + F
F + C + O

Start / Revert Times

Drop Number	4
Zone Number	4
Area Number	5
Area Address	41
QuicNet Channel	COM40:

C + 0 + 0
C + 0 + 1
C + 0 + 2
C + 0 + 3
(QuicNet)

Communication Addresses

Overlap Timing

	Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A				
Overlap B	B				
Overlap C	C				
Overlap D	D				

<F Page>
F + COLOR +
<D Page>
D + 0 + OVERLAP

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

C + F + O	F	Row
Free Lag	_2___6_8	0

Lag Phases <C Page>

Downtime Flash	255	(minutes)

Downtime Before Auto Manual Flash
F + 0 +8

Disable Ports	234

Disable Communication Ports
D + D + 9

Timing Sheet By: LEM
Approved By: FLG
Drawing Number: 28122-1-D
Timing Implemented On: 4/21/10

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		1.8
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		1.8
5		
6		
7	10.0	
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

Detector Delay & Carryover <D Page>

D + X (across) + ROW

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Row	0 Detector #
0	
1	System Det. # 1 0
2	System Det. # 2 0
3	System Det. # 3 0
4	System Det. # 4 0
5	System Det. # 5 0
6	System Det. # 6 0
7	System Det. # 7 0
8	System Det. # 8 0

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

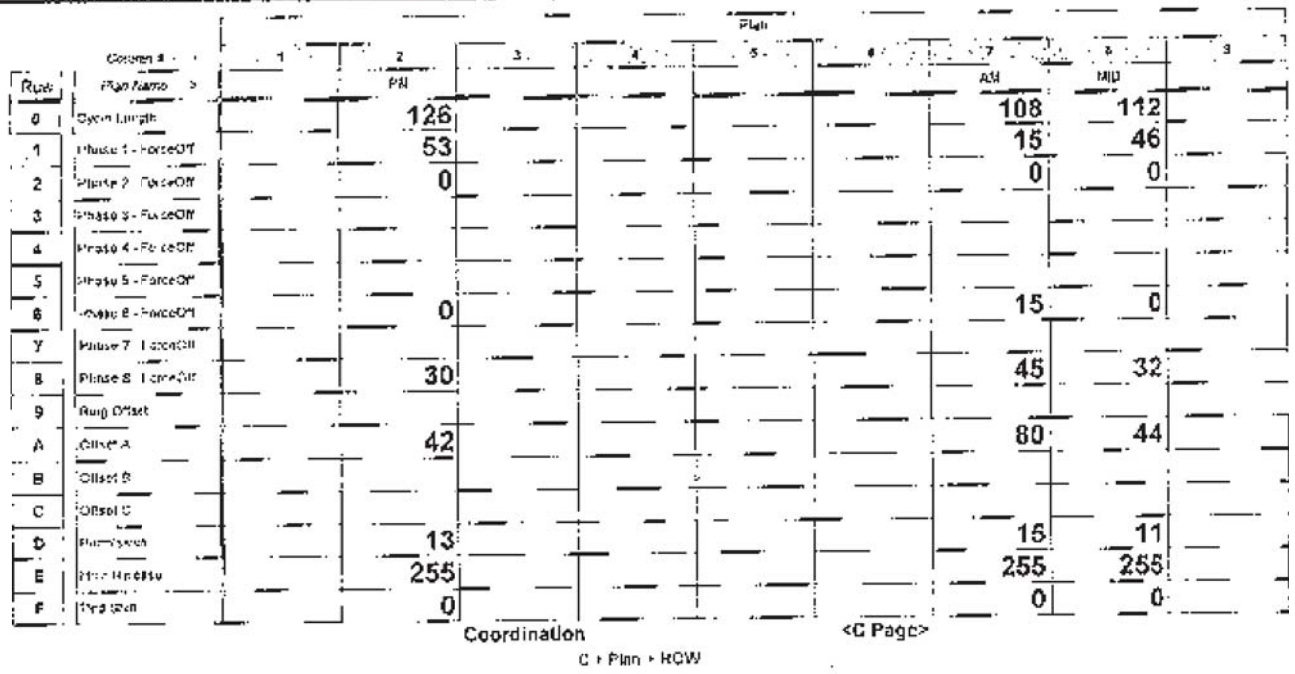
Advance Warning Beacon - Sign 2

Long Failure	0.5	F+E+6
Short Failure	0.5	F+E+7

Power Cycle Correction (Default = 0.5)

INTERSECTION: Chateau Dr @ Genesee Ave

223 [illegible]ram



Coordination

<C Page>

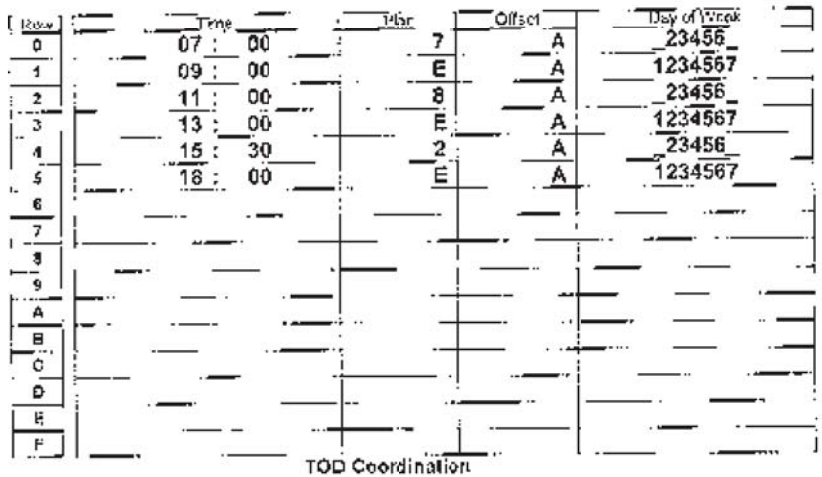
C + Plan + ROW

Coordination Timing By: FLG

Implemented On 11/12/2009

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
TOD Plan	C + A + 5
Master Cycle	C + A + 9
Ring A Cycle	C + D + C
Ring B Cycle	C + D + D
Min Cycle	C + A + L
Max Cycle	C + B + F



TOD Coordination

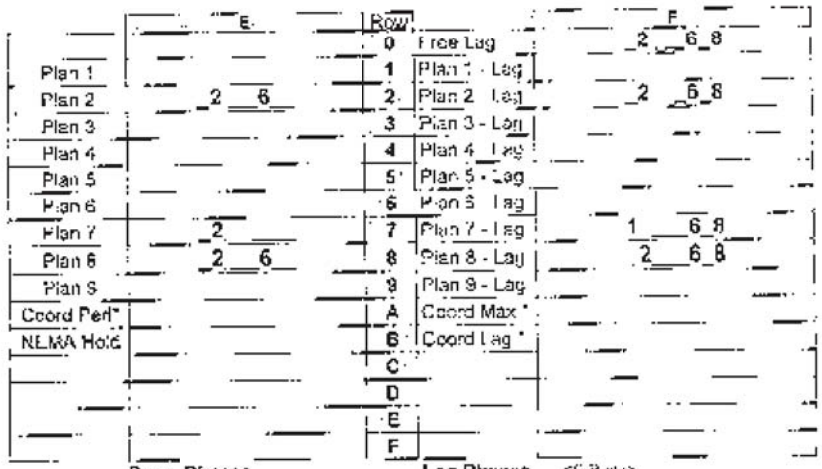
<9 Key with C+0+$=1>

Plan Select

1 thru 9 = Coordination Plan 1 thru 9

14 or E = Free

15 or F = Flash



Sync Phases

C + E + FUNCTION #

Lag Phases <C Page>

C + F + FUNCTION #

Transition Type 0

TSC Transition

C + D + D

Transition Type

0 = Shortway

Non zero = Longway

INTERSECTION: Chateau Dr @ Genesee Ave

223 Program

Row	Time	Function	Day of Week	Column F Phases/Bits
0	00 : 01	E	1234567	1
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

<D Page>

D + F + ROW

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	
7	Ped 4P	
8	Ped 8P	8
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration

E + F = ROW

<E Page>

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign 5 Outputs
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV A Phases	2
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV D Phases	8
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Prefimed Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

For access, set F + 9 + E = 1

Configuration

E + E + ROW

Time and Date

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8-F Seconds

Disable Parity 0 D-8-0

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

Program Information

C + C + 0 = program
C + C + F = version

Remote Download

C + 0 + 4 = 1-255
w/ E + E + E bit 3 on

INTERSECTION: Genesee Ave @ Mt Herbert Ave

223 Program

Group Assignment:
Field Master Assignment: NONE

N/S Street Name: GENESEE AVE
E/W Street Name: MT HERBERT AVE

Last Database Change:
System Ref. Number:

N

Genesee | Mt Herbert | Genesee

Phase Timing - Bank 1

F + Phase + Row

Row	Column # ----> / Phase # ---->	1	2	3	4	5	6	7	8
		↓	→		↓ ↑	↑	←		
0	Ped Walk		7		7		7		
1	Ped FDW		10		22		10		
2	Min Green	4	7		4	4	7		
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	3.8		2.0	2.0	3.7		
6	Max Gap	2.0	3.8		2.0	2.0	3.7		
7	Min Gap	2.0	0.2		2.0	2.0	0.2		
8	Max Limit	30	50		30	30	50		
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1		
D	Every		0.8				0.9		
E	Yellow	3.4	4.5		3.9	3.4	4.8		
F	Red Clear	1.0	1.0		1.0	1.0	1.0		

<F Page>

Preempt Timing

F + E + Row

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	
EV-B Clear	
EV-C Delay	
EV-C Clear	
EV-D Delay	
EV-D Clear	
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Phase Functions <F Page>

F + F + Row

Row		F
0	Permit	12_456__
1	Red Lock	
2	Yellow Lock	
3	Min Recall	_2___6__
4	Ped Recall	
5	Peds (View)	_2_4_6_8
6	Rest In Walk	
7	Red Rest	
8	Dbl Entry	
9	Max Recall	
A	Soft Recall	
B	Max 2	
C	Cond Serv	
D	Ped Lock	12345678
E	Yellow Start	_2___6__
F	1st Phases	___4____

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + O

Start / Revert Times

Drop Number	2	C + 0 + 0
Zone Number	2	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	68	C + 0 + 3
QuicNet Channel	COM40:	(QuicNet)

Communication Addresses

C + F + O	F	Row
Free Lag	_2_4_6__	0

Lag Phases <C Page>

Overlap Timing

	Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A				
Overlap B	B				
Overlap C	C				
Overlap D	D				

<F Page> F + COLOR +

<D Page> D + 0 + OVERLAP

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Downtime Flash	255	(minutes)

Downtime Before Auto Manual Flash

F + 0 + 8

Disable Ports	234

Disable Communication Ports

D + D + 9

Timing Sheet By: LEM
Approved By:
Drawing Number: 18433-1
Timing Implemented On: 4/23/10

INTERSECTION: Genesee Ave @ Mt Herbert Ave

223 P[illegible]ram

Row	Time	Function	Day of Week	Column F Phases/Bits
0	00 : 01	E	1234567	1
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function <D Page>

7 – ROW D + F + ROW

T O D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Row		Column F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	4
8	Ped 8P	
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration <E Page>

E + F + ROW

Row		Column E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV A Phases	2 6
B	EV-B Phases	
C	EV-C Phases	
D	EV-D Phases	
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Configuration

For access, set F + 9 + E = 1 E + E + ROW

Extra 1 Flags
1 = TBC Type 1
2 = NCMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Preempt Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Option 4 Outputs
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8-F Seconds

Disable Parity	0	D-8-0

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

Program Information

C + C + 0 = program
C + C + F = version

Remote Download

C + 0 + 4 = 1-255
w/ F + E + F bit 5 on

INTERSECTION: Genesee Ave @ Mt Herbert Ave

223 Program

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7	10.0	
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1J9U	18
	3J9L	20
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

Detector Delay & Carryover <D Page>

D + X (across) + ROW

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 - - - -	1234
C	13 14 15 16 17 18 19 20	12345678
D	- - - - 21 22 23 24	5678
E	- - - - - - - -	1234
F	- 25 26 27 28 - - -	2345

Active Detectors <D Page>

Row		0 Detector #
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

INTERSECTION: Genesee Ave @ Mt Herbert Ave

223 Program

Coordination Timing By: LG
Implemented On: 10/27/2009

Plan

Row	Column # -->	1	2	3	4	5	6	7	8	9
	Plan Name -->		PM					AM	MD	
0	Cycle Length		126					108	112	
1	Phase 1 - ForceOff		58					50	48	
2	Phase 2 - ForceOff		0					0	0	
3	Phase 3 - ForceOff									
4	Phase 4 - ForceOff		37					35	35	
5	Phase 5 - ForceOff		58					50	47	
6	Phase 6 - ForceOff		0					0	0	
7	Phase 7 - ForceOff									
8	Phase 8 - ForceOff									
9	Ring Offset									
A	Offset A		58					60	63	
B	Offset B									
C	Offset C									
D	Permissive		13					11	11	
E	Max Release		255					255	255	
F	Ped Sync		0					0	0	

Coordination <C Page>
C + Plan + ROW

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + D
Ring A Cycle	C + B + D
Ring B Cycle	C + D + D
Min Cycle	C + A + E
Max Cycle	C + B + E

Row	Time	Plan	Offset	Day of Week
0	07 : 00	7	A	23456
1	09 : 00	E	A	1234567
2	11 : 00	8	A	23456
3	13 : 00	E	A	1234567
4	15 : 30	2	A	23456
5	19 : 00	E	A	1234567
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination
<S Key with C+D+S=1>

Plan Based
1 thru 8 = Coordination Plan 1 thru 8
14 or E = Free
15 or F = Flash

	Coordinate	Row		F
		8	Free Lag	2 4 6
Plan 1		1	Plan 1 - Lag	
Plan 2	2 6	2	Plan 2 - Lag	2 4 6
Plan 3		3	Plan 3 - Lag	
Plan 4		4	Plan 4 - Lag	
Plan 5		5	Plan 5 - Lag	
Plan 6		6	Plan 6 - Lag	
Plan 7	2 6	7	Plan 7 - Lag	2 4 6
Plan 8	2 6	8	Plan 8 - Lag	2 4 6
Plan 9		9	Plan 9 - Lag	
Coord Ped*		A	Coord Max *	
NEMA Hold		B	Coord Lag *	
		C		
		D		
		E		
		F		

Sync Phases
C + E + FUNCTION #

Lag Phases <C Page>
C + F + FUNCTION #

Transition Type	0

TBC Transition
C + D + D

Transition Type
0 = Shortway
Non-zero = Longway

INTERSECTION: Derrick Drive @ Genesee Avenue

233 Program

Group Assignment.
Field Master Assignment.
System Reference Number.

N/S Street: GENESEE
E/W Street: DERRICK

Last Database Change
Timing sheets by: M2S
Approved by: FLG
Drawing Number: 22938-6-D
Timing implemented on: 01/20/12

Row	Phase Numbers --->	1	2	3	4	5	6	7	8
			GENESEE		DERRICK		GENESEE		DERRICK
0	Ped Walk		7		7		7		7
1	Ped FDW		11		26		7		26
2	Min Green	4	10		4	4	10		4
3	Type 3 Disconnect								
4	Added per Vehicle		1.6				1.6		
5	Veh Extension	2.0	8.6		2.0	2.0	5.9		2.0
6	Max Gap	2.0	8.6		2.0	2.0	5.9		2.0
7	Min Gap	2.0	2.0		2.0	2.0	2.0		2.0
8	Max Limit	34	70		44	34	70		44
9	Max Limit 2								
A	Adv. / Delay Walk				7				7
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every		0.5				0.9		
E	Yellow Change	3.4	3.9		3.9	3.4	4.6		3.9
F	Red Clear	1.0	1.0		1.0	1.0	1.0		1.0

Phase Timing - Bank 1 <F/1+Phase+Row>

Row		E
	RR-1 Delay	
	RR-1 Clear	
	EV-A Delay	
	EV-A Clear	
	EV-B Delay	
	EV-B Clear	
	EV-C Delay	0
	EV-C Clear	0
	EV-D Delay	
	EV-D Clear	
	RR-2 Delay	
	RR-2 Clear	
	View EV Delay	- - -
	View EV Clear	- - -
	View RR Delay	- - -
	View RR Clear	- - -

Preempt Timing <F/1+E+Row>

Row		F
0	Permit	12_456_8
1	Red Lock	
2	Yellow Lock	
3	Min Recall	
4	Ped Recall	
5	View Set Ped	2_4_6_8
6	Rest In Walk	
7	Red Rest	
8	Double Entry	4 8
9	Max Recall	
A	Soft Recall	2 6
B	Max 2	
C	Cond. Service	
D	Man Ctrl Calls	
E	Yellow Start	2 6
F	First Phases	4 8

Phase Functions <F/1+F+Row>

Current Calculated Cycle Length: C/0 + B + F

	9	A	B	C	D
	- - -	- -	- - -	- - -	- - -
Phase 1					
Phase 2	28				
Phase 3					
Phase 4					
Phase 5					
Phase 6	27				
Phase 7					
Phase 8					
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <F/1+Column+Phase>

Drop Number	1	<C/0+0+0>
Zone Number	1	<C/0+0+1>
Area Number	5	<C/0+0+2>
Area Address	71	<C/0+0+3>
QuicNet Channel	43	(QuicNet)

Communication Addresses

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

(Outputs specified in Assignable Outputs at F/12/+A+5 & F)

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	0.0	<F/1+C+0>

Start / Revert Times

FLG 4-12-12

Manual Plan	10	<C/0+A+1>
Manual Offset	0	<C/0+B+1>

Manual Offset

Manual Selection

Notes: Lead Pedestrian Interval (LPI) for EB & WB crossing

Free Lag	2 4 6 8	<C/1+F+0>

How to Set Page Access Code.
F/1 – C / 0 + 1 = 1

INTERSECTION: Derrick Drive @ Genesee Avenue

Overlap Assignments

<E/29+Column+Row>

Row		Overlap 1	2	3	4	5	6	7	8
0	Load Switch Number								
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8									
9									
A									
B									
C									
D	Green Clear								
E	Yellow Change								
F	Red Clear								

Specials

<F/2+F+Row>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	4 8
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Configuration

<E/125+E+Row>

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Configuration

<E/125+F+Row>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	4
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	3

Extra 2 Flags
1 = AWB During Initial
2 = LMU Installed
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

Flash to PE &
PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

Preemption Priority

<E/125+C+Row>

(* RR-1 is always Highest, and RR-2 is always Second Highest)

	C
EV-A	
EV-B	
EV-C	
EV-D	
RR-1 *	---
RR-2 *	---
SE-1	0
SE-2	0

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Coordination Transition Minimums

<C/5+2+Row>

	2
Phase 1	0
Phase 2	0
Phase 3	0
Phase 4	0
Phase 5	0
Phase 6	0
Phase 7	0
Phase 8	0

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Time and Date

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8-F Seconds

Daylight Savings Time

Begin Month	0	<C/5+2+A>
Begin Week	0	<C/5+2+B>
End Month	0	<C/5+2+C>
End Week	0	<C/5+2+D>

Daylight Savings Date:
If set to all zeros, standard dates will be used.

INTE[illegible]ECTION: Derrick Drive @ Genesee Avenue

233 Pr[illegible]ram

Row	Detector Name	0 C1 Pin Number	1 Attributes	2 Phase(s)	3 Assign	1 Delay	3 Carry-Over
0		39	45_7_	2	123 8		
1		40	45_7_	6	123 8		
2	416U	41	45_7_	4	123 8	5.0	
3		42	45_7_	8	123 8		
4		43	45_7_	2	123 8		
5		44	45_7_	6	123 8		
6		45	45_7_	4	123 8		
7		46	45_7_	8	123 8		
8		47	67_	2	123 8		
9		48	67_	6	123 8		
A		49	67_	4	123 8		
B		50	67_	8	123 8		
C		55	45_7_	5	123 8		
D		56	45_7_	1 7	123 8		
E		57	45_7_	7	123 8		
F		58	45_7_	3	123 8		

Row	Detector Name	4 C1 Pin Number	5 Attributes	6 Phase(s)	7 Assign	2 Delay	4 Carry-Over
0		59	45_7_	5	123 8		
1		60	45_7_	1 7	123 8		
2		61	45_7_	7	123 8		
3		62	45_7_	3	123 8		
4		63	45_7_	2	123 8		
5		64	45_7_	6	123 8		
6	417U	65	45_7_	4	123 8	10.0	
7		66	45_7_	8	123 8		
8		67	2	2	123 8		
9		68	2	6	123 8		
A		69	2	4	123 8		
B		70	2	8	123 8		
C		76	45_7_	2	123 8		
D		77	45_7_	6	123 8		
E		78	45_7_	4	123 8		
F		79	45_7_	8	123 8		

Detector Assignments <E/126+Column+Row> <D/0+Column+Row>

Program Type:

Detector Attributes
1 = Ped Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	Ped / Phase / Overlap 1	2	3	4	5	6	7	8	Row
Walk									0
Don't Walk									1
Phase Green									2
Phase Yellow									3
Phase Red									4
Overlap Green									5
Overlap Yellow									6
Overlap Red									7

Redirect Phase Outputs <E/127+Column+Row>

Cabinet Type	0

<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	5	<D/0+0+1>
Max ON (minutes)	60	<D/0+0+2>

Detector Failure Monitor

	D	Row
		0
Output Port 1		1
Output Port 2		2
Output Port 3		3
Output Port 4		4
Output Port 5		5
Output Port 6		6
Output Port 7		7

Dimming <E/125+D+Row>

	D
Number of Digits	
1 st Digit	
2 ed Digit	
3 ed Digit	
4 th Digit	
5 th Digit	
6 th Digit	
7 th Digit	
8 th Digit	
9 th Digit	
10 th Digit	
11 th Digit	
12 th Digit	
13 th Digit	
14 th Digit	
15 th Digit	

<C/5+D+Row>

Dial-Back Telephone Number

Disable Alarms
1 = Stop Time
2 = Flash Sense
3 = Keyboard Entry
4 = Manual Plan
5 = Police Control
6 = External Alarm
7 = Detector Failure
8 =

	B	Row
DELAY-A	1	A
DELAY-B	1	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

<D/0+B+Row> (seconds)

Delay Logic Times

Omit Alarm	

<C/5+F+0>

Disable Alarm Reporting

Time	0	<C/5+C+0>

Redial Time (minutes)
(View Redial Timer at E/2+D+6)

Row	Time	Plan	Offset	Day of Week
0	07 : 30	7	A	_23456_
1	10 : 00	E	A	1234567
2	14 : 00	9	A	_23456_
3	18 : 00	E	A	1234567
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination <9/0.1+Row>
(Bank 1)

Time	Funct	Day of Week

TOD Function <7/0.1+Row>

Column 4
Phases/Bits

<E/27+4+Row>

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Day	Year	Month	Holiday Type

Holiday Dates <8/1.1+Row>
(Bank 1)

Time	Plan	Offset	Holiday Type

Holiday Events <9/1.1+Row>
(Bank 1)

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Y.Q.D. Functions:
0 =
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Plan Select:
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Month Select:
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Cycle Timer:
Master: C/0 + A + 0
Ring A: C/0 + B + 0
Ring B: C/0 + D + 0

Interval Timer:
Ring A: F/0 + A + Interval Row
Ring B: F/0 + B + Interval Row

Master Plan: C/0 + A + 2
Current Plan: C/0 + A + 3
TOD Plan: C/0 + A + 5

Row	Time	Plan	Offset	Day of Week
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination <9/0.2+Row>
(Bank 2)

Time	Funct	Holiday Type

Holiday TOD Function <7/0.2+Row>

Column 4
Phases/Bits

<E/28+Row>

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Day	Year	Month	Holiday Type

Holiday Dates <8/1.2+Row>
(Bank 2)

Time	Plan	Offset	Holiday Type

Holiday Events <9/1.2+Row>
(Bank 2)

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

INTERSECTION: Derrick Drive @ Genesee Avenue

233 Program

Coordination - Timing Plans <C/1+Plan+Row>

Row	Plan Name —>	1	2	3	4	5	6	7	8	9	Row
								AM		PM	
0	Cycle Length							140	140	140	0
1	Phase 1 - ForceOff							97	89	100	1
2	Phase 2 - ForceOff							0	0	0	2
3	Phase 3 - ForceOff										3
4	Phase 4 - ForceOff							70	63	74	4
5	Phase 5 - ForceOff							20	83	20	5
6	Phase 6 - ForceOff							0	0	0	6
7	Phase 7 - ForceOff										7
8	Phase 8 - ForceOff							70	63	74	8
9	Ring Offset										9
A	Offset 1							133	129	129	A
B	Offset 2										B
C	Offset 3										C
D	Perm 1 - End							14	14	14	D
E	Hold Release							255	255	255	E
F	Zone Offset							0	0	0	F

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Sync Phases <C/1+E+Row>

Row		E	Row
0			0
1	Plan 1 - Sync		1
2	Plan 2 - Sync		2
3	Plan 3 - Sync		3
4	Plan 4 - Sync		4
5	Plan 5 - Sync		5
6	Plan 6 - Sync		6
7	Plan 7 - Sync	2 6	7
8	Plan 8 - Sync	2 6	8
9	Plan 9 - Sync	2 6	9
A	NEMA Sync		A
B	NEMA Hold		B
C			C
D			D
E	Coord Extra		E
F			F

Coordination - Parameters <C/2+Plan+Row>

Row											Row
0	Ped Adjustment										0
1	Perm 2 - Start										1
2	Perm 2 - End										2
3	Perm 3 - Start										3
4	Perm 3 - End										4
5	Reservice Time										5
6	Reservice Phases										6
7											7
8	Pretimed Phases										8
9	Max Recall										9
A	Perm 1 Veh Phase										A
B	Perm 1 Ped Phase										B
C	Perm 2 Veh Phase										C
D	Perm 2 Ped Phase										D
E	Perm 3 Veh Phase										E
F	Perm 3 Ped Phase										F

Lag Phases <C/1+F+Row>

Row		F	Row
0	Free Lag		0
1	Plan 1 - Lag		1
2	Plan 2 - Lag		2
3	Plan 3 - Lag		3
4	Plan 4 - Lag		4
5	Plan 5 - Lag		5
6	Plan 6 - Lag		6
7	Plan 7 - Lag	2 45 8	7
8	Plan 8 - Lag	2 4 6 8	8
9	Plan 9 - Lag	2 45 8	9
A	External Lag		A
B			B
C			C
D			D
E			E
F			F

Coordination Timing By:

Row	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	Spec. Funct. 1	NOT-3	Max 2	Pretimed	Set Monday	Dial 2 (7-Wire)	Sim Term	0
1	Spec. Funct. 2	NOT-4	System Det 1	Plan 1	Ext. Perm 1	Dial 3 (7-Wire)	EV-A 71	1
2	Spec. Funct. 3	OR-4 (a)	System Det 2	Plan 2	Ext. Perm 2	Offset 1 (7-Wire)	EV-B 72	2
3	Spec. Funct. 4	OR-4 (b)	System Det 3	Plan 3	Dimming	Offset 2 (7-Wire)	EV-C 73	3
4	NAND-3 (a)	OR-5 (a)	System Det 4	Plan 4	Set Clock	Offset 3 (7-Wire)	EV-D 74	4
5	NAND-3 (b)	OR-5 (b)	System Det 5	Plan 5	Stop Time 82	Free (7-Wire)	RR-1 51	5
6	NAND-4 (a)	OR-6 (a)	System Det 6	Plan 6	Flash Sense 81	Flash (7-Wire)	RR-2 52	6
7	NAND-4 (b)	OR-6 (b)	System Det 7	Plan 7	Manual Enable	Excl. Ped Omit	Spec. Event 1	7
8	OR-7 (a)	Fig 3 Diamond	System Det 8	Plan 8	Man Advance	NOT-1	Spec. Event 2	8
9	OR-7 (b)	Fig 4 Diamond	Max Inhibit (nema)	Plan 9	External Alarm	NOT-2	External Lag	9
A	OR-7 (c)	AND-4 (a)	Force A (nema)	DELAY-A	Phase Bank 2	OR-1 (a)	AND-1 (a)	A
B	OR-7 (d)	AND-4 (b)	Force B (nema)	DELAY-B	Phase Bank 3	OR-1 (b)	AND-1 (b)	B
C	OR-8 (a)	NAND-1 (a)	C.N.A. (nema)	DELAY-C	Overlap Set 2	OR-2 (a)	AND-2 (a)	C
D	OR-8 (b)	NAND-1 (b)	Hold (nema)	DELAY-D	Overlap Set 3	OR-2 (b)	AND-2 (b)	D
E	OR-8 (c)	NAND-2 (a)	Max Recall	DELAY-E	Detector Set 2	OR-3 (a)	AND-3 (a)	E
F	OR-8 (d)	NAND-2 (b)	Min Recall	DELAY-F	Detector Set 3	OR-3 (b)	AND-3 (b)	F

Assignable Inputs <E/126+Column+Row>

Row	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	Phase ON - 1	Preempt Fail	Flasher 0	Free	NOT-1	TOD Out 1	Dial 2 (7-Wire)	0
1	Phase ON - 2	Sp Evnt Out 1	Flasher 1	Plan 1	OR-1	TOD Out 2	Dial 3 (7-Wire)	1
2	Phase ON - 3	Sp Evnt Out 2	Fast Flasher	Plan 2	OR-2	TOD Out 3	Offset 1 (7-Wire)	2
3	Phase ON - 4	Sp Evnt Out 3	Fig 3 Diamond	Plan 3	OR-3	TOD Out 4	Offset 2 (7-Wire)	3
4	Phase ON - 5	Sp Evnt Out 4	Fig 4 Diamond	Plan 4	AND-1	TOD Out 5	Offset 3 (7 Wire)	4
5	Phase ON - 6	Sp Evnt Out 5		Plan 5	AND-2	TOD Out 6	Free (7-Wire)	5
6	Phase ON - 7	Sp Evnt Out 6		Plan 6	AND-3	TOD Out 7	Flash (7-Wire)	6
7	Phase ON - 8	Sp Evnt Out 7		Plan 7	NOT-2	TOD Out 8	Preempt	7
8	Ph. Check - 1	Sp Evnt Out 8	NOT-3	Plan 8	EV-A	Adv. Warn - 1	Low Priority A	8
9	Ph. Check - 2		NOT-4	Plan 9	EV-B	Adv. Warn - 2	Low Priority B	9
A	Ph. Check - 3	Detector Fail	OR-4	Spec. Funct. 3	EV-C	DELAY-A	Low Priority C	A
B	Ph. Check - 4	Spec. Funct. 1	OR-5	Spec. Funct. 4	EV-D	DELAY-B	Low Priority D	B
C	Ph. Check - 5	Spec. Funct. 2	OR-6	NAND-3	RR-1	DELAY-C		C
D	Ph. Check - 6	Central Control	AND-4	NAND-4	RR-2	DELAY-D		D
E	Ph. Check - 7	Excl. Ped DW	NAND-1	OR-7	Spec. Event 1	DELAY-E		E
F	Ph. Check - 8	Excl. Ped WK	NAND-2	OR-8	Spec. Event 2	DELAY-F		F

Assignable Outputs <E/127+Column+Row>

INTERSECTION: Genesee Ave @ Mt Etna Dr

223 Program

Group Assignment:
Plate Master Assignment:

N/S Street Name: Genesee
E/W Street Name: Mt Etna

Last Database Change:
System Ref. Number

Row	Column # → / Phase # →	Genesee 1	2	3	Mt Etna 4	5	Genesee 6	7	8
0	Ped Walk		7		7		7		
1	Ped FDW		11		28		11		
2	Min Green	4	10		4	4	10		
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	3.5		2.5	2.0	3.5		
6	Max Gap	2.0	3.5		2.5	2.0	3.5		
7	Min Gap	2.0	0.2		2.5	2.0	0.2		
8	Max Limit	30	60		40	30	60		
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1		
D	Every		0.9				0.9		
E	Yellow	3.4	3.9		3.9	3.4	3.9		
F	Red Clear	1.0	1.0		1.0	1.0	1.0		
	Grade								

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	
EV-B Clear	
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR 2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing
F + E + Row

	F	Row
Permit	12_456__	0
Red Lock		1
Yellow Lock		2
Min Recall	_2___6__	3
Ped Recall		4
Peds (View)	_2_4_6__	5
Rest In Walk		6
Red Rest		7
Dia Entry		8
Max Recall		9
Soft Recall		A
Max 2		B
Cond Serv		C
Ped Lock	12345678	D
Yellow Start	_2___6__	E
1st Phases	___4___	F

Phase Functions <F Page>
F + F + Row

FLG
4-12-12

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + O

Start / Revert Times

Drop Number	2	C + 0 + 0
Zone Number	2	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	72	C + 0 + 3
QuicNet Channel	Com38	(QuicNet)

Communication Addresses

C + F + O	F	Row
Free Lag	_2_4_6__	0

Lag Phases <C Page>

Overlap Timing

	Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A				
Overlap B	B				
Overlap C	C				
Overlap D	D				

<F Page>
F + COLOR +

<D Page>
D + 0 + OVERLAP

Manual Plan	0 ~~14~~	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Downtime Flash	255	(minutes)

Downtime Before Auto Manual Flash
F + C + 8

Disable Ports	_234___

Disable Communication Ports
D + D + 9

Timing Sheet By: FLG
Approved By: FLG
Drawing Number: 34050 4-D
Timing Implemented On: 6/11/2009 10:35

INTERSECTION: Genesee Ave @ Mt Etna Dr

Row	Time	Function	Day of Week	Column F = Phases/Bits
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

<D Page>

D + F + ROW

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phase
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	4
8	Ped 8P	
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration

<E Page>

E + F + ROW

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	4
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Configuration

For access, set F + 9 + E = 1

E + E + ROW

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Preempt Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign 5 Outputs
1 = Right Turn Overlap
2 = 10D Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date

8-0 Hour, Minute, Day-of-Week

8-1 Day-of Month, Year, Month

8-F Seconds

Disable Parity	0	D+8+0

Dial-Up Telephone Communications

(If set to a non zero value, parity will be disabled)

Program Information

C + C + 0 = program

C + C + F = version

Remote Download

C + 0 + 4 = 1 -255

w/ E + E + E bit 5 on

INTERSECTION: Genesee Ave @ Mt Etna Dr

223 Program

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1J1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Delay & Carryover <D Page>

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

D + X (across) + ROW

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 – – – –	1234
C	13 14 15 16 17 18 19 20	12345678
D	– – – – 21 22 23 24	5678
E	– – – – – – – –	1234
F	– 26 26 27 28 – – –	2345

Active Detectors <D Page>

Row		0 Detector #
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

INTERSECTION: Genesee Ave @ Mt Etna Dr

223 Proc[illegible]n

Coordination Timing By: [illegible]
Implemented On: 4/12/2012

Plan

Row	Column # → / Main Name →	1	2	3	4	5	6	7 AM	8	9 PM
0	Cycle Length							140	140	140
1	Phase 1 - ForceOff							85	96	121
2	Phase 2 - ForceOff							0	0	0
3	Phase 3 - ForceOff									
4	Phase 4 - ForceOff							49	55	80
5	Phase 5 - ForceOff							85	80	25
6	Phase 6 - ForceOff							0	0	0
7	Phase 7 - ForceOff									
8	Phase 8 - ForceOff									
9	Ring Offset									
A	Offset A							127	128	113
B	Offset B									
C	Offset C									
D	Permissive							14	14	14
E	Hold Release							255	255	255
F	Red Shift							0	0	0

Coordination <C Page>

C + Plan + ROW

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + E
Max Cycle	C + B + E

Row	Type	Plan	Offset	Day of Week
0	07:30	7	A	23456
1	10:00	E	A	1234567
2	14:00	9	A	23456
3	18:00	E	A	1234567
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination

<9 Key with C+0+9=1>

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

	E	Row	F
		0	Free Leg
Plan 1		1	Plan 1 - Lag
Plan 2		2	Plan 2 - Lag
Plan 3		3	Plan 3 - Lag
Plan 4		4	Plan 4 - Lag
Plan 5		5	Plan 5 - Lag
Plan 6		6	Plan 6 - Lag
Plan 7	2 6	7	Plan 7 - Lag 2 4 6
Plan 8	2 6	8	Plan 8 - Lag 2 4 6
Plan 9	2 6	9	Plan 9 - Lag 2 45
Coord Ped*		A	Coord Max *
NEMA Hold		B	Coord Lag *
		C	
		D	
		E	
		F	

Sync Phases

C + E + FUNCTION #

Lag Phases <C Page>

C + F + FUNCTION #

Transition Type	0

TBC Transition
C + D + D

Transition Type
0 = Shortway
Non-zero = Lengthen

INTERSECTION: Balboa Ave & Clairemont Dr

Group Assignment:
Field Master Assignment:
System Reference Number

N/S Street Name: Clairemont Dr
E/W Street Name: Balboa Ave

Last Database Change:
Drawing Number: 36692 2-D

Change Record					
Change	By	Date	Change	By	Date
Original TS	KT	3/23/2015			

Notes: *1) "No U-Turn" sign connected to Phase 6 Ped Yellow (Pin 36)*
2) TOD Function activates Overlap & "NO U-TURN" Blankout sign

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 - Automatic
1 - Offset A
2 - Offset B
3 - Offset C

implemented on 6/12/2015

Drop Number	13	<C/0+0+0>
Zone Number	13	<C/0+0+1>
Area Number	5	<C/0+0+2>
Area Address	96	<C/0+0+3>
QuicNet Channel	COM41:	(QuicNet)

Communication Addresses

Manual Plan	14	<C/0+A+1>
Manual Offset	0	<C/0+B+1>

Manual Selection

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	0.0	<F/1+C+0>
FYA Red Revert	0.0	<F/1+0+5>
OVLP CHG Red	0.0	<F/1+0+3>

Start / Revert Times

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E 8 F)

Row	Phase Number	1	2	3	4	5	6	7	8
		Balboa		Clairemont		Balboa		Clairemont	
0	Ped Walk		7		7		7		7
1	Ped FDW		22		22		21		26
2	Min Green	4	10	4	7	4	10	4	7
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension	2.0	3.5	2.0	2.6	2.0	3.0	2.0	2.4
6	Max Gap	2.0	3.5	2.0	2.6	2.0	3.0	2.0	2.4
7	Min Gap	2.0	0.2	2.0	0.2	2.0	0.2	2.0	0.2
8	Max Limit	30	60	30	40	30	60	30	40
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW		1		1		1		1
C	Cond Serv Check								
D	Reduce Every		0.9		1.3		1.1		1.4
E	Yellow Change	3.4	4.7	3.4	4.3	3.4	5.4	3.4	4.3
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D
Phase 1	---	---	---	---	---
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing <C+0+F=1>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

	F	Row
Permit	12345678	0
Red Lock		1
Yellow Lock		2
Min Recall		3
Ped Recall		4
View Set Peds	2 4 6 8	5
Rest in Walk		6
Red Rest		7
Dual Entry		8
Max Recall		9
Soft Recall	2 6	A
Max 2		B
Cond. Service		C
Man Cntrl Calls		D
Yellow Start	2 6	E
First Phases	4 8	F

Phase Functions <C+0+F=1>

Overlap Assignments <C+0+E=28>

Row	Overlap Name --->	Overlap 1	2	3	4	5	6	7	8
0	Load Switch Number								
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases	1							8
3	Veh Set 3 - Phases								
4	Neg Veh Phases	2							78
5	Neg Ped Phases	2							8
6	Green Omit Phases								8
7	Green Clear Omit Phs.								
8	Overlap Recall								
9	Queue Jump Phase								
A	Queue Jump Time								
B	Minimum Green								
C	Maximum Green								
D	Green Clear								
E	Yellow Change	3.4							
F	Red Clear	1.0							

Extra 1 Flags
1 = TSC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = Reserved
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on FV
6 = Manual Hold in FDW
7 = Allow QuicNet PR
8 = Flash Grn B4 Yellow

Row		C
0	EV A	0
1	EV-B	0
2	EV-C	0
3	EV-D	0
4	RR 1 *	- - -
5	RR-2 *	- - -
6	SE-1	0
7	SE-2	0

Preempt Priority
<C+0+E=125>
(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Dist / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 34
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	N
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	4
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	3

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials <C+0+F=2>

Flash to PE 3
PE Non Locks
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 =
5 =
6 = Simplex Master
7 =
8 = Offset Interrupter

Row		2
0		
1	Phase 1	10
2	Phase 2	10
3	Phase 3	10
4	Phase 4	10
5	Phase 5	10
6	Phase 6	10
7	Phase 7	10
8	Phase 8	10

Coordination Transition Minimums
<C+0+C=5>

Plan

Row	Column Numbers —> / Plan Name —>	1	2	3	4	5	6	7	8	9
0	Cycle Length									
1	Phase 1 - ForceOff									
2	Phase 2 - ForceOff									
3	Phase 3 - ForceOff									
4	Phase 4 - ForceOff									
5	Phase 5 - ForceOff									
6	Phase 6 - ForceOff									
7	Phase 7 - ForceOff									
8	Phase 8 - ForceOff									
9	Ring Offset									
A	Offset 1									
B	Offset 2									
C	Offset 3									
D	Perm 1 - End									
E	Hold Release									
F	Reserved									

Coordination - Bank 1 <C+0+C=1>

Coord Extra

1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	E
0	
1	Plan 1 - Sync
2	Plan 2 - Sync
3	Plan 3 - Sync
4	Plan 4 - Sync
5	Plan 5 - Sync
6	Plan 6 - Sync
7	Plan 7 - Sync
8	Plan 8 - Sync
9	Plan 9 - Sync
A	NEMA Sync
B	NEMA Hold
C	
D	
E	Coord Extra
F	

Sync Phases <C+0+C=1>

Row	Ped Adjustment
0	
1	Perm 2 - Start
2	Perm 2 - End
3	Perm 3 - Start
4	Perm 3 - End
5	Reservice Time
6	Reservice Phases
7	
8	Pretimed Phases
9	Max Recall
A	Perm 1 Veh Phase
B	Perm 1 Ped Phase
C	Perm 2 Veh Phase
D	Perm 2 Ped Phase
E	Perm 3 Veh Phase
F	Perm 3 Ped Phase

Coordination - Bank 2 <C+0+C=2>

Row	F
0	2 45 8
1	Free Lag
2	Plan 1 - Lag
3	Plan 2 - Lag
4	Plan 3 - Lag
5	Plan 4 - Lag
6	Plan 5 - Lag
7	Plan 6 - Lag
8	Plan 7 - Lag
9	Plan 8 - Lag
A	Plan 9 - Lag
B	External Lag
C	Lag Hold
D	
E	
F	

Lag Phases <C+0+C=1>

Assignable Inputs

<C+0+E=126>

Row	Column 8	Column 9	Column A	Column B	Column C	Column D		Column E		Column F		Row
0	One-Shot Timer	Latch 1 Set	NOT-3	Max 2	Pretimed	Set Monday		Dial 2 (7-Wire)		Sim Term	0	0
1	AND-5 (a)	Latch 1 Reset	NOT-4	Reserved	Plan 1	Ext. Perm 1		Dial 3 (7-Wire)		EV-A	71	1
2	AND-5 (b)	Latch 2 Set	OR-4 (a)	Reserved	Plan 2	Ext. Perm 2		Offset 1 (7-Wire)		EV-B	72	2
3	AND-6 (a)	Latch 2 Reset	OR-4 (b)	Reserved	Plan 3	Gate Down		Offset 2 (7-Wire)		EV-C	73	3
4	AND-6 (b)	NAND-3 (a)	OR-5 (a)	Reserved	Plan 4	Set Clock		Offset 3 (7-Wire)		EV-D	74	4
5	Reserved	NAND-3 (b)	OR-5 (b)	Reserved	Plan 5	Stop Time	82	Free (7-Wire)		RR-1	51	5
6	Reserved	NAND-4 (a)	OR-6 (a)	Reserved	Plan 6	Flash Sense	81	Flash (7-Wire)		RR-2	52	6
7	Reserved	NAND-4 (b)	OR-6 (b)	Reserved	Plan 7	Manual Enable		Excl. Ped Omit		Spec. Event 1		7
8	Spec. Funct. 1	OR-7 (a)	EXTMR	Reserved	Plan 8	Max. Advance		NOT-1		Spec. Event 2		8
9	Spec. Funct. 2	OR-7 (b)	Reserved	Max Inhibit (term)	Plan 9	External Alarm		NOT-2		External Flag		9
A	Spec. Funct. 3	OR-7 (c)	AND-4 (a)	Force A (term)	DELAY-A	Phase Bank 2		OR-1 (a)	201	AND-1 (a)		A
B	Spec. Funct. 4	OR-7 (d)	AND-4 (b)	Force B (term)	DELAY-B	Phase Bank 3		OR-1 (b)	351	AND-1 (b)		B
C	Reserved	OR-8 (a)	NAND-1 (a)	C-N A (term)	DELAY-C	Overlap Set 2	201	OR-2 (a)		AND-2 (a)		C
D	Reserved	OR-8 (b)	NAND-1 (b)	Hold (term)	DELAY-D	Overlap Set 3		OR-2 (b)		AND-2 (b)		D
E	Reserved	OR-8 (c)	NAND-2 (a)	Max Recall	DELAY-E	Detector Set 2		OR-3 (a)		AND-3 (a)		E
F	Reserved	OR-8 (d)	NAND-2 (b)	Min Recall	DELAY-F	Detector Set 3		OR-3 (b)		AND-3 (b)		F

Assignable Outputs

<C+0+F=127>

Row	Column 8	Column 9	Column A	Column B	Column C	Column D		Column E		Column F		Row
0	Reserved	Phase ON - 1	Preempt Fail	Flasher 0	Free	NOT-1		TOD Out 1	201	Dial 2 (7-Wire)		0
1	Reserved	Phase ON - 2	Sp Evnt Out 1	Flasher 1	Plan 1	OR-1	36	TOD Out 2		Dial 3 (7-Wire)		1
2	Reserved	Phase ON - 3	Sp Evnt Out 2	Fast Flasher	Plan 2	OR-2		TOD Out 3		Offset 1 (7-Wire)		2
3	Reserved	Phase ON - 4	Sp Evnt Out 3	EXTMR	Plan 3	OR-3		TOD Out 4		Offset 2 (7-Wire)		3
4	Reserved	Phase ON - 5	Sp Evnt Out 4	One-Shot Timer	Plan 4	AND-1		TOD Out 5		Offset 3 (7-Wire)		4
5	Reserved	Phase ON - 6	Sp Evnt Out 5	Reserved	Plan 5	AND-2		TOD Out 6		Free (7-Wire)		5
6	Reserved	Phase ON - 7	Sp Evnt Out 6	Latch 1	Plan 6	AND-3		TOD Out 7		Flash (7-Wire)		6
7	Reserved	Phase ON - 8	Sp Evnt Out 7	Latch 2	Plan 7	NOT-2		TOD Out 8		Preempt		7
8	Fth Yell Arrow 1	Ph. Check - 1	Sp Evnt Out 8	NOT-3	Plan 8	EV-A		Adv. Warn - 1		Low Priority A		8
9	Green 1	Ph. Check - 2	Coord On	NOT-4	Plan 9	EV-B		Adv. Warn - 2		Low Priority B		9
A	Fth Yell Arrow 3	Ph. Check - 3	Detector Fail	OR-4	Spec. Funct. 3	EV-C		DELAY-A		Low Priority C		A
B	Green 3	Ph. Check - 4	Spec. Funct. 1	OR-5	Spec. Funct. 4	EV-D		DELAY-B		Low Priority D		B
C	Fth Yell Arrow 5	Ph. Check - 5	Spec. Funct. 2	OR-6	NAND-3	RR-1		DELAY-C		AND-5		C
D	Green 5	Ph. Check - 6	Control Control	AND-4	NAND-4	RR-2		DELAY-D		AND-6		D
E	Fth Yell Arrow 7	Ph. Check - 7	Excl. Ped DW	NAND-1	OR-7	Spec. Event 1		DELAY-E		Reserved		E
F	Green 7	Ph. Check - 8	Excl. Ped WK	NAND-2	OR-8	Spec. Event 2		DELAY-F		Reserved		F

Row	Phase Names —>	Phase 1	2	3	4	5	6	7	8
	Column Numbers —>								
0	Ped Walk								
1	Ped FDW								
2	Min Green								
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension								
6	Max Gap								
7	Min Gap								
8	Max Limit								
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every								
E	Yellow Change								
F	Red Clear								

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
Phase 1					
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Transition Type
0 X = Shortway
1 X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	0.3	<C/5+1+9>

TBC Transition

Hawk Select	0	F/1+0+4>

Hawk Select 200 = Mid-Block, 201 = Hawk

Address	0	<C/1+0+6>
Select Parity	0	<C/1+0+5>

AB3418 Comm 2 0 = No Parity, 1 = Even

Daylight Savings Data
If set to all zeros, standard dates will be used

Begin Month	3	<C/5+2+A>
Begin Week	2	<C/5+2+B>
End Month	11	<C/5+2+C>
End Week	1	<C/5+2+D>

Daylight Savings Time

Time B4 Yellow	0.0	<F/1+C+E>
Phase Number	0	<F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow	0.0	
Phase Number	0	<F/1+0+I>

Advance Warning Beacon - Sign 2

Offset Time	0	<C/5+2+E>
Max Cycle Time	20	<C/5+2+F>

Yellow Yield Coordination

	12345678	
Omit Alarm	#NAME?	

Local Alarm Disable <C/5+F+0>

ILN Status	1	<C/5+1+B>
Synch Time	0.0	<C/5+1+C>

Other Parameters

Column Numbers →	0	1	2	3	4	5
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0	2I2U	39	45_7	2	123		1.8
1	6J2U	40	45_7	6	123		1.8
2	4I6U	41	45_7	4	123		1.8
3	8J6U	42	45_7	8	123		1.8
4	2I2L	43	45_7	2	123		1.8
5		44	45_7	6	123		
6	4I6L	45	45_7	4	123		1.8
7	8J6L	46	45_7	8	123		1.8
8		47	67	2	123		
9		48	67	6	123		
A		49	67	4	123		
B		50	67	8	123		
C		55	45_7	5	123		
D		56	45_7	1	123		
E		57	45_7	7	123		
F		58	45_7	3	123		

Column Numbers →	4	5	6	7	4	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45_7	5	123		
1		60	45_7	1	123		
2		61	45_7	7	123		
3		62	45_7	3	123		
4		63	45_7	2	123		
5		64	45_7	6	123		
6	4I7U	65	45_7	4	123	10.0	
7		66	45_7	8	123		
8		67	2	2	123		
9		68	2	6	123		
A		69	2	4	123		
B		70	2	8	123		
C		76	45_7	2	123		
D		77	45_7	6	123		
E		78	45_7	4	123		
F		79	45_7	8	123		

Detector Assignments <C+0+E=126>

<C+0+D=0>

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 = Overlap
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report as Failure

Column Numbers →	Ped / Phase / Overlap 1	2	3	4	5	6	7	8	Row
Walk									0
Don't Walk									1
Phase Green									2
Phase Yellow									3
Phase Red									4
Overlap Green	35								5
Overlap Yellow	37								6
Overlap Red									7

Redirect Phase Outputs <C+0+E=127>

Cabinet Type	30	<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	20	<D/0+0+1>
Max ON (minutes)	7	<D/0+0+2>
Chatter Fail Time	0	<D/0+0+4>

Detector Failure Monitor

	B	Row
One-Shot	0	8
Ext. Timer	0	9
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<C+0+D=0> (seconds)

Row	Time	Plan	Offset	Day of Week
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination <C+0+9=0,1>
(Bank 1)

Time	Funct	Day of Week	Column 4 Phases/Bits
15 : 00	D	23456	1 4 6 8
19 : 00	D	23456	2 45 8
07 : 00	F	23456	1
09 : 00	F	23456	
13 : 00	F	23456	1
18 : 00	F	23456	

TOD Function <C+0+7=0,1> <C+0+E=27>

Day	Year	Month	Holiday Type

Holiday Dates <C+0+8=1,1>
(Bank 1)

Time	Plan	Offset	Holiday Type

Holiday Events <C+0+9=1,1>
(Bank 1)

TOD Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Leg Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 6 - FYA Inhibit
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Sync Monitor
F = Output Bits 1 thru 8

Plan Select
1 thru 9 - Coordination Plan 1 thru 9
14 or E - Free
15 or F - Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Row	Time	Plan	Offset	Day of Week
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination <C+0+9=0,2>
(Bank 2)

Time	Funct	Holiday Type	Column 4 Phases/Bits

Holiday TOD Function <C+0+7=0,2> <C+0+E=28>

Day	Year	Month	Holiday Type

Holiday Dates <C+0+8=1,2>
(Bank 2)

Time	Plan	Offset	Holiday Type

Holiday Events <C+0+9=1,2>
(Bank 2)

Month Select: October = A, November = B, December = C

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
A										
B										
C										
D										
E										
F										

Special Event Schedule -- Table 1 <C+0+E=27>

Notes:

<E/27+5+F>
Limited Service Interval

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
A										
B										
C										
D										
E										
F										

Special Event Schedule -- Table 2 <C+0+E=28>

Notes:

<E/28+5+F>
Limited Service Interval

1

INTERSECTION: Balboa Ave & Mt Everest Bl

223 Program

2

Group Assignment:
Field Master Assignment:

N/S Street Name: **Mt Everest**
E/W Street Name: **Balboa Ave**

Last Database Change:
System Ref. Number:

Row	Column # ---> / Phase # --->	1	2	3	4	5	6	7	8
			Balboa	Mt Everest	Mt Everest		Balboa		
0	Ped Walk		7	7	7		7		
1	Ped FDW		11	20	20		10		
2	Min Green	4	10	7	7	4	10		
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	4.5	2.0	2.0	2.0	3.1		
6	Max Gap	2.0	4.5	2.0	2.0	2.0	3.1		
7	Min Gap	2.0	0.2	2.0	2.0	2.0	0.2		
8	Max Limit	30	60	40	40	30	60		
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1		
D	Every		0.7				1.0		
E	Yellow	3.4	4.3	3.9	3.9	3.4	5.2		
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0		
	Grade								

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	
EV-B Clear	
EV-C Delay	0
EV-C Clear	0
EV-D Delay	
EV-D Clear	
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing
F + E + Row

	F	Row
Permit	123456__	0
Red Lock		1
Yellow Lock		2
Min Recall		3
Ped Recall		4
Peds (View)	_234_6__	5
Rest In Walk		6
Red Rest		7
Dbl Entry		8
Max Recall		9
Soft Recall	_2___6__	A
Max 2		B
Cond Serv		C
Ped Lock	12345678	D
Yellow Start	_2___6__	E
1st Phases	__3_____	F

Phase Functions <F Page>
F + F + Row

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + O

Start / Revert Times

Drop Number	12	C + 0 + 0
Zone Number	12	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	95	C + 0 + 3
QuicNet Channel	COM 41	(QuicNet)

Communication Addresses

C + F + O	F	Row
Free Lag	_2_4_6__	0

Lag Phases <C Page>

Overlap Timing

	Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A				
Overlap B	B				
Overlap C	C				
Overlap D	D				

<F Page> F + COLOR +

<D Page> D + 0 + OVERLAP

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Downtime Flash	255	(minutes)

Downtime Before Auto Manual Flash
F + 0 +8

Disable Ports	_234___

Disable Communication Ports
D + D + 9

Timing Sheet By: FLG
Approved By: FLG
Drawing Number:
Timing Implemented On: 4-26-10

INTERSECTION: Balboa Ave & Mt Everest Bl

223 Program

Coordination Timing By: K&HA
Implemented On: 2/10/2010

Row	Plan Name ---->	Plan 1	2	3	4	5	6	7 AM	8	9 PM
0	Cycle Length							140		140
1	Phase 1 - ForceOff							87		93
2	Phase 2 - ForceOff							0		15
3	Phase 3 - ForceOff							40		45
4	Phase 4 - ForceOff							73		75
5	Phase 5 - ForceOff							87		15
6	Phase 6 - ForceOff							0		0
7	Phase 7 - ForceOff									
8	Phase 8 - ForceOff									
9	Ring Offset							35		111
A	Offset A									
B	Offset B									
C	Offset C							14		15
D	Permissive							255		255
E	Hold Release							0		3 Ø
F	Ped Shift									

Coordination <C Page>

C + Plan + ROW

Row	Time	Plan	Offset	Day of Week
0	07 : 00	7	A	23456
1	10 : 00	7	A	23456
2	13 : 00	9	A	23456
3	19 : 30	E	A	23456
4	08 : 00	7	A	—7
5	09 00	7	A	1—
6	1900	E	A	1—7
7				
8				
9				
A				
B				
C				
D				
E				
F				

FLG 7-26-10

TOD Coordination

<9 Key with C+0+9=1>

	E	Row		F
		0	Free Lag	2 4 6
Plan 1		1	Plan 1 - Lag	
Plan 2		2	Plan 2 - Lag	
Plan 3		3	Plan 3 - Lag	
Plan 4		4	Plan 4 - Lag	
Plan 5		5	Plan 5 - Lag	
Plan 6		6	Plan 6 - Lag	
Plan 7	2 6	7	Plan 7 - Lag	2 4 6
Plan 8		8	Plan 8 - Lag	
Plan 9	6	9	Plan 9 - Lag	2 45
Coord Ped*		A	Coord Max *	
NEMA Hold		B	Coord Lag *	
		C		
		D		
		E		
		F		

Sync Phases

C + E + FUNCTION #

Lag Phases <C Page>

C + F + FUNCTION #

Transition Type	0

TBC Transition
C + D + D

Transition Type
0 = Shortway
Non-zero = Lengthen

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

INTERSECTION: Balboa Ave & Mt Everest Bl

223 Program

Row	Time	Function	Day of Week	Column F Phases/Bits
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

<D Page>

D + F + ROW

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	4
8	Ped 8P	3
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration <E Page>

E + F + ROW

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Configuration

For access, set F + 9 + E = 1

E + E + ROW

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign 5 Outputs
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8-F Seconds

Disable Parity	0	D+B+0

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

Program Information

C + C + 0 = program
C + C + F = version

Remote Download

C + 0 + 4 = 1 -255
w/ E + E + E bit 5 on

INTERSECTION: Balboa Ave & Mt Everest Bl

223 Program

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

Detector Delay & Carryover <D Page>

D + X (across) + ROW

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Row		0 Detector #
0		
1	System Det. # 1	
2	System Det. # 2	
3	System Det. # 3	
4	System Det. # 4	
5	System Det. # 5	
6	System Det. # 6	
7	System Det. # 7	
8	System Det. # 8	

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number		F+C+1
Time Before Yellow		F+C+3

Advance Warning Beacon - Sign 1

Phase Number		F+D+1
Time Before Yellow		F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

INTERSECTION: Balboa Ave & Genesee Ave

223 Program

Group Assignment:
Field Master Assignment:

N/S Street Name: Genesee Ave
E/W Street Name: Balboa Ave

Last Database Change:
System Ref Number:

Row	Phase # →	1	2	3	4	5	6	7	8
	Column # →		Balboa		Genesee		Balboa		Genesee
			Phase						
0	Ped Walk		7		7		7		7
1	Ped FDW		23		26		27		26
2	Min Green	4	10	4	7	4	10	4	7
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	3.3	2.0	4.5	2.0	2.9	2.0	4.6
6	Max Gap	2.0	3.3	2.0	4.5	2.0	2.9	2.0	4.6
7	Min Gap	2.0	0.2	2.0	0.2	2.0	0.2	2.0	0.2
8	Max Limit	30	60	30	40	30	60	30	40
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1		0.1		0.1		0.1
D	Every		1.0		0.7		1.1		0.7
E	Yellow	3.4	4.3	3.4	3.9	3.4	4.4	3.4	3.9
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Grade								

Phase Timing - Bank 1
F + Phase + Row

<F Page>

Row	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing
E + E + Row

Row	F
Permit	12345678
Red Lock	
Yellow Lock	
Min Recall	
Ped Recall	
Peds (View)	_2_4_6_8
Rest in Walk	
Red Rest	
Dbl Entry	
Max Recall	
Soft Recall	_2___6__
Max 2	
Cond Serv	
Ped Lock	12345678
Yellow Start	_2___6__
1st Phases	__3___7_

Phase Functions <F Page>
F + F + Row

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + O

Start / Revert Times

Time Number	3	C + 0 + 0
Zone Number	3	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	73	C + 0 + 3
QuicNet Channel	Digi 43	(QuicNet)

Communication Addresses

C + F + O	F	Row
Free Lag	_2_4_6_8	0

Lag Phases <C Page>

Overlap Timing

	Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A				
Overlap B	B				
Overlap C	C				
Overlap D	D				

<F Page> F + COLOR + <D Page> D + 0 + OVERLAP

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-5 = Plan 1-5
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Downtime Flash	255	(minutes)

Downtime Before Auto Manual Flash
F + 0 + 8

Disable Ports	_234____

Disable Communication Ports
0 + 0 + 9

Timing Sheet By: FLG
Approved By: FLG
Drawing Number: 34553-26-0
Timing Implemented On: 4-26-10

INTERSECTION: Balboa Ave & Genesee Ave

223 Program

Row	Time	Function	Day of Week	Column E: Phases/Bits
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

<D Page>

D + F + ROW

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Leg Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Spit Monitor
F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	4
8	Ped 8P	8
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration

E + F + ROW

<F Page>

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config Bits	1 345
F	IC Select (Interconnect)	2

Configuration

For access, set F + 9 + E = 1

E + E + ROW

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Protimed Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign 5 Outputs
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date

8-0 Hour, Minute, Day-of-Week

8-1 Day-of-Month, Year, Month

8-F Seconds

Disable Parity	0	D+B+0

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

Program Information

C + C + 0 = program

C + C + F = version

Remote Download

C + 0 + 4 = 1 -255

w/ E + F + E bit 5 on

INTERSECTION: Balboa Ave & Genesee Ave

223 Program

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		1.8
8		
9		
A	10.0	
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	5
	2I2U	1
	2I2L	2
	2I3U	3
	2I3L	12
	2I4	4
	3I5	30
	4I6U	7
	4I6L	8
	4I7U	9
	4I7L	33
	4I8	10
	1I9U	18
	3I9L	32
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		1.8
3		1.8
4		2.0
5		
6		
7		1.8
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	6
	6J2U	15
	6J2L	16
	6J3U	17
bike lane	6J3L	18
	6J4	19
	7J5	11
	8J6U	23
	8J6L	24
	8J7U	25
	8J7L	27
	8J8	28
	5J9U	17
	7J9L	13
---	---	---
---	---	---

Detector Delay & Carryover <0 Page>

D + X (across) + ROW

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 – – – –	1234
C	13 14 15 16 17 18 19 20	12345678
D	– – – – 21 22 23 24	5678
E	– – – – – – – –	1234
F	– 25 26 27 28 – – –	2345

Active Detectors <0 Page>

Row	0 Detector #
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <0 Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number		F+C+1
Time Before Yellow		F+C+3

Advance Warning Beacon - Sign 1

Phase Number		F+D+1
Time Before Yellow		F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

INTERSECTION: Balboa Ave & Genesee Ave

223 Pro[illegible]m

Coordination Timing By: K&HA
Implemented On: 2/10/2010

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + C
Min Cycle	C + A + E
Max Cycle	C + B + E

Plan

Row	Column # → / Plan Name →	1	2	3	4	5	6	7 AM	8	9 PM
0	Cycle Length							140		140
1	Phase 1 - ForceOff							111		19
2	Phase 2 - ForceOff							0		0
3	Phase 3 - ForceOff							55		46
4	Phase 4 - ForceOff							91		85
5	Phase 5 - ForceOff							32		118
6	Phase 6 - ForceOff							0		19
7	Phase 7 - ForceOff							52		49
8	Phase 8 - ForceOff							91		85
9	Ring Offset									
A	Offset A							29		37 27
B	Offset B									
C	Offset C									
D	Permissive							14		19
E	Hold Release							255		130
F	Ped Shrt							0		0

Coordination <C Page>

C + Plan + ROW

Row	Time	Plan	Offset	Day of Week
0	07 : 00	7	A	23456
1	13 ~~10~~ : 00	9 E	A	23456
2	~~44 : 00~~	9	A	23456
3	19 ~~88~~ : 30	E	A	23456
4	08 : 00	7	A	7
5	09 00	7	A	1
6	1900	E	A	1 7
7				
8				
9				
A				
B				
C				
D				
E				
F				

FLG 7-26-10

TOD Coordination

<9 Key with C+D+8=1>

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

	E
Plan 1	
Plan 2	
Plan 3	
Plan 4	
Plan 5	
Plan 6	
Plan 7	2 6
Plan 8	
Plan 9	2 6
Coord Ped*	
NEMA Hold	

Sync Phases

C + E + FUNCTION #

Row		F
0	Free Lag	2 4 ~~5~~ 6 8
1	Plan 1 - Lag	
2	Plan 2 - Lag	
3	Plan 3 - Lag	
4	Plan 4 - Lag	
5	Plan 5 - Lag	
6	Plan 6 - Lag	
7	Plan 7 - Lag	2 45 8
8	Plan 8 - Lag	
9	Plan 9 - Lag	1 4 6 8
A	Coord Max *	
B	Coord Lag *	
C		
D		
E		
F		

Lag Phases <C Page>

C + F + FUNCTION #

Transition Type	0

TBC Transition
C + D + 5

Transition Type
0 = Shortway
Non-zero = Lengthen

(3)

① MSS 10/15/13

INTERSECTION: Balboa Ave & Shopping Center Drwy

223 Program

Group Assignment:
Field Master Assignment:

N/S Street Name: Shopping Center Drwy
E/W Street Name: Balboa Ave

Last Database Change
System Ref. Number

Row	Phase	1	2	3	4	5	6	7	8
		Balboa		Drwy		Balboa		Drwy	
				PPLT				PPLT	
0	Ped Walk		7		7		7		7
1	Ped FDW		① 17 ~~14~~		① 30 ~~26~~		① 17 ~~15~~		① 31 ~~26~~
2	Min Green	4	10	4	4	4	10	4	4
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	5.1	2.0	2.0	2.0	3.8	2.0	2.0
6	Max Gap	2.0	5.1	2.0	2.0	2.0	3.8	2.0	2.0
7	Min Gap	2.0	0.2	2.0	2.0	2.0	0.2	2.0	2.0
8	Max Limit	25 ~~30~~	60	10	30	25 ~~30~~	60	10	30
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1		
D	Every		0.6				0.8		
E	Yellow	3.4	4.3	3.4	3.9	3.4	4.4	3.4	3.9
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Grade								

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	
RR-2 Clear	
View EV Delay	
View EV Clear	
View RR Delay	
View RR Clear	

Preempt Timing
F + E + Row

	P	Row
Permit	12345678	0
Red Lock		1
Yellow Lock		2
Min Recall	2 6	3
Ped Recall		4
Peds (View)	2 4 6 8	5
Rest In Walk		6
Red Rest		7
Gel Entry		8
Max Recall		9
Soft Recall		A
Max 2		B
Cond Serv		C
Ped Lock	12345678	D
Yellow Start	2 6	E
1st Phases	3 7	F

Phase Functions <F Page>
F + F + Row

* Using 3.5 fps for FDW.

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + O

Start / Revert Times

Crop Number	15	C + 0 + 0
Zone Number	15	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	115	C + 0 + 3
QuicNet Channel	COM 41	(QuicNet)

Communication Addresses

C + F + O	F	Row
Free Lag	2 4 6 8	0

Lag Phases <C Page>

Overlap Timing

	Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A				
Overlap B	B				
Overlap C	C				
Overlap D	D				

<E Page> F + CO, OR +

<D Page> D + C + Overlap

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Downtime Flash 255 (minutes)
Downtime Before Auto Manual Flash
F + 0 + 8

Disable Ports 234
Disable Communication Ports
D + D + 9

Timing Sheet By FLG
Approved By FLG
Drawing Number 25170-D
Timing Implemented On 4-26-10

INTERSECTION: Balboa Ave & Shopping Center Drwy

223 Program

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0				1I1	14
1		1.8		2I2U	1
2		~~1.8~~		2I2L	2
3		~~1.8~~		2I3U	3
4		2.0	bike lane	2I3L	4
5				2I4	9
6				3I5	16
7				4I6U	3
8	10.0			4I6L	7
9				4I7U	23
A				4I7L	27
B				4I8	11
C				1I9U	18
D				3I9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0				5J1	13
1		1.8		6J2U	2
2		~~1.8~~		6J2L	10
3		~~1.8~~		6J3U	11
4		~~1.8~~		6J3L	12
5		2.0	bike lane	6J4	10
6				7J5	15
7				8J6U	4
8	10.0			8J6L	8
9				8J7U	24
A				8J7L	28
B				8J8	12
C				5J9U	17
D				7J9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

D + X (across) + ROW

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Row	0 Detector #
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number		F+C+1
Time Before Yellow		F+C+3

Advance Warning Beacon - Sign 1

Phase Number		F+D+1
Time Before Yellow		F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

INTERSECTION: Balboa Ave & Shopping Center Drwy

223 Program

Row	Column # ---->	Plan 1	2	3	4	5	6	7	8	9
	Plan Name ---->						W/E	AM		PM
0	Cycle Length						140	140		140
1	Phase 1 - ForceOff						92 39	78 75		① 82 79
2	Phase 2 - ForceOff						15	0		0
3	Phase 3 - ForceOff						31	15		16
4	Phase 4 - ForceOff						76 23	61		64
5	Phase 5 - ForceOff						15	78 75		82 79
6	Phase 6 - ForceOff						0	0		0
7	Phase 7 - ForceOff						37	21 23		24 26
8	Phase 8 - ForceOff						76 23	61		64
9	Ring Offset									
A	Offset A						15	65		44 49
B	Offset B									
C	Offset C									
D	Permissive						14	14		14
E	Hold Release						255	255		255
F	Ped Shift						0	0		0

Coordination <C Page>

C + Plan + ROW

Coordination Timing By: K&HA

Implemented On: 2/10/2010

① MLS 10/15/13

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + E
Max Cycle	C + B + E

Row	Time	Plan	Offset	Day of Week
0	07 : 00	7	A	23456
1	10 : 00	7 E	A	23456
2	13 14 : 00	9	A	23456
3	19 : 30	E	A	1234567
4	08 00	6	A	7
5	09 00	6	A	1
6	19 00	E	A	1 7
7				
8				
9				
A				
B				
C				
D				
E				
F				

FLG 7-26-10

TOD Coordination

<9 Key with C+0+9=1>

Plan Select

1 thru 9 = Coordination Plan 1 thru 9

14 or E = Free

15 or F = Flash

	E	Row		F
		0	Free Lag	2 4 6 8
Plan 1		1	Plan 1 - Lag	
Plan 2		2	Plan 2 - Lag	
Plan 3		3	Plan 3 - Lag	
Plan 4		4	Plan 4 - Lag	
Plan 5		5	Plan 5 - Lag	
Plan 6		6	Plan 6 - Lag	
Plan 7	2 6	7	Plan 7 - Lag	2 4 6 8
Plan 8		8	Plan 8 - Lag	
Plan 9	2 6	9	Plan 9 - Lag	2 4 6 8
Coord Ped*		A	Coord Max *	
NEMA Hold		B	Coord Lag *	
		C		
		D		
		E		
		F		

Sync Phases

C + E + FUNCTION #

Lag Phases <C Page>

C + F + FUNCTION #

Transition Type	0

TBC Transition

C + D + D

Transition Type

0 = Shortway

Non-zero = Lengthen

Row	Time	Function	Day of Week	Column F Phases/Bits
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function <D Page>

7 + ROW D + F + ROW

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	_2_____
6	Ped 6P	____6__
7	Ped 4P	___4____
8	Ped 8P	_____8
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration <E Page>

E + F + ROW

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	_2__5___
B	EV-B Phases	___4__7_
C	EV-C Phases	1____6__
D	EV-D Phases	__3____8
E	Extra 1 Config. Bits	1_345___
F	IC Select (Interconnect)	_2_____

Configuration

For access, set F + 9 + E = 1 E + E + ROW

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Day of Week
1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign 5 Outputs
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date
8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8-F Seconds

Disable Parity	0	D+B+0

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

Program Information
C + C + 0 = program
C + C + F = version

Remote Download
C + 0 + 4 = 1 -255
w/ E + E + E bit 5 on

4

INTERSECTION: Balboa Ave & Mt Abernathy Av/Mt Alifan Dr

223 Program

Group Assignment
Field Master Assignment

N/S Street Name: Mt Abernathy/Mt Alifan
E/W Street Name: Balboa Ave

Last Database Change
System Ref. Number

Row	Phase	1	2	3	4	5	6	7	8
	Colored # →	Balboa		Mt Abernathy			Balboa		Mt Alifan
	Phase →								
0	Ped Walk		7		7		7		7
1	Ped FDW		15		28		19		32
2	Min Green	4	10	4	7	4	10	4	7
3	Type 3 Limit								
4	Add/Veh		1.2				1.2		
5	Veh Extn	2.0	6.3	2.0	2.0	2.0	5.8	2.0	2.0
6	Max Gap	2.0	6.3	2.0	2.0	2.0	5.8	2.0	2.0
7	Min Gap	2.0	2.0	2.0	0.2	2.0	2.0	2.0	0.2
8	Max Limit	30	50	30	30	30	50	30	30
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1		0.1		0.1		0.1
D	Every		0.7		1.7		0.8		1.7
E	Yellow	3.4	4.3	3.4	3.9	3.4	4.4	3.4	3.9
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Grade								

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E		F	Row
RR-1 Delay		Permit	12345678	0
RR-1 Clear		Red Lock		1
EV-A Delay	0	Yellow Lock		2
EV-A Clear	0	Min Recall	2 6	3
EV-B Delay	0	Ped Recall		4
EV-B Clear	0	Peds (View)	2 4 6 8	5
EV-C Delay	0	Rest In Walk		6
EV-C Clear	0	Red Rest		7
EV-D Delay	0	Dbl Entry		8
EV-D Clear	0	Max Recall		9
RR 2 Delay		Soft Recall		A
RR-2 Clear		Max 2		B
View EV Delay	---	Cond Serv		C
View EV Clear	---	Ped Lock	12345678	D
View RR Delay	---	Yellow Start	2 6	E
View RR Clear	---	1st Phases	3 7	F

Preempt Timing
F + E + Row

Phase Functions <F Page>
F + F + Row

Max Initial	32	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + O

Start / Revert Times

Drop Number	11	C + 0 + 0
Zone Number	11	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	94	C + 0 + 3
QuicNet Channel	COM 41	(QuicNet)

Communication Addresses

C + F + D	F	Row
Free Lag	2 4 6 8	0
	Lag Phases	<C Page>

Overlap Timing

	Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A				
Overlap B	B				
Overlap C	C				
Overlap D	D				

<F Page> F + COLOR +

<D Page> D + 0 + OVERLAP

Manual Plan	0	C + 4 + 1
Manual Offset	0	C + 8 + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Downtime Flash	255	(minutes)

Downtime Before Auto Manual Flash
F + 0 + 8

Disable Ports	234

Disable Communication Ports
D + D + 9

Timing Sheet By: FLG
Approved By: FLG
Drawing Number: 25670-D
Timing Implemented On: 4-26-10

Row	Time	Function	Day of Week	Column F Phases/Bits
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 –
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

TOD Function <D Page>

7 + ROW D + F + ROW

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	4
8	Ped 8P	8
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration <E Page>

E + F + ROW

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Preempt Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Configuration

For access, set F + 9 + E = 1 F + E + ROW

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign 5 Outputs
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
9-F Seconds

Disable Parity 0 D+9+C

Dial-Up Telephone Communications

(If set to a non zero value, parity will be disabled)

Program Information

C + C + 0 = program
C + C + F = version

Remote Download

C + D + 4 = 1-255
w/ E = E + F bit 5 on

INTERSECTION: Balboa Ave & Mt Abernathy Av/Mt Alifan Dr

223 Program

Coordination Timing By: K&HA
Implemented On: 2/10/2010

Row	Column # → / Plan Name →	1	2	3	4	5	6	7	8	9
				Plan						
				MIB				AM		PM
0	Cycle Length			130				140		140
1	Phase 1 - ForceOff			103				35		107
2	Phase 2 - ForceOff							0		0
3	Phase 3 - ForceOff			39				49		17
4	Phase 4 - ForceOff			77				97		61
5	Phase 5 - ForceOff			23				115		84
6	Phase 6 - ForceOff							0		0
7	Phase 7 - ForceOff			39				53		19
8	Phase 8 - ForceOff			77				97		61
9	Ring Offset									
A	Offset A			114				100		42
B	Offset B									
C	Offset C									
D	Permissive			10				14		14
E	Hold Release			255				255		255
F	Ped Shift			0				0		0

Coordination <C Page>

C + Plan + ROW

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + E
Max Cycle	C + B + E

FLG 7-26-09

Row	Time	Plan	Offset	Day of Week
0	07 : 00	7	A	23456
1	13 ~~16~~ : 00	~~7~~	A	23456
2	14 : 00	9	A	23456
3	19 : 30	E	A	234567
4	08 : 00	7	A	—7
5	09 00	7	A	1—
6	19 00	E	A	1—7
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination

<9 Key with C+0+9=1>

	E
Plan 1	
Plan 2	
Plan 3	2 6
Plan 4	
Plan 5	
Plan 6	
Plan 7	2 6
Plan 8	
Plan 9	2 6
Coord Ped*	
NEMA Hold	

Sync Phases

C + E + FUNCTION #

Row		F
0	Free Lag	2 4 6 8
1	Plan 1 - Lag	
2	Plan 2 - Lag	
3	Plan 3 - Lag	2 45 8
4	Plan 4 - Lag	
5	Plan 5 - Lag	
6	Plan 6 - Lag	
7	Plan 7 - Lag	1 4 6 8
8	Plan 8 - Lag	
9	Plan 9 - Lag	2 4 6 8
A	Coord Max *	
B	Coord Lag *	
C		
D		
E		
F		

Lag Phases <C Page>

C + F + FUNCTION #

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Transition Type	0

TBC Transition
C + D + D

Transition Type
0 = Shortway
Non-zero = Lengthen

INTERSECTION: Balboa Ave & Mt Abernathy Av/Mt Alifan Dr

223 Program

Row	1 Delay	3 Carry-over
0		
1		
2		1.8
3		
4		
5		
6		
7	10.0	1.8
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7	10.0	1.8
8		
9		1.8
A		
B		
C		
D		
E	---	---
F	---	---

Detector Delay & Carryover <0 Page>

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

D + X (across) + ROW

Row
A
B
C
D
E
F

Detector Numbers	E
1 2 3 4 5 6 7 8	12345678
9 10 11 12 – – – –	1234
13 14 15 16 17 18 19 20	12345678
– – – – 21 22 23 24	5678
– – – – – – – –	1234
– 25 26 27 28 – – –	2345

Active Detectors <0 Page>

Row	0 Detector #
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <0 Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number		F+C+1
Time Before Yellow		F+C+3

Advance Warning Beacon - Sign 1

Phase Number		F+D+1
Time Before Yellow		F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

5

INTERSECTION: Balboa Ave & Cannington Dr/Mt Albertine Ave

223 Program

Group Assignment
Field Master Assignment

N/S Street Name: Cannington/Mt Albertine
E/W Street Name: Balboa Ave

Last Database Change:
System Ref. Number

N

Row	Column # → / Phase # →	1 (Balboa)	2 (Balboa)	3	4	5	6 (Balboa)	7 (Cannington)	8 (Mt Albertine)
0	Ped Walk		7				7		7
1	Ped FDW		9				10		24
2	Min Green	4	10			4	10	7	7
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	5.0			2.0	4.0	2.0	2.0
6	Max Gap	2.0	5.0			2.0	4.0	2.0	2.0
7	Min Gap	2.0	0.2			2.0	0.2	2.0	2.0
8	Max Limit	30	60			30	60	30	30
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1		
D	Every		0.6				0.8		
E	Yellow	3.4	4.3			3.4	4.4	3.9	3.9
F	Red Clear	1.0	1.0			1.0	1.0	1.0	1.0
	Grade								

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E		F	Row
RR-1 Delay		Permit	12__5678	0
RR-1 Clear		Red Lock		1
EV-A Delay	0	Yellow Lock		2
EV-A Clear	0	Min Recall	_2___6__	3
EV-B Delay		Ped Recall		4
EV-B Clear		Peds (View)	_2___6_8	5
EV-C Delay	0	Rest in Walk		6
EV-C Clear	0	Red Rest		7
EV-D Delay		Dbl Entry		8
EV-D Clear		Max Recall		9
RR-2 Delay		Soft Recall		A
RR-2 Clear		Max 2		B
View FV Delay	---	Cond Serv		C
View EV Clear	---	Ped Lock	12345678	D
View RR Delay	---	Yellow Start	_2___6__	E
View RR Clear	---	1st Phases	_____7_	F

Preempt Timing
F + E + Row

Phase Functions <F Page>
F + F + Row

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + O

Start / Revert Times

Drop Number	10	C + 0 + 0
Mode Number	10	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	93	C + 0 + 3
QuickNet Channel	COM 41	(QuickNet)

Communication Addresses

C + F + O	F	Row
Free Lag	_2___6_8	0
	Lag Phases	<C Page>

Overlap Timing

	Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A				
Overlap B	B				
Overlap C	C				
Overlap D	D				

<F Page>
F + COLOR +

<D Page>
D + 0 + OVERLAP

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Downtime Flash	255	(minutes)

Downtime Before Auto Manual Flash
F + C + 5

Disable Ports	_234____

Disable Communication Ports
D + O + 9

Timing Sheet By: FLG
Approved By: FLG
Drawing Number:
Timing Implemented On: 4-26-10

Row	Time	Function	Day of Week	Phases/Bits (Column F)
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

<D Page>

D + F + ROW

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Reg Phases
F = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 6

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	
8	Ped 8P	8
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration <E Page>

E + F + ROW

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	
E	Extra 1 Config Bits	1 345
F	IC Select (Interconnect)	2

Configuration

For access, set F + 9 + E = 1

E + E + ROW

Extra 1 Flags
1 = TSC Type 2
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Prebimed Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign 5 Outputs
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date

8-0 Hour, Minute, Day-of-Week

8-1 Day-of-Month, Year, Month

8-F Seconds

Disable Parity: 0 D+8+0

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

Program Information

C + 0 = program

C + C = version

Remote Download

C + 0 + 4 = 1256

w/ E + E + E bit 5 on

INTERSECTION: Balboa Ave & Cannington Dr/Mt Albertine Ave — 223 Program

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6	10.0	
7	10.0	
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

Detector Delay & Carryover <D Page>

D + X (across) + ROW

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Row		0 Detector #
0		
1	System Det. # 1	
2	System Det. # 2	
3	System Det. # 3	
4	System Det. # 4	
5	System Det. # 5	
6	System Det. # 6	
7	System Det. # 7	
8	System Det. # 8	

System Detectors <D Page>

Max ON (min)	5	D+A+C
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number		F+C+1
Time Before Yellow		F+C+3

Advance Warning Beacon - Sign 1

Phase Number		F+D+1
Time Before Yellow		F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+D+6
Short Failure	0.5	F+D+7

Power Cycle Correction (Default = 0.5)

INTERSECTION: Balboa Ave & Cannington Dr/Mt Albertine Ave

223 Program

Coordination Timing By: K&HA
Implemented On: 2/10/2010

Row	Column # → / Plan Name →	Plan 1	2	3	4	5	6	7 AM	8	9 PM
0	Cycle Length							140		140
1	Phase 1 - ForceOff							88		102
2	Phase 2 - ForceOff							0		16
3	Phase 3 - ForceOff									
4	Phase 4 - ForceOff									
5	Phase 5 - ForceOff							84		16
6	Phase 6 - ForceOff							0		0
7	Phase 7 - ForceOff							29		38
8	Phase 8 - ForceOff							69		78
9	Ring Offset									
A	Offset A							121		44
B	Offset B									
C	Offset C									
D	Permissive							14		16
E	Hold Release							255		255
F	Ped Shift							0		0

Coordination <C Page>

C + Plan + ROW

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + E
Max Cycle	C + B + F

Row	Time	Plan	Offset	Day of Week
0	06 : 30	7	A	23456
1	10 : 00	7 E	A	23456
2	13 ~~14~~ : 00	9	A	23456
3	19 ~~18~~ : ~~00~~ 30	E	A	1234567
4	08 : 00	7	A	7
5	09 : 00	7	A	1
6	19 : 00	E	A	1 7
7				
8				
9				
A				
B				
C				
D				
E				
F				

FLG 7-26-10

TOD Coordination

<9 Key with C+0+9=1>

	E	Row		F
		0	Free Lag	2 6 8
Plan 1		1	Plan 1 - Lag	
Plan 2		2	Plan 2 - Lag	
Plan 3		3	Plan 3 - Lag	
Plan 4		4	Plan 4 - Lag	
Plan 5		5	Plan 5 - Lag	
Plan 6		6	Plan 6 - Lag	
Plan 7	2 6	7	Plan 7 - Lag	2 6 8
Plan 8		8	Plan 8 - Lag	
Plan 9	2 6	9	Plan 9 - Lag	2 5 8
Coord Ped*		A	Coord Max *	
NEMA Hold		B	Coord Lag *	
		C		
		D		
		E		
		F		

Sync Phases

C + E + FUNCTION #

Lag Phases <C Page>

C + F + FUNCTION #

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Transition Type 0
TBC Transition
C + D + D

Transition Type
0 = Shortway
Non-zero = Lengthen

INTERSECTION: Balboa Ave & Charger Bl/Hathay St

223 Proc

Coordination Timing By: KHA
Implemented On: 2/10/2010

Row	Plan Name →	1	2	3	4	5	6 AM	7 AM peak	8	9 PM
0	Cycle Length						140	140	140	140
1	Phase 1 - ForceOff						86	85	105	101
2	Phase 2 - ForceOff						0	0	12	15
3	Phase 3 - ForceOff									
4	Phase 4 - ForceOff									
5	Phase 5 - ForceOff						79	79	12	15
6	Phase 6 - ForceOff						0	0	0	0
7	Phase 7 - ForceOff						27	28	31	35
8	Phase 8 - ForceOff						50	53	59	65
9	Ring Offset									
A	Offset A						122	122	32	32
B	Offset B									
C	Offset C									
D	Permissive						14	14	15	15
E	Hold Release						255	255	255	255
F	Pre Shift						0	0	0	0

Coordination <C Page>
C + Plan + ROW

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
TOD Plan	C + A + 5
Master Cycle	C + A + 6
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + F
Max Cycle	C + B + F

Row	Time	Plan	Offset	Day of Week
0	06 : 30	7	A	23456
1	07 : 30	6	A	23456
2	08 : 10	7	A	23456
3	11 : 30	E	A	6
4	13 : 00	E	A	2345
5	06 : 00	7	A	7
6	09 : 00	7	A	1
7	19 : 00	E	A	1 7
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination
<9 Key with C+0+8=1>

Plan Select
1 thru 6 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Plan 1	
Plan 2	
Plan 3	
Plan 4	
Plan 5	
Plan 6	2 6
Plan 7	2 6
Plan 8	6
Plan 9	6
Coord Ped*	
NEMA Hold	

Sync Phases
C + E + FUNCTION #

Row		
0	Free Lag	2 6 8
1	Plan 1 - Lag	
2	Plan 2 - Lag	
3	Plan 3 - Lag	
4	Plan 4 - Lag	
5	Plan 5 - Lag	
6	Plan 6 - Lag	2 6 8
7	Plan 7 - Lag	2 6 8
8	Plan 8 - Lag	2 5 8
9	Plan 9 - Lag	2 5 8
A	Coord Max *	
B	Coord Lag *	
C		
D		
E		
F		

Lag Phases <C Page>
C + F + FUNCTION #

Transition Type	0

EBC Transition
C + D + D

Transition Type
0 = Shortway
Non-zero = Lengthen

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7	10.0	
8		
9		
A		
B		
C		
D		1.8
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	Adv 07
---	---	---
---	---	---

Detector Delay & Carryover <D Page>

D + X (across) + ROW

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 26 26 27 28 -- -- --	2345

Active Detectors <D Page>

Row	0 Detector #
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number		F+C+1
Time Before Yellow		F+C+3

Advance Warning Beacon - Sign 1

Phase Number		F+D+1
Time Before Yellow		F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+D+5
Short Failure	0.5	F+D+7

Power Cycle Correction (Default = 0.5)

INTERSECTION: Balboa Ave & Charger Bl/Hathaw St 223 Prc m

Row	Time	Functions	Day of Week	Column F Phases/Bits
0	1145	B	6	12 6 8
1	1230	B	6	1 6
2	1400	B	6	
3	1130	C	6	1
4	1400	C	6	
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function <D Page>

7 + ROW D + F + ROW

T.O.D. Functions
0 = Permitted Phases
1 = Rod Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Leg Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	
8	Ped 8P	7
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration <E Page>

E + F + ROW

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Front / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Configuration

For access, set F + 9 + E = 1 E + E + ROW

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Preempt Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign 5 Outputs
1 = Right Turn Overlap
2 = TOD Output
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8 F Seconds

Disable Parity	0	D + B + 3

Dial-Up Telephone Communications
(if set to a non-zero value, parity will be disabled)

Program Information

C + C + 0 = program
C + C + F = version

Remote Download

C + 0 + 4 + 1 255
w/ E + E + E bit 8 on

INTERSECTION: Balboa Ave & Charger Bl/Hathaway St

223 [illegible]gram

Group Assignment
Field Master Assignment

N/S Street Name Charger Bl/Hathaway
E/W Street Name Balboa Ave

Last Database Change
System Ref. Number

FLG 11-1-16

Row	Phase	1 (Balboa)	2 (Balboa)	3	4	5	6 (Balboa)	7 (Charger)	8 (Hathaway)
0	Ped Walk		7				7	7	
1	Ped FDW		21 ~~20~~				12	24 ~~21~~	
2	Min Green	4	10			4	10	7	7
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	5.0			2.0	4.0	2.0	2.5
6	Max Gap	2.0	5.0			2.0	4.0	2.0	2.5
7	Min Gap	2.0	0.2			2.0	0.2	0.2	2.5
8	Max Limit	40	60			30	60	25	40
9	Max Limit 2	45	40				85		25
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1	0.1	
D	Every		0.6				0.8	1.7	
E	Yellow	3.4	4.3			3.4	4.4	3.9	3.9
F	Red Clear	1.0	1.0			1.0	1.0	1.0	1.0
	Grade								

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing
F + E + Row

	F
Permit	12 5678
Red Lock	
Yellow Lock	
Min Recall	2 6
Ped Recall	
Peds (View)	2 67
Rest In Walk	
Red Rest	
Dbl Entry	
Max Recall	
Soft Recall	
Max 2	
Cond Serv	
Ped Lock	12345678
Yellow Start	2 6
1st Phases	7

Phase Functions <F Page>
F + F + Row

Max Initial	0	F + 0 + F
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + D

Start / Revert Times

Drop Number	9	C + 0 + 0
Zone Number	9	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	92	C + 0 + 3
QuicNet Channel	COM 41	(QuicNet)

Communication Addresses

C + F + D	F	Row
Free Lag	2 6 8	0

Lag Phases <D Page>

Overlap Timing

	Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A				
Overlap B	B				
Overlap C	C				
Overlap D	D				

<F Page>
F + COLOR +

<D Page>
D + 0 + OVERLAP

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Downtime Flash 255 (minutes)
Downtime Before Auto Manual Flash
F + 0 + 8

Disable Ports 234
Disable Communication Ports
D + 0 + 9

Timing Sheet By FLG
Approved By FLG
Drawing Number
Timing Implemented On 7/22/2011

6

LOCATION: **RTE 805 SB @ 274 (BALBOA AVE)**

CALTRANS C8 Version 3 DATE: 3/2/2015

F PAGE

	INTERVAL	PHASE TIMING 1	2	3	4	5	6	7	8	9
0	WALK	1	1	1	1	1	7	1	1	CLK RST
1	DONT WALK	1	1	1	1	1	11	1	1	
2	MIN GREEN	1	1	1	5	1	10	1	1	
3	TYPE 3 DET	0	0	0	0	0	0	0	0	
4	ADD/VEH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5	PASSAGE	0.9	0.9	0.9	1.0	0.9	2.0	0.9	0.9	
6	MAX GAP	0.9	0.9	0.9	1.0	0.9	2.0	0.9	0.9	
7	MIN GAP	0.9	0.9	0.9	1.0	0.9	2.0	0.9	0.9	
8	MAX EXT	9	9	9	30	9	40	9	9	
9	MAX 2									YR
A	MAX 3									MO
B										DAY
C	REDUCE BY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DOW
D	EVERY	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	HR
E	YELLOW	3.0	3.0	3.0	4.1	3.0	4.8	3.0	3.0	MIN
F	RED	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	SEC
	PED XING FT						40			
	BIKE XING FT						51			

PRE-EMPTION E		
EV SEL	0	
RR1 CLR	5	
EVA DLY	0	
EVA CLR	5	
EVB DLY	0	
EVB CLR	5	
EVC DLY	0	
EVC CLR	5	
EVD DLY	0	
EVD CLR	5	
MAX EV	255	
RR2 CLR	5	

F FLAGS	1	2	3	4	5	6	7	8	
PERMIT	1	2	3	4	5	6	7	8	0
RED LOCK				4					1
YEL LOCK									2
V RECALL		2				6			3
P RECALL									4
PED PHASES						6			5
RT OLA									6
RT OLB									7
DBL ENTRY									8
MAX 2 PHASES									9
LAG PHASES	READ ONLY								A
RED REST									B
REST-IN-WALK									C
MAX 3 PHASES									D
YEL START UP						6			E
FIRST PHASE				4					F
	1	2	3	4	5	6	7	8	

FOC LONG FAILURE	
FOD SHORT FAILURE	
FOE	0
FOF	5

FCO	3
FC1	3
FC2	10
FCA	0.0
FCB	0.0
FCC	0.0
FCD	0.0

FDO TB SELECT	1
FD3 PED SELECT	0
FD4 7 WIRE	0
FD5 PERMISSIVE	0
FD8 OS SEEKING	1

CO5 FLASH TYPE	1
CC2 DOWNLOAD	1

NOTES:

ENTRIES IN THESE LOCATIONS CAN BE CHANGED IN CC1 FLASH ONLY

LOCATION: **RTE 805 SB @ NOBEL DRIVE**

CALTRANS C8 Version 3 DATE: 3/2/2015

C PAGE

		CONTROL PLANS									Y-COORD			LAG PHASE	FLAGS									
		1	2	3	4	5	6	7	8	9		C	D	E	F	1	2	3	4	5	6	7	8	
0	CYCLE LENGTH														LAG FZ FREE									0
1	FZ1 GRN FCTR													GAPOUT CP1	LAG FZ CP 1									1
2														GAPOUT CP2	LAG FZ CP 2									2
3	FZ3 GRN FCTR													GAPOUT CP3	LAG FZ CP 3									3
4	FZ4 GRN FCTR										PERM TIME			GAPOUT CP4	LAG FZ CP 4									4
5	FZ5 GRN FCTR										LAG OFFSET			GAPOUT CP5	LAG FZ CP 5									5
6											FORCE OFF			GAPOUT CP6	LAG FZ CP 6									6
7	FZ7 GRN FCTR										LONG GRN			GAPOUT CP7	LAG FZ CP 7									7
8	FZ8 GRN FCTR										NO GREEN			GAPOUT CP8	LAG FZ CP 8									8
9	MULTI CYCLE													GAPOUT CP9	LAG FZ CP 9									9
A	OFFSET A										OFFSET				LAG C COORD									A
B	OFFSET B														LAG D COORD									B
C	OFFSET C														COORD FAZES		2				6			C
D	FZ 3 EXT																							D
E	FZ 7 EXT																							E
F	OFFSET INTRPT																							F
																1	2	3	4	5	6	7	8	

CO1 MANUAL CP
CO2 MASTER CP
CO3 CURRENT CP
CO4 LAST CP
CO7 TRNSMT CP
COD MANUAL OFFSET
CAO LOCAL CYCLE TIMER
CBO MASTER CYCLE TIMER
CAA LOCAL OFFSET
CBA MASTER OFFSET

SYSTEM MASTER:
SB RAMP

FEATURE	OFF	ON
1		
2		
3		
4		
5		
6		
7		
8		

LOCATION	OFF	ON
1		1
2		
3		
4		
5		
6		
7		
8		

COO = 1

CCB/CDB OFFSET TIMER
CCC/CDC LAG GREEN TIMER
CCD/CDD FORCE OFF TIMER
CCE/CDE LONG GREEN TIMER
CCF/CDF NO GREEN TIMER

LOCATION: **RTE 805 SB @ 274 (BALBOA AVE)**

CALTRANS C8 Version 3 DATE: 2/16/2005

D PAGE

	D	FLAGS								E	FLAGS								F	FLAGS							
	MAX	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	PED	1	2	3	4	5	6	7	8
0	RCL									RCL									RCL								
1	CP 1									CP 1									CP 1								
2	CP 2									CP 2									CP 2								
3	CP 3									CP 3									CP 3								
4	CP 4									CP 4									CP 4								
5	CP 5									CP 5									CP 5								
6	CP 6									CP 6									CP 6								
7	CP 7									CP 7									CP 7								
8	CP 8									CP 8									CP 8								
9	CP 9									CP 9									CP 9								
A																			RCL 1								
B																			RCL 2								
C																											
D																											
E																											
F																											
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8

E PAGE

	E	FLAGS								F	FLAGS								
	FUNCTION	1	2	3	4	5	6	7	8	FUNCTION	1	2	3	4	5	6	7	8	
0										CODE 4									0
1										CODE 5									1
2										C-RECALL									2
3										D-RECALL									3
4										EXCLUSIVE									4
5										2 PED		2							5
6										6 PED						6			6
7										4 PED				4					7
8										8 PED								8	8
9																			9
A	OLA NOT									OLA ON									A
B	OLB NOT									OLB ON									B
C	OLC NOT									OLC ON									C
D	OLD NOT									OLD ON									D
E																			E
F																			F
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8	

LAST POWER FAILURE REGISTER

HOUR = D-A-E

MINUTE = D-B-E

DAY = D-C-E

RCL 1 = TIME OF DAY MAX RECALL (1ST SELECT) PHASES
(CALL ACTIVE LIGHTS)

RCL 2 = TIME OF DAY MAX RECALL (2ND SELECT) PHASES
(CALL ACTIVE LIGHTS)

LAST FLASH TIME REGISTER

HOUR = D-A-F

MINUTE = D-B-F

DAY = D-C-F

D-E-E = C8 VERSION NUMBER

D-E-F = LITHIUM BATTERY CONDITION

84 = BAD

85 = GOOD

LOCATION: **RTE 805 SB @ NOBEL DRIVE**

CALTRANS C8 Version 3 DATE: 3/2/2015

7 PAGE

TIME OF DAY ACTIVITY TABLE											
7+EVENT+HR+MIN+ACT+"E"+ON/OFF+DOW LTS											
				ON/	S	M	T	W	T	F	S
	HR	MIN	ACT	OFF	1	2	3	4	5	6	7
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
A											
B											
C											
D											
E											
F											

ACTIVITY CODE

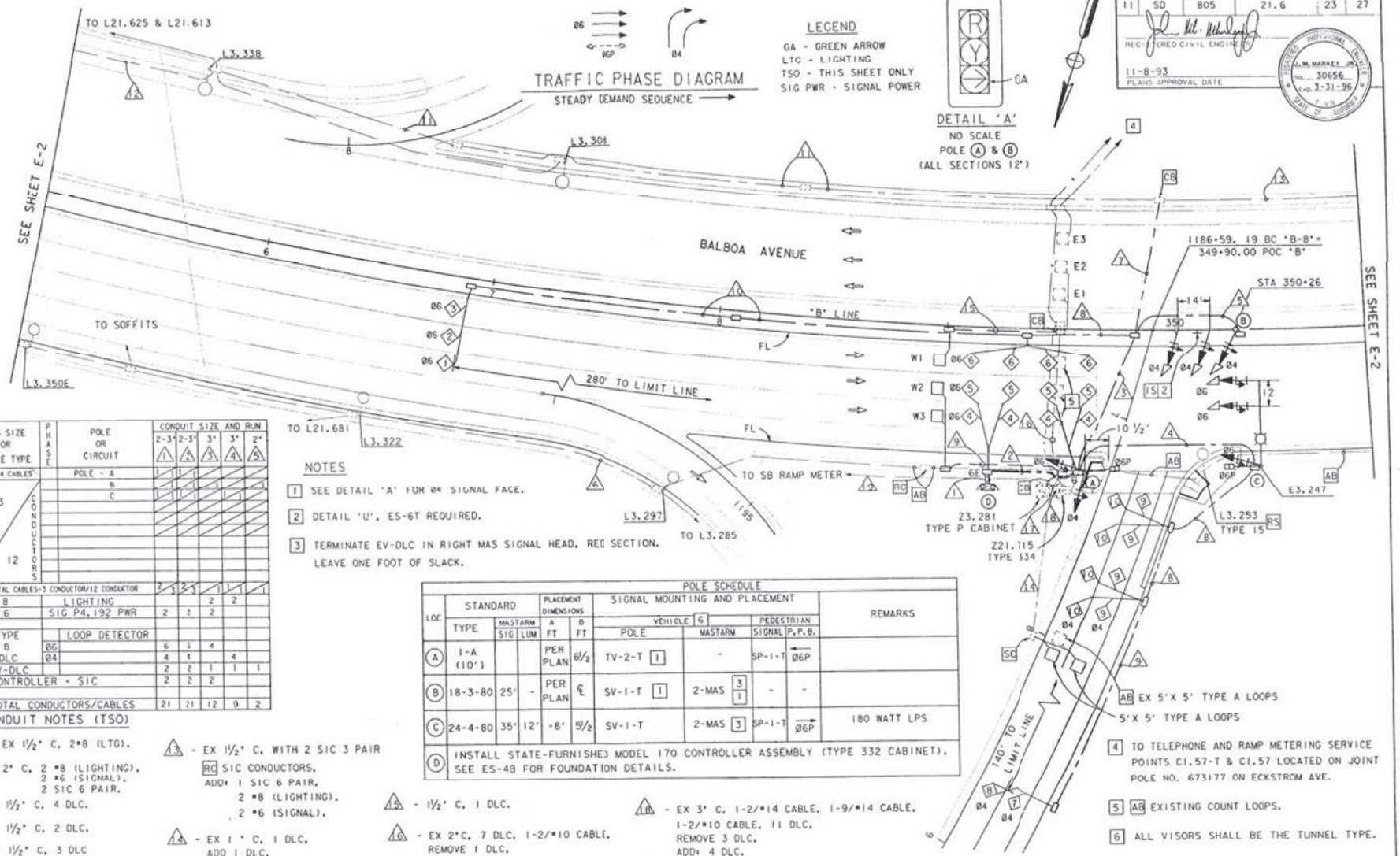
1 TYPE OF MAX TERMINATION
2 MAX 2
3 MAX 3
4 COND SERV (1ST SELECT)
5 COND SERV (2ND SELECT)
6 ENERGIZE AUX OUTPUT-RED
7 ENERGIZE AUX OUTPUT-GREEN
8 ENERGIZE AUX OUTPUT-YELLOW
9 TIME OF DAY MAX RECALL (1ST SELECT)
A TRAFFIC ACT. MAX 2 OPERATION
B TIME OF DAY MAX RECALL (2ND SELECT)
C YELLOW YIELD COORDINATION
D YELLOW YIELD COORDINATION
E TIME OF DAY FREE OPERATION
F FLASHING OPERATION

9 PAGE C09 = 0 or 1

CONTROL PLAN TIME OF DAY											
9+EVENT+HR+MIN+CP+OS+E+DOW											
					S	M	T	W	T	F	S
	HR	MIN	CP	OS	1	2	3	4	5	6	7
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
A											
B											
C											
D											
E											
F											

9 PAGE C09 = 2

CONTROL PLAN TIME OF DAY											
9+EVENT+HR+MIN+CP+OS+E+DOW											
					S	M	T	W	T	F	S
	HR	MIN	CP	OS	1	2	3	4	5	6	7
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
A											
B											
C											
D											
E											
F											



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	805	21.6	23	27

REGISTERED CIVIL ENGINEER

11-8-93
PLANS APPROVAL DATE

AWG SIZE OR CABLE TYPE	PHASE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN 2-3" (1)	2-3" (2)	3" (3)	3" (4)	2" (5)
NO. 14 CABLES		POLE - A					
CONDUCTORS 3		B					
CONDUCTORS 12		C					
TOTAL CABLES-3 CONDUCTOR/12 CONDUCTOR			2 3	2 3	1 1	1 1	1 1
8		LIGHTING			2	2	
6		SIG P4.192 PWR	2	2	2		
TYPE		LOOP DETECTOR					
B	Ø6		6	6	4		
DLC	Ø4		4	4		4	
EV-DLC			2	2	1	1	1
CONTROLLER - SIC			2	2	2		
TOTAL CONDUCTORS/CABLES			21	21	12	9	2

NOTES

1. SEE DETAIL 'A' FOR Ø4 SIGNAL FACE.
2. DETAIL 'U', ES-6T REQUIRED.
3. TERMINATE EV-DLC IN RIGHT MAS SIGNAL HEAD, RED SECTION. LEAVE ONE FOOT OF SLACK.

POLE SCHEDULE

LOC	STANDARD TYPE	MASTARM SIG	MASTARM LUM	PLACEMENT DIMENSIONS A FT	PLACEMENT DIMENSIONS B FT	SIGNAL MOUNTING AND PLACEMENT VEHICLE [6] POLE	VEHICLE [6] MASTARM	PEDESTRIAN SIGNAL	PEDESTRIAN P.P.B.	REMARKS
(A)	I-A (10')			PER PLAN	6½	TV-2-T [1]	-	SP-I-T	Ø6P	
(B)	18-3-80	25'	-	PER PLAN	℄	SV-I-T [1]	2-MAS [3] [1]	-	-	
(C)	24-4-80	35'	12'	-8'	5½	SV-I-T	2-MAS [3]	SP-I-T	Ø6P	180 WATT LPS
(D)	INSTALL STATE-FURNISHED MODEL 170 CONTROLLER ASSEMBLY (TYPE 332 CABINET). SEE ES-4B FOR FOUNDATION DETAILS.									

CONDUIT NOTES (TSO)

6 - EX 1½" C, 2#8 (LTG).

7 - 2" C, 2 #8 (LIGHTING), 2 #6 (SIGNAL), 2 SIC 6 PAIR.

8 - 1½" C, 4 DLC.

9 - 1½" C, 2 DLC.

10 - 1½" C, 3 DLC

11 - EX 1½" C, WITH 2 SIC 3 PAIR RC SIC CONDUCTORS, ADD 1 SIC 6 PAIR.

12 - EX 1½" C, WITH 2 SIC 3 PAIR RC SIC CONDUCTORS, 2 #8 (LIGHTING), ADD 1 SIC 6 PAIR.

13 - EX 1½" C, WITH 2 SIC 3 PAIR RC SIC CONDUCTORS, ADD: 1 SIC 6 PAIR, 2 #8 (LIGHTING), 2 #6 (SIGNAL).

14 - EX 1" C, 1 DLC, ADD 1 DLC.

15 - 1½" C, 1 DLC.

16 - EX 2"C, 7 DLC, 1-2/#10 CABLE, REMOVE 1 DLC, ADD: 1 DLC.

17 - EX 3" C, 8 DLC, 1-2/#10 CABLE, REMOVE 3 DLC, ADD: 3 DLC.

18 - EX 3" C, 1-2/#14 CABLE, 1-9/#14 CABLE, 1-2/#10 CABLE, 11 DLC, REMOVE 3 DLC, ADD: 4 DLC.

19 - EX 1½" C, 1-2#14 CABLE, 1-9/14 CABLE, 2 DLC.

4 TO TELEPHONE AND RAMP METERING SERVICE POINTS CI.57-T & CI.57 LOCATED ON JOINT POLE NO. 673177 ON ECKSTROM AVE.

5 AB EXISTING COUNT LOOPS.

6 ALL VISORS SHALL BE THE TUNNEL TYPE.

NOTE: THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

SIGNAL NO. P21.687
BALBOA AVE. & RTE 805 SB OFF

SIGNAL AND LIGHTING

SCALE: 1"=20'

E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC ELECTRICAL
PROJECT ENGINEER B T PECUS
CALCULATED/DESIGNED BY TJR DATE 7/93
CHECKED BY BTP
DATE REVISED
BY REVISED

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

USERNAME => lenord
DGN FILE => /usr/lenord/PC/s043811u01.dg

CU 11276
EA 043811

FORM DC-OE-92-PF (REV. 3/88)

07-30-93 TIME PLOTTED => 15-NOV-1993 12:54

LOCATION: **RTE 272 (BALBOA AVE) / RTE 805 NB**

CALTRANS C8 Version 3 DATE: 1/4/2016

F PAGE

	INTERVAL	PHASE TIMING 1	2	3	4	5	6	7	8	9
0	WALK	1	7	1	1	1	1	1	1	CLK RST
1	DONT WALK	1	10	1	1	1	1	1	1	
2	MIN GREEN	1	10	1	5	1	1	1	1	
3	TYPE 3 DET	0	0	0	0	0	0	0	0	
4	ADD/VEH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5	PASSAGE	0.9	2.0	0.9	2.0	0.9	0.9	0.9	0.9	
6	MAX GAP	0.9	2.0	0.9	2.0	0.9	0.9	0.9	0.9	
7	MIN GAP	0.9	2.0	0.9	2.0	0.9	0.9	0.9	0.9	
8	MAX EXT	9	40	9	40	9	9	9	9	
9	MAX 2									YR
A	MAX 3									MO
B										DAY
C	REDUCE BY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DOW
D	EVERY	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	HR
E	YELLOW	3.0	4.8	3.0	4.1	3.0	3.0	3.0	3.0	MIN
F	RED	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	SEC
	PED XING FT		35							
	BIKE XING FT		51							

PRE-EMPTION E		FLAGS	1	2	3	4	5	6	7	8	
EV SEL	0	PERMIT	1	2	3	4	5	6	7	8	0
RR1 CLR	5	RED LOCK									1
EVA DLY	0	YEL LOCK									2
EVA CLR	5	V RECALL		2				6			3
EVB DLY	0	P RECALL									4
EVB CLR	5	PED PHASES		2							5
EVC DLY	0	RT OLA									6
EVC CLR	5	RT OLB									7
EVD DLY	0	DBL ENTRY									8
EVD CLR	5	MAX 2 PHASES									9
MAX EV	255	LAG PHASES	READ ONLY								A
RR2 CLR	5	RED REST									B
		REST-IN-WALK									C
		MAX 3 PHASES									D
		YEL START UP		2							E
		FIRST PHASE				4					F
			1	2	3	4	5	6	7	8	

FOC LONG FAILURE	
FOD SHORT FAILURE	
FOE	0
FOF	5

FCO	3
FC1	3
FC2	10
FCA	0.0
FCB	0.0
FCC	0.0
FCD	0.0

FDO TB SELECT	1
FD3 PED SELECT	0
FD4 7 WIRE	0
FD5 PERMISSIVE	0
FD8 OS SEEKING	1

CO5 FLASH TYPE	1
CC2 DOWNLOAD	1

NOTES:

ENTRIES IN THESE LOCATIONS CAN BE CHANGED IN CC1 FLASH ONLY

LOCATION: **RTE 272 (BALBOA AVE) / RTE 805 NB**

CALTRANS C8 Version 3 DATE: 4/16/2003

C PAGE

		CONTROL PLANS									Y-COORD			LAG PHASE	FLAGS								
		1	2	3	4	5	6	7	8	9		C	D	E	F	1	2	3	4	5	6	7	8	
0	CYCLE LENGTH														LAG FZ FREE		2		4		6		8	0
1	FZ1 GRN FCTR													GAPOUT CP1	LAG FZ CP 1									1
2														GAPOUT CP2	LAG FZ CP 2									2
3	FZ3 GRN FCTR													GAPOUT CP3	LAG FZ CP 3									3
4	FZ4 GRN FCTR										PERM TIME			GAPOUT CP4	LAG FZ CP 4									4
5	FZ5 GRN FCTR										LAG OFFSET			GAPOUT CP5	LAG FZ CP 5									5
6											FORCE OFF			GAPOUT CP6	LAG FZ CP 6									6
7	FZ7 GRN FCTR										LONG GRN			GAPOUT CP7	LAG FZ CP 7									7
8	FZ8 GRN FCTR										NO GREEN			GAPOUT CP8	LAG FZ CP 8									8
9	MULTI CYCLE													GAPOUT CP9	LAG FZ CP 9									9
A	OFFSET A										OFFSET				LAG C COORD									A
B	OFFSET B														LAG D COORD									B
C	OFFSET C														COORD FAZES		2				6			C
D	FZ 3 EXT																							D
E	FZ 7 EXT																							E
F	OFFSET INTRPT																							F
																1	2	3	4	5	6	7	8	

CO1 MANUAL CP
CO2 MASTER CP
CO3 CURRENT CP
CO4 LAST CP
CO7 TRNSMT CP
COD MANUAL OFFSET
CAO LOCAL CYCLE TIMER
CBO MASTER CYCLE TIMER
CAA LOCAL OFFSET
CBA MASTER OFFSET

SYSTEM MASTER:
SB OFF

FEATURE	OFF	ON
1		
2		
3		
4		
5		
6		
7		
8		

LOCATION	OFF	ON
1		1
2		1
3		1
4		
5		
6		
7		
8		

COO = **7**

CCB/CDB OFFSET TIMER
CCC/CDC LAG GREEN TIMER
CCD/CDD FORCE OFF TIMER
CCE/CDE LONG GREEN TIMER
CCF/CDF NO GREEN TIMER

	D	FLAGS								E	FLAGS								F	FLAGS								
	MAX	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	PED	1	2	3	4	5	6	7	8
0	RCL									RCL									RCL								
1	CP 1									CP 1									CP 1								
2	CP 2									CP 2									CP 2								
3	CP 3									CP 3									CP 3								
4	CP 4									CP 4									CP 4								
5	CP 5									CP 5									CP 5								
6	CP 6									CP 6									CP 6								
7	CP 7									CP 7									CP 7								
8	CP 8									CP 8									CP 8								
9	CP 9									CP 9									CP 9								
A																			RCL 1								
B																			RCL 2								
C																											
D																											
E																											
F																											
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8

E PAGE

	E	FLAGS								F	FLAGS								
	FUNCTION	1	2	3	4	5	6	7	8	FUNCTION	1	2	3	4	5	6	7	8	
0										CODE 4									0
1										CODE 5									1
2										C-RECALL									2
3										D-RECALL									3
4										EXCLUSIVE									4
5										2 PED		2							5
6										6 PED						6			6
7										4 PED				4					7
8										8 PED								8	8
9																			9
A	OLA NOT									OLA ON									A
B	OLB NOT									OLB ON									B
C	OLC NOT									OLC ON									C
D	OLD NOT									OLD ON									D
E																			E
F																			F
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8	

LAST POWER FAILURE REGISTER

HOUR = D-A-E
MINUTE = D-B-E
DAY = D-C-E

RCL 1 = TIME OF DAY MAX RECALL (1ST SELECT) PHASES
(CALL ACTIVE LIGHTS)
RCL 2 = TIME OF DAY MAX RECALL (2ND SELECT) PHASES
(CALL ACTIVE LIGHTS)

LAST FLASH TIME REGISTER

HOUR = D-A-F
MINUTE = D-B-F
DAY = D-C-F

D-E-E = C8 VERSION NUMBER
D-E-F = LITHIUM BATTERY CONDITION
84 = BAD
85 = GOOD

LOCATION: **RTE 272 (BALBOA AVE) / RTE 805 NB**

CALTRANS C8 Version 3 DATE: 4/16/2003

7 PAGE

TIME OF DAY ACTIVITY TABLE											
7+EVENT+HR+MIN+ACT+"E"+ON/OFF+DOW LTS											
	HR	MIN	ACT	ON/ OFF	S 1	M 2	T 3	W 4	T 5	F 6	S 7
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
A											
B											
C											
D											
E											
F											

ACTIVITY CODE

1 TYPE OF MAX TERMINATION
2 MAX 2
3 MAX 3
4 COND SERV (1ST SELECT)
5 COND SERV (2ND SELECT)
6 ENERGIZE AUX OUTPUT-RED

7 ENERGIZE AUX OUTPUT-GREEN

9 PAGE C09 = 0 or 1

CONTROL PLAN TIME OF DAY											
9+EVENT+HR+MIN+CP+OS+E+DOW											
	HR	MIN	CP	OS	S 1	M 2	T 3	W 4	T 5	F 6	S 7
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
A											
B											
C											
D											
E											
F											

8 ENERGIZE AUX OUTPUT-YELLOW

9 TIME OF DAY MAX RECALL (1ST SELECT)
A TRAFFIC ACT. MAX 2 OPERATION
B TIME OF DAY MAX RECALL (2ND SELECT)
C YELLOW YIELD COORDINATION
D YELLOW YIELD COORDINATION
E TIME OF DAY FREE OPERATION
F FLASHING OPERATION

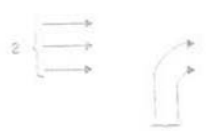
9 PAGE C09 = 2

CONTROL PLAN TIME OF DAY											
9+EVENT+HR+MIN+CP+OS+E+DOW											
	HR	MIN	CP	OS	S 1	M 2	T 3	W 4	T 5	F 6	S 7
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
A											
B											
C											
D											
E											
F											

POLE SCHEDULE

LOC	STANDARD TYPE	MASTARM SIG.	MASTARM LUM.	PLACEMENT DIMENSIONS A	PLACEMENT DIMENSIONS B	SIGNAL MOUNTING & PLACEMENT VEHICLE POLE	VEHICLE MASTARM	VEHICLE SIGNAL	PEDESTRIAN SIGNAL	PEDESTRIAN P.P.B.	REMARKS
(A)	17A (80')				6'/2			SV-I-T		4'	
(B)	16-2-60 [4]	29'		PER PLAN	℄ ISLAND	SV-I-T [2]	2-MAS [3]				
(C)	26-4-60 [ ]	40'	12'	PER PLAN	6'/2	SV-I-T	2-MAS [3]	SP-I-T	[3]	4'	150 WATT LPS LUMINAIRE WITH 480V BALLAST
(D)	STATE-FURNISHED, MODEL 170 CONTROLLER ASSEMBLY, FOUNDATION DETAILS ES-4E. STATE-FURNISHED, 480/120V TRANSFORMER.										

PHASE DESIGNATIONS



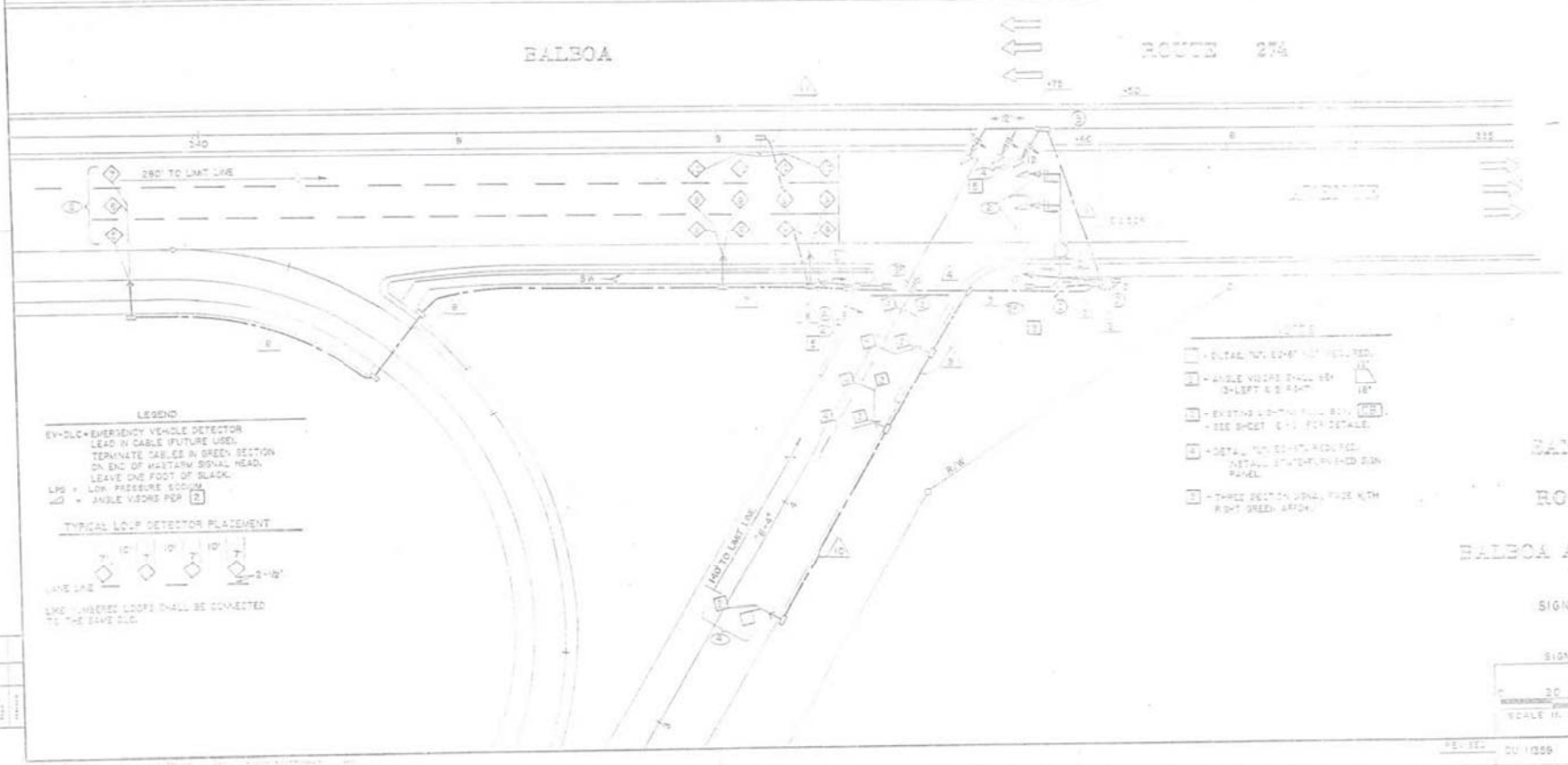
EMERGENCY OPERATION: FLASH ALL PHASES RED.

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	PAIRS	POLE OR CIRCUIT	CONDUIT SIZE (IN.) 1"	1½"	2"	2½"	3"	3½"	4"
#2-14 CABLES	3	POLE - A							
		B							
		C							
	12								
#2-14 CABLES									
TOTAL CABLES IN CONDUIT									
TYPE "S" SLOT									
SLOTS									
TOTAL CONDUCTORS/CABLES									

△3 - #2-3C NOM. C. 4-SOLD.
△2 - #2-3C NOM. C. 2-SOLD.
△1 - #2-3C NOM. C. 1-SOLD.
△2 - #2-3C NOM. C. [ ] - FOR FUTURE INTERCONNECT CABLES.





IN
SAN DIEGO
ON
ROUTE 805
AT
BALBOA AVENUE(RTE 274)

SIGNAL AND LIGHTING

274/805
SIGNAL NO. 1130-1/2-602

SCALE IN FEET 0 20 40

SHEET E-1

TRAFFIC DEPT. [illegible]

M.C. SUNESS 12/66 T.O. MARTIN 2/66 W.O. SPRAY 7/56

REVISED DECEMBER 1969 AS BUILT

INTERSECTION: Genesee Ave & Mt Alifan Dr

223 Pr[illegible]am

Group Assignment:
Field Master Assignment:

N/S Street Name: Genesee Ave
E/W Street Name: Mt Alifan Dr

Last Change:
Timing Sheet By: DOC
Approved By: MC

Drawing Number: 24014-9-D
Sys. Ref. Number:
Timing implemented on: 7/27/01

Row	Column # ---->	1	2	3	4	5	6	7	8
	Phase # ---->	1	2	3	4	5	6	7	8
			Genesee Ave	Mt Alifan Dr	Mt Alifan Dr		Genesee Ave		
0	Ped Walk		7	7	7		7		
1	Ped FDW		16	24	24		14		
2	Min Green	4	10	4	4	4	10		
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	3.9	2.0	2.0	2.0	8.2		
6	Max Gap	2.0	3.9	2.0	2.0	2.0	8.2		
7	Min Gap	2.0	0.2	2.0	2.0	2.0	0.2		
8	Max Limit	30	60	50	50	30	60		
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1		
D	Every		0.8				0.4		
E	Yellow	3.4 ~~3.0~~	4.5	3.9 ~~3.5~~	3.9 ~~3.4~~	3.4 ~~3.0~~	3.9 ~~3.1~~		
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0		

Phase Timing - Bank 1
F + Phase + Row
<F Page>

Row	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	
EV-B Clear	
EV-C Delay	0
EV-C Clear	0
EV-D Delay	
EV-D Clear	
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing
F + E + Row

Row	F
Permit	123456
Red Lock	
Yellow Lock	
Min Recall	
Ped Recall	
Peds (View)	_234_6_
Rest In Walk	
Red Rest	
Dbl Entry	
Max Recall	
Soft Recall	_2___6__
Max 2	
Cond Serv	
Ped Lock	12345678
Yellow Start	_2___6__
1st Phases	_3~~4~~___

Phase Functions
F + F + Row
<F Page>

Max Initial	0
Red Revert	5.0
All Red Start	0.0

Start / Revert Times
F + 0 + E
F + 0 + F
F + C + O

Drop Number	
Zone Number	
Area Number	
Area Address	
QuicNet Channel	

Communication Addresses
C + 0 + 0
C + 0 + 1
C + 0 + 2
C + 0 + 3
(QuicNet)

Row		9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	Overlap A				
B	Overlap B				
C	Overlap C				
D	Overlap D				

Overlap Timing
<F Page>
F + COLOR +
<D Page>
D + 0 + OVERLAP

FLG 4-12-12

Manual Plan	0 ~~14~~	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Free Lag	F: _2_4_6__	Row: 0

Lag Phases
<C Page>

Downtime Flash	255 (minutes)

Downtime Before Auto Manual Flash
F + 0 + 8

Disable Ports	234

Disable Communications Ports
D + D + 9

9

INTERSECTION: Genesee Ave & Mt Alifan Dr

223 Program

Row	Time	Function	Day of Week	Column F Phases/Bits
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

<D Page>

D + F + ROW

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	4
8	Ped 8P	3
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration

<E Page>

E + F + ROW

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4
C	EV-C Phases	1 6
D	EV-D Phases	3
E	Extra 1 Config. Bits	1 3 4 5
F	IC Select (Interconnect)	2

Configuration

For access, set F + 9 + E = 1

E + E + ROW

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign 5 Outputs
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date

8-0 Hour, Minute, Day-of-Week

8-1 Day-of-Month, Year, Month

8-F Seconds

Disable Parity	0	D+B+0

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

(This parameter is NOT downloaded)

Program Information

C + C + 0 = program

C + C + F = version

Remote Download

C + 0 + 4 = 1 -255

w/ E + E + E bit 5 on

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Delay & Carryover <D Page>

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

D + X (across) + ROW

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Row		0 Detector #
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

INTERSECTION: Genesee Ave @ Mt Alifan Dr

223 Proc[illegible]m

Coordination Timing By: FLS
Implemented On: 4/12/2012

Row	Column # ---> / Plan Name --->	Plan 1	2	3	4	5	6	7 AM	8	9 PM
0	Cycle Length							140	140	140
1	Phase 1 - ForceOff							14	96	20
2	Phase 2 - ForceOff							0	0	0
3	Phase 3 - ForceOff							50	36	60
4	Phase 4 - ForceOff							94	70	96
5	Phase 5 - ForceOff							113	93	111
6	Phase 6 - ForceOff							0	0	0
7	Phase 7 - ForceOff									
8	Phase 8 - ForceOff									
9	Ring Offset									
A	Offset A							112	134	117
B	Offset B									
C	Offset C									
D	Permissive							14	14	20
E	Hold Release							255	255	130
F	Ped Shift							0	0	0

Coordination <C Page>

C + Plan + ROW

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + E
Max Cycle	C + B + E

Row	Time	Plan	Offset	Day of Week
0	07:30	7	A	_23456_
1	10:00	E	A	1234567
2	14:00	9	A	_23456_
3	18:00	E	A	1234567
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination

<9 Key with C+0+9=1>

	E
Plan 1	
Plan 2	
Plan 3	
Plan 4	
Plan 5	
Plan 6	
Plan 7	_2__6__
Plan 8	_2__6__
Plan 9	_2_____
Coord Ped*	
NEMA Hold	

Sync Phases

C + E + FUNCTION #

Row		F
0	Free Lag	
1	Plan 1 - Lag	
2	Plan 2 - Lag	
3	Plan 3 - Lag	
4	Plan 4 - Lag	
5	Plan 5 - Lag	
6	Plan 6 - Lag	
7	Plan 7 - Lag	1__4_6__
8	Plan 8 - Lag	_2_4_6__
9	Plan 9 - Lag	1__4_6__
A	Coord Max *	
B	Coord Lag *	
C		
D		
E		
F		

Lag Phases <C Page>

C + F + FUNCTION #

Transition Type	0

TBC Transition
C + D + D

Transition Type
0 = Shortway
Non-zero = Lengthen

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Appendix B
Clairemont Mesa Community Plan Amendment and Zone Change - Select Zone Analysis

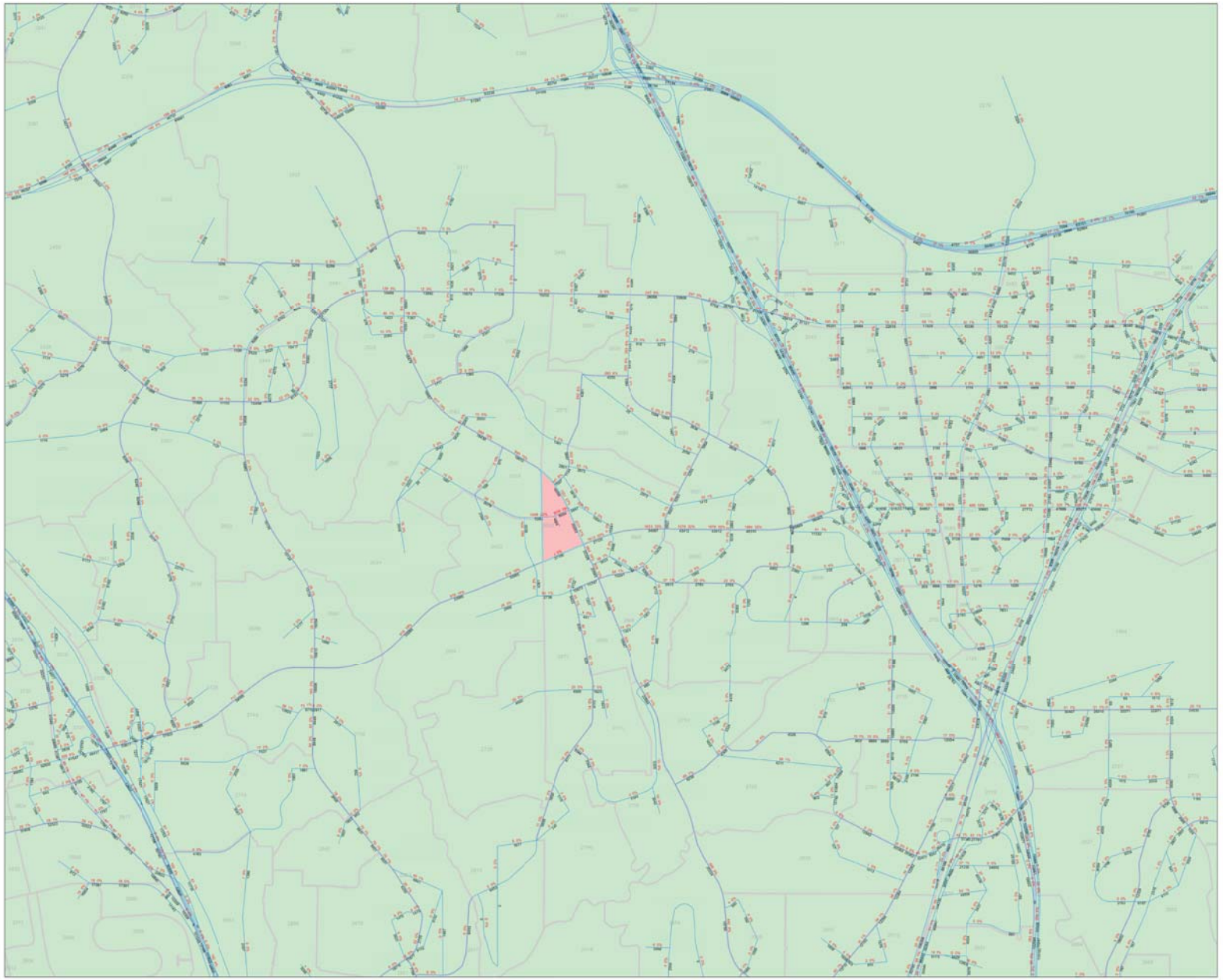
SANDAG
SR13
versiom13_3_2

KMC 2050rc Adopted
Follow Up Run

County Crime Lab
Affordable Housing

Select Zone Run

TAZ 2642



hwy_load_1029_join

hwy_load_1029

zones

\# Select Zone Vol and %

\# Model Estimated ADT

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N

0 0.08 0.16 0.24
Miles

SANDAG
servicebureau

Date: January 3, 2019

Appendix C
Existing Traffic Counts

Prepared by NDS/ATD

VOLUME

Genesee Ave Bet. Clairemont Mesa Blvd & Appleton St

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_001

DAILY TOTALS	NB	SB	EB	WB	Total
	12,214	10,883	0	0	23,097

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	11		14				25		12:00	162		148				310	
00:15	7		13				20		12:15	166		161				327	
00:30	7		15				22		12:30	191		160				351	
00:45	14	39	9	51			23	90	12:45	196	715	158	627			354	1342
01:00	9		8				17		13:00	168		180				348	
01:15	9		9				18		13:15	180		174				354	
01:30	5		13				18		13:30	207		166				373	
01:45	6	29	9	39			15	68	13:45	173	728	177	697			350	1425
02:00	6		7				13		14:00	181		191				372	
02:15	4		0				4		14:15	203		201				404	
02:30	2		1				3		14:30	207		256				463	
02:45	8	20	8	16			16	36	14:45	172	763	264	912			436	1675
03:00	9		7				16		15:00	192		263				455	
03:15	3		3				6		15:15	174		274				448	
03:30	9		6				15		15:30	139		284				423	
03:45	5	26	4	20			9	46	15:45	148	653	287	1108			435	1761
04:00	10		5				15		16:00	151		256				407	
04:15	18		1				19		16:15	149		265				414	
04:30	25		4				29		16:30	159		279				438	
04:45	27	80	5	15			32	95	16:45	149	608	275	1075			424	1683
05:00	30		13				43		17:00	133		264				397	
05:15	60		7				67		17:15	117		278				395	
05:30	74		18				92		17:30	127		271				398	
05:45	100	264	16	54			116	318	17:45	132	509	258	1071			390	1580
06:00	85		24				109		18:00	122		267				389	
06:15	154		27				181		18:15	144		236				380	
06:30	191		45				236		18:30	134		244				378	
06:45	300	730	62	158			362	888	18:45	124	524	222	969			346	1493
07:00	359		116				475		19:00	111		175				286	
07:15	372		135				507		19:15	119		143				262	
07:30	388		122				510		19:30	90		105				195	
07:45	404	1523	148	521			552	2044	19:45	97	417	84	507			181	924
08:00	396		112				508		20:00	84		101				185	
08:15	399		97				496		20:15	91		82				173	
08:30	389		109				498		20:30	92		86				178	
08:45	342	1526	130	448			472	1974	20:45	85	352	76	345			161	697
09:00	274		116				390		21:00	85		84				169	
09:15	219		109				328		21:15	76		85				161	
09:30	226		118				344		21:30	74		70				144	
09:45	184	903	154	497			338	1400	21:45	46	281	52	291			98	572
10:00	172		160				332		22:00	49		48				97	
10:15	145		138				283		22:15	36		48				84	
10:30	148		141				289		22:30	31		36				67	
10:45	145	610	142	581			287	1191	22:45	29	145	37	169			66	314
11:00	166		144				310		23:00	27		32				59	
11:15	173		176				349		23:15	16		15				31	
11:30	177		152				329		23:30	20		27				47	
11:45	177	693	142	614			319	1307	23:45	13	76	24	98			37	174
TOTALS		6443		3014				9457	TOTALS		5771		7869				13640
SPLIT %		68.1%		31.9%				40.9%	SPLIT %		42.3%		57.7%				59.1%

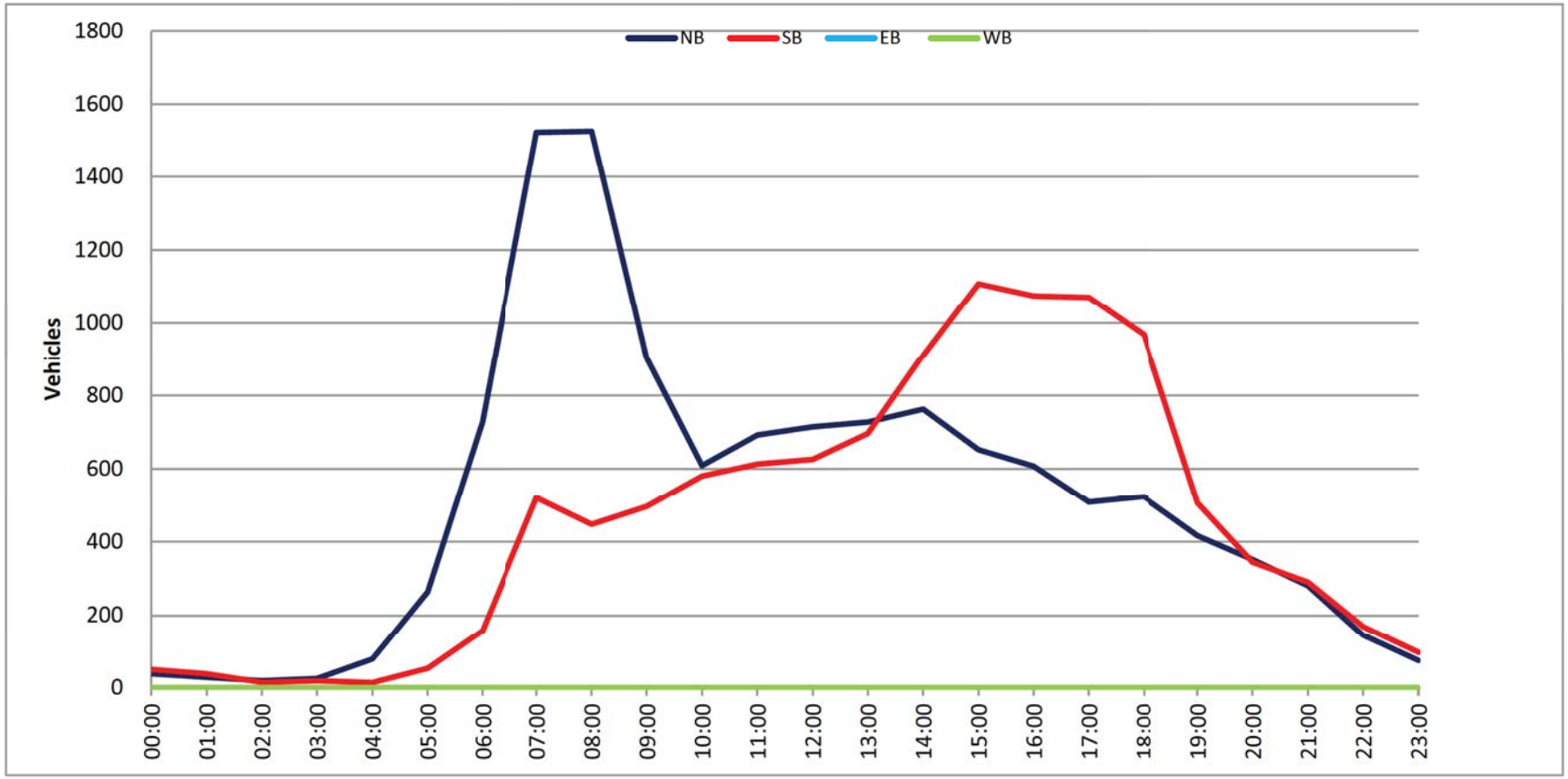
DAILY TOTALS	NB	SB	EB	WB	Total
	12,214	10,883	0	0	23,097

AM Peak Hour	07:45	11:15					07:15		PM Peak Hour	14:15	15:00					14:30		
AM Pk Volume	1588	618					2077		PM Pk Volume	774	1108					1802		
Pk Hr Factor	0.983	0.878					0.941		Pk Hr Factor	0.935	0.965					0.973		
7 - 9 Volume	3049	969	0	0			4018		4 - 6 Volume	1117	2146	0	0			3263		
7 - 9 Peak Hour	07:45	07:00					07:15		4 - 6 Peak Hour	16:00	16:30					16:00		
7 - 9 Pk Volume	1588	521	0	0			2077		4 - 6 Pk Volume	608	1096	0	0			1683		
Pk Hr Factor	0.983	0.880	0.000	0.000			0.941		Pk Hr Factor	0.956	0.982	0.000	0.000			0.961		

Prepared by NDS/ATD

Project #: CA19_4037_001 **City:** Clairemont

Location: Genesee Ave Bet. Clairemont Mesa Blvd & **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Genesee Ave Bet. Clairemont Mesa Blvd & Bannock Ave

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_002

DAILY TOTALS	NB	SB	EB	WB	Total
	12,748	11,735	0	0	24,483

AM Period	NB		SB		EB		WB		TOTAL	
00:00	9		11						20	
00:15	10		12						22	
00:30	10		11						21	
00:45	10	39	10	44					20	83
01:00	9		11						20	
01:15	7		9						16	
01:30	8		11						19	
01:45	5	29	7	38					12	67
02:00	7		9						16	
02:15	7		2						9	
02:30	3		2						5	
02:45	7	24	3	16					10	40
03:00	6		7						13	
03:15	2		5						7	
03:30	4		8						12	
03:45	5	17	3	23					8	40
04:00	7		2						9	
04:15	13		2						15	
04:30	21		6						27	
04:45	22	63	5	15					27	78
05:00	26		13						39	
05:15	34		12						46	
05:30	56		10						66	
05:45	75	191	23	58					98	249
06:00	78		24						102	
06:15	108		30						138	
06:30	165		36						201	
06:45	280	631	54	144					334	775
07:00	281		93						374	
07:15	267		150						417	
07:30	315		140						455	
07:45	271	1134	138	521					409	1655
08:00	313		121						434	
08:15	304		121						425	
08:30	339		119						458	
08:45	299	1255	162	523					461	1778
09:00	250		142						392	
09:15	218		117						335	
09:30	252		147						399	
09:45	184	904	145	551					329	1455
10:00	188		161						349	
10:15	178		159						337	
10:30	202		154						356	
10:45	207	775	158	632					365	1407
11:00	207		166						373	
11:15	206		200						406	
11:30	198		164						362	
11:45	193	804	180	710					373	1514
TOTALS		5866		3275						9141
SPLIT %		64.2%		35.8%						37.3%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	195		215						410	
12:15	198		181						379	
12:30	219		174						393	
12:45	221	833	198	768					419	1601
13:00	205		196						401	
13:15	210		205						415	
13:30	203		193						396	
13:45	207	825	189	783					396	1608
14:00	215		209						424	
14:15	207		206						413	
14:30	231		257						488	
14:45	219	872	240	912					459	1784
15:00	193		255						448	
15:15	212		249						461	
15:30	172		268						440	
15:45	197	774	299	1071					496	1845
16:00	212		286						498	
16:15	198		305						503	
16:30	211		320						531	
16:45	199	820	336	1247					535	2067
17:00	178		298						476	
17:15	185		310						495	
17:30	168		322						490	
17:45	181	712	288	1218					469	1930
18:00	169		290						459	
18:15	167		273						440	
18:30	157		209						366	
18:45	139	632	244	1016					383	1648
19:00	130		173						303	
19:15	150		159						309	
19:30	122		114						236	
19:45	101	503	121	567					222	1070
20:00	104		109						213	
20:15	95		75						170	
20:30	97		84						181	
20:45	87	383	83	351					170	734
21:00	88		92						180	
21:15	78		81						159	
21:30	78		64						142	
21:45	58	302	65	302					123	604
22:00	43		50						93	
22:15	43		31						74	
22:30	33		33						66	
22:45	32	151	34	148					66	299
23:00	24		26						50	
23:15	20		15						35	
23:30	17		22						39	
23:45	14	75	14	77					28	152
TOTALS		6882		8460						15342
SPLIT %		44.9%		55.1%						62.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	12,748	11,735	0	0	24,483

AM Peak Hour	08:00	11:15				08:00	PM Peak Hour	14:00	16:45				16:00
AM Pk Volume	1255	759				1778	PM Pk Volume	872	1266				2067
Pk Hr Factor	0.926	0.883				0.964	Pk Hr Factor	0.944	0.942				0.966
7 - 9 Volume	2389	1044	0	0		3433	4 - 6 Volume	1532	2465	0	0		3997
7 - 9 Peak Hour	08:00	07:15				08:00	4 - 6 Peak Hour	16:00	16:45				16:00
7 - 9 Pk Volume	1255	549	0	0		1778	4 - 6 Pk Volume	820	1266	0	0		2067
Pk Hr Factor	0.926	0.915	0.000	0.000		0.964	Pk Hr Factor	0.967	0.942	0.000	0.000		0.966

Prepared by NDS/ATD

Project #: CA19_4037_002 **City:** Clairemont

Location: Genesee Ave Bet. Clairemont Mesa Blvd & **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Genesee Ave Bet. Bannock Ave & Chateau Dr

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_003

DAILY TOTALS	NB	SB	EB	WB	Total
	12,894	12,350	0	0	25,244

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	10		13				23		12:00	198		220				418	
00:15	11		11				22		12:15	204		195				399	
00:30	9		11				20		12:30	209		190				399	
00:45	10	40	10	45			20	85	12:45	225	836	204	809			429	1645
01:00	8		11				19		13:00	211		206				417	
01:15	7		9				16		13:15	217		208				425	
01:30	10		10				20		13:30	203		190				393	
01:45	5	30	7	37			12	67	13:45	221	852	189	793			410	1645
02:00	7		8				15		14:00	223		210				433	
02:15	7		2				9		14:15	203		222				425	
02:30	3		3				6		14:30	225		263				488	
02:45	8	25	2	15			10	40	14:45	215	866	252	947			467	1813
03:00	6		7				13		15:00	192		275				467	
03:15	2		5				7		15:15	210		262				472	
03:30	3		7				10		15:30	179		292				471	
03:45	4	15	5	24			9	39	15:45	217	798	313	1142			530	1940
04:00	9		2				11		16:00	205		298				503	
04:15	10		0				10		16:15	211		321				532	
04:30	21		7				28		16:30	209		322				531	
04:45	19	59	4	13			23	72	16:45	216	841	342	1283			558	2124
05:00	23		14				37		17:00	187		332				519	
05:15	34		14				48		17:15	195		338				533	
05:30	48		11				59		17:30	189		329				518	
05:45	67	172	27	66			94	238	17:45	181	752	309	1308			490	2060
06:00	75		27				102		18:00	160		314				474	
06:15	108		29				137		18:15	187		283				470	
06:30	159		40				199		18:30	152		229				381	
06:45	284	626	62	158			346	784	18:45	143	642	248	1074			391	1716
07:00	288		97				385		19:00	136		198				334	
07:15	248		155				403		19:15	144		153				297	
07:30	376		156				532		19:30	130		121				251	
07:45	269	1181	160	568			429	1749	19:45	112	522	128	600			240	1122
08:00	289		135				424		20:00	104		110				214	
08:15	305		130				435		20:15	104		85				189	
08:30	304		134				438		20:30	97		91				188	
08:45	297	1195	162	561			459	1756	20:45	96	401	85	371			181	772
09:00	254		151				405		21:00	90		96				186	
09:15	223		123				346		21:15	74		80				154	
09:30	249		154				403		21:30	74		70				144	
09:45	200	926	153	581			353	1507	21:45	60	298	66	312			126	610
10:00	186		164				350		22:00	43		51				94	
10:15	174		175				349		22:15	43		34				77	
10:30	208		155				363		22:30	36		30				66	
10:45	204	772	175	669			379	1441	22:45	38	160	32	147			70	307
11:00	209		175				384		23:00	25		25				50	
11:15	203		199				402		23:15	19		20				39	
11:30	196		181				377		23:30	20		24				44	
11:45	199	807	189	744			388	1551	23:45	14	78	14	83			28	161
TOTALS		5848		3481				9329	TOTALS		7046		8869				15915
SPLIT %		62.7%		37.3%				37.0%	SPLIT %		44.3%		55.7%				63.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	12,894	12,350	0	0	25,244

AM Peak Hour	07:30	11:45					07:30		PM Peak Hour	13:45	16:45					16:30		
AM Pk Volume	1239	794					1820		PM Pk Volume	872	1341					2141		
Pk Hr Factor	0.824	0.902					0.855		Pk Hr Factor	0.969	0.980					0.959		
7 - 9 Volume	2376	1129	0	0			3505		4 - 6 Volume	1593	2591	0	0			4184		
7 - 9 Peak Hour	07:30	07:15					07:30		4 - 6 Peak Hour	16:00	16:45					16:30		
7 - 9 Pk Volume	1239	606	0	0			1820		4 - 6 Pk Volume	841	1341	0	0			2141		
Pk Hr Factor	0.824	0.947	0.000	0.000			0.855		Pk Hr Factor	0.973	0.980	0.000	0.000			0.959		

Prepared by NDS/ATD

Project #: CA19_4037_003 **City:** Clairemont

Location: Genesee Ave Bet. Bannock Ave & Chateau **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Genesee Ave Bet. Chateau Dr & Mt Herbert Ave

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_004

DAILY TOTALS	NB	SB	EB	WB	Total
	12,700	12,258	0	0	24,958

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	8		14				22		12:00	186		213				399	
00:15	11		12				23		12:15	211		179				390	
00:30	9		12				21		12:30	205		198				403	
00:45	9	37	9	47			18	84	12:45	231	833	200	790			431	1623
01:00	8		10				18		13:00	211		196				407	
01:15	7		9				16		13:15	203		197				400	
01:30	10		11				21		13:30	196		199				395	
01:45	4	29	5	35			9	64	13:45	222	832	182	774			404	1606
02:00	7		7				14		14:00	213		222				435	
02:15	7		2				9		14:15	199		220				419	
02:30	3		2				5		14:30	231		249				480	
02:45	8	25	2	13			10	38	14:45	216	859	241	932			457	1791
03:00	6		7				13		15:00	211		280				491	
03:15	3		6				9		15:15	192		260				452	
03:30	3		8				11		15:30	187		299				486	
03:45	4	16	6	27			10	43	15:45	209	799	296	1135			505	1934
04:00	9		3				12		16:00	207		291				498	
04:15	10		0				10		16:15	201		325				526	
04:30	18		7				25		16:30	208		310				518	
04:45	18	55	5	15			23	70	16:45	223	839	341	1267			564	2106
05:00	22		14				36		17:00	178		329				507	
05:15	30		16				46		17:15	205		328				533	
05:30	45		13				58		17:30	182		326				508	
05:45	65	162	28	71			93	233	17:45	186	751	311	1294			497	2045
06:00	72		27				99		18:00	163		313				476	
06:15	100		27				127		18:15	191		284				475	
06:30	154		43				197		18:30	145		219				364	
06:45	263	589	68	165			331	754	18:45	147	646	243	1059			390	1705
07:00	272		93				365		19:00	144		204				348	
07:15	227		155				382		19:15	138		148				286	
07:30	382		153				535		19:30	125		121				246	
07:45	247	1128	179	580			426	1708	19:45	117	524	117	590			234	1114
08:00	283		136				419		20:00	98		117				215	
08:15	306		133				439		20:15	107		82				189	
08:30	291		138				429		20:30	99		86				185	
08:45	292	1172	157	564			449	1736	20:45	92	396	87	372			179	768
09:00	244		148				392		21:00	89		89				178	
09:15	221		133				354		21:15	78		79				157	
09:30	233		161				394		21:30	78		69				147	
09:45	199	897	148	590			347	1487	21:45	58	303	66	303			124	606
10:00	179		165				344		22:00	46		48				94	
10:15	172		174				346		22:15	45		32				77	
10:30	204		153				357		22:30	36		28				64	
10:45	206	761	174	666			380	1427	22:45	41	168	29	137			70	305
11:00	199		180				379		23:00	28		25				53	
11:15	208		203				411		23:15	21		20				41	
11:30	196		178				374		23:30	17		22				39	
11:45	197	800	190	751			387	1551	23:45	13	79	14	81			27	160
TOTALS		5671		3524				9195	TOTALS		7029		8734				15763
SPLIT %		61.7%		38.3%				36.8%	SPLIT %		44.6%		55.4%				63.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	12,700	12,258	0	0	24,958

AM Peak Hour	07:30	11:15					07:30		PM Peak Hour	13:45	16:45					16:30		
AM Pk Volume	1218	784					1819		PM Pk Volume	865	1324					2122		
Pk Hr Factor	0.797	0.920					0.850		Pk Hr Factor	0.936	0.971					0.941		
7 - 9 Volume	2300	1144	0	0			3444		4 - 6 Volume	1590	2561	0	0			4151		
7 - 9 Peak Hour	07:30	07:15					07:30		4 - 6 Peak Hour	16:00	16:45					16:30		
7 - 9 Pk Volume	1218	623	0	0			1819		4 - 6 Pk Volume	839	1324	0	0			2122		
Pk Hr Factor	0.797	0.870	0.000	0.000			0.850		Pk Hr Factor	0.941	0.971	0.000	0.000			0.941		

Prepared by NDS/ATD

Project #: CA19_4037_004 **City:** Clairemont

Location: Genesee Ave Bet. Chateau Dr & Mt Herbert **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Genesee Ave Bet. Mt Herbert Ave & Derrick Dr

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_005

DAILY TOTALS	NB	SB	EB	WB	Total
	11,713	11,529	0	0	23,242

AM Period	NB		SB		EB		WB		TOTAL	
00:00	6		13						19	
00:15	13		12						25	
00:30	8		13						21	
00:45	9	36	9	47					18	83
01:00	8		7						15	
01:15	9		8						17	
01:30	11		11						22	
01:45	5	33	8	34					13	67
02:00	5		5						10	
02:15	7		2						9	
02:30	2		1						3	
02:45	7	21	1	9					8	30
03:00	7		7						14	
03:15	3		5						8	
03:30	3		5						8	
03:45	4	17	9	26					13	43
04:00	5		2						7	
04:15	7		2						9	
04:30	17		5						22	
04:45	12	41	7	16					19	57
05:00	21		13						34	
05:15	26		20						46	
05:30	31		16						47	
05:45	44	122	31	80					75	202
06:00	46		30						76	
06:15	86		35						121	
06:30	122		53						175	
06:45	232	486	72	190					304	676
07:00	190		115						305	
07:15	208		147						355	
07:30	280		151						431	
07:45	221	899	179	592					400	1491
08:00	248		144						392	
08:15	239		131						370	
08:30	276		141						417	
08:45	245	1008	150	566					395	1574
09:00	212		149						361	
09:15	189		133						322	
09:30	204		154						358	
09:45	168	773	144	580					312	1353
10:00	168		158						326	
10:15	157		165						322	
10:30	180		164						344	
10:45	183	688	149	636					332	1324
11:00	192		183						375	
11:15	201		198						399	
11:30	175		180						355	
11:45	198	766	186	747					384	1513
TOTALS		4890		3523						8413
SPLIT %		58.1%		41.9%						36.2%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	192		200						392	
12:15	203		171						374	
12:30	213		190						403	
12:45	198	806	193	754					391	1560
13:00	201		179						380	
13:15	183		197						380	
13:30	196		184						380	
13:45	195	775	181	741					376	1516
14:00	210		204						414	
14:15	198		213						411	
14:30	203		229						432	
14:45	201	812	246	892					447	1704
15:00	194		243						437	
15:15	185		245						430	
15:30	198		237						435	
15:45	193	770	277	1002					470	1772
16:00	219		289						508	
16:15	188		293						481	
16:30	204		285						489	
16:45	211	822	312	1179					523	2001
17:00	177		282						459	
17:15	187		275						462	
17:30	180		297						477	
17:45	169	713	252	1106					421	1819
18:00	152		277						429	
18:15	194		265						459	
18:30	148		205						353	
18:45	163	657	207	954					370	1611
19:00	138		176						314	
19:15	154		131						285	
19:30	121		100						221	
19:45	112	525	114	521					226	1046
20:00	108		114						222	
20:15	103		71						174	
20:30	104		84						188	
20:45	89	404	102	371					191	775
21:00	85		72						157	
21:15	78		81						159	
21:30	73		68						141	
21:45	53	289	54	275					107	564
22:00	48		56						104	
22:15	42		33						75	
22:30	37		22						59	
22:45	39	166	26	137					65	303
23:00	29		19						48	
23:15	28		22						50	
23:30	16		20						36	
23:45	11	84	13	74					24	158
TOTALS		6823		8006						14829
SPLIT %		46.0%		54.0%						63.8%

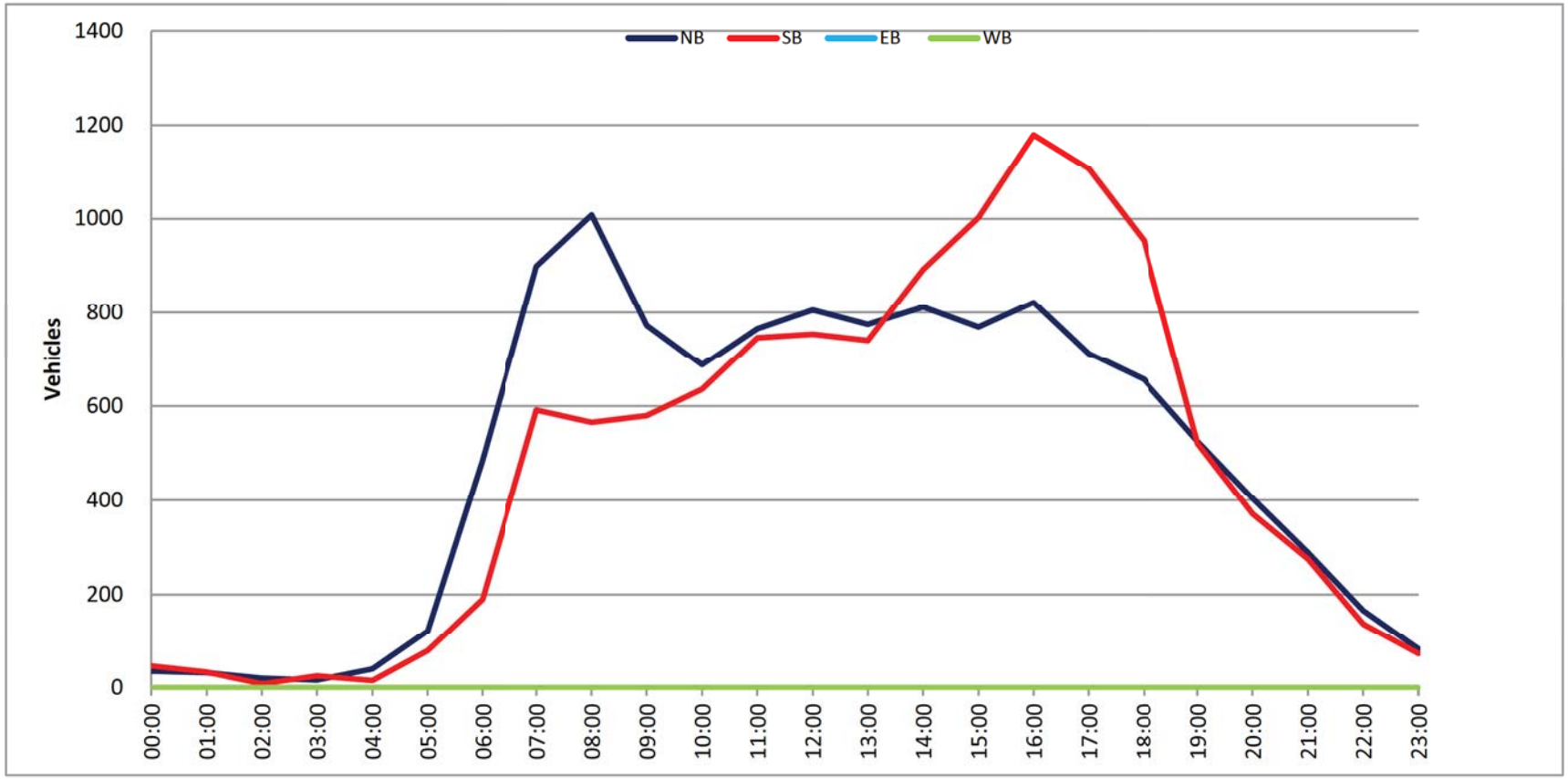
DAILY TOTALS	NB	SB	EB	WB	Total
	11,713	11,529	0	0	23,242

AM Peak Hour	08:00	11:15			07:30	PM Peak Hour	16:00	16:00			16:00
AM Pk Volume	1008	764			1593	PM Pk Volume	822	1179			2001
Pk Hr Factor	0.913	0.955			0.924	Pk Hr Factor	0.938	0.945			0.957
7 - 9 Volume	1907	1158	0	0	3065	4 - 6 Volume	1535	2285	0	0	3820
7 - 9 Peak Hour	08:00	07:15			07:30	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	1008	621	0	0	1593	4 - 6 Pk Volume	822	1179	0	0	2001
Pk Hr Factor	0.913	0.867	0.000	0.000	0.924	Pk Hr Factor	0.938	0.945	0.000	0.000	0.957

Prepared by NDS/ATD

Project #: CA19_4037_005 **City:** Clairemont

Location: Genesee Ave Bet. Mt Herbert Ave & Derrick **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Genesee Ave Bet. Derrick Dr & Mt Etna Dr

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_006

DAILY TOTALS	NB	SB	EB	WB	Total
	13,794	11,851	0	0	25,645

AM Period	NB		SB		EB		WB		TOTAL	
00:00	23		20						43	
00:15	25		11						36	
00:30	16		6						22	
00:45	13	77	12	49					25	126
01:00	15		10						25	
01:15	14		11						25	
01:30	8		5						13	
01:45	11	48	4	30					15	78
02:00	13		8						21	
02:15	4		2						6	
02:30	2		0						2	
02:45	7	26	3	13					10	39
03:00	3		2						5	
03:15	4		6						10	
03:30	8		4						12	
03:45	10	25	7	19					17	44
04:00	11		9						20	
04:15	6		1						7	
04:30	12		15						27	
04:45	17	46	15	40					32	86
05:00	17		16						33	
05:15	23		16						39	
05:30	36		28						64	
05:45	44	120	28	88					72	208
06:00	62		42						104	
06:15	89		42						131	
06:30	120		47						167	
06:45	163	434	86	217					249	651
07:00	193		78						271	
07:15	234		101						335	
07:30	295		167						462	
07:45	250	972	170	516					420	1488
08:00	278		161						439	
08:15	307		155						462	
08:30	330		159						489	
08:45	278	1193	170	645					448	1838
09:00	232		161						393	
09:15	238		129						367	
09:30	259		135						394	
09:45	243	972	155	580					398	1552
10:00	186		145						331	
10:15	201		185						386	
10:30	197		163						360	
10:45	229	813	183	676					412	1489
11:00	203		188						391	
11:15	255		167						422	
11:30	228		169						397	
11:45	252	938	207	731					459	1669
TOTALS		5664		3604						9268
SPLIT %		61.1%		38.9%						36.1%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	262		227						489	
12:15	214		241						455	
12:30	231		194						425	
12:45	282	989	200	862					482	1851
13:00	235		184						419	
13:15	225		208						433	
13:30	235		201						436	
13:45	215	910	218	811					433	1721
14:00	219		210						429	
14:15	229		201						430	
14:30	228		187						415	
14:45	227	903	230	828					457	1731
15:00	243		224						467	
15:15	234		266						500	
15:30	250		270						520	
15:45	258	985	317	1077					575	2062
16:00	232		315						547	
16:15	231		295						526	
16:30	227		315						542	
16:45	200	890	295	1220					495	2110
17:00	219		305						524	
17:15	220		303						523	
17:30	225		287						512	
17:45	221	885	269	1164					490	2049
18:00	206		264						470	
18:15	196		261						457	
18:30	191		223						414	
18:45	188	781	186	934					374	1715
19:00	198		145						343	
19:15	175		129						304	
19:30	137		122						259	
19:45	113	623	108	504					221	1127
20:00	119		95						214	
20:15	116		98						214	
20:30	132		87						219	
20:45	125	492	109	389					234	881
21:00	121		83						204	
21:15	101		82						183	
21:30	87		36						123	
21:45	73	382	52	253					125	635
22:00	66		39						105	
22:15	57		40						97	
22:30	43		41						84	
22:45	40	206	22	142					62	348
23:00	23		19						42	
23:15	24		16						40	
23:30	14		14						28	
23:45	23	84	14	63					37	147
TOTALS		8130		8247						16377
SPLIT %		49.6%		50.4%						63.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	13,794	11,851	0	0	25,645

AM Peak Hour	08:00	11:45				08:00	PM Peak Hour	12:00	15:45				15:45
AM Pk Volume	1193	869				1838	PM Pk Volume	989	1242				2190
Pk Hr Factor	0.904	0.901				0.940	Pk Hr Factor	0.877	0.979				0.952
7 - 9 Volume	2165	1161	0	0		3326	4 - 6 Volume	1775	2384	0	0		4159
7 - 9 Peak Hour	08:00	07:30				08:00	4 - 6 Peak Hour	16:00	16:00				16:00
7 - 9 Pk Volume	1193	653	0	0		1838	4 - 6 Pk Volume	890	1220	0	0		2110
Pk Hr Factor	0.904	0.960	0.000	0.000		0.940	Pk Hr Factor	0.959	0.968	0.000	0.000		0.964

Prepared by NDS/ATD

Project #: CA19_4037_006 **City:** Clairemont

Location: Genesee Ave Bet. Derrick Dr & Mt Etna Dr **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Genesee Ave Bet. Mt Etna Dr & Balboa Ave

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_007

DAILY TOTALS	NB	SB	EB	WB	Total
	14,638	13,105	0	0	27,743

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	23		16				39		12:00	256		253				509	
00:15	18		15				33		12:15	257		289				546	
00:30	16		9				25		12:30	252		247				499	
00:45	12	69	15	55			27	124	12:45	289	1054	232	1021			521	2075
01:00	16		8				24		13:00	272		234				506	
01:15	14		11				25		13:15	259		267				526	
01:30	16		12				28		13:30	265		255				520	
01:45	10	56	8	39			18	95	13:45	256	1052	248	1004			504	2056
02:00	7		9				16		14:00	221		257				478	
02:15	5		1				6		14:15	248		229				477	
02:30	4		3				7		14:30	253		244				497	
02:45	8	24	4	17			12	41	14:45	262	984	279	1009			541	1993
03:00	3		2				5		15:00	277		273				550	
03:15	6		6				12		15:15	255		302				557	
03:30	11		4				15		15:30	252		293				545	
03:45	10	30	7	19			17	49	15:45	276	1060	331	1199			607	2259
04:00	9		12				21		16:00	256		337				593	
04:15	7		1				8		16:15	243		227				470	
04:30	12		20				32		16:30	204		222				426	
04:45	19	47	15	48			34	95	16:45	226	929	216	1002			442	1931
05:00	20		21				41		17:00	221		206				427	
05:15	28		24				52		17:15	237		250				487	
05:30	36		28				64		17:30	232		217				449	
05:45	49	133	32	105			81	238	17:45	243	933	274	947			517	1880
06:00	65		43				108		18:00	207		289				496	
06:15	96		66				162		18:15	191		284				475	
06:30	129		53				182		18:30	204		260				464	
06:45	178	468	100	262			278	730	18:45	177	779	210	1043			387	1822
07:00	205		93				298		19:00	207		191				398	
07:15	259		132				391		19:15	171		159				330	
07:30	303		167				470		19:30	131		157				288	
07:45	265	1032	200	592			465	1624	19:45	120	629	137	644			257	1273
08:00	280		190				470		20:00	99		117				216	
08:15	326		184				510		20:15	114		107				221	
08:30	350		164				514		20:30	130		99				229	
08:45	298	1254	179	717			477	1971	20:45	110	453	115	438			225	891
09:00	265		182				447		21:00	106		110				216	
09:15	261		181				442		21:15	87		108				195	
09:30	281		168				449		21:30	78		45				123	
09:45	263	1070	169	700			432	1770	21:45	69	340	60	323			129	663
10:00	210		182				392		22:00	61		41				102	
10:15	211		192				403		22:15	51		42				93	
10:30	216		197				413		22:30	41		48				89	
10:45	279	916	222	793			501	1709	22:45	33	186	33	164			66	350
11:00	243		226				469		23:00	22		22				44	
11:15	259		205				464		23:15	21		19				40	
11:30	256		213				469		23:30	14		17				31	
11:45	292	1050	247	891			539	1941	23:45	33	90	15	73			48	163
TOTALS		6149		4238				10387	TOTALS		8489		8867				17356
SPLIT %		59.2%		40.8%				37.4%	SPLIT %		48.9%		51.1%				62.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	14,638	13,105	0	0	27,743

AM Peak Hour	08:00	11:45						11:45	PM Peak Hour	12:45	15:15							15:15
AM Pk Volume	1254	1036						2093	PM Pk Volume	1085	1263							2302
Pk Hr Factor	0.896	0.896						0.958	Pk Hr Factor	0.939	0.937							0.948
7 - 9 Volume	2286	1309	0	0				3595	4 - 6 Volume	1862	1949	0	0					3811
7 - 9 Peak Hour	08:00	07:30						08:00	4 - 6 Peak Hour	17:00	16:00							16:00
7 - 9 Pk Volume	1254	741	0	0				1971	4 - 6 Pk Volume	933	1002	0	0					1931
Pk Hr Factor	0.896	0.926	0.000	0.000				0.959	Pk Hr Factor	0.960	0.743	0.000	0.000					0.814

Prepared by NDS/ATD

Project #: CA19_4037_007 **City:** Clairemont

Location: Genesee Ave Bet. Mt Etna Dr & Balboa Ave **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Genesee Ave Bet. Balboa Ave & Mt Alifan Dr

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_008

DAILY TOTALS	NB	SB	EB	WB	Total
	11,494	11,765	0	0	23,259

AM Period	NB		SB		EB		WB		TOTAL	
00:00	6		20						26	
00:15	9		16						25	
00:30	6		10						16	
00:45	8	29	10	56					18	85
01:00	7		12						19	
01:15	10		7						17	
01:30	5		5						10	
01:45	5	27	5	29					10	56
02:00	1		7						8	
02:15	0		2						2	
02:30	1		3						4	
02:45	6	8	5	17					11	25
03:00	6		6						12	
03:15	4		1						5	
03:30	5		5						10	
03:45	4	19	4	16					8	35
04:00	2		5						7	
04:15	8		1						9	
04:30	7		9						16	
04:45	9	26	10	25					19	51
05:00	21		9						30	
05:15	12		14						26	
05:30	40		14						54	
05:45	44	117	24	61					68	178
06:00	36		33						69	
06:15	70		48						118	
06:30	118		59						177	
06:45	197	421	91	231					288	652
07:00	199		83						282	
07:15	229		150						379	
07:30	280		172						452	
07:45	241	949	157	562					398	1511
08:00	233		192						425	
08:15	280		190						470	
08:30	305		145						450	
08:45	248	1066	181	708					429	1774
09:00	204		168						372	
09:15	180		156						336	
09:30	245		120						365	
09:45	188	817	116	560					304	1377
10:00	129		121						250	
10:15	120		144						264	
10:30	140		143						283	
10:45	178	567	166	574					344	1141
11:00	182		146						328	
11:15	225		129						354	
11:30	195		151						346	
11:45	211	813	154	580					365	1393
TOTALS		4859		3419						8278
SPLIT %		58.7%		41.3%						35.6%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	187		189						376	
12:15	172		198						370	
12:30	218		190						408	
12:45	262	839	193	770					455	1609
13:00	201		155						356	
13:15	162		188						350	
13:30	167		179						346	
13:45	206	736	204	726					410	1462
14:00	180		207						387	
14:15	232		199						431	
14:30	219		227						446	
14:45	199	830	230	863					429	1693
15:00	207		278						485	
15:15	211		258						469	
15:30	208		270						478	
15:45	240	866	289	1095					529	1961
16:00	234		289						523	
16:15	189		281						470	
16:30	176		288						464	
16:45	179	778	259	1117					438	1895
17:00	188		278						466	
17:15	214		298						512	
17:30	185		284						469	
17:45	180	767	290	1150					470	1917
18:00	162		284						446	
18:15	177		283						460	
18:30	150		278						428	
18:45	137	626	183	1028					320	1654
19:00	137		187						324	
19:15	101		167						268	
19:30	92		140						232	
19:45	97	427	123	617					220	1044
20:00	71		118						189	
20:15	66		99						165	
20:30	85		80						165	
20:45	93	315	96	393					189	708
21:00	92		108						200	
21:15	95		90						185	
21:30	59		59						118	
21:45	43	289	46	303					89	592
22:00	45		54						99	
22:15	40		51						91	
22:30	16		49						65	
22:45	18	119	43	197					61	316
23:00	15		31						46	
23:15	13		24						37	
23:30	11		17						28	
23:45	4	43	15	87					19	130
TOTALS		6635		8346						14981
SPLIT %		44.3%		55.7%						64.4%

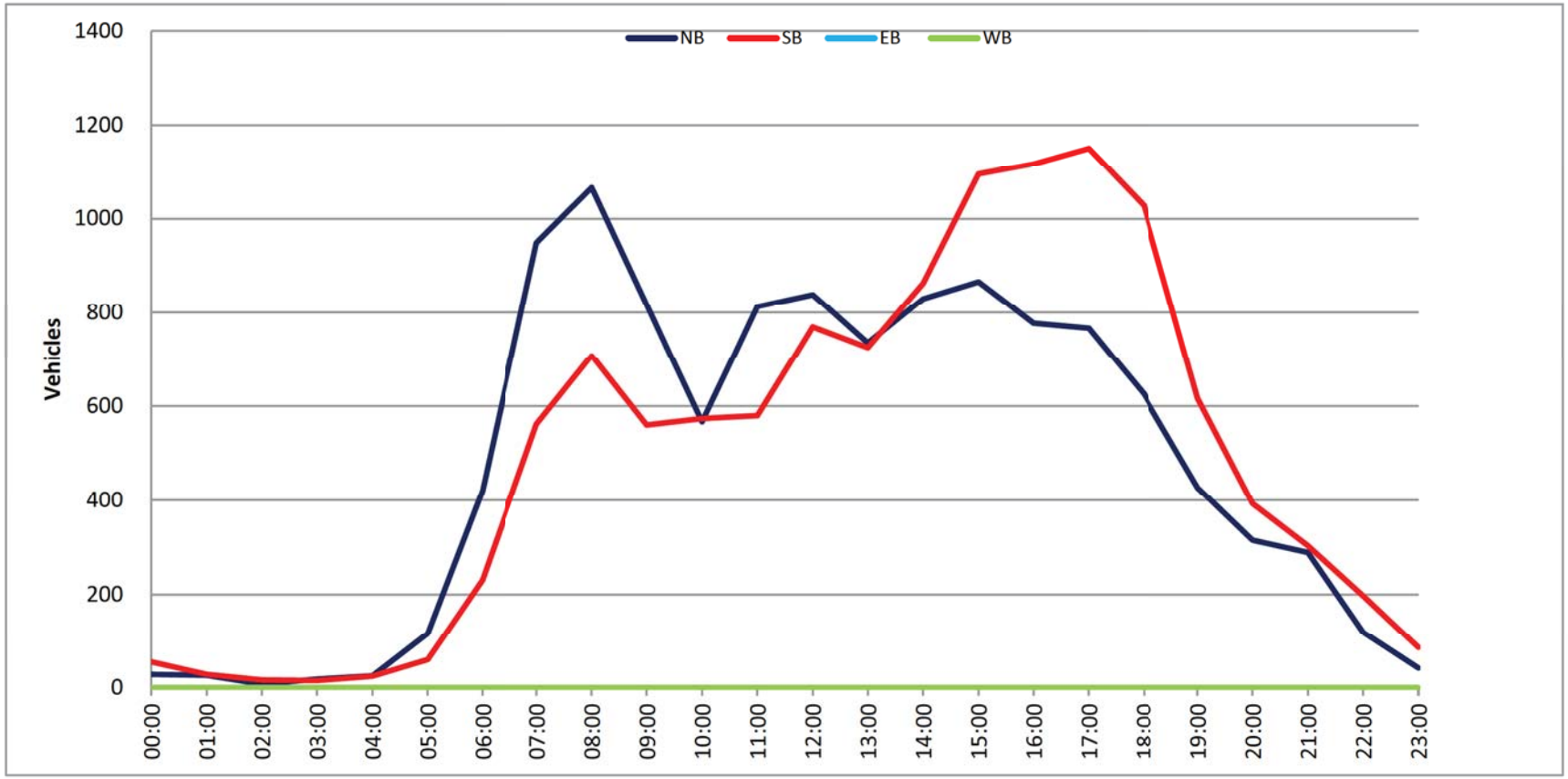
DAILY TOTALS	NB	SB	EB	WB	Total
	11,494	11,765	0	0	23,259

AM Peak Hour	08:00	11:45				08:00	PM Peak Hour	15:15	17:15				15:30
AM Pk Volume	1066	731				1774	PM Pk Volume	893	1156				2000
Pk Hr Factor	0.874	0.923				0.944	Pk Hr Factor	0.930	0.970				0.945
7 - 9 Volume	2015	1270	0	0		3285	4 - 6 Volume	1545	2267	0	0		3812
7 - 9 Peak Hour	08:00	07:30				08:00	4 - 6 Peak Hour	16:00	17:00				17:00
7 - 9 Pk Volume	1066	711	0	0		1774	4 - 6 Pk Volume	778	1150	0	0		1917
Pk Hr Factor	0.874	0.926	0.000	0.000		0.944	Pk Hr Factor	0.831	0.965	0.000	0.000		0.936

Prepared by NDS/ATD

Project #: CA19_4037_008 **City:** Clairemont

Location: Genesee Ave Bet. Balboa Ave & Mt Alifan Dr **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Genesee Ave Bet. Mt Alifan Dr & Genesee Ct

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_009

DAILY TOTALS	NB	SB	EB	WB	Total
	11,759	11,983	0	0	23,742

AM Period	NB		SB		EB		WB		TOTAL	
00:00	8		13						21	
00:15	13		22						35	
00:30	10		11						21	
00:45	5	36	7	53					12	89
01:00	9		9						18	
01:15	10		5						15	
01:30	1		2						3	
01:45	5	25	21	37					26	62
02:00	4		6						10	
02:15	0		1						1	
02:30	9		6						15	
02:45	5	18	3	16					8	34
03:00	4		4						8	
03:15	9		0						9	
03:30	5		6						11	
03:45	12	30	4	14					16	44
04:00	3		7						10	
04:15	11		2						13	
04:30	12		10						22	
04:45	18	44	16	35					34	79
05:00	25		8						33	
05:15	16		11						27	
05:30	53		16						69	
05:45	52	146	16	51					68	197
06:00	49		29						78	
06:15	78		46						124	
06:30	140		53						193	
06:45	198	465	93	221					291	686
07:00	208		98						306	
07:15	239		142						381	
07:30	295		191						486	
07:45	255	997	154	585					409	1582
08:00	249		180						429	
08:15	291		175						466	
08:30	294		165						459	
08:45	253	1087	166	686					419	1773
09:00	212		173						385	
09:15	188		156						344	
09:30	264		113						377	
09:45	173	837	110	552					283	1389
10:00	129		112						241	
10:15	132		136						268	
10:30	150		130						280	
10:45	160	571	178	556					338	1127
11:00	191		142						333	
11:15	217		134						351	
11:30	211		151						362	
11:45	197	816	164	591					361	1407
TOTALS		5072		3397						8469
SPLIT %		59.9%		40.1%						35.7%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	169		174						343	
12:15	183		196						379	
12:30	198		176						374	
12:45	253	803	222	768					475	1571
13:00	188		148						336	
13:15	151		183						334	
13:30	179		165						344	
13:45	183	701	206	702					389	1403
14:00	197		215						412	
14:15	216		210						426	
14:30	207		230						437	
14:45	191	811	209	864					400	1675
15:00	201		278						479	
15:15	227		235						462	
15:30	208		247						455	
15:45	220	856	295	1055					515	1911
16:00	220		335						555	
16:15	200		321						521	
16:30	191		330						521	
16:45	173	784	322	1308					495	2092
17:00	168		317						485	
17:15	223		344						567	
17:30	189		331						520	
17:45	195	775	335	1327					530	2102
18:00	165		312						477	
18:15	160		305						465	
18:30	129		248						377	
18:45	133	587	161	1026					294	1613
19:00	138		156						294	
19:15	112		153						265	
19:30	102		135						237	
19:45	96	448	115	559					211	1007
20:00	89		107						196	
20:15	74		101						175	
20:30	96		77						173	
20:45	101	360	106	391					207	751
21:00	110		102						212	
21:15	108		91						199	
21:30	79		57						136	
21:45	55	352	51	301					106	653
22:00	49		68						117	
22:15	43		47						90	
22:30	30		35						65	
22:45	25	147	41	191					66	338
23:00	14		31						45	
23:15	23		26						49	
23:30	13		17						30	
23:45	13	63	20	94					33	157
TOTALS		6687		8586						15273
SPLIT %		43.8%		56.2%						64.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	11,759	11,983	0	0	23,742

AM Peak Hour	07:30	11:45				07:30	PM Peak Hour	15:15	17:00				15:45
AM Pk Volume	1090	710				1790	PM Pk Volume	875	1327				2112
Pk Hr Factor	0.924	0.906				0.921	Pk Hr Factor	0.964	0.964				0.951
7 - 9 Volume	2084	1271	0	0		3355	4 - 6 Volume	1559	2635	0	0		4194
7 - 9 Peak Hour	07:30	07:30				07:30	4 - 6 Peak Hour	16:00	17:00				17:00
7 - 9 Pk Volume	1090	700	0	0		1790	4 - 6 Pk Volume	784	1327	0	0		2102
Pk Hr Factor	0.924	0.916	0.000	0.000		0.921	Pk Hr Factor	0.891	0.964	0.000	0.000		0.927

Prepared by NDS/ATD

Project #: CA19_4037_009 **City:** Clairemont

Location: Genesee Ave Bet. Mt Alifan Dr & Genesee Ct **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Mt Everest Blvd Bet. Mt Etna Dr & Balboa Ave

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_010

DAILY TOTALS	NB	SB	EB	WB	Total
	2,053	2,153	0	0	4,206

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	3		0				3		12:00	25		43				68	
00:15	2		0				2		12:15	35		42				77	
00:30	1		0				1		12:30	37		30				67	
00:45	1	7	1	1			2	8	12:45	38	135	29	144			67	279
01:00	1		0				1		13:00	27		44				71	
01:15	1		2				3		13:15	30		34				64	
01:30	1		2				3		13:30	30		37				67	
01:45	0	3	1	5			1	8	13:45	32	119	39	154			71	273
02:00	1		0				1		14:00	31		28				59	
02:15	0		1				1		14:15	45		26				71	
02:30	1		0				1		14:30	37		50				87	
02:45	0	2	0	1			0	3	14:45	39	152	55	159			94	311
03:00	0		0				0		15:00	49		38				87	
03:15	0		0				0		15:15	39		47				86	
03:30	0		0				0		15:30	24		46				70	
03:45	0		0				0		15:45	44	156	41	172			85	328
04:00	0		0				0		16:00	39		38				77	
04:15	2		0				2		16:15	33		38				71	
04:30	5		1				6		16:30	53		57				110	
04:45	1	8	1	2			2	10	16:45	38	163	80	213			118	376
05:00	4		3				7		17:00	46		77				123	
05:15	2		1				3		17:15	41		78				119	
05:30	3		1				4		17:30	55		84				139	
05:45	4	13	6	11			10	24	17:45	43	185	70	309			113	494
06:00	6		9				15		18:00	44		65				109	
06:15	10		15				25		18:15	25		38				63	
06:30	17		12				29		18:30	27		22				49	
06:45	17	50	18	54			35	104	18:45	27	123	28	153			55	276
07:00	22		20				42		19:00	20		17				37	
07:15	45		24				69		19:15	20		14				34	
07:30	45		38				83		19:30	15		12				27	
07:45	59	171	51	133			110	304	19:45	24	79	12	55			36	134
08:00	34		55				89		20:00	16		12				28	
08:15	38		52				90		20:15	20		7				27	
08:30	63		31				94		20:30	13		5				18	
08:45	44	179	30	168			74	347	20:45	12	61	6	30			18	91
09:00	34		31				65		21:00	12		5				17	
09:15	25		26				51		21:15	13		8				21	
09:30	27		26				53		21:30	11		4				15	
09:45	31	117	18	101			49	218	21:45	6	42	6	23			12	65
10:00	31		22				53		22:00	3		3				6	
10:15	24		30				54		22:15	4		5				9	
10:30	34		36				70		22:30	4		0				4	
10:45	26	115	37	125			63	240	22:45	4	15	1	9			5	24
11:00	27		28				55		23:00	3		0				3	
11:15	24		37				61		23:15	4		1				5	
11:30	43		31				74		23:30	9		1				10	
11:45	43	137	29	125			72	262	23:45	5	21	4	6			9	27
TOTALS		802		726				1528	TOTALS		1251		1427				2678
SPLIT %		52.5%		47.5%				36.3%	SPLIT %		46.7%		53.3%				63.7%

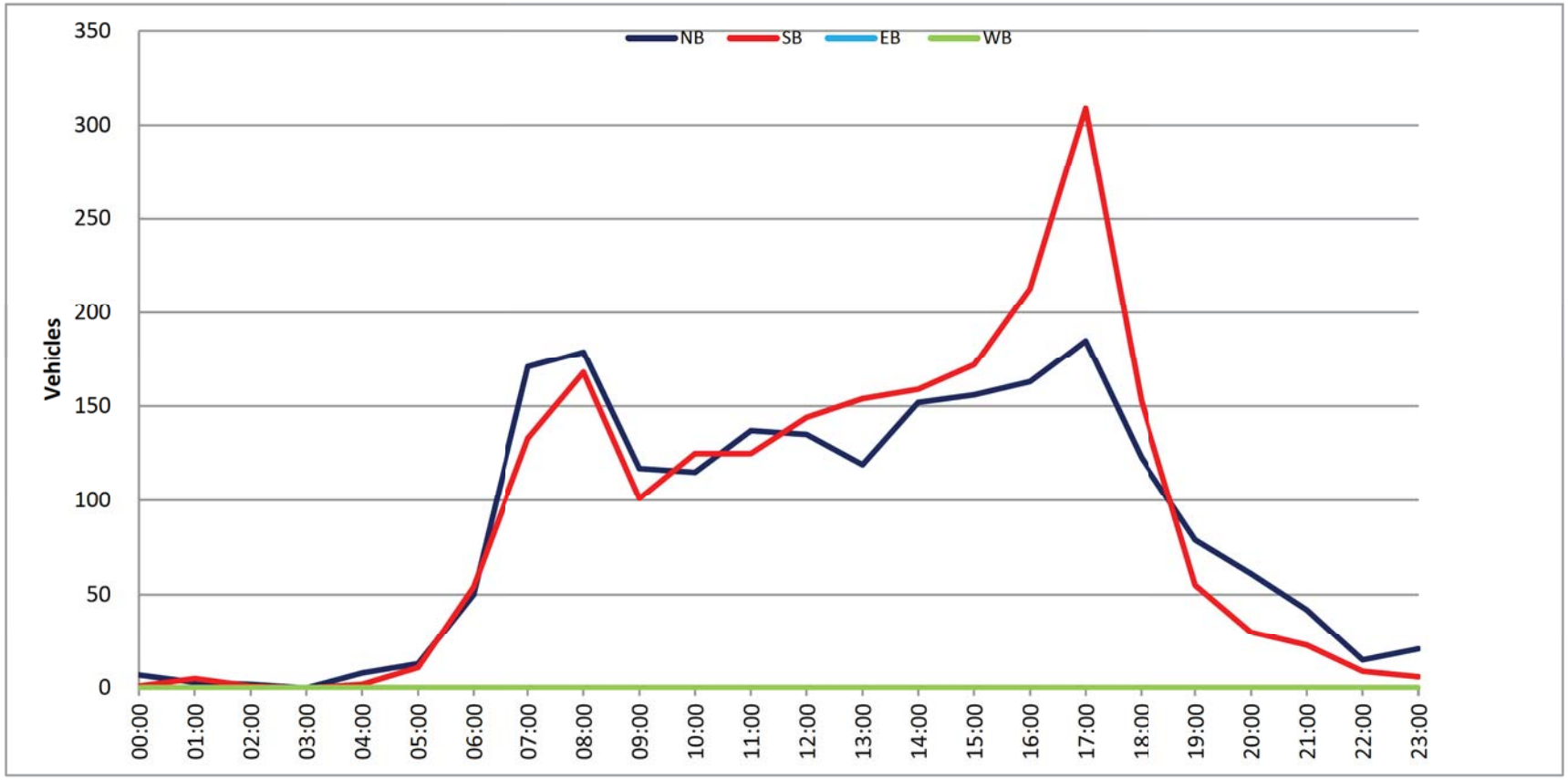
DAILY TOTALS	NB	SB	EB	WB	Total
	2,053	2,153	0	0	4,206

AM Peak Hour	07:45	07:30					07:45		PM Peak Hour	17:00	16:45					16:45		
AM Pk Volume	194	196					383		PM Pk Volume	185	319					499		
Pk Hr Factor	0.770	0.891					0.870		Pk Hr Factor	0.841	0.949					0.897		
7 - 9 Volume	350	301	0	0			651		4 - 6 Volume	348	522	0	0			870		
7 - 9 Peak Hour	07:45	07:30					07:45		4 - 6 Peak Hour	17:00	16:45					16:45		
7 - 9 Pk Volume	194	196	0	0			383		4 - 6 Pk Volume	185	319	0	0			499		
Pk Hr Factor	0.770	0.891	0.000	0.000			0.870		Pk Hr Factor	0.841	0.949	0.000	0.000			0.897		

Prepared by NDS/ATD

Project #: CA19_4037_010 **City:** Clairemont

Location: Mt Everest Blvd Bet. Mt Etna Dr & Balboa **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Mt Etna Dr Bet. Mt Everest Blvd & Genesee Ave

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_011

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,189	1,901	4,090

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			1		1		2		12:00			50		39		89	
00:15			1		1		2		12:15			34		31		65	
00:30			1		0		1		12:30			33		26		59	
00:45			0	3	1	3	1	6	12:45			52	169	37	133	89	302
01:00			1		0		1		13:00			46		38		84	
01:15			2		2		4		13:15			43		26		69	
01:30			0		0		0		13:30			30		41		71	
01:45			1	4	0	2	1	6	13:45			42	161	35	140	77	301
02:00			2		2		4		14:00			47		25		72	
02:15			2		1		3		14:15			50		26		76	
02:30			1		0		1		14:30			57		38		95	
02:45			0	5	0	3	0	8	14:45			43	197	43	132	86	329
03:00			0		0		0		15:00			48		27		75	
03:15			0		0		0		15:15			44		44		88	
03:30			0		1		1		15:30			43		40		83	
03:45			2	2	0	1	2	3	15:45			42	177	33	144	75	321
04:00			0		0		0		16:00			38		36		74	
04:15			2		0		2		16:15			50		42		92	
04:30			3		2		5		16:30			47		47		94	
04:45			7	12	0	2	7	14	16:45			42	177	79	204	121	381
05:00			6		1		7		17:00			31		56		87	
05:15			10		3		13		17:15			35		64		99	
05:30			7		6		13		17:30			47		88		135	
05:45			9	32	4	14	13	46	17:45			42	155	50	258	92	413
06:00			6		3		9		18:00			52		52		104	
06:15			14		9		23		18:15			27		33		60	
06:30			22		10		32		18:30			25		27		52	
06:45			26	68	14	36	40	104	18:45			29	133	14	126	43	259
07:00			21		17		38		19:00			27		19		46	
07:15			37		20		57		19:15			14		23		37	
07:30			38		18		56		19:30			23		19		42	
07:45			33	129	30	85	63	214	19:45			18	82	15	76	33	158
08:00			32		21		53		20:00			13		12		25	
08:15			25		25		50		20:15			12		12		24	
08:30			32		30		62		20:30			11		13		24	
08:45			35	124	25	101	60	225	20:45			8	44	5	42	13	86
09:00			45		27		72		21:00			7		8		15	
09:15			31		22		53		21:15			12		12		24	
09:30			31		42		73		21:30			12		5		17	
09:45			26	133	23	114	49	247	21:45			5	36	5	30	10	66
10:00			35		20		55		22:00			3		7		10	
10:15			38		30		68		22:15			3		0		3	
10:30			36		23		59		22:30			3		3		6	
10:45			39	148	25	98	64	246	22:45			5	14	3	13	8	27
11:00			31		34		65		23:00			2		1		3	
11:15			46		28		74		23:15			5		1		6	
11:30			43		36		79		23:30			2		1		3	
11:45			50	170	43	141	93	311	23:45			5	14	0	3	5	17
TOTALS				830		600		1430	TOTALS			2189	1359	1901	1301		2660
SPLIT %				58.0%		42.0%		35.0%	SPLIT %				51.1%		48.9%		65.0%

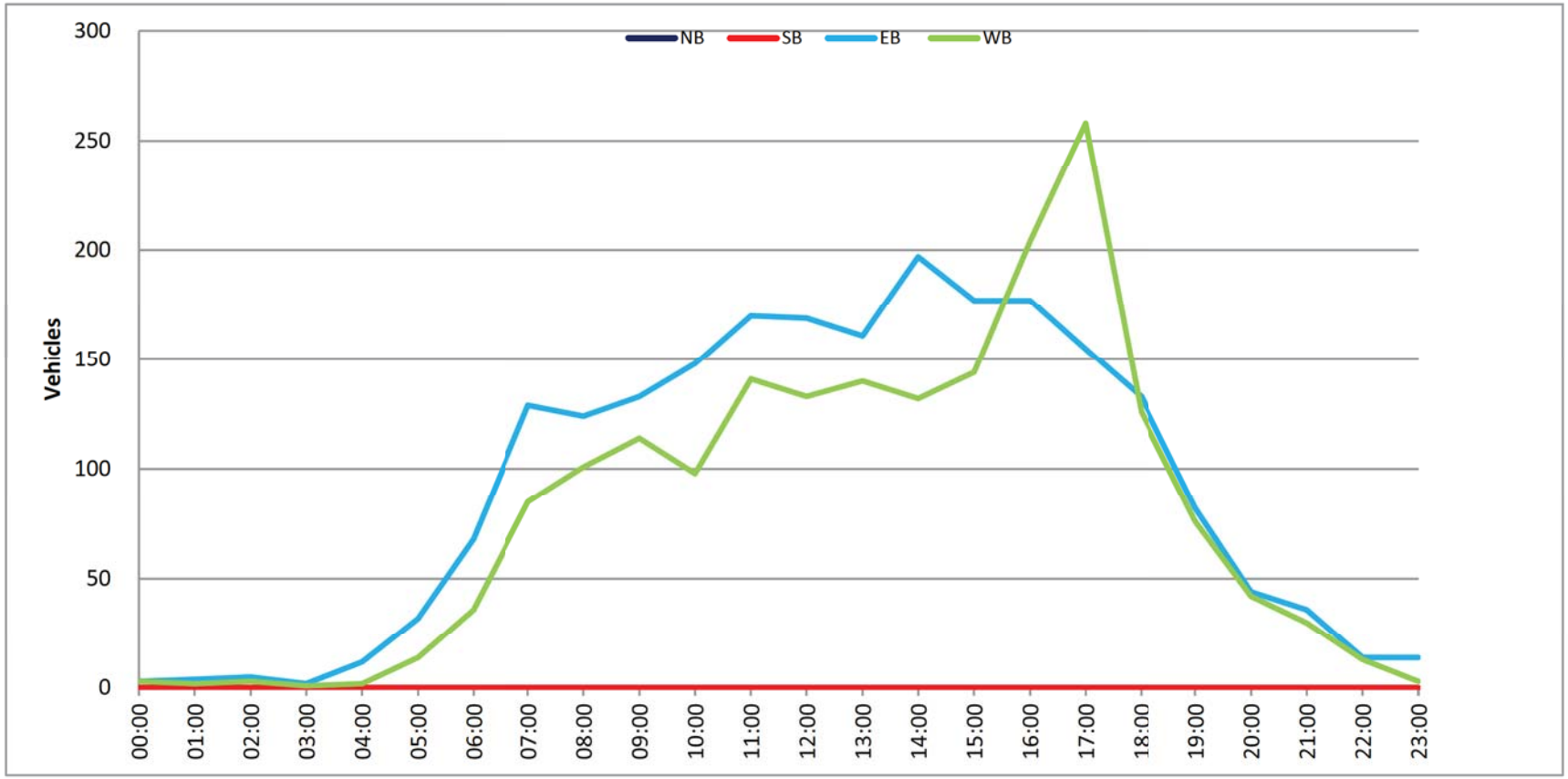
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,189	1,901	4,090

AM Peak Hour			11:15	11:30	11:15				PM Peak Hour			14:15	16:45	16:45		
AM Pk Volume			189	149	335				PM Pk Volume			198	287	442		
Pk Hr Factor			0.945	0.866	0.901				Pk Hr Factor			0.868	0.815	0.819		
7 - 9 Volume	0	0	253	186	439				4 - 6 Volume	0	0	332	462	794		
7 - 9 Peak Hour			07:15	07:45	07:15				4 - 6 Peak Hour			16:00	16:45	16:45		
7 - 9 Pk Volume	0	0	140	106	229				4 - 6 Pk Volume	0	0	177	287	442		
Pk Hr Factor	0.000	0.000	0.921	0.883	0.909				Pk Hr Factor	0.000	0.000	0.885	0.815	0.819		

Prepared by NDS/ATD

Project #: CA19_4037_011 **City:** Clairemont

Location: Mt Etna Dr Bet. Mt Everest Blvd & Genesee **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Balboa Ave Bet. Clairemont Dr & Mt Everest Blvd

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_012

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	17,892	17,122	35,014

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			25	25	50	12:00			284	251	535
00:15			19	21	40	12:15			298	223	521
00:30			27	13	40	12:30			259	242	501
00:45			18 89	11 70	29 159	12:45			284 1125	274 990	558 2115
01:00			15	13	28	13:00			292	268	560
01:15			21	12	33	13:15			274	231	505
01:30			15	5	20	13:30			270	283	553
01:45			11 62	10 40	21 102	13:45			254 1090	335 1117	589 2207
02:00			7	7	14	14:00			277	285	562
02:15			8	4	12	14:15			296	317	613
02:30			10	4	14	14:30			320	312	632
02:45			11 36	6 21	17 57	14:45			314 1207	309 1223	623 2430
03:00			5	9	14	15:00			296	300	596
03:15			9	5	14	15:15			334	342	676
03:30			13	13	26	15:30			329	335	664
03:45			11 38	10 37	21 75	15:45			410 1369	312 1289	722 2658
04:00			11	10	21	16:00			404	346	750
04:15			17	9	26	16:15			382	309	691
04:30			19	26	45	16:30			402	388	790
04:45			22 69	30 75	52 144	16:45			371 1559	363 1406	734 2965
05:00			37	30	67	17:00			388	359	747
05:15			44	34	78	17:15			398	382	780
05:30			65	61	126	17:30			370	325	695
05:45			83 229	77 202	160 431	17:45			369 1525	383 1449	752 2974
06:00			72	76	148	18:00			358	343	701
06:15			107	122	229	18:15			275	285	560
06:30			148	144	292	18:30			267	258	525
06:45			190 517	221 563	411 1080	18:45			280 1180	277 1163	557 2343
07:00			248	319	567	19:00			231	227	458
07:15			390	267	657	19:15			199	211	410
07:30			341	283	624	19:30			213	191	404
07:45			359 1338	357 1226	716 2564	19:45			150 793	187 816	337 1609
08:00			298	322	620	20:00			163	195	358
08:15			336	312	648	20:15			153	161	314
08:30			282	346	628	20:30			130	148	278
08:45			358 1274	284 1264	642 2538	20:45			116 562	125 629	241 1191
09:00			295	238	533	21:00			117	123	240
09:15			212	237	449	21:15			119	90	209
09:30			220	230	450	21:30			82	111	193
09:45			220 947	201 906	421 1853	21:45			78 396	90 414	168 810
10:00			225	200	425	22:00			83	67	150
10:15			219	252	471	22:15			72	54	126
10:30			253	210	463	22:30			63	38	101
10:45			278 975	224 886	502 1861	22:45			57 275	52 211	109 486
11:00			224	239	463	23:00			58	52	110
11:15			252	243	495	23:15			57	37	94
11:30			282	251	533	23:30			49	34	83
11:45			273 1031	242 975	515 2006	23:45			42 206	27 150	69 356
TOTALS			6605	6265	12870	TOTALS			11287	10857	22144
SPLIT %			51.3%	48.7%	36.8%	SPLIT %			51.0%	49.0%	63.2%

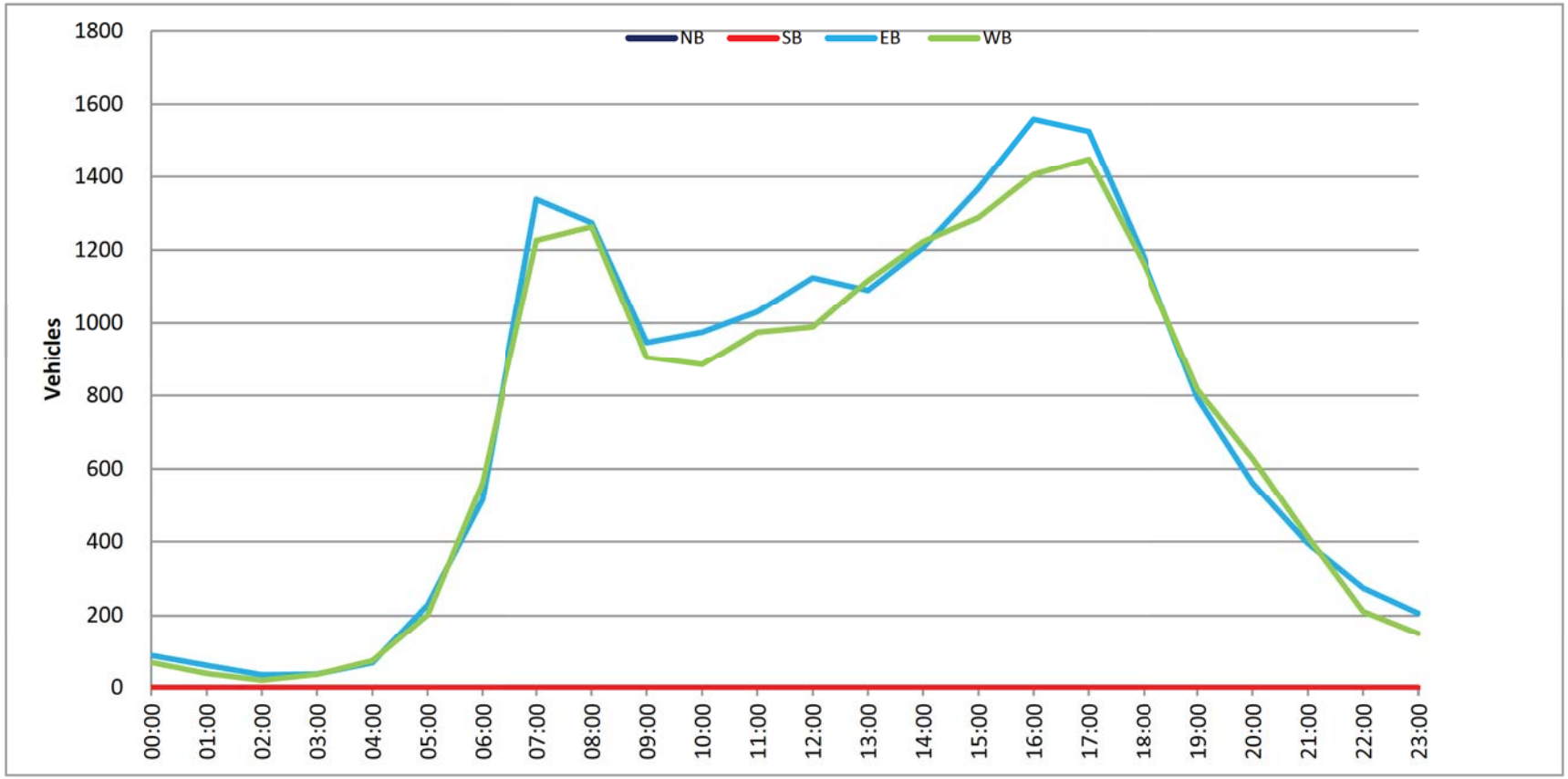
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	17,892	17,122	35,014

AM Peak Hour			07:15	07:45	07:15	PM Peak Hour		15:45	16:30	16:30
AM Pk Volume			1388	1337	2617	PM Pk Volume		1598	1492	3051
Pk Hr Factor			0.890	0.936	0.914	Pk Hr Factor		0.974	0.961	0.966
7 - 9 Volume	0	0	2612	2490	5102	4 - 6 Volume	0	0 3084	2855	5939
7 - 9 Peak Hour			07:15	07:45	07:15	4 - 6 Peak Hour		16:00	16:30	16:30
7 - 9 Pk Volume	0	0	1388	1337	2617	4 - 6 Pk Volume	0	0 1559	1492	3051
Pk Hr Factor	0.000	0.000	0.890	0.936	0.914	Pk Hr Factor	0.000	0.000 0.965	0.961	0.966

Prepared by NDS/ATD

Project #: CA19_4037_012 **City:** Clairemont

Location: Balboa Ave Bet. Clairemont Dr & Mt Everest **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Balboa Ave Bet. Mt Everest Blvd & Genesee Ave

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_013

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	16,228	16,193	32,421

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			18		25		43		12:00			272		233		505	
00:15			21		19		40		12:15			266		233		499	
00:30			25		14		39		12:30			230		263		493	
00:45			17	81	11	69	28	150	12:45			267	1035	262	991	529	2026
01:00			12		16		28		13:00			288		251		539	
01:15			18		11		29		13:15			239		208		447	
01:30			16		6		22		13:30			250		290		540	
01:45			9	55	8	41	17	96	13:45			240	1017	316	1065	556	2082
02:00			5		7		12		14:00			251		282		533	
02:15			8		5		13		14:15			257		312		569	
02:30			9		6		15		14:30			260		301		561	
02:45			12	34	7	25	19	59	14:45			289	1057	300	1195	589	2252
03:00			5		8		13		15:00			244		262		506	
03:15			8		4		12		15:15			317		301		618	
03:30			15		11		26		15:30			287		312		599	
03:45			12	40	14	37	26	77	15:45			326	1174	330	1205	656	2379
04:00			10		9		19		16:00			342		330		672	
04:15			17		6		23		16:15			306		294		600	
04:30			21		18		39		16:30			320		406		726	
04:45			21	69	18	51	39	120	16:45			340	1308	322	1352	662	2660
05:00			39		23		62		17:00			319		366		685	
05:15			52		28		80		17:15			348		345		693	
05:30			67		44		111		17:30			284		340		624	
05:45			85	243	72	167	157	410	17:45			329	1280	364	1415	693	2695
06:00			82		63		145		18:00			281		308		589	
06:15			113		94		207		18:15			267		308		575	
06:30			157		118		275		18:30			215		256		471	
06:45			200	552	176	451	376	1003	18:45			256	1019	275	1147	531	2166
07:00			232		239		471		19:00			196		220		416	
07:15			326		230		556		19:15			184		225		409	
07:30			355		253		608		19:30			175		166		341	
07:45			304	1217	308	1030	612	2247	19:45			124	679	209	820	333	1499
08:00			311		278		589		20:00			144		188		332	
08:15			280		251		531		20:15			136		171		307	
08:30			308		276		584		20:30			104		152		256	
08:45			325	1224	266	1071	591	2295	20:45			108	492	135	646	243	1138
09:00			295		225		520		21:00			99		130		229	
09:15			226		210		436		21:15			95		105		200	
09:30			218		216		434		21:30			72		108		180	
09:45			223	962	195	846	418	1808	21:45			62	328	96	439	158	767
10:00			216		188		404		22:00			84		69		153	
10:15			224		214		438		22:15			65		55		120	
10:30			253		215		468		22:30			57		45		102	
10:45			264	957	197	814	461	1771	22:45			51	257	45	214	96	471
11:00			214		225		439		23:00			48		55		103	
11:15			229		240		469		23:15			53		40		93	
11:30			269		244		513		23:30			42		35		77	
11:45			252	964	234	943	486	1907	23:45			41	184	29	159	70	343
TOTALS				6398		5545		11943	TOTALS				9830		10648		20478
SPLIT %				53.6%		46.4%		36.8%	SPLIT %				48.0%		52.0%		63.2%

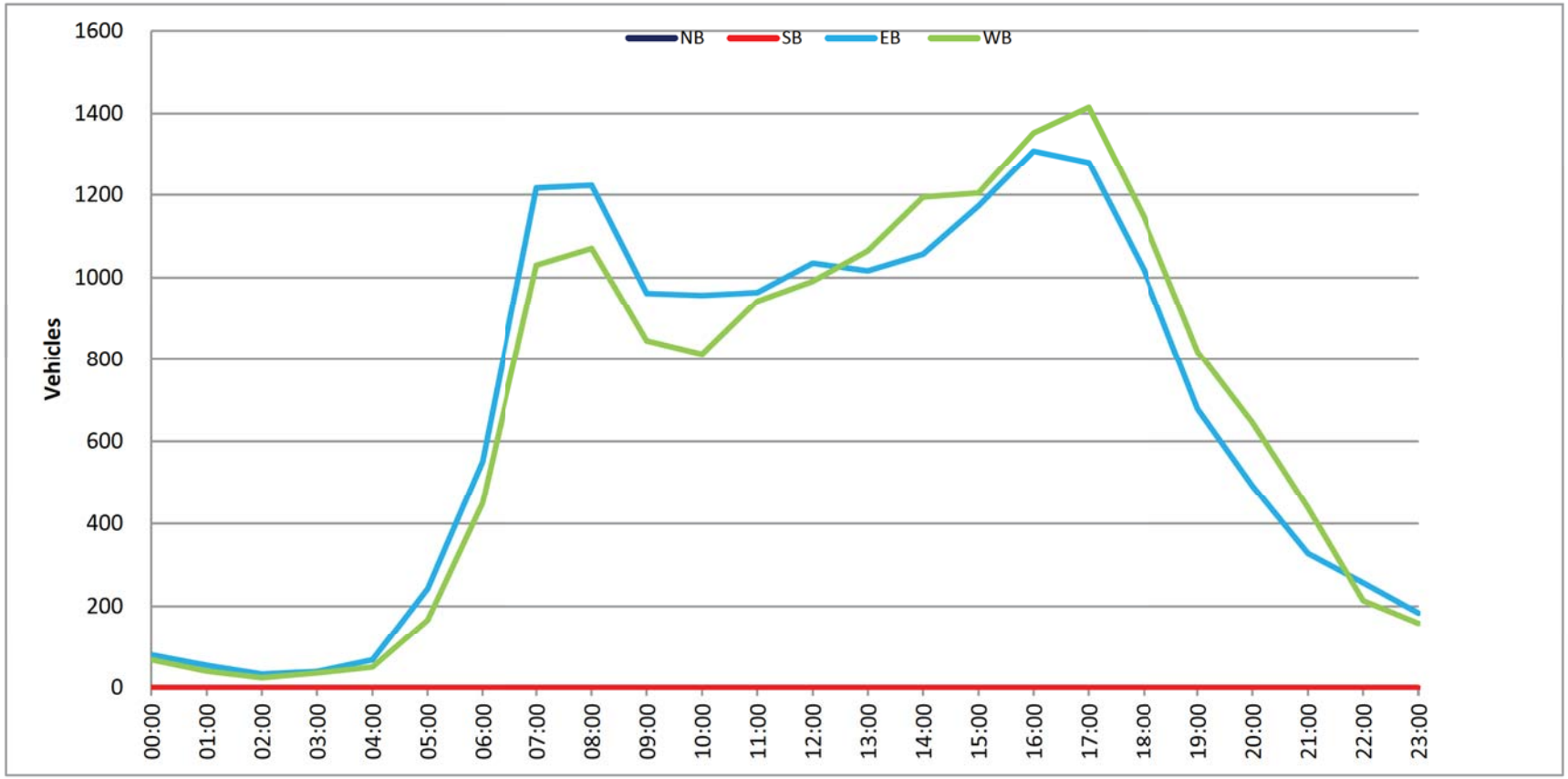
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	16,228	16,193	32,421

AM Peak Hour			07:15	07:45	07:15	PM Peak Hour	16:30	16:30	16:30
AM Pk Volume			1296	1113	2365	PM Pk Volume	1327	1439	2766
Pk Hr Factor			0.913	0.903	0.966	Pk Hr Factor	0.953	0.886	0.952
7 - 9 Volume	0	0	2441	2101	4542	4 - 6 Volume	0	0	2588	2767	5355
7 - 9 Peak Hour			07:15	07:45	07:15	4 - 6 Peak Hour			16:30	16:30	16:30
7 - 9 Pk Volume	0	0	1296	1113	2365	4 - 6 Pk Volume	0	0	1327	1439	2766
Pk Hr Factor	0.000	0.000	0.913	0.903	0.966	Pk Hr Factor	0.000	0.000	0.953	0.886	0.952

Prepared by NDS/ATD

Project #: CA19_4037_013 **City:** Clairemont

Location: Balboa Ave Bet. Mt Everest Blvd & Genesee **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Balboa Ave Bet. Genesee Ave & Shopping Center Dwy

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_014

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	15,890	16,341	32,231

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			19		32		51		12:00			282		273		555	
00:15			21		28		49		12:15			300		280		580	
00:30			12		27		39		12:30			261		257		518	
00:45			19	71	18	105	37	176	12:45			307	1150	261	1071	568	2221
01:00			11		16		27		13:00			262		257		519	
01:15			11		15		26		13:15			326		243		569	
01:30			16		16		32		13:30			281		279		560	
01:45			10	48	15	62	25	110	13:45			248	1117	249	1028	497	2145
02:00			11		7		18		14:00			281		260		541	
02:15			10		10		20		14:15			297		251		548	
02:30			14		2		16		14:30			301		288		589	
02:45			10	45	14	33	24	78	14:45			273	1152	284	1083	557	2235
03:00			11		7		18		15:00			298		303		601	
03:15			9		7		16		15:15			277		299		576	
03:30			10		11		21		15:30			308		279		587	
03:45			17	47	7	32	24	79	15:45			286	1169	333	1214	619	2383
04:00			13		9		22		16:00			307		313		620	
04:15			10		6		16		16:15			292		366		658	
04:30			30		14		44		16:30			303		321		624	
04:45			26	79	19	48	45	127	16:45			295	1197	311	1311	606	2508
05:00			37		32		69		17:00			282		350		632	
05:15			53		34		87		17:15			326		341		667	
05:30			51		50		101		17:30			293		384		677	
05:45			76	217	56	172	132	389	17:45			293	1194	358	1433	651	2627
06:00			74		64		138		18:00			290		360		650	
06:15			107		88		195		18:15			273		304		577	
06:30			137		126		263		18:30			261		287		548	
06:45			181	499	117	395	298	894	18:45			235	1059	282	1233	517	2292
07:00			205		177		382		19:00			213		300		513	
07:15			226		191		417		19:15			184		231		415	
07:30			309		214		523		19:30			169		172		341	
07:45			263	1003	235	817	498	1820	19:45			150	716	176	879	326	1595
08:00			244		199		443		20:00			159		164		323	
08:15			288		242		530		20:15			139		177		316	
08:30			251		249		500		20:30			133		152		285	
08:45			270	1053	268	958	538	2011	20:45			106	537	159	652	265	1189
09:00			218		220		438		21:00			112		144		256	
09:15			237		266		503		21:15			129		123		252	
09:30			187		259		446		21:30			74		106		180	
09:45			204	846	231	976	435	1822	21:45			84	399	122	495	206	894
10:00			217		238		455		22:00			72		95		167	
10:15			190		205		395		22:15			70		80		150	
10:30			228		252		480		22:30			52		71		123	
10:45			236	871	237	932	473	1803	22:45			38	232	54	300	92	532
11:00			262		226		488		23:00			45		46		91	
11:15			262		210		472		23:15			39		38		77	
11:30			247		231		478		23:30			18		36		54	
11:45			292	1063	279	946	571	2009	23:45			24	126	46	166	70	292
TOTALS				5842		5476		11318	TOTALS				10048		10865		20913
SPLIT %				51.6%		48.4%		35.1%	SPLIT %				48.0%		52.0%		64.9%

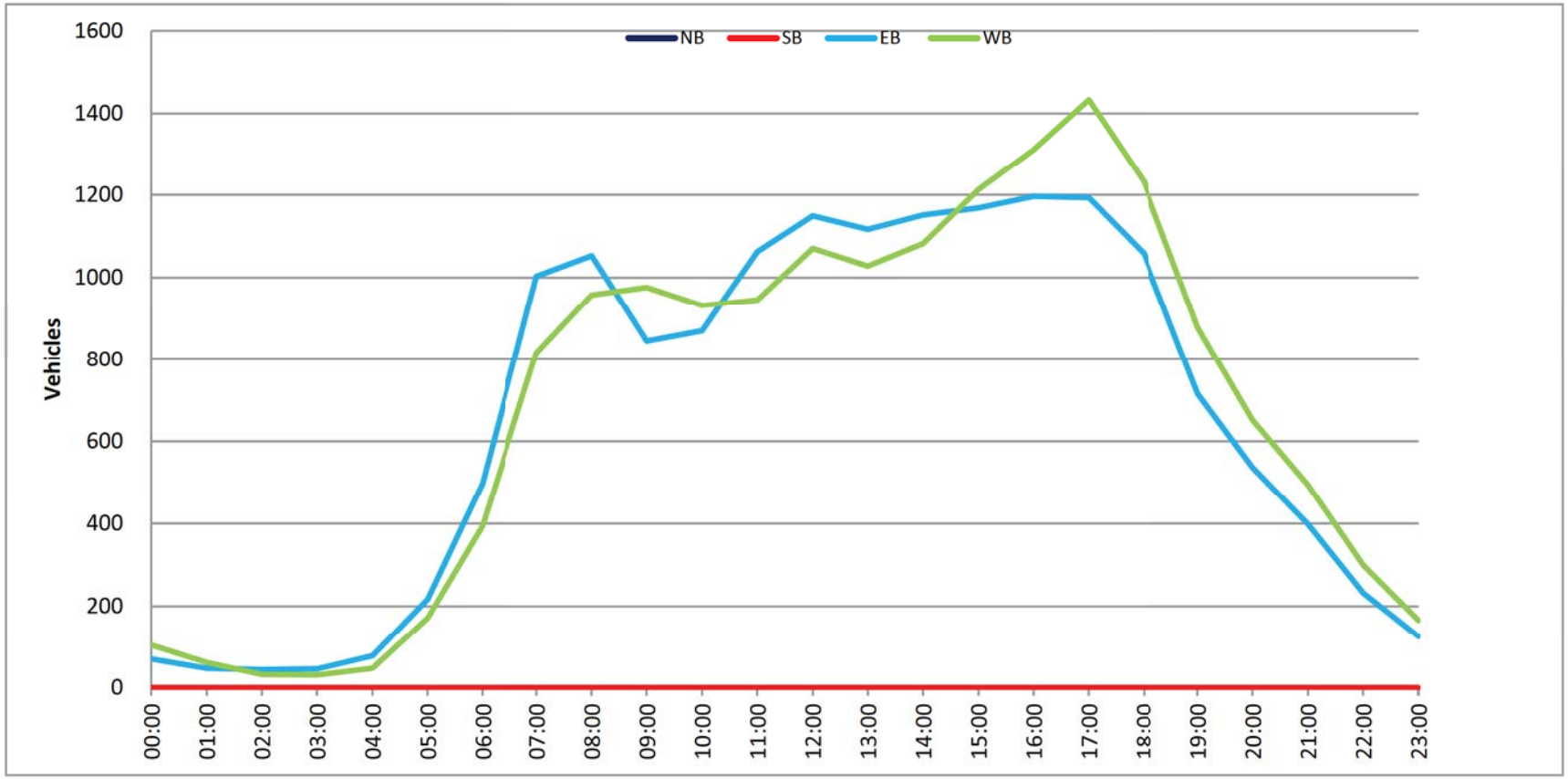
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	15,890	16,341	32,231

AM Peak Hour			11:45	11:45	11:45	PM Peak Hour	16:30	17:15	17:15
AM Pk Volume			1135	1089	2224	PM Pk Volume	1206	1443	2645
Pk Hr Factor			0.946	0.972	0.959	Pk Hr Factor	0.925	0.939	0.977
7 - 9 Volume	0	0	2056	1775	3831	4 - 6 Volume	0	0	2391	2744	5135
7 - 9 Peak Hour			07:30	08:00	08:00	4 - 6 Peak Hour			16:30	17:00	17:00
7 - 9 Pk Volume	0	0	1104	958	2011	4 - 6 Pk Volume	0	0	1206	1433	2627
Pk Hr Factor	0.000	0.000	0.893	0.894	0.934	Pk Hr Factor	0.000	0.000	0.925	0.933	0.970

Prepared by NDS/ATD

Project #: CA19_4037_014 **City:** Clairemont

Location: Balboa Ave Bet. Genesee Ave & Shopping **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Balboa Ave Bet. Shopping Center Dwy & Mt Abernathy Ave

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_015

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	18,213	17,771	35,984

AM Period	NB		SB		EB		WB		TOTAL	
00:00					32		25		57	
00:15					24		24		48	
00:30					13		30		43	
00:45					21	90	18	97	39	187
01:00					11		14		25	
01:15					14		17		31	
01:30					16		15		31	
01:45					12	53	14	60	26	113
02:00					9		9		18	
02:15					11		11		22	
02:30					15		4		19	
02:45					10	45	9	33	19	78
03:00					10		6		16	
03:15					11		7		18	
03:30					12		15		27	
03:45					14	47	19	47	33	94
04:00					15		12		27	
04:15					11		8		19	
04:30					29		16		45	
04:45					27	82	28	64	55	146
05:00					36		31		67	
05:15					59		39		98	
05:30					56		56		112	
05:45					97	248	69	195	166	443
06:00					79		74		153	
06:15					116		119		235	
06:30					163		136		299	
06:45					207	565	128	457	335	1022
07:00					209		204		413	
07:15					245		261		506	
07:30					306		228		534	
07:45					292	1052	289	982	581	2034
08:00					239		272		511	
08:15					335		261		596	
08:30					243		289		532	
08:45					304	1121	318	1140	622	2261
09:00					241		314		555	
09:15					257		302		559	
09:30					224		297		521	
09:45					221	943	287	1200	508	2143
10:00					233		255		488	
10:15					226		261		487	
10:30					281		255		536	
10:45					290	1030	292	1063	582	2093
11:00					286		265		551	
11:15					296		260		556	
11:30					281		306		587	
11:45					359	1222	322	1153	681	2375
TOTALS						6498		6491		12989
SPLIT %						50.0%		50.0%		36.1%

PM Period	NB		SB		EB		WB		TOTAL	
12:00					317		362		679	
12:15					347		312		659	
12:30					332		328		660	
12:45					370	1366	299	1301	669	2667
13:00					329		297		626	
13:15					356		290		646	
13:30					298		303		601	
13:45					299	1282	305	1195	604	2477
14:00					359		279		638	
14:15					318		269		587	
14:30					362		328		690	
14:45					318	1357	288	1164	606	2521
15:00					306		334		640	
15:15					309		300		609	
15:30					331		263		594	
15:45					325	1271	325	1222	650	2493
16:00					311		325		636	
16:15					329		359		688	
16:30					312		289		601	
16:45					338	1290	315	1288	653	2578
17:00					328		330		658	
17:15					362		366		728	
17:30					353		404		757	
17:45					306	1349	344	1444	650	2793
18:00					336		372		708	
18:15					330		309		639	
18:30					297		269		566	
18:45					281	1244	287	1237	568	2481
19:00					263		268		531	
19:15					222		245		467	
19:30					194		161		355	
19:45					182	861	173	847	355	1708
20:00					197		166		363	
20:15					189		181		370	
20:30					155		146		301	
20:45					140	681	144	637	284	1318
21:00					151		145		296	
21:15					152		137		289	
21:30					109		116		225	
21:45					107	519	125	523	232	1042
22:00					98		75		173	
22:15					86		71		157	
22:30					78		66		144	
22:45					67	329	57	269	124	598
23:00					64		41		105	
23:15					50		31		81	
23:30					24		36		60	
23:45					28	166	45	153	73	319
TOTALS						11715		11280		22995
SPLIT %						50.9%		49.1%		63.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	18,213	17,771	35,984

AM Peak Hour		11:45	11:45	11:45	
AM Pk Volume		1355	1324	2679	
Pk Hr Factor		0.944	0.914	0.983	
7 - 9 Volume	0 0	2173	2122	4295	
7 - 9 Peak Hour		07:30	08:00	08:00	
7 - 9 Pk Volume	0 0	1172	1140	2261	
Pk Hr Factor	0.000 0.000	0.875	0.896	0.909	

PM Peak Hour		12:30	17:15	17:15	
PM Pk Volume		1387	1486	2843	
Pk Hr Factor		0.937	0.920	0.939	
4 - 6 Volume	0 0	2639	2732	5371	
4 - 6 Peak Hour		16:45	17:00	16:45	
4 - 6 Pk Volume	0 0	1381	1444	2796	
Pk Hr Factor	0.000 0.000	0.954	0.894	0.923	

Prepared by NDS/ATD

Project #: CA19_4037_015 **City:** Clairemont

Location: Balboa Ave Bet. Shopping Center Dwy & Mt **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Balboa Ave Bet. Mt Abernathy Ave & Cannington Dr

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_016

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,935	24,212	47,147

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			41		45		86		12:00			360		458		818	
00:15			33		43		76		12:15			371		417		788	
00:30			26		44		70		12:30			437		477		914	
00:45			20	120	27	159	47	279	12:45			422	1590	380	1732	802	3322
01:00			13		22		35		13:00			419		372		791	
01:15			15		14		29		13:15			445		414		859	
01:30			21		24		45		13:30			411		369		780	
01:45			13	62	21	81	34	143	13:45			378	1653	449	1604	827	3257
02:00			9		9		18		14:00			419		373		792	
02:15			10		17		27		14:15			381		365		746	
02:30			14		6		20		14:30			434		414		848	
02:45			14	47	21	53	35	100	14:45			369	1603	330	1482	699	3085
03:00			13		9		22		15:00			369		459		828	
03:15			17		13		30		15:15			380		408		788	
03:30			19		26		45		15:30			414		372		786	
03:45			21	70	30	78	51	148	15:45			386	1549	431	1670	817	3219
04:00			20		14		34		16:00			339		416		755	
04:15			17		14		31		16:15			399		514		913	
04:30			45		23		68		16:30			384		423		807	
04:45			61	143	43	94	104	237	16:45			391	1513	432	1785	823	3298
05:00			64		41		105		17:00			360		454		814	
05:15			99		46		145		17:15			397		501		898	
05:30			103		66		169		17:30			398		488		886	
05:45			140	406	105	258	245	664	17:45			350	1505	454	1897	804	3402
06:00			141		106		247		18:00			384		528		912	
06:15			169		141		310		18:15			378		409		787	
06:30			245		195		440		18:30			338		383		721	
06:45			282	837	183	625	465	1462	18:45			305	1405	382	1702	687	3107
07:00			294		245		539		19:00			287		362		649	
07:15			327		298		625		19:15			322		330		652	
07:30			419		275		694		19:30			243		248		491	
07:45			391	1431	366	1184	757	2615	19:45			251	1103	283	1223	534	2326
08:00			328		346		674		20:00			254		258		512	
08:15			421		371		792		20:15			227		234		461	
08:30			371		365		736		20:30			221		233		454	
08:45			385	1505	380	1462	765	2967	20:45			172	874	208	933	380	1807
09:00			345		415		760		21:00			226		218		444	
09:15			303		377		680		21:15			201		207		408	
09:30			330		386		716		21:30			158		174		332	
09:45			288	1266	351	1529	639	2795	21:45			159	744	177	776	336	1520
10:00			299		369		668		22:00			156		113		269	
10:15			267		358		625		22:15			123		122		245	
10:30			354		383		737		22:30			100		119		219	
10:45			380	1300	397	1507	777	2807	22:45			94	473	89	443	183	916
11:00			333		365		698		23:00			77		80		157	
11:15			410		409		819		23:15			65		54		119	
11:30			336		428		764		23:30			35		64		99	
11:45			444	1523	467	1669	911	3192	23:45			36	213	68	266	104	479
TOTALS				8710		8699		17409	TOTALS				14225		15513		29738
SPLIT %				50.0%		50.0%		36.9%	SPLIT %				47.8%		52.2%		63.1%

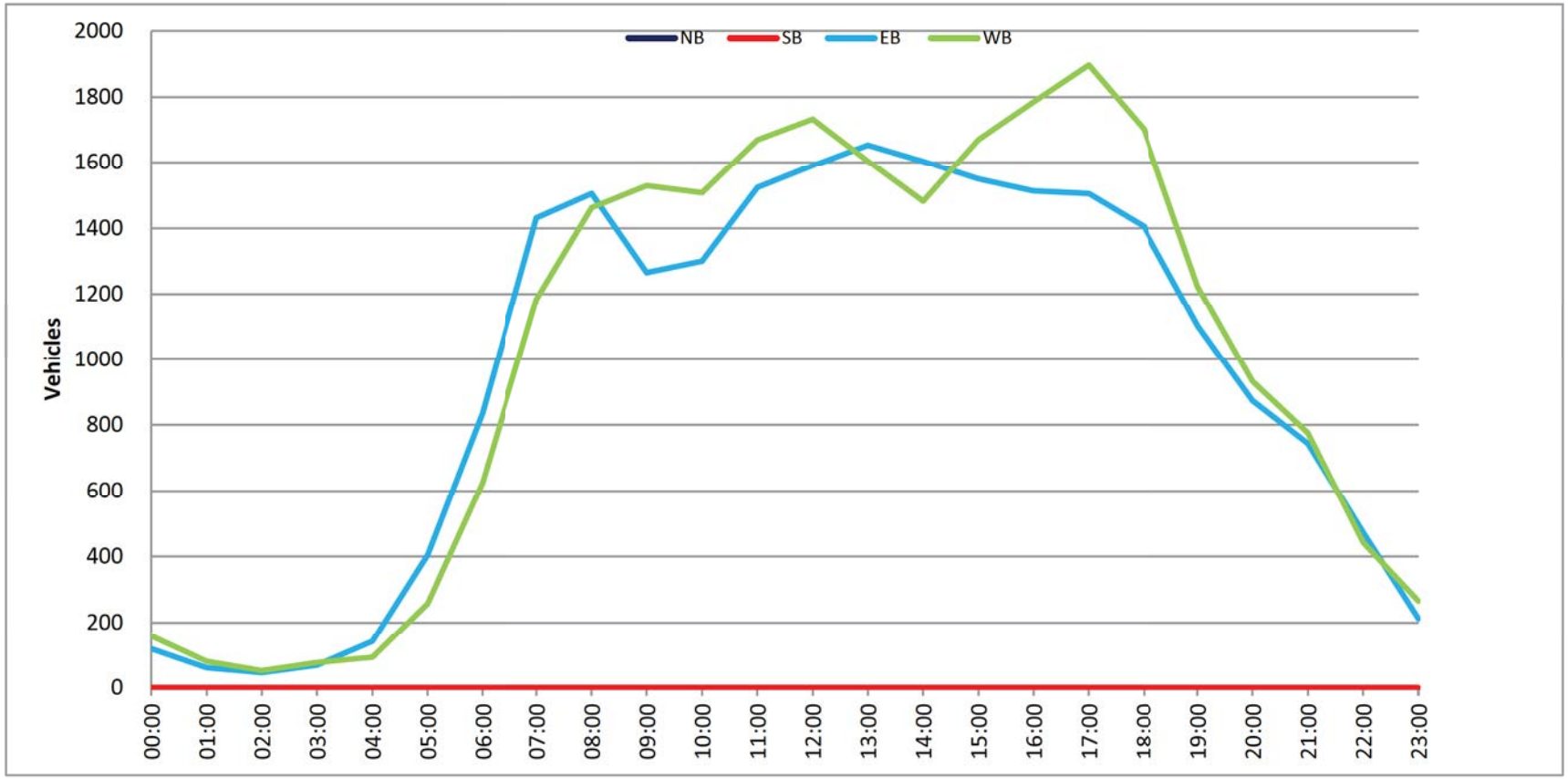
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,935	24,212	47,147

AM Peak Hour			11:45	11:45	11:45	PM Peak Hour	12:30	17:15	17:15
AM Pk Volume			1612	1819	3431	PM Pk Volume	1723	1971	3500
Pk Hr Factor			0.908	0.953	0.938	Pk Hr Factor	0.968	0.933	0.959
7 - 9 Volume	0	0	2936	2646	5582	4 - 6 Volume	0	0	3018	3682	6700
7 - 9 Peak Hour			07:30	08:00	08:00	4 - 6 Peak Hour			16:45	17:00	16:45
7 - 9 Pk Volume	0	0	1559	1462	2967	4 - 6 Pk Volume	0	0	1546	1897	3421
Pk Hr Factor	0.000	0.000	0.926	0.962	0.937	Pk Hr Factor	0.000	0.000	0.971	0.947	0.952

Prepared by NDS/ATD

Project #: CA19_4037_016 **City:** Clairemont

Location: Balboa Ave Bet. Mt Abernathy Ave & **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Balboa Ave Bet. Cannington Dr & Charger Blvd

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_017

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	24,543	24,878	49,421

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			53		55		108		12:00			447		465		912	
00:15			33		44		77		12:15			384		429		813	
00:30			28		49		77		12:30			457		478		935	
00:45			23	137	31	179	54	316	12:45			458	1746	381	1753	839	3499
01:00			15		23		38		13:00			442		406		848	
01:15			17		13		30		13:15			478		396		874	
01:30			22		27		49		13:30			466		372		838	
01:45			15	69	18	81	33	150	13:45			392	1778	461	1635	853	3413
02:00			14		9		23		14:00			440		392		832	
02:15			11		18		29		14:15			425		382		807	
02:30			12		9		21		14:30			429		368		797	
02:45			17	54	24	60	41	114	14:45			421	1715	381	1523	802	3238
03:00			13		7		20		15:00			409		412		821	
03:15			17		15		32		15:15			372		421		793	
03:30			25		24		49		15:30			410		391		801	
03:45			26	81	28	74	54	155	15:45			398	1589	461	1685	859	3274
04:00			23		12		35		16:00			343		444		787	
04:15			21		15		36		16:15			404		512		916	
04:30			56		21		77		16:30			411		429		840	
04:45			64	164	49	97	113	261	16:45			374	1532	438	1823	812	3355
05:00			76		39		115		17:00			399		484		883	
05:15			119		51		170		17:15			365		500		865	
05:30			124		76		200		17:30			449		493		942	
05:45			159	478	102	268	261	746	17:45			386	1599	549	2026	935	3625
06:00			166		104		270		18:00			396		487		883	
06:15			183		161		344		18:15			389		430		819	
06:30			255		195		450		18:30			328		397		725	
06:45			341	945	197	657	538	1602	18:45			324	1437	409	1723	733	3160
07:00			338		261		599		19:00			297		351		648	
07:15			435		309		744		19:15			319		359		678	
07:30			468		303		771		19:30			248		275		523	
07:45			420	1661	367	1240	787	2901	19:45			243	1107	284	1269	527	2376
08:00			438		347		785		20:00			271		276		547	
08:15			471		377		848		20:15			237		243		480	
08:30			453		367		820		20:30			223		242		465	
08:45			425	1787	373	1464	798	3251	20:45			191	922	239	1000	430	1922
09:00			387		392		779		21:00			242		232		474	
09:15			308		383		691		21:15			207		228		435	
09:30			331		391		722		21:30			165		182		347	
09:45			305	1331	340	1506	645	2837	21:45			160	774	195	837	355	1611
10:00			314		357		671		22:00			164		130		294	
10:15			302		358		660		22:15			142		140		282	
10:30			337		395		732		22:30			107		118		225	
10:45			396	1349	382	1492	778	2841	22:45			105	518	98	486	203	1004
11:00			357		356		713		23:00			80		88		168	
11:15			395		439		834		23:15			66		57		123	
11:30			373		437		810		23:30			40		71		111	
11:45			421	1546	478	1710	899	3256	23:45			38	224	74	290	112	514
TOTALS				9602		8828		18430	TOTALS				14941		16050		30991
SPLIT %				52.1%		47.9%		37.3%	SPLIT %				48.2%		51.8%		62.7%

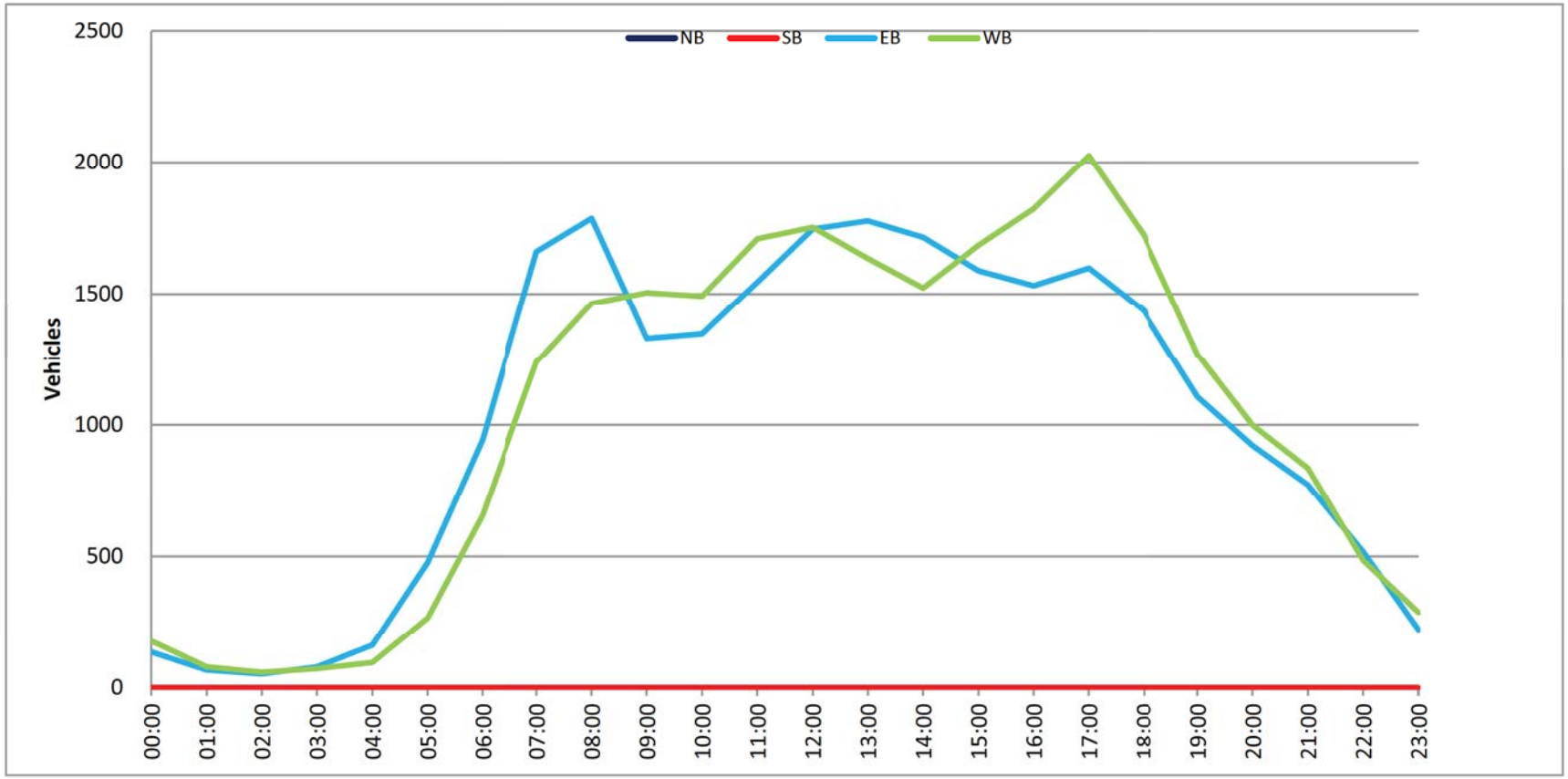
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	24,543	24,878	49,421

AM Peak Hour			07:30	11:45	11:45	PM Peak Hour		12:45	17:15	17:00
AM Pk Volume			1797	1850	3559	PM Pk Volume		1844	2029	3625
Pk Hr Factor			0.954	0.968	0.952	Pk Hr Factor		0.964	0.924	0.962
7 - 9 Volume	0	0	3448	2704	6152	4 - 6 Volume	0	3131	3849	6980
7 - 9 Peak Hour			07:30	08:00	08:00	4 - 6 Peak Hour		17:00	17:00	17:00
7 - 9 Pk Volume	0	0	1797	1464	3251	4 - 6 Pk Volume	0	1599	2026	3625
Pk Hr Factor	0.000	0.000	0.954	0.971	0.958	Pk Hr Factor	0.000	0.890	0.923	0.962

Prepared by NDS/ATD

Project #: CA19_4037_017 **City:** Clairemont

Location: Balboa Ave Bet. Cannington Dr & Charger **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Balboa Ave Bet. Charger Blvd & I 805 SB Ramps

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_018

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	31,043	30,803	61,846

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			62		75		137		12:00			510		569		1079	
00:15			49		56		105		12:15			466		543		1009	
00:30			40		52		92		12:30			471		527		998	
00:45			35	186	46	229	81	415	12:45			601	2048	474	2113	1075	4161
01:00			29		30		59		13:00			570		443		1013	
01:15			30		22		52		13:15			532		481		1013	
01:30			31		34		65		13:30			552		450		1002	
01:45			15	105	27	113	42	218	13:45			482	2136	525	1899	1007	4035
02:00			30		9		39		14:00			507		464		971	
02:15			18		21		39		14:15			496		484		980	
02:30			17		14		31		14:30			513		447		960	
02:45			24	89	28	72	52	161	14:45			484	2000	498	1893	982	3893
03:00			15		9		24		15:00			469		508		977	
03:15			21		15		36		15:15			475		509		984	
03:30			51		23		74		15:30			489		472		961	
03:45			42	129	32	79	74	208	15:45			441	1874	515	2004	956	3878
04:00			35		13		48		16:00			542		565		1107	
04:15			37		19		56		16:15			528		604		1132	
04:30			74		21		95		16:30			443		586		1029	
04:45			73	219	48	101	121	320	16:45			521	2034	592	2347	1113	4381
05:00			111		50		161		17:00			459		583		1042	
05:15			145		63		208		17:15			517		640		1157	
05:30			219		83		302		17:30			440		615		1055	
05:45			199	674	131	327	330	1001	17:45			481	1897	673	2511	1154	4408
06:00			203		132		335		18:00			400		537		937	
06:15			282		186		468		18:15			419		555		974	
06:30			379		227		606		18:30			444		494		938	
06:45			420	1284	275	820	695	2104	18:45			401	1664	525	2111	926	3775
07:00			476		340		816		19:00			387		467		854	
07:15			544		441		985		19:15			401		470		871	
07:30			665		436		1101		19:30			325		354		679	
07:45			721	2406	492	1709	1213	4115	19:45			349	1462	375	1666	724	3128
08:00			653		438		1091		20:00			285		330		615	
08:15			599		473		1072		20:15			326		309		635	
08:30			562		486		1048		20:30			339		324		663	
08:45			550	2364	497	1894	1047	4258	20:45			302	1252	310	1273	612	2525
09:00			477		478		955		21:00			272		296		568	
09:15			487		449		936		21:15			274		287		561	
09:30			507		435		942		21:30			215		239		454	
09:45			395	1866	410	1772	805	3638	21:45			242	1003	259	1081	501	2084
10:00			404		430		834		22:00			207		183		390	
10:15			451		408		859		22:15			114		182		296	
10:30			389		453		842		22:30			156		167		323	
10:45			400	1644	450	1741	850	3385	22:45			117	594	130	662	247	1256
11:00			422		453		875		23:00			99		114		213	
11:15			466		459		925		23:15			71		89		160	
11:30			439		514		953		23:30			73		104		177	
11:45			477	1804	572	1998	1049	3802	23:45			66	309	81	388	147	697
TOTALS				12770		10855		23625	TOTALS				18273		19948		38221
SPLIT %				54.1%		45.9%		38.2%	SPLIT %				47.8%		52.2%		61.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	31,043	30,803	61,846

AM Peak Hour			07:30		11:45		07:30		PM Peak Hour			12:45		17:00		17:00
AM Pk Volume			2638		2211		4477		PM Pk Volume			2255		2511		4408
Pk Hr Factor			0.915		0.966		0.923		Pk Hr Factor			0.938		0.933		0.952
7 - 9 Volume	0	0	4770		3603		8373		4 - 6 Volume	0	0	3931		4858		8789
7 - 9 Peak Hour			07:30		08:00		07:30		4 - 6 Peak Hour			16:00		17:00		17:00
7 - 9 Pk Volume	0	0	2638		1894		4477		4 - 6 Pk Volume	0	0	2034		2511		4408
Pk Hr Factor	0.000	0.000	0.915		0.953		0.923		Pk Hr Factor	0.000	0.000	0.938		0.933		0.952

Prepared by NDS/ATD

Project #: CA19_4037_018 **City:** Clairemont

Location: Balboa Ave Bet. Charger Blvd & I 805 SB **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Balboa Ave Bet. I 805 SB Ramps & I 805 NB Ramps

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_019

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	26,367	22,786	49,153

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			38		50		88		12:00			469		376		845	
00:15			26		43		69		12:15			467		380		847	
00:30			29		48		77		12:30			493		358		851	
00:45			22	115	37	178	59	293	12:45			520	1949	319	1433	839	3382
01:00			19		30		49		13:00			468		343		811	
01:15			18		20		38		13:15			495		318		813	
01:30			15		18		33		13:30			470		334		804	
01:45			19	71	32	100	51	171	13:45			424	1857	357	1352	781	3209
02:00			12		14		26		14:00			408		312		720	
02:15			13		26		39		14:15			471		349		820	
02:30			10		8		18		14:30			437		330		767	
02:45			18	53	19	67	37	120	14:45			437	1753	360	1351	797	3104
03:00			16		10		26		15:00			448		413		861	
03:15			20		8		28		15:15			443		358		801	
03:30			29		14		43		15:30			477		351		828	
03:45			33	98	10	42	43	140	15:45			486	1854	360	1482	846	3336
04:00			36		13		49		16:00			365		466		831	
04:15			37		15		52		16:15			372		553		925	
04:30			68		19		87		16:30			388		538		926	
04:45			78	219	27	74	105	293	16:45			360	1485	449	2006	809	3491
05:00			83		34		117		17:00			369		612		981	
05:15			147		36		183		17:15			359		568		927	
05:30			176		59		235		17:30			406		541		947	
05:45			198	604	73	202	271	806	17:45			341	1475	506	2227	847	3702
06:00			188		86		274		18:00			398		417		815	
06:15			246		119		365		18:15			390		400		790	
06:30			324		137		461		18:30			405		344		749	
06:45			419	1177	157	499	576	1676	18:45			340	1533	351	1512	691	3045
07:00			351		252		603		19:00			306		336		642	
07:15			398		329		727		19:15			326		288		614	
07:30			478		357		835		19:30			269		229		498	
07:45			495	1722	416	1354	911	3076	19:45			259	1160	253	1106	512	2266
08:00			466		345		811		20:00			250		270		520	
08:15			508		352		860		20:15			217		247		464	
08:30			478		400		878		20:30			229		237		466	
08:45			473	1925	383	1480	856	3405	20:45			186	882	244	998	430	1880
09:00			445		319		764		21:00			211		251		462	
09:15			403		303		706		21:15			180		253		433	
09:30			458		303		761		21:30			156		220		376	
09:45			408	1714	256	1181	664	2895	21:45			131	678	216	940	347	1618
10:00			349		246		595		22:00			131		149		280	
10:15			382		263		645		22:15			117		148		265	
10:30			382		301		683		22:30			87		127		214	
10:45			435	1548	283	1093	718	2641	22:45			86	421	82	506	168	927
11:00			457		290		747		23:00			57		86		143	
11:15			445		298		743		23:15			64		87		151	
11:30			478		327		805		23:30			46		89		135	
11:45			471	1851	361	1276	832	3127	23:45			56	223	65	327	121	550
TOTALS				11097		7546		18643	TOTALS				15270		15240		30510
SPLIT %				59.5%		40.5%		37.9%	SPLIT %				50.0%		50.0%		62.1%

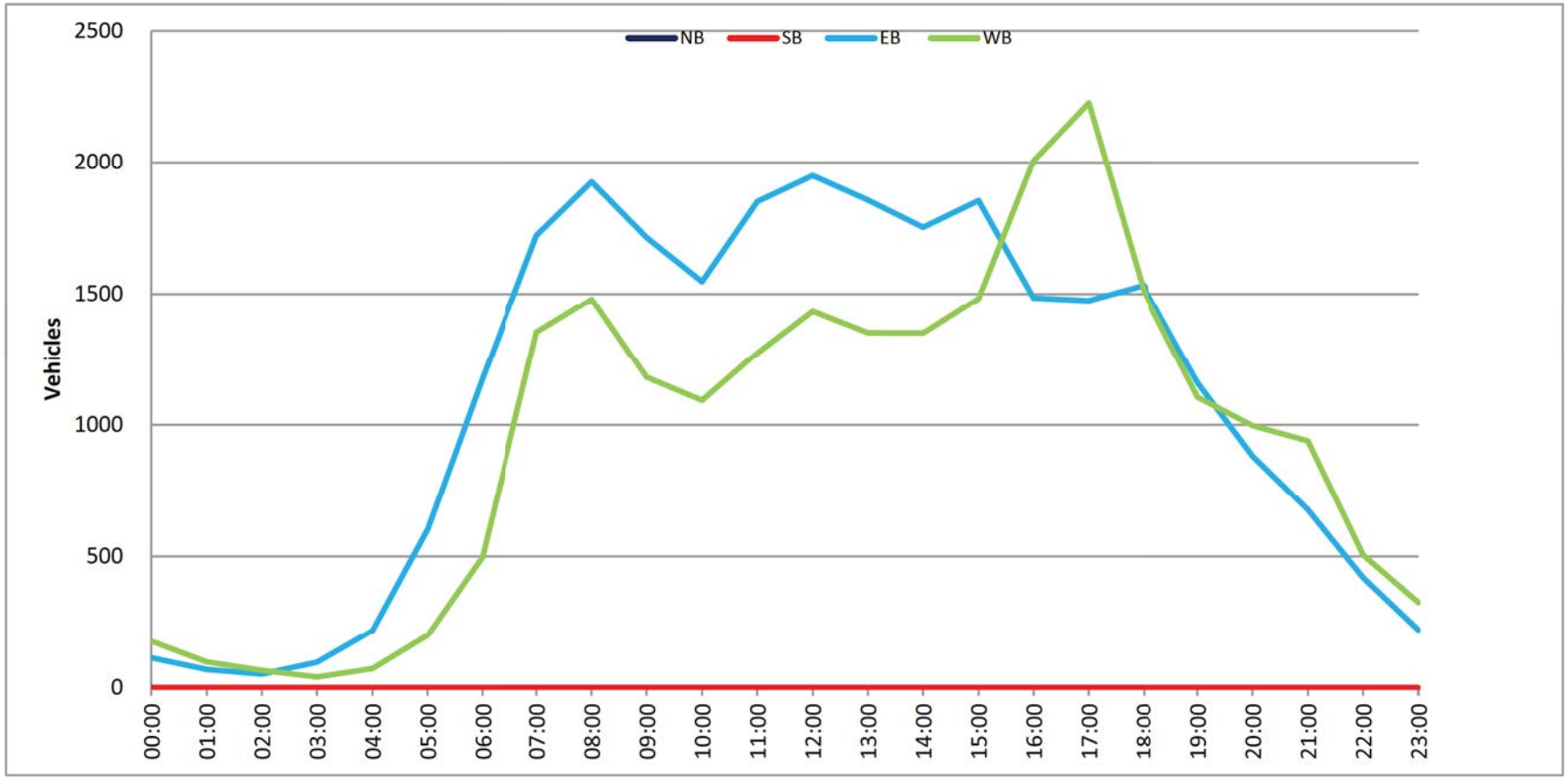
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	26,367	22,786	49,153

AM Peak Hour			07:30	07:45	07:45	PM Peak Hour	12:30	17:00	17:00
AM Pk Volume			1947	1513	3460	PM Pk Volume	1976	2227	3702
Pk Hr Factor			0.958	0.909	0.950	Pk Hr Factor	0.950	0.910	0.943
7 - 9 Volume	0	0	3647	2834	6481	4 - 6 Volume	0	0	2960	4233	7193
7 - 9 Peak Hour			07:30	07:45	07:45	4 - 6 Peak Hour			16:45	17:00	17:00
7 - 9 Pk Volume	0	0	1947	1513	3460	4 - 6 Pk Volume	0	0	1494	2227	3702
Pk Hr Factor	0.000	0.000	0.958	0.909	0.950	Pk Hr Factor	0.000	0.000	0.920	0.910	0.943

Prepared by NDS/ATD

Project #: CA19_4037_019 **City:** Clairemont

Location: Balboa Ave Bet. I 805 SB Ramps & I 805 NB **Date:** 1/29/2019



Prepared by NDS/ATD

VOLUME

Balboa Ave Bet. I 805 NB Ramps & Ruffner St

Day: Tuesday
Date: 1/29/2019

City: Clairemont
Project #: CA19_4037_020

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	23,552	27,676	51,228

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			32		54		86		12:00			386		529		915	
00:15			26		42		68		12:15			390		495		885	
00:30			27		42		69		12:30			401		491		892	
00:45			19	104	35	173	54	277	12:45			400	1577	492	2007	892	3584
01:00			16		32		48		13:00			385		487		872	
01:15			14		19		33		13:15			376		485		861	
01:30			19		23		42		13:30			371		499		870	
01:45			10	59	32	106	42	165	13:45			379	1511	481	1952	860	3463
02:00			10		16		26		14:00			325		484		809	
02:15			17		21		38		14:15			389		484		873	
02:30			11		10		21		14:30			329		478		807	
02:45			12	50	20	67	32	117	14:45			365	1408	464	1910	829	3318
03:00			18		12		30		15:00			346		555		901	
03:15			14		11		25		15:15			340		473		813	
03:30			34		16		50		15:30			373		523		896	
03:45			55	121	13	52	68	173	15:45			430	1489	491	2042	921	3531
04:00			61		26		87		16:00			408		552		960	
04:15			38		36		74		16:15			403		626		1029	
04:30			69		35		104		16:30			396		597		993	
04:45			63	231	57	154	120	385	16:45			356	1563	539	2314	895	3877
05:00			54		61		115		17:00			383		555		938	
05:15			108		69		177		17:15			399		568		967	
05:30			122		92		214		17:30			425		591		1016	
05:45			152	436	108	330	260	766	17:45			397	1604	535	2249	932	3853
06:00			156		128		284		18:00			355		413		768	
06:15			211		150		361		18:15			373		356		729	
06:30			267		187		454		18:30			325		310		635	
06:45			339	973	197	662	536	1635	18:45			317	1370	359	1438	676	2808
07:00			366		249		615		19:00			300		358		658	
07:15			415		318		733		19:15			302		332		634	
07:30			489		354		843		19:30			256		307		563	
07:45			520	1790	385	1306	905	3096	19:45			222	1080	294	1291	516	2371
08:00			506		370		876		20:00			221		300		521	
08:15			545		387		932		20:15			214		279		493	
08:30			474		386		860		20:30			187		315		502	
08:45			489	2014	368	1511	857	3525	20:45			170	792	269	1163	439	1955
09:00			351		380		731		21:00			183		297		480	
09:15			342		418		760		21:15			179		344		523	
09:30			327		395		722		21:30			134		254		388	
09:45			315	1335	383	1576	698	2911	21:45			132	628	224	1119	356	1747
10:00			331		330		661		22:00			106		188		294	
10:15			289		393		682		22:15			102		157		259	
10:30			315		413		728		22:30			97		133		230	
10:45			369	1304	363	1499	732	2803	22:45			83	388	96	574	179	962
11:00			319		429		748		23:00			56		84		140	
11:15			381		461		842		23:15			47		96		143	
11:30			400		472		872		23:30			51		90		141	
11:45			417	1517	481	1843	898	3360	23:45			54	208	68	338	122	546
TOTALS				9934		9279		19213	TOTALS				13618		18397		32015
SPLIT %				51.7%		48.3%		37.5%	SPLIT %				42.5%		57.5%		62.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	23,552	27,676	51,228

AM Peak Hour			07:30		11:45		11:45		PM Peak Hour			15:45		16:15		15:45	
AM Pk Volume			2060		1996		3590		PM Pk Volume			1637		2317		3903	
Pk Hr Factor			0.945		0.943		0.981		Pk Hr Factor			0.952		0.925		0.948	
7 - 9 Volume	0	0	3804		2817		6621		4 - 6 Volume	0	0	3167		4563		7730	
7 - 9 Peak Hour			07:30		07:45		07:45		4 - 6 Peak Hour			17:00		16:15		16:00	
7 - 9 Pk Volume	0	0	2060		1528		3573		4 - 6 Pk Volume	0	0	1604		2317		3877	
Pk Hr Factor	0.000	0.000	0.945		0.987		0.958		Pk Hr Factor	0.000	0.000	0.944		0.925		0.942	

Prepared by NDS/ATD

Project #: CA19_4037_020 **City:** Clairemont

Location: Balboa Ave Bet. I 805 NB Ramps & Ruffner **Date:** 1/29/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Clairemont Mesa Blvd
City: San Diego
Control: Signalized

Project ID: 19-04036-001
Date: 1/29/2019

Total

NS/EW Streets:	Genesee Ave				Genesee Ave				Clairemont Mesa Blvd				Clairemont Mesa Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	0	0	1	2	0	0	2	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	31	267	13	0	17	41	8	2	51	108	19	3	17	115	46	0	738
7:15 AM	30	279	21	0	24	70	11	5	61	134	33	1	21	127	58	4	879
7:30 AM	23	300	8	0	28	87	14	0	72	131	35	0	26	145	71	1	941
7:45 AM	29	229	12	0	20	88	28	2	43	85	29	2	25	138	88	6	824
8:00 AM	29	266	15	0	20	96	18	0	55	90	27	2	22	108	73	1	822
8:15 AM	34	251	18	0	32	81	29	1	61	110	28	1	23	118	115	0	902
8:30 AM	49	256	13	0	25	95	26	3	44	129	27	0	30	145	72	3	917
8:45 AM	49	228	21	0	29	110	27	2	48	108	47	3	31	149	60	5	917
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	274	2076	121	0	195	668	161	15	435	895	245	12	195	1045	583	20	6940
APPROACH %'s :	11.09%	84.01%	4.90%	0.00%	18.77%	64.29%	15.50%	1.44%	27.41%	56.40%	15.44%	0.76%	10.58%	56.70%	31.63%	1.09%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	161	1001	67	0	106	382	100	6	208	437	129	6	106	520	320	9	3558
PEAK HR FACTOR :	0.821	0.941	0.798	0.000	0.828	0.868	0.862	0.500	0.852	0.847	0.686	0.500	0.855	0.872	0.696	0.450	0.970
		0.966				0.884				0.947				0.933			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	0	0	1	2	0	0	2	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	71	97	28	0	29	168	21	0	30	152	76	2	61	218	17	2	972
4:15 PM	69	91	19	0	27	208	25	1	36	162	90	4	47	189	21	3	992
4:30 PM	73	108	27	0	31	210	26	2	35	155	69	1	55	176	34	4	1006
4:45 PM	71	82	29	0	38	235	21	0	40	162	57	4	41	184	27	3	994
5:00 PM	73	99	16	0	43	205	27	1	35	159	65	1	42	171	21	5	963
5:15 PM	57	119	24	0	41	231	29	0	30	145	67	5	49	200	26	6	1029
5:30 PM	52	93	37	0	38	207	24	1	37	196	62	1	54	182	31	1	1016
5:45 PM	65	81	18	0	31	196	22	2	28	166	60	8	38	179	24	5	923
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	531	770	198	0	278	1660	195	7	271	1297	546	26	387	1499	201	29	7895
APPROACH %'s :	35.42%	51.37%	13.21%	0.00%	12.99%	77.57%	9.11%	0.33%	12.66%	60.61%	25.51%	1.21%	18.29%	70.84%	9.50%	1.37%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	253	393	106	0	160	878	101	2	142	662	251	11	186	737	105	15	4002
PEAK HR FACTOR :	0.866	0.826	0.716	0.000	0.930	0.934	0.871	0.500	0.888	0.844	0.937	0.550	0.861	0.921	0.847	0.625	0.972
		0.940				0.948				0.900				0.928			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Clairemont Mesa Blvd
City: San Diego
Control: Signalized

Project ID: 19-04036-001
Date: 1/29/2019

Bikes

NS/EW Streets:	Genesee Ave				Genesee Ave				Clairemont Mesa Blvd				Clairemont Mesa Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	0	0	1	2	0	0	2	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
7:30 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	4	0	0	1	2	0	0	0	3	0	0	1	1	0	0	12
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	33.33%	66.67%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	1	0	0	0	2	0	0	1	1	0	0	6
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.250	0.250	0.000	0.000	0.750
		0.250				0.250				0.500				0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	0	0	1	2	0	0	2	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	3	0	0	0	3	2	0	0	1	1	0	11
APPROACH %'s :					25.00%	75.00%	0.00%	0.00%	0.00%	60.00%	40.00%	0.00%	0.00%	50.00%	50.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	2	0	0	0	2	1	0	0	1	1	0	7
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.250	0.250	0.000	0.438
						0.500				0.750				0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Clairemont Mesa Blvd
City: San Diego
Project ID: 19-04036-001
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Genesee Ave		Genesee Ave		Clairemont Mesa Blvd		Clairemont Mesa Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	6	0	0	0	1	3	1	3	14
7:15 AM	4	1	1	0	0	2	0	1	9
7:30 AM	5	2	0	1	2	1	3	1	15
7:45 AM	1	2	2	0	0	1	0	0	6
8:00 AM	8	4	0	1	2	0	1	2	18
8:15 AM	3	1	4	2	1	1	0	1	13
8:30 AM	2	1	3	1	0	1	0	0	8
8:45 AM	4	2	1	0	0	0	0	3	10
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	33	13	11	5	6	9	5	11	93
APPROACH %'s :	71.74%	28.26%	68.75%	31.25%	40.00%	60.00%	31.25%	68.75%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	17	8	8	4	3	2	1	6	49
PEAK HR FACTOR :	0.531	0.500	0.500	0.500	0.375	0.500	0.250	0.500	0.681
	0.521		0.500		0.625		0.583		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	5	3	3	2	0	1	1	1	16
4:15 PM	4	4	0	0	0	4	2	4	18
4:30 PM	2	4	4	0	1	1	0	0	12
4:45 PM	7	1	4	1	1	4	2	1	21
5:00 PM	1	1	2	2	1	3	1	0	11
5:15 PM	1	1	4	1	0	0	1	4	12
5:30 PM	0	2	4	0	2	2	1	1	12
5:45 PM	6	1	0	0	0	0	1	0	8
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	26	17	21	6	5	15	9	11	110
APPROACH %'s :	60.47%	39.53%	77.78%	22.22%	25.00%	75.00%	45.00%	55.00%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	9	5	14	4	4	9	5	6	56
PEAK HR FACTOR :	0.321	0.625	0.875	0.500	0.500	0.563	0.625	0.375	0.667
	0.438		0.900		0.650		0.550		

Prepared by National Data & Surveying Services

Genesee Ave & Clairemont Mesa Blvd

Peak Hour Turning Movement Count

ID: 19-04036-001
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	04:00 PM - 06:00 PM

SOUTHBOUND — Genesee Ave

AM	100	382	106	6	1535	AM
NOON	0	0	0	0	0	NOON
PM	101	878	160	2	642	PM

EASTBOUND — Clairemont Mesa Blvd

AM	NOON	PM	
787	0	1102	
6	0	11	0
208	0	142	2
437	0	662	2
129	0	251	0
AM	NOON	PM	

WESTBOUND — Clairemont Mesa Blvd

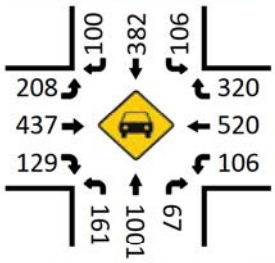
PM	NOON	AM	
105	0	320	0
737	0	520	2
186	0	106	2
15	0	9	0
943	0	619	
PM	NOON	AM	

NORTHBOUND — Genesee Ave

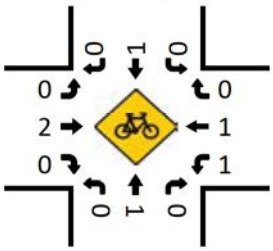
PM	1315	0	253	393	106	PM
NOON	0	0	0	0	0	NOON
AM	617	0	161	1001	67	AM

CONTROL			
Signalized			
TEV	3558 AM	0 NOON	4002 PM
PHF	0.97		0.97

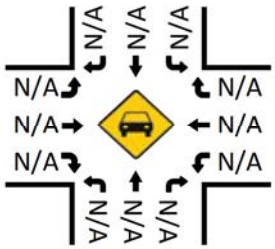
Total Vehicles (AM)



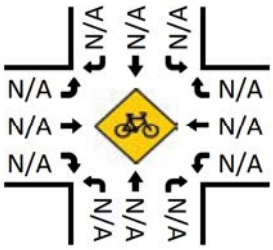
Bikes (AM)



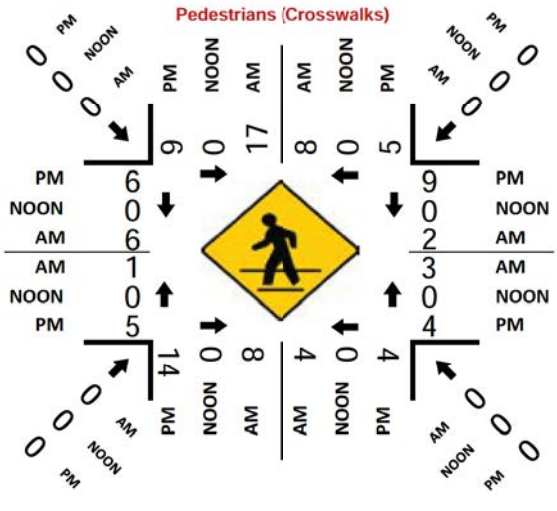
Total Vehicles (Noon)



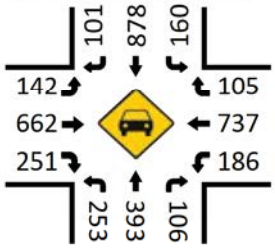
Bikes (NOON)



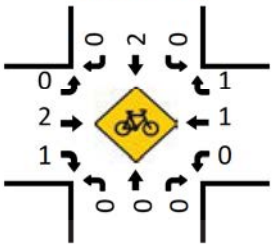
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Bannock Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-002
Date: 1/29/2019

Total

NS/EW Streets:	Genesee Ave				Genesee Ave				Bannock Ave				Bannock Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	9	282	1	0	0	89	6	1	9	0	8	0	1	0	2	0	408
7:15 AM	7	265	0	0	0	147	7	0	2	0	10	0	6	0	4	0	448
7:30 AM	31	326	0	1	1	131	11	0	9	1	22	0	2	4	3	0	542
7:45 AM	17	273	0	1	3	133	2	0	11	1	20	0	4	3	0	0	468
8:00 AM	9	310	3	0	1	120	1	0	3	1	15	0	3	2	5	0	473
8:15 AM	11	300	0	1	1	113	6	1	4	0	9	0	6	1	5	0	458
8:30 AM	3	322	1	2	1	115	3	0	8	0	14	0	1	1	3	0	474
8:45 AM	10	300	0	0	2	158	4	0	2	0	9	0	2	1	3	0	491
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	97	2378	5	5	9	1006	40	2	48	3	107	0	25	12	25	0	3762
APPROACH %'s :	3.90%	95.69%	0.20%	0.20%	0.85%	95.18%	3.78%	0.19%	30.38%	1.90%	67.72%	0.00%	40.32%	19.35%	40.32%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	68	1209	3	3	6	497	20	1	27	3	66	0	15	10	13	0	1941
PEAK HR FACTOR :	0.548	0.927	0.250	0.750	0.500	0.934	0.455	0.250	0.614	0.750	0.750	0.000	0.625	0.625	0.650	0.000	0.895
	0.896				0.916				0.750				0.792				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	13	201	0	0	2	281	6	1	3	3	21	0	1	1	2	0	535
4:15 PM	8	192	1	6	2	314	9	1	3	0	22	0	1	2	0	0	561
4:30 PM	7	210	0	1	0	319	4	0	3	0	20	0	3	0	1	0	568
4:45 PM	22	194	1	3	2	341	6	1	3	0	16	0	3	1	0	0	593
5:00 PM	19	172	0	2	4	299	4	0	8	5	26	0	5	0	2	0	546
5:15 PM	22	181	2	1	2	331	6	0	5	2	19	0	3	0	0	0	574
5:30 PM	21	160	3	2	5	321	4	0	5	0	27	0	4	1	4	0	557
5:45 PM	18	178	0	0	2	293	3	0	4	1	15	0	2	0	1	0	517
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	130	1488	7	15	19	2499	42	3	34	11	166	0	22	5	10	0	4451
APPROACH %'s :	7.93%	90.73%	0.43%	0.91%	0.74%	97.50%	1.64%	0.12%	16.11%	5.21%	78.67%	0.00%	59.46%	13.51%	27.03%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	70	757	3	7	8	1290	20	1	19	7	81	0	14	1	3	0	2281
PEAK HR FACTOR :	0.795	0.901	0.375	0.583	0.500	0.946	0.833	0.250	0.594	0.350	0.779	0.000	0.700	0.250	0.375	0.000	0.962
	0.951				0.942				0.686				0.643				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Bannock Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-002
Date: 1/29/2019

Bikes

NS/EW Streets:	Genesee Ave				Genesee Ave				Bannock Ave				Bannock Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	7	0	0	0	2	0	0	1	0	0	0	0	0	0	0	10
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4
PEAK HR FACTOR :	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
		0.375								0.250							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	3
5:30 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	3
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	1	7	1	0	0	0	1	0	0	0	2	0	13
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	11.11%	77.78%	11.11%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	3	0	0	0	0	0	0	0	0	1	0	5
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.417
		0.250				0.750								0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Bannock Ave
City: San Diego
Project ID: 19-04036-002
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Genesee Ave		Genesee Ave		Bannock Ave		Bannock Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	1	0	0	0	0	2	3
7:15 AM	0	2	1	0	1	1	0	0	5
7:30 AM	0	0	0	0	0	0	1	0	1
7:45 AM	1	0	0	2	0	0	0	0	3
8:00 AM	1	2	2	0	0	0	0	1	6
8:15 AM	0	0	0	0	1	0	0	1	2
8:30 AM	0	1	0	1	1	0	0	0	3
8:45 AM	0	1	1	3	0	0	1	1	7
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	6	5	6	3	1	2	5	30
APPROACH %'s :	25.00%	75.00%	45.45%	54.55%	75.00%	25.00%	28.57%	71.43%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	2	2	2	2	1	0	1	2	12
PEAK HR FACTOR :	0.500	0.250	0.250	0.250	0.250		0.250	0.500	0.500
	0.333		0.500		0.250		0.750		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	1	5	0	1	0	0	1	8
4:15 PM	0	1	1	1	0	0	0	1	4
4:30 PM	2	2	0	0	1	1	1	3	10
4:45 PM	0	0	1	0	0	0	0	1	2
5:00 PM	0	1	1	3	0	0	2	1	8
5:15 PM	0	1	1	0	0	0	1	0	3
5:30 PM	0	1	0	3	0	0	0	1	5
5:45 PM	1	0	0	1	0	1	0	0	3
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	3	7	9	8	2	2	4	8	43
APPROACH %'s :	30.00%	70.00%	52.94%	47.06%	50.00%	50.00%	33.33%	66.67%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	2	4	3	3	1	1	4	5	23
PEAK HR FACTOR :	0.250	0.500	0.750	0.250	0.250	0.250	0.500	0.417	0.575
	0.375		0.375		0.250		0.563		

Prepared by National Data & Surveying Services

Genesee Ave & Bannock Ave

Peak Hour Turning Movement Count

ID: 19-04036-002
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND (Genesee Ave)

AM	20	497	6	1	1250	AM
NOON	0	0	0	0	0	NOON
PM	20	1290	8	1	780	PM

EASTBOUND (Bannock Ave)

AM	NOON	PM	
98	0	91	
0	0	0	0
27	0	19	0
3	0	7	1
66	0	81	0

WESTBOUND (Bannock Ave)

PM	NOON	AM	
3	0	13	0
1	0	10	1
14	0	15	0
0	0	0	0
18	0	12	

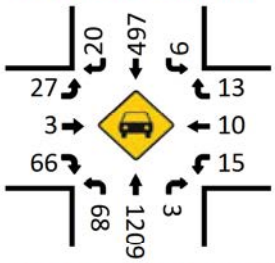
NORTHBOUND (Genesee Ave)

PM	1392	7	70	757	3	PM
NOON	0	0	0	0	0	NOON
AM	581	3	68	1209	3	AM

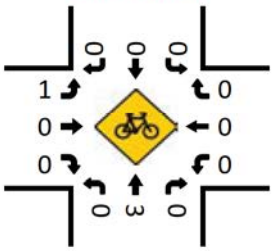
CONTROL: Signalized

TEV	1941 AM	0 NOON	2281 PM
PHF	0.90		0.96

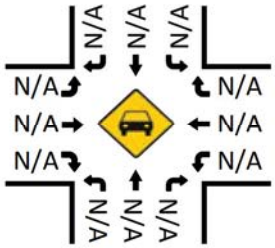
Total Vehicles (AM)



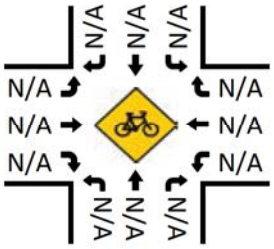
Bikes (AM)



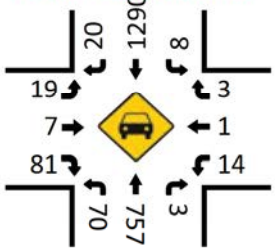
Total Vehicles (Noon)



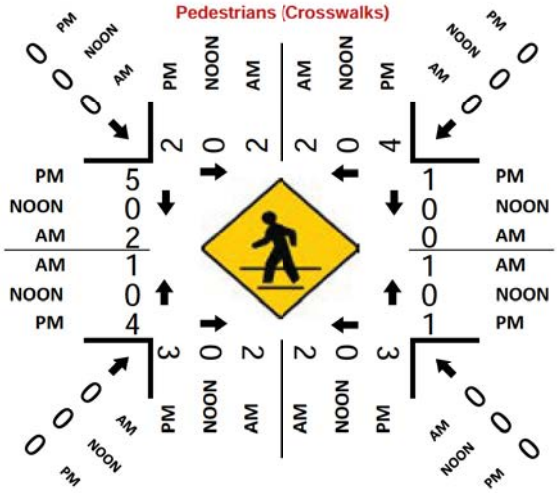
Bikes (NOON)



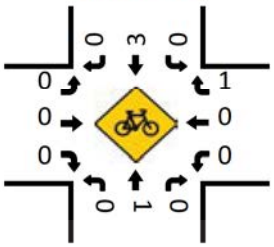
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Chateau Dr
City: San Diego
Control: Signalized

Project ID: 19-04036-003
Date: 1/29/2019

Total

NS/EW Streets:	Genesee Ave				Genesee Ave				Chateau Dr				Chateau Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	252	10	0	6	78	0	0	0	0	0	0	4	0	23	0	373
7:15 AM	0	240	4	0	5	140	0	0	0	0	0	0	10	0	29	0	428
7:30 AM	0	350	20	0	5	145	0	0	0	0	0	0	10	0	34	0	564
7:45 AM	0	246	16	0	6	166	0	0	0	0	0	0	15	0	22	0	471
8:00 AM	0	260	11	0	8	134	0	0	0	0	0	0	11	0	27	0	451
8:15 AM	0	303	15	0	8	120	0	1	0	0	0	0	10	0	17	0	474
8:30 AM	0	290	8	0	3	126	0	1	0	0	0	0	9	0	24	0	461
8:45 AM	0	286	11	0	2	165	0	0	0	0	0	0	4	0	21	0	489
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2227	95	0	43	1074	0	2	0	0	0	0	73	0	197	0	3711
APPROACH %'s :	0.00%	95.91%	4.09%	0.00%	3.84%	95.98%	0.00%	0.18%					27.04%	0.00%	72.96%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	1159	62	0	27	565	0	1	0	0	0	0	46	0	100	0	1960
PEAK HR FACTOR :	0.000	0.828	0.775	0.000	0.844	0.851	0.000	0.250	0.000	0.000	0.000	0.000	0.767	0.000	0.735	0.000	0.869
		0.825				0.862								0.830			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	192	15	0	20	285	0	0	0	0	0	0	11	0	15	0	538
4:15 PM	0	202	8	0	16	324	0	1	0	0	0	0	8	0	19	0	578
4:30 PM	0	195	17	0	18	318	0	0	0	0	0	0	10	0	13	0	571
4:45 PM	0	204	16	0	18	333	0	0	0	0	0	0	15	0	14	0	600
5:00 PM	0	179	10	0	21	312	0	0	0	0	0	0	11	0	13	0	546
5:15 PM	0	186	10	0	19	321	0	1	0	0	0	0	8	0	13	0	558
5:30 PM	0	167	15	0	21	330	0	0	0	0	0	0	11	0	12	0	556
5:45 PM	0	177	12	0	22	288	0	1	0	0	0	0	14	0	13	0	527
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1502	103	0	155	2511	0	3	0	0	0	0	88	0	112	0	4474
APPROACH %'s :	0.00%	93.58%	6.42%	0.00%	5.81%	94.08%	0.00%	0.11%					44.00%	0.00%	56.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	780	51	0	73	1287	0	1	0	0	0	0	44	0	59	0	2295
PEAK HR FACTOR :	0.000	0.956	0.750	0.000	0.869	0.966	0.000	0.250	0.000	0.000	0.000	0.000	0.733	0.000	0.776	0.000	0.956
		0.944				0.969								0.888			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Chateau Dr
City: San Diego
Control: Signalized

Project ID: 19-04036-003
Date: 1/29/2019

Bikes

NS/EW Streets:	Genesee Ave				Genesee Ave				Chateau Dr				Chateau Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	8
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
PEAK HR FACTOR :	0.000	0.375	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
		0.375				0.250											

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	3	0	0	0	8	0	0	0	0	0	0	0	0	0	0	11
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	7
PEAK HR FACTOR :	0.00	0.500	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583
		0.500				0.625											

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Chateau Dr
City: San Diego
Project ID: 19-04036-003
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Genesee Ave		Genesee Ave		Chateau Dr		Chateau Dr		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	1	2	0	0	0	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	0	0	0	0	1
8:45 AM	1	0	0	0	1	0	0	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	4	0	0	1	0	0	0	7
APPROACH %'s :	33.33%	66.67%			100.00%	0.00%			
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	1	3	0	0	0	0	0	0	4
PEAK HR FACTOR :	0.250	0.375							0.333
	0.333								

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	1	0	0	0	2	0	0	3
4:15 PM	1	4	0	0	1	1	0	0	7
4:30 PM	0	1	0	0	0	0	0	0	1
4:45 PM	2	2	0	0	1	1	0	0	6
5:00 PM	1	0	0	0	0	0	0	0	1
5:15 PM	5	0	0	0	0	0	0	0	5
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	9	8	0	0	2	4	0	0	23
APPROACH %'s :	52.94%	47.06%			33.33%	66.67%			
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	4	7	0	0	2	2	0	0	15
PEAK HR FACTOR :	0.500	0.438			0.500	0.500			0.536
	0.550				0.500				

Prepared by National Data & Surveying Services

Genesee Ave & Chateau Dr

Peak Hour Turning Movement Count

ID: 19-04036-003
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS		COUNT PERIODS
07:30 AM - 08:30 AM	AM	07:00 AM - 09:00 AM
NONE	NOON	NONE
04:15 PM - 05:15 PM	PM	04:00 PM - 06:00 PM

Genesee Ave — SOUTHBOUND

AM	0	565	27	1	1260	AM
NOON	0	0	0	0	0	NOON
PM	0	1287	73	1	840	PM

0 2 1 0

Chateau Dr — EASTBOUND

AM	NOON	PM	
0	0	0	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

CONTROL

Signalized

	AM	NOON	PM
TEV	1960	0	2295
PHF	0.87		0.96

Chateau Dr — WESTBOUND

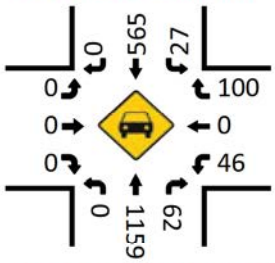
	PM	NOON	AM
0	59	0	100
1	0	0	0
0	44	0	46
0	0	0	0
	124	0	89
	PM	NOON	AM

0 0 2 0

Genesee Ave — NORTHBOUND

PM	1331	0	0	780	51	PM
NOON	0	0	0	0	0	NOON
AM	611	0	0	1159	62	AM

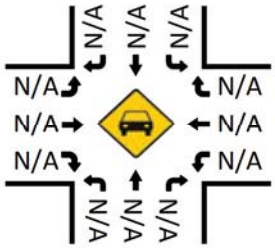
Total Vehicles (AM)



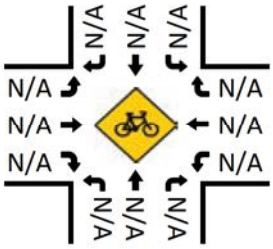
Bikes (AM)



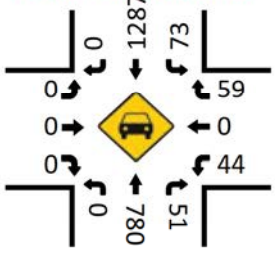
Total Vehicles (Noon)



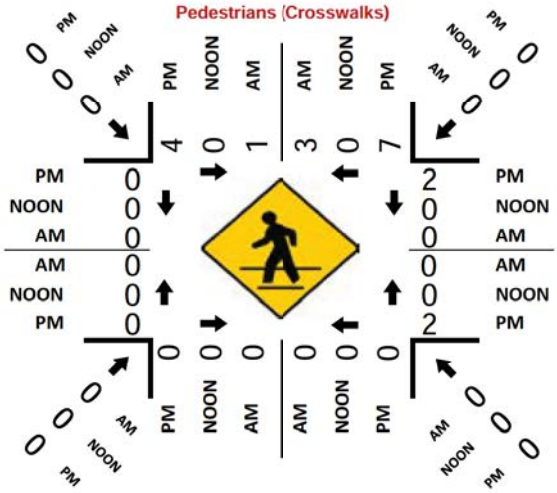
Bikes (NOON)



Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Mt Herbert Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-004
Date: 1/29/2019

Total

NS/EW Streets:	Genesee Ave				Genesee Ave				Mt Herbert Ave				Mt Herbert Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	6	222	2	0	0	81	10	0	49	1	14	0	6	1	8	0	400
7:15 AM	5	192	0	0	3	137	16	0	35	1	9	0	6	1	1	0	406
7:30 AM	3	303	2	0	1	125	15	0	61	0	10	0	3	0	15	0	538
7:45 AM	5	229	0	0	4	165	14	1	30	0	4	0	4	0	6	0	462
8:00 AM	2	230	1	1	2	142	6	0	41	0	6	0	2	0	9	0	442
8:15 AM	8	270	1	0	1	113	12	0	32	0	6	0	4	0	9	0	456
8:30 AM	7	247	1	0	0	127	14	0	41	1	3	0	5	2	4	0	452
8:45 AM	6	265	1	0	2	144	15	0	30	0	8	0	3	0	4	0	478
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	42	1958	8	1	13	1034	102	1	319	3	60	0	33	4	56	0	3634
APPROACH %'s :	2.09%	97.46%	0.40%	0.05%	1.13%	89.91%	8.87%	0.09%	83.51%	0.79%	15.71%	0.00%	35.48%	4.30%	60.22%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	18	1032	4	1	8	545	47	1	164	0	26	0	13	0	39	0	1898
PEAK HR FACTOR :	0.563	0.851	0.500	0.250	0.500	0.826	0.783	0.250	0.672	0.000	0.650	0.000	0.813	0.000	0.650	0.000	0.882
		0.856				0.817				0.669				0.722			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	6	189	4	0	1	276	30	0	15	0	8	0	5	0	0	0	534
4:15 PM	5	176	3	2	5	289	36	0	25	0	9	0	2	0	1	0	553
4:30 PM	3	185	6	0	1	287	26	0	21	2	9	0	4	1	9	0	554
4:45 PM	4	193	3	0	4	321	32	0	26	1	12	0	4	2	3	0	605
5:00 PM	7	165	3	1	2	287	35	0	17	3	13	0	5	2	3	0	543
5:15 PM	7	173	2	1	4	283	39	0	20	3	7	0	4	2	4	0	549
5:30 PM	8	167	3	0	4	307	32	2	21	1	4	0	6	1	2	0	558
5:45 PM	9	142	4	1	4	258	40	0	37	3	8	0	3	0	6	0	515
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	49	1390	28	5	25	2308	270	2	182	13	70	0	33	8	28	0	4411
APPROACH %'s :	3.33%	94.43%	1.90%	0.34%	0.96%	88.60%	10.36%	0.08%	68.68%	4.91%	26.42%	0.00%	47.83%	11.59%	40.58%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	19	719	15	3	12	1184	129	0	89	6	43	0	15	5	16	0	2255
PEAK HR FACTOR :	0.679	0.931	0.625	0.375	0.600	0.922	0.896	0.000	0.856	0.500	0.827	0.000	0.750	0.625	0.444	0.000	0.932
		0.945				0.928				0.885				0.643			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Mt Herbert Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-004
Date: 1/29/2019

Bikes

NS/EW Streets:	Genesee Ave				Genesee Ave				Mt Herbert Ave				Mt Herbert Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	4	0	0	0	2	1	0	0	0	0	0	0	0	0	0	7
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	66.67%	33.33%	0.00%									
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	3	0	0	0	1	1	0	0	0	0	0	0	0	0	0	5
PEAK HR FACTOR :	0.000	0.375	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625
		0.375				0.500											

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	5	3	0	1	0	0	0	0	0	0	0	10
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	62.50%	37.50%	0.00%	100.00%	0.00%	0.00%	0.00%					
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	3	1	0	1	0	0	0	0	0	0	0	5
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.750	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417
						0.500				0.250							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Mt Herbert Ave
City: San Diego
Project ID: 19-04036-004
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Genesee Ave		Genesee Ave		Mt Herbert Ave		Mt Herbert Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	2	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	4	0	0	0	0	3	7
8:15 AM	0	2	0	0	0	0	0	0	2
8:30 AM	1	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	1	0	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	3	2	4	0	1	0	0	3	13
APPROACH %'s :	60.00%	40.00%	100.00%	0.00%	100.00%	0.00%	0.00%	100.00%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	2	4	0	0	0	0	3	9
PEAK HR FACTOR :		0.250	0.250					0.250	0.321
	0.250		0.250				0.250		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	1	0	2	1	0	0	4
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	1
4:45 PM	0	1	1	1	0	0	1	0	4
5:00 PM	1	1	0	0	0	1	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	0	0	0	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	2	2	1	2	3	1	0	13
APPROACH %'s :	50.00%	50.00%	66.67%	33.33%	40.00%	60.00%	100.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	1	2	1	1	0	2	1	0	8
PEAK HR FACTOR :	0.250	0.500	0.250	0.250		0.500	0.250		0.500
	0.375		0.250		0.500		0.250		

Prepared by National Data & Surveying Services

Genesee Ave & Mt Herbert Ave

Peak Hour Turning Movement Count

ID: 19-04036-004
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Genesee Ave — SOUTHBOUND

AM	47	545	8	1	1236	AM
NOON	0	0	0	0	0	NOON
PM	129	1184	12	0	824	PM

Mt Herbert Ave — EASTBOUND

AM	NOON	PM		
65	0	153	⇦	
0	0	0	↶	0
164	0	89	↱	0
0	0	6	→	1
26	0	43	↳	0
AM	NOON	PM		

CONTROL

Signalized

TEV	1898 AM	0 NOON	2255 PM
PHF	0.88		0.93

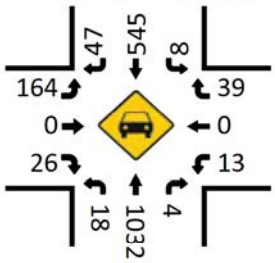
Mt Herbert Ave — WESTBOUND

PM	NOON	AM		
16	0	39	↰	0
5	0	0	←	1
15	0	13	↰	0
0	0	0	↰	0
33	0	12	⇨	
PM	NOON	AM		

Genesee Ave — NORTHBOUND

PM	1245	3	19	719	15	PM
NOON	0	0	0	0	0	NOON
AM	585	1	18	1032	4	AM

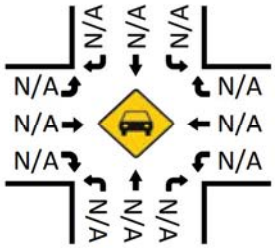
Total Vehicles (AM)



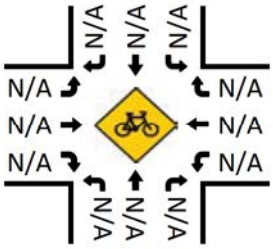
Bikes (AM)



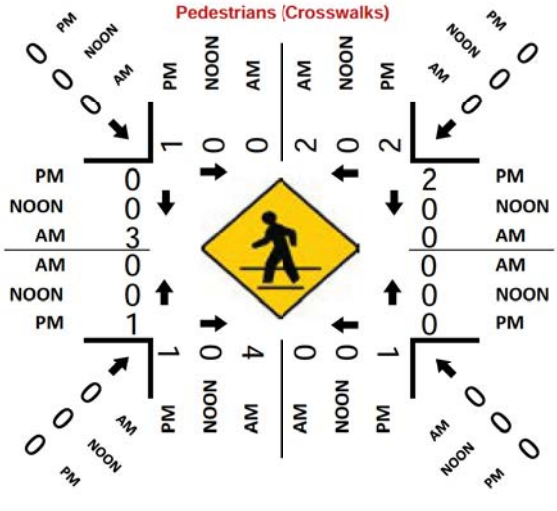
Total Vehicles (Noon)



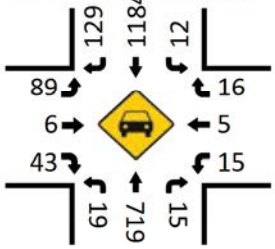
Bikes (NOON)



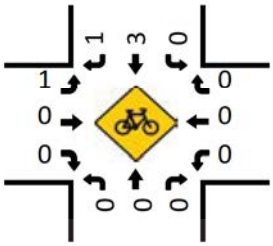
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Derrick Dr
City: San Diego
Control: Signalized

Project ID: 19-04036-005
Date: 1/29/2019

Total

NS/EW Streets:	Genesee Ave				Genesee Ave				Derrick Dr				Derrick Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	173	20	4	22	78	5	0	7	4	6	0	36	1	23	0	381
7:15 AM	9	201	37	4	19	126	3	3	6	3	4	1	28	4	18	0	466
7:30 AM	7	268	46	1	13	127	5	0	3	6	2	0	29	4	20	0	531
7:45 AM	9	208	46	1	18	148	6	4	6	4	8	0	41	4	18	0	521
8:00 AM	9	229	35	1	24	118	6	0	3	3	7	0	36	4	18	0	493
8:15 AM	8	228	36	3	12	109	0	2	5	4	2	0	50	3	18	0	480
8:30 AM	6	273	55	2	20	114	3	2	3	1	8	0	34	0	18	0	539
8:45 AM	7	222	51	5	20	113	5	5	4	4	8	0	40	3	22	0	509
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	57	1802	326	21	148	933	33	16	37	29	45	1	294	23	155	0	3920
APPROACH %'s :	2.58%	81.69%	14.78%	0.95%	13.10%	82.57%	2.92%	1.42%	33.04%	25.89%	40.18%	0.89%	62.29%	4.87%	32.84%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	32	938	172	7	74	489	15	8	17	12	25	0	161	11	72	0	2033
PEAK HR FACTOR :	0.889	0.859	0.782	0.583	0.771	0.826	0.625	0.500	0.708	0.750	0.781	0.000	0.805	0.688	1.000	0.000	0.943
		0.855				0.832				0.750				0.859			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	13	187	78	3	36	241	7	5	7	5	13	0	55	2	24	0	676
4:15 PM	12	156	64	2	25	252	10	3	4	7	7	0	56	6	21	0	625
4:30 PM	9	171	62	1	31	272	12	3	11	10	8	0	61	9	23	0	683
4:45 PM	10	177	60	3	38	225	17	4	9	7	6	0	63	9	20	0	648
5:00 PM	13	139	56	0	40	244	8	7	15	9	15	0	56	10	18	0	630
5:15 PM	7	165	46	2	33	237	15	3	6	9	10	0	51	7	15	0	606
5:30 PM	11	151	58	5	36	221	7	3	9	13	8	0	47	10	7	0	586
5:45 PM	18	149	47	0	34	219	9	4	9	13	10	0	45	8	13	0	578
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	93	1295	471	16	273	1911	85	32	70	73	77	0	434	61	141	0	5032
APPROACH %'s :	4.96%	69.07%	25.12%	0.85%	11.86%	83.05%	3.69%	1.39%	31.82%	33.18%	35.00%	0.00%	68.24%	9.59%	22.17%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	44	691	264	9	130	990	46	15	31	29	34	0	235	26	88	0	2632
PEAK HR FACTOR :	0.846	0.924	0.846	0.750	0.855	0.910	0.676	0.750	0.705	0.725	0.654	0.000	0.933	0.722	0.917	0.000	0.963
		0.897				0.928				0.810				0.938			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Derrick Dr
City: San Diego
Control: Signalized

Project ID: 19-04036-005
Date: 1/29/2019

Bikes

NS/EW Streets:	Genesee Ave				Genesee Ave				Derrick Dr				Derrick Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	4	0	0	0	2	0	0	0	0	0	0	2	0	0	0	8
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500
		0.500												0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	1	0	0	4	0	0	0	0	0	0	0	0	1	0	7
APPROACH %'s :	0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	1	1	0	0	3	0	0	0	0	0	0	0	0	0	0	5
PEAK HR FACTOR :	0.00	0.250	0.250	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625
		0.500				0.750											

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Derrick Dr
City: San Diego
Project ID: 19-04036-005
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Genesee Ave		Genesee Ave		Derrick Dr		Derrick Dr		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	3	1	0	0	1	2	7
7:15 AM	0	0	1	0	0	0	0	0	1
7:30 AM	0	1	1	1	1	2	0	0	6
7:45 AM	2	0	2	4	1	1	0	0	10
8:00 AM	2	3	0	2	0	1	0	0	8
8:15 AM	2	0	0	0	4	4	1	0	11
8:30 AM	0	0	1	2	0	0	1	0	4
8:45 AM	1	0	0	0	0	1	0	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	7	4	8	10	6	9	3	2	49
APPROACH %'s :	63.64%	36.36%	44.44%	55.56%	40.00%	60.00%	60.00%	40.00%	
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	6	3	3	8	5	6	2	0	33
PEAK HR FACTOR :	0.750	0.250	0.375	0.500	0.313	0.375	0.500		0.750
	0.450		0.458		0.344		0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	3	0	2	1	1	0	7
4:15 PM	0	0	0	1	1	0	1	0	3
4:30 PM	4	0	2	2	1	1	1	0	11
4:45 PM	0	0	1	2	1	4	0	0	8
5:00 PM	0	0	6	2	2	0	1	0	11
5:15 PM	1	0	3	1	3	0	0	0	8
5:30 PM	0	2	1	4	0	3	0	2	12
5:45 PM	0	1	5	1	0	1	0	0	8
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	5	3	21	13	10	10	4	2	68
APPROACH %'s :	62.50%	37.50%	61.76%	38.24%	50.00%	50.00%	66.67%	33.33%	
PEAK HR :	04:00 PM - 05:00 PM								TOTAL
PEAK HR VOL :	4	0	6	5	5	6	3	0	29
PEAK HR FACTOR :	0.250		0.500	0.625	0.625	0.375	0.750		0.659
	0.250		0.688		0.550		0.750		

Prepared by National Data & Surveying Services

Genesee Ave & Derrick Dr

Peak Hour Turning Movement Count

ID: 19-04036-005
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND — Genesee Ave

AM	15	489	74	8	1035	AM
NOON	0	0	0	0	0	NOON
PM	46	990	130	15	825	PM

EASTBOUND — Derrick Dr

AM	NOON	PM	
58	0	116	
0	0	0	0
17	0	31	0
12	0	29	1
25	0	34	0

WESTBOUND — Derrick Dr

PM	NOON	AM	
88	0	72	1
26	0	11	1
235	0	161	0
0	0	0	0
423	0	258	

NORTHBOUND — Genesee Ave

PM	1268	9	44	691	264	PM
NOON	0	0	0	0	0	NOON
AM	682	7	32	938	172	AM

	0	1	3	0

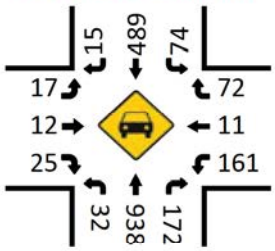
	0	3	1	0

CONTROL

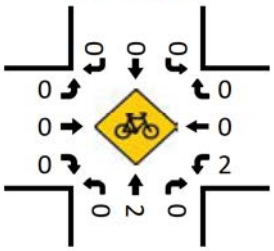
Signalized

TEV	2033	0	2632
	AM	NOON	PM
PHF	0.94		0.96

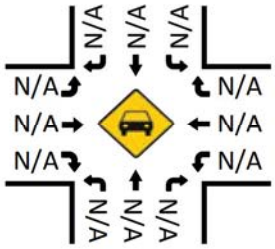
Total Vehicles (AM)



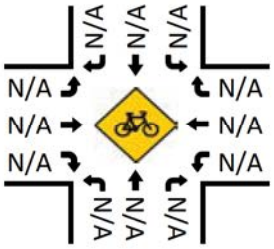
Bikes (AM)



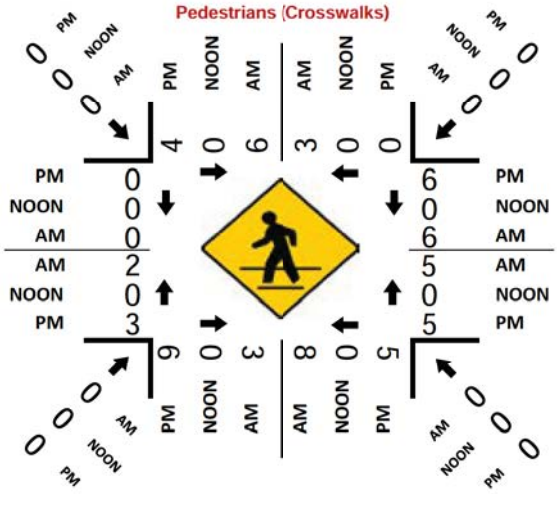
Total Vehicles (NOON)



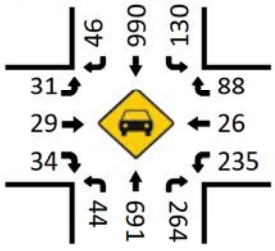
Bikes (NOON)



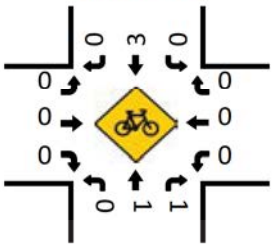
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Mt Everest Blvd & Mt Etna Dr
City: San Diego
Control: 4-Way Stop

Project ID: 19-04036-006
Date: 1/29/2019

Total

NS/EW Streets:	Mt Everest Blvd				Mt Everest Blvd				Mt Etna Dr				Mt Etna Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	8	9	4	1	4	7	0	0	1	11	9	0	4	9	0	0	67
7:15 AM	20	6	17	0	1	7	1	0	1	25	8	0	9	14	1	0	110
7:30 AM	10	15	16	0	4	9	0	0	0	24	20	0	10	5	0	0	113
7:45 AM	11	7	16	0	1	12	1	0	2	16	21	0	11	10	0	0	108
8:00 AM	7	12	6	0	4	18	0	0	0	18	27	0	9	5	4	0	110
8:15 AM	12	9	11	0	2	14	0	0	0	13	24	0	19	5	2	0	111
8:30 AM	22	16	17	0	3	10	1	0	1	15	14	0	10	5	1	0	115
8:45 AM	10	7	23	0	4	10	0	0	1	18	9	0	10	4	3	0	99
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	100	81	110	1	23	87	3	0	6	140	132	0	82	57	11	0	833
APPROACH %'s :	34.25%	27.74%	37.67%	0.34%	20.35%	76.99%	2.65%	0.00%	2.16%	50.36%	47.48%	0.00%	54.67%	38.00%	7.33%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	52	44	50	0	10	54	2	0	3	62	86	0	49	25	7	0	444
PEAK HR FACTOR :	0.591	0.688	0.735	0.000	0.625	0.750	0.500	0.000	0.375	0.861	0.796	0.000	0.645	0.625	0.438	0.000	0.965
	0.664				0.750				0.839				0.779				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	13	10	16	0	2	9	0	0	0	6	5	0	22	20	3	0	106
4:15 PM	15	6	12	0	2	7	0	0	2	19	11	0	20	13	4	0	111
4:30 PM	22	9	24	0	2	14	1	0	0	11	15	0	26	22	1	1	148
4:45 PM	13	14	11	0	1	17	0	0	0	17	10	0	56	10	3	0	152
5:00 PM	23	11	12	0	0	27	1	0	0	11	8	0	44	19	5	0	161
5:15 PM	18	13	10	0	5	22	1	0	0	11	9	0	45	17	4	0	155
5:30 PM	20	6	24	0	0	18	0	0	0	11	10	0	58	17	1	0	165
5:45 PM	22	8	15	0	1	16	0	0	0	23	14	0	38	14	2	0	153
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	146	77	124	0	13	130	3	0	2	109	82	0	309	132	23	1	1151
APPROACH %'s :	42.07%	22.19%	35.73%	0.00%	8.90%	89.04%	2.05%	0.00%	1.04%	56.48%	42.49%	0.00%	66.45%	28.39%	4.95%	0.22%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	83	38	61	0	6	83	2	0	0	56	41	0	185	67	12	0	634
PEAK HR FACTOR :	0.902	0.731	0.635	0.000	0.300	0.769	0.500	0.000	0.000	0.609	0.732	0.000	0.797	0.882	0.600	0.000	0.961
	0.910				0.813				0.655				0.868				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Mt Everest Blvd & Mt Etna Dr
City: San Diego
Control: 4-Way Stop

Project ID: 19-04036-006
Date: 1/29/2019

Bikes

NS/EW Streets:	Mt Everest Blvd				Mt Everest Blvd				Mt Etna Dr				Mt Etna Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%					
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
										0.250							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	0	0	1	1	0	1	1	0	0	5
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	0.00%	50.00%	50.00%	0.00%	50.00%	50.00%	0.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250
														0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Mt Everest Blvd & Mt Etna Dr
City: San Diego
Project ID: 19-04036-006
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Mt Everest Blvd		Mt Everest Blvd		Mt Etna Dr		Mt Etna Dr		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	1	0	0	0	0	1
7:45 AM	0	0	2	0	0	0	0	2	4
8:00 AM	0	1	0	0	0	0	0	0	1
8:15 AM	0	0	1	1	0	0	1	0	3
8:30 AM	1	1	2	0	0	0	1	0	5
8:45 AM	0	0	0	3	0	2	0	0	5
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	2	6	5	0	2	2	2	20
APPROACH %'s :	33.33%	66.67%	54.55%	45.45%	0.00%	100.00%	50.00%	50.00%	
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	1	2	5	1	0	0	2	2	13
PEAK HR FACTOR :	0.250	0.500	0.625	0.250			0.500	0.250	0.650
	0.375		0.750				0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	2	0	0	0	0	1	3
4:15 PM	1	1	1	1	0	0	0	0	4
4:30 PM	1	1	0	6	0	0	1	0	9
4:45 PM	0	1	0	0	0	0	0	1	2
5:00 PM	0	0	7	0	0	1	0	2	10
5:15 PM	0	0	0	0	0	0	0	1	1
5:30 PM	1	0	1	0	3	0	0	2	7
5:45 PM	0	1	0	0	0	0	0	1	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	3	4	11	7	3	1	1	8	38
APPROACH %'s :	42.86%	57.14%	61.11%	38.89%	75.00%	25.00%	11.11%	88.89%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	1	1	8	0	3	1	0	6	20
PEAK HR FACTOR :	0.250	0.250	0.286		0.250	0.250		0.750	0.500
	0.500		0.286		0.333		0.750		

Prepared by National Data & Surveying Services

Mt Everest Blvd & Mt Etna Dr

Peak Hour Turning Movement Count

ID: 19-04036-006
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS		COUNT PERIODS
07:45 AM - 08:45 AM	AM	07:00 AM - 09:00 AM
NONE	NOON	NONE
05:00 PM - 06:00 PM	PM	04:00 PM - 06:00 PM

Mt Everest Blvd — SOUTHBOUND

AM	2	54	10	0	54	AM
NOON	0	0	0	0	0	NOON
PM	2	83	6	0	50	PM
	0.5	0.5	0	0		

Mt Etna Dr — EASTBOUND

AM	NOON	PM	
79	0	152	
0	0	0	0
3	0	0	0
62	0	56	1
86	0	41	0

Mt Etna Dr — WESTBOUND

	PM	NOON	AM
0	12	0	7
1	67	0	25
0	185	0	49
0	0	0	0
	123	0	122

CONTROL

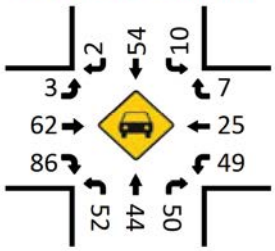
4-Way Stop

	AM	NOON	PM
TEV	444	0	634
PHF	0.97		0.96

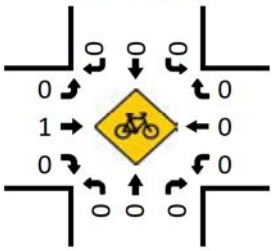
Mt Everest Blvd — NORTHBOUND

	0	0	1	0		
PM	309	0	83	38	61	PM
NOON	0	0	0	0	0	NOON
AM	189	0	52	44	50	AM

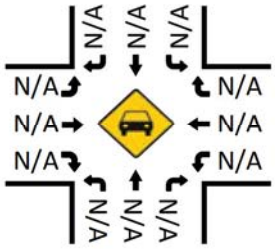
Total Vehicles (AM)



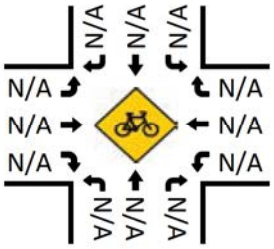
Bikes (AM)



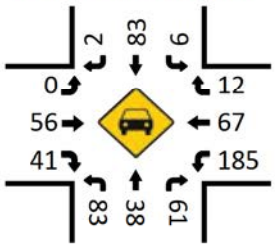
Total Vehicles (Noon)



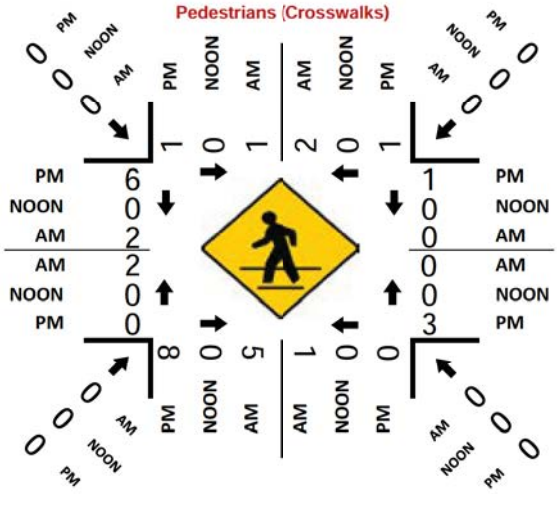
Bikes (NOON)



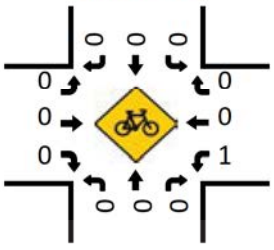
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Mt Etna Dr
City: San Diego
Control: Signalized

Project ID: 19-04036-007
Date: 1/29/2019

Total

NS/EW Streets:	Genesee Ave				Genesee Ave				Mt Etna Dr				Mt Etna Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	1	0	1	0.5	0.5	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	15	177	15	1	17	110	2	1	6	3	16	0	16	3	13	0	395
7:15 AM	19	225	15	1	18	146	8	0	12	1	25	0	14	2	17	0	503
7:30 AM	11	308	21	1	18	143	8	1	7	3	29	0	23	2	9	0	584
7:45 AM	24	228	18	2	21	168	8	0	13	8	15	0	19	0	13	0	537
8:00 AM	20	262	31	3	25	121	5	1	4	3	21	0	9	5	12	0	522
8:15 AM	18	245	22	2	26	142	8	0	7	4	14	0	24	4	20	0	536
8:30 AM	22	287	28	1	21	121	10	0	11	9	15	0	27	9	23	0	584
8:45 AM	28	237	34	1	26	119	13	3	11	10	17	0	34	9	20	0	562
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	157	1969	184	12	172	1070	62	6	71	41	152	0	166	34	127	0	4223
APPROACH %'s :	6.76%	84.80%	7.92%	0.52%	13.13%	81.68%	4.73%	0.45%	26.89%	15.53%	57.58%	0.00%	50.76%	10.40%	38.84%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	88	1031	115	7	98	503	36	4	33	26	67	0	94	27	75	0	2204
PEAK HR FACTOR :	0.786	0.898	0.846	0.583	0.942	0.886	0.692	0.333	0.750	0.650	0.798	0.000	0.691	0.750	0.815	0.000	0.943
	0.918				0.911				0.829				0.778				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	1	0	1	0.5	0.5	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	22	229	25	5	41	267	18	3	12	9	27	0	31	11	32	0	732
4:15 PM	26	184	48	5	36	249	19	0	16	10	33	0	24	8	35	0	693
4:30 PM	35	182	28	4	54	248	23	1	13	15	28	0	30	10	33	0	704
4:45 PM	21	183	27	3	45	176	66	4	11	9	38	0	19	9	29	0	640
5:00 PM	27	162	27	3	57	222	34	0	14	13	24	0	27	10	36	0	656
5:15 PM	27	176	35	3	52	223	36	1	4	8	32	0	22	9	27	0	655
5:30 PM	35	177	31	4	48	191	58	0	21	11	37	0	23	21	34	0	691
5:45 PM	29	153	22	3	39	196	44	0	13	7	40	0	25	6	27	0	604
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	222	1446	243	30	372	1772	298	9	104	82	259	0	201	84	253	0	5375
APPROACH %'s :	11.44%	74.50%	12.52%	1.55%	15.18%	72.30%	12.16%	0.37%	23.37%	18.43%	58.20%	0.00%	37.36%	15.61%	47.03%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	104	778	128	17	176	940	126	8	52	43	126	0	104	38	129	0	2769
PEAK HR FACTOR :	0.743	0.849	0.667	0.850	0.815	0.880	0.477	0.500	0.813	0.717	0.829	0.000	0.839	0.864	0.921	0.000	0.946
	0.914				0.950				0.936				0.916				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Mt Etna Dr
City: San Diego
Control: Signalized

Project ID: 19-04036-007
Date: 1/29/2019

Bikes

NS/EW Streets:	Genesee Ave				Genesee Ave				Mt Etna Dr				Mt Etna Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	1	0	1	0.5	0.5	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
8:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	4	0	0	0	5	0	0	0	1	0	0	0	0	0	0	10
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	0	5
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.625
		0.500				0.500				0.250							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	1	0	1	0.5	0.5	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	3
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	3
4:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	2	0	1	0	5	0	0	0	2	0	0	1	2	1	0	15
APPROACH %'s :	25.00%	50.00%	0.00%	25.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	25.00%	50.00%	25.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	4	0	0	0	0	0	0	1	1	1	0	8
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.667
		0.250				0.500								0.375			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Mt Etna Dr
City: San Diego
Project ID: 19-04036-007
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Genesee Ave		Genesee Ave		Mt Etna Dr		Mt Etna Dr		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	0	0	1	0	0	0	0	2
7:15 AM	1	0	0	1	2	1	0	0	5
7:30 AM	0	0	0	2	1	0	1	0	4
7:45 AM	0	2	0	0	0	0	0	0	2
8:00 AM	0	1	1	0	1	0	0	1	4
8:15 AM	1	1	1	0	0	1	2	1	7
8:30 AM	0	0	1	1	1	0	1	0	4
8:45 AM	0	2	0	2	0	1	0	1	6
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	3	6	3	7	5	3	4	3	34
APPROACH %'s :	33.33%	66.67%	30.00%	70.00%	62.50%	37.50%	57.14%	42.86%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	1	4	3	3	2	2	3	3	21
PEAK HR FACTOR :	0.250	0.500	0.750	0.375	0.500	0.500	0.375	0.750	0.750
	0.625		0.750		1.000		0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	3	1	1	2	0	2	9
4:15 PM	0	3	3	0	0	0	1	0	7
4:30 PM	0	1	0	1	0	0	0	1	3
4:45 PM	0	0	1	1	0	1	0	0	3
5:00 PM	0	1	1	0	0	0	0	1	3
5:15 PM	1	0	5	1	2	2	0	1	12
5:30 PM	4	1	0	0	1	0	0	1	7
5:45 PM	1	0	2	2	0	0	0	0	5
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	6	6	15	6	4	5	1	6	49
APPROACH %'s :	50.00%	50.00%	71.43%	28.57%	44.44%	55.56%	14.29%	85.71%	
PEAK HR :	04:00 PM - 05:00 PM								TOTAL
PEAK HR VOL :	0	4	7	3	1	3	1	3	22
PEAK HR FACTOR :		0.333	0.583	0.750	0.250	0.375	0.250	0.375	0.611
	0.333		0.625		0.333		0.500		

Prepared by National Data & Surveying Services

Genesee Ave & Mt Etna Dr

Peak Hour Turning Movement Count

ID: 19-04036-007
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS

AM: 08:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 05:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

Genesee Ave — SOUTHBOUND

AM	36	503	98	4	1143	AM
NOON	0	0	0	0	0	NOON
PM	126	940	176	8	967	PM

EASTBOUND — Mt Etna Dr

AM	NOON	PM		
151	0	268	⇦	
0	0	0	↰	0
33	0	52	↱	1
26	0	43	→	0.5
67	0	126	↳	0.5

WESTBOUND — Mt Etna Dr

PM	NOON	AM		
129	0	75	↰	0
38	0	27	←	1
104	0	94	↱	1
0	0	0	↲	0
347	0	239	⇨	

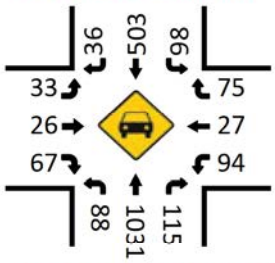
NORTHBOUND — Genesee Ave

PM	1187	17	104	778	128	PM
NOON	0	0	0	0	0	NOON
AM	671	7	88	1031	115	AM

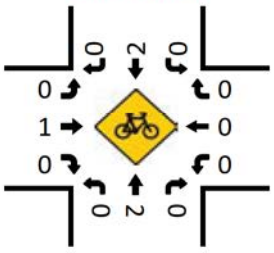
CONTROL: Signalized

TEV	2204 AM	0 NOON	2769 PM
PHF	0.94		0.95

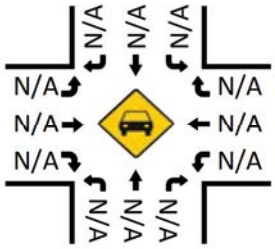
Total Vehicles (AM)



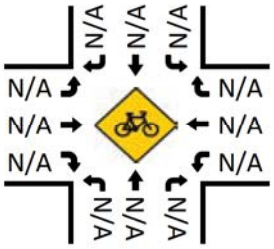
Bikes (AM)



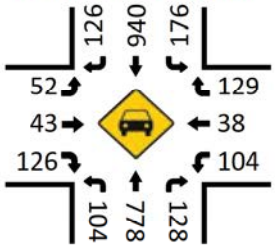
Total Vehicles (Noon)



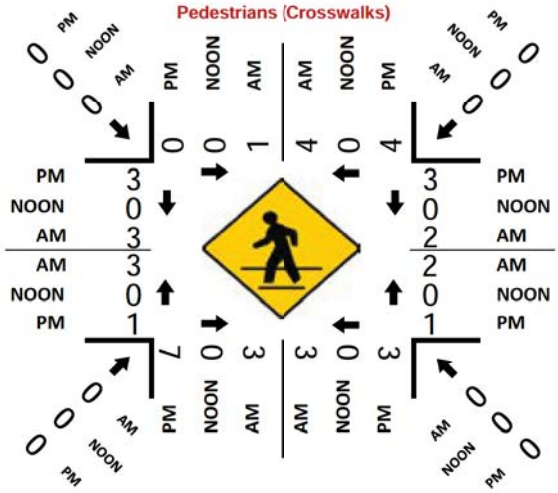
Bikes (NOON)



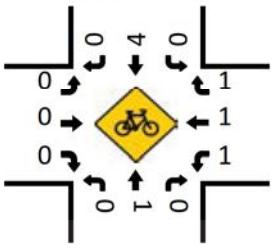
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Clairemont Dr & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-008
Date: 1/29/2019

Total

NS/EW Streets:	Clairemont Dr				Clairemont Dr				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	2	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	31	75	76	1	24	73	98	0	26	163	5	8	105	136	10	0	831
7:15 AM	26	59	86	4	27	39	74	0	69	217	7	8	68	198	13	0	895
7:30 AM	16	65	82	2	34	36	91	0	51	210	14	2	54	205	10	0	872
7:45 AM	25	59	79	4	39	47	74	0	44	236	22	3	74	238	20	0	964
8:00 AM	21	106	71	0	40	61	82	0	50	206	18	2	54	211	32	1	955
8:15 AM	36	72	70	3	37	64	81	1	50	217	16	0	79	208	19	0	953
8:30 AM	47	126	88	9	51	83	66	1	43	185	18	0	94	153	25	0	989
8:45 AM	45	104	99	3	25	71	65	0	56	201	22	3	112	182	22	0	1010
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	247	666	651	26	277	474	631	2	389	1635	122	26	640	1531	151	1	7469
APPROACH %'s :	15.53%	41.89%	40.94%	1.64%	20.01%	34.25%	45.59%	0.14%	17.91%	75.28%	5.62%	1.20%	27.55%	65.91%	6.50%	0.04%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	149	408	328	15	153	279	294	2	199	809	74	5	339	754	98	1	3907
PEAK HR FACTOR :	0.793	0.810	0.828	0.417	0.750	0.840	0.896	0.500	0.888	0.932	0.841	0.417	0.757	0.893	0.766	0.250	0.967
	0.833				0.905				0.960				0.943				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	2	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	23	87	90	3	65	112	60	0	107	227	14	1	92	209	25	0	1115
4:15 PM	20	78	92	5	48	122	82	0	78	229	21	1	87	226	23	1	1113
4:30 PM	15	92	98	5	54	134	56	0	79	231	10	4	94	227	23	0	1122
4:45 PM	22	61	77	6	81	128	57	0	78	249	18	6	109	204	30	0	1126
5:00 PM	28	83	85	5	55	184	64	0	77	226	16	4	103	224	20	0	1174
5:15 PM	14	78	93	6	67	195	83	0	82	256	13	3	120	225	29	0	1264
5:30 PM	18	85	95	4	54	142	75	0	110	234	14	2	114	194	28	0	1169
5:45 PM	20	75	88	0	56	143	56	0	76	231	13	0	102	221	25	0	1106
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	160	639	718	34	480	1160	533	0	687	1883	119	21	821	1730	203	1	9189
APPROACH %'s :	10.32%	41.20%	46.29%	2.19%	22.09%	53.38%	24.53%	0.00%	25.35%	69.48%	4.39%	0.77%	29.80%	62.79%	7.37%	0.04%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	82	307	350	21	257	649	279	0	347	965	61	15	446	847	107	0	4733
PEAK HR FACTOR :	0.732	0.903	0.921	0.875	0.793	0.832	0.840	0.000	0.789	0.942	0.847	0.625	0.929	0.941	0.892	0.000	0.936
	0.941				0.859				0.964				0.936				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Clairemont Dr & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-008
Date: 1/29/2019

Bikes

NS/EW Streets:	Clairemont Dr				Clairemont Dr				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	2	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	3	1	0	0	1	0	0	0	0	0	0	5
7:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
7:30 AM	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
8:15 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	3
8:30 AM	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	4	1	0	0	7	1	0	1	4	0	0	0	3	0	0	22
APPROACH %'s :	16.67%	66.67%	16.67%	0.00%	0.00%	87.50%	12.50%	0.00%	20.00%	80.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	1	2	1	0	0	4	0	0	0	1	0	0	0	2	0	0	11
PEAK HR FACTOR :	0.250	0.500	0.250	0.000	0.000	0.333	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.688
		0.500				0.333				0.250				0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	2	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	1	0	0	1	0	1	0	0	0	1	0	5
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
4:45 PM	0	2	0	0	0	1	0	0	1	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	3	0	0	1	1	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	7	0	0	0	6	0	0	3	2	1	0	0	2	1	0	22
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	50.00%	33.33%	16.67%	0.00%	0.00%	66.67%	33.33%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	4	0	0	0	5	0	0	2	1	0	0	0	0	0	0	12
PEAK HR FACTOR :	0.00	0.500	0.000	0.000	0.000	0.417	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.600
		0.500				0.417				0.375							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Clairemont Dr & Balboa Ave
City: San Diego
Project ID: 19-04036-008
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Clairemont Dr		Clairemont Dr		Balboa Ave		Balboa Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	1	4	8	1	2	2	21	39
7:15 AM	0	1	4	2	0	0	1	0	8
7:30 AM	1	0	3	0	0	3	1	3	11
7:45 AM	0	0	2	4	5	1	3	2	17
8:00 AM	0	0	2	1	1	8	3	4	19
8:15 AM	0	0	9	1	0	5	1	2	18
8:30 AM	4	0	1	11	1	5	0	4	26
8:45 AM	0	0	0	0	0	3	0	2	5
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	5	2	25	27	8	27	11	38	143
APPROACH %'s :	71.43%	28.57%	48.08%	51.92%	22.86%	77.14%	22.45%	77.55%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	4	0	12	13	2	21	4	12	68
PEAK HR FACTOR :	0.250		0.333	0.295	0.500	0.656	0.333	0.750	0.654
	0.250		0.521		0.639		0.571		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	1	2	3	2	5	5	1	2	21
4:15 PM	1	1	7	6	4	4	0	3	26
4:30 PM	1	5	1	1	4	2	2	2	18
4:45 PM	2	0	3	0	3	2	2	1	13
5:00 PM	2	2	0	4	2	3	2	0	15
5:15 PM	1	0	0	0	0	1	0	4	6
5:30 PM	0	4	4	1	3	0	0	2	14
5:45 PM	1	0	0	1	1	4	2	2	11
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	9	14	18	15	22	21	9	16	124
APPROACH %'s :	39.13%	60.87%	54.55%	45.45%	51.16%	48.84%	36.00%	64.00%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	5	6	7	5	8	6	4	7	48
PEAK HR FACTOR :	0.625	0.375	0.438	0.313	0.667	0.500	0.500	0.438	0.800
	0.688		0.600		0.700		0.688		

Prepared by National Data & Surveying Services

Clairemont Dr & Balboa Ave

Peak Hour Turning Movement Count

ID: 19-04036-008
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	04:00 PM - 06:00 PM

SOUTHBOUND — Clairemont Dr

AM	294	279	153	2	707	AM
NOON	0	0	0	0	0	NOON
PM	279	649	257	0	761	PM

EASTBOUND — Balboa Ave

AM	NOON	PM	
1202	0	1223	
5	0	15	0
199	0	347	2
809	0	965	2
74	0	61	0
AM	NOON	PM	

WESTBOUND — Balboa Ave

PM	NOON	AM	
107	0	98	0
847	0	754	2
446	0	339	2
0	0	1	0
1572	0	1291	
PM	NOON	AM	

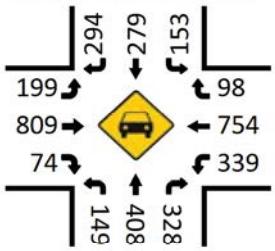
NORTHBOUND — Clairemont Dr

PM	1177	21	82	307	350	PM
NOON	0	0	0	0	0	NOON
AM	707	15	149	408	328	AM

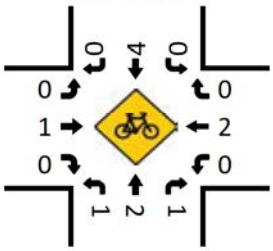
CONTROL: Signalized

TEV	3907 AM	0 NOON	4733 PM
PHF	0.97		0.94

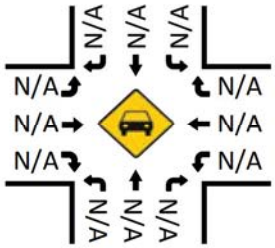
Total Vehicles (AM)



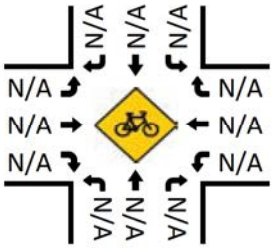
Bikes (AM)



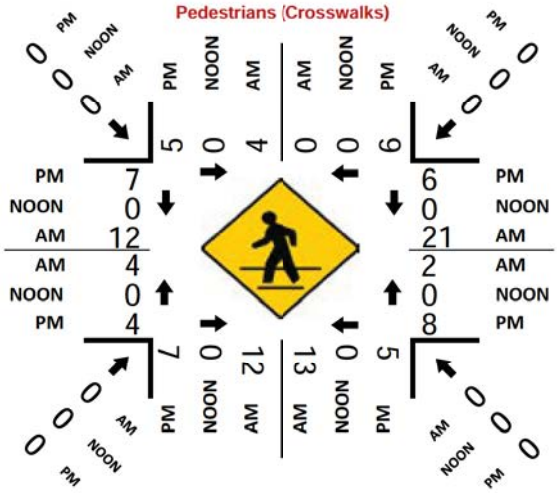
Total Vehicles (Noon)



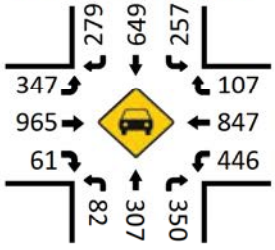
Bikes (NOON)



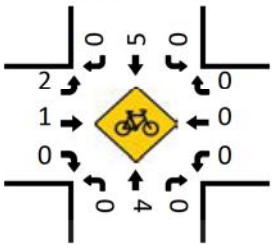
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Mt Everest Blvd & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-009
Date: 1/29/2019

Total

NS/EW Streets:	Mt Everest Blvd				Mt Everest Blvd				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	3	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	44	6	11	0	8	6	12	0	3	230	17	3	4	213	11	1	569
7:15 AM	33	19	17	0	13	6	13	0	8	319	20	2	6	212	22	0	690
7:30 AM	27	15	24	0	22	8	24	0	10	304	12	1	10	198	17	0	672
7:45 AM	29	22	14	0	19	18	19	0	8	323	19	1	11	306	32	2	823
8:00 AM	36	14	22	0	18	35	18	0	8	243	17	6	20	213	19	0	669
8:15 AM	54	20	13	0	5	35	18	0	10	290	33	3	13	241	15	1	751
8:30 AM	65	32	34	0	18	7	13	0	7	244	16	3	6	227	26	0	698
8:45 AM	36	12	12	0	12	9	8	0	12	315	19	2	8	229	31	3	708
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	324	140	147	0	115	124	125	0	66	2268	153	21	78	1839	173	7	5580
APPROACH %'s :	53.03%	22.91%	24.06%	0.00%	31.59%	34.07%	34.34%	0.00%	2.63%	90.43%	6.10%	0.84%	3.72%	87.70%	8.25%	0.33%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	184	88	83	0	60	95	68	0	33	1100	85	13	50	987	92	3	2941
PEAK HR FACTOR :	0.708	0.688	0.610	0.000	0.789	0.679	0.895	0.000	0.825	0.851	0.644	0.542	0.625	0.806	0.719	0.375	0.893
	0.677				0.785				0.877				0.806				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	3	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	23	6	8	0	7	16	10	0	5	319	37	0	9	320	19	8	787
4:15 PM	22	6	19	0	9	19	20	0	11	283	38	2	17	281	19	11	757
4:30 PM	19	10	10	0	9	21	28	0	8	294	42	1	16	328	27	15	828
4:45 PM	25	11	7	0	11	40	32	0	5	340	27	1	21	311	32	13	876
5:00 PM	23	12	14	0	13	36	33	0	9	281	36	2	16	297	18	4	794
5:15 PM	21	15	7	0	19	32	28	0	10	328	35	2	23	341	21	15	897
5:30 PM	23	12	11	0	15	30	37	0	8	269	29	0	18	286	21	13	772
5:45 PM	14	13	7	0	13	34	23	0	14	292	28	1	13	318	24	10	804
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	170	85	83	0	96	228	211	0	70	2406	272	9	133	2482	181	89	6515
APPROACH %'s :	50.30%	25.15%	24.56%	0.00%	17.94%	42.62%	39.44%	0.00%	2.54%	87.27%	9.87%	0.33%	4.61%	86.03%	6.27%	3.08%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	88	48	38	0	52	129	121	0	32	1243	140	6	76	1277	98	47	3395
PEAK HR FACTOR :	0.880	0.800	0.679	0.000	0.684	0.806	0.917	0.000	0.800	0.914	0.833	0.750	0.826	0.936	0.766	0.783	0.946
	0.888				0.910				0.947				0.936				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Mt Everest Blvd & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-009
Date: 1/29/2019

Bikes

NS/EW Streets:	Mt Everest Blvd				Mt Everest Blvd				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	3	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0	7
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	4	0	0	0	7	0	0	0	1	1	0	0	2	0	0	15
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	3	0	0	0	7	0	0	0	0	0	0	0	1	0	0	11
PEAK HR FACTOR :	0.000	0.375	0.000	0.000	0.000	0.292	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.393
		0.375				0.292								0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	3	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
4:15 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	4	1	0	0	3	0	0	9
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%					0.00%	80.00%	20.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
										0.250							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Mt Everest Blvd & Balboa Ave
City: San Diego
Project ID: 19-04036-009
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Mt Everest Blvd		Mt Everest Blvd		Balboa Ave		Balboa Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	1	0	0	0	0	1	2
7:15 AM	0	0	0	0	0	1	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	0	1	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	1	0	0	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	0	1	2	0	1	0	2	7
APPROACH %'s :	100.00%	0.00%	33.33%	66.67%	0.00%	100.00%	0.00%	100.00%	
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	1	0	0	1	0	0	0	1	3
PEAK HR FACTOR :	0.250			0.250				0.250	0.375
	0.250		0.250				0.250		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	1	0	0	1	1	3
APPROACH %'s :			0.00%	100.00%			50.00%	50.00%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	1	0	0	1	0	2
PEAK HR FACTOR :				0.250			0.250		0.500
			0.250				0.250		

Prepared by National Data & Surveying Services

Mt Everest Blvd & Balboa Ave

Peak Hour Turning Movement Count

ID: 19-04036-009
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

SOUTHBOUND — Mt Everest Blvd

AM	68	95	60	0	213	AM
NOON	0	0	0	0	0	NOON
PM	121	129	52	0	178	PM

EASTBOUND — Balboa Ave

AM	NOON	PM	
1252	0	1492	
13	0	6	0
33	0	32	1
1100	0	1243	3
85	0	140	0

WESTBOUND — Balboa Ave

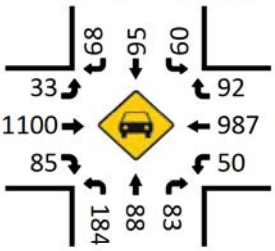
PM	NOON	AM	
98	0	92	0
1277	0	987	2
76	0	50	1
47	0	3	0
1380	0	1246	

NORTHBOUND — Mt Everest Blvd

PM	345	0	88	48	38	PM
NOON	0	0	0	0	0	NOON
AM	230	0	184	88	83	AM

CONTROL			
Signalized			
TEV	2941 AM	0 NOON	3395 PM
PHF	0.89		0.95

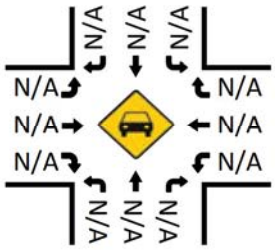
Total Vehicles (AM)



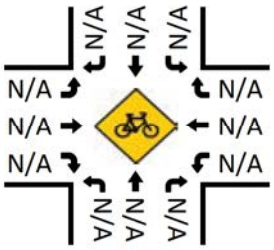
Bikes (AM)



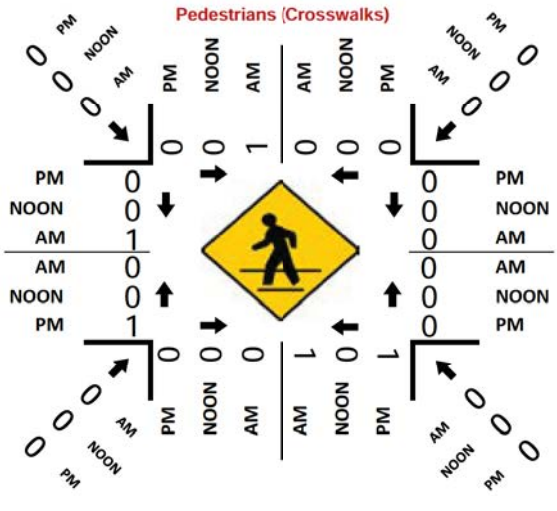
Total Vehicles (Noon)



Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
1
0
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0
0
0
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1
0
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0
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0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-010
Date: 1/29/2019

Total

NS/EW Streets:	Genesee Ave				Genesee Ave				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	2	2	1	0	1	2	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	86	160	6	0	33	53	44	0	33	148	44	0	12	122	40	0	781
7:15 AM	50	151	11	1	41	82	39	2	34	237	75	1	16	147	56	0	943
7:30 AM	63	198	9	0	59	96	36	2	54	241	73	0	19	153	71	2	1076
7:45 AM	71	210	21	0	41	124	48	1	30	208	73	1	25	192	52	1	1098
8:00 AM	79	167	19	0	30	93	42	1	52	234	54	1	27	204	70	0	1073
8:15 AM	69	207	17	2	39	90	42	1	36	185	59	1	21	145	64	2	980
8:30 AM	59	212	22	2	51	52	45	2	59	226	42	2	28	199	68	3	1072
8:45 AM	73	204	23	1	50	86	55	1	51	195	60	1	25	148	71	1	1045
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	550	1509	128	6	344	676	351	10	349	1674	480	7	173	1310	492	9	8068
APPROACH %'s :	25.08%	68.81%	5.84%	0.27%	24.91%	48.95%	25.42%	0.72%	13.90%	66.69%	19.12%	0.28%	8.72%	66.03%	24.80%	0.45%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	282	782	66	2	169	403	168	5	172	868	259	3	92	694	257	5	4227
PEAK HR FACTOR :	0.892	0.931	0.786	0.250	0.716	0.813	0.875	0.625	0.796	0.900	0.887	0.750	0.852	0.850	0.905	0.625	0.962
	0.937				0.870				0.885				0.870				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	2	2	1	0	1	2	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	77	138	26	3	82	168	55	9	73	243	53	0	50	181	70	3	1231
4:15 PM	61	121	31	0	123	160	43	11	66	187	56	1	66	231	59	0	1216
4:30 PM	71	133	21	7	76	175	48	6	65	208	48	0	67	248	65	4	1242
4:45 PM	56	113	20	3	65	136	31	5	66	220	66	2	57	278	65	1	1184
5:00 PM	71	111	22	8	100	171	40	1	49	204	48	4	63	234	61	2	1189
5:15 PM	69	111	19	5	82	139	33	3	63	223	76	1	70	278	66	1	1239
5:30 PM	74	132	23	7	88	152	17	2	54	179	67	0	72	244	67	1	1179
5:45 PM	51	106	28	6	65	170	27	7	50	212	73	2	67	269	64	1	1198
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	530	965	190	39	681	1271	294	44	486	1676	487	10	512	1963	517	13	9678
APPROACH %'s :	30.74%	55.97%	11.02%	2.26%	29.74%	55.50%	12.84%	1.92%	18.28%	63.03%	18.32%	0.38%	17.04%	65.32%	17.20%	0.43%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	265	505	98	13	346	639	177	31	270	858	223	3	240	938	259	8	4873
PEAK HR FACTOR :	0.860	0.915	0.790	0.464	0.703	0.913	0.805	0.705	0.925	0.883	0.845	0.375	0.896	0.844	0.925	0.500	0.981
	0.903				0.885				0.917				0.901				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-010
Date: 1/29/2019

Bikes

NS/EW Streets:	Genesee Ave				Genesee Ave				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	2	2	1	0	1	2	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	1	1	0	0	0	0	1	0	0	1	0	0	5
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	3	0	0	1	1	1	1	0	1	1	0	0	1	0	0	10
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	25.00%	25.00%	25.00%	25.00%	0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	2	0	0	1	1	0	1	0	0	1	0	0	1	0	0	7
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.250	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.350
		0.500				0.375				0.250				0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	2	2	1	0	1	2	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	3
4:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	1	4	0	0	1	2	1	0	1	1	0	0	12
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	20.00%	80.00%	0.00%	0.00%	25.00%	50.00%	25.00%	0.00%	50.00%	50.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	3	0	0	0	0	1	0	1	1	0	0	7
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.583
		0.250				0.750				0.250				0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Balboa Ave
City: San Diego
Project ID: 19-04036-010
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Genesee Ave		Genesee Ave		Balboa Ave		Balboa Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	3	1	0	2	1	1	3	12
7:15 AM	2	1	0	0	3	2	0	1	9
7:30 AM	1	3	0	0	1	0	0	0	5
7:45 AM	0	1	0	1	5	2	1	0	10
8:00 AM	0	2	0	0	0	0	0	2	4
8:15 AM	0	0	2	0	1	0	0	0	3
8:30 AM	0	4	2	0	4	1	0	1	12
8:45 AM	0	2	1	2	1	1	2	1	10
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	4	16	6	3	17	7	4	8	65
APPROACH %'s :	20.00%	80.00%	66.67%	33.33%	70.83%	29.17%	33.33%	66.67%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	1	6	2	1	7	2	1	2	22
PEAK HR FACTOR :	0.250	0.500	0.250	0.250	0.350	0.250	0.250	0.250	0.550
	0.438		0.375		0.321		0.375		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	2	1	1	3	1	0	0	1	9
4:15 PM	7	6	0	0	2	6	2	7	30
4:30 PM	1	0	1	2	1	0	0	0	5
4:45 PM	3	3	1	2	2	3	3	9	26
5:00 PM	7	0	1	0	1	0	1	10	20
5:15 PM	2	0	1	0	0	0	1	0	4
5:30 PM	1	0	1	3	1	3	2	2	13
5:45 PM	0	2	2	1	1	2	2	3	13
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	23	12	8	11	9	14	11	32	120
APPROACH %'s :	65.71%	34.29%	42.11%	57.89%	39.13%	60.87%	25.58%	74.42%	
PEAK HR :	04:00 PM - 05:00 PM								TOTAL
PEAK HR VOL :	13	10	3	7	6	9	5	17	70
PEAK HR FACTOR :	0.464	0.417	0.750	0.583	0.750	0.375	0.417	0.472	0.583
	0.442		0.625		0.469		0.458		

Prepared by National Data & Surveying Services

Genesee Ave & Balboa Ave

Peak Hour Turning Movement Count

ID: 19-04036-010
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS		COUNT PERIODS
07:30 AM - 08:30 AM	AM	07:00 AM - 09:00 AM
NONE	NOON	NONE
04:00 PM - 05:00 PM	PM	04:00 PM - 06:00 PM

Genesee Ave — SOUTHBOUND

AM	168	403	169	5	1216	AM
NOON	0	0	0	0	0	NOON
PM	177	639	346	31	1065	PM
	1	2	2	0		

Balboa Ave — EASTBOUND

AM	NOON	PM	
1147	0	1383	
3	0	3	0
172	0	270	1
868	0	858	2
259	0	223	0
AM	NOON	PM	

Balboa Ave — WESTBOUND

	PM	NOON	AM
0	259	0	257
3	938	0	694
2	240	0	92
0	8	0	5
	1310	0	1108
	PM	NOON	AM

CONTROL

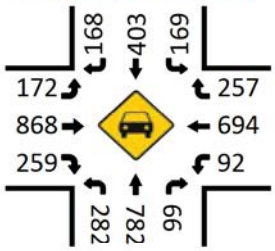
Signalized

	AM	NOON	PM
TEV	4227	0	4873
PHF	0.96		0.98

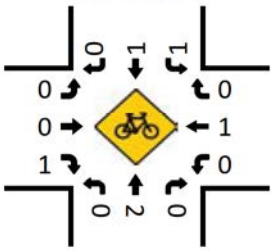
Genesee Ave — NORTHBOUND

		0	2	3	0	
PM	1115	13	265	505	98	PM
NOON	0	0	0	0	0	NOON
AM	756	2	282	782	66	AM

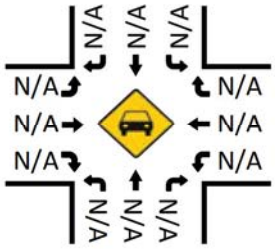
Total Vehicles (AM)



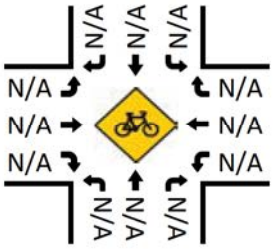
Bikes (AM)



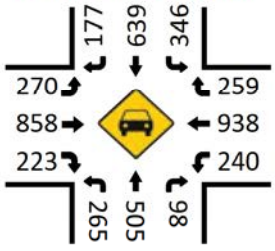
Total Vehicles (Noon)



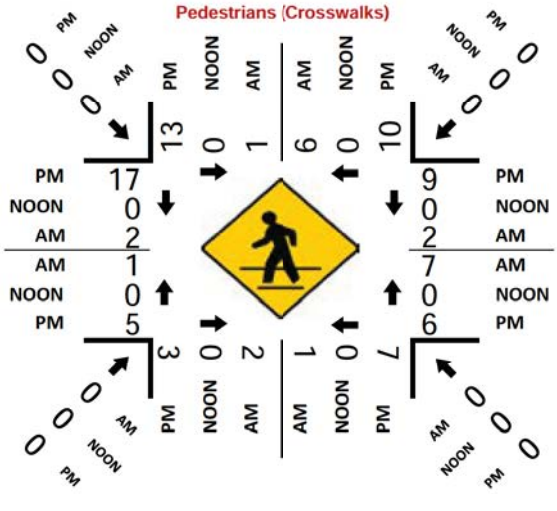
Bikes (NOON)



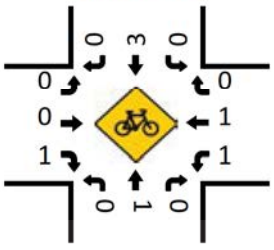
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Shopping Center Dwy & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-011
Date: 1/29/2019

Total

NS/EW Streets:	Shopping Center Dwy				Shopping Center Dwy				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	1	0	2	3	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	1	6	0	14	2	2	0	2	189	4	1	11	185	24	1	445
7:15 AM	8	1	6	0	17	0	4	0	6	257	8	4	6	180	15	0	512
7:30 AM	10	0	15	0	18	3	7	0	5	280	12	0	3	247	33	1	634
7:45 AM	6	0	8	0	15	3	5	0	9	285	10	0	10	249	36	1	637
8:00 AM	6	6	12	0	22	4	7	0	16	236	8	2	11	272	30	0	632
8:15 AM	8	6	9	0	18	1	11	0	12	240	5	4	16	245	48	2	625
8:30 AM	6	7	16	0	37	12	12	0	24	239	12	1	9	231	51	0	657
8:45 AM	10	2	10	0	31	6	16	0	15	255	15	4	18	272	36	3	693
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	57	23	82	0	172	31	64	0	89	1981	74	16	84	1881	273	8	4835
APPROACH %'s :	35.19%	14.20%	50.62%	0.00%	64.42%	11.61%	23.97%	0.00%	4.12%	91.71%	3.43%	0.74%	3.74%	83.75%	12.15%	0.36%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	30	21	47	0	108	23	46	0	67	970	40	11	54	1020	165	5	2607
PEAK HR FACTOR :	0.750	0.750	0.734	0.000	0.730	0.479	0.719	0.000	0.698	0.951	0.667	0.688	0.750	0.938	0.809	0.417	0.940
		0.845				0.725				0.941				0.945			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	1	0	2	3	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	28	6	26	0	61	10	39	0	40	271	21	3	33	228	43	7	816
4:15 PM	23	16	28	0	40	7	55	0	28	279	12	3	43	265	44	4	847
4:30 PM	32	10	33	0	54	11	54	0	36	251	10	2	35	321	39	6	894
4:45 PM	27	15	30	0	60	18	42	0	22	226	6	5	35	285	42	1	814
5:00 PM	22	11	33	0	62	13	48	0	29	278	20	1	27	317	29	5	895
5:15 PM	30	9	26	0	51	12	50	0	39	233	21	4	45	306	32	11	869
5:30 PM	31	13	33	0	52	26	46	0	24	242	23	1	37	311	38	7	884
5:45 PM	33	10	27	0	64	17	62	0	34	229	21	1	34	304	41	7	884
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	226	90	236	0	444	114	396	0	252	2009	134	20	289	2337	308	48	6903
APPROACH %'s :	40.94%	16.30%	42.75%	0.00%	46.54%	11.95%	41.51%	0.00%	10.43%	83.19%	5.55%	0.83%	9.69%	78.37%	10.33%	1.61%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	116	43	119	0	229	68	206	0	126	982	85	7	143	1238	140	30	3532
PEAK HR FACTOR :	0.879	0.827	0.902	0.000	0.895	0.654	0.831	0.000	0.808	0.883	0.924	0.438	0.794	0.976	0.854	0.682	0.987
		0.903				0.879				0.915				0.984			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Shopping Center Dwy & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-011
Date: 1/29/2019

Bikes

NS/EW Streets:	Shopping Center Dwy				Shopping Center Dwy				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	1	0	2	3	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	1	0	0	0	2	0	0	0	0	0	0	4
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
		0.250															

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	1	0	2	3	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
5:45 PM	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	2	0	0	1	0	0	0	2	1	0	0	3	0	0	9
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	66.67%	33.33%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	5
PEAK HR FACTOR :	0.00	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.417
			0.250								0.375						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Shopping Center Dwy & Balboa Ave
City: San Diego
Project ID: 19-04036-011
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Shopping Center Dwy		Shopping Center Dwy		Balboa Ave		Balboa Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	3	0	1	0	0	0	0	4
7:15 AM	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	2	0	0	1	3	1	7
7:45 AM	0	0	0	0	2	0	2	1	5
8:00 AM	2	0	0	0	0	0	0	0	2
8:15 AM	0	1	0	0	1	1	0	0	3
8:30 AM	0	0	1	0	1	1	1	0	4
8:45 AM	2	1	1	1	0	0	1	3	9
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	4	6	4	2	4	3	7	5	35
APPROACH %'s :	40.00%	60.00%	66.67%	33.33%	57.14%	42.86%	58.33%	41.67%	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	4	2	2	1	2	2	2	3	18
PEAK HR FACTOR :	0.500	0.500	0.500	0.250	0.500	0.500	0.500	0.250	0.500
	0.500		0.375		0.500		0.313		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	3	1	3	1	1	2	1	0	12
4:15 PM	0	6	0	1	5	0	1	0	13
4:30 PM	2	2	2	3	0	4	4	3	20
4:45 PM	0	0	2	0	3	0	4	2	11
5:00 PM	4	1	7	3	1	2	2	1	21
5:15 PM	1	1	2	3	3	1	0	3	14
5:30 PM	1	1	0	0	2	2	3	2	11
5:45 PM	1	2	0	0	1	2	0	1	7
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	12	14	16	11	16	13	15	12	109
APPROACH %'s :	46.15%	53.85%	59.26%	40.74%	55.17%	44.83%	55.56%	44.44%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	7	5	9	6	7	7	5	7	53
PEAK HR FACTOR :	0.438	0.625	0.321	0.500	0.583	0.875	0.417	0.583	0.631
	0.600		0.375		0.875		0.600		

Prepared by National Data & Surveying Services

Shopping Center Dwy & Balboa Ave

Peak Hour Turning Movement Count

ID: 19-04036-011
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND — Shopping Center Dwy

AM	46	23	108	0	253	AM
NOON	0	0	0	0	0	NOON
PM	206	68	229	0	309	PM

EASTBOUND — Balboa Ave

AM	NOON	PM	
1107	0	1567	
11	0	7	0
67	0	126	2
970	0	982	3
40	0	85	0

WESTBOUND — Balboa Ave

PM	NOON	AM	
140	0	165	0
1238	0	1020	3
143	0	54	2
30	0	5	0
1360	0	1130	

NORTHBOUND — Shopping Center Dwy

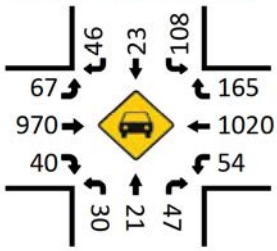
PM	296	0	116	43	119	PM
NOON	0	0	0	0	0	NOON
AM	117	0	30	21	47	AM

	1	1	1	0
	0	1	1	1

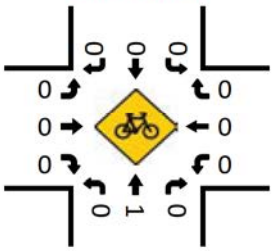
CONTROL: Signalized

TEV	2607 AM	0 NOON	3532 PM
PHF	0.94		0.99

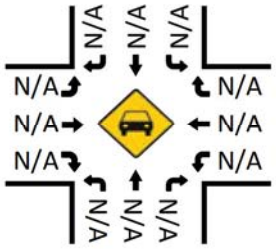
Total Vehicles (AM)



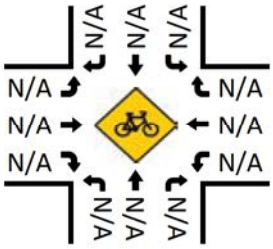
Bikes (AM)



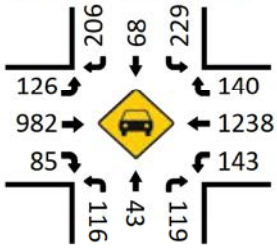
Total Vehicles (Noon)



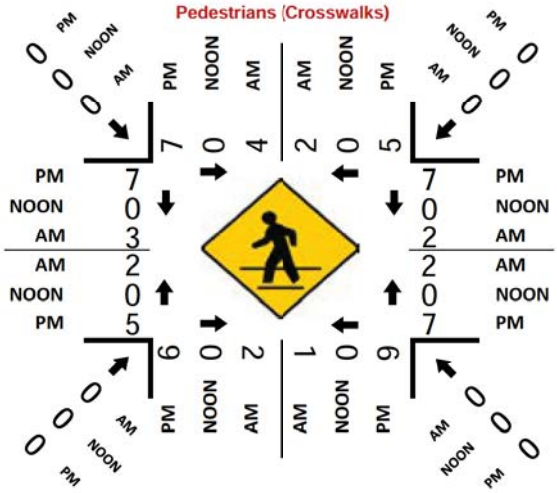
Bikes (NOON)



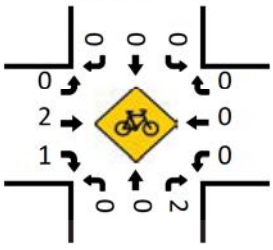
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Mt Abernathy Ave & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-012
Date: 1/29/2019

Total

NS/EW Streets:	Mt Abernathy Ave				Mt Abernathy Ave				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1	1	0	2	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	15	44	77	0	28	18	11	0	10	165	7	1	24	174	19	0	593
7:15 AM	9	34	88	0	32	29	22	0	13	272	9	1	21	225	21	0	776
7:30 AM	11	54	120	0	52	46	19	0	8	263	7	0	30	212	18	0	840
7:45 AM	18	34	86	0	32	43	29	0	8	297	6	4	37	318	29	0	941
8:00 AM	18	25	92	0	27	28	21	0	9	240	5	1	56	300	24	2	848
8:15 AM	14	26	74	0	29	26	34	0	8	270	3	8	50	244	23	0	809
8:30 AM	15	31	116	0	47	27	28	0	7	284	4	3	36	306	29	0	933
8:45 AM	23	35	95	0	40	36	16	0	11	255	14	5	41	328	27	2	928
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	123	283	748	0	287	253	180	0	74	2046	55	23	295	2107	190	4	6668
APPROACH %'s :	10.66%	24.52%	64.82%	0.00%	39.86%	35.14%	25.00%	0.00%	3.37%	93.08%	2.50%	1.05%	11.36%	81.16%	7.32%	0.15%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	65	116	368	0	135	124	112	0	32	1091	18	16	179	1168	105	2	3531
PEAK HR FACTOR :	0.903	0.853	0.793	0.000	0.718	0.721	0.824	0.000	0.889	0.918	0.750	0.500	0.799	0.918	0.905	0.250	0.938
	0.847				0.892				0.918				0.947				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1	1	0	2	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	24	32	66	0	49	70	40	0	30	289	22	5	65	306	40	1	1039
4:15 PM	20	28	63	0	50	79	29	0	33	278	20	13	66	370	34	0	1083
4:30 PM	26	38	64	0	65	79	33	0	30	265	19	4	67	288	38	0	1016
4:45 PM	15	21	59	0	59	93	46	0	34	267	26	9	75	371	45	1	1121
5:00 PM	20	24	47	0	75	117	44	0	28	277	20	6	64	352	38	0	1112
5:15 PM	17	27	52	0	58	109	58	0	31	285	25	10	83	359	29	0	1143
5:30 PM	27	37	47	0	45	91	33	0	25	309	21	13	76	410	43	2	1179
5:45 PM	23	28	61	0	68	112	42	0	27	251	24	9	78	344	33	1	1101
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	172	235	459	0	469	750	325	0	238	2221	177	69	574	2800	300	5	8794
APPROACH %'s :	19.86%	27.14%	53.00%	0.00%	30.38%	48.58%	21.05%	0.00%	8.80%	82.11%	6.54%	2.55%	15.60%	76.11%	8.15%	0.14%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	79	109	205	0	237	410	181	0	118	1138	92	38	298	1492	155	3	4555
PEAK HR FACTOR :	0.731	0.736	0.869	0.000	0.790	0.876	0.780	0.000	0.868	0.921	0.885	0.731	0.898	0.910	0.861	0.375	0.966
	0.885				0.877				0.942				0.917				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Mt Abernathy Ave & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-012
Date: 1/29/2019

Bikes

NS/EW Streets:	Mt Abernathy Ave				Mt Abernathy Ave				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1	1	0	2	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	1	0	0	0	1	0	0	0	2	0	0	5
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	0	3	0	0	0	1	0	0	0	0	0	0	5
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	2	0	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	3	0	0	0	5	0	0	0	4	0	0	0	3	2	0	18
APPROACH %'s :	25.00%	75.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	60.00%	40.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	1	0	0	0	1	0	0	0	1	2	0	6
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.250	0.000	0.300
	0.250				0.250				0.250				0.375				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1	1	0	2	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0	0	4
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2	0	0	2	1	1	0	0	4	0	0	0	1	1	0	12
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	50.00%	25.00%	25.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	1	0	0	1	0	0	0	0	2	0	0	0	1	0	0	5
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.313
	0.250				0.250				0.250				0.250				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Mt Abernathy Ave & Balboa Ave
City: San Diego
Project ID: 19-04036-012
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Mt Abernathy Ave		Mt Abernathy Ave		Balboa Ave		Balboa Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	1	0	0	0	1	1	0	3
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	1	1	0	2	0	1	6
7:45 AM	0	1	0	0	1	2	0	1	5
8:00 AM	0	1	1	2	0	2	0	2	8
8:15 AM	0	2	1	2	1	0	3	1	10
8:30 AM	0	0	1	2	1	1	2	3	10
8:45 AM	0	0	0	0	2	0	2	0	4
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	5	4	7	5	8	8	8	46
APPROACH %'s :	16.67%	83.33%	36.36%	63.64%	38.46%	61.54%	50.00%	50.00%	
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	0	4	3	6	3	5	5	7	33
PEAK HR FACTOR :		0.500	0.750	0.750	0.750	0.625	0.417	0.583	0.825
	0.500		0.750		0.667		0.600		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	4	1	1	3	2	4	2	3	20
4:15 PM	3	3	5	1	2	4	2	2	22
4:30 PM	1	0	2	5	8	1	3	1	21
4:45 PM	1	1	2	2	4	3	9	2	24
5:00 PM	0	0	4	2	1	0	2	6	15
5:15 PM	0	0	2	3	3	2	1	6	17
5:30 PM	3	0	1	5	3	4	3	0	19
5:45 PM	1	0	2	1	2	2	0	3	11
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	13	5	19	22	25	20	22	23	149
APPROACH %'s :	72.22%	27.78%	46.34%	53.66%	55.56%	44.44%	48.89%	51.11%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	4	1	9	12	11	9	15	14	75
PEAK HR FACTOR :	0.333	0.250	0.563	0.600	0.688	0.563	0.417	0.583	0.781
	0.417		0.875		0.714		0.659		

Prepared by National Data & Surveying Services

Mt Abernathy Ave & Balboa Ave

Peak Hour Turning Movement Count

ID: 19-04036-012
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND (Mt Abernathy Ave)

AM	112	124	135	0	253	AM
NOON	0	0	0	0	0	NOON
PM	181	410	237	0	382	PM

EASTBOUND (Balboa Ave)

AM	NOON	PM	
1361	0	1790	
16	0	38	0
32	0	118	1
1091	0	1138	3
18	0	92	0

WESTBOUND (Balboa Ave)

	PM	NOON	AM
0	155	0	105
3	1492	0	1168
1	298	0	179
0	3	0	2
	1583	0	1596

NORTHBOUND (Mt Abernathy Ave)

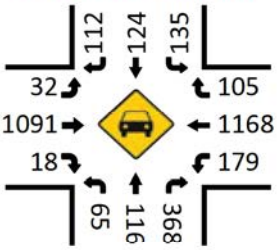
PM	800	0	79	109	205	PM
NOON	0	0	0	0	0	NOON
AM	321	0	65	116	368	AM

1 2 2 0 — 0 2 1 1

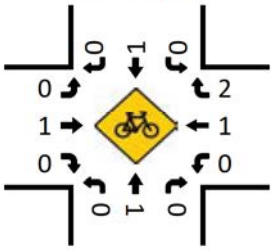
CONTROL: Signalized

TEV	3531 AM	0 NOON	4555 PM
PHF	0.94		0.97

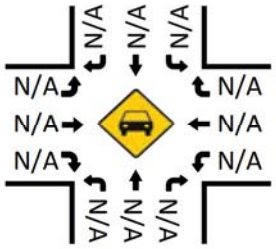
Total Vehicles (AM)



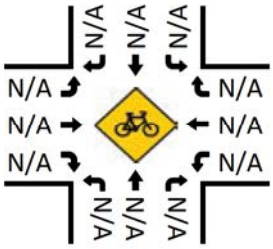
Bikes (AM)



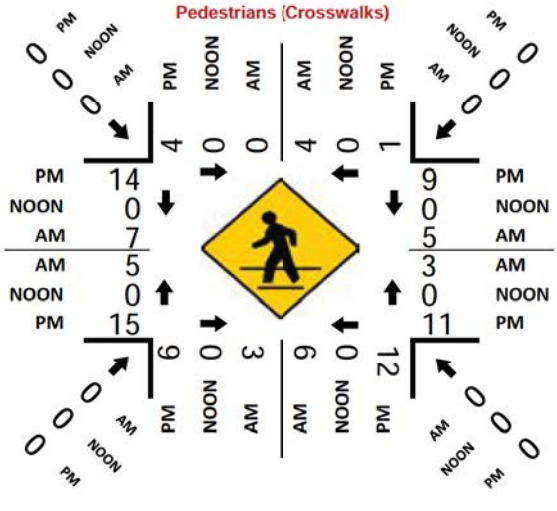
Total Vehicles (Noon)



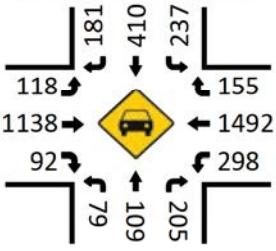
Bikes (NOON)



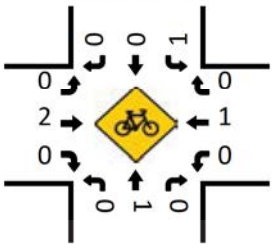
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Cannington Dr & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-013
Date: 1/29/2019

Total

NS/EW Streets:	Cannington Dr				Cannington Dr				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	8	10	29	0	9	5	14	0	4	291	7	1	25	217	8	2	630
7:15 AM	13	13	44	0	13	9	7	0	7	391	6	0	22	254	7	0	786
7:30 AM	6	15	54	0	10	10	15	0	6	436	3	2	17	298	6	5	883
7:45 AM	10	17	35	0	22	6	22	0	6	386	5	2	32	333	7	13	896
8:00 AM	4	4	37	0	18	11	8	0	6	404	8	0	14	380	9	0	903
8:15 AM	3	7	37	0	11	6	12	0	5	361	4	1	7	331	5	0	790
8:30 AM	3	9	25	0	13	2	10	0	7	436	4	2	3	348	5	3	870
8:45 AM	3	5	24	0	16	3	5	0	5	402	2	1	18	399	3	1	887
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	50	80	285	0	112	52	93	0	46	3107	39	9	138	2560	50	24	6645
APPROACH %'s :	12.05%	19.28%	68.67%	0.00%	43.58%	20.23%	36.19%	0.00%	1.44%	97.06%	1.22%	0.28%	4.98%	92.35%	1.80%	0.87%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	23	43	163	0	61	33	57	0	23	1587	20	5	70	1342	27	18	3472
PEAK HR FACTOR :	0.575	0.632	0.755	0.000	0.693	0.750	0.648	0.000	0.958	0.910	0.625	0.625	0.547	0.883	0.750	0.346	0.961
	0.763				0.755				0.914				0.904				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	9	13	0	7	7	14	0	3	388	12	3	19	429	12	0	919
4:15 PM	3	8	18	0	14	9	16	0	5	355	4	0	27	434	10	3	906
4:30 PM	4	4	19	0	5	6	9	0	9	389	8	2	14	417	11	1	898
4:45 PM	4	1	20	0	9	6	18	0	12	357	8	1	21	470	13	5	945
5:00 PM	2	4	19	0	12	7	14	0	12	356	15	2	25	482	5	3	958
5:15 PM	3	9	14	0	9	11	14	0	23	393	15	7	26	462	9	3	998
5:30 PM	3	3	21	0	12	14	14	0	10	355	15	1	31	501	6	0	986
5:45 PM	6	0	23	0	6	14	7	0	10	387	9	3	30	476	10	2	983
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	28	38	147	0	74	74	106	0	84	2980	86	19	193	3671	76	17	7593
APPROACH %'s :	13.15%	17.84%	69.01%	0.00%	29.13%	29.13%	41.73%	0.00%	2.65%	94.04%	2.71%	0.60%	4.88%	92.77%	1.92%	0.43%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	14	16	77	0	39	46	49	0	55	1491	54	13	112	1921	30	8	3925
PEAK HR FACTOR :	0.583	0.444	0.837	0.000	0.813	0.821	0.875	0.000	0.598	0.948	0.900	0.464	0.903	0.959	0.750	0.667	0.983
	0.922				0.838				0.921				0.962				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Cannington Dr & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-013
Date: 1/29/2019

Bikes

NS/EW Streets:	Cannington Dr				Cannington Dr				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	1	1	0	0	4	1	0	0	0	1	0	8
APPROACH %'s :					0.00%	50.00%	50.00%	0.00%	0.00%	80.00%	20.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500
									0.500								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	3
5:15 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	1	0	1	1	1	0	0	2	0	0	0	3	3	0	12
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	33.33%	33.33%	33.33%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	1	0	1	0	0	0	0	2	0	0	0	3	1	0	8
PEAK HR FACTOR :	0.00	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.750	0.250	0.000	0.667
			0.250				0.250				0.500				0.500		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Cannington Dr & Balboa Ave
City: San Diego
Project ID: 19-04036-013
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Cannington Dr		Cannington Dr		Balboa Ave		Balboa Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	3	0	8	0	0	11
7:30 AM	1	0	2	1	3	3	0	0	10
7:45 AM	0	0	1	0	1	5	0	0	7
8:00 AM	0	1	0	0	2	1	0	0	4
8:15 AM	1	0	0	0	1	0	0	0	2
8:30 AM	1	0	0	1	1	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	3	1	3	5	8	17	0	0	37
APPROACH %'s :	75.00%	25.00%	37.50%	62.50%	32.00%	68.00%			
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	2	1	3	1	7	9	0	0	23
PEAK HR FACTOR :	0.500	0.250	0.375	0.250	0.583	0.450			0.575
	0.750		0.333		0.667				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	1	0	2	0	0	0	3
4:15 PM	1	0	0	1	1	0	0	0	3
4:30 PM	0	0	0	0	0	3	0	0	3
4:45 PM	0	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	1	0	0	1
5:15 PM	3	1	1	0	5	1	0	0	11
5:30 PM	0	0	0	0	2	1	0	0	3
5:45 PM	0	0	1	1	1	0	0	0	3
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	4	1	4	2	11	6	0	0	28
APPROACH %'s :	80.00%	20.00%	66.67%	33.33%	64.71%	35.29%			
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	3	1	2	1	8	3	0	0	18
PEAK HR FACTOR :	0.250	0.250	0.500	0.250	0.400	0.750			0.409
	0.250		0.375		0.458				

Prepared by National Data & Surveying Services

Cannington Dr & Balboa Ave

Peak Hour Turning Movement Count

ID: 19-04036-013
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND — Cannington Dr

AM	57	33	61	0	93	AM
NOON	0	0	0	0	0	NOON
PM	49	46	39	0	101	PM

EASTBOUND — Balboa Ave

AM	NOON	PM		
1427	0	1997	⇦	
5	0	13	↶	0
23	0	55	↱	1
1587	0	1491	→	3
20	0	54	↷	0
AM	NOON	PM		

WESTBOUND — Balboa Ave

PM	NOON	AM		
30	0	27	↶	0
1921	0	1342	←	3
112	0	70	↰	1
8	0	18	↷	0
1615	0	1829	⇨	
PM	NOON	AM		

NORTHBOUND — Cannington Dr

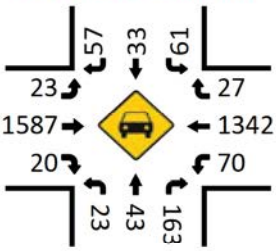
PM	212	0	14	16	77	PM
NOON	0	0	0	0	0	NOON
AM	123	0	23	43	163	AM

CONTROL

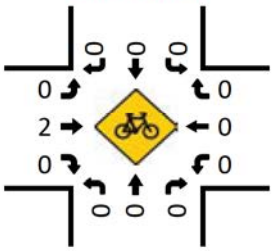
Signalized

TEV	3472	0	3925
	AM	NOON	PM
PHF	0.96		0.98

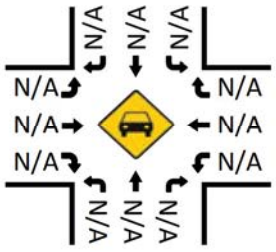
Total Vehicles (AM)



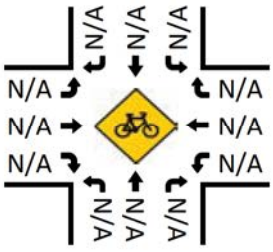
Bikes (AM)



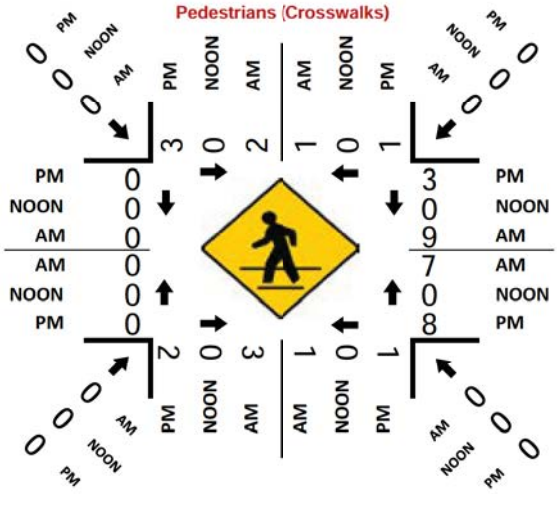
Total Vehicles (Noon)



Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
3
0
2
1
0
1
0
0
0
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0
0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Charger Blvd & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-014
Date: 1/29/2019

Total

NS/EW Streets:	Charger Blvd				Charger Blvd				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	2	0	1	1	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	19	26	122	0	62	11	3	0	2	309	7	0	54	225	80	2	922
7:15 AM	15	29	130	0	66	17	1	0	2	434	16	0	77	281	68	0	1136
7:30 AM	17	24	145	0	73	39	2	0	0	451	36	0	97	304	74	0	1262
7:45 AM	23	21	182	0	58	52	0	0	0	432	39	0	93	357	80	0	1337
8:00 AM	33	12	157	0	63	39	2	0	0	461	29	0	98	364	47	1	1306
8:15 AM	22	15	113	0	65	13	2	0	2	393	10	0	77	340	52	0	1104
8:30 AM	26	21	111	0	47	12	2	0	4	478	15	0	68	344	44	0	1172
8:45 AM	17	19	90	0	54	14	2	0	1	434	10	0	70	399	34	3	1147
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	172	167	1050	0	488	197	14	0	11	3392	162	0	634	2614	479	6	9386
APPROACH %'s :	12.38%	12.02%	75.59%	0.00%	69.81%	28.18%	2.00%	0.00%	0.31%	95.15%	4.54%	0.00%	16.98%	70.02%	12.83%	0.16%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	88	86	614	0	260	147	5	0	2	1778	120	0	365	1306	269	1	5041
PEAK HR FACTOR :	0.667	0.741	0.843	0.000	0.890	0.707	0.625	0.000	0.250	0.964	0.769	0.000	0.931	0.897	0.841	0.250	0.943
	0.872				0.904				0.969				0.916				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	2	0	1	1	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	27	13	97	0	41	30	2	0	4	380	31	1	91	454	76	2	1249
4:15 PM	36	14	73	0	62	42	3	0	6	330	25	0	95	425	61	2	1174
4:30 PM	27	11	87	0	41	17	4	0	4	368	38	0	97	414	66	1	1175
4:45 PM	33	8	75	0	45	25	6	0	0	398	31	0	97	450	62	2	1232
5:00 PM	22	18	56	0	53	29	1	0	6	365	30	0	104	475	68	0	1227
5:15 PM	33	10	82	0	49	38	7	0	5	340	39	0	100	493	78	1	1275
5:30 PM	27	12	74	0	54	41	5	0	5	362	37	0	88	472	81	0	1258
5:45 PM	27	9	72	0	37	42	5	0	4	372	39	0	107	507	67	0	1288
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	232	95	616	0	382	264	33	0	34	2915	270	1	779	3690	559	8	9878
APPROACH %'s :	24.60%	10.07%	65.32%	0.00%	56.26%	38.88%	4.86%	0.00%	1.06%	90.53%	8.39%	0.03%	15.47%	73.27%	11.10%	0.16%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	109	49	284	0	193	150	18	0	20	1439	145	0	399	1947	294	1	5048
PEAK HR FACTOR :	0.826	0.681	0.866	0.000	0.894	0.893	0.643	0.000	0.833	0.967	0.929	0.000	0.932	0.960	0.907	0.250	0.980
	0.884				0.903				0.966				0.970				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Charger Blvd & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-014
Date: 1/29/2019

Bikes

NS/EW Streets:	Charger Blvd				Charger Blvd				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	2	0	1	1	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	1	0	0	2	0	0	0	0	1	0	0	0	0	0	5
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	1	0	0	0	0	0	0	0	2	0	0	1	1	0	0	5
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	4	1	0	1	4	1	0	0	3	1	0	1	2	0	0	19
APPROACH %'s :	16.67%	66.67%	16.67%	0.00%	16.67%	66.67%	16.67%	0.00%	0.00%	75.00%	25.00%	0.00%	33.33%	66.67%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	1	0	0	1	1	0	0	0	1	0	0	0	1	0	0	5
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.625
		0.250				0.500				0.250				0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	2	0	1	1	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
4:45 PM	1	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	4
5:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	1	0	0	0	3	0	0	0	2	1	0	0	3	1	0	12
APPROACH %'s :	50.00%	50.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	66.67%	33.33%	0.00%	0.00%	75.00%	25.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	2	0	0	0	1	0	0	0	2	0	0	5
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.417
						0.500				0.250				0.500			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Charger Blvd & Balboa Ave
City: San Diego
Project ID: 19-04036-014
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Charger Blvd		Charger Blvd		Balboa Ave		Balboa Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	1	0	0	3	0	4
7:15 AM	1	0	0	0	0	0	1	0	2
7:30 AM	0	0	0	0	0	0	1	3	4
7:45 AM	0	0	1	0	0	0	1	1	3
8:00 AM	0	0	0	0	0	0	2	0	2
8:15 AM	0	0	0	1	0	0	0	1	2
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	0	1	2	0	0	8	5	17
APPROACH %'s :	100.00%	0.00%	33.33%	66.67%			61.54%	38.46%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	1	0	1	0	0	0	5	4	11
PEAK HR FACTOR :	0.250		0.250				0.625	0.333	0.688
	0.250		0.250				0.563		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	1	0	0	2	0	0	5	0	8
4:15 PM	0	3	0	0	0	0	3	3	9
4:30 PM	0	1	2	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	2	1	3
5:00 PM	0	0	2	0	0	0	1	1	4
5:15 PM	0	0	0	0	0	0	1	4	5
5:30 PM	1	1	0	2	0	0	1	1	6
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	5	4	4	0	0	13	10	38
APPROACH %'s :	28.57%	71.43%	50.00%	50.00%			56.52%	43.48%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	1	1	2	2	0	0	3	6	15
PEAK HR FACTOR :	0.250	0.250	0.250	0.250			0.750	0.375	0.625
	0.250		0.500				0.450		

Prepared by National Data & Surveying Services

Charger Blvd & Balboa Ave

Peak Hour Turning Movement Count

ID: 19-04036-014
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND (Charger Blvd)

AM	5	147	260	0	357	AM
NOON	0	0	0	0	0	NOON
PM	18	150	193	0	363	PM

EASTBOUND (Balboa Ave)

AM	NOON	PM		
1399	0	2074	⇦	
0	0	0	↶	0
2	0	20	↱	1
1778	0	1439	→	3
120	0	145	↳	0
AM	NOON	PM		

WESTBOUND (Balboa Ave)

PM	NOON	AM		
294	0	269	↰	0
1947	0	1306	←	3
399	0	365	↰	1
1	0	1	↶	0
1917	0	2653	⇨	
PM	NOON	AM		

NORTHBOUND (Charger Blvd)

PM	694	0	109	49	284	PM
NOON	0	0	0	0	0	NOON
AM	632	0	88	86	614	AM

CONTROL

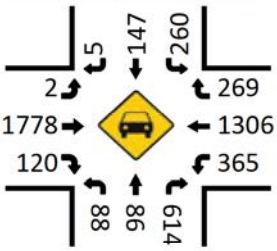
Signalized

TEV	5041	0	5048
	AM	NOON	PM
PHF	0.94		0.98

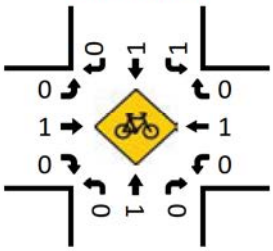
↶	0	1.5	0.5	2

↶	↰	↑	↱	
0	1	1	0	

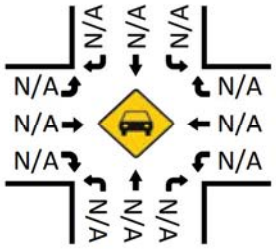
Total Vehicles (AM)



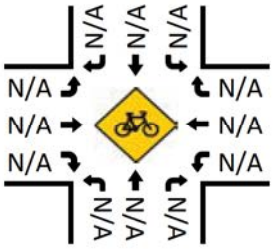
Bikes (AM)



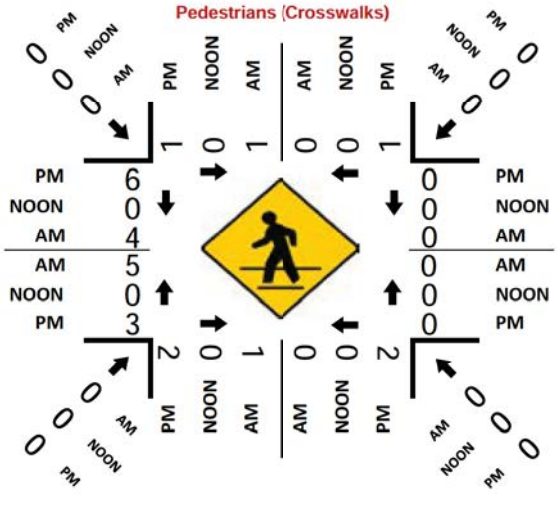
Total Vehicles (Noon)



Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
1
0
1
6
0
4
5
0
3
2
1
0
0
1
0
0
0

National Data & Surveying Services

Intersection Turning Movement Count

Location: I 805 SB Ramps & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-015
Date: 1/29/2019

Total

NS/EW Streets:	I 805 SB Ramps				I 805 SB Ramps				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	2	0	0	3	1	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	72	0	0	371	141	0	0	307	0	0	891
7:15 AM	0	0	0	0	0	0	90	0	0	438	175	0	0	319	0	0	1022
7:30 AM	0	0	0	0	0	0	143	0	0	464	201	0	0	348	0	0	1156
7:45 AM	0	0	0	0	0	0	86	0	0	497	182	0	0	435	0	0	1200
8:00 AM	0	0	0	0	0	0	113	0	0	489	203	0	0	376	0	0	1181
8:15 AM	0	0	0	0	0	0	88	0	0	412	145	0	0	367	0	0	1012
8:30 AM	0	0	0	0	0	0	92	0	0	458	193	0	0	387	0	0	1130
8:45 AM	0	0	0	0	0	0	110	0	0	439	127	0	0	408	0	0	1084
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	794	0	0	3568	1367	0	0	2947	0	0	8676
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	0.00%	72.30%	27.70%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	432	0	0	1888	761	0	0	1478	0	0	4559
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.755	0.000	0.000	0.950	0.937	0.000	0.000	0.849	0.000	0.000	0.950
							0.755				0.957				0.849		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	2	0	0	3	1	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	73	0	0	377	129	0	0	565	0	0	1144
4:15 PM	0	0	0	0	0	0	90	0	0	346	137	0	0	478	0	0	1051
4:30 PM	0	0	0	0	0	0	92	0	0	391	115	0	0	500	0	0	1098
4:45 PM	0	0	0	0	0	0	103	0	0	390	114	0	0	494	0	0	1101
5:00 PM	0	0	0	0	0	0	82	0	0	350	107	0	0	577	0	0	1116
5:15 PM	0	0	0	0	0	0	82	0	0	353	138	0	0	599	0	0	1172
5:30 PM	0	0	0	0	0	0	97	0	0	371	100	0	0	549	0	0	1117
5:45 PM	0	0	0	0	0	0	92	0	0	359	135	0	0	574	0	0	1160
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	711	0	0	2937	975	0	0	4336	0	0	8959
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	0.00%	75.08%	24.92%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	353	0	0	1433	480	0	0	2299	0	0	4565
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.910	0.000	0.000	0.966	0.870	0.000	0.000	0.960	0.000	0.000	0.974
							0.910				0.968				0.960		

National Data & Surveying Services

Intersection Turning Movement Count

Location: I 805 SB Ramps & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-015
Date: 1/29/2019

Bikes

NS/EW Streets:	I 805 SB Ramps				I 805 SB Ramps				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	2	0	0	3	1	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	0	0	3	0	0	0	1	0	0	5
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500
										0.500							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	2	0	0	3	1	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	3	1	0	0	6	0	0	10
APPROACH %'s :									0.00%	75.00%	25.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	1	0	0	5	0	0	7
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.625	0.000	0.000	0.583
										0.500				0.625			

National Data & Surveying Services

Intersection Turning Movement Count

Location: I 805 SB Ramps & Balboa Ave
City: San Diego
Project ID: 19-04036-015
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	I 805 SB Ramps		I 805 SB Ramps		Balboa Ave		Balboa Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	1	0	0	0	0	2
8:00 AM	0	1	0	1	0	0	0	0	2
8:15 AM	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	0	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	1	2	3	0	0	0	0	7
APPROACH %'s :	50.00%	50.00%	40.00%	60.00%					
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	1	1	3	0	0	0	0	5
PEAK HR FACTOR :		0.250	0.250	0.750					0.625
	0.250		0.500						

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	0	0	0	0	1
5:00 PM	0	1	2	0	0	0	0	0	3
5:15 PM	0	0	2	1	0	0	0	0	3
5:30 PM	0	0	0	3	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	3	4	4	0	0	0	0	12
APPROACH %'s :	25.00%	75.00%	50.00%	50.00%					
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	0	1	4	4	0	0	0	0	9
PEAK HR FACTOR :		0.250	0.500	0.333					0.750
	0.250		0.667						

Prepared by National Data & Surveying Services

I 805 SB Ramps & Balboa Ave

Peak Hour Turning Movement Count

ID: 19-04036-015
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

I 805 SB Ramps — SOUTHBOUND

AM	432	0	0	0	0 AM
NOON	0	0	0	0	0 NOON
PM	353	0	0	0	0 PM

Balboa Ave — EASTBOUND

AM	NOON	PM	
1910	0	2652	
0	0	0	0
0	0	0	0
1888	0	1433	3
761	0	480	1

WESTBOUND — Balboa Ave

PM	NOON	AM	
0	0	0	0
2299	0	1478	3
0	0	0	0
0	0	0	0
1433	0	1888	

CONTROL: Signalized

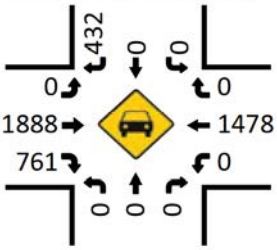
TEV	4559 AM	0 NOON	4565 PM
PHF	0.95		0.97

NORTHBOUND — I 805 SB Ramps

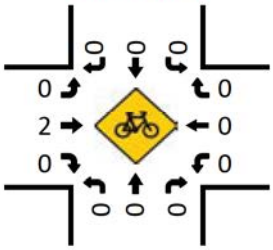
PM	480	0	0	0	0 PM
NOON	0	0	0	0	0 NOON
AM	761	0	0	0	0 AM

2 0 0 0 — 0 0 0 0

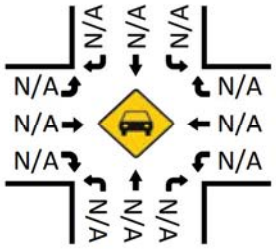
Total Vehicles (AM)



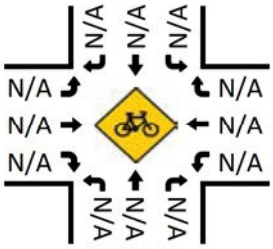
Bikes (AM)



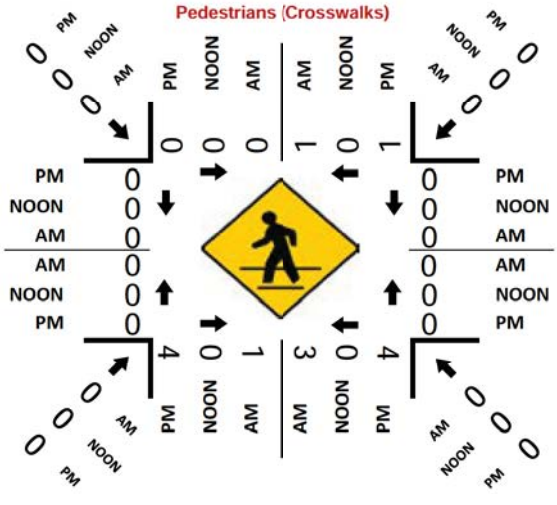
Total Vehicles (Noon)



Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
1
0
1
0
0
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0

National Data & Surveying Services

Intersection Turning Movement Count

Location: I 805 NB Ramps & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-016
Date: 1/29/2019

Total

NS/EW Streets:	I 805 NB Ramps				I 805 NB Ramps				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	2	0	0	0	1	0	0	3	1	0	0	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	96	0	0	0	158	0	0	352	111	0	0	199	88	0	1004
7:15 AM	0	0	84	0	0	0	141	0	0	473	110	0	0	241	109	0	1158
7:30 AM	0	0	62	0	0	0	142	0	0	454	99	0	0	277	109	0	1143
7:45 AM	0	0	100	0	0	0	132	0	0	567	103	0	0	329	100	0	1331
8:00 AM	0	0	89	0	0	0	117	0	0	496	115	0	0	269	110	0	1196
8:15 AM	0	0	83	0	0	0	140	0	0	508	87	0	0	291	90	0	1199
8:30 AM	0	0	95	0	0	0	129	0	0	486	87	0	0	301	124	0	1222
8:45 AM	0	0	121	0	0	0	94	0	0	493	84	0	0	336	83	0	1211
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	730	0	0	0	1053	0	0	3829	796	0	0	2243	813	0	9464
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	82.79%	17.21%	0.00%	0.00%	73.40%	26.60%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	367	0	0	0	518	0	0	2057	392	0	0	1190	424	0	4948
PEAK HR FACTOR :	0.000	0.000	0.918	0.000	0.000	0.000	0.925	0.000	0.000	0.907	0.852	0.000	0.000	0.904	0.855	0.000	0.929
			0.918				0.925				0.914				0.941		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	2	0	0	0	1	0	0	3	1	0	0	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	108	0	0	0	182	0	0	434	97	0	0	499	173	0	1493
4:15 PM	0	0	113	0	0	0	170	0	0	356	80	0	0	387	158	0	1264
4:30 PM	0	0	117	0	0	0	137	0	0	347	90	0	0	445	172	0	1308
4:45 PM	0	0	126	0	0	0	152	0	0	387	94	0	0	467	162	0	1388
5:00 PM	0	0	109	0	0	0	180	0	0	342	75	0	0	590	183	0	1479
5:15 PM	0	0	133	0	0	0	188	0	0	394	89	0	0	497	196	0	1497
5:30 PM	0	0	117	0	0	0	172	0	0	367	80	0	0	455	153	0	1344
5:45 PM	0	0	145	0	0	0	128	0	0	315	98	0	0	420	125	0	1231
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	968	0	0	0	1309	0	0	2942	703	0	0	3760	1322	0	11004
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	80.71%	19.29%	0.00%	0.00%	73.99%	26.01%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	485	0	0	0	692	0	0	1490	338	0	0	2009	694	0	5708
PEAK HR FACTOR :	0.000	0.000	0.912	0.000	0.000	0.000	0.920	0.000	0.000	0.945	0.899	0.000	0.000	0.851	0.885	0.000	0.953
			0.912				0.920				0.946				0.874		

National Data & Surveying Services

Intersection Turning Movement Count

Location: I 805 NB Ramps & Balboa Ave
City: San Diego
Control: Signalized

Project ID: 19-04036-016
Date: 1/29/2019

Bikes

NS/EW Streets:	I 805 NB Ramps				I 805 NB Ramps				Balboa Ave				Balboa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	2	0	0	0	1	0	0	3	1	0	0	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
										0.250							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	2	0	0	0	1	0	0	3	1	0	0	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	5	0	0	0	7	0	0	12
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	5	0	0	0	4	0	0	9
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.250	0.000	0.000	0.450
										0.417				0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: I 805 NB Ramps & Balboa Ave
City: San Diego
Project ID: 19-04036-016
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	I 805 NB Ramps		I 805 NB Ramps		Balboa Ave		Balboa Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	1	0	0	0	0	0	1
7:30 AM	1	0	0	0	1	1	0	0	3
7:45 AM	1	1	0	0	0	0	0	0	2
8:00 AM	0	0	2	0	0	0	0	0	2
8:15 AM	0	0	0	2	0	0	0	0	2
8:30 AM	0	0	0	0	0	1	0	0	1
8:45 AM	0	2	0	0	0	0	0	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	3	3	3	1	2	0	0	14
APPROACH %'s :	40.00%	60.00%	50.00%	50.00%	33.33%	66.67%			
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	1	1	2	2	0	1	0	0	7
PEAK HR FACTOR :	0.250	0.250	0.250	0.250		0.250			0.875
	0.250		0.500		0.250				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	2	2	0	0	2	0	0	6
5:15 PM	1	2	1	0	1	2	0	0	7
5:30 PM	3	0	1	0	4	0	0	0	8
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	4	4	5	1	5	4	0	0	23
APPROACH %'s :	50.00%	50.00%	83.33%	16.67%	55.56%	44.44%			
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	4	4	4	0	5	4	0	0	21
PEAK HR FACTOR :	0.333	0.500	0.500		0.313	0.500			0.656
	0.667		0.500		0.563				

Prepared by National Data & Surveying Services

I 805 NB Ramps & Balboa Ave

Peak Hour Turning Movement Count

ID: 19-04036-016
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

I 805 NB Ramps — SOUTHBOUND

AM	518	0	0	0	424
NOON	0	0	0	0	0
PM	692	0	0	0	694

EASTBOUND — Balboa Ave

AM	NOON	PM	
1708	0	2701	
0	0	0	0
0	0	0	0
2057	0	1490	3
392	0	338	1

WESTBOUND — Balboa Ave

	PM	NOON	AM
1	694	0	424
3	2009	0	1190
0	0	0	0
0	0	0	0
	1975	0	2424

CONTROL

Signalized

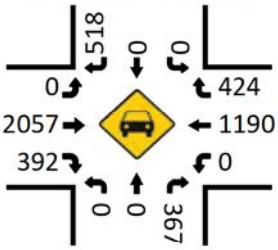
TEV	4948	0	5708
	AM	NOON	PM
PHF	0.93		0.95

NORTHBOUND — I 805 NB Ramps

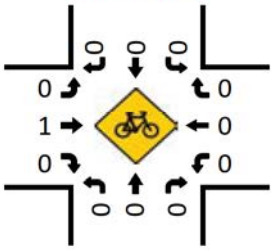
PM	338	0	0	0	485
NOON	0	0	0	0	0
AM	392	0	0	0	367

0 0 0 2

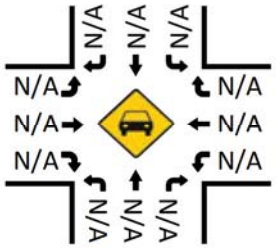
Total Vehicles (AM)



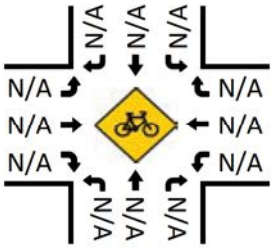
Bikes (AM)



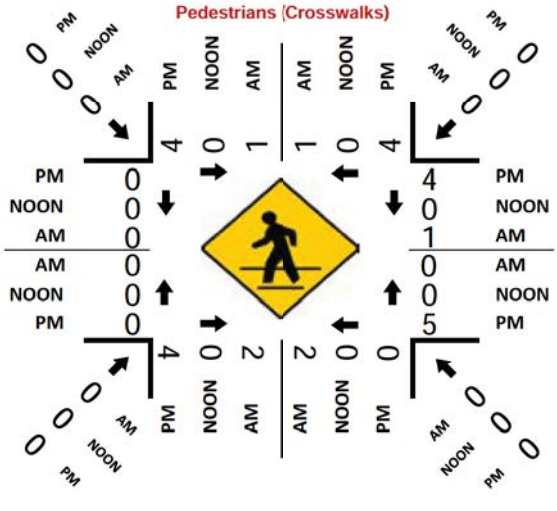
Total Vehicles (Noon)



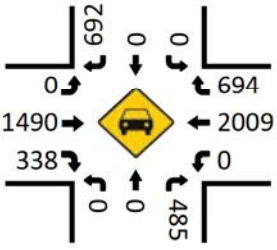
Bikes (NOON)



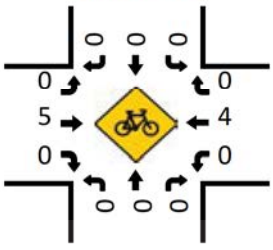
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Mt Alifan Dr
City: San Diego
Control: Signalized

Project ID: 19-04036-017
Date: 1/29/2019

Total

NS/EW Streets:	Genesee Ave				Genesee Ave				Mt Alifan Dr				Mt Alifan Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	2	1	0	0.5	1	0.5	0	0.5	1.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	170	52	2	8	101	18	3	19	62	11	0	9	26	44	0	530
7:15 AM	14	154	49	0	5	145	19	3	39	92	12	0	22	26	45	1	626
7:30 AM	9	240	64	0	12	160	25	1	41	99	17	0	38	46	23	0	775
7:45 AM	14	222	48	1	14	175	28	0	35	91	10	0	26	53	35	0	752
8:00 AM	18	223	45	0	4	128	31	3	28	66	21	0	30	75	34	0	706
8:15 AM	25	223	38	1	1	113	45	0	48	114	19	0	24	71	31	0	753
8:30 AM	18	217	45	1	5	100	31	3	58	92	11	0	24	53	32	0	690
8:45 AM	14	193	48	4	13	122	26	2	48	77	18	0	25	35	29	0	654
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	117	1642	389	9	62	1044	223	15	316	693	119	0	198	385	273	1	5486
APPROACH %'s :	5.42%	76.12%	18.03%	0.42%	4.61%	77.68%	16.59%	1.12%	28.01%	61.44%	10.55%	0.00%	23.10%	44.92%	31.86%	0.12%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	66	908	195	2	31	576	129	4	152	370	67	0	118	245	123	0	2986
PEAK HR FACTOR :	0.660	0.946	0.762	0.500	0.554	0.823	0.717	0.333	0.792	0.811	0.798	0.000	0.776	0.817	0.879	0.000	0.963
	0.935				0.853				0.814				0.874				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	2	1	0	0.5	1	0.5	0	0.5	1.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	21	196	39	5	21	214	48	2	49	70	28	0	67	54	27	0	841
4:15 PM	14	134	28	1	13	200	47	2	44	68	27	0	69	80	25	1	753
4:30 PM	19	151	34	2	23	220	47	1	40	60	36	0	75	87	28	0	823
4:45 PM	11	115	32	2	21	214	41	2	39	79	29	0	102	105	28	0	820
5:00 PM	19	135	32	0	18	222	46	0	41	62	30	0	80	59	28	0	772
5:15 PM	14	141	49	0	18	230	55	1	29	57	28	0	108	85	32	0	847
5:30 PM	17	149	32	2	29	230	51	3	50	64	27	0	86	95	23	0	858
5:45 PM	18	134	37	2	31	221	55	4	51	67	32	0	68	80	24	0	824
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	133	1155	283	14	174	1751	390	15	343	527	237	0	655	645	215	1	6538
APPROACH %'s :	8.39%	72.87%	17.85%	0.88%	7.47%	75.15%	16.74%	0.64%	30.98%	47.61%	21.41%	0.00%	43.21%	42.55%	14.18%	0.07%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	68	559	150	4	96	903	207	8	171	250	117	0	342	319	107	0	3301
PEAK HR FACTOR :	0.895	0.938	0.765	0.500	0.774	0.982	0.941	0.500	0.838	0.933	0.914	0.000	0.792	0.839	0.836	0.000	0.962
	0.957				0.970				0.897				0.853				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Mt Alifan Dr
City: San Diego
Control: Signalized

Project ID: 19-04036-017
Date: 1/29/2019

Bikes

NS/EW Streets:	Genesee Ave				Genesee Ave				Mt Alifan Dr				Mt Alifan Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	2	1	0	0.5	1	0.5	0	0.5	1.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30 AM	0	2	0	0	0	1	0	0	0	0	1	0	0	0	0	0	4
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	1	1	0	0	0	0	0	1	1	0	0	0	0	1	0	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	5	1	0	0	1	0	0	1	1	1	0	0	1	2	0	13
APPROACH %'s :	0.00%	83.33%	16.67%	0.00%	0.00%	100.00%	0.00%	0.00%	33.33%	33.33%	33.33%	0.00%	0.00%	33.33%	66.67%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	5	1	0	0	1	0	0	1	1	1	0	0	0	1	0	11
PEAK HR FACTOR :	0.000	0.625	0.250	0.000	0.000	0.250	0.000	0.000	0.250	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.550
		0.750				0.250				0.375				0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	2	1	0	0.5	1	0.5	0	0.5	1.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	1	1	0	0	1	0	0	0	0	1	0	4
4:30 PM	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	1	0	0	0	6	2	0	0	4	1	0	0	0	1	0	16
APPROACH %'s :	50.00%	50.00%	0.00%	0.00%	0.00%	75.00%	25.00%	0.00%	0.00%	80.00%	20.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	2	1	0	0	0	0	0	4
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.000	0.000	0.500
						0.250				0.375							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Genesee Ave & Mt Alifan Dr
City: San Diego
Project ID: 19-04036-017
Date: 1/29/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Genesee Ave		Genesee Ave		Mt Alifan Dr		Mt Alifan Dr		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	1	0	2	0	2	0	0	6
7:15 AM	1	0	1	7	4	2	0	0	15
7:30 AM	0	1	2	3	2	1	0	0	9
7:45 AM	1	3	0	4	0	0	0	0	8
8:00 AM	0	1	0	6	0	2	0	0	9
8:15 AM	1	1	0	2	4	1	0	0	9
8:30 AM	1	1	2	3	3	2	1	1	14
8:45 AM	2	6	3	5	6	4	1	1	28
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	7	14	8	32	19	14	2	2	98
APPROACH %'s :	33.33%	66.67%	20.00%	80.00%	57.58%	42.42%	50.00%	50.00%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	2	6	2	15	6	4	0	0	35
PEAK HR FACTOR :	0.500	0.500	0.250	0.625	0.375	0.500			0.972
	0.500		0.708		0.500				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	2	1	2	3	3	6	1	1	19
4:15 PM	0	0	4	5	3	3	0	2	17
4:30 PM	2	1	2	5	3	6	0	0	19
4:45 PM	3	4	2	2	0	2	0	3	16
5:00 PM	0	1	5	2	0	5	1	0	14
5:15 PM	2	1	3	2	4	2	1	3	18
5:30 PM	0	3	1	1	1	6	0	1	13
5:45 PM	3	2	2	2	2	6	1	0	18
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	12	13	21	22	16	36	4	10	134
APPROACH %'s :	48.00%	52.00%	48.84%	51.16%	30.77%	69.23%	28.57%	71.43%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	5	7	11	7	7	19	3	4	63
PEAK HR FACTOR :	0.417	0.583	0.550	0.875	0.438	0.792	0.750	0.333	0.875
	0.600		0.643		0.813		0.438		

Prepared by National Data & Surveying Services

Genesee Ave & Mt Alifan Dr

Peak Hour Turning Movement Count

ID: 19-04036-017
City: San Diego

Day: Tuesday
Date: 01/29/2019

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND — Genesee Ave

AM	129	576	31	4	1187	AM
NOON	0	0	0	0	0	NOON
PM	207	903	96	8	845	PM

EASTBOUND — Mt Alifan Dr

AM	NOON	PM		
440	0	594		
0	0	0	0	
152	0	171	0.5	
370	0	250	1	
67	0	117	0.5	
AM	NOON	PM		

WESTBOUND — Mt Alifan Dr

PM	NOON	AM	
107	0	123	1
319	0	245	1.5
342	0	118	0.5
0	0	0	0
PM	NOON	AM	
496	0	596	

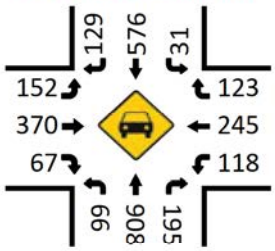
NORTHBOUND — Genesee Ave

PM	1366	4	68	559	150	PM
NOON	0	0	0	0	0	NOON
AM	763	2	66	908	195	AM

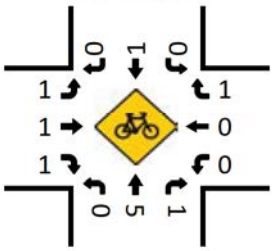
	1	2	1	0
	0	1	3	1

CONTROL			
Signalized			
TEV	2986 AM	0 NOON	3301 PM
PHF	0.96		0.96

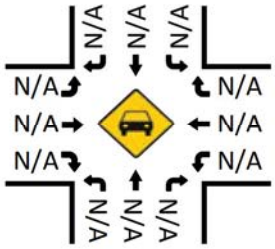
Total Vehicles (AM)



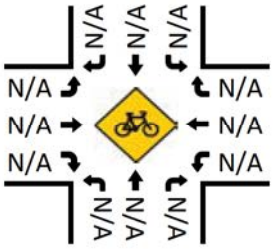
Bikes (AM)



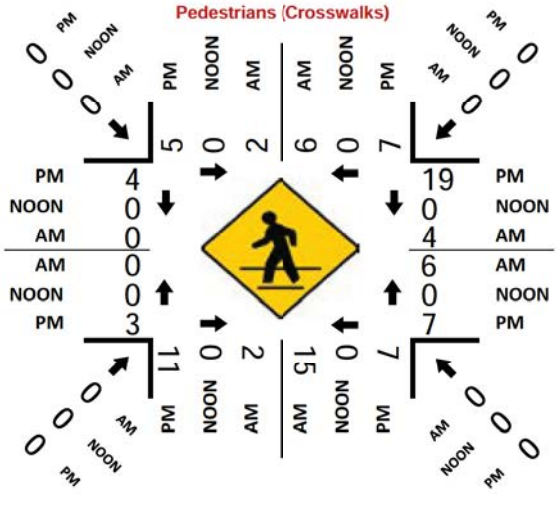
Total Vehicles (Noon)



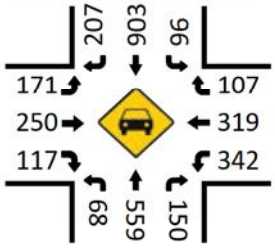
Bikes (NOON)



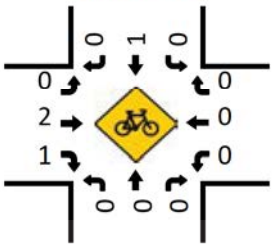
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Appendix D
Peak Hour Intersection LOS Worksheets – Existing Conditions

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	129	9	106	520	320	161	1001	67	6
Future Volume (veh/h)	6	208	437	129	9	106	520	320	161	1001	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	95		114	559	241	166	1032	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	970	199		290	811	349	228	1088	51	
Arrive On Green		0.08	0.33	0.33		0.08	0.34	0.34	0.09	0.42	0.42	
Sat Flow, veh/h		3442	2910	596		3442	2380	1023	3442	3439	160	
Grp Volume(v), veh/h		219	278	277		114	415	385	166	531	549	
Grp Sat Flow(s),veh/h/ln		1721	1770	1736		1721	1770	1634	1721	1770	1829	
Q Serve(g_s), s		6.7	13.4	13.6		3.4	21.8	21.9	5.1	31.2	31.3	
Cycle Q Clear(g_c), s		6.7	13.4	13.6		3.4	21.8	21.9	5.1	31.2	31.3	
Prop In Lane		1.00		0.34		1.00		0.63	1.00		0.09	
Lane Grp Cap(c), veh/h		283	590	579		290	603	557	228	560	579	
V/C Ratio(X)		0.77	0.47	0.48		0.39	0.69	0.69	0.73	0.95	0.95	
Avail Cap(c_a), veh/h		433	590	579		290	603	557	402	575	594	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.87	0.87	0.87	
Uniform Delay (d), s/veh		48.6	28.5	28.5		46.8	30.7	30.7	48.3	30.4	30.4	
Incr Delay (d2), s/veh		1.9	2.7	2.8		0.3	6.3	6.9	1.5	22.5	22.0	
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		3.3	7.0	7.0		1.6	11.7	10.9	2.4	18.6	19.2	
LnGrp Delay(d),s/veh		50.5	31.2	31.4		47.2	37.0	37.6	49.8	52.9	52.5	
LnGrp LOS		D	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			774				914			1246		
Approach Delay, s/veh			36.7				38.5			52.3		
Approach LOS			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	14.1	41.0	11.6	41.4	13.3	41.8	13.8	39.1
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	15.6	7.1	14.4	8.7	23.9	9.2	33.3
Green Ext Time (p_c), s	0.0	3.5	0.1	1.6	0.2	3.0	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	42.6
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	382	100
Future Volume (veh/h)	106	382	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	434	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1002	183
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	2968	542
Grp Volume(v), veh/h	120	257	257
Grp Sat Flow(s),veh/h/ln	1774	1770	1740
Q Serve(g_s), s	7.2	12.2	12.4
Cycle Q Clear(g_c), s	7.2	12.2	12.4
Prop In Lane	1.00		0.31
Lane Grp Cap(c), veh/h	147	597	587
V/C Ratio(X)	0.82	0.43	0.44
Avail Cap(c_a), veh/h	158	597	587
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.7	27.8
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.0	6.0
LnGrp Delay(d),s/veh	72.5	27.9	28.0
LnGrp LOS	E	C	C
Approach Vol, veh/h		634	
Approach Delay, s/veh		36.4	
Approach LOS		D	
Timer			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	27	3	66	15	10	13	3	68	1209	3	1	6	497	20
Future Volume (veh/h)	27	3	66	15	10	13	3	68	1209	3	1	6	497	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)	0.99		0.98	0.99		0.97		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	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	36	4	61	19	13	11		76	1343	2		7	540	15
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.79	0.79	0.79		0.90	0.90	0.90		0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	86	19	91	103	67	42		681	2763	4		12	1338	37
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10		0.26	0.51	0.51		0.01	0.38	0.38
Sat Flow, veh/h	416	189	923	554	677	423		1774	3626	5		1774	3516	98
Grp Volume(v), veh/h	101	0	0	43	0	0		76	655	690		7	272	283
Grp Sat Flow(s),veh/h/ln	1528	0	0	1654	0	0		1774	1770	1862		1774	1770	1844
Q Serve(g_s), s	4.3	0.0	0.0	0.0	0.0	0.0		3.5	26.0	26.0		0.4	12.1	12.2
Cycle Q Clear(g_c), s	6.8	0.0	0.0	2.4	0.0	0.0		3.5	26.0	26.0		0.4	12.1	12.2
Prop In Lane	0.36		0.60	0.44		0.26		1.00		0.00		1.00		0.05
Lane Grp Cap(c), veh/h	196	0	0	211	0	0		681	1349	1419		12	673	702
V/C Ratio(X)	0.52	0.00	0.00	0.20	0.00	0.00		0.11	0.49	0.49		0.56	0.40	0.40
Avail Cap(c_a), veh/h	491	0	0	509	0	0		681	1349	1419		158	673	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.67	0.67	0.67		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.76	0.76	0.76		0.87	0.87	0.87
Uniform Delay (d), s/veh	46.9	0.0	0.0	45.0	0.0	0.0		26.0	12.7	12.7		53.5	24.5	24.5
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.2	0.0	0.0		0.0	1.0	0.9		12.2	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	1.2	0.0	0.0		1.7	13.1	13.7		0.3	6.2	6.4
LnGrp Delay(d),s/veh	47.6	0.0	0.0	45.2	0.0	0.0		26.0	13.6	13.6		65.7	26.0	26.0
LnGrp LOS	D			D				C	B	B		E	C	C
Approach Vol, veh/h		101			43				1421				562	
Approach Delay, s/veh		47.6			45.2				14.3				26.5	
Approach LOS		D			D				B				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	87.3		15.5	46.5	46.0		15.5
Change Period (Y+Rc), s	4.4	5.0		4.9	5.0	* 4.9		4.9
Max Green Setting (Gmax), s	9.6	52.0		32.1	20.6	* 41		32.1
Max Q Clear Time (g_c+I1), s	2.4	28.0		8.8	5.5	14.2		4.4
Green Ext Time (p_c), s	0.0	17.4		0.3	0.1	2.3		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	19.7
HCM 2010 LOS	B

Notes



Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	46	100	1159	62	1	27	565
Future Volume (veh/h)	46	100	1159	62	1	27	565
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.99		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	55	84	1413	53		31	657
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.83	0.83	0.82	0.82		0.86	0.86
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	70	107	1846	69		354	2771
Arrive On Green	0.11	0.11	1.00	1.00		0.07	0.26
Sat Flow, veh/h	646	986	3572	130		1774	3632
Grp Volume(v), veh/h	140	0	718	748		31	657
Grp Sat Flow(s),veh/h/ln	1643	0	1770	1840		1774	1770
Q Serve(g_s), s	9.0	0.0	0.0	0.0		1.8	15.8
Cycle Q Clear(g_c), s	9.0	0.0	0.0	0.0		1.8	15.8
Prop In Lane	0.39	0.60		0.07		1.00	
Lane Grp Cap(c), veh/h	179	0	939	976		354	2771
V/C Ratio(X)	0.78	0.00	0.76	0.77		0.09	0.24
Avail Cap(c_a), veh/h	367	0	939	976		354	2771
HCM Platoon Ratio	1.00	1.00	2.00	2.00		0.33	0.33
Upstream Filter(I)	1.00	0.00	0.86	0.86		0.98	0.98
Uniform Delay (d), s/veh	46.9	0.0	0.0	0.0		41.2	14.6
Incr Delay (d2), s/veh	2.9	0.0	5.1	5.0		0.0	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	4.2	0.0	1.3	1.3		0.9	7.9
LnGrp Delay(d),s/veh	49.8	0.0	5.1	5.0		41.2	14.8
LnGrp LOS	D		A	A		D	B
Approach Vol, veh/h	140		1466				688
Approach Delay, s/veh	49.8		5.0				16.0
Approach LOS	D		A				B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.4	63.0				90.4		17.6
Change Period (Y+Rc), s	5.8	* 5.7				5.8		5.9
Max Green Setting (Gmax), s	9.6	* 57				72.2		24.1
Max Q Clear Time (g_c+I1), s	13.8	2.0				17.8		11.0
Green Ext Time (p_c), s	0.0	28.4				8.7		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.0
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	164	0	26	13	0	39	1	18	1032	4	1	8	545	47
Future Volume (veh/h)	164	0	26	13	0	39	1	18	1032	4	1	8	545	47
Number	7	4	14	3	8	18		1	6	16		5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	245	0	27	18	0	37		21	1200	4		10	665	40
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.67	0.67	0.67	0.72	0.72	0.72		0.86	0.86	0.86		0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	339	0	30	145	20	249		31	2301	8		17	2131	128
Arrive On Green	0.21	0.00	0.21	0.21	0.00	0.21		0.02	0.64	0.64		0.02	1.00	1.00
Sat Flow, veh/h	1284	0	142	470	94	1159		1774	3618	12		1774	3392	204
Grp Volume(v), veh/h	272	0	0	55	0	0		21	587	617		10	347	358
Grp Sat Flow(s),veh/h/ln	1426	0	0	1723	0	0		1774	1770	1861		1774	1770	1826
Q Serve(g_s), s	16.9	0.0	0.0	0.0	0.0	0.0		1.3	19.5	19.5		0.6	0.0	0.0
Cycle Q Clear(g_c), s	19.8	0.0	0.0	2.9	0.0	0.0		1.3	19.5	19.5		0.6	0.0	0.0
Prop In Lane	0.90		0.10	0.33		0.67		1.00		0.01		1.00		0.11
Lane Grp Cap(c), veh/h	369	0	0	414	0	0		31	1126	1183		17	1112	1147
V/C Ratio(X)	0.74	0.00	0.00	0.13	0.00	0.00		0.68	0.52	0.52		0.59	0.31	0.31
Avail Cap(c_a), veh/h	458	0	0	509	0	0		174	1126	1183		174	1112	1147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.91	0.91	0.91		0.95	0.95	0.95
Uniform Delay (d), s/veh	40.8	0.0	0.0	34.5	0.0	0.0		52.8	10.7	10.7		52.8	0.0	0.0
Incr Delay (d2), s/veh	3.4	0.0	0.0	0.1	0.0	0.0		8.8	1.6	1.5		10.9	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	8.2	0.0	0.0	1.3	0.0	0.0		0.7	9.9	10.4		0.3	0.2	0.2
LnGrp Delay(d),s/veh	44.1	0.0	0.0	34.5	0.0	0.0		61.5	12.3	12.2		63.6	0.7	0.7
LnGrp LOS	D			C				E	B	B		E	A	A
Approach Vol, veh/h		272			55				1225				715	
Approach Delay, s/veh		44.1			34.5				13.1				1.6	
Approach LOS		D			C				B				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	73.7		28.1	5.4	74.5		28.1
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	10.6	* 53		30.1	10.6	52.2		30.1
Max Q Clear Time (g_c+I1), s	3.3	2.0		21.8	2.6	21.5		4.9
Green Ext Time (p_c), s	0.0	7.2		0.7	0.0	12.9		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	17	12	25	161	11	72	7	32	938	172	8	74	489	15
Future Volume (veh/h)	17	12	25	161	11	72	7	32	938	172	8	74	489	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		0.94		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	23	16	22	187	13	58		38	1104	141		89	589	12
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.75	0.75	0.75	0.86	0.86	0.86		0.85	0.85	0.85		0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	51	37	30	259	15	435		246	2483	317		111	2359	48
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29		0.28	1.00	1.00		0.06	0.46	0.46
Sat Flow, veh/h	53	127	102	719	50	1495		1774	4555	581		1774	5129	104
Grp Volume(v), veh/h	61	0	0	200	0	58		38	821	424		89	389	212
Grp Sat Flow(s),veh/h/ln	282	0	0	769	0	1495		1774	1695	1746		1774	1695	1843
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	4.0		2.3	0.0	0.0		6.9	9.8	9.8
Cycle Q Clear(g_c), s	38.7	0.0	0.0	37.0	0.0	4.0		2.3	0.0	0.0		6.9	9.8	9.8
Prop In Lane	0.38		0.36	0.93		1.00		1.00		0.33		1.00		0.06
Lane Grp Cap(c), veh/h	118	0	0	274	0	435		246	1848	952		111	1559	848
V/C Ratio(X)	0.52	0.00	0.00	0.73	0.00	0.13		0.15	0.44	0.45		0.81	0.25	0.25
Avail Cap(c_a), veh/h	165	0	0	317	0	481		246	1848	952		286	1559	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.93	0.93	0.93		0.96	0.96	0.96
Uniform Delay (d), s/veh	42.7	0.0	0.0	48.3	0.0	36.6		44.4	0.0	0.0		64.8	23.1	23.1
Incr Delay (d2), s/veh	1.3	0.0	0.0	5.5	0.0	0.1		0.1	0.7	1.4		4.9	0.4	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	2.4	0.0	0.0	7.9	0.0	1.7		1.1	0.2	0.4		3.6	4.7	5.2
LnGrp Delay(d),s/veh	44.0	0.0	0.0	53.8	0.0	36.6		44.5	0.7	1.4		69.7	23.4	23.7
LnGrp LOS	D			D		D		D	A	A		E	C	C
Approach Vol, veh/h		61			258				1283				690	
Approach Delay, s/veh		44.0			49.9				2.2				29.5	
Approach LOS		D			D				A				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.1	81.2		45.7	24.3	70.0		45.7
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	22.6	58.1		45.1	15.6	* 64		45.1
Max Q Clear Time (g_c+I1), s	8.9	2.0		40.7	4.3	11.8		39.0
Green Ext Time (p_c), s	0.1	41.9		0.0	0.0	10.9		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.9
HCM 2010 LOS	B

Notes

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	62	86	49	25	7	52	44	50	10	54	2
Future Vol, veh/h	3	62	86	49	25	7	52	44	50	10	54	2
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	74	102	63	32	9	79	67	76	13	72	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	8.8	9.4	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	36%	2%	60%	15%
Vol Thru, %	30%	41%	31%	82%
Vol Right, %	34%	57%	9%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	151	81	66
LT Vol	52	3	49	10
Through Vol	44	62	25	54
RT Vol	50	86	7	2
Lane Flow Rate	221	180	104	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.281	0.223	0.143	0.119
Departure Headway (Hd)	4.57	4.458	4.946	4.874
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	783	802	722	731
Service Time	2.616	2.503	2.997	2.929
HCM Lane V/C Ratio	0.282	0.224	0.144	0.12
HCM Control Delay	9.4	8.8	8.8	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.2	0.9	0.5	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	33	26	67	94	27	75	7	88	1031	115	4	98	503	36
Future Volume (veh/h)	33	26	67	94	27	75	7	88	1031	115	4	98	503	36
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	40	31	57	121	35	67		96	1121	87		108	553	28
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	201	99	183	213	97	186		118	3134	243		130	2332	1035
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17		0.07	0.65	0.65		0.15	1.00	1.00
Sat Flow, veh/h	1273	575	1057	1283	561	1074		1774	4802	372		1774	3539	1570
Grp Volume(v), veh/h	40	0	88	121	0	102		96	791	417		108	553	28
Grp Sat Flow(s),veh/h/ln	1273	0	1631	1283	0	1634		1774	1695	1784		1774	1770	1570
Q Serve(g_s), s	4.0	0.0	6.6	12.7	0.0	7.7		7.5	14.8	14.8		8.3	0.0	0.0
Cycle Q Clear(g_c), s	11.7	0.0	6.6	19.3	0.0	7.7		7.5	14.8	14.8		8.3	0.0	0.0
Prop In Lane	1.00		0.65	1.00		0.66		1.00		0.21		1.00		1.00
Lane Grp Cap(c), veh/h	201	0	282	213	0	283		118	2212	1164		130	2332	1035
V/C Ratio(X)	0.20	0.00	0.31	0.57	0.00	0.36		0.81	0.36	0.36		0.83	0.24	0.03
Avail Cap(c_a), veh/h	382	0	514	395	0	515		400	2212	1164		400	2332	1035
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.99	0.99	0.99
Uniform Delay (d), s/veh	56.2	0.0	50.6	59.1	0.0	51.1		64.5	11.0	11.0		58.9	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.5	1.8	0.0	0.6		4.9	0.5	0.9		5.1	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	1.4	0.0	3.0	4.6	0.0	3.5		3.8	7.1	7.6		4.2	0.1	0.0
LnGrp Delay(d),s/veh	56.6	0.0	51.1	60.9	0.0	51.7		69.4	11.5	11.9		64.0	0.2	0.0
LnGrp LOS	E		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		128			223				1304				689	
Approach Delay, s/veh		52.8			56.6				15.9				10.2	
Approach LOS		D			E				B				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	96.3		29.1	13.7	97.2		29.1
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	10.3	16.8		13.7	9.5	2.0		21.3
Green Ext Time (p_c), s	0.1	11.9		0.5	0.1	5.1		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	199	809	74	340	754	98	15	149	408	328	2	153	279	294
Future Volume (veh/h)	5	199	809	74	340	754	98	15	149	408	328	2	153	279	294
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		207	843	54	362	802	73		180	492	395		168	307	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		428	1065	68	438	981	89		212	904	606		200	482	344
Arrive On Green		0.12	0.32	0.32	0.13	0.30	0.30		0.12	0.26	0.26		0.11	0.25	0.25
Sat Flow, veh/h		3442	3365	216	3442	3268	297		1774	3539	1583		1774	1940	1384
Grp Volume(v), veh/h		207	443	454	362	434	441		180	492	395		168	279	254
Grp Sat Flow(s),veh/h/ln		1721	1770	1811	1721	1770	1796		1774	1770	1583		1774	1770	1555
Q Serve(g_s), s		5.9	24.1	24.1	10.8	24.0	24.0		10.5	12.7	21.6		9.8	14.8	15.4
Cycle Q Clear(g_c), s		5.9	24.1	24.1	10.8	24.0	24.0		10.5	12.7	21.6		9.8	14.8	15.4
Prop In Lane		1.00		0.12	1.00		0.17		1.00		1.00		1.00		0.89
Lane Grp Cap(c), veh/h		428	560	573	438	531	539		212	904	606		200	440	386
V/C Ratio(X)		0.48	0.79	0.79	0.83	0.82	0.82		0.85	0.54	0.65		0.84	0.64	0.66
Avail Cap(c_a), veh/h		981	1008	1032	981	1008	1023		506	1345	803		506	672	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	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Uniform Delay (d), s/veh		42.9	32.8	32.8	44.8	34.1	34.2		45.4	33.9	26.7		45.8	35.3	35.5
Incr Delay (d2), s/veh		0.3	3.1	3.0	1.5	3.1	3.1		3.6	0.3	0.8		3.6	1.2	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		2.8	12.2	12.5	5.2	12.2	12.3		5.4	6.3	9.6		5.0	7.4	6.8
LnGrp Delay(d),s/veh		43.3	35.9	35.8	46.4	37.3	37.3		49.0	34.3	27.6		49.4	36.5	37.1
LnGrp LOS		D	D	D	D	D	D		D	C	C		D	D	D
Approach Vol, veh/h			1104			1237				1067				701	
Approach Delay, s/veh			37.2			39.9				34.3				39.8	
Approach LOS			D			D				C				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.8	39.0	17.0	31.4	18.8	38.0	16.3	32.2
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	12.8	26.1	12.5	17.4	7.9	26.0	11.8	23.6
Green Ext Time (p_c), s	0.6	7.3	0.2	2.8	0.3	5.7	0.2	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	37.7
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	33	1100	85	3	50	987	92	184	88	83	60	95	68
Future Volume (veh/h)	13	33	1100	85	3	50	987	92	184	88	83	60	95	68
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		38	1250	67		62	1219	79	271	129	85	76	120	61
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		49	1350	72		79	1392	90	246	117	77	85	133	68
Arrive On Green		0.03	0.40	0.40		0.01	0.14	0.14	0.25	0.25	0.25	0.16	0.16	0.16
Sat Flow, veh/h		1774	3411	183		1774	3370	218	983	468	308	519	819	417
Grp Volume(v), veh/h		38	648	669		62	639	659	485	0	0	257	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1824		1774	1770	1818	1759	0	0	1755	0	0
Q Serve(g_s), s		3.0	48.8	49.0		4.9	49.6	49.8	35.1	0.0	0.0	20.1	0.0	0.0
Cycle Q Clear(g_c), s		3.0	48.8	49.0		4.9	49.6	49.8	35.1	0.0	0.0	20.1	0.0	0.0
Prop In Lane		1.00		0.10		1.00		0.12	0.56		0.18	0.30		0.24
Lane Grp Cap(c), veh/h		49	701	722		79	731	751	441	0	0	286	0	0
V/C Ratio(X)		0.78	0.92	0.93		0.78	0.87	0.88	1.10	0.00	0.00	0.90	0.00	0.00
Avail Cap(c_a), veh/h		122	701	722		122	731	751	441	0	0	352	0	0
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)		1.00	1.00	1.00		0.73	0.73	0.73	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.7	40.3	40.4		68.3	56.9	57.0	52.5	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh		9.5	19.8	19.7		5.4	10.5	10.4	72.7	0.0	0.0	19.7	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	27.6	28.7		2.5	26.5	27.3	25.9	0.0	0.0	11.3	0.0	0.0
LnGrp Delay(d),s/veh		77.2	60.1	60.1		73.7	67.4	67.4	125.2	0.0	0.0	77.2	0.0	0.0
LnGrp LOS		E	E	E		E	E	E	F			E		
Approach Vol, veh/h			1355				1360			485			257	
Approach Delay, s/veh			60.6				67.7			125.2			77.2	
Approach LOS			E				E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.7	61.6		27.7	8.3	64.0		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	6.9	51.0		22.1	5.0	51.8		37.1
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	73.7
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	172	868	259	5	92	694	257	2	282	782	66	5	169	403	168
Future Volume (veh/h)	3	172	868	259	5	92	694	257	2	282	782	66	5	169	403	168
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		193	975	203		106	798	206		300	832	49		194	463	136
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		467	1563	325		153	1249	319		346	1043	61		241	644	280
Arrive On Green		0.35	0.71	0.71		0.06	0.41	0.41		0.20	0.42	0.42		0.14	0.36	0.36
Sat Flow, veh/h		1774	2910	605		3442	4011	1026		3442	4908	288		3442	3539	1537
Grp Volume(v), veh/h		193	592	586		106	673	331		300	574	307		194	463	136
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1646		1721	1695	1806		1721	1770	1537
Q Serve(g_s), s		11.6	24.1	24.2		4.2	22.1	22.5		11.8	20.6	20.8		7.6	15.8	5.6
Cycle Q Clear(g_c), s		11.6	24.1	24.2		4.2	22.1	22.5		11.8	20.6	20.8		7.6	15.8	5.6
Prop In Lane		1.00		0.35		1.00		0.62		1.00		0.16		1.00		1.00
Lane Grp Cap(c), veh/h		467	951	937		153	1056	513		346	720	384		241	644	280
V/C Ratio(X)		0.41	0.62	0.62		0.69	0.64	0.64		0.87	0.80	0.80		0.80	0.72	0.49
Avail Cap(c_a), veh/h		467	951	937		383	1056	513		457	826	440		383	786	341
HCM Platoon Ratio		1.33	1.33	1.33		1.33	1.33	1.33		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.09	0.09	0.09		0.94	0.94	0.94		0.89	0.89	0.89		1.00	1.00	1.00
Uniform Delay (d), s/veh		37.3	12.7	12.7		64.9	34.7	34.8		55.0	37.6	37.7		59.3	41.4	13.7
Incr Delay (d2), s/veh		0.0	0.3	0.3		2.0	2.8	5.8		9.6	5.2	9.5		2.7	3.4	2.2
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		5.7	11.7	11.6		2.0	10.8	11.0		6.0	10.1	11.2		3.7	8.0	3.5
LnGrp Delay(d),s/veh		37.3	13.0	13.0		66.9	37.5	40.6		64.6	42.8	47.2		62.0	44.8	15.9
LnGrp LOS		D	B	B		E	D	D		E	D	D		E	D	B
Approach Vol, veh/h			1371				1110				1181				793	
Approach Delay, s/veh			16.4				41.2				49.5				44.0	
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	10.6	80.5	18.5	30.4	42.1	49.0	14.2	34.6
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	6.2	26.2	13.8	17.8	13.6	24.5	9.6	22.8
Green Ext Time (p_c), s	0.1	9.6	0.3	4.4	0.2	5.9	0.2	6.1

Intersection Summary	
HCM 2010 Ctrl Delay	36.3
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	11	67	970	40	5	54	1020	165	30	21	47	108	23	46
Future Volume (veh/h)	11	67	970	40	5	54	1020	165	30	21	47	108	23	46
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	0.97		0.98	0.99		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		71	1032	30		57	1085	123	36	25	39	150	32	45
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.94	0.94	0.94		0.94	0.94	0.94	0.84	0.84	0.84	0.72	0.72	0.72
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		113	3313	96		94	2992	339	247	202	168	312	283	235
Arrive On Green		0.01	0.22	0.22		0.05	1.00	1.00	0.03	0.11	0.11	0.08	0.15	0.15
Sat Flow, veh/h		3442	5079	148		3442	4626	524	1774	1863	1553	1774	1863	1549
Grp Volume(v), veh/h		71	689	373		57	795	413	36	25	39	150	32	45
Grp Sat Flow(s),veh/h/ln		1721	1695	1836		1721	1695	1760	1774	1863	1553	1774	1863	1549
Q Serve(g_s), s		2.9	23.9	23.9		2.3	0.0	0.0	2.5	1.7	3.2	10.4	2.1	3.6
Cycle Q Clear(g_c), s		2.9	23.9	23.9		2.3	0.0	0.0	2.5	1.7	3.2	10.4	2.1	3.6
Prop In Lane		1.00		0.08		1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		113	2211	1198		94	2193	1138	247	202	168	312	283	235
V/C Ratio(X)		0.63	0.31	0.31		0.61	0.36	0.36	0.15	0.12	0.23	0.48	0.11	0.19
Avail Cap(c_a), veh/h		310	2211	1198		310	2193	1138	324	547	456	312	547	455
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)		0.57	0.57	0.57		0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		68.4	28.5	28.5		65.4	0.0	0.0	52.8	56.4	57.1	49.2	51.2	51.9
Incr Delay (d2), s/veh		1.2	0.2	0.4		2.1	0.4	0.8	0.1	0.1	0.3	0.4	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		1.4	11.3	12.3		1.1	0.1	0.3	1.2	0.9	1.4	5.1	1.1	1.5
LnGrp Delay(d),s/veh		69.6	28.7	28.9		67.5	0.4	0.8	52.9	56.5	57.4	49.6	51.3	52.0
LnGrp LOS		E	C	C		E	A	A	D	E	E	D	D	D
Approach Vol, veh/h			1133				1265			100			227	
Approach Delay, s/veh			31.3				3.6			55.5			50.3	
Approach LOS			C				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	8.2	96.7	8.9	26.1	9.0	95.9	15.0	20.0
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	12.6	* 57	10.6	41.1	12.6	56.6	10.6	41.1
Max Q Clear Time (g_c+I1), s	4.3	25.9	4.5	5.6	4.9	2.0	12.4	5.2
Green Ext Time (p_c), s	0.0	14.5	0.0	0.2	0.0	14.0	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.9
HCM 2010 LOS	C

Notes

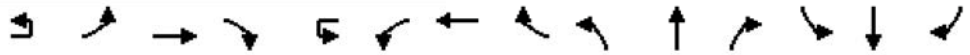


Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	16	32	1091	18	181	1168	105	65	116	368	135	124	112
Future Volume (veh/h)	16	32	1091	18	181	1168	105	65	116	368	135	124	112
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		35	1186	15	191	1229	77	76	136	368	152	139	88
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.92	0.92	0.92	0.95	0.95	0.95	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		45	1393	18	678	3089	194	119	274	827	201	605	259
Arrive On Green		0.01	0.09	0.09	0.76	1.00	1.00	0.01	0.05	0.05	0.06	0.17	0.17
Sat Flow, veh/h		1774	5173	65	1774	4882	306	3442	1863	1508	3442	3539	1519
Grp Volume(v), veh/h		35	777	424	191	853	453	76	136	368	152	139	88
Grp Sat Flow(s),veh/h/ln		1774	1695	1848	1774	1695	1798	1721	1863	1508	1721	1770	1519
Q Serve(g_s), s		2.8	31.6	31.6	4.5	0.0	0.0	3.1	10.0	3.7	6.1	4.7	7.1
Cycle Q Clear(g_c), s		2.8	31.6	31.6	4.5	0.0	0.0	3.1	10.0	3.7	6.1	4.7	7.1
Prop In Lane		1.00		0.04	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		45	913	498	678	2145	1138	119	274	827	201	605	259
V/C Ratio(X)		0.78	0.85	0.85	0.28	0.40	0.40	0.64	0.50	0.44	0.76	0.23	0.34
Avail Cap(c_a), veh/h		172	913	498	678	2145	1138	236	520	1027	334	1090	468
HCM Platoon Ratio		0.33	0.33	0.33	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)		0.95	0.95	0.95	0.80	0.80	0.80	0.61	0.61	0.61	1.00	1.00	1.00
Uniform Delay (d), s/veh		69.0	61.0	61.0	10.7	0.0	0.0	68.3	61.6	10.8	64.9	50.1	51.1
Incr Delay (d2), s/veh		9.7	9.4	15.8	0.1	0.4	0.8	1.3	0.3	0.1	2.2	0.1	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	16.0	18.4	2.1	0.1	0.3	1.5	5.2	6.5	3.0	2.3	3.0
LnGrp Delay(d),s/veh		78.8	70.4	76.9	10.8	0.4	0.8	69.6	61.9	10.8	67.1	50.2	51.4
LnGrp LOS		E	E	E	B	A	A	E	E	B	E	D	D
Approach Vol, veh/h			1236			1497			580			379	
Approach Delay, s/veh			72.8			1.9			30.5			57.2	
Approach LOS			E			A			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	43.0	9.2	28.8	7.9	94.0	12.6	25.5
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	30.6	* 38	9.6	43.1	13.6	54.6	13.6	39.1
Max Q Clear Time (g_c+I1), s	6.5	33.6	5.1	9.1	4.8	2.0	8.1	12.0
Green Ext Time (p_c), s	0.2	3.5	0.0	0.7	0.0	29.0	0.1	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	35.8
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	5	23	1587	20	18	70	1342	27	23	43	163	61	33	57
Future Volume (veh/h)	5	23	1587	20	18	70	1342	27	23	43	163	61	33	57
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	1.00		0.95	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		25	1744	15		78	1491	21	30	57	150	80	43	53
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.91	0.91	0.91		0.90	0.90	0.90	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		32	2633	23		97	2807	40	37	70	185	92	49	61
Arrive On Green		0.04	1.00	1.00		0.11	1.00	1.00	0.18	0.18	0.18	0.12	0.12	0.12
Sat Flow, veh/h		1774	5200	45		1774	5166	73	204	388	1021	776	417	514
Grp Volume(v), veh/h		25	1137	622		78	979	533	237	0	0	176	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1855		1774	1695	1848	1613	0	0	1708	0	0
Q Serve(g_s), s		2.0	0.0	0.0		6.0	0.0	0.0	19.7	0.0	0.0	14.2	0.0	0.0
Cycle Q Clear(g_c), s		2.0	0.0	0.0		6.0	0.0	0.0	19.7	0.0	0.0	14.2	0.0	0.0
Prop In Lane		1.00		0.02		1.00		0.04	0.13		0.63	0.45		0.30
Lane Grp Cap(c), veh/h		32	1717	939		97	1842	1004	292	0	0	202	0	0
V/C Ratio(X)		0.79	0.66	0.66		0.80	0.53	0.53	0.81	0.00	0.00	0.87	0.00	0.00
Avail Cap(c_a), veh/h		134	1717	939		185	1842	1004	404	0	0	294	0	0
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)		0.78	0.78	0.78		0.89	0.89	0.89	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.3	0.0	0.0		61.6	0.0	0.0	55.1	0.0	0.0	60.7	0.0	0.0
Incr Delay (d2), s/veh		12.2	1.6	2.9		5.1	1.0	1.8	6.0	0.0	0.0	13.0	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		1.1	0.4	0.8		3.1	0.3	0.5	9.3	0.0	0.0	7.4	0.0	0.0
LnGrp Delay(d),s/veh		79.4	1.6	2.9		66.7	1.0	1.8	61.0	0.0	0.0	73.7	0.0	0.0
LnGrp LOS		E	A	A		E	A	A	E			E		
Approach Vol, veh/h			1784				1590			237			176	
Approach Delay, s/veh			3.1				4.5			61.0			73.7	
Approach LOS			A				A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.1	76.3		30.2	6.9	81.5		21.4
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	14.6	* 47		35.1	10.6	50.6		24.1
Max Q Clear Time (g_c+I1), s	8.0	2.0		21.7	4.0	2.0		16.2
Green Ext Time (p_c), s	0.0	31.5		0.8	0.0	20.6		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1778	120	366	1306	269	88	86	614	260	147	5
Future Volume (veh/h)	2	1778	120	366	1306	269	88	86	614	260	147	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	1833	87	398	1420	204	100	100	614	289	163	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1880	89	350	2917	889	255	267	1064	293	298	7
Arrive On Green	0.00	0.76	0.76	0.20	0.57	0.57	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4966	235	1774	5085	1549	1774	1863	3066	1774	1809	44
Grp Volume(v), veh/h	2	1250	670	398	1420	204	100	100	614	289	0	167
Grp Sat Flow(s),veh/h/ln	1774	1695	1812	1774	1695	1549	1774	1863	1533	1774	0	1853
Q Serve(g_s), s	0.2	47.8	48.3	27.6	23.1	9.1	7.2	6.8	20.1	22.7	0.0	11.6
Cycle Q Clear(g_c), s	0.2	47.8	48.3	27.6	23.1	9.1	7.2	6.8	20.1	22.7	0.0	11.6
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	4	1283	686	350	2917	889	255	267	1064	293	0	306
V/C Ratio(X)	0.53	0.97	0.98	1.14	0.49	0.23	0.39	0.37	0.58	0.99	0.00	0.55
Avail Cap(c_a), veh/h	274	1283	686	350	2917	889	255	267	1064	293	0	306
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)	0.60	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.6	16.4	16.4	56.2	17.7	14.7	54.4	54.3	38.0	58.3	0.0	53.6
Incr Delay (d2), s/veh	23.0	14.2	21.6	91.0	0.6	0.6	0.7	0.6	0.7	48.9	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	23.7	27.2	22.3	10.9	4.0	3.6	3.5	9.8	15.1	0.0	6.0
LnGrp Delay(d),s/veh	92.6	30.6	38.0	147.2	18.2	15.3	55.1	54.9	38.7	107.2	0.0	54.8
LnGrp LOS	F	C	D	F	B	B	E	D	D	F		D
Approach Vol, veh/h		1922			2022			814			456	
Approach Delay, s/veh		33.3			43.3			42.7			88.0	
Approach LOS		C			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.0	58.5		25.0	4.7	85.8		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	50.3		22.1	2.2	25.1		24.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	43.4
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	1478	0	0	0	0	0	1	432
Future Volume (veh/h)	0	0	0	0	1478	0	0	0	0	0	1	432
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	1739	0				0	1	482
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.85	0.85	0.85				0.76	0.76	0.76
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	2692	838				0	409	611
Arrive On Green				0.00	0.53	0.00				0.00	0.22	0.22
Sat Flow, veh/h				0	5253	1583				0	1863	2783
Grp Volume(v), veh/h				0	1739	0				0	1	482
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1391
Q Serve(g_s), s				0.0	10.6	0.0				0.0	0.0	7.1
Cycle Q Clear(g_c), s				0.0	10.6	0.0				0.0	0.0	7.1
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	2692	838				0	409	611
V/C Ratio(X)				0.00	0.65	0.00				0.00	0.00	0.79
Avail Cap(c_a), veh/h				0	5855	1823				0	1501	2243
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	7.3	0.0				0.0	13.2	16.0
Incr Delay (d2), s/veh				0.0	0.1	0.0				0.0	0.0	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	4.9	0.0				0.0	0.0	2.8
LnGrp Delay(d),s/veh				0.0	7.4	0.0				0.0	13.2	16.9
LnGrp LOS					A						B	B
Approach Vol, veh/h					1739						483	
Approach Delay, s/veh					7.4						16.9	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				14.6		28.8		
Change Period (Y+Rc), s				5.1		5.8		
Max Green Setting (Gmax), s				35.0		50.0		
Max Q Clear Time (g_c+I1), s				9.1		12.6		
Green Ext Time (p_c), s				0.5		10.4		

Intersection Summary	
HCM 2010 Ctrl Delay	9.5
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱					↑	↱↱			
Traffic Volume (veh/h)	0	2057	392	0	0	0	0	1	367	0	0	0
Future Volume (veh/h)	0	2057	392	0	0	0	0	1	367	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	2260	0				0	1	339			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.91	0.91	0.91				0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	3179	990				0	316	462			
Arrive On Green	0.00	0.63	0.00				0.00	0.17	0.17			
Sat Flow, veh/h	0	5253	1583				0	1863	2725			
Grp Volume(v), veh/h	0	2260	0				0	1	339			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1363			
Q Serve(g_s), s	0.0	15.9	0.0				0.0	0.0	6.3			
Cycle Q Clear(g_c), s	0.0	15.9	0.0				0.0	0.0	6.3			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	3179	990				0	316	462			
V/C Ratio(X)	0.00	0.71	0.00				0.00	0.00	0.73			
Avail Cap(c_a), veh/h	0	4790	1491				0	1579	2310			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	6.7	0.0				0.0	18.3	20.9			
Incr Delay (d2), s/veh	0.0	0.1	0.0				0.0	0.0	0.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	7.4	0.0				0.0	0.0	2.4			
LnGrp Delay(d),s/veh	0.0	6.8	0.0				0.0	18.3	21.8			
LnGrp LOS		A						B	C			
Approach Vol, veh/h		2260						340				
Approach Delay, s/veh		6.8						21.7				
Approach LOS		A						C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		39.0						14.1
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						45.0
Max Q Clear Time (g_c+I1), s		17.9						8.3
Green Ext Time (p_c), s		15.3						0.8

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	152	370	67	118	245	123	2	66	908	195	4	31	576	129
Future Volume (veh/h)	152	370	67	118	245	123	2	66	908	195	4	31	576	129
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.95		1.00		0.96		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	188	457	58	136	282	98		70	966	144		36	678	106
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87		0.94	0.94	0.94		0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	210	540	71	184	409	249		89	1471	440		308	1489	662
Arrive On Green	0.23	0.23	0.23	0.17	0.17	0.17		0.05	0.29	0.29		0.17	0.42	0.42
Sat Flow, veh/h	923	2375	313	1109	2468	1504		1774	5085	1520		1774	3539	1574
Grp Volume(v), veh/h	370	0	333	222	196	98		70	966	144		36	678	106
Grp Sat Flow(s),veh/h/ln	1817	0	1794	1807	1770	1504		1774	1695	1520		1774	1770	1574
Q Serve(g_s), s	27.7	0.0	24.6	16.3	14.6	8.1		5.5	23.3	10.4		2.4	19.2	5.9
Cycle Q Clear(g_c), s	27.7	0.0	24.6	16.3	14.6	8.1		5.5	23.3	10.4		2.4	19.2	5.9
Prop In Lane	0.51		0.17	0.61		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	413	0	408	299	293	249		89	1471	440		308	1489	662
V/C Ratio(X)	0.90	0.00	0.82	0.74	0.67	0.39		0.79	0.66	0.33		0.12	0.46	0.16
Avail Cap(c_a), veh/h	507	0	501	401	393	334		185	1471	440		308	1489	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.92	0.92	0.92		1.00	1.00	1.00		0.76	0.76	0.76
Uniform Delay (d), s/veh	52.5	0.0	51.3	55.5	54.8	52.1		65.8	43.6	39.1		48.8	29.1	25.2
Incr Delay (d2), s/veh	14.5	0.0	6.9	2.7	0.9	0.3		5.7	2.3	2.0		0.0	0.8	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	15.5	0.0	13.0	8.4	7.2	3.4		2.8	11.2	4.6		1.2	9.6	2.6
LnGrp Delay(d),s/veh	66.9	0.0	58.3	58.3	55.7	52.5		71.5	46.0	41.0		48.9	29.8	25.6
LnGrp LOS	E		E	E	E	D		E	D	D		D	C	C
Approach Vol, veh/h		703			516				1180				820	
Approach Delay, s/veh		62.8			56.2				46.9				30.1	
Approach LOS		E			E				D				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.2	46.0		36.7	11.4	63.8		28.1
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	9.6	* 41		39.1	14.6	36.1		31.1
Max Q Clear Time (g_c+I1), s	4.4	25.3		29.7	7.5	21.2		18.3
Green Ext Time (p_c), s	0.0	7.6		2.1	0.0	10.4		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	47.6
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
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	-	-	1622	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	1021	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1622	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	251	15	186	737	105	253	393	106	2
Future Volume (veh/h)	11	142	662	251	15	186	737	105	253	393	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	196		200	792	79	269	418	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1174	313		255	1428	142	326	709	133	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.09	0.24	0.24	
Sat Flow, veh/h		3442	2744	731		3442	3245	324	3442	2948	551	
Grp Volume(v), veh/h		158	475	457		200	432	439	269	249	248	
Grp Sat Flow(s),veh/h/ln		1721	1770	1705		1721	1770	1799	1721	1770	1730	
Q Serve(g_s), s		5.7	26.4	26.4		7.2	22.8	22.8	9.7	15.7	16.0	
Cycle Q Clear(g_c), s		5.7	26.4	26.4		7.2	22.8	22.8	9.7	15.7	16.0	
Prop In Lane		1.00		0.43		1.00		0.18	1.00		0.32	
Lane Grp Cap(c), veh/h		213	757	729		255	779	792	326	425	416	
V/C Ratio(X)		0.74	0.63	0.63		0.78	0.55	0.55	0.83	0.59	0.60	
Avail Cap(c_a), veh/h		399	757	729		399	779	792	481	479	468	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.2	28.2		57.3	26.1	26.1	56.0	42.3	42.4	
Incr Delay (d2), s/veh		1.9	3.9	4.0		2.1	2.8	2.8	4.6	0.7	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	
%ile BackOfQ(50%),veh/ln		2.8	13.7	13.3		3.5	11.8	12.0	4.8	7.8	7.7	
LnGrp Delay(d),s/veh		60.0	32.1	32.2		59.4	28.9	28.9	60.6	43.0	43.3	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1090				1071			766		
Approach Delay, s/veh			36.2				34.6			49.2		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.9	16.3	37.0	12.2	60.5	18.1	35.2
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	28.4	11.7	34.1	7.7	24.8	13.7	18.0
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	59.9
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	878	101
Future Volume (veh/h)	160	878	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	924	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	843	67
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3307	265
Grp Volume(v), veh/h	168	494	504
Grp Sat Flow(s),veh/h/ln	1774	1770	1802
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.15
Lane Grp Cap(c), veh/h	194	451	459
V/C Ratio(X)	0.87	1.10	1.10
Avail Cap(c_a), veh/h	220	451	459
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	71.2	70.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	24.6	25.0
LnGrp Delay(d),s/veh	79.8	118.1	117.8
LnGrp LOS	E	F	F
Approach Vol, veh/h		1166	
Approach Delay, s/veh		112.5	
Approach LOS		F	
Timer			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	19	7	81	14	1	3	7	70	757	3	1	8	1290	20
Future Volume (veh/h)	19	7	81	14	1	3	7	70	757	3	1	8	1290	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)	0.98		0.94	0.98		0.97		1.00		0.99		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	28	10	82	22	2	3		74	797	2		9	1372	15
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.69	0.69	0.69	0.64	0.64	0.64		0.95	0.95	0.95		0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	65	30	129	162	16	16		93	2731	7		15	2546	28
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12		0.11	1.00	1.00		0.01	0.71	0.71
Sat Flow, veh/h	244	238	1041	889	128	127		1774	3622	9		1774	3586	39
Grp Volume(v), veh/h	120	0	0	27	0	0		74	389	410		9	677	710
Grp Sat Flow(s),veh/h/ln	1523	0	0	1144	0	0		1774	1770	1861		1774	1770	1855
Q Serve(g_s), s	4.6	0.0	0.0	0.0	0.0	0.0		5.1	0.0	0.0		0.6	22.6	22.7
Cycle Q Clear(g_c), s	9.3	0.0	0.0	2.7	0.0	0.0		5.1	0.0	0.0		0.6	22.6	22.7
Prop In Lane	0.23		0.68	0.81		0.11		1.00		0.00		1.00		0.02
Lane Grp Cap(c), veh/h	224	0	0	194	0	0		93	1334	1403		15	1256	1317
V/C Ratio(X)	0.54	0.00	0.00	0.14	0.00	0.00		0.79	0.29	0.29		0.59	0.54	0.54
Avail Cap(c_a), veh/h	384	0	0	335	0	0		234	1334	1403		191	1256	1317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.94	0.94	0.94		0.09	0.09	0.09
Uniform Delay (d), s/veh	52.4	0.0	0.0	49.4	0.0	0.0		55.7	0.0	0.0		62.2	8.6	8.6
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.1	0.0	0.0		5.3	0.5	0.5		1.2	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	0.9	0.0	0.0		2.6	0.2	0.2		0.3	11.0	11.5
LnGrp Delay(d),s/veh	53.1	0.0	0.0	49.5	0.0	0.0		61.0	0.5	0.5		63.5	8.7	8.7
LnGrp LOS	D			D				E	A	A		E	A	A
Approach Vol, veh/h		120			27				873				1396	
Approach Delay, s/veh		53.1			49.5				5.6				9.1	
Approach LOS		D			D				A				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	100.0		20.5	11.0	94.5		20.5
Change Period (Y+Rc), s	4.4	5.0		4.9	4.4	* 5		4.9
Max Green Setting (Gmax), s	13.6	69.0		29.1	16.6	* 66		29.1
Max Q Clear Time (g_c+I1), s	2.6	2.0		11.3	7.1	24.7		4.7
Green Ext Time (p_c), s	0.0	14.1		0.4	0.0	8.3		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

Notes



Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	44	59	780	51	1	73	1287
Future Volume (veh/h)	44	59	780	51	1	73	1287
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.94		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	49	46	830	38		75	1327
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.89	0.89	0.94	0.94		0.97	0.97
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	82	77	2454	112		95	2861
Arrive On Green	0.10	0.10	1.00	1.00		0.11	1.00
Sat Flow, veh/h	829	778	3539	158		1774	3632
Grp Volume(v), veh/h	96	0	426	442		75	1327
Grp Sat Flow(s),veh/h/ln	1625	0	1770	1834		1774	1770
Q Serve(g_s), s	7.1	0.0	0.0	0.0		5.2	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	0.0		5.2	0.0
Prop In Lane	0.51	0.48		0.09		1.00	
Lane Grp Cap(c), veh/h	161	0	1260	1306		95	2861
V/C Ratio(X)	0.60	0.00	0.34	0.34		0.79	0.46
Avail Cap(c_a), veh/h	311	0	1260	1306		248	2861
HCM Platoon Ratio	1.00	1.00	2.00	2.00		2.00	2.00
Upstream Filter(I)	1.00	0.00	0.96	0.96		0.83	0.83
Uniform Delay (d), s/veh	54.4	0.0	0.0	0.0		55.6	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.7	0.7		4.6	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	3.3	0.0	0.2	0.2		2.7	0.2
LnGrp Delay(d),s/veh	55.7	0.0	0.7	0.7		60.2	0.4
LnGrp LOS	E		A	A		E	A
Approach Vol, veh/h	96		868				1402
Approach Delay, s/veh	55.7		0.7				3.6
Approach LOS	E		A				A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.1	95.5				107.6		18.4
Change Period (Y+Rc), s	5.4	* 5.8				5.8		5.9
Max Green Setting (Gmax), s	7.6	* 67				90.2		24.1
Max Q Clear Time (g_c+I1), s	7.2	2.0				2.0		9.1
Green Ext Time (p_c), s	0.1	12.3				28.3		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	4.7
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	89	6	43	15	5	16	3	19	719	15	12	1184	129
Future Volume (veh/h)	89	6	43	15	5	16	3	19	719	15	12	1184	129
Number	7	4	14	3	8	18		1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	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	1900	1863	1900	1900	1863	1900		1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	100	7	33	23	8	17		20	765	11	13	1273	97
Adj No. of Lanes	0	1	0	0	1	0		1	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.64	0.64	0.64		0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h	170	10	41	115	45	65		28	2694	39	21	2499	190
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11		0.02	0.75	0.75	0.02	1.00	1.00
Sat Flow, veh/h	1059	91	355	640	391	565		1774	3572	51	1774	3333	253
Grp Volume(v), veh/h	140	0	0	48	0	0		20	379	397	13	675	695
Grp Sat Flow(s),veh/h/ln	1504	0	0	1596	0	0		1774	1770	1854	1774	1770	1817
Q Serve(g_s), s	8.0	0.0	0.0	0.0	0.0	0.0		1.4	8.4	8.4	0.9	0.0	0.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0	3.3	0.0	0.0		1.4	8.4	8.4	0.9	0.0	0.0
Prop In Lane	0.71		0.24	0.48		0.35		1.00		0.03	1.00		0.14
Lane Grp Cap(c), veh/h	221	0	0	225	0	0		28	1335	1398	21	1327	1363
V/C Ratio(X)	0.63	0.00	0.00	0.21	0.00	0.00		0.71	0.28	0.28	0.63	0.51	0.51
Avail Cap(c_a), veh/h	421	0	0	434	0	0		234	1335	1398	234	1327	1363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.92	0.92	0.92	0.88	0.88	0.88
Uniform Delay (d), s/veh	54.1	0.0	0.0	50.8	0.0	0.0		61.7	4.8	4.8	61.3	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.2	0.0	0.0		10.4	0.5	0.5	10.0	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.0	1.5	0.0	0.0		0.8	4.3	4.5	0.5	0.5	0.5
LnGrp Delay(d),s/veh	55.3	0.0	0.0	51.0	0.0	0.0		72.1	5.3	5.3	71.2	1.2	1.2
LnGrp LOS	E			D				E	A	A	E	A	A
Approach Vol, veh/h		140			48				796			1383	
Approach Delay, s/veh		55.3			51.0				7.0			1.9	
Approach LOS		E			D				A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.4	100.3		19.3	5.9	100.8		19.3
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	16.6	* 63		32.1	16.6	62.2		32.1
Max Q Clear Time (g_c+I1), s	13.4	2.0		13.3	2.9	10.4		5.3
Green Ext Time (p_c), s	0.0	21.1		0.4	0.0	7.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	7.8
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	31	29	34	235	26	88	9	44	691	264	15	130	990	46
Future Volume (veh/h)	31	29	34	235	26	88	9	44	691	264	15	130	990	46
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.96		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	38	36	30	250	28	66		49	768	205		140	1065	34
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94		0.90	0.90	0.90		0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	35	31	13	279	26	532		191	1815	479		164	2184	70
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35		0.04	0.15	0.15		0.09	0.43	0.43
Sat Flow, veh/h	0	88	36	655	73	1517		1774	3985	1052		1774	5061	161
Grp Volume(v), veh/h	104	0	0	278	0	66		49	652	321		140	713	386
Grp Sat Flow(s),veh/h/ln	124	0	0	729	0	1517		1774	1695	1646		1774	1695	1833
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.1		3.8	24.4	24.8		10.9	21.2	21.2
Cycle Q Clear(g_c), s	49.1	0.0	0.0	49.1	0.0	4.1		3.8	24.4	24.8		10.9	21.2	21.2
Prop In Lane	0.37		0.29	0.90		1.00		1.00		0.64		1.00		0.09
Lane Grp Cap(c), veh/h	79	0	0	304	0	532		191	1544	750		164	1463	791
V/C Ratio(X)	1.32	0.00	0.00	0.91	0.00	0.12		0.26	0.42	0.43		0.85	0.49	0.49
Avail Cap(c_a), veh/h	79	0	0	304	0	532		198	1544	750		274	1463	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.33	0.33	0.33		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.95	0.95	0.95		0.80	0.80	0.80
Uniform Delay (d), s/veh	43.8	0.0	0.0	47.4	0.0	30.9		62.0	42.8	42.9		62.6	28.7	28.7
Incr Delay (d2), s/veh	209.4	0.0	0.0	29.8	0.0	0.0		0.2	0.8	1.7		4.9	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	0.0	13.2	0.0	1.7		1.9	11.7	11.7		5.6	10.1	11.1
LnGrp Delay(d),s/veh	253.2	0.0	0.0	77.2	0.0	30.9		62.3	43.6	44.6		67.5	29.6	30.4
LnGrp LOS	F			E		C		E	D	D		E	C	C
Approach Vol, veh/h		104			344				1022				1239	
Approach Delay, s/veh		253.2			68.3				44.8				34.1	
Approach LOS		F			E				D				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.3	68.7		54.0	20.0	66.0		54.0
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	12.6	35.1		49.1	15.6	* 60		49.1
Max Q Clear Time (g_c+I1), s	2.9	26.8		51.1	5.8	23.2		51.1
Green Ext Time (p_c), s	0.1	7.1		0.0	0.0	20.2		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.9
HCM 2010 LOS	D

Notes

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	56	41	185	67	12	83	38	61	6	83	2
Future Vol, veh/h	0	56	41	185	67	12	83	38	61	6	83	2
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	85	62	213	77	14	91	42	67	7	102	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	11.8	10.3	9.5
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	46%	0%	70%	7%
Vol Thru, %	21%	58%	25%	91%
Vol Right, %	34%	42%	5%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	97	264	91
LT Vol	83	0	185	6
Through Vol	38	56	67	83
RT Vol	61	41	12	2
Lane Flow Rate	200	147	303	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.288	0.203	0.423	0.169
Departure Headway (Hd)	5.192	4.979	5.129	5.431
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	696	723	707	663
Service Time	3.192	2.996	3.129	3.444
HCM Lane V/C Ratio	0.287	0.203	0.429	0.169
HCM Control Delay	10.3	9.3	11.8	9.5
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.2	0.8	2.1	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	52	43	126	104	38	129	17	104	778	128	8	176	940	126
Future Volume (veh/h)	52	43	126	104	38	129	17	104	778	128	8	176	940	126
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	55	46	94	113	41	98		114	855	99		185	989	93
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	202	105	215	201	95	226		539	2698	311		207	1393	604
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20		0.30	0.58	0.58		0.23	0.79	0.79
Sat Flow, veh/h	1232	533	1089	1226	478	1144		1774	4619	532		1774	3539	1534
Grp Volume(v), veh/h	55	0	140	113	0	139		114	626	328		185	989	93
Grp Sat Flow(s),veh/h/ln	1232	0	1621	1226	0	1622		1774	1695	1761		1774	1770	1534
Q Serve(g_s), s	5.7	0.0	10.6	12.5	0.0	10.5		6.7	13.2	13.3		14.1	18.9	2.1
Cycle Q Clear(g_c), s	16.3	0.0	10.6	23.1	0.0	10.5		6.7	13.2	13.3		14.1	18.9	2.1
Prop In Lane	1.00		0.67	1.00		0.71		1.00		0.30		1.00		1.00
Lane Grp Cap(c), veh/h	202	0	320	201	0	321		539	1980	1029		207	1393	604
V/C Ratio(X)	0.27	0.00	0.44	0.56	0.00	0.43		0.21	0.32	0.32		0.89	0.71	0.15
Avail Cap(c_a), veh/h	400	0	580	397	0	581		539	1980	1029		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.92	0.92	0.92
Uniform Delay (d), s/veh	56.4	0.0	49.3	59.5	0.0	49.3		36.3	14.9	14.9		52.8	11.0	9.3
Incr Delay (d2), s/veh	0.5	0.0	0.7	1.8	0.0	0.7		0.1	0.4	0.8		4.8	2.8	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	2.0	0.0	4.8	4.3	0.0	4.8		3.3	6.3	6.7		7.2	9.3	0.9
LnGrp Delay(d),s/veh	57.0	0.0	50.0	61.3	0.0	50.0		36.3	15.3	15.7		57.6	13.9	9.8
LnGrp LOS	E		D	E		D		D	B	B		E	B	A
Approach Vol, veh/h		195			252				1068				1267	
Approach Delay, s/veh		52.0			55.0				17.6				20.0	
Approach LOS		D			E				B				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	86.7		32.6	47.4	60.0		32.6
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	36.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	16.1	15.3		18.3	8.7	20.9		25.1
Green Ext Time (p_c), s	0.2	7.8		0.9	0.1	10.6		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.5
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	347	965	61	446	847	107	21	82	307	350	257	649	279
Future Volume (veh/h)	15	347	965	61	446	847	107	21	82	307	350	257	649	279
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		361	1005	45	474	901	80		87	327	260	299	755	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		559	1161	52	528	1029	91		108	678	530	321	833	249
Arrive On Green		0.16	0.34	0.34	0.15	0.31	0.31		0.06	0.19	0.19	0.18	0.31	0.31
Sat Flow, veh/h		3442	3444	154	3442	3277	291		1774	3539	1499	1774	2671	800
Grp Volume(v), veh/h		361	516	534	474	487	494		87	327	260	299	500	481
Grp Sat Flow(s),veh/h/ln		1721	1770	1829	1721	1770	1798		1774	1770	1499	1774	1770	1701
Q Serve(g_s), s		14.2	39.5	39.5	19.6	37.7	37.7		7.0	11.9	19.9	24.0	39.2	39.2
Cycle Q Clear(g_c), s		14.2	39.5	39.5	19.6	37.7	37.7		7.0	11.9	19.9	24.0	39.2	39.2
Prop In Lane		1.00		0.08	1.00		0.16		1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h		559	596	616	528	556	565		108	678	530	321	552	530
V/C Ratio(X)		0.65	0.87	0.87	0.90	0.88	0.88		0.80	0.48	0.49	0.93	0.91	0.91
Avail Cap(c_a), veh/h		713	734	758	713	734	745		368	978	657	368	552	530
HCM Platoon Ratio		1.00	1.00	1.00	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		56.7	44.9	44.9	60.1	47.0	47.0		67.1	52.1	37.5	58.4	47.8	47.8
Incr Delay (d2), s/veh		0.5	9.5	9.2	9.5	9.2	9.1		5.2	0.4	0.5	26.6	18.5	19.1
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		6.8	20.9	21.6	10.0	19.8	20.1		3.6	5.8	8.3	14.2	22.0	21.2
LnGrp Delay(d),s/veh		57.2	54.4	54.1	69.6	56.2	56.1		72.3	52.5	38.0	85.0	66.3	66.9
LnGrp LOS		E	D	D	E	E	E		E	D	D	F	E	E
Approach Vol, veh/h			1411			1455				674			1280	
Approach Delay, s/veh			55.0			60.5				49.4			70.9	
Approach LOS			E			E				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	26.6	54.5	13.2	50.4	29.2	51.9	30.6	33.0
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	21.6	41.5	9.0	41.2	16.2	39.7	26.0	21.9
Green Ext Time (p_c), s	0.6	7.2	0.1	0.0	0.6	5.8	0.2	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	60.1
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	32	1243	140	47	76	1277	98	88	48	38	52	129	121
Future Volume (veh/h)	6	32	1243	140	47	76	1277	98	88	48	38	52	129	121
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		34	1308	103		81	1359	73	99	54	31	57	142	93
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		226	1672	131		102	1435	77	115	63	36	61	152	100
Arrive On Green		0.13	0.50	0.50		0.02	0.14	0.14	0.12	0.12	0.12	0.18	0.18	0.18
Sat Flow, veh/h		1774	3325	261		1774	3417	183	946	516	296	341	849	556
Grp Volume(v), veh/h		34	695	716		81	703	729	184	0	0	292	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1816		1774	1770	1830	1757	0	0	1746	0	0
Q Serve(g_s), s		2.4	45.0	45.3		6.4	55.1	55.3	14.4	0.0	0.0	23.1	0.0	0.0
Cycle Q Clear(g_c), s		2.4	45.0	45.3		6.4	55.1	55.3	14.4	0.0	0.0	23.1	0.0	0.0
Prop In Lane		1.00		0.14		1.00		0.10	0.54		0.17	0.20		0.32
Lane Grp Cap(c), veh/h		226	890	913		102	743	769	213	0	0	313	0	0
V/C Ratio(X)		0.15	0.78	0.78		0.80	0.95	0.95	0.86	0.00	0.00	0.93	0.00	0.00
Avail Cap(c_a), veh/h		226	890	913		172	743	769	315	0	0	313	0	0
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)		1.00	1.00	1.00		0.55	0.55	0.55	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		54.3	28.5	28.6		67.9	58.7	58.8	60.4	0.0	0.0	56.6	0.0	0.0
Incr Delay (d2), s/veh		0.1	6.7	6.7		2.9	14.4	14.6	10.7	0.0	0.0	33.4	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		1.2	23.5	24.4		3.2	30.0	31.2	7.6	0.0	0.0	14.0	0.0	0.0
LnGrp Delay(d),s/veh		54.4	35.2	35.3		70.8	73.1	73.4	71.1	0.0	0.0	90.1	0.0	0.0
LnGrp LOS		D	D	D		E	E	E	E			F		
Approach Vol, veh/h			1445				1513			184			292	
Approach Delay, s/veh			35.7				73.1			71.1			90.1	
Approach LOS			D				E			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	75.7		30.0	23.2	65.0		21.9
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	16.4	47.3		25.1	4.4	57.3		16.4
Green Ext Time (p_c), s	0.0	7.3		0.0	0.0	1.1		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	58.7
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	270	858	223	8	240	938	259	13	265	505	98	31	346	639	177
Future Volume (veh/h)	3	270	858	223	8	240	938	259	13	265	505	98	31	346	639	177
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.96		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		293	933	169		267	1042	201		294	561	77		389	718	139
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		319	1055	191		582	1490	287		343	920	124		444	826	344
Arrive On Green		0.06	0.12	0.12		0.06	0.12	0.12		0.20	0.41	0.41		0.13	0.23	0.23
Sat Flow, veh/h		1774	2973	538		3442	4246	818		3442	4510	608		3442	3539	1473
Grp Volume(v), veh/h		293	555	547		267	832	411		294	419	219		389	718	139
Grp Sat Flow(s),veh/h/ln		1774	1770	1741		1721	1695	1674		1721	1695	1728		1721	1770	1473
Q Serve(g_s), s		23.0	43.3	43.3		10.5	33.0	33.1		11.6	13.6	14.0		15.5	27.3	11.2
Cycle Q Clear(g_c), s		23.0	43.3	43.3		10.5	33.0	33.1		11.6	13.6	14.0		15.5	27.3	11.2
Prop In Lane		1.00		0.31		1.00		0.49		1.00		0.35		1.00		1.00
Lane Grp Cap(c), veh/h		319	628	618		582	1190	587		343	692	353		444	826	344
V/C Ratio(X)		0.92	0.88	0.88		0.46	0.70	0.70		0.86	0.61	0.62		0.88	0.87	0.40
Avail Cap(c_a), veh/h		362	628	618		582	1190	587		556	753	384		629	862	359
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.25	0.25	0.25		0.87	0.87	0.87		0.95	0.95	0.95		1.00	1.00	1.00
Uniform Delay (d), s/veh		64.8	59.0	59.0		59.9	54.8	54.8		55.1	37.0	37.1		59.9	51.6	45.4
Incr Delay (d2), s/veh		8.4	5.0	5.1		0.2	3.0	6.0		3.8	1.7	3.7		7.5	9.8	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		12.1	22.1	21.8		5.0	16.0	16.3		5.7	6.4	7.0		7.9	14.5	4.7
LnGrp Delay(d),s/veh		73.3	63.9	64.1		60.1	57.8	60.8		58.9	38.7	40.8		67.4	61.4	46.7
LnGrp LOS		E	E	E		E	E	E		E	D	D		E	E	D
Approach Vol, veh/h			1395				1510				932				1246	
Approach Delay, s/veh			65.9				59.0				45.6				61.6	
Approach LOS			E				E				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	9.1	55.0	18.3	37.6	29.6	54.5	22.5	33.5
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	14.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	12.5	45.3	13.6	29.3	25.0	35.1	17.5	16.0
Green Ext Time (p_c), s	0.1	2.7	0.4	2.9	0.2	0.3	0.5	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	59.1
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	7	126	982	85	30	143	1238	140	116	43	119	229	68	206
Future Volume (veh/h)	7	126	982	85	30	143	1238	140	116	43	119	229	68	206
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.99	0.98		0.94	0.97		0.97
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		137	1067	64		146	1263	100	129	48	92	260	77	164
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.92	0.92	0.92		0.98	0.98	0.98	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		184	2569	154		193	2527	200	375	374	300	414	396	325
Arrive On Green		0.11	1.00	1.00		0.11	1.00	1.00	0.07	0.20	0.20	0.08	0.21	0.21
Sat Flow, veh/h		3442	4902	294		3442	4799	380	1774	1863	1494	1774	1863	1530
Grp Volume(v), veh/h		137	738	393		146	892	471	129	48	92	260	77	164
Grp Sat Flow(s),veh/h/ln		1721	1695	1805		1721	1695	1789	1774	1863	1494	1774	1863	1530
Q Serve(g_s), s		5.4	0.0	0.0		5.8	0.0	0.0	8.0	3.0	7.3	11.6	4.8	13.2
Cycle Q Clear(g_c), s		5.4	0.0	0.0		5.8	0.0	0.0	8.0	3.0	7.3	11.6	4.8	13.2
Prop In Lane		1.00		0.16		1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		184	1776	946		193	1785	942	375	374	300	414	396	325
V/C Ratio(X)		0.75	0.42	0.42		0.76	0.50	0.50	0.34	0.13	0.31	0.63	0.19	0.50
Avail Cap(c_a), veh/h		334	1776	946		334	1785	942	396	573	460	414	573	471
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)		0.43	0.43	0.43		0.68	0.68	0.68	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		61.6	0.0	0.0		61.2	0.0	0.0	40.1	45.9	47.7	43.4	45.3	48.6
Incr Delay (d2), s/veh		1.0	0.3	0.6		1.6	0.7	1.3	0.2	0.1	0.2	2.3	0.1	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		2.6	0.1	0.2		2.8	0.2	0.3	3.9	1.5	3.1	8.2	2.5	5.7
LnGrp Delay(d),s/veh		62.6	0.3	0.6		62.8	0.7	1.3	40.3	46.0	47.9	45.7	45.4	49.1
LnGrp LOS		E	A	A		E	A	A	D	D	D	D	D	D
Approach Vol, veh/h			1268				1509			269			501	
Approach Delay, s/veh			7.1				6.9			43.9			46.8	
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	12.2	78.8	14.4	34.6	11.9	79.1	16.0	33.0
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	13.6	* 53	11.6	43.1	13.6	52.6	11.6	43.1
Max Q Clear Time (g_c+I1), s	7.8	2.0	10.0	15.2	7.4	2.0	13.6	9.3
Green Ext Time (p_c), s	0.1	19.5	0.0	0.6	0.1	16.6	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.4
HCM 2010 LOS	B

Notes

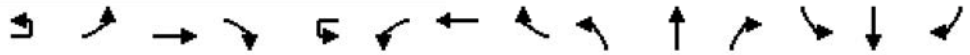


Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	38	118	1138	92	301	1492	155	79	109	205	237	410	181
Future Volume (veh/h)	38	118	1138	92	301	1492	155	79	109	205	237	410	181
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.95	1.00		0.92	1.00		0.95
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		126	1211	68	327	1622	117	89	122	195	269	466	145
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		149	1847	104	352	2363	170	134	368	603	317	887	376
Arrive On Green		0.08	0.38	0.38	0.20	0.49	0.49	0.04	0.20	0.20	0.09	0.25	0.25
Sat Flow, veh/h		1774	4915	276	1774	4824	348	3442	1863	1464	3442	3539	1500
Grp Volume(v), veh/h		126	835	444	327	1139	600	89	122	195	269	466	145
Grp Sat Flow(s),veh/h/ln		1774	1695	1801	1774	1695	1782	1721	1863	1464	1721	1770	1500
Q Serve(g_s), s		9.8	28.6	28.6	25.4	36.1	36.2	3.6	7.9	13.0	10.8	15.9	11.2
Cycle Q Clear(g_c), s		9.8	28.6	28.6	25.4	36.1	36.2	3.6	7.9	13.0	10.8	15.9	11.2
Prop In Lane		1.00		0.15	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		149	1274	677	352	1661	873	134	368	603	317	887	376
V/C Ratio(X)		0.84	0.66	0.66	0.93	0.69	0.69	0.66	0.33	0.32	0.85	0.53	0.39
Avail Cap(c_a), veh/h		236	1274	677	527	1661	873	310	494	702	359	988	419
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.87	0.87	0.87	0.70	0.70	0.70	0.59	0.59	0.59	1.00	1.00	1.00
Uniform Delay (d), s/veh		63.2	36.2	36.2	55.2	27.4	27.5	66.4	48.2	29.5	62.6	45.3	43.5
Incr Delay (d2), s/veh		7.4	2.3	4.3	10.7	1.6	3.1	1.2	0.1	0.1	14.3	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		5.1	13.7	15.0	13.5	17.3	18.6	1.7	4.1	5.2	5.7	7.8	4.7
LnGrp Delay(d),s/veh		70.6	38.5	40.5	65.9	29.1	30.6	67.6	48.4	29.6	76.9	45.5	43.8
LnGrp LOS		E	D	D	E	C	C	E	D	C	E	D	D
Approach Vol, veh/h			1405			2066			406			880	
Approach Delay, s/veh			42.0			35.3			43.5			54.8	
Approach LOS			D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	58.0	9.9	40.0	16.2	74.0	17.3	32.5
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	7.6	* 28	12.6	39.1	18.6	50.6	14.6	37.1
Max Q Clear Time (g_c+I1), s	27.4	30.6	5.6	17.9	11.8	38.2	12.8	15.0
Green Ext Time (p_c), s	0.4	0.0	0.1	2.3	0.1	11.3	0.1	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	41.6
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	55	1491	54	8	112	1921	30	14	16	77	39	46	49
Future Volume (veh/h)	13	55	1491	54	8	112	1921	30	14	16	77	39	46	49
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	1.00		0.95	1.00		0.95
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		60	1621	42		117	2001	22	15	17	59	46	55	40
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.92	0.92	0.92		0.96	0.96	0.96	0.92	0.92	0.92	0.84	0.84	0.84
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		440	2962	77		139	2096	23	28	31	109	54	64	47
Arrive On Green		0.33	0.77	0.77		0.16	0.81	0.81	0.11	0.11	0.11	0.10	0.10	0.10
Sat Flow, veh/h		1774	5097	132		1774	5185	57	263	298	1035	560	670	487
Grp Volume(v), veh/h		60	1078	585		117	1308	715	91	0	0	141	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1839		1774	1695	1851	1596	0	0	1717	0	0
Q Serve(g_s), s		3.3	17.5	17.5		9.0	45.3	45.5	7.6	0.0	0.0	11.3	0.0	0.0
Cycle Q Clear(g_c), s		3.3	17.5	17.5		9.0	45.3	45.5	7.6	0.0	0.0	11.3	0.0	0.0
Prop In Lane		1.00		0.07		1.00		0.03	0.16		0.65	0.33		0.28
Lane Grp Cap(c), veh/h		440	1970	1069		139	1371	749	169	0	0	165	0	0
V/C Ratio(X)		0.14	0.55	0.55		0.84	0.95	0.96	0.54	0.00	0.00	0.86	0.00	0.00
Avail Cap(c_a), veh/h		440	1970	1069		248	1371	749	400	0	0	210	0	0
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)		0.73	0.73	0.73		0.76	0.76	0.76	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		36.4	8.6	8.6		58.2	12.3	12.3	59.4	0.0	0.0	62.3	0.0	0.0
Incr Delay (d2), s/veh		0.0	0.8	1.5		4.0	12.8	19.7	1.0	0.0	0.0	19.9	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	8.2	9.1		4.5	22.4	25.9	3.4	0.0	0.0	6.3	0.0	0.0
LnGrp Delay(d),s/veh		36.4	9.5	10.1		62.3	25.1	32.0	60.4	0.0	0.0	82.2	0.0	0.0
LnGrp LOS		D	A	B		E	C	C	E			F		
Approach Vol, veh/h			1723				2140			91			141	
Approach Delay, s/veh			10.6				29.5			60.4			82.2	
Approach LOS			B				C			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.3	86.7		19.7	40.0	62.0		18.3
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 5.4		4.9
Max Green Setting (Gmax), s	10.6	48.7		35.1	11.6	* 57		17.1
Max Q Clear Time (g_c+I1), s	11.3	19.5		9.6	5.3	47.5		13.3
Green Ext Time (p_c), s	0.1	21.8		0.3	0.0	8.1		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.0
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1439	145	400	1947	294	109	49	284	193	150	18
Future Volume (veh/h)	20	1439	145	400	1947	294	109	49	284	193	150	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1484	104	412	2007	212	90	104	275	214	167	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	2013	141	400	3276	1018	163	171	993	191	182	15
Arrive On Green	0.03	0.87	0.87	0.23	0.64	0.64	0.09	0.09	0.09	0.11	0.11	0.11
Sat Flow, veh/h	1774	4633	325	1774	5085	1581	1774	1863	3030	1774	1688	142
Grp Volume(v), veh/h	21	1014	574	412	2007	212	90	104	275	214	0	181
Grp Sat Flow(s),veh/h/ln	1774	1583	1791	1774	1695	1581	1774	1863	1515	1774	0	1830
Q Serve(g_s), s	1.6	16.3	16.4	31.6	32.5	7.7	6.8	7.5	9.5	15.1	0.0	13.7
Cycle Q Clear(g_c), s	1.6	16.3	16.4	31.6	32.5	7.7	6.8	7.5	9.5	15.1	0.0	13.7
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	28	1376	778	400	3276	1018	163	171	993	191	0	197
V/C Ratio(X)	0.74	0.74	0.74	1.03	0.61	0.21	0.55	0.61	0.28	1.12	0.00	0.92
Avail Cap(c_a), veh/h	134	1376	778	400	3276	1018	318	334	1258	191	0	197
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)	0.78	0.78	0.78	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	6.3	6.3	54.2	14.6	10.2	60.8	61.1	35.8	62.5	0.0	61.8
Incr Delay (d2), s/veh	10.5	2.8	4.9	52.6	0.9	0.5	2.2	2.6	0.1	100.4	0.0	40.8
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	7.0	8.4	21.3	15.3	3.5	3.4	4.0	4.0	12.7	0.0	9.2
LnGrp Delay(d),s/veh	78.0	9.1	11.1	106.8	15.5	10.7	63.0	63.7	36.0	162.9	0.0	102.7
LnGrp LOS	E	A	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1609			2631			469			395	
Approach Delay, s/veh		10.7			29.4			47.3			135.3	
Approach LOS		B			C			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	66.2		20.0	6.6	95.6		17.8
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	11.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	3.6	18.4		17.1	3.6	34.5		11.5
Green Ext Time (p_c), s	0.0	21.6		0.0	0.0	27.0		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	33.3
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	2299	0	0	0	0	0	1	353
Future Volume (veh/h)	0	0	0	0	2299	0	0	0	0	0	1	353
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.98
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	2395	0				0	1	330
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	3393	1056				0	296	434
Arrive On Green				0.00	0.67	0.00				0.00	0.16	0.16
Sat Flow, veh/h				0	5253	1583				0	1863	2729
Grp Volume(v), veh/h				0	2395	0				0	1	330
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1364
Q Serve(g_s), s				0.0	15.4	0.0				0.0	0.0	6.0
Cycle Q Clear(g_c), s				0.0	15.4	0.0				0.0	0.0	6.0
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	3393	1056				0	296	434
V/C Ratio(X)				0.00	0.71	0.00				0.00	0.00	0.76
Avail Cap(c_a), veh/h				0	5033	1567				0	1279	1874
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	5.4	0.0				0.0	18.3	20.8
Incr Delay (d2), s/veh				0.0	0.1	0.0				0.0	0.0	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	6.9	0.0				0.0	0.0	2.3
LnGrp Delay(d),s/veh				0.0	5.5	0.0				0.0	18.3	21.9
LnGrp LOS					A						B	C
Approach Vol, veh/h					2395						331	
Approach Delay, s/veh					5.5						21.9	
Approach LOS					A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				12.8		39.1		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				35.6		51.3		
Max Q Clear Time (g_c+I1), s				8.0		17.4		
Green Ext Time (p_c), s				0.3		17.2		

Intersection Summary	
HCM 2010 Ctrl Delay	7.5
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱					↑	↱↱			
Traffic Volume (veh/h)	0	1490	338	0	0	0	0	1	485	0	0	0
Future Volume (veh/h)	0	1490	338	0	0	0	0	1	485	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	1568	0				0	1	453			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.95	0.95	0.95				0.91	0.91	0.91			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	2521	785				0	432	624			
Arrive On Green	0.00	0.50	0.00				0.00	0.23	0.23			
Sat Flow, veh/h	0	5253	1583				0	1863	2694			
Grp Volume(v), veh/h	0	1568	0				0	1	453			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1347			
Q Serve(g_s), s	0.0	9.0	0.0				0.0	0.0	6.2			
Cycle Q Clear(g_c), s	0.0	9.0	0.0				0.0	0.0	6.2			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	2521	785				0	432	624			
V/C Ratio(X)	0.00	0.62	0.00				0.00	0.00	0.73			
Avail Cap(c_a), veh/h	0	6356	1979				0	2095	3031			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	7.4	0.0				0.0	11.8	14.2			
Incr Delay (d2), s/veh	0.0	0.1	0.0				0.0	0.0	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	4.1	0.0				0.0	0.0	2.3			
LnGrp Delay(d),s/veh	0.0	7.4	0.0				0.0	11.8	14.8			
LnGrp LOS		A						B	B			
Approach Vol, veh/h		1568						454				
Approach Delay, s/veh		7.4						14.8				
Approach LOS		A						B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		25.6						14.4
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						45.0
Max Q Clear Time (g_c+I1), s		11.0						8.2
Green Ext Time (p_c), s		8.8						1.1

Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	171	250	117	342	319	107	4	68	559	150	8	96	903	207
Future Volume (veh/h)	171	250	117	342	319	107	4	68	559	150	8	96	903	207
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95		1.00		0.94		1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	190	278	91	402	375	88		71	582	109		99	931	149
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85		0.96	0.96	0.96		0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	228	351	119	430	428	365		90	1398	409		249	1320	581
Arrive On Green	0.20	0.20	0.20	0.24	0.24	0.24		0.05	0.28	0.28		0.14	0.37	0.37
Sat Flow, veh/h	1150	1775	600	1774	1770	1509		1774	5085	1487		1774	3539	1559
Grp Volume(v), veh/h	298	0	261	402	375	88		71	582	109		99	931	149
Grp Sat Flow(s),veh/h/ln	1805	0	1720	1774	1770	1509		1774	1695	1487		1774	1770	1559
Q Serve(g_s), s	22.2	0.0	20.1	31.1	28.5	6.6		5.5	13.1	8.0		7.1	31.3	9.3
Cycle Q Clear(g_c), s	22.2	0.0	20.1	31.1	28.5	6.6		5.5	13.1	8.0		7.1	31.3	9.3
Prop In Lane	0.64		0.35	1.00		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	357	0	340	430	428	365		90	1398	409		249	1320	581
V/C Ratio(X)	0.83	0.00	0.77	0.94	0.88	0.24		0.79	0.42	0.27		0.40	0.71	0.26
Avail Cap(c_a), veh/h	401	0	382	445	444	378		134	1398	409		249	1320	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.54	0.54	0.54		1.00	1.00	1.00		0.43	0.43	0.43
Uniform Delay (d), s/veh	53.9	0.0	53.1	52.0	51.0	42.7		65.7	41.5	39.7		54.8	37.4	30.4
Incr Delay (d2), s/veh	11.6	0.0	6.8	17.1	9.7	0.1		9.2	0.9	1.6		0.2	1.4	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	12.3	0.0	10.2	17.2	15.1	2.7		3.0	6.3	3.5		3.5	15.5	4.0
LnGrp Delay(d),s/veh	65.6	0.0	59.8	69.0	60.7	42.8		74.9	42.5	41.3		54.9	38.7	30.9
LnGrp LOS	E		E	E	E	D		E	D	D		D	D	C
Approach Vol, veh/h		559			865				762				1179	
Approach Delay, s/veh		62.9			62.8				45.3				39.1	
Approach LOS		E			E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	44.0		32.6	11.5	57.1		38.8
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	15.6	* 39		31.1	10.6	44.1		35.1
Max Q Clear Time (g_c+I1), s	9.1	15.1		24.2	7.5	33.3		33.1
Green Ext Time (p_c), s	0.1	5.6		1.4	0.0	9.3		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	50.5
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
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	-	-	1622	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	1021	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1622	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Appendix E
Peak Hour Intersection LOS Worksheets – Existing Plus Project Conditions

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	131	9	106	520	320	166	1023	67	6
Future Volume (veh/h)	6	208	437	131	9	106	520	320	166	1023	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	97		114	559	241	171	1055	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	966	202		276	801	344	233	1103	50	
Arrive On Green		0.08	0.33	0.33		0.08	0.34	0.34	0.09	0.43	0.43	
Sat Flow, veh/h		3442	2897	606		3442	2380	1023	3442	3443	157	
Grp Volume(v), veh/h		219	280	277		114	415	385	171	542	561	
Grp Sat Flow(s),veh/h/ln		1721	1770	1734		1721	1770	1634	1721	1770	1830	
Q Serve(g_s), s		6.7	13.5	13.7		3.4	22.0	22.1	5.2	32.0	32.1	
Cycle Q Clear(g_c), s		6.7	13.5	13.7		3.4	22.0	22.1	5.2	32.0	32.1	
Prop In Lane		1.00		0.35		1.00		0.63	1.00		0.09	
Lane Grp Cap(c), veh/h		283	590	578		276	596	550	233	567	586	
V/C Ratio(X)		0.77	0.47	0.48		0.41	0.70	0.70	0.73	0.96	0.96	
Avail Cap(c_a), veh/h		433	590	578		276	596	550	402	575	595	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.86	0.86	0.86	
Uniform Delay (d), s/veh		48.6	28.5	28.6		47.3	31.1	31.1	48.2	30.2	30.3	
Incr Delay (d2), s/veh		1.9	2.7	2.8		0.4	6.6	7.2	1.5	24.0	23.6	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	7.0	7.0		1.6	11.8	11.0	2.5	19.3	19.8	
LnGrp Delay(d),s/veh		50.5	31.2	31.4		47.6	37.7	38.3	49.6	54.3	53.8	
LnGrp LOS		D	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			776				914			1274		
Approach Delay, s/veh			36.7				39.2			53.5		
Approach LOS			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	13.6	41.0	11.7	41.6	13.3	41.4	13.8	39.5
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	15.7	7.2	14.5	8.7	24.1	9.2	34.1
Green Ext Time (p_c), s	0.0	3.5	0.1	1.6	0.2	2.9	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	43.2
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	389	100
Future Volume (veh/h)	106	389	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	442	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1013	182
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	2977	534
Grp Volume(v), veh/h	120	261	261
Grp Sat Flow(s),veh/h/ln	1774	1770	1742
Q Serve(g_s), s	7.2	12.3	12.5
Cycle Q Clear(g_c), s	7.2	12.3	12.5
Prop In Lane	1.00		0.31
Lane Grp Cap(c), veh/h	147	602	593
V/C Ratio(X)	0.82	0.43	0.44
Avail Cap(c_a), veh/h	158	602	593
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.6	27.6
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.1	6.0
LnGrp Delay(d),s/veh	72.5	27.8	27.8
LnGrp LOS	E	C	C
Approach Vol, veh/h		642	
Approach Delay, s/veh		36.2	
Approach LOS		D	
Timer			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	27	3	66	15	10	13	3	68	1237	3	1	6	507	20
Future Volume (veh/h)	27	3	66	15	10	13	3	68	1237	3	1	6	507	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)	0.99		0.98	0.99		0.97		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	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	36	4	61	19	13	11		76	1374	2		7	551	15
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.79	0.79	0.79		0.90	0.90	0.90		0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	86	19	91	103	67	42		681	2763	4		12	1339	36
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10		0.26	0.51	0.51		0.01	0.38	0.38
Sat Flow, veh/h	416	189	923	554	677	423		1774	3626	5		1774	3519	96
Grp Volume(v), veh/h	101	0	0	43	0	0		76	671	705		7	277	289
Grp Sat Flow(s),veh/h/ln	1528	0	0	1654	0	0		1774	1770	1862		1774	1770	1845
Q Serve(g_s), s	4.3	0.0	0.0	0.0	0.0	0.0		3.5	26.8	26.8		0.4	12.4	12.4
Cycle Q Clear(g_c), s	6.8	0.0	0.0	2.4	0.0	0.0		3.5	26.8	26.8		0.4	12.4	12.4
Prop In Lane	0.36		0.60	0.44		0.26		1.00		0.00		1.00		0.05
Lane Grp Cap(c), veh/h	196	0	0	211	0	0		681	1349	1419		12	673	702
V/C Ratio(X)	0.52	0.00	0.00	0.20	0.00	0.00		0.11	0.50	0.50		0.56	0.41	0.41
Avail Cap(c_a), veh/h	491	0	0	509	0	0		681	1349	1419		158	673	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.67	0.67	0.67		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.75	0.75	0.75		0.86	0.86	0.86
Uniform Delay (d), s/veh	46.9	0.0	0.0	45.0	0.0	0.0		26.0	12.9	12.9		53.5	24.6	24.6
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.2	0.0	0.0		0.0	1.0	0.9		12.1	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	1.2	0.0	0.0		1.7	13.5	14.2		0.3	6.4	6.6
LnGrp Delay(d),s/veh	47.6	0.0	0.0	45.2	0.0	0.0		26.0	13.8	13.8		65.6	26.2	26.1
LnGrp LOS	D			D				C	B	B		E	C	C
Approach Vol, veh/h		101			43				1452				573	
Approach Delay, s/veh		47.6			45.2				14.5				26.6	
Approach LOS		D			D				B				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	87.3		15.5	46.5	46.0		15.5
Change Period (Y+Rc), s	4.4	5.0		4.9	5.0	* 4.9		4.9
Max Green Setting (Gmax), s	9.6	52.0		32.1	20.6	* 41		32.1
Max Q Clear Time (g_c+I1), s	2.4	28.8		8.8	5.5	14.4		4.4
Green Ext Time (p_c), s	0.0	17.3		0.3	0.1	2.3		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	19.8
HCM 2010 LOS	B

Notes

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	47	100	1187	64	1	27	575
Future Volume (veh/h)	47	100	1187	64	1	27	575
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.99		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	57	84	1448	55		31	669
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.83	0.83	0.82	0.82		0.86	0.86
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	72	107	1845	70		352	2767
Arrive On Green	0.11	0.11	1.00	1.00		0.07	0.26
Sat Flow, veh/h	660	973	3570	132		1774	3632
Grp Volume(v), veh/h	142	0	736	767		31	669
Grp Sat Flow(s),veh/h/ln	1645	0	1770	1839		1774	1770
Q Serve(g_s), s	9.1	0.0	0.0	0.0		1.8	16.2
Cycle Q Clear(g_c), s	9.1	0.0	0.0	0.0		1.8	16.2
Prop In Lane	0.40	0.59		0.07		1.00	
Lane Grp Cap(c), veh/h	181	0	939	976		352	2767
V/C Ratio(X)	0.79	0.00	0.78	0.79		0.09	0.24
Avail Cap(c_a), veh/h	367	0	939	976		352	2767
HCM Platoon Ratio	1.00	1.00	2.00	2.00		0.33	0.33
Upstream Filter(I)	1.00	0.00	0.84	0.84		0.97	0.97
Uniform Delay (d), s/veh	46.8	0.0	0.0	0.0		41.3	14.7
Incr Delay (d2), s/veh	2.9	0.0	5.5	5.4		0.0	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	4.3	0.0	1.4	1.5		0.9	8.0
LnGrp Delay(d),s/veh	49.7	0.0	5.5	5.4		41.3	14.9
LnGrp LOS	D		A	A		D	B
Approach Vol, veh/h	142		1503				700
Approach Delay, s/veh	49.7		5.5				16.1
Approach LOS	D		A				B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.2	63.0				90.2		17.8
Change Period (Y+Rc), s	5.8	* 5.7				5.8		5.9
Max Green Setting (Gmax), s	9.6	* 57				72.2		24.1
Max Q Clear Time (g_c+I1), s	13.8	2.0				18.2		11.1
Green Ext Time (p_c), s	0.0	29.6				8.9		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.3
HCM 2010 LOS	B

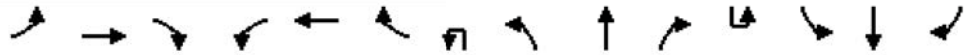
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	164	0	26	13	0	39	1	18	1062	4	1	8	555	47
Future Volume (veh/h)	164	0	26	13	0	39	1	18	1062	4	1	8	555	47
Number	7	4	14	3	8	18		1	6	16		5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	245	0	27	18	0	37		21	1235	4		10	677	40
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.67	0.67	0.67	0.72	0.72	0.72		0.86	0.86	0.86		0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	339	0	30	145	20	249		31	2302	7		17	2134	126
Arrive On Green	0.21	0.00	0.21	0.21	0.00	0.21		0.02	0.64	0.64		0.02	1.00	1.00
Sat Flow, veh/h	1284	0	142	470	94	1159		1774	3619	12		1774	3396	200
Grp Volume(v), veh/h	272	0	0	55	0	0		21	604	635		10	353	364
Grp Sat Flow(s),veh/h/ln	1426	0	0	1723	0	0		1774	1770	1861		1774	1770	1826
Q Serve(g_s), s	16.9	0.0	0.0	0.0	0.0	0.0		1.3	20.4	20.4		0.6	0.0	0.0
Cycle Q Clear(g_c), s	19.8	0.0	0.0	2.9	0.0	0.0		1.3	20.4	20.4		0.6	0.0	0.0
Prop In Lane	0.90		0.10	0.33		0.67		1.00		0.01		1.00		0.11
Lane Grp Cap(c), veh/h	369	0	0	414	0	0		31	1126	1183		17	1112	1148
V/C Ratio(X)	0.74	0.00	0.00	0.13	0.00	0.00		0.68	0.54	0.54		0.59	0.32	0.32
Avail Cap(c_a), veh/h	458	0	0	509	0	0		174	1126	1183		174	1112	1148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.90	0.90	0.90		0.95	0.95	0.95
Uniform Delay (d), s/veh	40.8	0.0	0.0	34.5	0.0	0.0		52.8	10.9	10.9		52.8	0.0	0.0
Incr Delay (d2), s/veh	3.4	0.0	0.0	0.1	0.0	0.0		8.7	1.7	1.6		10.9	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	8.2	0.0	0.0	1.3	0.0	0.0		0.7	10.4	10.9		0.3	0.2	0.2
LnGrp Delay(d),s/veh	44.1	0.0	0.0	34.5	0.0	0.0		61.4	12.5	12.4		63.6	0.7	0.7
LnGrp LOS	D			C				E	B	B		E	A	A
Approach Vol, veh/h		272			55				1260				727	
Approach Delay, s/veh		44.1			34.5				13.3				1.6	
Approach LOS		D			C				B				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	73.7		28.1	5.4	74.5		28.1
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	10.6	* 53		30.1	10.6	52.2		30.1
Max Q Clear Time (g_c+I1), s	13.3	2.0		21.8	2.6	22.4		4.9
Green Ext Time (p_c), s	0.0	7.3		0.7	0.0	13.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	17	12	25	165	11	72	7	32	968	184	8	74	499	15
Future Volume (veh/h)	17	12	25	165	11	72	7	32	968	184	8	74	499	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		0.94		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	23	16	22	192	13	58		38	1139	155		89	601	12
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.75	0.75	0.75	0.86	0.86	0.86		0.85	0.85	0.85		0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	51	37	30	264	15	446		234	2429	330		111	2360	47
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30		0.26	1.00	1.00		0.06	0.46	0.46
Sat Flow, veh/h	52	124	99	718	49	1496		1774	4515	614		1774	5131	102
Grp Volume(v), veh/h	61	0	0	205	0	58		38	855	439		89	397	216
Grp Sat Flow(s),veh/h/ln	275	0	0	767	0	1496		1774	1695	1739		1774	1695	1843
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	4.0		2.3	0.0	0.0		6.9	10.0	10.1
Cycle Q Clear(g_c), s	39.7	0.0	0.0	38.0	0.0	4.0		2.3	0.0	0.0		6.9	10.0	10.1
Prop In Lane	0.38		0.36	0.94		1.00		1.00		0.35		1.00		0.06
Lane Grp Cap(c), veh/h	118	0	0	279	0	446		234	1824	936		111	1559	848
V/C Ratio(X)	0.52	0.00	0.00	0.74	0.00	0.13		0.16	0.47	0.47		0.81	0.25	0.26
Avail Cap(c_a), veh/h	154	0	0	312	0	482		234	1824	936		286	1559	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.92	0.92	0.92		0.96	0.96	0.96
Uniform Delay (d), s/veh	42.0	0.0	0.0	47.8	0.0	35.9		45.6	0.0	0.0		64.8	23.1	23.1
Incr Delay (d2), s/veh	1.3	0.0	0.0	6.3	0.0	0.0		0.1	0.8	1.6		4.9	0.4	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	2.4	0.0	0.0	8.2	0.0	1.6		1.1	0.2	0.4		3.6	4.8	5.3
LnGrp Delay(d),s/veh	43.4	0.0	0.0	54.1	0.0	35.9		45.7	0.8	1.6		69.7	23.5	23.8
LnGrp LOS	D			D		D		D	A	A		E	C	C
Approach Vol, veh/h		61			263				1332				702	
Approach Delay, s/veh		43.4			50.1				2.3				29.5	
Approach LOS		D			D				A				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.1	80.2		46.7	23.3	70.0		46.7
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	22.6	58.1		45.1	15.6	* 64		45.1
Max Q Clear Time (g_c+I1), s	8.9	2.0		41.7	4.3	12.1		40.0
Green Ext Time (p_c), s	0.1	43.3		0.0	0.0	11.1		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.8
HCM 2010 LOS	B

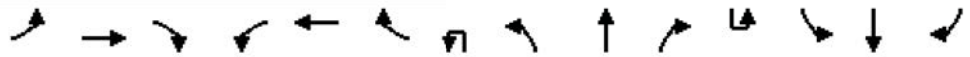
Notes

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	63	86	72	27	7	52	44	59	10	54	2
Future Vol, veh/h	3	63	86	72	27	7	52	44	59	10	54	2
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	75	102	92	35	9	79	67	89	13	72	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.3	9.7	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	2%	68%	15%
Vol Thru, %	28%	41%	25%	82%
Vol Right, %	38%	57%	7%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	152	106	66
LT Vol	52	3	72	10
Through Vol	44	63	27	54
RT Vol	59	86	7	2
Lane Flow Rate	235	181	136	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.302	0.228	0.189	0.122
Departure Headway (Hd)	4.635	4.545	5.017	4.988
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	770	785	711	714
Service Time	2.688	2.6	3.077	3.053
HCM Lane V/C Ratio	0.305	0.231	0.191	0.123
HCM Control Delay	9.7	9	9.3	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.3	0.9	0.7	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	77	33	144	94	30	75	7	119	1031	115	4	98	503	54
Future Volume (veh/h)	77	33	144	94	30	75	7	119	1031	115	4	98	503	54
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	93	40	149	121	38	67		129	1121	87		108	553	47
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	274	77	286	197	135	239		153	2871	223		130	2069	917
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23		0.09	0.60	0.60		0.15	1.00	1.00
Sat Flow, veh/h	1272	338	1258	1178	595	1050		1774	4802	372		1774	3539	1568
Grp Volume(v), veh/h	93	0	189	121	0	105		129	791	417		108	553	47
Grp Sat Flow(s),veh/h/ln	1272	0	1596	1178	0	1645		1774	1695	1784		1774	1770	1568
Q Serve(g_s), s	9.1	0.0	14.5	14.0	0.0	7.4		10.0	17.1	17.2		8.3	0.0	0.0
Cycle Q Clear(g_c), s	16.5	0.0	14.5	28.6	0.0	7.4		10.0	17.1	17.2		8.3	0.0	0.0
Prop In Lane	1.00		0.79	1.00		0.64		1.00		0.21		1.00		1.00
Lane Grp Cap(c), veh/h	274	0	363	197	0	374		153	2027	1067		130	2069	917
V/C Ratio(X)	0.34	0.00	0.52	0.61	0.00	0.28		0.84	0.39	0.39		0.83	0.27	0.05
Avail Cap(c_a), veh/h	385	0	503	300	0	518		400	2027	1067		400	2069	917
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.99	0.99	0.99
Uniform Delay (d), s/veh	51.4	0.0	47.4	59.9	0.0	44.6		63.0	14.8	14.8		58.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.9	2.3	0.0	0.3		4.7	0.6	1.1		5.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	6.5	4.7	0.0	3.4		5.1	8.2	8.8		4.2	0.1	0.0
LnGrp Delay(d),s/veh	52.0	0.0	48.2	62.2	0.0	44.9		67.7	15.3	15.8		64.0	0.3	0.1
LnGrp LOS	D		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		282			226				1337				708	
Approach Delay, s/veh		49.5			54.2				20.5				10.0	
Approach LOS		D			D				C				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	88.6		36.7	16.5	86.8		36.7
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	10.3	19.2		18.5	12.0	2.0		30.6
Green Ext Time (p_c), s	0.1	11.6		1.2	0.1	5.2		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	23.8
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	199	817	74	345	777	100	15	149	408	330	2	154	279	294
Future Volume (veh/h)	5	199	817	74	345	777	100	15	149	408	330	2	154	279	294
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		207	851	54	367	827	75		180	492	398		169	307	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		412	1070	68	442	1006	91		212	905	608		201	484	345
Arrive On Green		0.12	0.32	0.32	0.13	0.31	0.31		0.12	0.26	0.26		0.11	0.25	0.25
Sat Flow, veh/h		3442	3367	214	3442	3269	296		1774	3539	1583		1774	1940	1385
Grp Volume(v), veh/h		207	447	458	367	448	454		180	492	398		169	279	254
Grp Sat Flow(s),veh/h/ln		1721	1770	1811	1721	1770	1796		1774	1770	1583		1774	1770	1555
Q Serve(g_s), s		6.0	24.7	24.7	11.1	25.1	25.1		10.6	12.9	22.1		10.0	15.1	15.7
Cycle Q Clear(g_c), s		6.0	24.7	24.7	11.1	25.1	25.1		10.6	12.9	22.1		10.0	15.1	15.7
Prop In Lane		1.00		0.12	1.00		0.17		1.00		1.00		1.00		0.89
Lane Grp Cap(c), veh/h		412	563	576	442	545	553		212	905	608		201	441	388
V/C Ratio(X)		0.50	0.80	0.80	0.83	0.82	0.82		0.85	0.54	0.65		0.84	0.63	0.65
Avail Cap(c_a), veh/h		964	991	1015	964	991	1006		497	1322	794		497	661	581
HCM Platoon Ratio		1.00	1.00	1.00	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		44.2	33.3	33.3	45.5	34.3	34.3		46.2	34.4	27.1		46.6	35.8	36.1
Incr Delay (d2), s/veh		0.4	3.1	3.1	1.6	3.2	3.1		3.6	0.3	0.8		3.6	1.2	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		2.9	12.5	12.8	5.4	12.7	12.8		5.4	6.3	9.8		5.1	7.5	6.9
LnGrp Delay(d),s/veh		44.5	36.5	36.4	47.1	37.5	37.5		49.8	34.8	28.0		50.2	37.0	37.6
LnGrp LOS		D	D	D	D	D	D		D	C	C		D	D	D
Approach Vol, veh/h			1112			1269				1070				702	
Approach Delay, s/veh			37.9			40.3				34.8				40.4	
Approach LOS			D			D				C				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.1	39.7	17.2	32.0	18.5	39.4	16.5	32.7
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	13.1	26.7	12.6	17.7	8.0	27.1	12.0	24.1
Green Ext Time (p_c), s	0.6	7.3	0.2	2.8	0.3	5.9	0.2	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	38.3
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	43	1100	85	3	50	987	92	184	89	83	60	98	98
Future Volume (veh/h)	13	43	1100	85	3	50	987	92	184	89	83	60	98	98
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		49	1250	67		62	1219	79	271	131	85	76	124	99
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		63	1269	68		79	1285	83	245	119	77	82	134	107
Arrive On Green		0.04	0.37	0.37		0.01	0.13	0.13	0.25	0.25	0.25	0.19	0.19	0.19
Sat Flow, veh/h		1774	3411	183		1774	3369	218	979	473	307	439	717	572
Grp Volume(v), veh/h		49	648	669		62	639	659	487	0	0	299	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1824		1774	1770	1818	1759	0	0	1729	0	0
Q Serve(g_s), s		3.8	50.8	51.0		4.9	50.2	50.4	35.1	0.0	0.0	23.8	0.0	0.0
Cycle Q Clear(g_c), s		3.8	50.8	51.0		4.9	50.2	50.4	35.1	0.0	0.0	23.8	0.0	0.0
Prop In Lane		1.00		0.10		1.00		0.12	0.56		0.17	0.25		0.33
Lane Grp Cap(c), veh/h		63	658	679		79	675	693	441	0	0	323	0	0
V/C Ratio(X)		0.78	0.98	0.99		0.78	0.95	0.95	1.10	0.00	0.00	0.93	0.00	0.00
Avail Cap(c_a), veh/h		122	658	679		122	675	693	441	0	0	347	0	0
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)		1.00	1.00	1.00		0.70	0.70	0.70	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.0	43.5	43.6		68.3	59.8	59.9	52.5	0.0	0.0	56.0	0.0	0.0
Incr Delay (d2), s/veh		7.4	31.3	31.4		5.3	18.9	18.9	74.2	0.0	0.0	28.2	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.0	30.6	31.6		2.5	28.2	29.0	26.1	0.0	0.0	13.9	0.0	0.0
LnGrp Delay(d),s/veh		74.4	74.9	75.0		73.5	78.7	78.8	126.7	0.0	0.0	84.2	0.0	0.0
LnGrp LOS		E	E	E		E	E	E	F			F		
Approach Vol, veh/h			1366				1360			487			299	
Approach Delay, s/veh			74.9				78.5			126.7			84.2	
Approach LOS			E				E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.7	58.3		31.0	9.4	59.6		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	16.9	53.0		25.8	5.8	52.4		37.1
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	84.3
HCM 2010 LOS	F

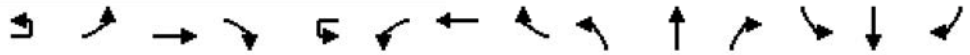
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	172	868	259	5	92	694	274	2	282	789	66	5	220	425	168
Future Volume (veh/h)	3	172	868	259	5	92	694	274	2	282	789	66	5	220	425	168
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		193	975	203		106	798	226		300	839	49		253	489	136
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		436	1512	314		153	1221	343		346	1048	61		298	706	307
Arrive On Green		0.33	0.69	0.69		0.04	0.31	0.31		0.20	0.43	0.43		0.17	0.40	0.40
Sat Flow, veh/h		1774	2909	605		3442	3921	1100		3442	4911	286		3442	3539	1539
Grp Volume(v), veh/h		193	592	586		106	689	335		300	578	310		253	489	136
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1631		1721	1695	1807		1721	1770	1539
Q Serve(g_s), s		12.0	26.1	26.2		4.3	24.6	24.9		11.8	20.8	20.9		10.0	16.1	5.4
Cycle Q Clear(g_c), s		12.0	26.1	26.2		4.3	24.6	24.9		11.8	20.8	20.9		10.0	16.1	5.4
Prop In Lane		1.00		0.35		1.00		0.67		1.00		0.16		1.00		1.00
Lane Grp Cap(c), veh/h		436	920	907		153	1056	508		346	723	385		298	706	307
V/C Ratio(X)		0.44	0.64	0.65		0.69	0.65	0.66		0.87	0.80	0.80		0.85	0.69	0.44
Avail Cap(c_a), veh/h		436	920	907		383	1056	508		457	826	440		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		1.00	1.00	1.00		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.09	0.09	0.09		0.93	0.93	0.93		0.89	0.89	0.89		1.00	1.00	1.00
Uniform Delay (d), s/veh		39.6	14.4	14.4		65.9	41.7	41.8		55.0	37.5	37.6		57.0	38.5	13.2
Incr Delay (d2), s/veh		0.0	0.3	0.3		1.9	2.9	6.2		9.5	5.3	9.7		10.8	2.9	1.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		5.9	12.6	12.5		2.1	11.9	12.1		6.0	10.2	11.4		5.2	8.0	3.3
LnGrp Delay(d),s/veh		39.6	14.7	14.8		67.9	44.6	47.9		64.6	42.8	47.3		67.8	41.4	14.9
LnGrp LOS		D	B	B		E	D	D		E	D	D		E	D	B
Approach Vol, veh/h			1371				1130				1188				878	
Approach Delay, s/veh			18.2				47.8				49.5				44.9	
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	10.6	78.1	18.5	32.8	39.7	49.0	16.5	34.8
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	16.3	28.2	13.8	18.1	14.0	26.9	12.0	22.9
Green Ext Time (p_c), s	0.1	9.4	0.3	4.5	0.2	5.7	0.2	6.1

Intersection Summary	
HCM 2010 Ctrl Delay	38.8
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	11	67	1021	40	5	54	1037	165	30	21	47	108	23	46
Future Volume (veh/h)	11	67	1021	40	5	54	1037	165	30	21	47	108	23	46
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	0.97		0.98	0.99		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		71	1086	30		57	1103	123	36	25	39	150	32	45
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.94	0.94	0.94		0.94	0.94	0.94	0.84	0.84	0.84	0.72	0.72	0.72
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		113	3318	92		94	2998	334	247	202	168	312	283	235
Arrive On Green		0.01	0.22	0.22		0.05	1.00	1.00	0.03	0.11	0.11	0.08	0.15	0.15
Sat Flow, veh/h		3442	5087	140		3442	4635	516	1774	1863	1553	1774	1863	1549
Grp Volume(v), veh/h		71	724	392		57	806	420	36	25	39	150	32	45
Grp Sat Flow(s),veh/h/ln		1721	1695	1837		1721	1695	1761	1774	1863	1553	1774	1863	1549
Q Serve(g_s), s		2.9	25.2	25.2		2.3	0.0	0.0	2.5	1.7	3.2	10.4	2.1	3.6
Cycle Q Clear(g_c), s		2.9	25.2	25.2		2.3	0.0	0.0	2.5	1.7	3.2	10.4	2.1	3.6
Prop In Lane		1.00		0.08		1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		113	2211	1198		94	2193	1139	247	202	168	312	283	235
V/C Ratio(X)		0.63	0.33	0.33		0.61	0.37	0.37	0.15	0.12	0.23	0.48	0.11	0.19
Avail Cap(c_a), veh/h		310	2211	1198		310	2193	1139	324	547	456	312	547	455
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)		0.53	0.53	0.53		0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		68.4	29.0	29.0		65.4	0.0	0.0	52.8	56.4	57.1	49.2	51.2	51.9
Incr Delay (d2), s/veh		1.1	0.2	0.4		2.1	0.4	0.8	0.1	0.1	0.3	0.4	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		1.4	11.9	13.0		1.1	0.1	0.3	1.2	0.9	1.4	5.1	1.1	1.5
LnGrp Delay(d),s/veh		69.5	29.2	29.4		67.5	0.4	0.8	52.9	56.5	57.4	49.6	51.3	52.0
LnGrp LOS		E	C	C		E	A	A	D	E	E	D	D	D
Approach Vol, veh/h			1187				1283			100			227	
Approach Delay, s/veh			31.7				3.5			55.5			50.3	
Approach LOS			C				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	8.2	96.7	8.9	26.1	9.0	95.9	15.0	20.0
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	12.6	* 57	10.6	41.1	12.6	56.6	10.6	41.1
Max Q Clear Time (g_c+I1), s	4.3	27.2	4.5	5.6	4.9	2.0	12.4	5.2
Green Ext Time (p_c), s	0.0	15.0	0.0	0.2	0.0	14.3	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Notes



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	16	34	1141	18	181	1185	105	65	116	368	135	124	113
Future Volume (veh/h)	16	34	1141	18	181	1185	105	65	116	368	135	124	113
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		37	1240	15	191	1247	77	76	136	368	152	139	89
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.92	0.92	0.92	0.95	0.95	0.95	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		48	1394	17	678	3085	190	119	274	827	201	605	259
Arrive On Green		0.01	0.09	0.09	0.76	1.00	1.00	0.01	0.05	0.05	0.06	0.17	0.17
Sat Flow, veh/h		1774	5177	63	1774	4887	302	3442	1863	1508	3442	3539	1519
Grp Volume(v), veh/h		37	812	443	191	865	459	76	136	368	152	139	89
Grp Sat Flow(s),veh/h/ln		1774	1695	1849	1774	1695	1799	1721	1863	1508	1721	1770	1519
Q Serve(g_s), s		2.9	33.2	33.2	4.5	0.0	0.0	3.1	10.0	3.7	6.1	4.7	7.2
Cycle Q Clear(g_c), s		2.9	33.2	33.2	4.5	0.0	0.0	3.1	10.0	3.7	6.1	4.7	7.2
Prop In Lane		1.00		0.03	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		48	913	498	678	2140	1135	119	274	827	201	605	259
V/C Ratio(X)		0.78	0.89	0.89	0.28	0.40	0.40	0.64	0.50	0.44	0.76	0.23	0.34
Avail Cap(c_a), veh/h		172	913	498	678	2140	1135	236	520	1027	334	1090	468
HCM Platoon Ratio		0.33	0.33	0.33	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)		0.94	0.94	0.94	0.80	0.80	0.80	0.61	0.61	0.61	1.00	1.00	1.00
Uniform Delay (d), s/veh		69.0	61.7	61.7	10.7	0.0	0.0	68.3	61.6	10.8	64.9	50.1	51.1
Incr Delay (d2), s/veh		9.1	12.0	19.6	0.1	0.5	0.9	1.3	0.3	0.1	2.2	0.1	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		1.6	17.1	19.7	2.1	0.1	0.3	1.5	5.2	6.5	3.0	2.3	3.1
LnGrp Delay(d),s/veh		78.1	73.7	81.4	10.8	0.5	0.9	69.6	61.9	10.8	67.1	50.2	51.4
LnGrp LOS		E	E	F	B	A	A	E	E	B	E	D	D
Approach Vol, veh/h			1292			1515			580			380	
Approach Delay, s/veh			76.5			1.9			30.5			57.2	
Approach LOS			E			A			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	43.0	9.2	28.8	8.2	93.8	12.6	25.5
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	30.6	* 38	9.6	43.1	13.6	54.6	13.6	39.1
Max Q Clear Time (g_c+I1), s	6.5	35.2	5.1	9.2	4.9	2.0	8.1	12.0
Green Ext Time (p_c), s	0.2	2.3	0.0	0.7	0.0	29.5	0.1	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	37.5
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	5	23	1637	20	18	70	1359	27	23	43	163	61	33	57
Future Volume (veh/h)	5	23	1637	20	18	70	1359	27	23	43	163	61	33	57
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	1.00		0.95	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		25	1799	15		78	1510	21	30	57	150	80	43	53
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.91	0.91	0.91		0.90	0.90	0.90	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		32	2634	22		97	2807	39	37	70	185	92	49	61
Arrive On Green		0.04	1.00	1.00		0.11	1.00	1.00	0.18	0.18	0.18	0.12	0.12	0.12
Sat Flow, veh/h		1774	5202	43		1774	5167	72	204	388	1021	776	417	514
Grp Volume(v), veh/h		25	1172	642		78	991	540	237	0	0	176	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1855		1774	1695	1849	1613	0	0	1708	0	0
Q Serve(g_s), s		2.0	0.0	0.0		6.0	0.0	0.0	19.7	0.0	0.0	14.2	0.0	0.0
Cycle Q Clear(g_c), s		2.0	0.0	0.0		6.0	0.0	0.0	19.7	0.0	0.0	14.2	0.0	0.0
Prop In Lane		1.00		0.02		1.00		0.04	0.13		0.63	0.45		0.30
Lane Grp Cap(c), veh/h		32	1717	939		97	1842	1004	292	0	0	202	0	0
V/C Ratio(X)		0.79	0.68	0.68		0.80	0.54	0.54	0.81	0.00	0.00	0.87	0.00	0.00
Avail Cap(c_a), veh/h		134	1717	939		185	1842	1004	404	0	0	294	0	0
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)		0.77	0.77	0.77		0.88	0.88	0.88	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.3	0.0	0.0		61.6	0.0	0.0	55.1	0.0	0.0	60.7	0.0	0.0
Incr Delay (d2), s/veh		11.9	1.7	3.1		5.1	1.0	1.8	6.0	0.0	0.0	13.0	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		1.1	0.4	0.8		3.1	0.3	0.5	9.3	0.0	0.0	7.4	0.0	0.0
LnGrp Delay(d),s/veh		79.2	1.7	3.1		66.7	1.0	1.8	61.0	0.0	0.0	73.7	0.0	0.0
LnGrp LOS		E	A	A		E	A	A	E			E		
Approach Vol, veh/h			1839				1609			237			176	
Approach Delay, s/veh			3.2				4.5			61.0			73.7	
Approach LOS			A				A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.1	76.3		30.2	6.9	81.5		21.4
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	14.6	* 47		35.1	10.6	50.6		24.1
Max Q Clear Time (g_c+I1), s	8.0	2.0		21.7	4.0	2.0		16.2
Green Ext Time (p_c), s	0.0	32.5		0.8	0.0	21.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1828	120	366	1323	269	88	86	614	260	147	5
Future Volume (veh/h)	2	1828	120	366	1323	269	88	86	614	260	147	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	1885	87	398	1438	204	100	100	614	289	163	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1883	87	350	2917	889	255	267	1064	293	298	7
Arrive On Green	0.00	0.76	0.76	0.20	0.57	0.57	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4974	229	1774	5085	1549	1774	1863	3066	1774	1809	44
Grp Volume(v), veh/h	2	1283	689	398	1438	204	100	100	614	289	0	167
Grp Sat Flow(s),veh/h/ln	1774	1695	1813	1774	1695	1549	1774	1863	1533	1774	0	1853
Q Serve(g_s), s	0.2	53.0	53.0	27.6	23.5	9.1	7.2	6.8	20.1	22.7	0.0	11.6
Cycle Q Clear(g_c), s	0.2	53.0	53.0	27.6	23.5	9.1	7.2	6.8	20.1	22.7	0.0	11.6
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	4	1283	686	350	2917	889	255	267	1064	293	0	306
V/C Ratio(X)	0.53	1.00	1.00	1.14	0.49	0.23	0.39	0.37	0.58	0.99	0.00	0.55
Avail Cap(c_a), veh/h	274	1283	686	350	2917	889	255	267	1064	293	0	306
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.6	17.0	17.0	56.2	17.7	14.7	54.4	54.3	38.0	58.3	0.0	53.6
Incr Delay (d2), s/veh	21.8	18.9	26.6	91.0	0.6	0.6	0.7	0.6	0.7	48.9	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	26.9	30.2	22.3	11.1	4.0	3.6	3.5	9.8	15.1	0.0	6.0
LnGrp Delay(d),s/veh	91.4	35.9	43.7	147.2	18.3	15.3	55.1	54.9	38.7	107.2	0.0	54.8
LnGrp LOS	F	D	F	F	B	B	E	D	D	F		D
Approach Vol, veh/h		1974			2040			814			456	
Approach Delay, s/veh		38.7			43.2			42.7			88.0	
Approach LOS		D			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.0	58.5		25.0	4.7	85.8		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	2.2	25.5		24.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.3
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	1494	0	0	0	0	0	1	433
Future Volume (veh/h)	0	0	0	0	1494	0	0	0	0	0	1	433
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	1758	0				0	1	484
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.85	0.85	0.85				0.76	0.76	0.76
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	2707	843				0	409	612
Arrive On Green				0.00	0.53	0.00				0.00	0.22	0.22
Sat Flow, veh/h				0	5253	1583				0	1863	2783
Grp Volume(v), veh/h				0	1758	0				0	1	484
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1391
Q Serve(g_s), s				0.0	10.9	0.0				0.0	0.0	7.2
Cycle Q Clear(g_c), s				0.0	10.9	0.0				0.0	0.0	7.2
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	2707	843				0	409	612
V/C Ratio(X)				0.00	0.65	0.00				0.00	0.00	0.79
Avail Cap(c_a), veh/h				0	5782	1800				0	1483	2215
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	7.3	0.0				0.0	13.4	16.2
Incr Delay (d2), s/veh				0.0	0.1	0.0				0.0	0.0	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	4.9	0.0				0.0	0.0	2.8
LnGrp Delay(d),s/veh				0.0	7.4	0.0				0.0	13.4	17.1
LnGrp LOS					A						B	B
Approach Vol, veh/h					1758						485	
Approach Delay, s/veh					7.4						17.1	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				14.8		29.2		
Change Period (Y+Rc), s				5.1		5.8		
Max Green Setting (Gmax), s				35.0		50.0		
Max Q Clear Time (g_c+I1), s				9.2		12.9		
Green Ext Time (p_c), s				0.5		10.5		

Intersection Summary	
HCM 2010 Ctrl Delay	9.5
HCM 2010 LOS	A

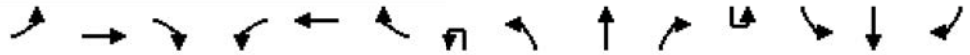
Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2082	392	0	0	0	0	1	367	0	0	0
Future Volume (veh/h)	0	2082	392	0	0	0	0	1	367	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	2288	0				0	1	339			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.91	0.91	0.91				0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	3205	998				0	308	451			
Arrive On Green	0.00	0.63	0.00				0.00	0.17	0.17			
Sat Flow, veh/h	0	5253	1583				0	1863	2725			
Grp Volume(v), veh/h	0	2288	0				0	1	339			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1362			
Q Serve(g_s), s	0.0	16.1	0.0				0.0	0.0	6.3			
Cycle Q Clear(g_c), s	0.0	16.1	0.0				0.0	0.0	6.3			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	3205	998				0	308	451			
V/C Ratio(X)	0.00	0.71	0.00				0.00	0.00	0.75			
Avail Cap(c_a), veh/h	0	4761	1482				0	607	888			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	6.6	0.0				0.0	18.6	21.2			
Incr Delay (d2), s/veh	0.0	0.1	0.0				0.0	0.0	1.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	7.4	0.0				0.0	0.0	2.4			
LnGrp Delay(d),s/veh	0.0	6.7	0.0				0.0	18.6	22.2			
LnGrp LOS		A						B	C			
Approach Vol, veh/h		2288						340				
Approach Delay, s/veh		6.7						22.2				
Approach LOS		A						C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		39.5						13.9
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						17.4
Max Q Clear Time (g_c+I1), s		18.1						8.3
Green Ext Time (p_c), s		15.5						0.6

Intersection Summary	
HCM 2010 Ctrl Delay	8.7
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	152	370	67	118	245	124	2	66	914	195	4	33	595	129
Future Volume (veh/h)	152	370	67	118	245	124	2	66	914	195	4	33	595	129
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.95		1.00		0.96		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	188	457	58	136	282	100		70	972	144		39	700	106
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87		0.94	0.94	0.94		0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	210	540	71	184	409	249		89	1471	440		308	1489	662
Arrive On Green	0.23	0.23	0.23	0.17	0.17	0.17		0.05	0.29	0.29		0.17	0.42	0.42
Sat Flow, veh/h	923	2375	313	1109	2468	1504		1774	5085	1520		1774	3539	1574
Grp Volume(v), veh/h	370	0	333	222	196	100		70	972	144		39	700	106
Grp Sat Flow(s),veh/h/ln	1817	0	1794	1807	1770	1504		1774	1695	1520		1774	1770	1574
Q Serve(g_s), s	27.7	0.0	24.6	16.3	14.6	8.3		5.5	23.5	10.4		2.6	20.0	5.9
Cycle Q Clear(g_c), s	27.7	0.0	24.6	16.3	14.6	8.3		5.5	23.5	10.4		2.6	20.0	5.9
Prop In Lane	0.51		0.17	0.61		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	413	0	408	299	293	249		89	1471	440		308	1489	662
V/C Ratio(X)	0.90	0.00	0.82	0.74	0.67	0.40		0.79	0.66	0.33		0.13	0.47	0.16
Avail Cap(c_a), veh/h	507	0	501	401	393	334		185	1471	440		308	1489	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.92	0.92	0.92		1.00	1.00	1.00		0.76	0.76	0.76
Uniform Delay (d), s/veh	52.5	0.0	51.3	55.5	54.8	52.2		65.8	43.7	39.1		48.9	29.3	25.2
Incr Delay (d2), s/veh	14.5	0.0	6.9	2.7	0.9	0.4		5.7	2.3	2.0		0.1	0.8	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	15.5	0.0	13.0	8.4	7.2	3.5		2.8	11.3	4.6		1.3	9.9	2.6
LnGrp Delay(d),s/veh	66.9	0.0	58.3	58.3	55.7	52.6		71.5	46.1	41.0		48.9	30.1	25.6
LnGrp LOS	E		E	E	E	D		E	D	D		D	C	C
Approach Vol, veh/h		703			518				1186				845	
Approach Delay, s/veh		62.8			56.2				47.0				30.4	
Approach LOS		E			E				D				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.2	46.0		36.7	11.4	63.8		28.1
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	9.6	* 41		39.1	14.6	36.1		31.1
Max Q Clear Time (g_c+I1), s	4.6	25.5		29.7	7.5	22.0		18.3
Green Ext Time (p_c), s	0.0	7.6		2.1	0.0	10.1		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	47.6
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	118	14	51	70	36	127
Future Vol, veh/h	118	14	51	70	36	127
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	128	15	55	76	39	138

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	143	0	322	136
Stage 1	-	-	-	-	136	-
Stage 2	-	-	-	-	186	-
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	-	-	1440	-	672	913
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	846	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1440	-	645	913
Mov Cap-2 Maneuver	-	-	-	-	645	-
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	846	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.2	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	836	-	-	1440	-
HCM Lane V/C Ratio	0.212	-	-	0.038	-
HCM Control Delay (s)	10.5	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	256	15	186	737	105	256	407	106	2
Future Volume (veh/h)	11	142	662	256	15	186	737	105	256	407	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	201		200	792	79	272	433	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1164	318		255	1426	142	329	716	129	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.10	0.24	0.24	
Sat Flow, veh/h		3442	2727	745		3442	3245	324	3442	2967	536	
Grp Volume(v), veh/h		158	478	459		200	432	439	272	257	255	
Grp Sat Flow(s),veh/h/ln		1721	1770	1701		1721	1770	1798	1721	1770	1734	
Q Serve(g_s), s		5.7	26.7	26.7		7.2	22.8	22.8	9.8	16.2	16.5	
Cycle Q Clear(g_c), s		5.7	26.7	26.7		7.2	22.8	22.8	9.8	16.2	16.5	
Prop In Lane		1.00		0.44		1.00		0.18	1.00		0.31	
Lane Grp Cap(c), veh/h		213	756	727		255	778	790	329	427	418	
V/C Ratio(X)		0.74	0.63	0.63		0.78	0.56	0.56	0.83	0.60	0.61	
Avail Cap(c_a), veh/h		399	756	727		399	778	790	481	479	469	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.3	28.3		57.3	26.2	26.2	56.0	42.4	42.5	
Incr Delay (d2), s/veh		1.9	4.0	4.2		2.1	2.9	2.8	4.8	0.9	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	
%ile BackOfQ(50%),veh/ln		2.8	13.8	13.3		3.5	11.8	12.0	4.9	8.0	8.1	
LnGrp Delay(d),s/veh		60.0	32.3	32.5		59.4	29.0	29.0	60.8	43.3	43.6	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1095				1071			784		
Approach Delay, s/veh			36.4				34.7			49.5		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.8	16.4	37.0	12.2	60.4	18.1	35.3
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	28.7	11.8	34.1	7.7	24.8	13.7	18.5
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	62.9
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	903	101
Future Volume (veh/h)	160	903	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	951	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	845	66
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3316	258
Grp Volume(v), veh/h	168	508	517
Grp Sat Flow(s),veh/h/ln	1774	1770	1804
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	451	460
V/C Ratio(X)	0.87	1.13	1.13
Avail Cap(c_a), veh/h	220	451	460
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	81.4	81.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	25.9	26.3
LnGrp Delay(d),s/veh	79.8	128.4	128.1
LnGrp LOS	E	F	F
Approach Vol, veh/h		1193	
Approach Delay, s/veh		121.4	
Approach LOS		F	
Timer			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	19	7	81	14	1	3	7	70	775	3	1	8	1323	20
Future Volume (veh/h)	19	7	81	14	1	3	7	70	775	3	1	8	1323	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)	0.98		0.94	0.98		0.97		1.00		0.99		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	28	10	82	22	2	3		74	816	2		9	1407	15
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.69	0.69	0.69	0.64	0.64	0.64		0.95	0.95	0.95		0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	65	30	129	162	16	16		93	2731	7		15	2547	27
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12		0.11	1.00	1.00		0.01	0.71	0.71
Sat Flow, veh/h	244	238	1041	889	128	127		1774	3622	9		1774	3587	38
Grp Volume(v), veh/h	120	0	0	27	0	0		74	399	419		9	694	728
Grp Sat Flow(s),veh/h/ln	1523	0	0	1144	0	0		1774	1770	1861		1774	1770	1856
Q Serve(g_s), s	4.6	0.0	0.0	0.0	0.0	0.0		5.1	0.0	0.0		0.6	23.6	23.6
Cycle Q Clear(g_c), s	9.3	0.0	0.0	2.7	0.0	0.0		5.1	0.0	0.0		0.6	23.6	23.6
Prop In Lane	0.23		0.68	0.81		0.11		1.00		0.00		1.00		0.02
Lane Grp Cap(c), veh/h	224	0	0	194	0	0		93	1334	1403		15	1256	1317
V/C Ratio(X)	0.54	0.00	0.00	0.14	0.00	0.00		0.79	0.30	0.30		0.59	0.55	0.55
Avail Cap(c_a), veh/h	384	0	0	335	0	0		234	1334	1403		191	1256	1317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.94	0.94	0.94		0.09	0.09	0.09
Uniform Delay (d), s/veh	52.4	0.0	0.0	49.4	0.0	0.0		55.7	0.0	0.0		62.2	8.7	8.7
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.1	0.0	0.0		5.2	0.5	0.5		1.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	0.9	0.0	0.0		2.6	0.2	0.2		0.3	11.4	12.0
LnGrp Delay(d),s/veh	53.1	0.0	0.0	49.5	0.0	0.0		60.9	0.5	0.5		63.5	8.9	8.9
LnGrp LOS	D			D				E	A	A		E	A	A
Approach Vol, veh/h		120			27				892				1431	
Approach Delay, s/veh		53.1			49.5				5.5				9.2	
Approach LOS		D			D				A				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	100.0		20.5	11.0	94.5		20.5
Change Period (Y+Rc), s	4.4	5.0		4.9	4.4	* 5		4.9
Max Green Setting (Gmax), s	13.6	69.0		29.1	16.6	* 66		29.1
Max Q Clear Time (g_c+I1), s	2.6	2.0		11.3	7.1	25.6		4.7
Green Ext Time (p_c), s	0.0	14.7		0.4	0.0	8.6		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

Notes



Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	46	59	798	52	1	73	1320
Future Volume (veh/h)	46	59	798	52	1	73	1320
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.94		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	52	46	849	39		75	1361
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.89	0.89	0.94	0.94		0.97	0.97
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	86	76	2449	112		95	2856
Arrive On Green	0.10	0.10	1.00	1.00		0.11	1.00
Sat Flow, veh/h	856	757	3539	158		1774	3632
Grp Volume(v), veh/h	99	0	436	452		75	1361
Grp Sat Flow(s),veh/h/ln	1629	0	1770	1834		1774	1770
Q Serve(g_s), s	7.3	0.0	0.0	0.0		5.2	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0	0.0		5.2	0.0
Prop In Lane	0.53	0.46		0.09		1.00	
Lane Grp Cap(c), veh/h	163	0	1258	1304		95	2856
V/C Ratio(X)	0.61	0.00	0.35	0.35		0.79	0.48
Avail Cap(c_a), veh/h	312	0	1258	1304		248	2856
HCM Platoon Ratio	1.00	1.00	2.00	2.00		2.00	2.00
Upstream Filter(I)	1.00	0.00	0.96	0.96		0.81	0.81
Uniform Delay (d), s/veh	54.3	0.0	0.0	0.0		55.6	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.7	0.7		4.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.3	0.3		2.7	0.2
LnGrp Delay(d),s/veh	55.6	0.0	0.7	0.7		60.1	0.5
LnGrp LOS	E		A	A		E	A
Approach Vol, veh/h	99		888				1436
Approach Delay, s/veh	55.6		0.7				3.6
Approach LOS	E		A				A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.1	95.3				107.5		18.5
Change Period (Y+Rc), s	5.4	* 5.8				5.8		5.9
Max Green Setting (Gmax), s	7.6	* 67				90.2		24.1
Max Q Clear Time (g_c+I1), s	7.3	2.0				2.0		9.3
Green Ext Time (p_c), s	0.1	12.8				29.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	4.7
HCM 2010 LOS	A

Notes

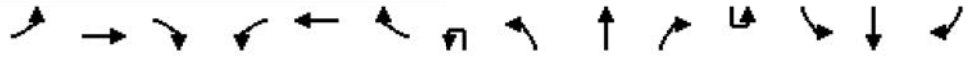


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	89	6	43	15	5	16	3	19	738	15	12	1218	129
Future Volume (veh/h)	89	6	43	15	5	16	3	19	738	15	12	1218	129
Number	7	4	14	3	8	18		1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	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	1900	1863	1900	1900	1863	1900		1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	100	7	33	23	8	17		20	785	11	13	1310	97
Adj No. of Lanes	0	1	0	0	1	0		1	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.64	0.64	0.64		0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h	170	10	41	115	45	65		28	2695	38	21	2505	185
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11		0.02	0.75	0.75	0.02	1.00	1.00
Sat Flow, veh/h	1059	91	355	640	391	565		1774	3573	50	1774	3341	247
Grp Volume(v), veh/h	140	0	0	48	0	0		20	389	407	13	692	715
Grp Sat Flow(s),veh/h/ln	1504	0	0	1596	0	0		1774	1770	1854	1774	1770	1818
Q Serve(g_s), s	8.0	0.0	0.0	0.0	0.0	0.0		1.4	8.7	8.7	0.9	0.0	0.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0	3.3	0.0	0.0		1.4	8.7	8.7	0.9	0.0	0.0
Prop In Lane	0.71		0.24	0.48		0.35		1.00		0.03	1.00		0.14
Lane Grp Cap(c), veh/h	221	0	0	225	0	0		28	1335	1398	21	1327	1363
V/C Ratio(X)	0.63	0.00	0.00	0.21	0.00	0.00		0.71	0.29	0.29	0.63	0.52	0.52
Avail Cap(c_a), veh/h	421	0	0	434	0	0		234	1335	1398	234	1327	1363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.91	0.91	0.91	0.87	0.87	0.87
Uniform Delay (d), s/veh	54.1	0.0	0.0	50.8	0.0	0.0		61.7	4.9	4.9	61.3	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.2	0.0	0.0		10.3	0.5	0.5	9.9	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.0	1.5	0.0	0.0		0.8	4.4	4.6	0.5	0.5	0.5
LnGrp Delay(d),s/veh	55.3	0.0	0.0	51.0	0.0	0.0		72.0	5.4	5.4	71.1	1.3	1.3
LnGrp LOS	E			D				E	A	A	E	A	A
Approach Vol, veh/h		140			48				816			1420	
Approach Delay, s/veh		55.3			51.0				7.0			1.9	
Approach LOS		E			D				A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.4	100.3		19.3	5.9	100.8		19.3
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	16.6	* 63		32.1	16.6	62.2		32.1
Max Q Clear Time (g_c+I1), s	13.4	2.0		13.3	2.9	10.7		5.3
Green Ext Time (p_c), s	0.0	22.2		0.4	0.0	8.1		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	7.7
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	31	29	34	249	26	88	9	44	710	272	15	130	1024	46
Future Volume (veh/h)	31	29	34	249	26	88	9	44	710	272	15	130	1024	46
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.96		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	38	36	30	265	28	66		49	789	214		140	1101	34
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94		0.90	0.90	0.90		0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	35	31	13	279	24	532		191	1807	485		164	2186	67
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35		0.04	0.15	0.15		0.09	0.43	0.43
Sat Flow, veh/h	0	88	36	657	69	1517		1774	3968	1066		1774	5067	156
Grp Volume(v), veh/h	104	0	0	293	0	66		49	673	330		140	736	399
Grp Sat Flow(s),veh/h/ln	124	0	0	726	0	1517		1774	1695	1644		1774	1695	1834
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.1		3.8	25.3	25.6		10.9	22.1	22.1
Cycle Q Clear(g_c), s	49.1	0.0	0.0	49.1	0.0	4.1		3.8	25.3	25.6		10.9	22.1	22.1
Prop In Lane	0.37		0.29	0.90		1.00		1.00		0.65		1.00		0.09
Lane Grp Cap(c), veh/h	79	0	0	304	0	532		191	1544	749		164	1463	791
V/C Ratio(X)	1.32	0.00	0.00	0.97	0.00	0.12		0.26	0.44	0.44		0.85	0.50	0.50
Avail Cap(c_a), veh/h	79	0	0	304	0	532		198	1544	749		274	1463	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.33	0.33	0.33		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.93	0.93	0.93		0.79	0.79	0.79
Uniform Delay (d), s/veh	43.8	0.0	0.0	48.7	0.0	30.9		62.0	43.1	43.3		62.6	28.9	28.9
Incr Delay (d2), s/veh	209.4	0.0	0.0	41.9	0.0	0.0		0.2	0.8	1.8		4.8	1.0	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	7.6	0.0	0.0	14.8	0.0	1.7		1.9	12.1	12.0		5.5	10.5	11.6
LnGrp Delay(d),s/veh	253.2	0.0	0.0	90.5	0.0	30.9		62.3	44.0	45.0		67.4	29.9	30.7
LnGrp LOS	F			F		C		E	D	D		E	C	C
Approach Vol, veh/h		104			359				1052				1275	
Approach Delay, s/veh		253.2			79.6				45.1				34.3	
Approach LOS		F			E				D				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.3	68.7		54.0	20.0	66.0		54.0
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	12.6	35.1		49.1	15.6	* 60		49.1
Max Q Clear Time (g_c+I1), s	12.9	27.6		51.1	5.8	24.1		51.1
Green Ext Time (p_c), s	0.1	6.5		0.0	0.0	20.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	52.4
HCM 2010 LOS	D

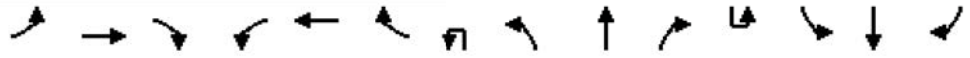
Notes

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	58	41	203	68	12	83	38	90	6	83	2
Future Vol, veh/h	0	58	41	203	68	12	83	38	90	6	83	2
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	88	62	233	78	14	91	42	99	7	102	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	12.9	10.9	9.8
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	39%	0%	72%	7%
Vol Thru, %	18%	59%	24%	91%
Vol Right, %	43%	41%	4%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	211	99	283	91
LT Vol	83	0	203	6
Through Vol	38	58	68	83
RT Vol	90	41	12	2
Lane Flow Rate	232	150	325	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.336	0.214	0.472	0.174
Departure Headway (Hd)	5.21	5.13	5.222	5.583
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	691	699	690	641
Service Time	3.243	3.166	3.251	3.622
HCM Lane V/C Ratio	0.336	0.215	0.471	0.175
HCM Control Delay	10.9	9.6	12.9	9.8
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.5	0.8	2.5	0.6

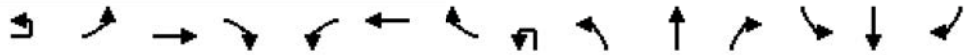


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	87	48	186	104	46	129	17	201	778	128	8	176	940	182
Future Volume (veh/h)	87	48	186	104	46	129	17	201	778	128	8	176	940	182
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	93	51	158	113	50	98		221	855	99		185	989	152
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	246	92	284	190	130	255		473	2526	291		207	1393	604
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23		0.27	0.55	0.55		0.23	0.79	0.79
Sat Flow, veh/h	1224	391	1210	1156	553	1085		1774	4619	532		1774	3539	1534
Grp Volume(v), veh/h	93	0	209	113	0	148		221	626	328		185	989	152
Grp Sat Flow(s),veh/h/ln	1224	0	1600	1156	0	1638		1774	1695	1761		1774	1770	1534
Q Serve(g_s), s	9.7	0.0	16.1	13.3	0.0	10.6		14.6	14.4	14.5		14.1	18.9	3.7
Cycle Q Clear(g_c), s	20.3	0.0	16.1	29.4	0.0	10.6		14.6	14.4	14.5		14.1	18.9	3.7
Prop In Lane	1.00		0.76	1.00		0.66		1.00		0.30		1.00		1.00
Lane Grp Cap(c), veh/h	246	0	376	190	0	385		473	1854	963		207	1393	604
V/C Ratio(X)	0.38	0.00	0.56	0.59	0.00	0.38		0.47	0.34	0.34		0.89	0.71	0.25
Avail Cap(c_a), veh/h	396	0	573	332	0	586		473	1854	963		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.91	0.91	0.91
Uniform Delay (d), s/veh	53.6	0.0	47.1	60.1	0.0	45.1		43.0	17.6	17.7		52.8	11.0	9.4
Incr Delay (d2), s/veh	0.7	0.0	1.0	2.2	0.0	0.5		0.3	0.5	1.0		4.8	2.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	7.2	4.4	0.0	4.9		7.2	6.8	7.3		7.2	9.3	1.7
LnGrp Delay(d),s/veh	54.3	0.0	48.1	62.3	0.0	45.5		43.3	18.1	18.6		57.6	13.9	10.3
LnGrp LOS	D		D	E		D		D	B	B		E	B	B
Approach Vol, veh/h		302			261				1175				1326	
Approach Delay, s/veh		50.0			52.8				23.0				19.6	
Approach LOS		D			D				C				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	81.5		37.8	42.2	60.0		37.8
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	36.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	16.1	16.5		22.3	16.6	20.9		31.4
Green Ext Time (p_c), s	0.2	7.7		1.4	0.1	11.0		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Notes



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	347	992	61	449	862	108	21	82	307	355	259	649	279
Future Volume (veh/h)	15	347	992	61	449	862	108	21	82	307	355	259	649	279
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		361	1033	45	478	917	81		87	327	266	301	755	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		568	1177	51	530	1039	92		108	676	530	322	833	249
Arrive On Green		0.16	0.34	0.34	0.15	0.32	0.32		0.06	0.19	0.19	0.18	0.31	0.31
Sat Flow, veh/h		3442	3449	150	3442	3278	290		1774	3539	1499	1774	2671	800
Grp Volume(v), veh/h		361	530	548	478	495	503		87	327	266	301	500	481
Grp Sat Flow(s),veh/h/ln		1721	1770	1830	1721	1770	1798		1774	1770	1499	1774	1770	1701
Q Serve(g_s), s		14.6	42.1	42.1	20.4	39.7	39.7		7.2	12.3	21.1	25.0	40.5	40.5
Cycle Q Clear(g_c), s		14.6	42.1	42.1	20.4	39.7	39.7		7.2	12.3	21.1	25.0	40.5	40.5
Prop In Lane		1.00		0.08	1.00		0.16		1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h		568	604	624	530	561	570		108	676	530	322	552	530
V/C Ratio(X)		0.64	0.88	0.88	0.90	0.88	0.88		0.81	0.48	0.50	0.93	0.91	0.91
Avail Cap(c_a), veh/h		691	710	734	691	710	722		356	947	645	356	552	530
HCM Platoon Ratio		1.00	1.00	1.00	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		58.2	46.3	46.3	62.1	48.4	48.5		69.4	53.9	39.0	60.3	49.4	49.4
Incr Delay (d2), s/veh		0.7	11.1	10.8	10.9	10.6	10.4		5.3	0.4	0.5	28.8	18.6	19.1
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		7.0	22.5	23.2	10.5	21.0	21.4		3.7	6.1	8.8	14.9	22.7	21.9
LnGrp Delay(d),s/veh		58.9	57.5	57.2	73.0	59.0	58.9		74.7	54.3	39.5	89.1	67.9	68.5
LnGrp LOS		E	E	E	E	E	E		E	D	D	F	E	E
Approach Vol, veh/h			1439			1476				680			1282	
Approach Delay, s/veh			57.7			63.5				51.1			73.1	
Approach LOS			E			E				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	27.4	56.7	13.5	51.9	30.4	53.8	31.6	33.8
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	22.4	44.1	9.2	42.5	16.6	41.7	27.0	23.1
Green Ext Time (p_c), s	0.6	6.9	0.1	0.0	0.6	5.7	0.2	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	62.6
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	66	1243	140	47	76	1277	98	88	52	38	52	131	140
Future Volume (veh/h)	6	66	1243	140	47	76	1277	98	88	52	38	52	131	140
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		69	1308	103		81	1359	73	99	58	31	57	144	114
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		222	1665	131		102	1435	77	114	67	36	56	142	113
Arrive On Green		0.13	0.50	0.50		0.02	0.14	0.14	0.12	0.12	0.12	0.18	0.18	0.18
Sat Flow, veh/h		1774	3325	261		1774	3417	183	927	543	290	314	793	628
Grp Volume(v), veh/h		69	695	716		81	703	729	188	0	0	315	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1816		1774	1770	1830	1760	0	0	1735	0	0
Q Serve(g_s), s		5.0	45.2	45.5		6.4	55.1	55.3	14.7	0.0	0.0	25.1	0.0	0.0
Cycle Q Clear(g_c), s		5.0	45.2	45.5		6.4	55.1	55.3	14.7	0.0	0.0	25.1	0.0	0.0
Prop In Lane		1.00		0.14		1.00		0.10	0.53		0.16	0.18		0.36
Lane Grp Cap(c), veh/h		222	886	909		102	743	769	217	0	0	311	0	0
V/C Ratio(X)		0.31	0.78	0.79		0.80	0.95	0.95	0.87	0.00	0.00	1.01	0.00	0.00
Avail Cap(c_a), veh/h		222	886	909		172	743	769	315	0	0	311	0	0
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)		1.00	1.00	1.00		0.48	0.48	0.48	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		55.7	28.7	28.8		67.9	58.7	58.8	60.2	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh		0.3	6.9	6.9		2.6	13.2	13.3	11.6	0.0	0.0	54.3	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	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.5	23.7	24.4		3.2	29.8	30.9	7.9	0.0	0.0	16.7	0.0	0.0
LnGrp Delay(d),s/veh		56.0	35.6	35.7		70.4	71.9	72.1	71.8	0.0	0.0	111.8	0.0	0.0
LnGrp LOS		E	D	D		E	E	E	E			F		
Approach Vol, veh/h			1480				1513			188			315	
Approach Delay, s/veh			36.6				71.9			71.8			111.8	
Approach LOS			D				E			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	75.4		30.0	22.8	65.0		22.2
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	9.4	47.5		27.1	7.0	57.3		16.7
Green Ext Time (p_c), s	0.0	7.2		0.0	0.0	1.1		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	60.6
HCM 2010 LOS	E

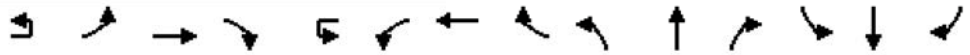
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	270	858	223	8	240	938	319	13	265	530	98	31	380	653	177
Future Volume (veh/h)	3	270	858	223	8	240	938	319	13	265	530	98	31	380	653	177
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.96		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		293	933	169		267	1042	267		294	589	77		427	734	139
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		319	1055	191		579	1397	358		343	881	113		481	830	346
Arrive On Green		0.06	0.12	0.12		0.06	0.12	0.12		0.20	0.39	0.39		0.14	0.23	0.23
Sat Flow, veh/h		1774	2973	538		3442	3994	1022		3442	4538	584		3442	3539	1474
Grp Volume(v), veh/h		293	555	547		267	884	425		294	438	228		427	734	139
Grp Sat Flow(s),veh/h/ln		1774	1770	1741		1721	1695	1626		1721	1695	1732		1721	1770	1474
Q Serve(g_s), s		23.0	43.3	43.3		10.5	35.3	35.4		11.6	14.9	15.3		17.1	28.0	11.2
Cycle Q Clear(g_c), s		23.0	43.3	43.3		10.5	35.3	35.4		11.6	14.9	15.3		17.1	28.0	11.2
Prop In Lane		1.00		0.31		1.00		0.63		1.00		0.34		1.00		1.00
Lane Grp Cap(c), veh/h		319	628	618		579	1186	569		343	659	336		481	830	346
V/C Ratio(X)		0.92	0.88	0.88		0.46	0.75	0.75		0.86	0.66	0.68		0.89	0.88	0.40
Avail Cap(c_a), veh/h		362	628	618		579	1186	569		556	753	385		629	862	359
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.25	0.25	0.25		0.86	0.86	0.86		0.94	0.94	0.94		1.00	1.00	1.00
Uniform Delay (d), s/veh		64.8	59.0	59.0		60.0	55.9	55.9		55.1	39.0	39.2		59.1	51.7	45.3
Incr Delay (d2), s/veh		8.3	4.9	5.0		0.2	3.7	7.5		3.8	2.4	5.2		10.1	11.1	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		12.1	22.1	21.8		5.0	17.2	17.2		5.7	7.1	7.7		8.8	14.9	4.7
LnGrp Delay(d),s/veh		73.1	63.8	64.0		60.2	59.6	63.4		58.9	41.5	44.3		69.2	62.9	46.6
LnGrp LOS		E	E	E		E	E	E		E	D	D		E	E	D
Approach Vol, veh/h			1395				1576				960				1300	
Approach Delay, s/veh			65.8				60.7				47.5				63.2	
Approach LOS			E				E				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	8.9	55.0	18.3	37.7	29.6	54.4	24.0	32.1
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	14.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	12.5	45.3	13.6	30.0	25.0	37.4	19.1	17.3
Green Ext Time (p_c), s	0.1	2.7	0.4	2.6	0.2	0.0	0.5	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	60.3
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	7	126	1016	85	30	143	1298	140	116	43	119	229	68	206
Future Volume (veh/h)	7	126	1016	85	30	143	1298	140	116	43	119	229	68	206
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.99	0.98		0.94	0.97		0.97
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		137	1104	64		146	1324	100	129	48	92	260	77	164
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.92	0.92	0.92		0.98	0.98	0.98	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		184	2574	149		193	2538	192	375	374	300	414	396	325
Arrive On Green		0.11	1.00	1.00		0.11	1.00	1.00	0.07	0.20	0.20	0.08	0.21	0.21
Sat Flow, veh/h		3442	4913	285		3442	4818	364	1774	1863	1494	1774	1863	1530
Grp Volume(v), veh/h		137	762	406		146	932	492	129	48	92	260	77	164
Grp Sat Flow(s),veh/h/ln		1721	1695	1807		1721	1695	1792	1774	1863	1494	1774	1863	1530
Q Serve(g_s), s		5.4	0.0	0.0		5.8	0.0	0.0	8.0	3.0	7.3	11.6	4.8	13.2
Cycle Q Clear(g_c), s		5.4	0.0	0.0		5.8	0.0	0.0	8.0	3.0	7.3	11.6	4.8	13.2
Prop In Lane		1.00		0.16		1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		184	1776	947		193	1785	944	375	374	300	414	396	325
V/C Ratio(X)		0.75	0.43	0.43		0.76	0.52	0.52	0.34	0.13	0.31	0.63	0.19	0.50
Avail Cap(c_a), veh/h		334	1776	947		334	1785	944	396	573	460	414	573	471
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)		0.42	0.42	0.42		0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		61.6	0.0	0.0		61.2	0.0	0.0	40.1	45.9	47.7	43.4	45.3	48.6
Incr Delay (d2), s/veh		1.0	0.3	0.6		1.5	0.7	1.3	0.2	0.1	0.2	2.3	0.1	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		2.6	0.1	0.2		2.8	0.2	0.4	3.9	1.5	3.1	8.2	2.5	5.7
LnGrp Delay(d),s/veh		62.6	0.3	0.6		62.7	0.7	1.3	40.3	46.0	47.9	45.7	45.4	49.1
LnGrp LOS		E	A	A		E	A	A	D	D	D	D	D	D
Approach Vol, veh/h			1305				1570			269			501	
Approach Delay, s/veh			6.9				6.7			43.9			46.8	
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	12.2	78.8	14.4	34.6	11.9	79.1	16.0	33.0
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	13.6	* 53	11.6	43.1	13.6	52.6	11.6	43.1
Max Q Clear Time (g_c+I1), s	7.8	2.0	10.0	15.2	7.4	2.0	13.6	9.3
Green Ext Time (p_c), s	0.1	20.4	0.0	0.6	0.1	17.8	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Notes

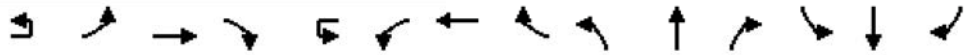


Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	38	119	1171	92	301	1550	155	79	109	205	237	410	183
Future Volume (veh/h)	38	119	1171	92	301	1550	155	79	109	205	237	410	183
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.95	1.00		0.92	1.00		0.95
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		127	1246	68	327	1685	117	89	122	195	269	466	147
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		150	1850	101	352	2368	164	134	368	603	317	887	376
Arrive On Green		0.08	0.38	0.38	0.20	0.49	0.49	0.04	0.20	0.20	0.09	0.25	0.25
Sat Flow, veh/h		1774	4924	269	1774	4839	335	3442	1863	1464	3442	3539	1500
Grp Volume(v), veh/h		127	858	456	327	1180	622	89	122	195	269	466	147
Grp Sat Flow(s),veh/h/ln		1774	1695	1802	1774	1695	1785	1721	1863	1464	1721	1770	1500
Q Serve(g_s), s		9.9	29.6	29.6	25.4	38.2	38.3	3.6	7.9	13.0	10.8	15.9	11.4
Cycle Q Clear(g_c), s		9.9	29.6	29.6	25.4	38.2	38.3	3.6	7.9	13.0	10.8	15.9	11.4
Prop In Lane		1.00		0.15	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		150	1274	677	352	1659	873	134	368	603	317	887	376
V/C Ratio(X)		0.84	0.67	0.67	0.93	0.71	0.71	0.66	0.33	0.32	0.85	0.53	0.39
Avail Cap(c_a), veh/h		236	1274	677	527	1659	873	310	494	702	359	988	419
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.87	0.87	0.87	0.68	0.68	0.68	0.59	0.59	0.59	1.00	1.00	1.00
Uniform Delay (d), s/veh		63.2	36.5	36.5	55.2	28.0	28.0	66.4	48.2	29.5	62.6	45.3	43.6
Incr Delay (d2), s/veh		7.7	2.5	4.6	10.4	1.8	3.4	1.2	0.1	0.1	14.3	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		5.2	14.3	15.6	13.5	18.3	19.7	1.7	4.1	5.2	5.7	7.8	4.8
LnGrp Delay(d),s/veh		70.8	39.0	41.1	65.6	29.8	31.4	67.6	48.4	29.6	76.9	45.5	43.8
LnGrp LOS		E	D	D	E	C	C	E	D	C	E	D	D
Approach Vol, veh/h			1441			2129			406			882	
Approach Delay, s/veh			42.5			35.8			43.5			54.8	
Approach LOS			D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	58.0	9.9	40.0	16.3	73.9	17.3	32.5
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	4.6	* 28	12.6	39.1	18.6	50.6	14.6	37.1
Max Q Clear Time (g_c+I1), s	27.4	31.6	5.6	17.9	11.9	40.3	12.8	15.0
Green Ext Time (p_c), s	0.4	0.0	0.1	2.3	0.1	9.6	0.1	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	41.8
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	55	1524	54	8	112	1979	30	14	16	77	39	46	49
Future Volume (veh/h)	13	55	1524	54	8	112	1979	30	14	16	77	39	46	49
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	1.00		0.95	1.00		0.95
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		60	1657	42		117	2061	22	15	17	59	46	55	40
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.92	0.92	0.92		0.96	0.96	0.96	0.92	0.92	0.92	0.84	0.84	0.84
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		440	2964	75		139	2097	22	28	31	109	54	64	47
Arrive On Green		0.33	0.77	0.77		0.16	0.81	0.81	0.11	0.11	0.11	0.10	0.10	0.10
Sat Flow, veh/h		1774	5100	129		1774	5187	55	263	298	1035	560	670	487
Grp Volume(v), veh/h		60	1101	598		117	1347	736	91	0	0	141	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1840		1774	1695	1852	1596	0	0	1717	0	0
Q Serve(g_s), s		3.3	18.2	18.2		9.0	51.8	52.1	7.6	0.0	0.0	11.3	0.0	0.0
Cycle Q Clear(g_c), s		3.3	18.2	18.2		9.0	51.8	52.1	7.6	0.0	0.0	11.3	0.0	0.0
Prop In Lane		1.00		0.07		1.00		0.03	0.16		0.65	0.33		0.28
Lane Grp Cap(c), veh/h		440	1970	1069		139	1371	749	169	0	0	165	0	0
V/C Ratio(X)		0.14	0.56	0.56		0.84	0.98	0.98	0.54	0.00	0.00	0.86	0.00	0.00
Avail Cap(c_a), veh/h		440	1970	1069		248	1371	749	400	0	0	210	0	0
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)		0.72	0.72	0.72		0.74	0.74	0.74	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		36.4	8.7	8.7		58.2	12.9	13.0	59.4	0.0	0.0	62.3	0.0	0.0
Incr Delay (d2), s/veh		0.0	0.8	1.5		4.0	17.1	24.6	1.0	0.0	0.0	19.9	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	8.6	9.6		4.5	26.1	30.1	3.4	0.0	0.0	6.3	0.0	0.0
LnGrp Delay(d),s/veh		36.4	9.6	10.2		62.2	30.1	37.5	60.4	0.0	0.0	82.2	0.0	0.0
LnGrp LOS		D	A	B		E	C	D	E			F		
Approach Vol, veh/h			1759				2200			91			141	
Approach Delay, s/veh			10.7				34.3			60.4			82.2	
Approach LOS			B				C			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	86.7		19.7	40.0	62.0		18.3
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 5.4		4.9
Max Green Setting (Gmax), s	19.6	48.7		35.1	11.6	* 57		17.1
Max Q Clear Time (g_c+I1), s	11.3	20.2		9.6	5.3	54.1		13.3
Green Ext Time (p_c), s	0.1	21.8		0.3	0.0	2.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	26.6
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1472	145	400	2005	294	109	49	284	193	150	18
Future Volume (veh/h)	20	1472	145	400	2005	294	109	49	284	193	150	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1518	104	412	2067	212	90	104	275	214	167	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	2017	138	400	3276	1018	163	171	993	191	182	15
Arrive On Green	0.03	0.87	0.87	0.23	0.64	0.64	0.09	0.09	0.09	0.11	0.11	0.11
Sat Flow, veh/h	1774	4641	318	1774	5085	1581	1774	1863	3030	1774	1688	142
Grp Volume(v), veh/h	21	1036	586	412	2067	212	90	104	275	214	0	181
Grp Sat Flow(s),veh/h/ln	1774	1583	1793	1774	1695	1581	1774	1863	1515	1774	0	1830
Q Serve(g_s), s	1.6	17.3	17.4	31.6	34.1	7.7	6.8	7.5	9.5	15.1	0.0	13.7
Cycle Q Clear(g_c), s	1.6	17.3	17.4	31.6	34.1	7.7	6.8	7.5	9.5	15.1	0.0	13.7
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	28	1376	779	400	3276	1018	163	171	993	191	0	197
V/C Ratio(X)	0.74	0.75	0.75	1.03	0.63	0.21	0.55	0.61	0.28	1.12	0.00	0.92
Avail Cap(c_a), veh/h	134	1376	779	400	3276	1018	318	334	1258	191	0	197
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)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	6.3	6.3	54.2	14.9	10.2	60.8	61.1	35.8	62.5	0.0	61.8
Incr Delay (d2), s/veh	10.4	3.0	5.2	52.6	0.9	0.5	2.2	2.6	0.1	100.4	0.0	40.8
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	7.5	8.9	21.3	16.2	3.5	3.4	4.0	4.0	12.7	0.0	9.2
LnGrp Delay(d),s/veh	77.9	9.3	11.5	106.8	15.9	10.7	63.0	63.7	36.0	162.9	0.0	102.7
LnGrp LOS	E	A	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1643			2691			469			395	
Approach Delay, s/veh		11.0			29.4			47.3			135.3	
Approach LOS		B			C			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	66.2		20.0	6.6	95.6		17.8
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	11.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	3.6	19.4		17.1	3.6	36.1		11.5
Green Ext Time (p_c), s	0.0	21.5		0.0	0.0	26.7		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	33.2
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	2353	0	0	0	0	0	1	357
Future Volume (veh/h)	0	0	0	0	2353	0	0	0	0	0	1	357
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.98
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	2451	0				0	1	334
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	3418	1064				0	297	436
Arrive On Green				0.00	0.67	0.00				0.00	0.16	0.16
Sat Flow, veh/h				0	5253	1583				0	1863	2729
Grp Volume(v), veh/h				0	2451	0				0	1	334
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1364
Q Serve(g_s), s				0.0	16.3	0.0				0.0	0.0	6.3
Cycle Q Clear(g_c), s				0.0	16.3	0.0				0.0	0.0	6.3
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	3418	1064				0	297	436
V/C Ratio(X)				0.00	0.72	0.00				0.00	0.00	0.77
Avail Cap(c_a), veh/h				0	4877	1518				0	1240	1816
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	5.6	0.0				0.0	18.9	21.5
Incr Delay (d2), s/veh				0.0	0.1	0.0				0.0	0.0	1.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	7.5	0.0				0.0	0.0	2.4
LnGrp Delay(d),s/veh				0.0	5.7	0.0				0.0	18.9	22.6
LnGrp LOS					A						B	C
Approach Vol, veh/h					2451						335	
Approach Delay, s/veh					5.7						22.6	
Approach LOS					A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				13.0		40.5		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				35.6		51.3		
Max Q Clear Time (g_c+I1), s				8.3		18.3		
Green Ext Time (p_c), s				0.3		17.6		

Intersection Summary	
HCM 2010 Ctrl Delay	7.7
HCM 2010 LOS	A

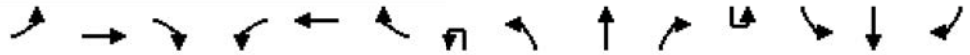
Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1506	338	0	0	0	0	1	485	0	0	0
Future Volume (veh/h)	0	1506	338	0	0	0	0	1	485	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	1585	0				0	1	453			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.95	0.95	0.95				0.91	0.91	0.91			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	2537	790				0	431	623			
Arrive On Green	0.00	0.50	0.00				0.00	0.23	0.23			
Sat Flow, veh/h	0	5253	1583				0	1863	2694			
Grp Volume(v), veh/h	0	1585	0				0	1	453			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1347			
Q Serve(g_s), s	0.0	9.2	0.0				0.0	0.0	6.3			
Cycle Q Clear(g_c), s	0.0	9.2	0.0				0.0	0.0	6.3			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	2537	790				0	431	623			
V/C Ratio(X)	0.00	0.62	0.00				0.00	0.00	0.73			
Avail Cap(c_a), veh/h	0	6295	1960				0	2075	3002			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	7.4	0.0				0.0	11.9	14.4			
Incr Delay (d2), s/veh	0.0	0.1	0.0				0.0	0.0	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	4.3	0.0				0.0	0.0	2.4			
LnGrp Delay(d),s/veh	0.0	7.5	0.0				0.0	11.9	15.0			
LnGrp LOS		A						B	B			
Approach Vol, veh/h		1585						454				
Approach Delay, s/veh		7.5						15.0				
Approach LOS		A						B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		26.0						14.4
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						45.0
Max Q Clear Time (g_c+I1), s		11.2						8.3
Green Ext Time (p_c), s		9.0						1.1

Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	171	250	117	342	319	109	4	68	581	150	8	97	915	207
Future Volume (veh/h)	171	250	117	342	319	109	4	68	581	150	8	97	915	207
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95		1.00		0.94		1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	190	278	91	402	375	90		71	605	109		100	943	149
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85		0.96	0.96	0.96		0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	228	351	119	430	429	365		90	1398	409		249	1320	581
Arrive On Green	0.20	0.20	0.20	0.24	0.24	0.24		0.05	0.28	0.28		0.14	0.37	0.37
Sat Flow, veh/h	1150	1775	600	1774	1770	1509		1774	5085	1487		1774	3539	1559
Grp Volume(v), veh/h	298	0	261	402	375	90		71	605	109		100	943	149
Grp Sat Flow(s),veh/h/ln	1805	0	1720	1774	1770	1509		1774	1695	1487		1774	1770	1559
Q Serve(g_s), s	22.2	0.0	20.1	31.1	28.5	6.7		5.5	13.7	8.0		7.2	31.9	9.3
Cycle Q Clear(g_c), s	22.2	0.0	20.1	31.1	28.5	6.7		5.5	13.7	8.0		7.2	31.9	9.3
Prop In Lane	0.64		0.35	1.00		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	357	0	340	430	429	365		90	1398	409		249	1320	581
V/C Ratio(X)	0.83	0.00	0.77	0.94	0.88	0.25		0.79	0.43	0.27		0.40	0.71	0.26
Avail Cap(c_a), veh/h	401	0	382	445	444	378		134	1398	409		249	1320	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.54	0.54	0.54		1.00	1.00	1.00		0.41	0.41	0.41
Uniform Delay (d), s/veh	53.9	0.0	53.1	52.0	51.0	42.8		65.7	41.8	39.7		54.8	37.5	30.4
Incr Delay (d2), s/veh	11.6	0.0	6.8	17.0	9.7	0.1		9.2	1.0	1.6		0.2	1.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	0.0	10.2	17.2	15.1	2.8		3.0	6.6	3.5		3.5	15.8	4.0
LnGrp Delay(d),s/veh	65.6	0.0	59.8	69.0	60.7	42.8		74.9	42.7	41.3		55.0	38.9	30.9
LnGrp LOS	E		E	E	E	D		E	D	D		D	D	C
Approach Vol, veh/h		559			867				785				1192	
Approach Delay, s/veh		62.9			62.7				45.5				39.3	
Approach LOS		E			E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	44.0		32.6	11.5	57.1		38.8
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	15.6	* 39		31.1	10.6	44.1		35.1
Max Q Clear Time (g_c+I1), s	9.2	15.7		24.2	7.5	33.9		33.1
Green Ext Time (p_c), s	0.1	5.8		1.4	0.0	8.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	50.5
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	108	46	161	255	28	100
Future Vol, veh/h	108	46	161	255	28	100
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	117	50	175	277	30	109

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	167	0	769	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	627	-
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	-	-	1411	-	369	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	532	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1411	-	315	906
Mov Cap-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	532	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	642	-	-	1411	-
HCM Lane V/C Ratio	0.217	-	-	0.124	-
HCM Control Delay (s)	12.2	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.4	-

Appendix F
Trigger Analysis and Peak Hour Intersection LOS Worksheets – Existing Plus Project with Mitigation Conditions

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	131	9	106	520	320	166	1023	67	6
Future Volume (veh/h)	6	208	437	131	9	106	520	320	166	1023	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	97		114	559	241	171	1055	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	966	202		276	801	344	233	1103	50	
Arrive On Green		0.08	0.33	0.33		0.08	0.34	0.34	0.09	0.43	0.43	
Sat Flow, veh/h		3442	2897	606		3442	2380	1023	3442	3443	157	
Grp Volume(v), veh/h		219	280	277		114	415	385	171	542	561	
Grp Sat Flow(s),veh/h/ln		1721	1770	1734		1721	1770	1634	1721	1770	1830	
Q Serve(g_s), s		6.7	13.5	13.7		3.4	22.0	22.1	5.2	32.0	32.1	
Cycle Q Clear(g_c), s		6.7	13.5	13.7		3.4	22.0	22.1	5.2	32.0	32.1	
Prop In Lane		1.00		0.35		1.00		0.63	1.00		0.09	
Lane Grp Cap(c), veh/h		283	590	578		276	596	550	233	567	586	
V/C Ratio(X)		0.77	0.47	0.48		0.41	0.70	0.70	0.73	0.96	0.96	
Avail Cap(c_a), veh/h		433	590	578		276	596	550	402	575	595	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.86	0.86	0.86	
Uniform Delay (d), s/veh		48.6	28.5	28.6		47.3	31.1	31.1	48.2	30.2	30.3	
Incr Delay (d2), s/veh		1.9	2.7	2.8		0.4	6.6	7.2	1.5	24.0	23.6	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	7.0	7.0		1.6	11.8	11.0	2.5	19.3	19.8	
LnGrp Delay(d),s/veh		50.5	31.2	31.4		47.6	37.7	38.3	49.6	54.3	53.8	
LnGrp LOS		D	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			776				914			1274		
Approach Delay, s/veh			36.7				39.2			53.5		
Approach LOS			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	13.6	41.0	11.7	41.6	13.3	41.4	13.8	39.5
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	15.7	7.2	14.5	8.7	24.1	9.2	34.1
Green Ext Time (p_c), s	0.0	3.5	0.1	1.6	0.2	2.9	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	43.2
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	389	100
Future Volume (veh/h)	106	389	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	442	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1013	182
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	2977	534
Grp Volume(v), veh/h	120	261	261
Grp Sat Flow(s),veh/h/ln	1774	1770	1742
Q Serve(g_s), s	7.2	12.3	12.5
Cycle Q Clear(g_c), s	7.2	12.3	12.5
Prop In Lane	1.00		0.31
Lane Grp Cap(c), veh/h	147	602	593
V/C Ratio(X)	0.82	0.43	0.44
Avail Cap(c_a), veh/h	158	602	593
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.6	27.6
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.1	6.0
LnGrp Delay(d),s/veh	72.5	27.8	27.8
LnGrp LOS	E	C	C
Approach Vol, veh/h		642	
Approach Delay, s/veh		36.2	
Approach LOS		D	
Timer			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	199	817	74	345	777	100	15	149	408	330	2	154	279	294
Future Volume (veh/h)	5	199	817	74	345	777	100	15	149	408	330	2	154	279	294
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		207	851	54	367	827	75		180	492	398		169	307	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		412	1070	68	442	1006	91		212	905	608		201	484	345
Arrive On Green		0.12	0.32	0.32	0.13	0.31	0.31		0.12	0.26	0.26		0.11	0.25	0.25
Sat Flow, veh/h		3442	3367	214	3442	3269	296		1774	3539	1583		1774	1940	1385
Grp Volume(v), veh/h		207	447	458	367	448	454		180	492	398		169	279	254
Grp Sat Flow(s),veh/h/ln		1721	1770	1811	1721	1770	1796		1774	1770	1583		1774	1770	1555
Q Serve(g_s), s		6.0	24.7	24.7	11.1	25.1	25.1		10.6	12.9	22.1		10.0	15.1	15.7
Cycle Q Clear(g_c), s		6.0	24.7	24.7	11.1	25.1	25.1		10.6	12.9	22.1		10.0	15.1	15.7
Prop In Lane		1.00		0.12	1.00		0.17		1.00		1.00		1.00		0.89
Lane Grp Cap(c), veh/h		412	563	576	442	545	553		212	905	608		201	441	388
V/C Ratio(X)		0.50	0.80	0.80	0.83	0.82	0.82		0.85	0.54	0.65		0.84	0.63	0.65
Avail Cap(c_a), veh/h		964	991	1015	964	991	1006		497	1322	794		497	661	581
HCM Platoon Ratio		1.00	1.00	1.00	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		44.2	33.3	33.3	45.5	34.3	34.3		46.2	34.4	27.1		46.6	35.8	36.1
Incr Delay (d2), s/veh		0.4	3.1	3.1	1.6	3.2	3.1		3.6	0.3	0.8		3.6	1.2	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		2.9	12.5	12.8	5.4	12.7	12.8		5.4	6.3	9.8		5.1	7.5	6.9
LnGrp Delay(d),s/veh		44.5	36.5	36.4	47.1	37.5	37.5		49.8	34.8	28.0		50.2	37.0	37.6
LnGrp LOS		D	D	D	D	D	D		D	C	C		D	D	D
Approach Vol, veh/h			1112			1269				1070				702	
Approach Delay, s/veh			37.9			40.3				34.8				40.4	
Approach LOS			D			D				C				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.1	39.7	17.2	32.0	18.5	39.4	16.5	32.7
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	13.1	26.7	12.6	17.7	8.0	27.1	12.0	24.1
Green Ext Time (p_c), s	0.6	7.3	0.2	2.8	0.3	5.9	0.2	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	38.3
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	43	1100	85	3	50	987	92	184	89	83	60	98	98
Future Volume (veh/h)	13	43	1100	85	3	50	987	92	184	89	83	60	98	98
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		49	1250	67		62	1219	79	271	131	85	76	124	99
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		63	1269	68		79	1285	83	245	119	77	82	134	107
Arrive On Green		0.04	0.37	0.37		0.01	0.13	0.13	0.25	0.25	0.25	0.19	0.19	0.19
Sat Flow, veh/h		1774	3411	183		1774	3369	218	979	473	307	439	717	572
Grp Volume(v), veh/h		49	648	669		62	639	659	487	0	0	299	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1824		1774	1770	1818	1759	0	0	1729	0	0
Q Serve(g_s), s		3.8	50.8	51.0		4.9	50.2	50.4	35.1	0.0	0.0	23.8	0.0	0.0
Cycle Q Clear(g_c), s		3.8	50.8	51.0		4.9	50.2	50.4	35.1	0.0	0.0	23.8	0.0	0.0
Prop In Lane		1.00		0.10		1.00		0.12	0.56		0.17	0.25		0.33
Lane Grp Cap(c), veh/h		63	658	679		79	675	693	441	0	0	323	0	0
V/C Ratio(X)		0.78	0.98	0.99		0.78	0.95	0.95	1.10	0.00	0.00	0.93	0.00	0.00
Avail Cap(c_a), veh/h		122	658	679		122	675	693	441	0	0	347	0	0
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)		1.00	1.00	1.00		0.70	0.70	0.70	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.0	43.5	43.6		68.3	59.8	59.9	52.5	0.0	0.0	56.0	0.0	0.0
Incr Delay (d2), s/veh		7.4	31.3	31.4		5.3	18.9	18.9	74.2	0.0	0.0	28.2	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.0	30.6	31.6		2.5	28.2	29.0	26.1	0.0	0.0	13.9	0.0	0.0
LnGrp Delay(d),s/veh		74.4	74.9	75.0		73.5	78.7	78.8	126.7	0.0	0.0	84.2	0.0	0.0
LnGrp LOS		E	E	E		E	E	E	F			F		
Approach Vol, veh/h			1366				1360			487			299	
Approach Delay, s/veh			74.9				78.5			126.7			84.2	
Approach LOS			E				E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.7	58.3		31.0	9.4	59.6		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	16.9	53.0		25.8	5.8	52.4		37.1
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	84.3
HCM 2010 LOS	F

Notes

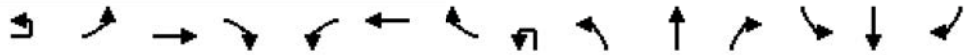
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	256	15	186	737	105	256	407	106	2
Future Volume (veh/h)	11	142	662	256	15	186	737	105	256	407	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	201		200	792	79	272	433	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1164	318		255	1426	142	329	716	129	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.10	0.24	0.24	
Sat Flow, veh/h		3442	2727	745		3442	3245	324	3442	2967	536	
Grp Volume(v), veh/h		158	478	459		200	432	439	272	257	255	
Grp Sat Flow(s),veh/h/ln		1721	1770	1701		1721	1770	1798	1721	1770	1734	
Q Serve(g_s), s		5.7	26.7	26.7		7.2	22.8	22.8	9.8	16.2	16.5	
Cycle Q Clear(g_c), s		5.7	26.7	26.7		7.2	22.8	22.8	9.8	16.2	16.5	
Prop In Lane		1.00		0.44		1.00		0.18	1.00		0.31	
Lane Grp Cap(c), veh/h		213	756	727		255	778	790	329	427	418	
V/C Ratio(X)		0.74	0.63	0.63		0.78	0.56	0.56	0.83	0.60	0.61	
Avail Cap(c_a), veh/h		399	756	727		399	778	790	481	479	469	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.3	28.3		57.3	26.2	26.2	56.0	42.4	42.5	
Incr Delay (d2), s/veh		1.9	4.0	4.2		2.1	2.9	2.8	4.8	0.9	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	
%ile BackOfQ(50%),veh/ln		2.8	13.8	13.3		3.5	11.8	12.0	4.9	8.0	8.1	
LnGrp Delay(d),s/veh		60.0	32.3	32.5		59.4	29.0	29.0	60.8	43.3	43.6	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1095				1071			784		
Approach Delay, s/veh			36.4				34.7			49.5		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.8	16.4	37.0	12.2	60.4	18.1	35.3
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	28.7	11.8	34.1	7.7	24.8	13.7	18.5
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	62.9
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	903	101
Future Volume (veh/h)	160	903	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	951	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	845	66
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3316	258
Grp Volume(v), veh/h	168	508	517
Grp Sat Flow(s),veh/h/ln	1774	1770	1804
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	451	460
V/C Ratio(X)	0.87	1.13	1.13
Avail Cap(c_a), veh/h	220	451	460
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	81.4	81.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	25.9	26.3
LnGrp Delay(d),s/veh	79.8	128.4	128.1
LnGrp LOS	E	F	F
Approach Vol, veh/h		1193	
Approach Delay, s/veh		121.4	
Approach LOS		F	
Timer			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	347	992	61	449	862	108	21	82	307	355	259	649	279
Future Volume (veh/h)	15	347	992	61	449	862	108	21	82	307	355	259	649	279
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		361	1033	45	478	917	81		87	327	266	301	755	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		568	1177	51	530	1039	92		108	676	530	322	833	249
Arrive On Green		0.16	0.34	0.34	0.15	0.32	0.32		0.06	0.19	0.19	0.18	0.31	0.31
Sat Flow, veh/h		3442	3449	150	3442	3278	290		1774	3539	1499	1774	2671	800
Grp Volume(v), veh/h		361	530	548	478	495	503		87	327	266	301	500	481
Grp Sat Flow(s),veh/h/ln		1721	1770	1830	1721	1770	1798		1774	1770	1499	1774	1770	1701
Q Serve(g_s), s		14.6	42.1	42.1	20.4	39.7	39.7		7.2	12.3	21.1	25.0	40.5	40.5
Cycle Q Clear(g_c), s		14.6	42.1	42.1	20.4	39.7	39.7		7.2	12.3	21.1	25.0	40.5	40.5
Prop In Lane		1.00		0.08	1.00		0.16		1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h		568	604	624	530	561	570		108	676	530	322	552	530
V/C Ratio(X)		0.64	0.88	0.88	0.90	0.88	0.88		0.81	0.48	0.50	0.93	0.91	0.91
Avail Cap(c_a), veh/h		691	710	734	691	710	722		356	947	645	356	552	530
HCM Platoon Ratio		1.00	1.00	1.00	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		58.2	46.3	46.3	62.1	48.4	48.5		69.4	53.9	39.0	60.3	49.4	49.4
Incr Delay (d2), s/veh		0.7	11.1	10.8	10.9	10.6	10.4		5.3	0.4	0.5	28.8	18.6	19.1
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		7.0	22.5	23.2	10.5	21.0	21.4		3.7	6.1	8.8	14.9	22.7	21.9
LnGrp Delay(d),s/veh		58.9	57.5	57.2	73.0	59.0	58.9		74.7	54.3	39.5	89.1	67.9	68.5
LnGrp LOS		E	E	E	E	E	E		E	D	D	F	E	E
Approach Vol, veh/h			1439			1476				680			1282	
Approach Delay, s/veh			57.7			63.5				51.1			73.1	
Approach LOS			E			E				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	27.4	56.7	13.5	51.9	30.4	53.8	31.6	33.8
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	22.4	44.1	9.2	42.5	16.6	41.7	27.0	23.1
Green Ext Time (p_c), s	0.6	6.9	0.1	0.0	0.6	5.7	0.2	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	62.6
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	66	1243	140	47	76	1277	98	88	52	38	52	131	140
Future Volume (veh/h)	6	66	1243	140	47	76	1277	98	88	52	38	52	131	140
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		69	1308	103		81	1359	73	99	58	31	57	144	114
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		222	1665	131		102	1435	77	114	67	36	56	142	113
Arrive On Green		0.13	0.50	0.50		0.02	0.14	0.14	0.12	0.12	0.12	0.18	0.18	0.18
Sat Flow, veh/h		1774	3325	261		1774	3417	183	927	543	290	314	793	628
Grp Volume(v), veh/h		69	695	716		81	703	729	188	0	0	315	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1816		1774	1770	1830	1760	0	0	1735	0	0
Q Serve(g_s), s		5.0	45.2	45.5		6.4	55.1	55.3	14.7	0.0	0.0	25.1	0.0	0.0
Cycle Q Clear(g_c), s		5.0	45.2	45.5		6.4	55.1	55.3	14.7	0.0	0.0	25.1	0.0	0.0
Prop In Lane		1.00		0.14		1.00		0.10	0.53		0.16	0.18		0.36
Lane Grp Cap(c), veh/h		222	886	909		102	743	769	217	0	0	311	0	0
V/C Ratio(X)		0.31	0.78	0.79		0.80	0.95	0.95	0.87	0.00	0.00	1.01	0.00	0.00
Avail Cap(c_a), veh/h		222	886	909		172	743	769	315	0	0	311	0	0
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)		1.00	1.00	1.00		0.48	0.48	0.48	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		55.7	28.7	28.8		67.9	58.7	58.8	60.2	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh		0.3	6.9	6.9		2.6	13.2	13.3	11.6	0.0	0.0	54.3	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	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.5	23.7	24.4		3.2	29.8	30.9	7.9	0.0	0.0	16.7	0.0	0.0
LnGrp Delay(d),s/veh		56.0	35.6	35.7		70.4	71.9	72.1	71.8	0.0	0.0	111.8	0.0	0.0
LnGrp LOS		E	D	D		E	E	E	E			F		
Approach Vol, veh/h			1480				1513			188			315	
Approach Delay, s/veh			36.6				71.9			71.8			111.8	
Approach LOS			D				E			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	75.4		30.0	22.8	65.0		22.2
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	9.4	47.5		27.1	7.0	57.3		16.7
Green Ext Time (p_c), s	0.0	7.2		0.0	0.0	1.1		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	60.6
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	131	9	106	520	320	166	1023	67	6
Future Volume (veh/h)	6	208	437	131	9	106	520	320	166	1023	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	97		114	559	241	171	1055	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		274	893	187		361	807	347	229	1104	50	
Arrive On Green		0.08	0.31	0.31		0.10	0.34	0.34	0.13	0.64	0.64	
Sat Flow, veh/h		3442	2897	606		3442	2380	1023	3442	3443	157	
Grp Volume(v), veh/h		219	280	277		114	415	385	171	542	561	
Grp Sat Flow(s),veh/h/ln		1721	1770	1733		1721	1770	1634	1721	1770	1830	
Q Serve(g_s), s		6.8	14.0	14.2		3.3	21.9	22.0	5.2	30.7	30.7	
Cycle Q Clear(g_c), s		6.8	14.0	14.2		3.3	21.9	22.0	5.2	30.7	30.7	
Prop In Lane		1.00		0.35		1.00		0.63	1.00		0.09	
Lane Grp Cap(c), veh/h		274	546	534		361	600	554	229	567	587	
V/C Ratio(X)		0.80	0.51	0.52		0.32	0.69	0.69	0.75	0.96	0.96	
Avail Cap(c_a), veh/h		274	546	534		361	600	554	322	608	629	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00	2.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.86	0.86	0.86	
Uniform Delay (d), s/veh		48.9	30.7	30.8		44.8	30.8	30.9	45.9	18.7	18.7	
Incr Delay (d2), s/veh		14.2	3.4	3.6		0.2	6.4	7.0	2.7	22.3	21.9	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.8	7.4	7.3		1.6	11.7	11.0	2.5	18.0	18.5	
LnGrp Delay(d),s/veh		63.1	34.1	34.3		44.9	37.3	37.9	48.6	41.0	40.6	
LnGrp LOS		E	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			776				914			1274		
Approach Delay, s/veh			42.4				38.5			41.8		
Approach LOS			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	16.3	38.3	11.6	41.8	13.0	41.6	13.9	39.5
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.3	* 33	10.1	37.6	8.6	33.0	10.6	* 37
Max Q Clear Time (g_c+I1), s	5.3	16.2	7.2	14.5	8.8	24.0	9.2	32.7
Green Ext Time (p_c), s	0.0	3.3	0.1	1.7	0.0	3.5	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	39.9
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	389	100
Future Volume (veh/h)	106	389	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	442	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1017	182
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	2977	534
Grp Volume(v), veh/h	120	261	261
Grp Sat Flow(s),veh/h/ln	1774	1770	1742
Q Serve(g_s), s	7.2	12.3	12.5
Cycle Q Clear(g_c), s	7.2	12.3	12.5
Prop In Lane	1.00		0.31
Lane Grp Cap(c), veh/h	147	604	595
V/C Ratio(X)	0.82	0.43	0.44
Avail Cap(c_a), veh/h	174	616	607
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.5	27.5
Incr Delay (d2), s/veh	18.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.1	6.0
LnGrp Delay(d),s/veh	67.6	27.7	27.7
LnGrp LOS	E	C	C
Approach Vol, veh/h		642	
Approach Delay, s/veh		35.2	
Approach LOS		D	
Timer			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	199	817	74	345	777	100	15	149	408	330	2	154	279	294
Future Volume (veh/h)	5	199	817	74	345	777	100	15	149	408	330	2	154	279	294
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		207	851	54	367	827	75		180	492	398		169	307	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		409	1074	68	442	1013	92		212	891	602		201	476	340
Arrive On Green		0.12	0.32	0.32	0.13	0.31	0.31		0.12	0.25	0.25		0.11	0.25	0.25
Sat Flow, veh/h		3442	3367	214	3442	3269	296		1774	3539	1583		1774	1940	1384
Grp Volume(v), veh/h		207	447	458	367	448	454		180	492	398		169	279	254
Grp Sat Flow(s),veh/h/ln		1721	1770	1811	1721	1770	1796		1774	1770	1583		1774	1770	1555
Q Serve(g_s), s		6.0	24.4	24.4	11.0	24.7	24.7		10.5	12.8	22.0		9.9	15.0	15.6
Cycle Q Clear(g_c), s		6.0	24.4	24.4	11.0	24.7	24.7		10.5	12.8	22.0		9.9	15.0	15.6
Prop In Lane		1.00		0.12	1.00		0.17		1.00		1.00		1.00		0.89
Lane Grp Cap(c), veh/h		409	565	578	442	548	557		212	891	602		201	435	382
V/C Ratio(X)		0.51	0.79	0.79	0.83	0.82	0.82		0.85	0.55	0.66		0.84	0.64	0.66
Avail Cap(c_a), veh/h		585	1017	1041	963	1199	1217		530	1127	708		614	647	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		43.7	32.8	32.8	45.0	33.7	33.7		45.6	34.4	27.1		46.0	35.8	36.0
Incr Delay (d2), s/veh		0.4	3.1	3.0	1.6	3.0	3.0		3.6	0.4	1.5		3.6	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		2.9	12.4	12.7	5.3	12.5	12.7		5.4	6.3	9.8		5.0	7.4	6.9
LnGrp Delay(d),s/veh		44.1	35.9	35.8	46.5	36.8	36.7		49.2	34.8	28.6		49.5	37.0	37.6
LnGrp LOS		D	D	D	D	D	D		D	C	C		D	D	D
Approach Vol, veh/h			1112			1269				1070				702	
Approach Delay, s/veh			37.4			39.6				34.9				40.2	
Approach LOS			D			D				C				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	39.5	17.1	31.3	18.3	39.2	16.4	32.0
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	29.6	60.8	31.6	38.7	18.0	* 72	36.6	33.7
Max Q Clear Time (g_c+I1), s	13.0	26.4	12.5	17.6	8.0	26.7	11.9	24.0
Green Ext Time (p_c), s	0.6	7.4	0.2	2.8	0.2	6.1	0.2	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	37.9
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	43	1100	85	3	50	987	92	184	89	83	60	98	98
Future Volume (veh/h)	13	43	1100	85	3	50	987	92	184	89	83	60	98	98
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		49	1250	67		62	1219	79	271	131	85	76	124	99
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		63	1681	90		79	1690	109	300	179	116	263	141	113
Arrive On Green		0.04	0.49	0.49		0.06	0.67	0.67	0.17	0.17	0.17	0.15	0.15	0.15
Sat Flow, veh/h		1774	3411	183		1774	3370	218	1774	1056	685	1774	952	760
Grp Volume(v), veh/h		49	648	669		62	639	659	271	0	216	76	0	223
Grp Sat Flow(s),veh/h/ln		1774	1770	1825		1774	1770	1818	1774	0	1740	1774	0	1713
Q Serve(g_s), s		3.8	41.0	41.2		4.8	32.4	32.6	21.0	0.0	16.5	5.3	0.0	17.9
Cycle Q Clear(g_c), s		3.8	41.0	41.2		4.8	32.4	32.6	21.0	0.0	16.5	5.3	0.0	17.9
Prop In Lane		1.00		0.10		1.00		0.12	1.00		0.39	1.00		0.44
Lane Grp Cap(c), veh/h		63	872	899		79	888	912	300	0	294	263	0	253
V/C Ratio(X)		0.78	0.74	0.74		0.79	0.72	0.72	0.90	0.00	0.73	0.29	0.00	0.88
Avail Cap(c_a), veh/h		84	872	899		96	888	912	351	0	344	343	0	332
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)		1.00	1.00	1.00		0.72	0.72	0.72	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		67.0	28.4	28.5		65.2	17.0	17.0	57.0	0.0	55.2	53.1	0.0	58.4
Incr Delay (d2), s/veh		19.9	5.7	5.6		17.6	3.6	3.6	21.6	0.0	5.1	0.2	0.0	16.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.2	21.3	22.0		2.8	16.5	17.0	12.1	0.0	8.3	2.6	0.0	9.6
LnGrp Delay(d),s/veh		86.9	34.1	34.0		82.8	20.6	20.6	78.7	0.0	60.2	53.3	0.0	74.4
LnGrp LOS		F	C	C		F	C	C	E		E	D		E
Approach Vol, veh/h			1366				1360			487			299	
Approach Delay, s/veh			36.0				23.5			70.5			69.0	
Approach LOS			D				C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.6	75.2		25.6	9.4	76.4		28.6
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	7.6	* 58		27.1	6.6	58.2		27.7
Max Q Clear Time (g_c+I1), s	6.8	43.2		19.9	5.8	34.6		23.0
Green Ext Time (p_c), s	0.0	10.2		0.6	0.0	9.2		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	38.7
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	256	15	186	737	105	256	407	106	2
Future Volume (veh/h)	11	142	662	256	15	186	737	105	256	407	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.98	1.00		0.96	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	201		200	792	79	272	433	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		210	1027	280		252	1262	126	325	867	157	
Arrive On Green		0.06	0.38	0.38		0.07	0.39	0.39	0.06	0.20	0.20	
Sat Flow, veh/h		3442	2725	744		3442	3244	323	3442	2971	537	
Grp Volume(v), veh/h		158	478	459		200	432	439	272	256	256	
Grp Sat Flow(s),veh/h/ln		1721	1770	1699		1721	1770	1798	1721	1770	1738	
Q Serve(g_s), s		5.7	29.1	29.1		7.2	24.9	24.9	9.8	16.3	16.5	
Cycle Q Clear(g_c), s		5.7	29.1	29.1		7.2	24.9	24.9	9.8	16.3	16.5	
Prop In Lane		1.00		0.44		1.00		0.18	1.00		0.31	
Lane Grp Cap(c), veh/h		210	667	640		252	688	699	325	517	507	
V/C Ratio(X)		0.75	0.72	0.72		0.79	0.63	0.63	0.84	0.50	0.50	
Avail Cap(c_a), veh/h		246	667	640		268	688	699	344	517	507	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	0.67	0.67	0.67	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.2	33.5	33.5		57.5	31.1	31.1	58.1	42.4	42.5	
Incr Delay (d2), s/veh		8.3	6.5	6.8		12.9	4.3	4.2	14.2	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	
%ile BackOfQ(50%),veh/ln		3.0	15.4	14.8		3.9	12.9	13.1	5.4	8.0	8.0	
LnGrp Delay(d),s/veh		66.5	40.0	40.3		70.4	35.4	35.4	72.3	42.7	42.8	
LnGrp LOS		E	D	D		E	D	D	E	D	D	
Approach Vol, veh/h			1095				1071			784		
Approach Delay, s/veh			43.9				41.9			53.0		
Approach LOS			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	13.6	52.5	16.3	43.6	12.1	54.0	18.2	41.7
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	9.8	43.8	12.6	41.1	9.0	44.6	21.0	32.7
Max Q Clear Time (g_c+I1), s	9.2	31.1	11.8	37.1	7.7	26.9	13.7	18.5
Green Ext Time (p_c), s	0.0	5.2	0.0	1.6	0.0	5.5	0.1	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	50.8
HCM 2010 LOS	D

Notes



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	903	101
Future Volume (veh/h)	160	903	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	951	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	1019	79
Arrive On Green	0.11	0.31	0.31
Sat Flow, veh/h	1774	3317	258
Grp Volume(v), veh/h	168	507	518
Grp Sat Flow(s),veh/h/ln	1774	1770	1806
Q Serve(g_s), s	11.7	35.1	35.1
Cycle Q Clear(g_c), s	11.7	35.1	35.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	544	555
V/C Ratio(X)	0.86	0.93	0.93
Avail Cap(c_a), veh/h	296	577	589
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	42.4	42.4
Incr Delay (d2), s/veh	10.3	21.1	20.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	20.2	20.6
LnGrp Delay(d),s/veh	65.5	63.5	63.2
LnGrp LOS	E	E	E
Approach Vol, veh/h		1193	
Approach Delay, s/veh		63.7	
Approach LOS		E	
Timer			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	347	992	61	449	862	108	21	82	307	355	259	649	279
Future Volume (veh/h)	15	347	992	61	449	862	108	21	82	307	355	259	649	279
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.94	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		361	1033	45	478	917	81		87	327	266	301	755	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		423	1108	48	543	1169	103		110	601	503	341	802	240
Arrive On Green		0.12	0.32	0.32	0.16	0.36	0.36		0.06	0.17	0.17	0.19	0.30	0.30
Sat Flow, veh/h		3442	3449	150	3442	3279	290		1774	3539	1491	1774	2671	799
Grp Volume(v), veh/h		361	530	548	478	495	503		87	327	266	301	500	481
Grp Sat Flow(s),veh/h/ln		1721	1770	1830	1721	1770	1799		1774	1770	1491	1774	1770	1701
Q Serve(g_s), s		13.3	37.4	37.5	17.5	32.2	32.2		6.2	10.9	10.4	21.3	35.6	35.6
Cycle Q Clear(g_c), s		13.3	37.4	37.5	17.5	32.2	32.2		6.2	10.9	10.4	21.3	35.6	35.6
Prop In Lane		1.00		0.08	1.00		0.16		1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h		423	569	588	543	631	641		110	601	503	341	531	510
V/C Ratio(X)		0.85	0.93	0.93	0.88	0.78	0.78		0.79	0.54	0.53	0.88	0.94	0.94
Avail Cap(c_a), veh/h		869	584	604	1216	753	765		451	952	651	520	544	523
HCM Platoon Ratio		1.00	1.00	1.00	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		55.5	42.4	42.4	53.1	37.1	37.1		59.7	49.0	14.8	50.7	44.1	44.1
Incr Delay (d2), s/veh		1.9	21.9	21.4	1.9	4.6	4.5		4.8	0.5	0.6	7.9	24.5	25.2
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		6.4	21.7	22.4	8.5	16.5	16.7		3.2	5.4	4.4	11.2	21.0	20.3
LnGrp Delay(d),s/veh		57.4	64.3	63.8	55.0	41.7	41.6		64.6	49.5	15.4	58.6	68.6	69.2
LnGrp LOS		E	E	E	E	D	D		E	D	B	E	E	E
Approach Vol, veh/h			1439			1476				680			1282	
Approach Delay, s/veh			62.4			46.0				38.1			66.5	
Approach LOS			E			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	24.8	47.9	12.4	44.0	20.3	52.4	29.2	27.2
Change Period (Y+Rc), s	4.4	* 6.4	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	15.6	* 43	32.8	39.7	32.6	54.9	37.8	34.7
Max Q Clear Time (g_c+I1), s	19.5	39.5	8.2	37.6	15.3	34.2	23.3	12.9
Green Ext Time (p_c), s	0.8	2.0	0.1	1.1	0.6	6.0	0.4	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	55.1
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	66	1243	140	47	76	1277	98	88	52	38	52	131	140
Future Volume (veh/h)	6	66	1243	140	47	76	1277	98	88	52	38	52	131	140
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		69	1308	103		81	1359	73	99	58	31	57	144	114
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		87	1857	146		100	1933	104	132	84	45	293	159	126
Arrive On Green		0.05	0.56	0.56		0.11	1.00	1.00	0.07	0.07	0.07	0.17	0.17	0.17
Sat Flow, veh/h		1774	3325	261		1774	3417	183	1774	1135	607	1774	964	763
Grp Volume(v), veh/h		69	695	716		81	703	729	99	0	89	57	0	258
Grp Sat Flow(s),veh/h/ln		1774	1770	1816		1774	1770	1830	1774	0	1742	1774	0	1726
Q Serve(g_s), s		5.4	39.9	40.3		6.2	0.0	0.0	7.7	0.0	7.0	3.9	0.0	20.5
Cycle Q Clear(g_c), s		5.4	39.9	40.3		6.2	0.0	0.0	7.7	0.0	7.0	3.9	0.0	20.5
Prop In Lane		1.00		0.14		1.00		0.10	1.00		0.35	1.00		0.44
Lane Grp Cap(c), veh/h		87	988	1014		100	1001	1036	132	0	129	293	0	285
V/C Ratio(X)		0.79	0.70	0.71		0.81	0.70	0.70	0.75	0.00	0.69	0.19	0.00	0.91
Avail Cap(c_a), veh/h		89	988	1014		139	1001	1036	343	0	337	343	0	334
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)		1.00	1.00	1.00		0.48	0.48	0.48	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		65.8	22.5	22.5		61.4	0.0	0.0	63.5	0.0	63.2	50.4	0.0	57.4
Incr Delay (d2), s/veh		34.0	4.2	4.1		7.7	2.0	2.0	3.2	0.0	2.4	0.1	0.0	22.8
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		3.5	20.6	21.3		3.3	0.6	0.6	3.9	0.0	3.4	1.9	0.0	11.6
LnGrp Delay(d),s/veh		99.8	26.6	26.7		69.1	2.0	2.0	66.8	0.0	65.6	50.5	0.0	80.2
LnGrp LOS		F	C	C		E	A	A	E		E	D		F
Approach Vol, veh/h			1480				1513			188			315	
Approach Delay, s/veh			30.1				5.6			66.2			74.8	
Approach LOS			C				A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.3	84.4		28.0	11.3	85.4		15.3
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	7.9	* 55		27.1	7.0	58.4		27.1
Max Q Clear Time (g_c+I1), s	9.2	42.3		22.5	7.4	2.0		9.7
Green Ext Time (p_c), s	0.0	9.7		0.5	0.0	13.8		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	25.4
HCM 2010 LOS	C

Notes

Appendix G
Peak Hour Intersection LOS Worksheets – Near-Term Year 2021 Base Conditions

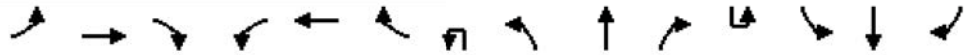
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	144	9	106	520	320	172	1018	67	6
Future Volume (veh/h)	6	208	437	144	9	106	520	320	172	1018	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	111		114	559	241	177	1049	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	939	225		279	804	345	239	1099	50	
Arrive On Green		0.08	0.33	0.33		0.08	0.34	0.34	0.09	0.42	0.42	
Sat Flow, veh/h		3442	2816	674		3442	2380	1023	3442	3442	157	
Grp Volume(v), veh/h		219	288	283		114	415	385	177	539	558	
Grp Sat Flow(s),veh/h/ln		1721	1770	1720		1721	1770	1634	1721	1770	1829	
Q Serve(g_s), s		6.7	14.0	14.2		3.4	21.9	22.0	5.4	31.8	31.8	
Cycle Q Clear(g_c), s		6.7	14.0	14.2		3.4	21.9	22.0	5.4	31.8	31.8	
Prop In Lane		1.00		0.39		1.00		0.63	1.00		0.09	
Lane Grp Cap(c), veh/h		283	590	573		279	597	552	239	565	584	
V/C Ratio(X)		0.77	0.49	0.49		0.41	0.69	0.70	0.74	0.95	0.95	
Avail Cap(c_a), veh/h		433	590	573		279	597	552	402	575	595	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.86	0.86	0.86	
Uniform Delay (d), s/veh		48.6	28.7	28.7		47.2	31.0	31.0	48.1	30.3	30.3	
Incr Delay (d2), s/veh		1.9	2.9	3.0		0.4	6.6	7.2	1.5	23.6	23.1	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	7.3	7.3		1.6	11.8	11.0	2.6	19.1	19.7	
LnGrp Delay(d),s/veh		50.5	31.5	31.8		47.5	37.5	38.1	49.5	53.9	53.4	
LnGrp LOS		D	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			790				914			1274		
Approach Delay, s/veh			36.9				39.0			53.1		
Approach LOS			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	13.8	41.0	11.9	41.3	13.3	41.5	13.8	39.4
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	16.2	7.4	15.1	8.7	24.0	9.2	33.8
Green Ext Time (p_c), s	0.0	3.6	0.1	1.7	0.2	3.0	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	43.0
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	405	100
Future Volume (veh/h)	106	405	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	460	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1011	175
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	2998	518
Grp Volume(v), veh/h	120	270	270
Grp Sat Flow(s),veh/h/ln	1774	1770	1746
Q Serve(g_s), s	7.2	12.9	13.1
Cycle Q Clear(g_c), s	7.2	12.9	13.1
Prop In Lane	1.00		0.30
Lane Grp Cap(c), veh/h	147	597	589
V/C Ratio(X)	0.82	0.45	0.46
Avail Cap(c_a), veh/h	158	597	589
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	28.0	28.0
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.3	6.3
LnGrp Delay(d),s/veh	72.5	28.2	28.3
LnGrp LOS	E	C	C
Approach Vol, veh/h		660	
Approach Delay, s/veh		36.3	
Approach LOS		D	
Timer			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	27	3	66	15	10	13	3	68	1237	3	1	6	535	20
Future Volume (veh/h)	27	3	66	15	10	13	3	68	1237	3	1	6	535	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)	0.99		0.98	0.99		0.97		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	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	36	4	61	19	13	11		76	1374	2		7	582	15
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.79	0.79	0.79		0.90	0.90	0.90		0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	86	19	91	103	67	42		681	2763	4		12	1341	35
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10		0.26	0.51	0.51		0.01	0.38	0.38
Sat Flow, veh/h	416	189	923	554	677	423		1774	3626	5		1774	3525	91
Grp Volume(v), veh/h	101	0	0	43	0	0		76	671	705		7	292	305
Grp Sat Flow(s),veh/h/ln	1528	0	0	1654	0	0		1774	1770	1862		1774	1770	1846
Q Serve(g_s), s	4.3	0.0	0.0	0.0	0.0	0.0		3.5	26.8	26.8		0.4	13.2	13.2
Cycle Q Clear(g_c), s	6.8	0.0	0.0	2.4	0.0	0.0		3.5	26.8	26.8		0.4	13.2	13.2
Prop In Lane	0.36		0.60	0.44		0.26		1.00		0.00		1.00		0.05
Lane Grp Cap(c), veh/h	196	0	0	211	0	0		681	1349	1419		12	673	702
V/C Ratio(X)	0.52	0.00	0.00	0.20	0.00	0.00		0.11	0.50	0.50		0.56	0.43	0.43
Avail Cap(c_a), veh/h	491	0	0	509	0	0		681	1349	1419		158	673	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.67	0.67	0.67		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.75	0.75	0.75		0.85	0.85	0.85
Uniform Delay (d), s/veh	46.9	0.0	0.0	45.0	0.0	0.0		26.0	12.9	12.9		53.5	24.8	24.8
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.2	0.0	0.0		0.0	1.0	0.9		12.0	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	1.2	0.0	0.0		1.7	13.5	14.2		0.2	6.7	7.0
LnGrp Delay(d),s/veh	47.6	0.0	0.0	45.2	0.0	0.0		26.0	13.8	13.8		65.4	26.5	26.5
LnGrp LOS	D			D				C	B	B		E	C	C
Approach Vol, veh/h		101			43				1452				604	
Approach Delay, s/veh		47.6			45.2				14.5				27.0	
Approach LOS		D			D				B				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	87.3		15.5	46.5	46.0		15.5
Change Period (Y+Rc), s	4.4	5.0		4.9	5.0	* 4.9		4.9
Max Green Setting (Gmax), s	9.6	52.0		32.1	20.6	* 41		32.1
Max Q Clear Time (g_c+I1), s	2.4	28.8		8.8	5.5	15.2		4.4
Green Ext Time (p_c), s	0.0	17.3		0.3	0.1	2.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.0
HCM 2010 LOS	C

Notes

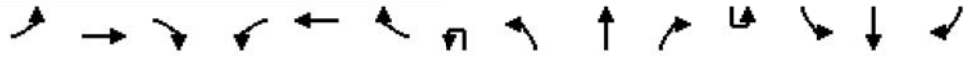


Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	46	100	1187	62	1	27	603
Future Volume (veh/h)	46	100	1187	62	1	27	603
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.99		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	55	84	1448	53		31	701
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.83	0.83	0.82	0.82		0.86	0.86
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	70	107	1848	68		354	2771
Arrive On Green	0.11	0.11	1.00	1.00		0.07	0.26
Sat Flow, veh/h	646	986	3576	127		1774	3632
Grp Volume(v), veh/h	140	0	734	767		31	701
Grp Sat Flow(s),veh/h/ln	1643	0	1770	1840		1774	1770
Q Serve(g_s), s	9.0	0.0	0.0	0.0		1.8	17.0
Cycle Q Clear(g_c), s	9.0	0.0	0.0	0.0		1.8	17.0
Prop In Lane	0.39	0.60		0.07		1.00	
Lane Grp Cap(c), veh/h	179	0	939	976		354	2771
V/C Ratio(X)	0.78	0.00	0.78	0.79		0.09	0.25
Avail Cap(c_a), veh/h	367	0	939	976		354	2771
HCM Platoon Ratio	1.00	1.00	2.00	2.00		0.33	0.33
Upstream Filter(I)	1.00	0.00	0.85	0.85		0.97	0.97
Uniform Delay (d), s/veh	46.9	0.0	0.0	0.0		41.2	15.0
Incr Delay (d2), s/veh	2.9	0.0	5.5	5.4		0.0	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	4.2	0.0	1.4	1.5		0.9	8.4
LnGrp Delay(d),s/veh	49.8	0.0	5.5	5.4		41.2	15.2
LnGrp LOS	D		A	A		D	B
Approach Vol, veh/h	140		1501				732
Approach Delay, s/veh	49.8		5.4				16.3
Approach LOS	D		A				B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.4	63.0				90.4		17.6
Change Period (Y+Rc), s	5.8	* 5.7				5.8		5.9
Max Green Setting (Gmax), s	9.6	* 57				72.2		24.1
Max Q Clear Time (g_c+I1), s	13.8	2.0				19.0		11.0
Green Ext Time (p_c), s	0.0	29.5				9.4		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.4
HCM 2010 LOS	B

Notes

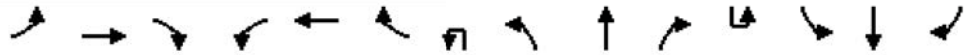


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	164	0	26	13	0	39	1	18	1060	4	1	8	583	47
Future Volume (veh/h)	164	0	26	13	0	39	1	18	1060	4	1	8	583	47
Number	7	4	14	3	8	18		1	6	16		5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	245	0	27	18	0	37		21	1233	4		10	711	40
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.67	0.67	0.67	0.72	0.72	0.72		0.86	0.86	0.86		0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	339	0	30	145	20	249		31	2301	7		17	2140	120
Arrive On Green	0.21	0.00	0.21	0.21	0.00	0.21		0.02	0.64	0.64		0.02	1.00	1.00
Sat Flow, veh/h	1284	0	142	470	94	1159		1774	3618	12		1774	3406	192
Grp Volume(v), veh/h	272	0	0	55	0	0		21	603	634		10	369	382
Grp Sat Flow(s),veh/h/ln	1426	0	0	1723	0	0		1774	1770	1861		1774	1770	1828
Q Serve(g_s), s	16.9	0.0	0.0	0.0	0.0	0.0		1.3	20.3	20.3		0.6	0.0	0.0
Cycle Q Clear(g_c), s	19.8	0.0	0.0	2.9	0.0	0.0		1.3	20.3	20.3		0.6	0.0	0.0
Prop In Lane	0.90		0.10	0.33		0.67		1.00		0.01		1.00		0.10
Lane Grp Cap(c), veh/h	369	0	0	414	0	0		31	1126	1183		17	1112	1149
V/C Ratio(X)	0.74	0.00	0.00	0.13	0.00	0.00		0.68	0.54	0.54		0.59	0.33	0.33
Avail Cap(c_a), veh/h	458	0	0	509	0	0		174	1126	1183		174	1112	1149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.91	0.91	0.91		0.95	0.95	0.95
Uniform Delay (d), s/veh	40.8	0.0	0.0	34.5	0.0	0.0		52.8	10.9	10.9		52.8	0.0	0.0
Incr Delay (d2), s/veh	3.4	0.0	0.0	0.1	0.0	0.0		8.7	1.7	1.6		10.8	0.8	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	8.2	0.0	0.0	1.3	0.0	0.0		0.7	10.4	10.9		0.3	0.2	0.2
LnGrp Delay(d),s/veh	44.1	0.0	0.0	34.5	0.0	0.0		61.5	12.5	12.4		63.6	0.8	0.7
LnGrp LOS	D			C				E	B	B		E	A	A
Approach Vol, veh/h		272			55				1258				761	
Approach Delay, s/veh		44.1			34.5				13.3				1.6	
Approach LOS		D			C				B				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	73.7		28.1	5.4	74.5		28.1
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	10.6	* 53		30.1	10.6	52.2		30.1
Max Q Clear Time (g_c+I1), s	13.3	2.0		21.8	2.6	22.3		4.9
Green Ext Time (p_c), s	0.0	7.8		0.7	0.0	13.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	17	12	25	164	11	72	7	32	966	174	8	74	527	15
Future Volume (veh/h)	17	12	25	164	11	72	7	32	966	174	8	74	527	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		0.94		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	23	16	22	191	13	58		38	1136	144		89	635	12
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.75	0.75	0.75	0.86	0.86	0.86		0.85	0.85	0.85		0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	51	37	30	263	15	444		236	2459	312		111	2363	45
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30		0.27	1.00	1.00		0.06	0.46	0.46
Sat Flow, veh/h	52	125	100	718	49	1496		1774	4559	578		1774	5138	97
Grp Volume(v), veh/h	61	0	0	204	0	58		38	844	436		89	419	228
Grp Sat Flow(s),veh/h/ln	277	0	0	767	0	1496		1774	1695	1747		1774	1695	1844
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	4.0		2.3	0.0	0.0		6.9	10.6	10.7
Cycle Q Clear(g_c), s	39.5	0.0	0.0	37.8	0.0	4.0		2.3	0.0	0.0		6.9	10.6	10.7
Prop In Lane	0.38		0.36	0.94		1.00		1.00		0.33		1.00		0.05
Lane Grp Cap(c), veh/h	118	0	0	278	0	444		236	1829	942		111	1559	848
V/C Ratio(X)	0.52	0.00	0.00	0.73	0.00	0.13		0.16	0.46	0.46		0.81	0.27	0.27
Avail Cap(c_a), veh/h	156	0	0	313	0	482		236	1829	942		286	1559	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.93	0.93	0.93		0.95	0.95	0.95
Uniform Delay (d), s/veh	42.2	0.0	0.0	47.9	0.0	36.0		45.4	0.0	0.0		64.8	23.3	23.3
Incr Delay (d2), s/veh	1.3	0.0	0.0	6.2	0.0	0.0		0.1	0.8	1.5		4.9	0.4	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	2.4	0.0	0.0	8.1	0.0	1.6		1.1	0.2	0.4		3.6	5.1	5.6
LnGrp Delay(d),s/veh	43.5	0.0	0.0	54.1	0.0	36.1		45.5	0.8	1.5		69.7	23.7	24.0
LnGrp LOS	D			D		D		D	A	A		E	C	C
Approach Vol, veh/h		61			262				1318				736	
Approach Delay, s/veh		43.5			50.1				2.3				29.4	
Approach LOS		D			D				A				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.1	80.4		46.5	23.5	70.0		46.5
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	22.6	58.1		45.1	15.6	* 64		45.1
Max Q Clear Time (g_c+I1), s	8.9	2.0		41.5	4.3	12.7		39.8
Green Ext Time (p_c), s	0.1	42.9		0.0	0.0	11.9		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

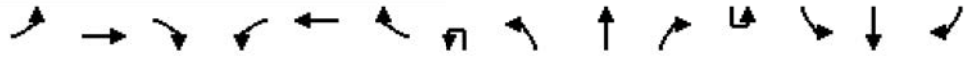
Notes

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	62	86	49	25	7	52	64	50	10	79	2
Future Vol, veh/h	3	62	86	49	25	7	52	64	50	10	79	2
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	74	102	63	32	9	79	97	76	13	105	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9.1	10	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	31%	2%	60%	11%
Vol Thru, %	39%	41%	31%	87%
Vol Right, %	30%	57%	9%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	151	81	91
LT Vol	52	3	49	10
Through Vol	64	62	25	79
RT Vol	50	86	7	2
Lane Flow Rate	252	180	104	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.325	0.231	0.148	0.166
Departure Headway (Hd)	4.647	4.619	5.114	4.929
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	770	771	696	722
Service Time	2.706	2.681	3.183	2.997
HCM Lane V/C Ratio	0.327	0.233	0.149	0.168
HCM Control Delay	10	9.1	9.1	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.4	0.9	0.5	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	33	26	67	95	27	75	7	88	1061	120	4	98	544	36
Future Volume (veh/h)	33	26	67	95	27	75	7	88	1061	120	4	98	544	36
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	40	31	57	122	35	67		96	1153	92		108	598	28
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	202	100	183	214	97	186		118	3123	249		130	2330	1034
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17		0.07	0.65	0.65		0.15	1.00	1.00
Sat Flow, veh/h	1273	575	1057	1283	561	1074		1774	4791	382		1774	3539	1570
Grp Volume(v), veh/h	40	0	88	122	0	102		96	816	429		108	598	28
Grp Sat Flow(s),veh/h/ln	1273	0	1631	1283	0	1635		1774	1695	1782		1774	1770	1570
Q Serve(g_s), s	4.0	0.0	6.6	12.9	0.0	7.7		7.5	15.4	15.5		8.3	0.0	0.0
Cycle Q Clear(g_c), s	11.7	0.0	6.6	19.5	0.0	7.7		7.5	15.4	15.5		8.3	0.0	0.0
Prop In Lane	1.00		0.65	1.00		0.66		1.00		0.21		1.00		1.00
Lane Grp Cap(c), veh/h	202	0	283	214	0	284		118	2210	1162		130	2330	1034
V/C Ratio(X)	0.20	0.00	0.31	0.57	0.00	0.36		0.81	0.37	0.37		0.83	0.26	0.03
Avail Cap(c_a), veh/h	382	0	514	395	0	515		400	2210	1162		400	2330	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.99	0.99	0.99
Uniform Delay (d), s/veh	56.2	0.0	50.5	59.0	0.0	51.0		64.5	11.2	11.2		58.9	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.5	1.8	0.0	0.6		4.9	0.5	0.9		5.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	3.0	4.7	0.0	3.5		3.8	7.3	7.8		4.2	0.1	0.0
LnGrp Delay(d),s/veh	56.5	0.0	51.0	60.8	0.0	51.6		69.4	11.6	12.1		64.0	0.3	0.0
LnGrp LOS	E		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		128			224				1341				734	
Approach Delay, s/veh		52.7			56.6				15.9				9.6	
Approach LOS		D			E				B				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	96.2		29.2	13.7	97.1		29.2
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	10.3	17.5		13.7	9.5	2.0		21.5
Green Ext Time (p_c), s	0.1	12.3		0.5	0.1	5.6		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	19.7
HCM 2010 LOS	B

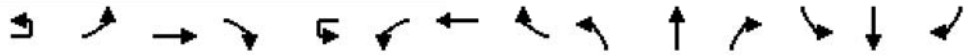
Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	205	872	76	367	803	121	15	156	415	375	2	183	281	299
Future Volume (veh/h)	5	205	872	76	367	803	121	15	156	415	375	2	183	281	299
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.97
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		214	908	56	390	854	98		188	500	452		201	309	232
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		428	1083	67	450	994	114		214	958	636		227	535	390
Arrive On Green		0.12	0.32	0.32	0.13	0.31	0.31		0.12	0.27	0.27		0.13	0.28	0.28
Sat Flow, veh/h		3442	3374	208	3442	3185	365		1774	3539	1583		1774	1924	1402
Grp Volume(v), veh/h		214	476	488	390	474	478		188	500	452		201	283	258
Grp Sat Flow(s),veh/h/ln		1721	1770	1813	1721	1770	1781		1774	1770	1583		1774	1770	1556
Q Serve(g_s), s		7.7	33.1	33.1	14.7	33.4	33.4		13.8	15.9	31.7		14.7	18.2	19.0
Cycle Q Clear(g_c), s		7.7	33.1	33.1	14.7	33.4	33.4		13.8	15.9	31.7		14.7	18.2	19.0
Prop In Lane		1.00		0.11	1.00		0.21		1.00		1.00		1.00		0.90
Lane Grp Cap(c), veh/h		428	568	582	450	552	556		214	958	636		227	492	433
V/C Ratio(X)		0.50	0.84	0.84	0.87	0.86	0.86		0.88	0.52	0.71		0.88	0.58	0.60
Avail Cap(c_a), veh/h		780	802	822	780	802	807		402	1070	685		402	535	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)		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		54.1	41.8	41.8	56.4	42.8	42.8		57.2	41.0	33.2		56.7	41.1	41.3
Incr Delay (d2), s/veh		0.3	6.1	5.9	2.0	6.5	6.4		4.5	0.3	2.9		4.5	1.1	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		3.7	17.1	17.5	7.1	17.3	17.4		7.1	7.8	14.3		7.5	9.0	8.3
LnGrp Delay(d),s/veh		54.4	47.8	47.7	58.4	49.3	49.2		61.7	41.3	36.0		61.2	42.2	42.9
LnGrp LOS		D	D	D	E	D	D		E	D	D		E	D	D
Approach Vol, veh/h			1178			1342				1140				742	
Approach Delay, s/veh			49.0			51.9				42.6				47.6	
Approach LOS			D			D				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.7	48.2	20.4	42.1	22.2	47.7	21.4	41.1
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	16.7	35.1	15.8	21.0	9.7	35.4	16.7	33.7
Green Ext Time (p_c), s	0.6	7.4	0.2	2.7	0.3	6.0	0.2	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	48.0
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	33	1138	187	3	50	1006	97	264	103	83	66	114	68
Future Volume (veh/h)	13	33	1138	187	3	50	1006	97	264	103	83	66	114	68
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		38	1293	182		62	1242	85	388	151	85	84	144	61
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		49	1181	165		79	1334	91	275	107	60	92	157	67
Arrive On Green		0.03	0.38	0.38		0.01	0.13	0.13	0.25	0.25	0.25	0.18	0.18	0.18
Sat Flow, veh/h		1774	3106	434		1774	3356	229	1098	427	240	513	879	372
Grp Volume(v), veh/h		38	732	743		62	654	673	624	0	0	289	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1771		1774	1770	1816	1765	0	0	1764	0	0
Q Serve(g_s), s		3.0	53.2	53.2		4.9	51.2	51.4	35.1	0.0	0.0	22.5	0.0	0.0
Cycle Q Clear(g_c), s		3.0	53.2	53.2		4.9	51.2	51.4	35.1	0.0	0.0	22.5	0.0	0.0
Prop In Lane		1.00		0.25		1.00		0.13	0.62		0.14	0.29		0.21
Lane Grp Cap(c), veh/h		49	673	673		79	703	721	443	0	0	315	0	0
V/C Ratio(X)		0.78	1.09	1.10		0.78	0.93	0.93	1.41	0.00	0.00	0.92	0.00	0.00
Avail Cap(c_a), veh/h		122	673	673		122	703	721	443	0	0	354	0	0
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)		1.00	1.00	1.00		0.69	0.69	0.69	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.7	43.4	43.4		68.3	58.9	59.0	52.5	0.0	0.0	56.5	0.0	0.0
Incr Delay (d2), s/veh		9.5	61.4	66.5		5.2	15.7	15.8	197.6	0.0	0.0	25.0	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		1.6	37.4	38.4		2.5	28.2	29.0	41.4	0.0	0.0	13.2	0.0	0.0
LnGrp Delay(d),s/veh		77.2	104.8	109.9		73.5	74.6	74.8	250.0	0.0	0.0	81.4	0.0	0.0
LnGrp LOS		E	F	F		E	E	E	F			F		
Approach Vol, veh/h			1513				1389			624			289	
Approach Delay, s/veh			106.6				74.6			250.0			81.4	
Approach LOS			F				E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.7	59.4		29.9	8.3	61.8		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	16.9	55.2		24.5	5.0	53.4		37.1
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	116.5
HCM 2010 LOS	F

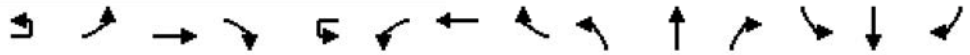
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	177	901	265	5	212	712	267	2	287	802	164	5	184	429	169
Future Volume (veh/h)	3	177	901	265	5	212	712	267	2	287	802	164	5	184	429	169
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		199	1012	210		244	818	218		305	853	153		211	493	137
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		430	1385	287		293	1239	327		351	989	176		258	713	310
Arrive On Green		0.32	0.63	0.63		0.09	0.31	0.31		0.20	0.46	0.46		0.15	0.40	0.40
Sat Flow, veh/h		1774	2912	603		3442	3980	1052		3442	4330	772		3442	3539	1540
Grp Volume(v), veh/h		199	614	608		244	696	340		305	667	339		211	493	137
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1641		1721	1695	1712		1721	1770	1540
Q Serve(g_s), s		12.5	33.1	33.4		9.8	24.9	25.2		12.0	24.6	25.0		8.3	16.1	5.5
Cycle Q Clear(g_c), s		12.5	33.1	33.4		9.8	24.9	25.2		12.0	24.6	25.0		8.3	16.1	5.5
Prop In Lane		1.00		0.35		1.00		0.64		1.00		0.45		1.00		1.00
Lane Grp Cap(c), veh/h		430	842	830		293	1056	511		351	775	391		258	713	310
V/C Ratio(X)		0.46	0.73	0.73		0.83	0.66	0.67		0.87	0.86	0.87		0.82	0.69	0.44
Avail Cap(c_a), veh/h		430	842	830		383	1056	511		457	826	417		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		1.00	1.00	1.00		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.82	0.82	0.82		1.00	1.00	1.00
Uniform Delay (d), s/veh		40.2	19.6	19.6		63.0	41.8	41.9		54.8	36.0	36.1		58.6	38.2	13.2
Incr Delay (d2), s/veh		0.0	0.5	0.5		8.3	2.9	6.1		9.4	8.0	15.2		5.1	2.9	1.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		6.1	16.1	16.1		5.0	12.1	12.3		6.1	12.3	13.3		4.1	8.1	3.3
LnGrp Delay(d),s/veh		40.2	20.1	20.1		71.3	44.7	48.0		64.2	44.0	51.3		63.7	41.1	14.9
LnGrp LOS		D	C	C		E	D	D		E	D	D		E	D	B
Approach Vol, veh/h			1421				1280				1311				841	
Approach Delay, s/veh			22.9				50.7				50.6				42.5	
Approach LOS			C				D				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	71.9	18.7	33.1	39.2	49.0	14.9	36.9
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	11.8	35.4	14.0	18.1	14.5	27.2	10.3	27.0
Green Ext Time (p_c), s	0.2	8.7	0.3	4.6	0.2	5.7	0.2	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	41.1
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	11	78	1101	43	5	54	1161	165	31	21	47	108	23	52
Future Volume (veh/h)	11	78	1101	43	5	54	1161	165	31	21	47	108	23	52
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	0.97		0.98	0.99		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		83	1171	33		57	1235	123	37	25	39	150	32	53
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.94	0.94	0.94		0.94	0.94	0.94	0.84	0.84	0.84	0.72	0.72	0.72
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		128	3316	93		94	3016	300	247	202	168	312	282	234
Arrive On Green		0.01	0.22	0.22		0.05	1.00	1.00	0.03	0.11	0.11	0.08	0.15	0.15
Sat Flow, veh/h		3442	5084	143		3442	4694	467	1774	1863	1553	1774	1863	1549
Grp Volume(v), veh/h		83	781	423		57	892	466	37	25	39	150	32	53
Grp Sat Flow(s),veh/h/ln		1721	1695	1837		1721	1695	1771	1774	1863	1553	1774	1863	1549
Q Serve(g_s), s		3.4	27.4	27.4		2.3	0.0	0.0	2.6	1.7	3.2	10.4	2.1	4.2
Cycle Q Clear(g_c), s		3.4	27.4	27.4		2.3	0.0	0.0	2.6	1.7	3.2	10.4	2.1	4.2
Prop In Lane		1.00		0.08		1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		128	2211	1198		94	2178	1138	247	202	168	312	282	234
V/C Ratio(X)		0.65	0.35	0.35		0.61	0.41	0.41	0.15	0.12	0.23	0.48	0.11	0.23
Avail Cap(c_a), veh/h		310	2211	1198		310	2178	1138	323	547	456	312	547	455
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)		0.40	0.40	0.40		0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		68.2	29.8	29.9		65.4	0.0	0.0	52.8	56.4	57.1	49.2	51.3	52.2
Incr Delay (d2), s/veh		0.8	0.2	0.3		2.0	0.5	1.0	0.1	0.1	0.3	0.4	0.1	0.2
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	13.0	14.1		1.1	0.2	0.3	1.3	0.9	1.4	5.1	1.1	1.8
LnGrp Delay(d),s/veh		69.1	30.0	30.2		67.5	0.5	1.0	52.9	56.5	57.4	49.6	51.4	52.4
LnGrp LOS		E	C	C		E	A	A	D	E	E	D	D	D
Approach Vol, veh/h			1287				1415			101			235	
Approach Delay, s/veh			32.6				3.3			55.5			50.5	
Approach LOS			C				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	8.2	96.7	9.0	26.1	9.6	95.4	15.0	20.0
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	12.6	* 57	10.6	41.1	12.6	56.6	10.6	41.1
Max Q Clear Time (g_c+I1), s	4.4	29.4	4.6	6.2	5.4	2.0	12.4	5.2
Green Ext Time (p_c), s	0.0	15.5	0.0	0.2	0.1	16.8	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Notes

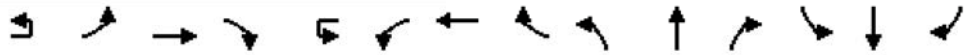


Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	16	32	1222	18	276	1309	110	65	132	446	143	144	112
Future Volume (veh/h)	16	32	1222	18	276	1309	110	65	132	446	143	144	112
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		35	1328	15	291	1378	82	76	155	460	161	162	88
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.92	0.92	0.92	0.95	0.95	0.95	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		45	1395	16	658	3045	181	119	290	823	210	644	277
Arrive On Green		0.01	0.09	0.09	0.74	1.00	1.00	0.01	0.05	0.05	0.06	0.18	0.18
Sat Flow, veh/h		1774	5182	59	1774	4899	292	3442	1863	1511	3442	3539	1522
Grp Volume(v), veh/h		35	869	474	291	954	506	76	155	460	161	162	88
Grp Sat Flow(s),veh/h/ln		1774	1695	1850	1774	1695	1801	1721	1863	1511	1721	1770	1522
Q Serve(g_s), s		2.8	35.7	35.7	8.8	0.0	0.0	3.1	11.4	4.9	6.5	5.5	7.0
Cycle Q Clear(g_c), s		2.8	35.7	35.7	8.8	0.0	0.0	3.1	11.4	4.9	6.5	5.5	7.0
Prop In Lane		1.00		0.03	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		45	913	498	658	2107	1119	119	290	823	210	644	277
V/C Ratio(X)		0.78	0.95	0.95	0.44	0.45	0.45	0.64	0.53	0.56	0.77	0.25	0.32
Avail Cap(c_a), veh/h		172	913	498	658	2107	1119	236	520	1010	334	1090	468
HCM Platoon Ratio		0.33	0.33	0.33	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)		0.93	0.93	0.93	0.69	0.69	0.69	0.26	0.26	0.26	1.00	1.00	1.00
Uniform Delay (d), s/veh		69.0	62.9	62.9	12.5	0.0	0.0	68.3	61.5	11.9	64.7	49.1	49.7
Incr Delay (d2), s/veh		9.6	19.2	28.6	0.1	0.5	0.9	0.6	0.2	0.1	2.2	0.1	0.2
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.5	19.2	22.3	4.2	0.1	0.3	1.5	5.9	9.1	3.1	2.7	3.0
LnGrp Delay(d),s/veh		78.6	82.1	91.5	12.6	0.5	0.9	68.9	61.6	12.0	66.9	49.2	49.9
LnGrp LOS		E	F	F	B	A	A	E	E	B	E	D	D
Approach Vol, veh/h			1378			1751			691			411	
Approach Delay, s/veh			85.2			2.6			29.4			56.3	
Approach LOS			F			A			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	57.4	43.0	9.2	30.4	7.9	92.4	13.0	26.7
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	30.6	* 38	9.6	43.1	13.6	54.6	13.6	39.1
Max Q Clear Time (g_c+I1), s	10.8	37.7	5.1	9.0	4.8	2.0	8.5	13.4
Green Ext Time (p_c), s	0.4	0.0	0.0	0.8	0.0	33.3	0.1	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	39.1
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	5	23	1803	20	18	75	1582	27	23	43	171	61	33	57
Future Volume (veh/h)	5	23	1803	20	18	75	1582	27	23	43	171	61	33	57
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	1.00		0.95	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		25	1981	15		83	1758	21	30	57	161	80	43	53
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.91	0.91	0.91		0.90	0.90	0.90	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		32	2594	20		103	2788	33	36	69	194	92	49	61
Arrive On Green		0.04	1.00	1.00		0.12	1.00	1.00	0.19	0.19	0.19	0.12	0.12	0.12
Sat Flow, veh/h		1774	5206	39		1774	5179	62	195	370	1045	776	417	514
Grp Volume(v), veh/h		25	1290	706		83	1151	628	248	0	0	176	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1856		1774	1695	1851	1609	0	0	1708	0	0
Q Serve(g_s), s		2.0	0.7	0.7		6.4	0.0	0.0	20.8	0.0	0.0	14.2	0.0	0.0
Cycle Q Clear(g_c), s		2.0	0.7	0.7		6.4	0.0	0.0	20.8	0.0	0.0	14.2	0.0	0.0
Prop In Lane		1.00		0.02		1.00		0.03	0.12		0.65	0.45		0.30
Lane Grp Cap(c), veh/h		32	1689	925		103	1825	996	299	0	0	202	0	0
V/C Ratio(X)		0.79	0.76	0.76		0.81	0.63	0.63	0.83	0.00	0.00	0.87	0.00	0.00
Avail Cap(c_a), veh/h		134	1689	925		185	1825	996	404	0	0	294	0	0
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)		0.68	0.68	0.68		0.82	0.82	0.82	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.3	0.1	0.1		61.2	0.0	0.0	54.9	0.0	0.0	60.7	0.0	0.0
Incr Delay (d2), s/veh		10.7	2.3	4.1		4.7	1.4	2.5	7.7	0.0	0.0	13.0	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		1.1	0.6	1.1		3.3	0.3	0.7	9.9	0.0	0.0	7.4	0.0	0.0
LnGrp Delay(d),s/veh		78.0	2.4	4.2		65.8	1.4	2.5	62.6	0.0	0.0	73.7	0.0	0.0
LnGrp LOS		E	A	A		E	A	A	E			E		
Approach Vol, veh/h			2021				1862			248			176	
Approach Delay, s/veh			4.0				4.6			62.6			73.7	
Approach LOS			A				A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.5	75.2		30.9	6.9	80.8		21.4
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	14.6	* 47		35.1	10.6	50.6		24.1
Max Q Clear Time (g_c+I1), s	8.4	2.7		22.8	4.0	2.0		16.2
Green Ext Time (p_c), s	0.0	35.1		0.8	0.0	26.3		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1941	180	442	1511	269	128	91	665	260	155	5
Future Volume (veh/h)	2	1941	180	442	1511	269	128	91	665	260	155	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2001	149	480	1642	204	126	134	672	289	172	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1824	135	350	2917	889	255	267	1064	293	299	7
Arrive On Green	0.00	0.76	0.76	0.20	0.57	0.57	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4819	356	1774	5085	1549	1774	1863	3066	1774	1812	42
Grp Volume(v), veh/h	2	1404	746	480	1642	204	126	134	672	289	0	176
Grp Sat Flow(s),veh/h/ln	1774	1695	1785	1774	1695	1549	1774	1863	1533	1774	0	1854
Q Serve(g_s), s	0.2	53.0	53.0	27.6	28.5	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Cycle Q Clear(g_c), s	0.2	53.0	53.0	27.6	28.5	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	4	1283	676	350	2917	889	255	267	1064	293	0	306
V/C Ratio(X)	0.53	1.09	1.10	1.37	0.56	0.23	0.49	0.50	0.63	0.99	0.00	0.58
Avail Cap(c_a), veh/h	274	1283	676	350	2917	889	255	267	1064	293	0	306
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)	0.42	0.42	0.42	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.6	17.0	17.0	56.2	18.8	14.7	55.3	55.3	39.0	58.3	0.0	53.9
Incr Delay (d2), s/veh	16.6	48.2	56.7	184.8	0.8	0.6	1.1	1.1	1.1	48.9	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	32.1	35.4	31.5	13.4	4.0	4.6	4.9	11.1	15.1	0.0	6.5
LnGrp Delay(d),s/veh	86.2	65.2	73.7	241.0	19.6	15.3	56.4	56.4	40.0	107.2	0.0	55.7
LnGrp LOS	F	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2152			2326			932			465	
Approach Delay, s/veh		68.2			64.9			44.6			87.7	
Approach LOS		E			E			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	58.5		25.0	4.7	85.8		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	2.2	30.5		24.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	64.7
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	1632	0	0	0	0	0	1	560
Future Volume (veh/h)	0	0	0	0	1632	0	0	0	0	0	1	560
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	1920	0				0	1	651
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.85	0.85	0.85				0.76	0.76	0.76
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	2707	843				0	504	753
Arrive On Green				0.00	0.53	0.00				0.00	0.27	0.27
Sat Flow, veh/h				0	5253	1583				0	1863	2784
Grp Volume(v), veh/h				0	1920	0				0	1	651
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1392
Q Serve(g_s), s				0.0	15.7	0.0				0.0	0.0	12.3
Cycle Q Clear(g_c), s				0.0	15.7	0.0				0.0	0.0	12.3
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	2707	843				0	504	753
V/C Ratio(X)				0.00	0.71	0.00				0.00	0.00	0.86
Avail Cap(c_a), veh/h				0	4600	1432				0	1179	1763
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	9.7	0.0				0.0	14.7	19.2
Incr Delay (d2), s/veh				0.0	0.1	0.0				0.0	0.0	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	7.3	0.0				0.0	0.0	4.8
LnGrp Delay(d),s/veh				0.0	9.8	0.0				0.0	14.7	20.4
LnGrp LOS					A						B	C
Approach Vol, veh/h					1920						652	
Approach Delay, s/veh					9.8						20.4	
Approach LOS					A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				20.0		35.2		
Change Period (Y+Rc), s				5.1		5.8		
Max Green Setting (Gmax), s				35.0		50.0		
Max Q Clear Time (g_c+I1), s				14.3		17.7		
Green Ext Time (p_c), s				0.6		11.7		

Intersection Summary	
HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱					↑	↱↱			
Traffic Volume (veh/h)	0	2080	392	0	0	0	0	1	367	0	0	0
Future Volume (veh/h)	0	2080	392	0	0	0	0	1	367	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	2286	0				0	1	339			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.91	0.91	0.91				0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	3195	995				0	315	461			
Arrive On Green	0.00	0.63	0.00				0.00	0.17	0.17			
Sat Flow, veh/h	0	5253	1583				0	1863	2725			
Grp Volume(v), veh/h	0	2286	0				0	1	339			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1363			
Q Serve(g_s), s	0.0	16.3	0.0				0.0	0.0	6.3			
Cycle Q Clear(g_c), s	0.0	16.3	0.0				0.0	0.0	6.3			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	3195	995				0	315	461			
V/C Ratio(X)	0.00	0.72	0.00				0.00	0.00	0.74			
Avail Cap(c_a), veh/h	0	4728	1472				0	1559	2281			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	6.8	0.0				0.0	18.6	21.2			
Incr Delay (d2), s/veh	0.0	0.1	0.0				0.0	0.0	0.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	7.4	0.0				0.0	0.0	2.4			
LnGrp Delay(d),s/veh	0.0	6.9	0.0				0.0	18.6	22.1			
LnGrp LOS		A						B	C			
Approach Vol, veh/h		2286						340				
Approach Delay, s/veh		6.9						22.1				
Approach LOS		A						C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		39.6						14.2
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						45.0
Max Q Clear Time (g_c+I1), s		18.3						8.3
Green Ext Time (p_c), s		15.5						0.8

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	267	476	83	123	380	123	2	86	916	203	4	31	581	276
Future Volume (veh/h)	267	476	83	123	380	123	2	86	916	203	4	31	581	276
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.96		1.00		0.96		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	330	588	77	141	437	98		91	974	153		36	684	279
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87		0.94	0.94	0.94		0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	319	606	82	165	544	299		112	1471	440		159	1144	508
Arrive On Green	0.28	0.28	0.28	0.20	0.20	0.20		0.06	0.29	0.29		0.09	0.32	0.32
Sat Flow, veh/h	1142	2171	293	836	2754	1513		1774	5085	1520		1774	3539	1572
Grp Volume(v), veh/h	522	0	473	307	271	98		91	974	153		36	684	279
Grp Sat Flow(s),veh/h/ln	1806	0	1800	1821	1770	1513		1774	1695	1520		1774	1770	1572
Q Serve(g_s), s	39.1	0.0	36.0	22.8	20.3	7.8		7.1	23.6	11.1		2.6	22.7	20.4
Cycle Q Clear(g_c), s	39.1	0.0	36.0	22.8	20.3	7.8		7.1	23.6	11.1		2.6	22.7	20.4
Prop In Lane	0.63		0.16	0.46		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	504	0	503	360	350	299		112	1471	440		159	1144	508
V/C Ratio(X)	1.03	0.00	0.94	0.85	0.77	0.33		0.81	0.66	0.35		0.23	0.60	0.55
Avail Cap(c_a), veh/h	504	0	503	405	393	336		185	1471	440		159	1144	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.78	0.78	0.78		1.00	1.00	1.00		0.69	0.69	0.69
Uniform Delay (d), s/veh	50.5	0.0	49.3	54.2	53.2	48.2		64.7	43.7	39.3		59.2	39.7	39.0
Incr Delay (d2), s/veh	49.3	0.0	25.9	10.9	5.6	0.2		5.2	2.4	2.2		0.2	1.6	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.4	0.0	21.5	12.5	10.5	3.3		3.6	11.3	4.9		1.3	11.4	9.3
LnGrp Delay(d),s/veh	99.7	0.0	75.2	65.1	58.8	48.4		69.9	46.1	41.5		59.4	41.3	41.9
LnGrp LOS	F		E	E	E	D		E	D	D		E	D	D
Approach Vol, veh/h		995			676				1218				999	
Approach Delay, s/veh		88.1			60.2				47.3				42.1	
Approach LOS		F			E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.4	46.0		44.0	13.3	50.2		32.6
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	9.6	* 41		39.1	14.6	36.1		31.1
Max Q Clear Time (g_c+I1), s	11.6	25.6		41.1	9.1	24.7		24.8
Green Ext Time (p_c), s	0.0	7.6		0.0	0.0	9.2		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	58.6
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
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	-	-	1622	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	1021	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1622	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	259	15	186	737	105	259	404	106	2
Future Volume (veh/h)	11	142	662	259	15	186	737	105	259	404	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	205		200	792	79	276	430	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1155	322		255	1422	142	333	718	131	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.10	0.24	0.24	
Sat Flow, veh/h		3442	2713	756		3442	3245	324	3442	2964	539	
Grp Volume(v), veh/h		158	480	461		200	432	439	276	255	254	
Grp Sat Flow(s),veh/h/ln		1721	1770	1699		1721	1770	1798	1721	1770	1733	
Q Serve(g_s), s		5.7	26.9	26.9		7.2	22.9	22.9	9.9	16.1	16.4	
Cycle Q Clear(g_c), s		5.7	26.9	26.9		7.2	22.9	22.9	9.9	16.1	16.4	
Prop In Lane		1.00		0.44		1.00		0.18	1.00		0.31	
Lane Grp Cap(c), veh/h		213	754	724		255	776	788	333	429	420	
V/C Ratio(X)		0.74	0.64	0.64		0.78	0.56	0.56	0.83	0.59	0.60	
Avail Cap(c_a), veh/h		399	754	724		399	776	788	481	479	469	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.5	28.5		57.3	26.3	26.3	55.9	42.3	42.4	
Incr Delay (d2), s/veh		1.9	4.1	4.3		2.1	2.9	2.8	5.2	0.8	1.0	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		2.8	13.9	13.4		3.5	11.8	12.0	5.0	8.0	7.9	
LnGrp Delay(d),s/veh		60.0	32.6	32.7		59.4	29.2	29.1	61.1	43.1	43.4	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1099				1071			785		
Approach Delay, s/veh			36.6				34.8			49.5		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.7	16.6	37.0	12.2	60.2	18.1	35.4
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	28.9	11.9	34.1	7.7	24.9	13.7	18.4
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	61.5
HCM 2010 LOS	E

Notes



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	891	101
Future Volume (veh/h)	160	891	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	938	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	844	67
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3312	261
Grp Volume(v), veh/h	168	501	511
Grp Sat Flow(s),veh/h/ln	1774	1770	1803
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	451	459
V/C Ratio(X)	0.87	1.11	1.11
Avail Cap(c_a), veh/h	220	451	459
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	76.4	76.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	25.2	25.7
LnGrp Delay(d),s/veh	79.8	123.4	123.0
LnGrp LOS	E	F	F
Approach Vol, veh/h		1180	
Approach Delay, s/veh		117.0	
Approach LOS		F	
Timer			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	19	7	81	14	1	3	7	70	774	3	1	8	1310	20
Future Volume (veh/h)	19	7	81	14	1	3	7	70	774	3	1	8	1310	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)	0.98		0.94	0.98		0.97		1.00		0.99		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	28	10	82	22	2	3		74	815	2		9	1394	15
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.69	0.69	0.69	0.64	0.64	0.64		0.95	0.95	0.95		0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	65	30	129	162	16	16		93	2731	7		15	2546	27
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12		0.11	1.00	1.00		0.01	0.71	0.71
Sat Flow, veh/h	244	238	1041	889	128	127		1774	3622	9		1774	3586	39
Grp Volume(v), veh/h	120	0	0	27	0	0		74	398	419		9	688	721
Grp Sat Flow(s),veh/h/ln	1523	0	0	1144	0	0		1774	1770	1861		1774	1770	1855
Q Serve(g_s), s	4.6	0.0	0.0	0.0	0.0	0.0		5.1	0.0	0.0		0.6	23.2	23.3
Cycle Q Clear(g_c), s	9.3	0.0	0.0	2.7	0.0	0.0		5.1	0.0	0.0		0.6	23.2	23.3
Prop In Lane	0.23		0.68	0.81		0.11		1.00		0.00		1.00		0.02
Lane Grp Cap(c), veh/h	224	0	0	194	0	0		93	1334	1403		15	1256	1317
V/C Ratio(X)	0.54	0.00	0.00	0.14	0.00	0.00		0.79	0.30	0.30		0.59	0.55	0.55
Avail Cap(c_a), veh/h	384	0	0	335	0	0		234	1334	1403		191	1256	1317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.94	0.94	0.94		0.09	0.09	0.09
Uniform Delay (d), s/veh	52.4	0.0	0.0	49.4	0.0	0.0		55.7	0.0	0.0		62.2	8.7	8.7
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.1	0.0	0.0		5.2	0.5	0.5		1.2	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	0.9	0.0	0.0		2.6	0.2	0.2		0.3	11.3	11.9
LnGrp Delay(d),s/veh	53.1	0.0	0.0	49.5	0.0	0.0		60.9	0.5	0.5		63.5	8.8	8.8
LnGrp LOS	D			D				E	A	A		E	A	A
Approach Vol, veh/h		120			27				891				1418	
Approach Delay, s/veh		53.1			49.5				5.5				9.2	
Approach LOS		D			D				A				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	100.0		20.5	11.0	94.5		20.5
Change Period (Y+Rc), s	4.4	5.0		4.9	4.4	* 5		4.9
Max Green Setting (Gmax), s	13.6	69.0		29.1	16.6	* 66		29.1
Max Q Clear Time (g_c+I1), s	2.6	2.0		11.3	7.1	25.3		4.7
Green Ext Time (p_c), s	0.0	14.6		0.4	0.0	8.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Notes



Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	44	59	797	51	1	73	1307
Future Volume (veh/h)	44	59	797	51	1	73	1307
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.94		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	49	46	848	38		75	1347
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.89	0.89	0.94	0.94		0.97	0.97
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	82	77	2457	110		95	2861
Arrive On Green	0.10	0.10	1.00	1.00		0.11	1.00
Sat Flow, veh/h	829	778	3543	155		1774	3632
Grp Volume(v), veh/h	96	0	435	451		75	1347
Grp Sat Flow(s),veh/h/ln	1625	0	1770	1835		1774	1770
Q Serve(g_s), s	7.1	0.0	0.0	0.0		5.2	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	0.0		5.2	0.0
Prop In Lane	0.51	0.48		0.08		1.00	
Lane Grp Cap(c), veh/h	161	0	1260	1307		95	2861
V/C Ratio(X)	0.60	0.00	0.35	0.35		0.79	0.47
Avail Cap(c_a), veh/h	311	0	1260	1307		248	2861
HCM Platoon Ratio	1.00	1.00	2.00	2.00		2.00	2.00
Upstream Filter(I)	1.00	0.00	0.96	0.96		0.82	0.82
Uniform Delay (d), s/veh	54.4	0.0	0.0	0.0		55.6	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.7	0.7		4.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.3	0.3		2.7	0.2
LnGrp Delay(d),s/veh	55.7	0.0	0.7	0.7		60.1	0.5
LnGrp LOS	E		A	A		E	A
Approach Vol, veh/h	96		886				1422
Approach Delay, s/veh	55.7		0.7				3.6
Approach LOS	E		A				A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.1	95.5				107.6		18.4
Change Period (Y+Rc), s	5.4	* 5.8				5.8		5.9
Max Green Setting (Gmax), s	7.6	* 67				90.2		24.1
Max Q Clear Time (g_c+I1), s	9.1	2.0				2.0		9.1
Green Ext Time (p_c), s	0.1	12.7				29.1		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	4.6
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	89	6	43	15	5	16	3	19	736	15	12	1204	129
Future Volume (veh/h)	89	6	43	15	5	16	3	19	736	15	12	1204	129
Number	7	4	14	3	8	18		1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	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	1900	1863	1900	1900	1863	1900		1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	100	7	33	23	8	17		20	783	11	13	1295	97
Adj No. of Lanes	0	1	0	0	1	0		1	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.64	0.64	0.64		0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h	170	10	41	115	45	65		28	2695	38	21	2503	187
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11		0.02	0.75	0.75	0.02	1.00	1.00
Sat Flow, veh/h	1059	91	355	640	391	565		1774	3573	50	1774	3338	249
Grp Volume(v), veh/h	140	0	0	48	0	0		20	388	406	13	685	707
Grp Sat Flow(s),veh/h/ln	1504	0	0	1596	0	0		1774	1770	1854	1774	1770	1818
Q Serve(g_s), s	8.0	0.0	0.0	0.0	0.0	0.0		1.4	8.7	8.7	0.9	0.0	0.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0	3.3	0.0	0.0		1.4	8.7	8.7	0.9	0.0	0.0
Prop In Lane	0.71		0.24	0.48		0.35		1.00		0.03	1.00		0.14
Lane Grp Cap(c), veh/h	221	0	0	225	0	0		28	1335	1398	21	1327	1363
V/C Ratio(X)	0.63	0.00	0.00	0.21	0.00	0.00		0.71	0.29	0.29	0.63	0.52	0.52
Avail Cap(c_a), veh/h	421	0	0	434	0	0		234	1335	1398	234	1327	1363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.91	0.91	0.91	0.88	0.88	0.88
Uniform Delay (d), s/veh	54.1	0.0	0.0	50.8	0.0	0.0		61.7	4.9	4.9	61.3	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.2	0.0	0.0		10.3	0.5	0.5	9.9	1.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.0	1.5	0.0	0.0		0.8	4.4	4.6	0.5	0.5	0.5
LnGrp Delay(d),s/veh	55.3	0.0	0.0	51.0	0.0	0.0		72.0	5.4	5.4	71.2	1.3	1.2
LnGrp LOS	E			D				E	A	A	E	A	A
Approach Vol, veh/h		140			48				814			1405	
Approach Delay, s/veh		55.3			51.0				7.0			1.9	
Approach LOS		E			D				A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.4	100.3		19.3	5.9	100.8		19.3
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	16.6	* 63		32.1	16.6	62.2		32.1
Max Q Clear Time (g_c+I1), s	13.4	2.0		13.3	2.9	10.7		5.3
Green Ext Time (p_c), s	0.0	21.7		0.4	0.0	8.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	7.7
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	31	29	34	238	26	88	9	44	708	266	15	130	1010	46
Future Volume (veh/h)	31	29	34	238	26	88	9	44	708	266	15	130	1010	46
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.96		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	38	36	30	253	28	66		49	787	208		140	1086	34
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94		0.90	0.90	0.90		0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	35	31	13	279	25	532		191	1819	476		164	2185	68
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35		0.04	0.15	0.15		0.09	0.43	0.43
Sat Flow, veh/h	0	88	36	655	73	1517		1774	3993	1045		1774	5065	158
Grp Volume(v), veh/h	104	0	0	281	0	66		49	667	328		140	727	393
Grp Sat Flow(s),veh/h/ln	124	0	0	728	0	1517		1774	1695	1648		1774	1695	1833
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.1		3.8	25.0	25.3		10.9	21.7	21.7
Cycle Q Clear(g_c), s	49.1	0.0	0.0	49.1	0.0	4.1		3.8	25.0	25.3		10.9	21.7	21.7
Prop In Lane	0.37		0.29	0.90		1.00		1.00		0.63		1.00		0.09
Lane Grp Cap(c), veh/h	79	0	0	304	0	532		191	1544	751		164	1463	791
V/C Ratio(X)	1.32	0.00	0.00	0.92	0.00	0.12		0.26	0.43	0.44		0.85	0.50	0.50
Avail Cap(c_a), veh/h	79	0	0	304	0	532		198	1544	751		274	1463	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.33	0.33	0.33		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.95	0.95	0.95		0.80	0.80	0.80
Uniform Delay (d), s/veh	43.8	0.0	0.0	47.7	0.0	30.9		62.0	43.0	43.2		62.6	28.8	28.8
Incr Delay (d2), s/veh	209.4	0.0	0.0	31.9	0.0	0.0		0.2	0.8	1.7		4.8	1.0	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	7.6	0.0	0.0	13.5	0.0	1.7		1.9	12.0	12.0		5.5	10.4	11.4
LnGrp Delay(d),s/veh	253.2	0.0	0.0	79.6	0.0	30.9		62.3	43.9	44.9		67.4	29.8	30.6
LnGrp LOS	F			E		C		E	D	D		E	C	C
Approach Vol, veh/h		104			347				1044				1260	
Approach Delay, s/veh		253.2			70.4				45.1				34.2	
Approach LOS		F			E				D				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.3	68.7		54.0	20.0	66.0		54.0
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	21.6	35.1		49.1	15.6	* 60		49.1
Max Q Clear Time (g_c+I1), s	12.9	27.3		51.1	5.8	23.7		51.1
Green Ext Time (p_c), s	0.1	6.7		0.0	0.0	20.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	51.1
HCM 2010 LOS	D

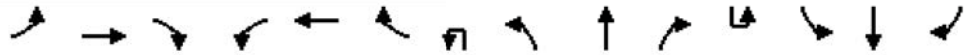
Notes

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	56	41	185	67	12	83	46	61	6	90	2
Future Vol, veh/h	0	56	41	185	67	12	83	46	61	6	90	2
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	85	62	213	77	14	91	51	67	7	111	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	12.2	10.5	9.7
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	0%	70%	6%
Vol Thru, %	24%	58%	25%	92%
Vol Right, %	32%	42%	5%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	190	97	264	98
LT Vol	83	0	185	6
Through Vol	46	56	67	90
RT Vol	61	41	12	2
Lane Flow Rate	209	147	303	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.302	0.206	0.437	0.183
Departure Headway (Hd)	5.213	5.04	5.187	5.458
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	689	713	698	657
Service Time	3.245	3.069	3.187	3.495
HCM Lane V/C Ratio	0.303	0.206	0.434	0.184
HCM Control Delay	10.5	9.4	12.2	9.7
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.3	0.8	2.2	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	52	43	126	109	38	129	17	104	797	130	8	176	963	126
Future Volume (veh/h)	52	43	126	109	38	129	17	104	797	130	8	176	963	126
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	55	46	94	118	41	98		114	876	101		185	1014	93
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	207	107	219	205	96	230		533	2685	308		207	1393	604
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20		0.30	0.58	0.58		0.23	0.79	0.79
Sat Flow, veh/h	1232	533	1089	1226	479	1144		1774	4621	530		1774	3539	1534
Grp Volume(v), veh/h	55	0	140	118	0	139		114	642	335		185	1014	93
Grp Sat Flow(s),veh/h/ln	1232	0	1622	1226	0	1623		1774	1695	1762		1774	1770	1534
Q Serve(g_s), s	5.7	0.0	10.6	13.0	0.0	10.5		6.7	13.7	13.8		14.1	20.0	2.1
Cycle Q Clear(g_c), s	16.2	0.0	10.6	23.6	0.0	10.5		6.7	13.7	13.8		14.1	20.0	2.1
Prop In Lane	1.00		0.67	1.00		0.71		1.00		0.30		1.00		1.00
Lane Grp Cap(c), veh/h	207	0	326	205	0	326		533	1970	1023		207	1393	604
V/C Ratio(X)	0.27	0.00	0.43	0.58	0.00	0.43		0.21	0.33	0.33		0.89	0.73	0.15
Avail Cap(c_a), veh/h	400	0	580	398	0	581		533	1970	1023		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.91	0.91	0.91
Uniform Delay (d), s/veh	56.0	0.0	48.9	59.3	0.0	48.9		36.6	15.2	15.2		52.8	11.2	9.3
Incr Delay (d2), s/veh	0.5	0.0	0.7	1.9	0.0	0.7		0.1	0.4	0.9		4.8	3.1	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	2.0	0.0	4.8	4.5	0.0	4.8		3.3	6.5	7.0		7.2	9.9	0.9
LnGrp Delay(d),s/veh	56.5	0.0	49.6	61.2	0.0	49.6		36.7	15.6	16.0		57.6	14.2	9.8
LnGrp LOS	E		D	E		D		D	B	B		E	B	A
Approach Vol, veh/h		195			257				1091				1292	
Approach Delay, s/veh		51.6			54.9				17.9				20.1	
Approach LOS		D			D				B				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	86.2		33.0	47.0	60.0		33.0
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	36.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	16.1	15.8		18.2	8.7	22.0		25.6
Green Ext Time (p_c), s	0.2	8.0		0.9	0.1	10.8		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.6
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	356	995	68	474	878	119	21	85	310	369	270	656	288
Future Volume (veh/h)	15	356	995	68	474	878	119	21	85	310	369	270	656	288
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		371	1036	52	504	934	93		90	330	281	314	763	237
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		565	1156	58	551	1040	104		110	672	538	333	834	259
Arrive On Green		0.16	0.34	0.34	0.16	0.32	0.32		0.06	0.19	0.19	0.19	0.32	0.32
Sat Flow, veh/h		3442	3423	172	3442	3238	322		1774	3539	1499	1774	2645	822
Grp Volume(v), veh/h		371	536	552	504	510	517		90	330	281	314	510	490
Grp Sat Flow(s),veh/h/ln		1721	1770	1825	1721	1770	1791		1774	1770	1499	1774	1770	1697
Q Serve(g_s), s		16.0	45.6	45.6	22.9	43.7	43.7		8.0	13.2	23.8	27.7	44.1	44.1
Cycle Q Clear(g_c), s		16.0	45.6	45.6	22.9	43.7	43.7		8.0	13.2	23.8	27.7	44.1	44.1
Prop In Lane		1.00		0.09	1.00		0.18		1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h		565	598	617	551	568	575		110	672	538	333	558	535
V/C Ratio(X)		0.66	0.90	0.90	0.92	0.90	0.90		0.82	0.49	0.52	0.94	0.91	0.91
Avail Cap(c_a), veh/h		651	669	690	651	669	677		335	892	631	335	558	535
HCM Platoon Ratio		1.00	1.00	1.00	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		62.1	49.9	49.9	65.6	51.4	51.4		73.5	57.4	41.3	63.7	52.3	52.3
Incr Delay (d2), s/veh		1.3	14.0	13.7	14.9	13.6	13.5		5.5	0.4	0.5	34.2	19.7	20.3
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		7.7	24.6	25.4	12.1	23.5	23.8		4.1	6.5	9.9	16.8	24.6	23.7
LnGrp Delay(d),s/veh		63.4	63.9	63.6	80.5	65.0	64.9		79.0	57.8	41.8	97.9	72.0	72.6
LnGrp LOS		E	E	E	F	E	E		E	E	D	F	E	E
Approach Vol, veh/h			1459			1531				701			1314	
Approach Delay, s/veh			63.7			70.0				54.1			78.4	
Approach LOS			E			E				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	9.8	59.3	14.3	55.3	31.8	57.4	34.2	35.4
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	24.9	47.6	10.0	46.1	18.0	45.7	29.7	25.8
Green Ext Time (p_c), s	0.5	6.0	0.1	0.0	0.5	5.3	0.0	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	68.2
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	32	1274	169	47	76	1313	100	123	54	38	54	134	121
Future Volume (veh/h)	6	32	1274	169	47	76	1313	100	123	54	38	54	134	121
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		34	1341	134		81	1397	75	138	61	31	59	147	93
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		182	1554	155		102	1435	77	154	68	35	62	154	98
Arrive On Green		0.10	0.48	0.48		0.02	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3251	323		1774	3417	183	1058	468	238	345	860	544
Grp Volume(v), veh/h		34	727	748		81	722	750	230	0	0	299	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1805		1774	1770	1830	1763	0	0	1748	0	0
Q Serve(g_s), s		2.5	51.0	51.7		6.4	56.8	57.1	17.9	0.0	0.0	23.7	0.0	0.0
Cycle Q Clear(g_c), s		2.5	51.0	51.7		6.4	56.8	57.1	17.9	0.0	0.0	23.7	0.0	0.0
Prop In Lane		1.00		0.18		1.00		0.10	0.60		0.13	0.20		0.31
Lane Grp Cap(c), veh/h		182	846	863		102	743	769	257	0	0	313	0	0
V/C Ratio(X)		0.19	0.86	0.87		0.80	0.97	0.98	0.89	0.00	0.00	0.95	0.00	0.00
Avail Cap(c_a), veh/h		182	846	863		172	743	769	316	0	0	313	0	0
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)		1.00	1.00	1.00		0.50	0.50	0.50	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		57.5	32.4	32.6		67.9	59.5	59.6	58.7	0.0	0.0	56.9	0.0	0.0
Incr Delay (d2), s/veh		0.2	11.1	11.4		2.7	17.5	17.9	20.5	0.0	0.0	38.2	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		1.2	27.4	28.5		3.2	31.5	32.9	10.2	0.0	0.0	14.8	0.0	0.0
LnGrp Delay(d),s/veh		57.6	43.4	43.9		70.5	76.9	77.5	79.3	0.0	0.0	95.1	0.0	0.0
LnGrp LOS		E	D	D		E	E	E	E			F		
Approach Vol, veh/h			1509				1553			230			299	
Approach Delay, s/veh			44.0				76.9			79.3			95.1	
Approach LOS			D				E			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	72.2		30.0	19.7	65.0		25.3
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	19.4	53.7		25.7	4.5	59.1		19.9
Green Ext Time (p_c), s	0.0	2.6		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	64.7
HCM 2010 LOS	E

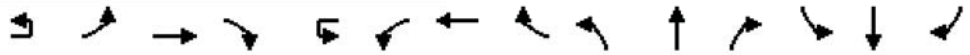
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	272	887	225	8	278	969	269	13	267	514	146	31	361	647	182
Future Volume (veh/h)	3	272	887	225	8	278	969	269	13	267	514	146	31	361	647	182
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.96		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		296	964	172		309	1077	212		297	571	130		406	727	144
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		322	1058	189		577	1470	289		346	829	184		461	828	345
Arrive On Green		0.06	0.12	0.12		0.06	0.11	0.11		0.20	0.40	0.40		0.13	0.23	0.23
Sat Flow, veh/h		1774	2981	531		3442	4229	831		3442	4131	918		3442	3539	1473
Grp Volume(v), veh/h		296	572	564		309	863	426		297	466	235		406	727	144
Grp Sat Flow(s),veh/h/ln		1774	1770	1743		1721	1695	1670		1721	1695	1659		1721	1770	1473
Q Serve(g_s), s		23.2	44.7	44.8		12.2	34.4	34.5		11.7	15.9	16.6		16.2	27.7	11.6
Cycle Q Clear(g_c), s		23.2	44.7	44.8		12.2	34.4	34.5		11.7	15.9	16.6		16.2	27.7	11.6
Prop In Lane		1.00		0.30		1.00		0.50		1.00		0.55		1.00		1.00
Lane Grp Cap(c), veh/h		322	628	619		577	1179	581		346	680	333		461	828	345
V/C Ratio(X)		0.92	0.91	0.91		0.54	0.73	0.73		0.86	0.69	0.71		0.88	0.88	0.42
Avail Cap(c_a), veh/h		362	628	619		577	1179	581		556	753	369		629	862	359
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.09	0.09	0.09		0.85	0.85	0.85		0.94	0.94	0.94		1.00	1.00	1.00
Uniform Delay (d), s/veh		64.8	59.6	59.6		60.8	55.7	55.7		55.0	38.3	38.5		59.5	51.7	45.5
Incr Delay (d2), s/veh		3.5	2.5	2.5		0.4	3.4	6.8		4.0	2.8	6.4		8.7	10.5	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		11.7	22.4	22.1		5.9	16.8	17.1		5.7	7.6	8.2		8.3	14.7	4.9
LnGrp Delay(d),s/veh		68.3	62.1	62.2		61.3	59.1	62.5		59.0	41.1	44.9		68.2	62.2	46.9
LnGrp LOS		E	E	E		E	E	E		E	D	D		E	E	D
Approach Vol, veh/h			1432				1598				998				1277	
Approach Delay, s/veh			63.4				60.4				47.3				62.4	
Approach LOS			E				E				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	8.9	55.0	18.5	37.7	29.8	54.1	23.1	33.0
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	14.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	14.2	46.8	13.7	29.7	25.2	36.5	18.2	18.6
Green Ext Time (p_c), s	0.0	1.9	0.4	2.7	0.2	0.0	0.5	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	59.2
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	7	137	1061	86	30	143	1299	140	119	43	119	229	68	220
Future Volume (veh/h)	7	137	1061	86	30	143	1299	140	119	43	119	229	68	220
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.98	0.98		0.94	0.97		0.97
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		149	1153	65		146	1326	100	132	48	92	260	77	180
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.92	0.92	0.92		0.98	0.98	0.98	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		196	2561	144		193	2504	189	377	380	305	419	400	329
Arrive On Green		0.11	1.00	1.00		0.11	1.00	1.00	0.07	0.20	0.20	0.08	0.21	0.21
Sat Flow, veh/h		3442	4922	277		3442	4819	363	1774	1863	1495	1774	1863	1530
Grp Volume(v), veh/h		149	794	424		146	933	493	132	48	92	260	77	180
Grp Sat Flow(s),veh/h/ln		1721	1695	1809		1721	1695	1792	1774	1863	1495	1774	1863	1530
Q Serve(g_s), s		5.9	0.0	0.0		5.8	0.0	0.0	8.1	2.9	7.3	11.6	4.7	14.7
Cycle Q Clear(g_c), s		5.9	0.0	0.0		5.8	0.0	0.0	8.1	2.9	7.3	11.6	4.7	14.7
Prop In Lane		1.00		0.15		1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		196	1764	941		193	1761	931	377	380	305	419	400	329
V/C Ratio(X)		0.76	0.45	0.45		0.76	0.53	0.53	0.35	0.13	0.30	0.62	0.19	0.55
Avail Cap(c_a), veh/h		334	1764	941		334	1761	931	396	573	460	419	573	471
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)		0.39	0.39	0.39		0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		61.1	0.0	0.0		61.2	0.0	0.0	39.6	45.5	47.2	43.0	45.0	48.9
Incr Delay (d2), s/veh		0.9	0.3	0.6		1.5	0.7	1.4	0.2	0.1	0.2	2.1	0.1	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		2.8	0.1	0.2		2.8	0.2	0.4	4.0	1.5	3.0	8.2	2.4	6.2
LnGrp Delay(d),s/veh		62.0	0.3	0.6		62.7	0.7	1.4	39.8	45.6	47.4	45.1	45.1	49.4
LnGrp LOS		E	A	A		E	A	A	D	D	D	D	D	D
Approach Vol, veh/h			1367				1572			272			517	
Approach Delay, s/veh			7.1				6.7			43.4			46.6	
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	12.2	78.3	14.5	35.0	12.4	78.1	16.0	33.5
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	13.6	* 53	11.6	43.1	13.6	52.6	11.6	43.1
Max Q Clear Time (g_c+I1), s	7.8	2.0	10.1	16.7	7.9	2.0	13.6	9.3
Green Ext Time (p_c), s	0.1	21.7	0.0	0.6	0.1	17.8	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.1
HCM 2010 LOS	B

Notes

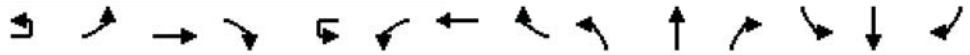


Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	38	118	1217	92	333	1553	160	79	116	245	245	415	181
Future Volume (veh/h)	38	118	1217	92	333	1553	160	79	116	245	245	415	181
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.95	1.00		0.93	1.00		0.95
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		126	1295	68	362	1688	123	89	130	240	278	472	145
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		149	1697	89	386	2301	167	135	386	650	325	930	395
Arrive On Green		0.08	0.34	0.34	0.22	0.48	0.48	0.03	0.14	0.14	0.09	0.26	0.26
Sat Flow, veh/h		1774	4934	259	1774	4820	351	3442	1863	1469	3442	3539	1503
Grp Volume(v), veh/h		126	890	473	362	1186	625	89	130	240	278	472	145
Grp Sat Flow(s),veh/h/ln		1774	1695	1803	1774	1695	1781	1721	1863	1469	1721	1770	1503
Q Serve(g_s), s		9.8	32.7	32.7	28.1	39.4	39.5	3.6	8.8	16.0	11.1	15.9	11.0
Cycle Q Clear(g_c), s		9.8	32.7	32.7	28.1	39.4	39.5	3.6	8.8	16.0	11.1	15.9	11.0
Prop In Lane		1.00		0.14	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		149	1166	620	386	1619	850	135	386	650	325	930	395
V/C Ratio(X)		0.84	0.76	0.76	0.94	0.73	0.73	0.66	0.34	0.37	0.85	0.51	0.37
Avail Cap(c_a), veh/h		236	1166	620	527	1619	850	310	494	734	359	988	420
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)		0.86	0.86	0.86	0.66	0.66	0.66	0.48	0.48	0.48	1.00	1.00	1.00
Uniform Delay (d), s/veh		63.2	40.9	40.9	53.8	29.4	29.4	67.2	51.6	30.1	62.4	43.9	42.1
Incr Delay (d2), s/veh		7.3	4.1	7.5	13.2	2.0	3.7	1.0	0.1	0.1	15.4	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		5.1	16.0	17.6	15.2	18.9	20.3	1.7	4.6	6.5	6.0	7.8	4.6
LnGrp Delay(d),s/veh		70.5	45.0	48.4	67.0	31.4	33.2	68.2	51.7	30.2	77.9	44.1	42.3
LnGrp LOS		E	D	D	E	C	C	E	D	C	E	D	D
Approach Vol, veh/h			1489			2173			459			895	
Approach Delay, s/veh			48.2			37.8			43.6			54.3	
Approach LOS			D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	53.5	9.9	41.7	16.2	72.2	17.6	33.9
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	11.6	* 28	12.6	39.1	18.6	50.6	14.6	37.1
Max Q Clear Time (g_c+I1), s	10.1	34.7	5.6	17.9	11.8	41.5	13.1	18.0
Green Ext Time (p_c), s	0.4	0.0	0.1	2.4	0.1	8.5	0.1	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	44.4
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	55	1617	54	8	117	2019	30	14	16	85	39	46	49
Future Volume (veh/h)	13	55	1617	54	8	117	2019	30	14	16	85	39	46	49
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	1.00		0.95	1.00		0.95
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		60	1758	42		122	2103	22	15	17	67	46	55	40
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.92	0.92	0.92		0.96	0.96	0.96	0.92	0.92	0.92	0.84	0.84	0.84
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		432	2932	70		144	2097	22	26	30	118	54	64	47
Arrive On Green		0.32	0.76	0.76		0.16	0.81	0.81	0.11	0.11	0.11	0.10	0.10	0.10
Sat Flow, veh/h		1774	5109	122		1774	5188	54	241	273	1076	560	670	487
Grp Volume(v), veh/h		60	1166	634		122	1374	751	99	0	0	141	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1841		1774	1695	1852	1590	0	0	1717	0	0
Q Serve(g_s), s		3.4	21.0	21.0		9.4	56.6	56.6	8.3	0.0	0.0	11.3	0.0	0.0
Cycle Q Clear(g_c), s		3.4	21.0	21.0		9.4	56.6	56.6	8.3	0.0	0.0	11.3	0.0	0.0
Prop In Lane		1.00		0.07		1.00		0.03	0.15		0.68	0.33		0.28
Lane Grp Cap(c), veh/h		432	1946	1057		144	1371	749	175	0	0	165	0	0
V/C Ratio(X)		0.14	0.60	0.60		0.85	1.00	1.00	0.57	0.00	0.00	0.86	0.00	0.00
Avail Cap(c_a), veh/h		432	1946	1057		248	1371	749	399	0	0	210	0	0
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)		0.66	0.66	0.66		0.72	0.72	0.72	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		36.9	9.5	9.5		57.8	13.4	13.4	59.1	0.0	0.0	62.3	0.0	0.0
Incr Delay (d2), s/veh		0.0	0.9	1.7		3.8	21.1	28.7	1.1	0.0	0.0	19.9	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	9.8	10.8		4.7	28.8	33.0	3.7	0.0	0.0	6.3	0.0	0.0
LnGrp Delay(d),s/veh		37.0	10.5	11.2		61.7	34.5	42.1	60.2	0.0	0.0	82.2	0.0	0.0
LnGrp LOS		D	B	B		E	F	F	E			F		
Approach Vol, veh/h			1860				2247			99			141	
Approach Delay, s/veh			11.6				38.5			60.2			82.2	
Approach LOS			B				D			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.7	85.7		20.3	39.4	62.0		18.3
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 5.4		4.9
Max Green Setting (Gmax), s	10.6	48.7		35.1	11.6	* 57		17.1
Max Q Clear Time (g_c+I1), s	11.4	23.0		10.3	5.4	58.6		13.3
Green Ext Time (p_c), s	0.1	20.8		0.3	0.0	0.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1512	205	476	2010	294	149	54	335	193	158	18
Future Volume (veh/h)	20	1512	205	476	2010	294	149	54	335	193	158	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1559	166	491	2072	212	115	137	333	214	176	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1864	198	400	3196	993	191	201	1043	191	183	15
Arrive On Green	0.03	0.84	0.84	0.23	0.63	0.63	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1774	4451	473	1774	5085	1581	1774	1863	3045	1774	1696	135
Grp Volume(v), veh/h	21	1109	616	491	2072	212	115	137	333	214	0	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1758	1774	1695	1581	1774	1863	1522	1774	0	1831
Q Serve(g_s), s	1.6	26.6	26.7	31.6	35.8	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Cycle Q Clear(g_c), s	1.6	26.6	26.7	31.6	35.8	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	28	1326	736	400	3196	993	191	201	1043	191	0	198
V/C Ratio(X)	0.74	0.84	0.84	1.23	0.65	0.21	0.60	0.68	0.32	1.12	0.00	0.96
Avail Cap(c_a), veh/h	134	1326	736	400	3196	993	318	334	1261	191	0	198
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	8.8	8.8	54.2	16.3	11.2	59.6	60.2	34.9	62.5	0.0	62.2
Incr Delay (d2), s/veh	9.9	4.7	8.2	122.1	1.0	0.5	2.3	3.0	0.1	100.4	0.0	52.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	11.6	13.7	29.0	17.0	3.7	4.4	5.3	4.8	12.7	0.0	10.2
LnGrp Delay(d),s/veh	77.3	13.5	17.0	176.3	17.3	11.7	61.8	63.2	35.0	162.9	0.0	114.8
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1746			2775			585			404	
Approach Delay, s/veh		15.5			45.0			46.9			140.3	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	64.0		20.0	6.6	93.4		20.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	1.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	3.6	28.7		17.1	3.6	37.8		13.5
Green Ext Time (p_c), s	0.0	16.5		0.0	0.0	25.6		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	42.9
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	2373	0	0	0	0	0	1	418
Future Volume (veh/h)	0	0	0	0	2373	0	0	0	0	0	1	418
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.98
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	2472	0				0	1	401
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	3355	1045				0	340	498
Arrive On Green				0.00	0.66	0.00				0.00	0.18	0.18
Sat Flow, veh/h				0	5253	1583				0	1863	2732
Grp Volume(v), veh/h				0	2472	0				0	1	401
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1366
Q Serve(g_s), s				0.0	18.4	0.0				0.0	0.0	8.0
Cycle Q Clear(g_c), s				0.0	18.4	0.0				0.0	0.0	8.0
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	3355	1045				0	340	498
V/C Ratio(X)				0.00	0.74	0.00				0.00	0.00	0.80
Avail Cap(c_a), veh/h				0	4574	1424				0	1163	1705
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	6.4	0.0				0.0	19.1	22.3
Incr Delay (d2), s/veh				0.0	0.2	0.0				0.0	0.0	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	8.3	0.0				0.0	0.0	3.1
LnGrp Delay(d),s/veh				0.0	6.7	0.0				0.0	19.1	23.5
LnGrp LOS					A						B	C
Approach Vol, veh/h					2472						402	
Approach Delay, s/veh					6.7						23.5	
Approach LOS					A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				14.9		42.1		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				35.6		51.3		
Max Q Clear Time (g_c+I1), s				10.0		20.4		
Green Ext Time (p_c), s				0.4		17.3		

Intersection Summary	
HCM 2010 Ctrl Delay	9.0
HCM 2010 LOS	A

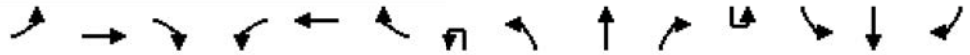
Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱					↑	↱↱			
Traffic Volume (veh/h)	0	1500	338	0	0	0	0	1	485	0	0	0
Future Volume (veh/h)	0	1500	338	0	0	0	0	1	485	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	1579	0				0	1	453			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.95	0.95	0.95				0.91	0.91	0.91			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	2532	788				0	431	623			
Arrive On Green	0.00	0.50	0.00				0.00	0.23	0.23			
Sat Flow, veh/h	0	5253	1583				0	1863	2694			
Grp Volume(v), veh/h	0	1579	0				0	1	453			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1347			
Q Serve(g_s), s	0.0	9.1	0.0				0.0	0.0	6.3			
Cycle Q Clear(g_c), s	0.0	9.1	0.0				0.0	0.0	6.3			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	2532	788				0	431	623			
V/C Ratio(X)	0.00	0.62	0.00				0.00	0.00	0.73			
Avail Cap(c_a), veh/h	0	6317	1967				0	2082	3012			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	7.4	0.0				0.0	11.9	14.3			
Incr Delay (d2), s/veh	0.0	0.1	0.0				0.0	0.0	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	4.1	0.0				0.0	0.0	2.4			
LnGrp Delay(d),s/veh	0.0	7.5	0.0				0.0	11.9	14.9			
LnGrp LOS		A						B	B			
Approach Vol, veh/h		1579						454				
Approach Delay, s/veh		7.5						14.9				
Approach LOS		A						B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		25.8						14.4
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						45.0
Max Q Clear Time (g_c+I1), s		11.1						8.3
Green Ext Time (p_c), s		8.9						1.1

Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	222	298	124	347	359	107	4	73	567	158	8	96	908	250
Future Volume (veh/h)	222	298	124	347	359	107	4	73	567	158	8	96	908	250
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95		1.00		0.94		1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	247	331	99	408	422	88		76	591	118		99	936	194
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85		0.96	0.96	0.96		0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	268	382	118	443	442	378		95	1398	409		202	1214	534
Arrive On Green	0.22	0.22	0.22	0.25	0.25	0.25		0.05	0.28	0.28		0.11	0.34	0.34
Sat Flow, veh/h	1235	1759	542	1774	1770	1511		1774	5085	1487		1774	3539	1557
Grp Volume(v), veh/h	360	0	317	408	422	88		76	591	118		99	936	194
Grp Sat Flow(s),veh/h/ln	1801	0	1736	1774	1770	1511		1774	1695	1487		1774	1770	1557
Q Serve(g_s), s	27.4	0.0	24.5	31.4	32.9	6.5		5.9	13.3	8.7		7.3	33.1	13.1
Cycle Q Clear(g_c), s	27.4	0.0	24.5	31.4	32.9	6.5		5.9	13.3	8.7		7.3	33.1	13.1
Prop In Lane	0.69		0.31	1.00		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	391	0	377	443	442	378		95	1398	409		202	1214	534
V/C Ratio(X)	0.92	0.00	0.84	0.92	0.95	0.23		0.80	0.42	0.29		0.49	0.77	0.36
Avail Cap(c_a), veh/h	400	0	386	445	444	379		134	1398	409		202	1214	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.52	0.52	0.52		1.00	1.00	1.00		0.36	0.36	0.36
Uniform Delay (d), s/veh	53.6	0.0	52.5	51.1	51.7	41.8		65.5	41.6	40.0		58.2	41.1	34.5
Incr Delay (d2), s/veh	25.6	0.0	14.2	14.6	20.2	0.1		13.0	0.9	1.8		0.2	1.8	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	16.4	0.0	13.2	17.2	18.5	2.7		3.3	6.4	3.8		3.6	16.4	5.7
LnGrp Delay(d),s/veh	79.3	0.0	66.7	65.8	71.9	41.9		78.5	42.6	41.7		58.5	42.8	35.2
LnGrp LOS	E		E	E	E	D		E	D	D		E	D	D
Approach Vol, veh/h		677			918				785				1229	
Approach Delay, s/veh		73.4			66.3				45.9				42.9	
Approach LOS		E			E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	44.0		35.3	11.9	52.9		39.9
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	15.6	* 39		31.1	10.6	44.1		35.1
Max Q Clear Time (g_c+I1), s	9.3	15.3		29.4	7.9	35.1		34.9
Green Ext Time (p_c), s	0.1	5.7		0.6	0.0	8.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	55.2
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
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	-	-	1622	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	1021	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1622	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Appendix H
Peak Hour Intersection LOS Worksheets – Near-Term Year 2021 Base Plus Project Conditions

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	146	9	106	520	320	177	1040	67	6
Future Volume (veh/h)	6	208	437	146	9	106	520	320	177	1040	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	113		114	559	241	182	1072	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	935	228		266	794	341	244	1114	50	
Arrive On Green		0.08	0.33	0.33		0.08	0.33	0.33	0.09	0.43	0.43	
Sat Flow, veh/h		3442	2804	683		3442	2380	1023	3442	3446	154	
Grp Volume(v), veh/h		219	289	284		114	415	385	182	550	570	
Grp Sat Flow(s),veh/h/ln		1721	1770	1718		1721	1770	1633	1721	1770	1830	
Q Serve(g_s), s		6.7	14.0	14.3		3.4	22.1	22.2	5.6	32.7	32.7	
Cycle Q Clear(g_c), s		6.7	14.0	14.3		3.4	22.1	22.2	5.6	32.7	32.7	
Prop In Lane		1.00		0.40		1.00		0.63	1.00		0.08	
Lane Grp Cap(c), veh/h		283	590	573		266	591	545	244	572	592	
V/C Ratio(X)		0.77	0.49	0.50		0.43	0.70	0.71	0.75	0.96	0.96	
Avail Cap(c_a), veh/h		433	590	573		274	591	545	402	575	595	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.85	0.85	0.85	
Uniform Delay (d), s/veh		48.6	28.7	28.8		47.6	31.3	31.4	48.0	30.1	30.1	
Incr Delay (d2), s/veh		1.9	2.9	3.1		0.4	6.9	7.5	1.5	25.3	24.9	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	7.3	7.3		1.6	11.9	11.1	2.7	19.9	20.5	
LnGrp Delay(d),s/veh		50.5	31.6	31.8		48.0	38.2	38.9	49.4	55.4	55.0	
LnGrp LOS		D	C	C		D	D	D	D	E	E	
Approach Vol, veh/h			792				914			1302		
Approach Delay, s/veh			36.9				39.7			54.4		
Approach LOS			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	13.3	41.0	12.1	41.6	13.3	41.0	13.8	39.8
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	16.3	7.6	15.3	8.7	24.2	9.2	34.7
Green Ext Time (p_c), s	0.0	3.6	0.1	1.7	0.2	2.9	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	43.6
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	412	100
Future Volume (veh/h)	106	412	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	468	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1022	173
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	3007	510
Grp Volume(v), veh/h	120	274	274
Grp Sat Flow(s),veh/h/ln	1774	1770	1747
Q Serve(g_s), s	7.2	13.1	13.3
Cycle Q Clear(g_c), s	7.2	13.1	13.3
Prop In Lane	1.00		0.29
Lane Grp Cap(c), veh/h	147	601	594
V/C Ratio(X)	0.82	0.46	0.46
Avail Cap(c_a), veh/h	158	601	594
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.9	27.9
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.4	6.4
LnGrp Delay(d),s/veh	72.5	28.1	28.1
LnGrp LOS	E	C	C
Approach Vol, veh/h		668	
Approach Delay, s/veh		36.1	
Approach LOS		D	
Timer			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	27	3	66	15	10	13	3	68	1265	3	1	6	545	20
Future Volume (veh/h)	27	3	66	15	10	13	3	68	1265	3	1	6	545	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)	0.99		0.98	0.99		0.97		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	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	36	4	61	19	13	11		76	1406	2		7	592	15
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.79	0.79	0.79		0.90	0.90	0.90		0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	86	19	91	103	67	42		681	2763	4		12	1342	34
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10		0.26	0.51	0.51		0.01	0.38	0.38
Sat Flow, veh/h	416	189	923	554	677	423		1774	3626	5		1774	3526	89
Grp Volume(v), veh/h	101	0	0	43	0	0		76	686	722		7	297	310
Grp Sat Flow(s),veh/h/ln	1528	0	0	1654	0	0		1774	1770	1862		1774	1770	1846
Q Serve(g_s), s	4.3	0.0	0.0	0.0	0.0	0.0		3.5	27.7	27.7		0.4	13.5	13.5
Cycle Q Clear(g_c), s	6.8	0.0	0.0	2.4	0.0	0.0		3.5	27.7	27.7		0.4	13.5	13.5
Prop In Lane	0.36		0.60	0.44		0.26		1.00		0.00		1.00		0.05
Lane Grp Cap(c), veh/h	196	0	0	211	0	0		681	1349	1419		12	673	703
V/C Ratio(X)	0.52	0.00	0.00	0.20	0.00	0.00		0.11	0.51	0.51		0.56	0.44	0.44
Avail Cap(c_a), veh/h	491	0	0	509	0	0		681	1349	1419		158	673	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.67	0.67	0.67		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.73	0.73	0.73		0.85	0.85	0.85
Uniform Delay (d), s/veh	46.9	0.0	0.0	45.0	0.0	0.0		26.0	13.1	13.1		53.5	24.9	24.9
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.2	0.0	0.0		0.0	1.0	1.0		11.9	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	1.2	0.0	0.0		1.7	13.9	14.6		0.2	6.9	7.2
LnGrp Delay(d),s/veh	47.6	0.0	0.0	45.2	0.0	0.0		26.0	14.1	14.0		65.4	26.7	26.6
LnGrp LOS	D			D				C	B	B		E	C	C
Approach Vol, veh/h		101			43				1484				614	
Approach Delay, s/veh		47.6			45.2				14.7				27.1	
Approach LOS		D			D				B				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	87.3		15.5	46.5	46.0		15.5
Change Period (Y+Rc), s	4.4	5.0		4.9	5.0	* 4.9		4.9
Max Green Setting (Gmax), s	9.6	52.0		32.1	20.6	* 41		32.1
Max Q Clear Time (g_c+I1), s	2.4	29.7		8.8	5.5	15.5		4.4
Green Ext Time (p_c), s	0.0	17.1		0.3	0.1	2.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Notes



Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	47	100	1215	64	1	27	613
Future Volume (veh/h)	47	100	1215	64	1	27	613
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.99		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	57	84	1482	55		31	713
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.83	0.83	0.82	0.82		0.86	0.86
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	72	107	1847	68		352	2767
Arrive On Green	0.11	0.11	1.00	1.00		0.07	0.26
Sat Flow, veh/h	660	973	3574	129		1774	3632
Grp Volume(v), veh/h	142	0	752	785		31	713
Grp Sat Flow(s),veh/h/ln	1645	0	1770	1840		1774	1770
Q Serve(g_s), s	9.1	0.0	0.0	0.0		1.8	17.3
Cycle Q Clear(g_c), s	9.1	0.0	0.0	0.0		1.8	17.3
Prop In Lane	0.40	0.59		0.07		1.00	
Lane Grp Cap(c), veh/h	181	0	939	976		352	2767
V/C Ratio(X)	0.79	0.00	0.80	0.80		0.09	0.26
Avail Cap(c_a), veh/h	367	0	939	976		352	2767
HCM Platoon Ratio	1.00	1.00	2.00	2.00		0.33	0.33
Upstream Filter(I)	1.00	0.00	0.83	0.83		0.97	0.97
Uniform Delay (d), s/veh	46.8	0.0	0.0	0.0		41.3	15.2
Incr Delay (d2), s/veh	2.9	0.0	6.0	5.9		0.0	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	4.3	0.0	1.6	1.6		0.9	8.6
LnGrp Delay(d),s/veh	49.7	0.0	6.0	5.9		41.3	15.4
LnGrp LOS	D		A	A		D	B
Approach Vol, veh/h	142		1537				744
Approach Delay, s/veh	49.7		6.0				16.5
Approach LOS	D		A				B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.2	63.0				90.2		17.8
Change Period (Y+Rc), s	5.8	* 5.7				5.8		5.9
Max Green Setting (Gmax), s	9.6	* 57				72.2		24.1
Max Q Clear Time (g_c+I1), s	13.8	2.0				19.3		11.1
Green Ext Time (p_c), s	0.0	30.7				9.7		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	164	0	26	13	0	39	1	18	1090	4	1	8	593	47
Future Volume (veh/h)	164	0	26	13	0	39	1	18	1090	4	1	8	593	47
Number	7	4	14	3	8	18		1	6	16		5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	245	0	27	18	0	37		21	1267	4		10	723	40
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.67	0.67	0.67	0.72	0.72	0.72		0.86	0.86	0.86		0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	339	0	30	145	20	249		31	2302	7		17	2142	118
Arrive On Green	0.21	0.00	0.21	0.21	0.00	0.21		0.02	0.64	0.64		0.02	1.00	1.00
Sat Flow, veh/h	1284	0	142	470	94	1159		1774	3619	11		1774	3410	189
Grp Volume(v), veh/h	272	0	0	55	0	0		21	620	651		10	375	388
Grp Sat Flow(s),veh/h/ln	1426	0	0	1723	0	0		1774	1770	1861		1774	1770	1829
Q Serve(g_s), s	16.9	0.0	0.0	0.0	0.0	0.0		1.3	21.2	21.2		0.6	0.0	0.0
Cycle Q Clear(g_c), s	19.8	0.0	0.0	2.9	0.0	0.0		1.3	21.2	21.2		0.6	0.0	0.0
Prop In Lane	0.90		0.10	0.33		0.67		1.00		0.01		1.00		0.10
Lane Grp Cap(c), veh/h	369	0	0	414	0	0		31	1126	1183		17	1112	1149
V/C Ratio(X)	0.74	0.00	0.00	0.13	0.00	0.00		0.68	0.55	0.55		0.59	0.34	0.34
Avail Cap(c_a), veh/h	458	0	0	509	0	0		174	1126	1183		174	1112	1149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.89	0.89	0.89		0.95	0.95	0.95
Uniform Delay (d), s/veh	40.8	0.0	0.0	34.5	0.0	0.0		52.8	11.0	11.0		52.8	0.0	0.0
Incr Delay (d2), s/veh	3.4	0.0	0.0	0.1	0.0	0.0		8.6	1.7	1.7		10.8	0.8	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	8.2	0.0	0.0	1.3	0.0	0.0		0.7	10.9	11.4		0.3	0.2	0.2
LnGrp Delay(d),s/veh	44.1	0.0	0.0	34.5	0.0	0.0		61.4	12.7	12.7		63.6	0.8	0.8
LnGrp LOS	D			C				E	B	B		E	A	A
Approach Vol, veh/h		272			55				1292				773	
Approach Delay, s/veh		44.1			34.5				13.5				1.6	
Approach LOS		D			C				B				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	73.7		28.1	5.4	74.5		28.1
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	10.6	* 53		30.1	10.6	52.2		30.1
Max Q Clear Time (g_c+I1), s	3.3	2.0		21.8	2.6	23.2		4.9
Green Ext Time (p_c), s	0.0	8.0		0.7	0.0	13.5		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	17	12	25	168	11	72	7	32	996	186	8	74	537	15
Future Volume (veh/h)	17	12	25	168	11	72	7	32	996	186	8	74	537	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		0.95		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	23	16	22	195	13	58		38	1172	158		89	647	12
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.75	0.75	0.75	0.86	0.86	0.86		0.85	0.85	0.85		0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	51	37	30	267	14	453		226	2413	325		111	2364	44
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30		0.26	1.00	1.00		0.06	0.46	0.46
Sat Flow, veh/h	51	122	98	718	48	1497		1774	4521	609		1774	5140	95
Grp Volume(v), veh/h	61	0	0	208	0	58		38	879	451		89	426	233
Grp Sat Flow(s),veh/h/ln	271	0	0	766	0	1497		1774	1695	1740		1774	1695	1845
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	3.9		2.3	0.0	0.0		6.9	10.9	10.9
Cycle Q Clear(g_c), s	40.3	0.0	0.0	38.6	0.0	3.9		2.3	0.0	0.0		6.9	10.9	10.9
Prop In Lane	0.38		0.36	0.94		1.00		1.00		0.35		1.00		0.05
Lane Grp Cap(c), veh/h	117	0	0	281	0	453		226	1810	929		111	1559	849
V/C Ratio(X)	0.52	0.00	0.00	0.74	0.00	0.13		0.17	0.49	0.49		0.81	0.27	0.27
Avail Cap(c_a), veh/h	147	0	0	309	0	482		226	1810	929		286	1559	849
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.91	0.91	0.91		0.95	0.95	0.95
Uniform Delay (d), s/veh	41.7	0.0	0.0	47.5	0.0	35.4		46.4	0.0	0.0		64.8	23.3	23.4
Incr Delay (d2), s/veh	1.3	0.0	0.0	6.8	0.0	0.0		0.1	0.9	1.7		4.9	0.4	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	2.4	0.0	0.0	8.3	0.0	1.6		1.1	0.2	0.4		3.6	5.2	5.7
LnGrp Delay(d),s/veh	43.0	0.0	0.0	54.4	0.0	35.5		46.5	0.9	1.7		69.7	23.8	24.1
LnGrp LOS	D			D		D		D	A	A		E	C	C
Approach Vol, veh/h		61			266				1368				748	
Approach Delay, s/veh		43.0			50.2				2.4				29.3	
Approach LOS		D			D				A				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.1	79.6		47.3	22.7	70.0		47.3
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	22.6	58.1		45.1	15.6	* 64		45.1
Max Q Clear Time (g_c+I1), s	8.9	2.0		42.3	4.3	12.9		40.6
Green Ext Time (p_c), s	0.1	44.3		0.0	0.0	12.1		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.9
HCM 2010 LOS	B

Notes

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	63	86	72	27	7	52	64	59	10	79	2
Future Vol, veh/h	3	63	86	72	27	7	52	64	59	10	79	2
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	75	102	92	35	9	79	97	89	13	105	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.6	10.3	9.2
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	2%	68%	11%
Vol Thru, %	37%	41%	25%	87%
Vol Right, %	34%	57%	7%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	175	152	106	91
LT Vol	52	3	72	10
Through Vol	64	63	27	79
RT Vol	59	86	7	2
Lane Flow Rate	265	181	136	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.348	0.237	0.196	0.17
Departure Headway (Hd)	4.719	4.712	5.189	5.048
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	756	755	685	704
Service Time	2.788	2.788	3.271	3.131
HCM Lane V/C Ratio	0.351	0.24	0.199	0.172
HCM Control Delay	10.3	9.3	9.6	9.2
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.6	0.9	0.7	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	77	33	144	95	30	75	7	119	1061	120	4	98	544	54
Future Volume (veh/h)	77	33	144	95	30	75	7	119	1061	120	4	98	544	54
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	93	40	149	122	38	67		129	1153	92		108	598	47
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	275	77	287	198	136	239		153	2861	228		130	2067	916
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23		0.09	0.60	0.60		0.15	1.00	1.00
Sat Flow, veh/h	1272	338	1258	1178	595	1050		1774	4790	382		1774	3539	1568
Grp Volume(v), veh/h	93	0	189	122	0	105		129	816	429		108	598	47
Grp Sat Flow(s),veh/h/ln	1272	0	1596	1178	0	1645		1774	1695	1782		1774	1770	1568
Q Serve(g_s), s	9.1	0.0	14.5	14.2	0.0	7.4		10.0	17.9	17.9		8.3	0.0	0.0
Cycle Q Clear(g_c), s	16.5	0.0	14.5	28.7	0.0	7.4		10.0	17.9	17.9		8.3	0.0	0.0
Prop In Lane	1.00		0.79	1.00		0.64		1.00		0.21		1.00		1.00
Lane Grp Cap(c), veh/h	275	0	364	198	0	375		153	2025	1064		130	2067	916
V/C Ratio(X)	0.34	0.00	0.52	0.62	0.00	0.28		0.84	0.40	0.40		0.83	0.29	0.05
Avail Cap(c_a), veh/h	385	0	503	300	0	518		400	2025	1064		400	2067	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.99	0.99	0.99
Uniform Delay (d), s/veh	51.3	0.0	47.3	59.9	0.0	44.6		63.0	15.0	15.0		58.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.9	2.3	0.0	0.3		4.7	0.6	1.1		5.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	6.5	4.7	0.0	3.4		5.1	8.4	9.0		4.2	0.1	0.0
LnGrp Delay(d),s/veh	51.9	0.0	48.2	62.2	0.0	44.8		67.7	15.5	16.1		64.0	0.3	0.1
LnGrp LOS	D		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		282			227				1374				753	
Approach Delay, s/veh		49.4			54.2				20.6				9.5	
Approach LOS		D			D				C				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	88.5		36.8	16.5	86.7		36.8
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	10.3	19.9		18.5	12.0	2.0		30.7
Green Ext Time (p_c), s	0.1	11.9		1.2	0.1	5.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	23.4
HCM 2010 LOS	C

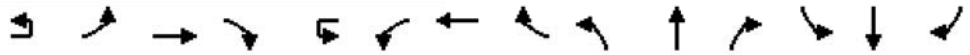
Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	205	880	76	372	826	123	15	156	415	377	2	184	281	299
Future Volume (veh/h)	5	205	880	76	372	826	123	15	156	415	377	2	184	281	299
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.97
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		214	917	56	396	879	100		188	500	454		202	309	232
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		415	1088	66	455	1017	116		214	956	637		228	535	390
Arrive On Green		0.12	0.32	0.32	0.13	0.32	0.32		0.12	0.27	0.27		0.13	0.28	0.28
Sat Flow, veh/h		3442	3376	206	3442	3189	363		1774	3539	1583		1774	1924	1402
Grp Volume(v), veh/h		214	481	492	396	488	491		188	500	454		202	283	258
Grp Sat Flow(s),veh/h/ln		1721	1770	1813	1721	1770	1782		1774	1770	1583		1774	1770	1556
Q Serve(g_s), s		7.9	34.0	34.0	15.2	34.9	34.9		14.0	16.2	32.4		15.1	18.5	19.3
Cycle Q Clear(g_c), s		7.9	34.0	34.0	15.2	34.9	34.9		14.0	16.2	32.4		15.1	18.5	19.3
Prop In Lane		1.00		0.11	1.00		0.20		1.00		1.00		1.00		0.90
Lane Grp Cap(c), veh/h		415	570	584	455	565	568		214	956	637		228	492	433
V/C Ratio(X)		0.52	0.84	0.84	0.87	0.86	0.86		0.88	0.52	0.71		0.89	0.58	0.60
Avail Cap(c_a), veh/h		767	789	808	767	789	794		395	1051	680		395	526	462
HCM Platoon Ratio		1.00	1.00	1.00	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		55.5	42.5	42.5	57.3	43.1	43.1		58.2	41.8	33.7		57.7	41.8	42.1
Incr Delay (d2), s/veh		0.4	6.5	6.4	2.8	7.3	7.2		4.5	0.3	3.0		5.6	1.2	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		3.8	17.6	18.0	7.4	18.2	18.3		7.2	8.0	14.6		7.8	9.2	8.5
LnGrp Delay(d),s/veh		55.9	49.0	48.9	60.1	50.4	50.3		62.8	42.1	36.7		63.3	43.0	43.7
LnGrp LOS		E	D	D	E	D	D		E	D	D		E	D	D
Approach Vol, veh/h			1187			1375				1142				743	
Approach Delay, s/veh			50.2			53.2				43.3				48.7	
Approach LOS			D			D				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	49.1	20.6	42.7	21.9	49.4	21.7	41.7
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	17.2	36.0	16.0	21.3	9.9	36.9	17.1	34.4
Green Ext Time (p_c), s	0.6	7.4	0.2	2.7	0.3	6.1	0.2	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.1
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	43	1138	187	3	50	1006	97	264	104	83	66	117	98
Future Volume (veh/h)	13	43	1138	187	3	50	1006	97	264	104	83	66	117	98
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		49	1293	182		62	1242	85	388	153	85	84	148	99
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		63	1112	155		79	1233	84	274	108	60	89	156	104
Arrive On Green		0.04	0.36	0.36		0.01	0.12	0.12	0.25	0.25	0.25	0.20	0.20	0.20
Sat Flow, veh/h		1774	3106	434		1774	3356	229	1094	431	240	441	778	520
Grp Volume(v), veh/h		49	732	743		62	654	673	626	0	0	331	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1770		1774	1770	1816	1765	0	0	1739	0	0
Q Serve(g_s), s		3.8	50.1	50.1		4.9	51.4	51.4	35.1	0.0	0.0	26.3	0.0	0.0
Cycle Q Clear(g_c), s		3.8	50.1	50.1		4.9	51.4	51.4	35.1	0.0	0.0	26.3	0.0	0.0
Prop In Lane		1.00		0.25		1.00		0.13	0.62		0.14	0.25		0.30
Lane Grp Cap(c), veh/h		63	634	634		79	650	667	443	0	0	349	0	0
V/C Ratio(X)		0.78	1.16	1.17		0.78	1.01	1.01	1.41	0.00	0.00	0.95	0.00	0.00
Avail Cap(c_a), veh/h		122	634	634		122	650	667	443	0	0	349	0	0
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)		1.00	1.00	1.00		0.67	0.67	0.67	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.0	44.9	44.9		68.3	61.5	61.5	52.5	0.0	0.0	55.2	0.0	0.0
Incr Delay (d2), s/veh		7.4	87.1	93.2		5.0	30.3	30.8	199.4	0.0	0.0	34.5	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.0	39.8	40.9		2.5	30.7	31.6	41.6	0.0	0.0	15.9	0.0	0.0
LnGrp Delay(d),s/veh		74.4	132.1	138.1		73.3	91.8	92.3	251.9	0.0	0.0	89.7	0.0	0.0
LnGrp LOS		E	F	F		E	F	F	F			F		
Approach Vol, veh/h			1524				1389			626			331	
Approach Delay, s/veh			133.2				91.2			251.9			89.7	
Approach LOS			F				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.7	56.3		33.0	9.4	57.6		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	6.9	52.1		28.3	5.8	53.4		37.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	133.6
HCM 2010 LOS	F

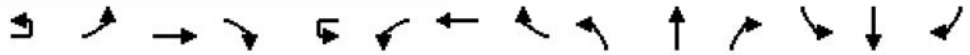
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	177	901	265	5	212	712	284	2	287	809	164	5	235	451	169
Future Volume (veh/h)	3	177	901	265	5	212	712	284	2	287	809	164	5	235	451	169
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		199	1012	210		244	818	237		305	861	153		270	518	137
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		399	1335	276		293	1214	349		351	994	176		315	774	337
Arrive On Green		0.30	0.61	0.61		0.09	0.31	0.31		0.20	0.46	0.46		0.18	0.44	0.44
Sat Flow, veh/h		1774	2912	603		3442	3897	1120		3442	4337	766		3442	3539	1541
Grp Volume(v), veh/h		199	614	608		244	711	344		305	672	342		270	518	137
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1627		1721	1695	1713		1721	1770	1541
Q Serve(g_s), s		12.9	35.2	35.5		9.8	25.6	25.9		12.0	24.9	25.2		10.6	16.3	5.3
Cycle Q Clear(g_c), s		12.9	35.2	35.5		9.8	25.6	25.9		12.0	24.9	25.2		10.6	16.3	5.3
Prop In Lane		1.00		0.35		1.00		0.69		1.00		0.45		1.00		1.00
Lane Grp Cap(c), veh/h		399	811	800		293	1056	507		351	777	393		315	774	337
V/C Ratio(X)		0.50	0.76	0.76		0.83	0.67	0.68		0.87	0.86	0.87		0.86	0.67	0.41
Avail Cap(c_a), veh/h		399	811	800		383	1056	507		457	826	417		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		1.00	1.00	1.00		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.82	0.82	0.82		1.00	1.00	1.00
Uniform Delay (d), s/veh		42.5	21.7	21.7		63.0	42.0	42.1		54.8	36.0	36.0		56.3	35.4	12.7
Incr Delay (d2), s/veh		0.0	0.6	0.6		8.2	3.1	6.6		9.4	8.2	15.6		13.1	2.6	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		6.3	17.2	17.0		5.0	12.4	12.6		6.1	12.4	13.5		5.6	8.2	3.1
LnGrp Delay(d),s/veh		42.6	22.3	22.4		71.3	45.1	48.7		64.2	44.2	51.6		69.4	38.0	14.0
LnGrp LOS		D	C	C		E	D	D		E	D	D		E	D	B
Approach Vol, veh/h			1421				1299				1319				925	
Approach Delay, s/veh			25.2				51.0				50.7				43.6	
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	16.3	69.5	18.7	35.5	36.8	49.0	17.2	37.0
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	11.8	37.5	14.0	18.3	14.9	27.9	12.6	27.2
Green Ext Time (p_c), s	0.2	8.2	0.3	4.7	0.2	5.7	0.2	4.6

Intersection Summary	
HCM 2010 Ctrl Delay	42.1
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	11	78	1152	43	5	54	1178	165	31	21	47	108	23	52
Future Volume (veh/h)	11	78	1152	43	5	54	1178	165	31	21	47	108	23	52
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	0.97		0.98	0.99		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		83	1226	33		57	1253	123	37	25	39	150	32	53
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.94	0.94	0.94		0.94	0.94	0.94	0.84	0.84	0.84	0.72	0.72	0.72
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		128	3321	89		94	3020	296	247	202	168	312	282	234
Arrive On Green		0.01	0.22	0.22		0.05	1.00	1.00	0.03	0.11	0.11	0.08	0.15	0.15
Sat Flow, veh/h		3442	5091	137		3442	4701	461	1774	1863	1553	1774	1863	1549
Grp Volume(v), veh/h		83	816	443		57	904	472	37	25	39	150	32	53
Grp Sat Flow(s),veh/h/ln		1721	1695	1838		1721	1695	1772	1774	1863	1553	1774	1863	1549
Q Serve(g_s), s		3.4	28.7	28.7		2.3	0.0	0.0	2.6	1.7	3.2	10.4	2.1	4.2
Cycle Q Clear(g_c), s		3.4	28.7	28.7		2.3	0.0	0.0	2.6	1.7	3.2	10.4	2.1	4.2
Prop In Lane		1.00		0.07		1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		128	2211	1199		94	2178	1139	247	202	168	312	282	234
V/C Ratio(X)		0.65	0.37	0.37		0.61	0.41	0.41	0.15	0.12	0.23	0.48	0.11	0.23
Avail Cap(c_a), veh/h		310	2211	1199		310	2178	1139	323	547	456	312	547	455
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)		0.35	0.35	0.35		0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		68.2	30.4	30.4		65.4	0.0	0.0	52.8	56.4	57.1	49.2	51.3	52.2
Incr Delay (d2), s/veh		0.7	0.2	0.3		2.0	0.5	1.0	0.1	0.1	0.3	0.4	0.1	0.2
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	13.6	14.8		1.1	0.2	0.3	1.3	0.9	1.4	5.1	1.1	1.8
LnGrp Delay(d),s/veh		69.0	30.5	30.7		67.4	0.5	1.0	52.9	56.5	57.4	49.6	51.4	52.4
LnGrp LOS		E	C	C		E	A	A	D	E	E	D	D	D
Approach Vol, veh/h			1342				1433			101			235	
Approach Delay, s/veh			33.0				3.3			55.5			50.5	
Approach LOS			C				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	8.2	96.7	9.0	26.1	9.6	95.4	15.0	20.0
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	12.6	* 57	10.6	41.1	12.6	56.6	10.6	41.1
Max Q Clear Time (g_c+I1), s	4.4	30.7	4.6	6.2	5.4	2.0	12.4	5.2
Green Ext Time (p_c), s	0.0	15.7	0.0	0.2	0.1	17.2	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	21.4
HCM 2010 LOS	C

Notes



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	16	34	1272	18	276	1326	110	65	132	446	143	144	113
Future Volume (veh/h)	16	34	1272	18	276	1326	110	65	132	446	143	144	113
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		37	1383	15	291	1396	82	76	155	460	161	162	89
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.92	0.92	0.92	0.95	0.95	0.95	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		48	1396	15	658	3040	179	119	290	823	210	644	277
Arrive On Green		0.01	0.09	0.09	0.74	1.00	1.00	0.01	0.05	0.05	0.06	0.18	0.18
Sat Flow, veh/h		1774	5184	56	1774	4904	288	3442	1863	1511	3442	3539	1522
Grp Volume(v), veh/h		37	904	494	291	965	513	76	155	460	161	162	89
Grp Sat Flow(s),veh/h/ln		1774	1695	1850	1774	1695	1801	1721	1863	1511	1721	1770	1522
Q Serve(g_s), s		2.9	37.3	37.3	8.8	0.0	0.0	3.1	11.4	4.9	6.5	5.5	7.1
Cycle Q Clear(g_c), s		2.9	37.3	37.3	8.8	0.0	0.0	3.1	11.4	4.9	6.5	5.5	7.1
Prop In Lane		1.00		0.03	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		48	913	498	658	2102	1117	119	290	823	210	644	277
V/C Ratio(X)		0.78	0.99	0.99	0.44	0.46	0.46	0.64	0.53	0.56	0.77	0.25	0.32
Avail Cap(c_a), veh/h		172	913	498	658	2102	1117	236	520	1010	334	1090	468
HCM Platoon Ratio		0.33	0.33	0.33	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)		0.92	0.92	0.92	0.68	0.68	0.68	0.26	0.26	0.26	1.00	1.00	1.00
Uniform Delay (d), s/veh		69.0	63.6	63.6	12.5	0.0	0.0	68.3	61.5	11.9	64.7	49.1	49.7
Incr Delay (d2), s/veh		9.0	26.5	36.5	0.1	0.5	0.9	0.6	0.2	0.1	2.2	0.1	0.2
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	20.9	24.2	4.2	0.1	0.3	1.5	5.9	9.1	3.1	2.7	3.0
LnGrp Delay(d),s/veh		77.9	90.1	100.2	12.6	0.5	0.9	68.9	61.6	12.0	66.9	49.2	50.0
LnGrp LOS		E	F	F	B	A	A	E	E	B	E	D	D
Approach Vol, veh/h			1435			1769			691			412	
Approach Delay, s/veh			93.2			2.6			29.4			56.3	
Approach LOS			F			A			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	57.4	43.0	9.2	30.4	8.2	92.2	13.0	26.7
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	30.6	* 38	9.6	43.1	13.6	54.6	13.6	39.1
Max Q Clear Time (g_c+I1), s	10.8	39.3	5.1	9.1	4.9	2.0	8.5	13.4
Green Ext Time (p_c), s	0.4	0.0	0.0	0.8	0.0	33.8	0.1	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	42.2
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	5	23	1853	20	18	75	1599	27	23	43	171	61	33	57
Future Volume (veh/h)	5	23	1853	20	18	75	1599	27	23	43	171	61	33	57
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	1.00		0.95	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		25	2036	15		83	1777	21	30	57	161	80	43	53
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.91	0.91	0.91		0.90	0.90	0.90	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		32	2595	19		103	2789	33	36	69	194	92	49	61
Arrive On Green		0.04	1.00	1.00		0.12	1.00	1.00	0.19	0.19	0.19	0.12	0.12	0.12
Sat Flow, veh/h		1774	5208	38		1774	5180	61	195	370	1045	776	417	514
Grp Volume(v), veh/h		25	1325	726		83	1163	635	248	0	0	176	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1856		1774	1695	1851	1609	0	0	1708	0	0
Q Serve(g_s), s		2.0	0.8	0.8		6.4	0.0	0.0	20.8	0.0	0.0	14.2	0.0	0.0
Cycle Q Clear(g_c), s		2.0	0.8	0.8		6.4	0.0	0.0	20.8	0.0	0.0	14.2	0.0	0.0
Prop In Lane		1.00		0.02		1.00		0.03	0.12		0.65	0.45		0.30
Lane Grp Cap(c), veh/h		32	1689	925		103	1825	996	299	0	0	202	0	0
V/C Ratio(X)		0.79	0.78	0.78		0.81	0.64	0.64	0.83	0.00	0.00	0.87	0.00	0.00
Avail Cap(c_a), veh/h		134	1689	925		185	1825	996	404	0	0	294	0	0
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)		0.66	0.66	0.66		0.82	0.82	0.82	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.3	0.1	0.1		61.2	0.0	0.0	54.9	0.0	0.0	60.7	0.0	0.0
Incr Delay (d2), s/veh		10.4	2.5	4.5		4.6	1.4	2.6	7.7	0.0	0.0	13.0	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		1.0	0.7	1.2		3.3	0.4	0.7	9.9	0.0	0.0	7.4	0.0	0.0
LnGrp Delay(d),s/veh		77.7	2.6	4.6		65.8	1.4	2.6	62.6	0.0	0.0	73.7	0.0	0.0
LnGrp LOS		E	A	A		E	A	A	E			E		
Approach Vol, veh/h			2076				1881			248			176	
Approach Delay, s/veh			4.2				4.6			62.6			73.7	
Approach LOS			A				A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.5	75.2		30.9	6.9	80.8		21.4
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	14.6	* 47		35.1	10.6	50.6		24.1
Max Q Clear Time (g_c+I1), s	10.4	2.8		22.8	4.0	2.0		16.2
Green Ext Time (p_c), s	0.0	35.8		0.8	0.0	26.7		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1991	180	442	1528	269	128	91	665	260	155	5
Future Volume (veh/h)	2	1991	180	442	1528	269	128	91	665	260	155	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2053	149	480	1661	204	126	134	672	289	172	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1828	132	350	2917	889	255	267	1064	293	299	7
Arrive On Green	0.00	0.76	0.76	0.20	0.57	0.57	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4829	348	1774	5085	1549	1774	1863	3066	1774	1812	42
Grp Volume(v), veh/h	2	1437	765	480	1661	204	126	134	672	289	0	176
Grp Sat Flow(s),veh/h/ln	1774	1695	1787	1774	1695	1549	1774	1863	1533	1774	0	1854
Q Serve(g_s), s	0.2	53.0	53.0	27.6	29.0	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Cycle Q Clear(g_c), s	0.2	53.0	53.0	27.6	29.0	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	4	1283	677	350	2917	889	255	267	1064	293	0	306
V/C Ratio(X)	0.53	1.12	1.13	1.37	0.57	0.23	0.49	0.50	0.63	0.99	0.00	0.58
Avail Cap(c_a), veh/h	274	1283	677	350	2917	889	255	267	1064	293	0	306
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)	0.38	0.38	0.38	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.6	17.0	17.0	56.2	18.9	14.7	55.3	55.3	39.0	58.3	0.0	53.9
Incr Delay (d2), s/veh	14.9	58.3	66.7	184.8	0.8	0.6	1.1	1.1	1.1	48.9	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	33.9	37.3	31.5	13.8	4.0	4.6	4.9	11.1	15.1	0.0	6.5
LnGrp Delay(d),s/veh	84.6	75.3	83.7	241.0	19.7	15.3	56.4	56.4	40.0	107.2	0.0	55.7
LnGrp LOS	F	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2204			2345			932			465	
Approach Delay, s/veh		78.2			64.6			44.6			87.7	
Approach LOS		E			E			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.0	58.5		25.0	4.7	85.8		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	2.2	31.0		24.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	68.3
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	1648	0	0	0	0	0	1	561
Future Volume (veh/h)	0	0	0	0	1648	0	0	0	0	0	1	561
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	1939	0				0	1	652
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.85	0.85	0.85				0.76	0.76	0.76
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	2720	847				0	504	753
Arrive On Green				0.00	0.53	0.00				0.00	0.27	0.27
Sat Flow, veh/h				0	5253	1583				0	1863	2784
Grp Volume(v), veh/h				0	1939	0				0	1	652
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1392
Q Serve(g_s), s				0.0	16.0	0.0				0.0	0.0	12.5
Cycle Q Clear(g_c), s				0.0	16.0	0.0				0.0	0.0	12.5
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	2720	847				0	504	753
V/C Ratio(X)				0.00	0.71	0.00				0.00	0.00	0.87
Avail Cap(c_a), veh/h				0	4543	1415				0	1165	1741
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	9.8	0.0				0.0	14.9	19.5
Incr Delay (d2), s/veh				0.0	0.1	0.0				0.0	0.0	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	7.4	0.0				0.0	0.0	4.9
LnGrp Delay(d),s/veh				0.0	9.9	0.0				0.0	14.9	20.7
LnGrp LOS					A						B	C
Approach Vol, veh/h					1939						653	
Approach Delay, s/veh					9.9						20.7	
Approach LOS					A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				20.2		35.7		
Change Period (Y+Rc), s				5.1		5.8		
Max Green Setting (Gmax), s				35.0		50.0		
Max Q Clear Time (g_c+I1), s				14.5		18.0		
Green Ext Time (p_c), s				0.6		11.9		

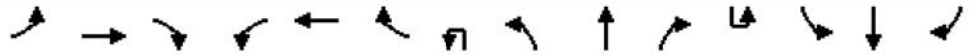
Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱					↑	↱↱			
Traffic Volume (veh/h)	0	2105	392	0	0	0	0	1	367	0	0	0
Future Volume (veh/h)	0	2105	392	0	0	0	0	1	367	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	2313	0				0	1	339			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.91	0.91	0.91				0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	3220	1003				0	308	450			
Arrive On Green	0.00	0.63	0.00				0.00	0.17	0.17			
Sat Flow, veh/h	0	5253	1583				0	1863	2725			
Grp Volume(v), veh/h	0	2313	0				0	1	339			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1362			
Q Serve(g_s), s	0.0	16.5	0.0				0.0	0.0	6.4			
Cycle Q Clear(g_c), s	0.0	16.5	0.0				0.0	0.0	6.4			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	3220	1003				0	308	450			
V/C Ratio(X)	0.00	0.72	0.00				0.00	0.00	0.75			
Avail Cap(c_a), veh/h	0	4703	1464				0	599	877			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	6.7	0.0				0.0	18.9	21.5			
Incr Delay (d2), s/veh	0.0	0.1	0.0				0.0	0.0	1.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	7.5	0.0				0.0	0.0	2.5			
LnGrp Delay(d),s/veh	0.0	6.8	0.0				0.0	18.9	22.5			
LnGrp LOS		A						B	C			
Approach Vol, veh/h		2313						340				
Approach Delay, s/veh		6.8						22.5				
Approach LOS		A						C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		40.0						14.0
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						17.4
Max Q Clear Time (g_c+I1), s		18.5						8.4
Green Ext Time (p_c), s		15.7						0.6

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	267	476	83	123	380	124	2	86	922	203	4	33	600	276
Future Volume (veh/h)	267	476	83	123	380	124	2	86	922	203	4	33	600	276
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.96		1.00		0.96		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	330	588	77	141	437	100		91	981	153		39	706	279
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87		0.94	0.94	0.94		0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	319	606	82	165	544	299		112	1471	440		159	1144	508
Arrive On Green	0.28	0.28	0.28	0.20	0.20	0.20		0.06	0.29	0.29		0.09	0.32	0.32
Sat Flow, veh/h	1142	2171	293	836	2754	1513		1774	5085	1520		1774	3539	1572
Grp Volume(v), veh/h	522	0	473	307	271	100		91	981	153		39	706	279
Grp Sat Flow(s),veh/h/ln	1806	0	1800	1821	1770	1513		1774	1695	1520		1774	1770	1572
Q Serve(g_s), s	39.1	0.0	36.0	22.8	20.3	7.9		7.1	23.8	11.1		2.9	23.6	20.4
Cycle Q Clear(g_c), s	39.1	0.0	36.0	22.8	20.3	7.9		7.1	23.8	11.1		2.9	23.6	20.4
Prop In Lane	0.63		0.16	0.46		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	504	0	503	360	350	299		112	1471	440		159	1144	508
V/C Ratio(X)	1.03	0.00	0.94	0.85	0.77	0.33		0.81	0.67	0.35		0.25	0.62	0.55
Avail Cap(c_a), veh/h	504	0	503	405	393	336		185	1471	440		159	1144	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.78	0.78	0.78		1.00	1.00	1.00		0.69	0.69	0.69
Uniform Delay (d), s/veh	50.5	0.0	49.3	54.2	53.2	48.2		64.7	43.8	39.3		59.3	40.0	39.0
Incr Delay (d2), s/veh	49.3	0.0	25.9	10.9	5.6	0.2		5.2	2.4	2.2		0.2	1.7	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.4	0.0	21.5	12.5	10.5	3.3		3.6	11.5	4.9		1.4	11.8	9.3
LnGrp Delay(d),s/veh	99.7	0.0	75.2	65.1	58.8	48.4		69.9	46.2	41.5		59.5	41.8	41.9
LnGrp LOS	F		E	E	E	D		E	D	D		E	D	D
Approach Vol, veh/h		995			678				1225				1024	
Approach Delay, s/veh		88.1			60.1				47.4				42.5	
Approach LOS		F			E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.4	46.0		44.0	13.3	50.2		32.6
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	9.6	* 41		39.1	14.6	36.1		31.1
Max Q Clear Time (g_c+I1), s	14.9	25.8		41.1	9.1	25.6		24.8
Green Ext Time (p_c), s	0.0	7.6		0.0	0.0	8.6		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	58.6
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	118	14	51	70	36	127
Future Vol, veh/h	118	14	51	70	36	127
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	128	15	55	76	39	138

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	143	0	322	136
Stage 1	-	-	-	-	136	-
Stage 2	-	-	-	-	186	-
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	-	-	1440	-	672	913
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	846	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1440	-	645	913
Mov Cap-2 Maneuver	-	-	-	-	645	-
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	846	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.2	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	836	-	-	1440	-
HCM Lane V/C Ratio	0.212	-	-	0.038	-
HCM Control Delay (s)	10.5	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	264	15	186	737	105	262	418	106	2
Future Volume (veh/h)	11	142	662	264	15	186	737	105	262	418	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	210		200	792	79	279	445	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1146	327		255	1419	142	336	725	128	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.10	0.24	0.24	
Sat Flow, veh/h		3442	2696	769		3442	3245	324	3442	2982	525	
Grp Volume(v), veh/h		158	483	463		200	432	439	279	263	261	
Grp Sat Flow(s),veh/h/ln		1721	1770	1696		1721	1770	1798	1721	1770	1737	
Q Serve(g_s), s		5.7	27.2	27.2		7.2	22.9	22.9	10.0	16.6	16.9	
Cycle Q Clear(g_c), s		5.7	27.2	27.2		7.2	22.9	22.9	10.0	16.6	16.9	
Prop In Lane		1.00		0.45		1.00		0.18	1.00		0.30	
Lane Grp Cap(c), veh/h		213	752	721		255	774	787	336	430	422	
V/C Ratio(X)		0.74	0.64	0.64		0.78	0.56	0.56	0.83	0.61	0.62	
Avail Cap(c_a), veh/h		399	752	721		399	774	787	481	479	470	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.6	28.6		57.3	26.4	26.4	55.8	42.4	42.5	
Incr Delay (d2), s/veh		1.9	4.2	4.4		2.1	2.9	2.9	5.4	1.1	1.2	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		2.8	14.2	13.6		3.5	11.8	12.0	5.0	8.2	8.3	
LnGrp Delay(d),s/veh		60.0	32.8	33.0		59.4	29.3	29.2	61.3	43.4	43.7	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1104				1071			803		
Approach Delay, s/veh			36.8				34.9			49.7		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.6	16.7	37.0	12.2	60.1	18.1	35.5
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	29.2	12.0	34.1	7.7	24.9	13.7	18.9
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	64.5
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	916	101
Future Volume (veh/h)	160	916	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	964	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	846	65
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3320	255
Grp Volume(v), veh/h	168	514	524
Grp Sat Flow(s),veh/h/ln	1774	1770	1805
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	451	460
V/C Ratio(X)	0.87	1.14	1.14
Avail Cap(c_a), veh/h	220	451	460
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	86.6	86.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	26.5	27.0
LnGrp Delay(d),s/veh	79.8	133.5	133.2
LnGrp LOS	E	F	F
Approach Vol, veh/h		1206	
Approach Delay, s/veh		125.9	
Approach LOS		F	
Timer			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	19	7	81	14	1	3	7	70	792	3	1	8	1343	20
Future Volume (veh/h)	19	7	81	14	1	3	7	70	792	3	1	8	1343	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)	0.98		0.94	0.98		0.97		1.00		0.99		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	28	10	82	22	2	3		74	834	2		9	1429	15
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.69	0.69	0.69	0.64	0.64	0.64		0.95	0.95	0.95		0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	65	30	129	162	16	16		93	2731	7		15	2547	27
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12		0.11	1.00	1.00		0.01	0.71	0.71
Sat Flow, veh/h	244	238	1041	889	128	127		1774	3622	9		1774	3588	38
Grp Volume(v), veh/h	120	0	0	27	0	0		74	407	429		9	705	739
Grp Sat Flow(s),veh/h/ln	1523	0	0	1144	0	0		1774	1770	1861		1774	1770	1856
Q Serve(g_s), s	4.6	0.0	0.0	0.0	0.0	0.0		5.1	0.0	0.0		0.6	24.2	24.2
Cycle Q Clear(g_c), s	9.3	0.0	0.0	2.7	0.0	0.0		5.1	0.0	0.0		0.6	24.2	24.2
Prop In Lane	0.23		0.68	0.81		0.11		1.00		0.00		1.00		0.02
Lane Grp Cap(c), veh/h	224	0	0	194	0	0		93	1334	1403		15	1256	1317
V/C Ratio(X)	0.54	0.00	0.00	0.14	0.00	0.00		0.79	0.31	0.31		0.59	0.56	0.56
Avail Cap(c_a), veh/h	384	0	0	335	0	0		234	1334	1403		191	1256	1317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.94	0.94	0.94		0.09	0.09	0.09
Uniform Delay (d), s/veh	52.4	0.0	0.0	49.4	0.0	0.0		55.7	0.0	0.0		62.2	8.8	8.8
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.1	0.0	0.0		5.2	0.6	0.5		1.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	0.9	0.0	0.0		2.6	0.2	0.2		0.3	11.8	12.4
LnGrp Delay(d),s/veh	53.1	0.0	0.0	49.5	0.0	0.0		60.9	0.6	0.5		63.5	9.0	9.0
LnGrp LOS	D			D				E	A	A		E	A	A
Approach Vol, veh/h		120			27				910				1453	
Approach Delay, s/veh		53.1			49.5				5.5				9.3	
Approach LOS		D			D				A				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	100.0		20.5	11.0	94.5		20.5
Change Period (Y+Rc), s	4.4	5.0		4.9	4.4	* 5		4.9
Max Green Setting (Gmax), s	13.6	69.0		29.1	16.6	* 66		29.1
Max Q Clear Time (g_c+I1), s	2.6	2.0		11.3	7.1	26.2		4.7
Green Ext Time (p_c), s	0.0	15.2		0.4	0.0	8.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Notes



Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	46	59	815	52	1	73	1340
Future Volume (veh/h)	46	59	815	52	1	73	1340
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.94		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	52	46	867	39		75	1381
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.89	0.89	0.94	0.94		0.97	0.97
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	86	76	2451	110		95	2856
Arrive On Green	0.10	0.10	1.00	1.00		0.11	1.00
Sat Flow, veh/h	856	757	3542	155		1774	3632
Grp Volume(v), veh/h	99	0	445	461		75	1381
Grp Sat Flow(s),veh/h/ln	1629	0	1770	1835		1774	1770
Q Serve(g_s), s	7.3	0.0	0.0	0.0		5.2	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0	0.0		5.2	0.0
Prop In Lane	0.53	0.46		0.08		1.00	
Lane Grp Cap(c), veh/h	163	0	1258	1304		95	2856
V/C Ratio(X)	0.61	0.00	0.35	0.35		0.79	0.48
Avail Cap(c_a), veh/h	312	0	1258	1304		248	2856
HCM Platoon Ratio	1.00	1.00	2.00	2.00		2.00	2.00
Upstream Filter(I)	1.00	0.00	0.96	0.96		0.81	0.81
Uniform Delay (d), s/veh	54.3	0.0	0.0	0.0		55.6	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.7	0.7		4.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.3	0.3		2.7	0.2
LnGrp Delay(d),s/veh	55.6	0.0	0.7	0.7		60.1	0.5
LnGrp LOS	E		A	A		E	A
Approach Vol, veh/h	99		906				1456
Approach Delay, s/veh	55.6		0.7				3.5
Approach LOS	E		A				A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.1	95.3				107.5		18.5
Change Period (Y+Rc), s	5.4	* 5.8				5.8		5.9
Max Green Setting (Gmax), s	7.6	* 67				90.2		24.1
Max Q Clear Time (g_c+I1), s	9.3	2.0				2.0		9.3
Green Ext Time (p_c), s	0.1	13.2				30.6		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	4.6
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	89	6	43	15	5	16	3	19	755	15	12	1238	129
Future Volume (veh/h)	89	6	43	15	5	16	3	19	755	15	12	1238	129
Number	7	4	14	3	8	18		1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	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	1900	1863	1900	1900	1863	1900		1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	100	7	33	23	8	17		20	803	11	13	1331	97
Adj No. of Lanes	0	1	0	0	1	0		1	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.64	0.64	0.64		0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h	170	10	41	115	45	65		28	2696	37	21	2508	182
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11		0.02	0.75	0.75	0.02	1.00	1.00
Sat Flow, veh/h	1059	91	355	640	391	565		1774	3575	49	1774	3346	243
Grp Volume(v), veh/h	140	0	0	48	0	0		20	398	416	13	702	726
Grp Sat Flow(s),veh/h/ln	1504	0	0	1596	0	0		1774	1770	1854	1774	1770	1819
Q Serve(g_s), s	8.0	0.0	0.0	0.0	0.0	0.0		1.4	9.0	9.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0	3.3	0.0	0.0		1.4	9.0	9.0	0.9	0.0	0.0
Prop In Lane	0.71		0.24	0.48		0.35		1.00		0.03	1.00		0.13
Lane Grp Cap(c), veh/h	221	0	0	225	0	0		28	1335	1398	21	1327	1364
V/C Ratio(X)	0.63	0.00	0.00	0.21	0.00	0.00		0.71	0.30	0.30	0.63	0.53	0.53
Avail Cap(c_a), veh/h	421	0	0	434	0	0		234	1335	1398	234	1327	1364
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.90	0.90	0.90	0.87	0.87	0.87
Uniform Delay (d), s/veh	54.1	0.0	0.0	50.8	0.0	0.0		61.7	4.9	4.9	61.3	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.2	0.0	0.0		10.2	0.5	0.5	9.8	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.0	1.5	0.0	0.0		0.8	4.5	4.7	0.5	0.5	0.5
LnGrp Delay(d),s/veh	55.3	0.0	0.0	51.0	0.0	0.0		71.9	5.4	5.4	71.1	1.3	1.3
LnGrp LOS	E			D				E	A	A	E	A	A
Approach Vol, veh/h		140			48				834			1441	
Approach Delay, s/veh		55.3			51.0				7.0			1.9	
Approach LOS		E			D				A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.4	100.3		19.3	5.9	100.8		19.3
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	16.6	* 63		32.1	16.6	62.2		32.1
Max Q Clear Time (g_c+I1), s	13.4	2.0		13.3	2.9	11.0		5.3
Green Ext Time (p_c), s	0.0	22.8		0.4	0.0	8.3		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	7.6
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	31	29	34	252	26	88	9	44	727	274	15	130	1044	46
Future Volume (veh/h)	31	29	34	252	26	88	9	44	727	274	15	130	1044	46
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.96		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	38	36	30	268	28	66		49	808	216		140	1123	34
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94		0.90	0.90	0.90		0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	35	31	13	279	24	532		191	1813	480		164	2188	66
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35		0.04	0.15	0.15		0.09	0.43	0.43
Sat Flow, veh/h	0	88	36	657	69	1517		1774	3981	1055		1774	5071	153
Grp Volume(v), veh/h	104	0	0	296	0	66		49	687	337		140	751	406
Grp Sat Flow(s),veh/h/ln	124	0	0	726	0	1517		1774	1695	1646		1774	1695	1834
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.1		3.8	25.8	26.1		10.9	22.6	22.7
Cycle Q Clear(g_c), s	49.1	0.0	0.0	49.1	0.0	4.1		3.8	25.8	26.1		10.9	22.6	22.7
Prop In Lane	0.37		0.29	0.91		1.00		1.00		0.64		1.00		0.08
Lane Grp Cap(c), veh/h	79	0	0	303	0	532		191	1544	750		164	1463	791
V/C Ratio(X)	1.32	0.00	0.00	0.98	0.00	0.12		0.26	0.44	0.45		0.85	0.51	0.51
Avail Cap(c_a), veh/h	79	0	0	303	0	532		198	1544	750		274	1463	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.33	0.33	0.33		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.93	0.93	0.93		0.78	0.78	0.78
Uniform Delay (d), s/veh	43.8	0.0	0.0	48.9	0.0	30.9		62.0	43.4	43.5		62.6	29.1	29.1
Incr Delay (d2), s/veh	209.4	0.0	0.0	44.7	0.0	0.0		0.2	0.9	1.8		4.8	1.0	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	7.6	0.0	0.0	15.2	0.0	1.7		1.9	12.4	12.3		5.5	10.7	11.8
LnGrp Delay(d),s/veh	253.2	0.0	0.0	93.5	0.0	30.9		62.3	44.2	45.3		67.4	30.1	30.9
LnGrp LOS	F			F		C		E	D	D		E	C	C
Approach Vol, veh/h		104			362				1073				1297	
Approach Delay, s/veh		253.2			82.1				45.4				34.4	
Approach LOS		F			F				D				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.3	68.7		54.0	20.0	66.0		54.0
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	12.6	35.1		49.1	15.6	* 60		49.1
Max Q Clear Time (g_c+I1), s	12.9	28.1		51.1	5.8	24.7		51.1
Green Ext Time (p_c), s	0.1	6.1		0.0	0.0	20.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	52.7
HCM 2010 LOS	D

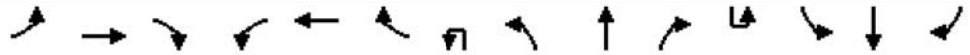
Notes

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	58	41	203	68	12	83	46	90	6	90	2
Future Vol, veh/h	0	58	41	203	68	12	83	46	90	6	90	2
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	88	62	233	78	14	91	51	99	7	111	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	13.1	11.1	10
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	0%	72%	6%
Vol Thru, %	21%	59%	24%	92%
Vol Right, %	41%	41%	4%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	219	99	283	98
LT Vol	83	0	203	6
Through Vol	46	58	68	90
RT Vol	90	41	12	2
Lane Flow Rate	241	150	325	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.351	0.217	0.477	0.189
Departure Headway (Hd)	5.247	5.196	5.28	5.615
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	686	690	683	638
Service Time	3.283	3.235	3.312	3.657
HCM Lane V/C Ratio	0.351	0.217	0.476	0.19
HCM Control Delay	11.1	9.7	13.1	10
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.6	0.8	2.6	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	87	48	186	109	46	129	17	201	797	130	8	176	963	182
Future Volume (veh/h)	87	48	186	109	46	129	17	201	797	130	8	176	963	182
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	93	51	158	118	50	98		221	876	101		185	1014	152
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	250	93	288	194	132	258		467	2513	288		207	1393	604
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24		0.26	0.54	0.54		0.23	0.79	0.79
Sat Flow, veh/h	1224	391	1210	1156	553	1085		1774	4621	530		1774	3539	1534
Grp Volume(v), veh/h	93	0	209	118	0	148		221	642	335		185	1014	152
Grp Sat Flow(s),veh/h/ln	1224	0	1601	1156	0	1638		1774	1695	1761		1774	1770	1534
Q Serve(g_s), s	9.6	0.0	16.0	13.9	0.0	10.6		14.7	14.9	15.0		14.1	20.0	3.7
Cycle Q Clear(g_c), s	20.2	0.0	16.0	30.0	0.0	10.6		14.7	14.9	15.0		14.1	20.0	3.7
Prop In Lane	1.00		0.76	1.00		0.66		1.00		0.30		1.00		1.00
Lane Grp Cap(c), veh/h	250	0	381	194	0	390		467	1844	958		207	1393	604
V/C Ratio(X)	0.37	0.00	0.55	0.61	0.00	0.38		0.47	0.35	0.35		0.89	0.73	0.25
Avail Cap(c_a), veh/h	397	0	573	333	0	586		467	1844	958		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.90	0.90	0.90
Uniform Delay (d), s/veh	53.2	0.0	46.8	59.9	0.0	44.7		43.4	18.0	18.0		52.8	11.2	9.4
Incr Delay (d2), s/veh	0.7	0.0	0.9	2.3	0.0	0.5		0.3	0.5	1.0		4.8	3.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	7.2	4.6	0.0	4.9		7.2	7.1	7.5		7.2	9.9	1.7
LnGrp Delay(d),s/veh	53.8	0.0	47.7	62.2	0.0	45.1		43.7	18.5	19.0		57.6	14.2	10.3
LnGrp LOS	D		D	E		D		D	B	B		E	B	B
Approach Vol, veh/h		302			266				1198				1351	
Approach Delay, s/veh		49.6			52.7				23.3				19.7	
Approach LOS		D			D				C				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	81.0		38.2	41.8	60.0		38.2
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	36.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	16.1	17.0		22.2	16.7	22.0		32.0
Green Ext Time (p_c), s	0.2	7.8		1.4	0.1	11.2		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.8
HCM 2010 LOS	C

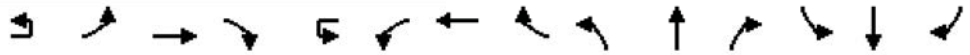
Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	356	1022	68	477	893	120	21	85	310	374	272	656	288
Future Volume (veh/h)	15	356	1022	68	477	893	120	21	85	310	374	272	656	288
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		371	1065	52	507	950	94		90	330	286	316	763	237
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		572	1172	57	552	1050	104		110	672	538	329	829	257
Arrive On Green		0.17	0.34	0.34	0.16	0.32	0.32		0.06	0.19	0.19	0.19	0.31	0.31
Sat Flow, veh/h		3442	3428	167	3442	3241	321		1774	3539	1499	1774	2645	822
Grp Volume(v), veh/h		371	550	567	507	519	525		90	330	286	316	510	490
Grp Sat Flow(s),veh/h/ln		1721	1770	1826	1721	1770	1792		1774	1770	1499	1774	1770	1697
Q Serve(g_s), s		16.3	48.0	48.0	23.5	45.4	45.4		8.1	13.5	24.8	28.6	45.0	45.0
Cycle Q Clear(g_c), s		16.3	48.0	48.0	23.5	45.4	45.4		8.1	13.5	24.8	28.6	45.0	45.0
Prop In Lane		1.00		0.09	1.00		0.18		1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h		572	605	624	552	573	580		110	672	538	329	554	532
V/C Ratio(X)		0.65	0.91	0.91	0.92	0.91	0.91		0.82	0.49	0.53	0.96	0.92	0.92
Avail Cap(c_a), veh/h		638	656	677	638	656	664		329	875	625	329	554	532
HCM Platoon Ratio		1.00	1.00	1.00	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		63.0	50.8	50.8	66.9	52.3	52.3		75.0	58.6	42.2	65.3	53.6	53.6
Incr Delay (d2), s/veh		1.3	16.1	15.7	15.9	14.9	14.8		5.6	0.4	0.6	38.8	20.8	21.4
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		7.9	26.2	27.0	12.4	24.6	24.9		4.1	6.6	10.3	17.6	25.2	24.2
LnGrp Delay(d),s/veh		64.4	66.9	66.6	82.8	67.2	67.1		80.5	58.9	42.8	104.1	74.4	75.0
LnGrp LOS		E	E	E	F	E	E		F	E	D	F	E	E
Approach Vol, veh/h			1488			1551				706			1316	
Approach Delay, s/veh			66.1			72.3				55.1			81.8	
Approach LOS			E			E				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	10.4	61.0	14.4	56.0	32.6	58.8	34.4	36.0
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	25.5	50.0	10.1	47.0	18.3	47.4	30.6	26.8
Green Ext Time (p_c), s	0.5	5.3	0.1	0.0	0.5	5.0	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	70.5
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	66	1274	169	47	76	1313	100	123	58	38	54	136	140
Future Volume (veh/h)	6	66	1274	169	47	76	1313	100	123	58	38	54	136	140
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		69	1341	134		81	1397	75	138	65	31	59	149	114
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		179	1548	154		102	1435	77	154	73	35	57	144	110
Arrive On Green		0.10	0.48	0.48		0.02	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3251	323		1774	3417	183	1041	490	234	318	804	615
Grp Volume(v), veh/h		69	727	748		81	722	750	234	0	0	322	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1805		1774	1770	1830	1765	0	0	1737	0	0
Q Serve(g_s), s		5.1	51.2	51.9		6.4	56.8	57.1	18.2	0.0	0.0	25.1	0.0	0.0
Cycle Q Clear(g_c), s		5.1	51.2	51.9		6.4	56.8	57.1	18.2	0.0	0.0	25.1	0.0	0.0
Prop In Lane		1.00		0.18		1.00		0.10	0.59		0.13	0.18		0.35
Lane Grp Cap(c), veh/h		179	842	859		102	743	769	261	0	0	311	0	0
V/C Ratio(X)		0.39	0.86	0.87		0.80	0.97	0.98	0.90	0.00	0.00	1.03	0.00	0.00
Avail Cap(c_a), veh/h		179	842	859		172	743	769	316	0	0	311	0	0
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)		1.00	1.00	1.00		0.42	0.42	0.42	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		58.9	32.6	32.8		67.9	59.5	59.6	58.6	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh		0.5	11.4	11.7		2.3	15.7	16.1	21.3	0.0	0.0	60.0	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.5	27.5	28.6		3.2	31.1	32.5	10.4	0.0	0.0	17.2	0.0	0.0
LnGrp Delay(d),s/veh		59.4	44.0	44.5		70.1	75.2	75.7	79.9	0.0	0.0	117.5	0.0	0.0
LnGrp LOS		E	D	D		E	E	E	E			F		
Approach Vol, veh/h			1544				1553			234			322	
Approach Delay, s/veh			44.9				75.2			79.9			117.5	
Approach LOS			D				E			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	72.0		30.0	19.4	65.0		25.6
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	8.4	53.9		27.1	7.1	59.1		20.2
Green Ext Time (p_c), s	0.0	2.5		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	66.4
HCM 2010 LOS	E

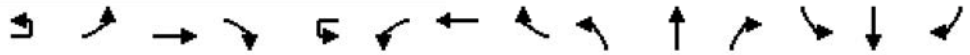
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	272	887	225	8	278	969	329	13	267	539	146	31	395	661	182
Future Volume (veh/h)	3	272	887	225	8	278	969	329	13	267	539	146	31	395	661	182
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		296	964	172		309	1077	279		297	599	130		444	743	144
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		322	1058	189		558	1363	353		346	815	173		498	848	354
Arrive On Green		0.06	0.12	0.12		0.05	0.11	0.11		0.20	0.39	0.39		0.14	0.24	0.24
Sat Flow, veh/h		1774	2981	531		3442	3982	1031		3442	4170	885		3442	3539	1476
Grp Volume(v), veh/h		296	572	564		309	917	439		297	485	244		444	743	144
Grp Sat Flow(s),veh/h/ln		1774	1770	1743		1721	1695	1623		1721	1695	1665		1721	1770	1476
Q Serve(g_s), s		23.2	44.7	44.8		12.3	36.9	36.9		11.7	17.1	17.7		17.7	28.3	11.5
Cycle Q Clear(g_c), s		23.2	44.7	44.8		12.3	36.9	36.9		11.7	17.1	17.7		17.7	28.3	11.5
Prop In Lane		1.00		0.30		1.00		0.64		1.00		0.53		1.00		1.00
Lane Grp Cap(c), veh/h		322	628	619		558	1160	556		346	662	325		498	848	354
V/C Ratio(X)		0.92	0.91	0.91		0.55	0.79	0.79		0.86	0.73	0.75		0.89	0.88	0.41
Avail Cap(c_a), veh/h		362	628	619		558	1160	556		556	753	370		629	862	359
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.09	0.09	0.09		0.84	0.84	0.84		0.93	0.93	0.93		1.00	1.00	1.00
Uniform Delay (d), s/veh		64.8	59.6	59.6		61.3	57.2	57.2		55.0	39.5	39.7		58.8	51.2	44.9
Incr Delay (d2), s/veh		3.5	2.5	2.5		0.6	4.7	9.3		4.0	3.8	8.4		11.1	10.5	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		11.7	22.4	22.1		5.9	18.1	18.0		5.7	8.3	8.9		9.2	15.1	4.8
LnGrp Delay(d),s/veh		68.3	62.1	62.2		61.9	61.9	66.5		59.0	43.3	48.2		69.9	61.7	46.1
LnGrp LOS		E	E	E		E	E	E		E	D	D		E	E	D
Approach Vol, veh/h			1432				1665				1026				1331	
Approach Delay, s/veh			63.4				63.1				49.0				62.8	
Approach LOS			E				E				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	28.1	55.0	18.5	38.4	29.8	53.3	24.6	32.2
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	14.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	14.3	46.8	13.7	30.3	25.2	38.9	19.7	19.7
Green Ext Time (p_c), s	0.0	1.9	0.4	2.4	0.2	0.0	0.5	5.2

Intersection Summary	
HCM 2010 Ctrl Delay	60.4
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	7	137	1095	86	30	143	1359	140	119	43	119	229	68	220
Future Volume (veh/h)	7	137	1095	86	30	143	1359	140	119	43	119	229	68	220
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.98	0.98		0.94	0.97		0.97
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		149	1190	65		146	1387	100	132	48	92	260	77	180
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.92	0.92	0.92		0.98	0.98	0.98	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		196	2566	140		193	2513	181	377	380	305	419	400	329
Arrive On Green		0.11	1.00	1.00		0.11	1.00	1.00	0.07	0.20	0.20	0.08	0.21	0.21
Sat Flow, veh/h		3442	4931	269		3442	4836	349	1774	1863	1495	1774	1863	1530
Grp Volume(v), veh/h		149	818	437		146	972	515	132	48	92	260	77	180
Grp Sat Flow(s),veh/h/ln		1721	1695	1810		1721	1695	1795	1774	1863	1495	1774	1863	1530
Q Serve(g_s), s		5.9	0.0	0.0		5.8	0.0	0.0	8.1	2.9	7.3	11.6	4.7	14.7
Cycle Q Clear(g_c), s		5.9	0.0	0.0		5.8	0.0	0.0	8.1	2.9	7.3	11.6	4.7	14.7
Prop In Lane		1.00		0.15		1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		196	1764	942		193	1761	933	377	380	305	419	400	329
V/C Ratio(X)		0.76	0.46	0.46		0.76	0.55	0.55	0.35	0.13	0.30	0.62	0.19	0.55
Avail Cap(c_a), veh/h		334	1764	942		334	1761	933	396	573	460	419	573	471
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)		0.36	0.36	0.36		0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		61.1	0.0	0.0		61.2	0.0	0.0	39.6	45.5	47.2	43.0	45.0	48.9
Incr Delay (d2), s/veh		0.8	0.3	0.6		1.4	0.8	1.4	0.2	0.1	0.2	2.1	0.1	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		2.8	0.1	0.2		2.8	0.2	0.4	4.0	1.5	3.0	8.2	2.4	6.2
LnGrp Delay(d),s/veh		62.0	0.3	0.6		62.7	0.8	1.4	39.8	45.6	47.4	45.1	45.1	49.4
LnGrp LOS		E	A	A		E	A	A	D	D	D	D	D	D
Approach Vol, veh/h			1404				1633			272			517	
Approach Delay, s/veh			6.9				6.5			43.4			46.6	
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	12.2	78.3	14.5	35.0	12.4	78.1	16.0	33.5
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	13.6	* 53	11.6	43.1	13.6	52.6	11.6	43.1
Max Q Clear Time (g_c+I1), s	7.8	2.0	10.1	16.7	7.9	2.0	13.6	9.3
Green Ext Time (p_c), s	0.1	22.6	0.0	0.6	0.1	19.0	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Notes



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	38	119	1250	92	333	1611	160	79	116	245	245	415	183
Future Volume (veh/h)	38	119	1250	92	333	1611	160	79	116	245	245	415	183
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.95	1.00		0.93	1.00		0.95
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		127	1330	68	362	1751	123	89	130	240	278	472	147
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		150	1699	87	386	2306	162	135	386	650	325	930	395
Arrive On Green		0.08	0.34	0.34	0.22	0.48	0.48	0.03	0.14	0.14	0.09	0.26	0.26
Sat Flow, veh/h		1774	4942	253	1774	4835	339	3442	1863	1469	3442	3539	1503
Grp Volume(v), veh/h		127	912	486	362	1227	647	89	130	240	278	472	147
Grp Sat Flow(s),veh/h/ln		1774	1695	1805	1774	1695	1784	1721	1863	1469	1721	1770	1503
Q Serve(g_s), s		9.9	33.8	33.8	28.1	41.5	41.7	3.6	8.8	16.0	11.1	15.9	11.2
Cycle Q Clear(g_c), s		9.9	33.8	33.8	28.1	41.5	41.7	3.6	8.8	16.0	11.1	15.9	11.2
Prop In Lane		1.00		0.14	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		150	1166	621	386	1617	850	135	386	650	325	930	395
V/C Ratio(X)		0.84	0.78	0.78	0.94	0.76	0.76	0.66	0.34	0.37	0.85	0.51	0.37
Avail Cap(c_a), veh/h		236	1166	621	527	1617	850	310	494	734	359	988	420
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)		0.85	0.85	0.85	0.63	0.63	0.63	0.47	0.47	0.47	1.00	1.00	1.00
Uniform Delay (d), s/veh		63.2	41.2	41.2	53.8	30.0	30.1	67.2	51.6	30.1	62.4	43.9	42.2
Incr Delay (d2), s/veh		7.6	4.5	8.2	12.8	2.2	4.1	1.0	0.1	0.1	15.4	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		5.2	16.6	18.3	15.1	19.9	21.5	1.7	4.6	6.5	6.0	7.8	4.7
LnGrp Delay(d),s/veh		70.7	45.8	49.5	66.6	32.2	34.2	68.2	51.7	30.2	77.9	44.1	42.4
LnGrp LOS		E	D	D	E	C	C	E	D	C	E	D	D
Approach Vol, veh/h			1525			2236			459			897	
Approach Delay, s/veh			49.0			38.3			43.6			54.3	
Approach LOS			D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	53.5	9.9	41.7	16.3	72.2	17.6	33.9
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	10.6	* 28	12.6	39.1	18.6	50.6	14.6	37.1
Max Q Clear Time (g_c+I1), s	10.1	35.8	5.6	17.9	11.9	43.7	13.1	18.0
Green Ext Time (p_c), s	0.4	0.0	0.1	2.4	0.1	6.6	0.1	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	44.8
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	55	1650	54	8	117	2077	30	14	16	85	39	46	49
Future Volume (veh/h)	13	55	1650	54	8	117	2077	30	14	16	85	39	46	49
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	1.00		0.95	1.00		0.95
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		60	1793	42		122	2164	22	15	17	67	46	55	40
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.92	0.92	0.92		0.96	0.96	0.96	0.92	0.92	0.92	0.84	0.84	0.84
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		432	2934	69		144	2098	21	26	30	118	54	64	47
Arrive On Green		0.32	0.76	0.76		0.16	0.81	0.81	0.11	0.11	0.11	0.10	0.10	0.10
Sat Flow, veh/h		1774	5112	120		1774	5190	53	241	273	1076	560	670	487
Grp Volume(v), veh/h		60	1189	646		122	1413	773	99	0	0	141	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1841		1774	1695	1852	1590	0	0	1717	0	0
Q Serve(g_s), s		3.4	21.8	21.8		9.4	56.6	56.6	8.3	0.0	0.0	11.3	0.0	0.0
Cycle Q Clear(g_c), s		3.4	21.8	21.8		9.4	56.6	56.6	8.3	0.0	0.0	11.3	0.0	0.0
Prop In Lane		1.00		0.06		1.00		0.03	0.15		0.68	0.33		0.28
Lane Grp Cap(c), veh/h		432	1946	1057		144	1371	749	175	0	0	165	0	0
V/C Ratio(X)		0.14	0.61	0.61		0.85	1.03	1.03	0.57	0.00	0.00	0.86	0.00	0.00
Avail Cap(c_a), veh/h		432	1946	1057		248	1371	749	399	0	0	210	0	0
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)		0.64	0.64	0.64		0.70	0.70	0.70	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		36.9	9.6	9.6		57.8	13.4	13.4	59.1	0.0	0.0	62.3	0.0	0.0
Incr Delay (d2), s/veh		0.0	0.9	1.7		3.7	28.7	36.1	1.1	0.0	0.0	19.9	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	10.2	11.3		4.7	30.2	34.6	3.7	0.0	0.0	6.3	0.0	0.0
LnGrp Delay(d),s/veh		37.0	10.6	11.3		61.6	42.1	49.5	60.2	0.0	0.0	82.2	0.0	0.0
LnGrp LOS		D	B	B		E	F	F	E			F		
Approach Vol, veh/h			1895				2308			99			141	
Approach Delay, s/veh			11.7				45.6			60.2			82.2	
Approach LOS			B				D			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.7	85.7		20.3	39.4	62.0		18.3
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 5.4		4.9
Max Green Setting (Gmax), s	10.6	48.7		35.1	11.6	* 57		17.1
Max Q Clear Time (g_c+I1), s	11.4	23.8		10.3	5.4	58.6		13.3
Green Ext Time (p_c), s	0.1	20.6		0.3	0.0	0.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	32.6
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1545	205	476	2068	294	149	54	335	193	158	18
Future Volume (veh/h)	20	1545	205	476	2068	294	149	54	335	193	158	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1593	166	491	2132	212	115	137	333	214	176	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1868	194	400	3196	993	191	201	1043	191	183	15
Arrive On Green	0.03	0.84	0.84	0.23	0.63	0.63	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1774	4462	464	1774	5085	1581	1774	1863	3045	1774	1696	135
Grp Volume(v), veh/h	21	1130	629	491	2132	212	115	137	333	214	0	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1760	1774	1695	1581	1774	1863	1522	1774	0	1831
Q Serve(g_s), s	1.6	28.3	28.6	31.6	37.6	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Cycle Q Clear(g_c), s	1.6	28.3	28.6	31.6	37.6	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	28	1326	737	400	3196	993	191	201	1043	191	0	198
V/C Ratio(X)	0.74	0.85	0.85	1.23	0.67	0.21	0.60	0.68	0.32	1.12	0.00	0.96
Avail Cap(c_a), veh/h	134	1326	737	400	3196	993	318	334	1261	191	0	198
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)	0.71	0.71	0.71	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	8.9	8.9	54.2	16.6	11.2	59.6	60.2	34.9	62.5	0.0	62.2
Incr Delay (d2), s/veh	9.7	5.2	9.0	122.1	1.1	0.5	2.3	3.0	0.1	100.4	0.0	52.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	12.6	14.8	29.0	17.7	3.7	4.4	5.3	4.8	12.7	0.0	10.2
LnGrp Delay(d),s/veh	77.2	14.1	17.9	176.3	17.8	11.7	61.8	63.2	35.0	162.9	0.0	114.8
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1780			2835			585			404	
Approach Delay, s/veh		16.2			44.8			46.9			140.3	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	64.0		20.0	6.6	93.4		20.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	11.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	13.6	30.6		17.1	3.6	39.6		13.5
Green Ext Time (p_c), s	0.0	15.3		0.0	0.0	24.9		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	42.8
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	2427	0	0	0	0	0	1	422
Future Volume (veh/h)	0	0	0	0	2427	0	0	0	0	0	1	422
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.98
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	2528	0				0	1	406
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	3375	1051				0	341	500
Arrive On Green				0.00	0.66	0.00				0.00	0.18	0.18
Sat Flow, veh/h				0	5253	1583				0	1863	2732
Grp Volume(v), veh/h				0	2528	0				0	1	406
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1366
Q Serve(g_s), s				0.0	19.5	0.0				0.0	0.0	8.4
Cycle Q Clear(g_c), s				0.0	19.5	0.0				0.0	0.0	8.4
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	3375	1051				0	341	500
V/C Ratio(X)				0.00	0.75	0.00				0.00	0.00	0.81
Avail Cap(c_a), veh/h				0	4436	1381				0	1128	1654
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	6.6	0.0				0.0	19.6	23.0
Incr Delay (d2), s/veh				0.0	0.3	0.0				0.0	0.0	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	9.0	0.0				0.0	0.0	3.2
LnGrp Delay(d),s/veh				0.0	6.9	0.0				0.0	19.6	24.3
LnGrp LOS					A						B	C
Approach Vol, veh/h					2528						407	
Approach Delay, s/veh					6.9						24.2	
Approach LOS					A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				15.3		43.5		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				35.6		51.3		
Max Q Clear Time (g_c+I1), s				10.4		21.5		
Green Ext Time (p_c), s				0.4		17.5		

Intersection Summary	
HCM 2010 Ctrl Delay	9.3
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1516	338	0	0	0	0	1	485	0	0	0
Future Volume (veh/h)	0	1516	338	0	0	0	0	1	485	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	1596	0				0	1	453			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.95	0.95	0.95				0.91	0.91	0.91			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	2559	797				0	420	607			
Arrive On Green	0.00	0.50	0.00				0.00	0.23	0.23			
Sat Flow, veh/h	0	5253	1583				0	1863	2693			
Grp Volume(v), veh/h	0	1596	0				0	1	453			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1346			
Q Serve(g_s), s	0.0	9.1	0.0				0.0	0.0	6.3			
Cycle Q Clear(g_c), s	0.0	9.1	0.0				0.0	0.0	6.3			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	2559	797				0	420	607			
V/C Ratio(X)	0.00	0.62	0.00				0.00	0.00	0.75			
Avail Cap(c_a), veh/h	0	6327	1970				0	807	1166			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	7.2	0.0				0.0	12.1	14.5			
Incr Delay (d2), s/veh	0.0	0.1	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			
%ile BackOfQ(50%),veh/ln	0.0	4.2	0.0				0.0	0.0	2.4			
LnGrp Delay(d),s/veh	0.0	7.3	0.0				0.0	12.1	15.2			
LnGrp LOS		A						B	B			
Approach Vol, veh/h		1596						454				
Approach Delay, s/veh		7.3						15.2				
Approach LOS		A						B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		26.0						14.2
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						17.4
Max Q Clear Time (g_c+I1), s		11.1						8.3
Green Ext Time (p_c), s		9.1						0.8

Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	222	298	124	347	359	109	4	73	589	158	8	97	920	250
Future Volume (veh/h)	222	298	124	347	359	109	4	73	589	158	8	97	920	250
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95		1.00		0.94		1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	247	331	99	408	422	90		76	614	118		100	948	194
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85		0.96	0.96	0.96		0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	268	382	118	443	442	378		95	1398	409		202	1214	534
Arrive On Green	0.22	0.22	0.22	0.25	0.25	0.25		0.05	0.28	0.28		0.11	0.34	0.34
Sat Flow, veh/h	1235	1759	542	1774	1770	1511		1774	5085	1487		1774	3539	1557
Grp Volume(v), veh/h	360	0	317	408	422	90		76	614	118		100	948	194
Grp Sat Flow(s),veh/h/ln	1801	0	1736	1774	1770	1511		1774	1695	1487		1774	1770	1557
Q Serve(g_s), s	27.4	0.0	24.5	31.4	32.9	6.7		5.9	13.9	8.7		7.4	33.7	13.1
Cycle Q Clear(g_c), s	27.4	0.0	24.5	31.4	32.9	6.7		5.9	13.9	8.7		7.4	33.7	13.1
Prop In Lane	0.69		0.31	1.00		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	391	0	377	443	442	378		95	1398	409		202	1214	534
V/C Ratio(X)	0.92	0.00	0.84	0.92	0.95	0.24		0.80	0.44	0.29		0.50	0.78	0.36
Avail Cap(c_a), veh/h	400	0	386	445	444	379		134	1398	409		202	1214	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.52	0.52	0.52		1.00	1.00	1.00		0.35	0.35	0.35
Uniform Delay (d), s/veh	53.6	0.0	52.5	51.1	51.7	41.9		65.5	41.8	40.0		58.3	41.3	34.5
Incr Delay (d2), s/veh	25.6	0.0	14.2	14.6	20.2	0.1		13.0	1.0	1.8		0.2	1.8	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	16.4	0.0	13.2	17.2	18.5	2.8		3.3	6.7	3.8		3.7	16.8	5.7
LnGrp Delay(d),s/veh	79.3	0.0	66.7	65.8	71.9	41.9		78.5	42.8	41.7		58.5	43.1	35.2
LnGrp LOS	E		E	E	E	D		E	D	D		E	D	D
Approach Vol, veh/h		677			920				808				1242	
Approach Delay, s/veh		73.4			66.2				46.0				43.1	
Approach LOS		E			E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	44.0		35.3	11.9	52.9		39.9
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	15.6	* 39		31.1	10.6	44.1		35.1
Max Q Clear Time (g_c+I1), s	9.4	15.9		29.4	7.9	35.7		34.9
Green Ext Time (p_c), s	0.1	5.9		0.6	0.0	7.6		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	55.2
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	108	46	161	255	28	100
Future Vol, veh/h	108	46	161	255	28	100
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	117	50	175	277	30	109

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	167	0	769	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	627	-
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	-	-	1411	-	369	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	532	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1411	-	315	906
Mov Cap-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	532	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	642	-	-	1411	-
HCM Lane V/C Ratio	0.217	-	-	0.124	-
HCM Control Delay (s)	12.2	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.4	-

Appendix I
Trigger Analysis and Peak Hour Intersection LOS Worksheets – Near-Term Year 2021 Base Plus Project with Mitigation Conditions

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	146	9	106	520	320	177	1040	67	6
Future Volume (veh/h)	6	208	437	146	9	106	520	320	177	1040	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	113		114	559	241	182	1072	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	935	228		266	794	341	244	1114	50	
Arrive On Green		0.08	0.33	0.33		0.08	0.33	0.33	0.09	0.43	0.43	
Sat Flow, veh/h		3442	2804	683		3442	2380	1023	3442	3446	154	
Grp Volume(v), veh/h		219	289	284		114	415	385	182	550	570	
Grp Sat Flow(s),veh/h/ln		1721	1770	1718		1721	1770	1633	1721	1770	1830	
Q Serve(g_s), s		6.7	14.0	14.3		3.4	22.1	22.2	5.6	32.7	32.7	
Cycle Q Clear(g_c), s		6.7	14.0	14.3		3.4	22.1	22.2	5.6	32.7	32.7	
Prop In Lane		1.00		0.40		1.00		0.63	1.00		0.08	
Lane Grp Cap(c), veh/h		283	590	573		266	591	545	244	572	592	
V/C Ratio(X)		0.77	0.49	0.50		0.43	0.70	0.71	0.75	0.96	0.96	
Avail Cap(c_a), veh/h		433	590	573		274	591	545	402	575	595	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.85	0.85	0.85	
Uniform Delay (d), s/veh		48.6	28.7	28.8		47.6	31.3	31.4	48.0	30.1	30.1	
Incr Delay (d2), s/veh		1.9	2.9	3.1		0.4	6.9	7.5	1.5	25.3	24.9	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	7.3	7.3		1.6	11.9	11.1	2.7	19.9	20.5	
LnGrp Delay(d),s/veh		50.5	31.6	31.8		48.0	38.2	38.9	49.4	55.4	55.0	
LnGrp LOS		D	C	C		D	D	D	D	E	E	
Approach Vol, veh/h			792				914			1302		
Approach Delay, s/veh			36.9				39.7			54.4		
Approach LOS			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	13.3	41.0	12.1	41.6	13.3	41.0	13.8	39.8
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	16.3	7.6	15.3	8.7	24.2	9.2	34.7
Green Ext Time (p_c), s	0.0	3.6	0.1	1.7	0.2	2.9	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	43.6
HCM 2010 LOS	D

Notes

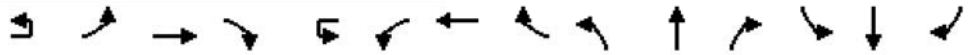
Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	412	100
Future Volume (veh/h)	106	412	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	468	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1022	173
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	3007	510
Grp Volume(v), veh/h	120	274	274
Grp Sat Flow(s),veh/h/ln	1774	1770	1747
Q Serve(g_s), s	7.2	13.1	13.3
Cycle Q Clear(g_c), s	7.2	13.1	13.3
Prop In Lane	1.00		0.29
Lane Grp Cap(c), veh/h	147	601	594
V/C Ratio(X)	0.82	0.46	0.46
Avail Cap(c_a), veh/h	158	601	594
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.9	27.9
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.4	6.4
LnGrp Delay(d),s/veh	72.5	28.1	28.1
LnGrp LOS	E	C	C
Approach Vol, veh/h		668	
Approach Delay, s/veh		36.1	
Approach LOS		D	
Timer			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	205	880	76	372	826	123	15	156	415	377	2	184	281	299
Future Volume (veh/h)	5	205	880	76	372	826	123	15	156	415	377	2	184	281	299
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.97
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		214	917	56	396	879	100		188	500	454		202	309	232
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		415	1088	66	455	1017	116		214	956	637		228	535	390
Arrive On Green		0.12	0.32	0.32	0.13	0.32	0.32		0.12	0.27	0.27		0.13	0.28	0.28
Sat Flow, veh/h		3442	3376	206	3442	3189	363		1774	3539	1583		1774	1924	1402
Grp Volume(v), veh/h		214	481	492	396	488	491		188	500	454		202	283	258
Grp Sat Flow(s),veh/h/ln		1721	1770	1813	1721	1770	1782		1774	1770	1583		1774	1770	1556
Q Serve(g_s), s		7.9	34.0	34.0	15.2	34.9	34.9		14.0	16.2	32.4		15.1	18.5	19.3
Cycle Q Clear(g_c), s		7.9	34.0	34.0	15.2	34.9	34.9		14.0	16.2	32.4		15.1	18.5	19.3
Prop In Lane		1.00		0.11	1.00		0.20		1.00		1.00		1.00		0.90
Lane Grp Cap(c), veh/h		415	570	584	455	565	568		214	956	637		228	492	433
V/C Ratio(X)		0.52	0.84	0.84	0.87	0.86	0.86		0.88	0.52	0.71		0.89	0.58	0.60
Avail Cap(c_a), veh/h		767	789	808	767	789	794		395	1051	680		395	526	462
HCM Platoon Ratio		1.00	1.00	1.00	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		55.5	42.5	42.5	57.3	43.1	43.1		58.2	41.8	33.7		57.7	41.8	42.1
Incr Delay (d2), s/veh		0.4	6.5	6.4	2.8	7.3	7.2		4.5	0.3	3.0		5.6	1.2	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		3.8	17.6	18.0	7.4	18.2	18.3		7.2	8.0	14.6		7.8	9.2	8.5
LnGrp Delay(d),s/veh		55.9	49.0	48.9	60.1	50.4	50.3		62.8	42.1	36.7		63.3	43.0	43.7
LnGrp LOS		E	D	D	E	D	D		E	D	D		E	D	D
Approach Vol, veh/h			1187			1375				1142				743	
Approach Delay, s/veh			50.2			53.2				43.3				48.7	
Approach LOS			D			D				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	49.1	20.6	42.7	21.9	49.4	21.7	41.7
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	17.2	36.0	16.0	21.3	9.9	36.9	17.1	34.4
Green Ext Time (p_c), s	0.6	7.4	0.2	2.7	0.3	6.1	0.2	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.1
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	34	1138	187	3	50	1006	97	264	103	83	66	114	71
Future Volume (veh/h)	13	34	1138	187	3	50	1006	97	264	103	83	66	114	71
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		39	1293	182		62	1242	85	388	151	85	84	144	65
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		50	1174	164		79	1323	90	275	107	60	91	157	71
Arrive On Green		0.03	0.38	0.38		0.01	0.13	0.13	0.25	0.25	0.25	0.18	0.18	0.18
Sat Flow, veh/h		1774	3106	434		1774	3356	229	1098	427	240	505	865	391
Grp Volume(v), veh/h		39	732	743		62	654	673	624	0	0	293	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1771		1774	1770	1816	1765	0	0	1761	0	0
Q Serve(g_s), s		3.1	52.9	52.9		4.9	51.2	51.4	35.1	0.0	0.0	22.9	0.0	0.0
Cycle Q Clear(g_c), s		3.1	52.9	52.9		4.9	51.2	51.4	35.1	0.0	0.0	22.9	0.0	0.0
Prop In Lane		1.00		0.25		1.00		0.13	0.62		0.14	0.29		0.22
Lane Grp Cap(c), veh/h		50	669	669		79	698	716	443	0	0	319	0	0
V/C Ratio(X)		0.78	1.10	1.11		0.78	0.94	0.94	1.41	0.00	0.00	0.92	0.00	0.00
Avail Cap(c_a), veh/h		122	669	669		122	698	716	443	0	0	353	0	0
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)		1.00	1.00	1.00		0.67	0.67	0.67	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.6	43.6	43.6		68.3	59.2	59.3	52.5	0.0	0.0	56.3	0.0	0.0
Incr Delay (d2), s/veh		9.3	63.8	69.0		5.0	16.3	16.4	197.6	0.0	0.0	25.8	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	37.7	38.7		2.5	28.3	29.2	41.4	0.0	0.0	13.4	0.0	0.0
LnGrp Delay(d),s/veh		76.8	107.3	112.6		73.3	75.4	75.6	250.0	0.0	0.0	82.1	0.0	0.0
LnGrp LOS		E	F	F		E	E	E	F			F		
Approach Vol, veh/h			1514				1389			624			293	
Approach Delay, s/veh			109.1				75.4			250.0			82.1	
Approach LOS			F				E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.7	59.1		30.2	8.4	61.4		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	6.9	54.9		24.9	5.1	53.4		37.1
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	117.8
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1972	180	442	1521	269	128	91	665	260	155	5
Future Volume (veh/h)	2	1972	180	442	1521	269	128	91	665	260	155	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2033	149	480	1653	204	126	134	672	289	172	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1827	133	350	2917	889	255	267	1064	293	299	7
Arrive On Green	0.00	0.76	0.76	0.20	0.57	0.57	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4825	351	1774	5085	1549	1774	1863	3066	1774	1812	42
Grp Volume(v), veh/h	2	1424	758	480	1653	204	126	134	672	289	0	176
Grp Sat Flow(s),veh/h/ln	1774	1695	1786	1774	1695	1549	1774	1863	1533	1774	0	1854
Q Serve(g_s), s	0.2	53.0	53.0	27.6	28.8	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Cycle Q Clear(g_c), s	0.2	53.0	53.0	27.6	28.8	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	4	1283	676	350	2917	889	255	267	1064	293	0	306
V/C Ratio(X)	0.53	1.11	1.12	1.37	0.57	0.23	0.49	0.50	0.63	0.99	0.00	0.58
Avail Cap(c_a), veh/h	274	1283	676	350	2917	889	255	267	1064	293	0	306
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)	0.38	0.38	0.38	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.6	17.0	17.0	56.2	18.9	14.7	55.3	55.3	39.0	58.3	0.0	53.9
Incr Delay (d2), s/veh	14.9	54.2	62.5	184.8	0.8	0.6	1.1	1.1	1.1	48.9	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	33.2	36.5	31.5	13.5	4.0	4.6	4.9	11.1	15.1	0.0	6.5
LnGrp Delay(d),s/veh	84.6	71.2	79.5	241.0	19.7	15.3	56.4	56.4	40.0	107.2	0.0	55.7
LnGrp LOS	F	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2184			2337			932			465	
Approach Delay, s/veh		74.1			64.7			44.6			87.7	
Approach LOS		E			E			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	58.5		25.0	4.7	85.8		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	2.2	30.8		24.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	66.8
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	262	15	186	737	105	261	414	106	2
Future Volume (veh/h)	11	142	662	262	15	186	737	105	261	414	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	208		200	792	79	278	440	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1150	325		255	1420	142	335	723	129	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.10	0.24	0.24	
Sat Flow, veh/h		3442	2703	764		3442	3245	324	3442	2976	530	
Grp Volume(v), veh/h		158	482	462		200	432	439	278	260	259	
Grp Sat Flow(s),veh/h/ln		1721	1770	1697		1721	1770	1798	1721	1770	1736	
Q Serve(g_s), s		5.7	27.1	27.1		7.2	22.9	22.9	10.0	16.4	16.7	
Cycle Q Clear(g_c), s		5.7	27.1	27.1		7.2	22.9	22.9	10.0	16.4	16.7	
Prop In Lane		1.00		0.45		1.00		0.18	1.00		0.31	
Lane Grp Cap(c), veh/h		213	753	722		255	775	787	335	430	422	
V/C Ratio(X)		0.74	0.64	0.64		0.78	0.56	0.56	0.83	0.60	0.61	
Avail Cap(c_a), veh/h		399	753	722		399	775	787	481	479	470	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.6	28.6		57.3	26.4	26.4	55.9	42.3	42.4	
Incr Delay (d2), s/veh		1.9	4.1	4.3		2.1	2.9	2.8	5.3	1.0	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	
%ile BackOfQ(50%),veh/ln		2.8	14.1	13.6		3.5	11.8	12.0	5.0	8.1	8.1	
LnGrp Delay(d),s/veh		60.0	32.7	32.9		59.4	29.2	29.2	61.2	43.3	43.6	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1102				1071			797		
Approach Delay, s/veh			36.7				34.9			49.6		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.6	16.7	37.0	12.2	60.1	18.1	35.5
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	29.1	12.0	34.1	7.7	24.9	13.7	18.7
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	63.5
HCM 2010 LOS	E

Notes

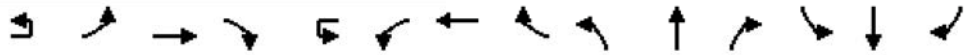
Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	908	101
Future Volume (veh/h)	160	908	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	956	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	845	65
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3317	257
Grp Volume(v), veh/h	168	510	520
Grp Sat Flow(s),veh/h/ln	1774	1770	1804
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	451	460
V/C Ratio(X)	0.87	1.13	1.13
Avail Cap(c_a), veh/h	220	451	460
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	83.4	83.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	26.1	26.6
LnGrp Delay(d),s/veh	79.8	130.4	130.0
LnGrp LOS	E	F	F
Approach Vol, veh/h		1198	
Approach Delay, s/veh		123.1	
Approach LOS		F	
Timer			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	356	1019	68	477	891	120	21	85	310	373	272	656	288
Future Volume (veh/h)	15	356	1019	68	477	891	120	21	85	310	373	272	656	288
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		371	1061	52	507	948	94		90	330	285	316	763	237
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		571	1170	57	552	1048	104		110	671	538	330	829	258
Arrive On Green		0.17	0.34	0.34	0.16	0.32	0.32		0.06	0.19	0.19	0.19	0.31	0.31
Sat Flow, veh/h		3442	3428	168	3442	3240	321		1774	3539	1499	1774	2645	822
Grp Volume(v), veh/h		371	548	565	507	518	524		90	330	285	316	510	490
Grp Sat Flow(s),veh/h/ln		1721	1770	1826	1721	1770	1791		1774	1770	1499	1774	1770	1697
Q Serve(g_s), s		16.3	47.7	47.7	23.4	45.2	45.2		8.1	13.5	24.6	28.5	44.9	44.9
Cycle Q Clear(g_c), s		16.3	47.7	47.7	23.4	45.2	45.2		8.1	13.5	24.6	28.5	44.9	44.9
Prop In Lane		1.00		0.09	1.00		0.18		1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h		571	604	623	552	573	580		110	671	538	330	555	532
V/C Ratio(X)		0.65	0.91	0.91	0.92	0.90	0.90		0.82	0.49	0.53	0.96	0.92	0.92
Avail Cap(c_a), veh/h		640	658	679	640	658	666		330	877	625	330	555	532
HCM Platoon Ratio		1.00	1.00	1.00	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		62.9	50.7	50.7	66.7	52.2	52.2		74.8	58.5	42.1	65.1	53.5	53.5
Incr Delay (d2), s/veh		1.3	15.8	15.5	15.8	14.7	14.6		5.6	0.4	0.6	38.2	20.6	21.3
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		7.8	25.9	26.7	12.3	24.5	24.8		4.1	6.6	10.3	17.5	25.2	24.2
LnGrp Delay(d),s/veh		64.3	66.5	66.2	82.5	67.0	66.8		80.4	58.8	42.6	103.3	74.1	74.7
LnGrp LOS		E	E	E	F	E	E		F	E	D	F	E	E
Approach Vol, veh/h			1484			1549				705			1316	
Approach Delay, s/veh			65.8			72.0				55.0			81.4	
Approach LOS			E			E				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	10.3	60.8	14.4	55.9	32.5	58.6	34.4	35.9
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	25.4	49.7	10.1	46.9	18.3	47.2	30.5	26.6
Green Ext Time (p_c), s	0.5	5.4	0.1	0.0	0.5	5.1	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	70.3
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	66	1274	169	47	76	1313	100	123	58	38	54	136	140
Future Volume (veh/h)	6	66	1274	169	47	76	1313	100	123	58	38	54	136	140
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		69	1341	134		81	1397	75	138	65	31	59	149	114
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		179	1548	154		102	1435	77	154	73	35	57	144	110
Arrive On Green		0.10	0.48	0.48		0.02	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3251	323		1774	3417	183	1041	490	234	318	804	615
Grp Volume(v), veh/h		69	727	748		81	722	750	234	0	0	322	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1805		1774	1770	1830	1765	0	0	1737	0	0
Q Serve(g_s), s		5.1	51.2	51.9		6.4	56.8	57.1	18.2	0.0	0.0	25.1	0.0	0.0
Cycle Q Clear(g_c), s		5.1	51.2	51.9		6.4	56.8	57.1	18.2	0.0	0.0	25.1	0.0	0.0
Prop In Lane		1.00		0.18		1.00		0.10	0.59		0.13	0.18		0.35
Lane Grp Cap(c), veh/h		179	842	859		102	743	769	261	0	0	311	0	0
V/C Ratio(X)		0.39	0.86	0.87		0.80	0.97	0.98	0.90	0.00	0.00	1.03	0.00	0.00
Avail Cap(c_a), veh/h		179	842	859		172	743	769	316	0	0	311	0	0
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)		1.00	1.00	1.00		0.42	0.42	0.42	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		58.9	32.6	32.8		67.9	59.5	59.6	58.6	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh		0.5	11.4	11.7		2.3	15.7	16.1	21.3	0.0	0.0	60.0	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.5	27.5	28.6		3.2	31.1	32.5	10.4	0.0	0.0	17.2	0.0	0.0
LnGrp Delay(d),s/veh		59.4	44.0	44.5		70.1	75.2	75.7	79.9	0.0	0.0	117.5	0.0	0.0
LnGrp LOS		E	D	D		E	E	E	E			F		
Approach Vol, veh/h			1544				1553			234			322	
Approach Delay, s/veh			44.9				75.2			79.9			117.5	
Approach LOS			D				E			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	72.0		30.0	19.4	65.0		25.6
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	8.4	53.9		27.1	7.1	59.1		20.2
Green Ext Time (p_c), s	0.0	2.5		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	66.4
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1545	205	476	2068	294	149	54	335	193	158	18
Future Volume (veh/h)	20	1545	205	476	2068	294	149	54	335	193	158	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1593	166	491	2132	212	115	137	333	214	176	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1868	194	400	3196	993	191	201	1043	191	183	15
Arrive On Green	0.03	0.84	0.84	0.23	0.63	0.63	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1774	4462	464	1774	5085	1581	1774	1863	3045	1774	1696	135
Grp Volume(v), veh/h	21	1130	629	491	2132	212	115	137	333	214	0	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1760	1774	1695	1581	1774	1863	1522	1774	0	1831
Q Serve(g_s), s	1.6	28.3	28.6	31.6	37.6	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Cycle Q Clear(g_c), s	1.6	28.3	28.6	31.6	37.6	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	28	1326	737	400	3196	993	191	201	1043	191	0	198
V/C Ratio(X)	0.74	0.85	0.85	1.23	0.67	0.21	0.60	0.68	0.32	1.12	0.00	0.96
Avail Cap(c_a), veh/h	134	1326	737	400	3196	993	318	334	1261	191	0	198
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)	0.71	0.71	0.71	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	8.9	8.9	54.2	16.6	11.2	59.6	60.2	34.9	62.5	0.0	62.2
Incr Delay (d2), s/veh	9.7	5.2	9.0	122.1	1.1	0.5	2.3	3.0	0.1	100.4	0.0	52.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	12.6	14.8	29.0	17.7	3.7	4.4	5.3	4.8	12.7	0.0	10.2
LnGrp Delay(d),s/veh	77.2	14.1	17.9	176.3	17.8	11.7	61.8	63.2	35.0	162.9	0.0	114.8
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1780			2835			585			404	
Approach Delay, s/veh		16.2			44.8			46.9			140.3	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	64.0		20.0	6.6	93.4		20.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	11.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	13.6	30.6		17.1	3.6	39.6		13.5
Green Ext Time (p_c), s	0.0	15.3		0.0	0.0	24.9		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	42.8
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	146	9	106	520	320	177	1040	67	6
Future Volume (veh/h)	6	208	437	146	9	106	520	320	177	1040	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	113		114	559	241	182	1072	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		274	864	211		348	798	343	241	1118	50	
Arrive On Green		0.08	0.31	0.31		0.10	0.34	0.34	0.14	0.65	0.65	
Sat Flow, veh/h		3442	2803	683		3442	2380	1023	3442	3446	154	
Grp Volume(v), veh/h		219	289	284		114	415	385	182	550	570	
Grp Sat Flow(s),veh/h/ln		1721	1770	1717		1721	1770	1633	1721	1770	1830	
Q Serve(g_s), s		6.8	14.6	14.8		3.3	22.0	22.1	5.5	31.2	31.3	
Cycle Q Clear(g_c), s		6.8	14.6	14.8		3.3	22.0	22.1	5.5	31.2	31.3	
Prop In Lane		1.00		0.40		1.00		0.63	1.00		0.08	
Lane Grp Cap(c), veh/h		274	546	529		348	593	548	241	574	594	
V/C Ratio(X)		0.80	0.53	0.54		0.33	0.70	0.70	0.76	0.96	0.96	
Avail Cap(c_a), veh/h		274	546	529		348	593	548	331	608	629	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00	2.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.85	0.85	0.85	
Uniform Delay (d), s/veh		48.9	30.9	31.0		45.1	31.2	31.2	45.6	18.3	18.3	
Incr Delay (d2), s/veh		14.2	3.7	3.9		0.2	6.7	7.4	3.3	23.0	22.6	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.8	7.7	7.6		1.6	11.8	11.1	2.7	18.3	18.9	
LnGrp Delay(d),s/veh		63.1	34.5	34.8		45.3	37.9	38.6	48.9	41.3	40.9	
LnGrp LOS		E	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			792				914			1302		
Approach Delay, s/veh			42.5				39.1			42.2		
Approach LOS			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	15.9	38.3	11.9	41.8	13.0	41.2	13.9	39.9
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.3	* 33	10.4	37.3	8.6	33.0	10.6	* 37
Max Q Clear Time (g_c+I1), s	5.3	16.8	7.5	15.2	8.8	24.1	9.2	33.3
Green Ext Time (p_c), s	0.0	3.3	0.1	1.8	0.0	3.5	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	40.2
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	412	100
Future Volume (veh/h)	106	412	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	468	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1028	175
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	3007	510
Grp Volume(v), veh/h	120	274	274
Grp Sat Flow(s),veh/h/ln	1774	1770	1748
Q Serve(g_s), s	7.2	13.0	13.2
Cycle Q Clear(g_c), s	7.2	13.0	13.2
Prop In Lane	1.00		0.29
Lane Grp Cap(c), veh/h	147	605	598
V/C Ratio(X)	0.82	0.45	0.46
Avail Cap(c_a), veh/h	174	611	604
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.7	27.7
Incr Delay (d2), s/veh	18.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.4	6.4
LnGrp Delay(d),s/veh	67.6	27.9	27.9
LnGrp LOS	E	C	C
Approach Vol, veh/h		668	
Approach Delay, s/veh		35.0	
Approach LOS		D	
Timer			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	205	880	76	372	826	123	15	156	415	377	2	184	281	299
Future Volume (veh/h)	5	205	880	76	372	826	123	15	156	415	377	2	184	281	299
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.97
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		214	917	56	396	879	100		188	500	454		202	309	232
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		407	1093	67	456	1030	117		214	944	632		228	529	385
Arrive On Green		0.12	0.32	0.32	0.13	0.32	0.32		0.12	0.27	0.27		0.13	0.27	0.27
Sat Flow, veh/h		3442	3377	206	3442	3189	363		1774	3539	1583		1774	1924	1401
Grp Volume(v), veh/h		214	481	492	396	488	491		188	500	454		202	283	258
Grp Sat Flow(s),veh/h/ln		1721	1770	1813	1721	1770	1782		1774	1770	1583		1774	1770	1556
Q Serve(g_s), s		7.8	33.7	33.7	15.1	34.4	34.4		13.9	16.1	32.2		15.0	18.5	19.2
Cycle Q Clear(g_c), s		7.8	33.7	33.7	15.1	34.4	34.4		13.9	16.1	32.2		15.0	18.5	19.2
Prop In Lane		1.00		0.11	1.00		0.20		1.00		1.00		1.00		0.90
Lane Grp Cap(c), veh/h		407	573	587	456	572	576		214	944	632		228	486	427
V/C Ratio(X)		0.53	0.84	0.84	0.87	0.85	0.85		0.88	0.53	0.72		0.89	0.58	0.60
Avail Cap(c_a), veh/h		469	819	839	840	1001	1007		380	999	657		380	500	439
HCM Platoon Ratio		1.00	1.00	1.00	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		55.3	41.9	41.9	56.8	42.2	42.2		57.8	41.8	33.8		57.2	41.8	42.1
Incr Delay (d2), s/veh		0.4	5.9	5.7	2.0	3.7	3.7		4.5	0.3	3.3		7.4	1.5	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		3.7	17.4	17.8	7.3	17.4	17.5		7.1	7.9	14.6		7.8	9.3	8.5
LnGrp Delay(d),s/veh		55.7	47.8	47.7	58.8	46.0	45.9		62.3	42.1	37.1		64.7	43.3	44.1
LnGrp LOS		E	D	D	E	D	D		E	D	D		E	D	D
Approach Vol, veh/h			1187			1375				1142				743	
Approach Delay, s/veh			49.2			49.7				43.4				49.4	
Approach LOS			D			D				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	48.9	20.5	42.0	21.5	49.5	21.6	40.9
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	32.6	61.8	28.6	37.7	18.2	* 76	28.6	37.7
Max Q Clear Time (g_c+I1), s	17.1	35.7	15.9	21.2	9.8	36.4	17.0	34.2
Green Ext Time (p_c), s	0.6	7.6	0.2	2.6	0.2	6.7	0.2	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	47.9
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	43	1138	187	3	50	1006	97	264	104	83	66	117	98
Future Volume (veh/h)	13	43	1138	187	3	50	1006	97	264	104	83	66	117	98
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		49	1293	182		62	1242	85	388	153	85	84	148	99
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		63	1372	192		75	1504	103	374	237	132	284	165	111
Arrive On Green		0.04	0.44	0.44		0.01	0.15	0.15	0.21	0.21	0.21	0.16	0.16	0.16
Sat Flow, veh/h		1774	3107	434		1774	3356	229	1774	1126	625	1774	1035	692
Grp Volume(v), veh/h		49	732	743		62	654	673	388	0	238	84	0	247
Grp Sat Flow(s),veh/h/ln		1774	1770	1771		1774	1770	1816	1774	0	1751	1774	0	1726
Q Serve(g_s), s		3.8	55.2	56.5		4.9	50.2	50.4	29.5	0.0	17.4	5.8	0.0	19.6
Cycle Q Clear(g_c), s		3.8	55.2	56.5		4.9	50.2	50.4	29.5	0.0	17.4	5.8	0.0	19.6
Prop In Lane		1.00		0.25		1.00		0.13	1.00		0.36	1.00		0.40
Lane Grp Cap(c), veh/h		63	781	782		75	793	814	374	0	369	284	0	276
V/C Ratio(X)		0.78	0.94	0.95		0.83	0.82	0.83	1.04	0.00	0.64	0.30	0.00	0.89
Avail Cap(c_a), veh/h		76	781	782		75	793	814	374	0	369	342	0	333
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)		1.00	1.00	1.00		0.68	0.68	0.68	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		67.0	37.2	37.6		68.5	54.3	54.4	55.3	0.0	50.5	51.9	0.0	57.7
Incr Delay (d2), s/veh		27.3	20.1	22.0		36.7	6.6	6.6	56.7	0.0	3.0	0.2	0.0	20.4
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		2.4	31.2	32.2		3.2	26.1	26.9	20.3	0.0	8.7	2.9	0.0	11.0
LnGrp Delay(d),s/veh		94.3	57.3	59.6		105.2	60.9	61.0	112.0	0.0	53.5	52.1	0.0	78.0
LnGrp LOS		F	E	E		F	E	E	F		D	D		E
Approach Vol, veh/h			1524				1389			626			331	
Approach Delay, s/veh			59.6				62.9			89.7			71.4	
Approach LOS			E				E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.3	68.0		27.3	9.4	68.9		34.4
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	5.9	* 58		27.0	6.0	57.1		29.5
Max Q Clear Time (g_c+I1), s	6.9	58.5		21.6	5.8	52.4		31.5
Green Ext Time (p_c), s	0.0	0.0		0.6	0.0	3.2		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	66.7
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1991	180	442	1528	269	128	91	665	260	155	5
Future Volume (veh/h)	2	1991	180	442	1528	269	128	91	665	260	155	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2053	149	480	1661	204	147	105	672	289	172	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	2005	144	350	2735	833	211	134	740	313	234	5
Arrive On Green	0.13	0.83	0.83	0.20	0.54	0.54	0.12	0.07	0.07	0.18	0.13	0.13
Sat Flow, veh/h	1774	4830	348	1774	5085	1549	1774	1863	2643	1774	1811	42
Grp Volume(v), veh/h	2	1437	765	480	1661	204	147	105	672	289	0	176
Grp Sat Flow(s),veh/h/ln	1774	1695	1788	1774	1695	1549	1774	1863	1321	1774	0	1853
Q Serve(g_s), s	0.1	58.1	58.1	27.6	31.4	9.8	11.1	7.8	10.1	22.4	0.0	12.8
Cycle Q Clear(g_c), s	0.1	58.1	58.1	27.6	31.4	9.8	11.1	7.8	10.1	22.4	0.0	12.8
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	119	1407	742	350	2735	833	211	134	740	313	0	240
V/C Ratio(X)	0.02	1.02	1.03	1.37	0.61	0.24	0.70	0.78	0.91	0.92	0.00	0.73
Avail Cap(c_a), veh/h	119	1407	742	350	2735	833	211	134	740	393	0	410
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)	0.38	0.38	0.38	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.6	11.9	11.9	56.2	22.2	17.2	59.2	63.9	32.7	56.7	0.0	58.6
Incr Delay (d2), s/veh	0.0	20.3	28.9	184.8	1.0	0.7	8.9	24.3	14.9	21.8	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	29.4	32.8	31.5	14.9	4.3	6.0	4.9	13.0	12.9	0.0	6.7
LnGrp Delay(d),s/veh	56.6	32.2	40.8	241.0	23.2	17.9	68.2	88.2	47.6	78.6	0.0	60.3
LnGrp LOS	E	F	F	F	C	B	E	F	D	E		E
Approach Vol, veh/h		2204			2345			924			465	
Approach Delay, s/veh		35.2			67.3			55.5			71.6	
Approach LOS		D			E			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	12.0	63.4	29.6	15.0	14.7	80.7	21.6	23.0
Change Period (Y+Rc), s	4.4	5.3	4.9	4.9	5.3	* 5.4	4.9	4.9
Max Green Setting (Gmax), s	27.6	51.8	31.0	10.1	4.0	* 75	10.1	31.0
Max Q Clear Time (g_c+I1), s	29.6	60.1	24.4	12.1	2.1	33.4	13.1	14.8
Green Ext Time (p_c), s	0.0	0.0	0.3	0.0	0.0	25.1	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	53.9
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	264	15	186	737	105	262	418	106	2
Future Volume (veh/h)	11	142	662	264	15	186	737	105	262	418	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.98	1.00		0.96	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	210		200	792	79	279	445	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		210	1003	286		252	1247	124	331	885	156	
Arrive On Green		0.06	0.37	0.37		0.07	0.38	0.38	0.06	0.20	0.20	
Sat Flow, veh/h		3442	2694	769		3442	3244	323	3442	2985	526	
Grp Volume(v), veh/h		158	483	463		200	432	439	279	262	262	
Grp Sat Flow(s),veh/h/ln		1721	1770	1693		1721	1770	1797	1721	1770	1741	
Q Serve(g_s), s		5.7	29.7	29.7		7.2	25.1	25.1	10.1	16.6	16.9	
Cycle Q Clear(g_c), s		5.7	29.7	29.7		7.2	25.1	25.1	10.1	16.6	16.9	
Prop In Lane		1.00		0.45		1.00		0.18	1.00		0.30	
Lane Grp Cap(c), veh/h		210	659	630		252	680	691	331	525	516	
V/C Ratio(X)		0.75	0.73	0.73		0.79	0.64	0.64	0.84	0.50	0.51	
Avail Cap(c_a), veh/h		246	659	630		268	680	691	344	525	516	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	0.67	0.67	0.67	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.2	34.2	34.2		57.5	31.6	31.6	58.0	42.2	42.3	
Incr Delay (d2), s/veh		8.3	7.1	7.4		12.9	4.5	4.4	15.0	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	
%ile BackOfQ(50%),veh/ln		3.0	15.8	15.2		3.9	13.1	13.3	5.5	8.2	8.2	
LnGrp Delay(d),s/veh		66.5	41.3	41.6		70.4	36.1	36.0	73.0	42.4	42.6	
LnGrp LOS		E	D	D		E	D	D	E	D	D	
Approach Vol, veh/h			1104				1071			803		
Approach Delay, s/veh			45.0				42.5			53.1		
Approach LOS			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	13.6	51.9	16.5	43.9	12.1	53.4	18.2	42.3
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	9.8	43.8	12.6	41.1	9.0	44.6	21.0	32.7
Max Q Clear Time (g_c+I1), s	9.2	31.7	12.1	37.6	7.7	27.1	13.7	18.9
Green Ext Time (p_c), s	0.0	5.1	0.0	1.5	0.0	5.5	0.1	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	51.4
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	916	101
Future Volume (veh/h)	160	916	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	964	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	1029	79
Arrive On Green	0.11	0.31	0.31
Sat Flow, veh/h	1774	3321	255
Grp Volume(v), veh/h	168	514	524
Grp Sat Flow(s),veh/h/ln	1774	1770	1806
Q Serve(g_s), s	11.7	35.6	35.6
Cycle Q Clear(g_c), s	11.7	35.6	35.6
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	548	560
V/C Ratio(X)	0.86	0.94	0.94
Avail Cap(c_a), veh/h	296	577	589
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	42.3	42.3
Incr Delay (d2), s/veh	10.3	21.9	21.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	20.7	21.1
LnGrp Delay(d),s/veh	65.5	64.2	63.9
LnGrp LOS	E	E	E
Approach Vol, veh/h		1206	
Approach Delay, s/veh		64.2	
Approach LOS		E	
Timer			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	356	1022	68	477	893	120	21	85	310	374	272	656	288
Future Volume (veh/h)	15	356	1022	68	477	893	120	21	85	310	374	272	656	288
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		371	1065	52	507	950	94		90	330	286	316	763	237
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		584	1167	57	549	1056	105		109	668	536	337	839	261
Arrive On Green		0.17	0.34	0.34	0.16	0.33	0.33		0.06	0.19	0.19	0.19	0.32	0.32
Sat Flow, veh/h		3442	3428	167	3442	3241	321		1774	3539	1498	1774	2645	822
Grp Volume(v), veh/h		371	550	567	507	519	525		90	330	286	316	510	490
Grp Sat Flow(s),veh/h/ln		1721	1770	1826	1721	1770	1792		1774	1770	1498	1774	1770	1697
Q Serve(g_s), s		16.3	48.4	48.5	23.7	45.5	45.6		8.2	13.6	8.3	28.6	45.1	45.1
Cycle Q Clear(g_c), s		16.3	48.4	48.5	23.7	45.5	45.6		8.2	13.6	8.3	28.6	45.1	45.1
Prop In Lane		1.00		0.09	1.00		0.18		1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h		584	602	621	549	577	584		109	668	536	337	561	538
V/C Ratio(X)		0.64	0.91	0.91	0.92	0.90	0.90		0.82	0.49	0.53	0.94	0.91	0.91
Avail Cap(c_a), veh/h		584	647	668	600	683	692		142	741	566	420	648	622
HCM Platoon Ratio		1.00	1.00	1.00	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		63.0	51.4	51.4	67.5	52.4	52.4		75.6	59.1	18.7	65.1	53.4	53.4
Incr Delay (d2), s/veh		1.8	16.9	16.6	18.4	13.4	13.3		20.4	0.4	0.6	23.8	15.2	15.7
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		7.9	26.5	27.3	12.7	24.5	24.8		4.6	6.7	6.0	16.3	24.5	23.6
LnGrp Delay(d),s/veh		64.7	68.4	68.0	85.9	65.7	65.6		96.0	59.5	19.3	88.9	68.6	69.1
LnGrp LOS		E	E	E	F	E	E		F	E	B	F	E	E
Approach Vol, veh/h			1488			1551				706			1316	
Approach Delay, s/veh			67.3			72.3				47.9			73.7	
Approach LOS			E			E				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	30.4	61.2	14.4	57.0	32.0	59.5	35.3	36.1
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	4.4	6.4	4.4	5.3
Max Green Setting (Gmax), s	26.4	59.6	13.0	59.7	24.4	62.9	38.6	34.1
Max Q Clear Time (g_c+I1), s	25.7	50.5	10.2	47.1	18.3	47.6	30.6	15.6
Green Ext Time (p_c), s	0.3	5.0	0.0	4.6	0.4	5.6	0.3	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	67.8
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	66	1274	169	47	76	1313	100	123	58	38	54	136	140
Future Volume (veh/h)	6	66	1274	169	47	76	1313	100	123	58	38	54	136	140
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		69	1341	134		81	1397	75	138	65	31	59	149	114
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		87	1738	173		100	1851	99	170	114	54	297	164	126
Arrive On Green		0.05	0.53	0.53		0.11	1.00	1.00	0.10	0.10	0.10	0.17	0.17	0.17
Sat Flow, veh/h		1774	3251	323		1774	3417	183	1774	1186	565	1774	979	749
Grp Volume(v), veh/h		69	727	748		81	722	750	138	0	96	59	0	263
Grp Sat Flow(s),veh/h/ln		1774	1770	1805		1774	1770	1830	1774	0	1751	1774	0	1729
Q Serve(g_s), s		5.4	45.5	46.1		6.2	0.0	0.0	10.7	0.0	7.3	4.0	0.0	20.9
Cycle Q Clear(g_c), s		5.4	45.5	46.1		6.2	0.0	0.0	10.7	0.0	7.3	4.0	0.0	20.9
Prop In Lane		1.00		0.18		1.00		0.10	1.00		0.32	1.00		0.43
Lane Grp Cap(c), veh/h		87	946	965		100	959	992	170	0	168	297	0	290
V/C Ratio(X)		0.79	0.77	0.78		0.81	0.75	0.76	0.81	0.00	0.57	0.20	0.00	0.91
Avail Cap(c_a), veh/h		89	946	965		137	959	992	343	0	339	343	0	335
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)		1.00	1.00	1.00		0.45	0.45	0.45	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		65.8	25.7	25.9		61.4	0.0	0.0	62.1	0.0	60.6	50.2	0.0	57.2
Incr Delay (d2), s/veh		34.0	6.0	6.1		7.8	2.5	2.5	3.5	0.0	1.1	0.1	0.0	23.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		3.5	23.6	24.5		3.3	0.7	0.7	5.4	0.0	3.6	2.0	0.0	11.9
LnGrp Delay(d),s/veh		99.8	31.7	32.0		69.2	2.5	2.5	65.6	0.0	61.7	50.3	0.0	80.9
LnGrp LOS		F	C	C		E	A	A	E		E	D		F
Approach Vol, veh/h			1544				1553			234			322	
Approach Delay, s/veh			34.9				6.0			64.0			75.3	
Approach LOS			C				A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.3	81.0		28.4	11.3	82.0		18.3
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	10.8	* 56		27.1	7.0	58.4		27.1
Max Q Clear Time (g_c+I1), s	8.2	48.1		22.9	7.4	2.0		12.7
Green Ext Time (p_c), s	0.0	6.1		0.5	0.0	14.5		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	28.0
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1545	205	476	2068	294	149	54	335	193	158	18
Future Volume (veh/h)	20	1545	205	476	2068	294	149	54	335	193	158	18
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1593	166	491	2132	212	169	61	333	214	176	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1556	162	504	3141	976	192	138	988	298	227	18
Arrive On Green	0.02	0.35	0.35	0.28	0.62	0.62	0.11	0.07	0.07	0.17	0.13	0.13
Sat Flow, veh/h	1774	4461	464	1774	5085	1581	1774	1863	2646	1774	1697	135
Grp Volume(v), veh/h	21	1130	629	491	2132	212	169	61	333	214	0	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1758	1774	1695	1581	1774	1863	1323	1774	0	1832
Q Serve(g_s), s	1.9	54.8	54.8	43.0	43.3	3.6	14.7	4.9	8.7	17.9	0.0	15.7
Cycle Q Clear(g_c), s	1.9	54.8	54.8	43.0	43.3	3.6	14.7	4.9	8.7	17.9	0.0	15.7
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	27	1105	613	504	3141	976	192	138	988	298	0	246
V/C Ratio(X)	0.77	1.02	1.03	0.97	0.68	0.22	0.88	0.44	0.34	0.72	0.00	0.77
Avail Cap(c_a), veh/h	45	1105	613	504	3141	976	349	381	1333	350	0	376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	77.0	51.1	51.1	55.6	19.8	2.0	69.0	69.6	16.7	61.8	0.0	65.7
Incr Delay (d2), s/veh	11.7	28.9	37.4	33.3	1.2	0.5	9.4	0.8	0.1	4.2	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	28.4	32.9	25.8	20.5	3.6	7.7	2.6	3.2	9.1	0.0	8.1
LnGrp Delay(d),s/veh	88.7	80.0	88.5	88.9	21.0	2.5	78.4	70.4	16.8	66.0	0.0	67.9
LnGrp LOS	F	F	F	F	C	A	E	E	B	E		E
Approach Vol, veh/h		1780			2835			563			404	
Approach Delay, s/veh		83.1			31.4			41.1			66.9	
Approach LOS		F			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	9.0	60.2	31.3	16.6	6.8	102.4	21.9	25.9
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	4.6	* 30	31.0	32.1	4.0	70.2	30.9	32.2
Max Q Clear Time (g_c+I1), s	5.0	56.8	19.9	10.7	3.9	45.3	16.7	17.7
Green Ext Time (p_c), s	0.0	0.0	0.2	1.0	0.0	21.2	0.3	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	51.4
HCM 2010 LOS	D

Notes

Appendix J
Peak Hour Intersection LOS Worksheets – Horizon Year 2050 Base Conditions

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	210	440	190	10	190	550	360	240	1220	90	10
Future Volume (veh/h)	10	210	440	190	10	190	550	360	240	1220	90	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		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	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		221	463	159		204	591	284	247	1258	72	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		285	857	292		622	1001	481	309	1104	63	
Arrive On Green		0.08	0.33	0.33		0.18	0.44	0.44	0.12	0.43	0.43	
Sat Flow, veh/h		3442	2572	875		3442	2293	1101	3442	3397	194	
Grp Volume(v), veh/h		221	317	305		204	456	419	247	654	676	
Grp Sat Flow(s),veh/h/ln		1721	1770	1677		1721	1770	1625	1721	1770	1822	
Q Serve(g_s), s		6.8	15.7	16.0		5.6	21.1	21.2	7.5	35.1	35.1	
Cycle Q Clear(g_c), s		6.8	15.7	16.0		5.6	21.1	21.2	7.5	35.1	35.1	
Prop In Lane		1.00		0.52		1.00		0.68	1.00		0.11	
Lane Grp Cap(c), veh/h		285	590	559		622	773	709	309	575	592	
V/C Ratio(X)		0.77	0.54	0.55		0.33	0.59	0.59	0.80	1.14	1.14	
Avail Cap(c_a), veh/h		433	590	559		622	773	709	402	575	592	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.56	0.56	0.56	
Uniform Delay (d), s/veh		48.5	29.2	29.3		38.5	23.1	23.1	46.6	30.7	30.7	
Incr Delay (d2), s/veh		2.1	3.5	3.8		0.1	3.3	3.6	3.7	74.1	75.2	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	8.2	8.0		2.7	11.0	10.1	3.7	28.9	29.9	
LnGrp Delay(d),s/veh		50.6	32.7	33.1		38.6	26.4	26.7	50.3	104.8	105.8	
LnGrp LOS		D	C	C		D	C	C	D	F	F	
Approach Vol, veh/h			843				1079			1577		
Approach Delay, s/veh			37.6				28.8			96.7		
Approach LOS			D				C			F		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.6	41.0	14.1	40.4	13.4	52.3	14.5	40.0
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	7.6	18.0	9.5	23.4	8.8	23.2	11.6	37.1
Green Ext Time (p_c), s	0.0	3.8	0.1	2.0	0.2	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	65.9
HCM 2010 LOS	E

Notes



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	190	530	190
Future Volume (veh/h)	190	530	190
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	216	602	182
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	158	872	263
Arrive On Green	0.09	0.33	0.33
Sat Flow, veh/h	1774	2651	800
Grp Volume(v), veh/h	216	401	383
Grp Sat Flow(s),veh/h/ln	1774	1770	1681
Q Serve(g_s), s	9.6	21.3	21.4
Cycle Q Clear(g_c), s	9.6	21.3	21.4
Prop In Lane	1.00		0.48
Lane Grp Cap(c), veh/h	158	582	553
V/C Ratio(X)	1.37	0.69	0.69
Avail Cap(c_a), veh/h	158	582	553
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	31.5	31.5
Incr Delay (d2), s/veh	201.3	2.9	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	10.8	10.4
LnGrp Delay(d),s/veh	250.5	34.3	34.6
LnGrp LOS	F	C	C
Approach Vol, veh/h		1000	
Approach Delay, s/veh		81.1	
Approach LOS		F	
Timer			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	40	10	70	20	20	20	10	80	1450	20	10	130	590	90
Future Volume (veh/h)	40	10	70	20	20	20	10	80	1450	20	10	130	590	90
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.97		1.00		1.00		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	53	13	66	25	25	20		89	1611	21		141	641	91
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.79	0.79	0.79		0.90	0.90	0.90		0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	107	30	91	94	88	55		650	2371	31		158	1183	168
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12		0.25	0.44	0.44		0.09	0.38	0.38
Sat Flow, veh/h	525	261	786	421	759	472		1774	3577	47		1774	3109	441
Grp Volume(v), veh/h	132	0	0	70	0	0		89	796	836		141	364	368
Grp Sat Flow(s),veh/h/ln	1572	0	0	1653	0	0		1774	1770	1854		1774	1770	1780
Q Serve(g_s), s	4.5	0.0	0.0	0.0	0.0	0.0		4.2	38.7	38.8		8.5	17.3	17.4
Cycle Q Clear(g_c), s	8.5	0.0	0.0	4.0	0.0	0.0		4.2	38.7	38.8		8.5	17.3	17.4
Prop In Lane	0.40		0.50	0.36		0.29		1.00		0.03		1.00		0.25
Lane Grp Cap(c), veh/h	229	0	0	237	0	0		650	1173	1229		158	673	677
V/C Ratio(X)	0.58	0.00	0.00	0.30	0.00	0.00		0.14	0.68	0.68		0.89	0.54	0.54
Avail Cap(c_a), veh/h	498	0	0	515	0	0		650	1173	1229		158	673	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.67	0.67	0.67		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.57	0.57	0.57		0.55	0.55	0.55
Uniform Delay (d), s/veh	45.8	0.0	0.0	44.0	0.0	0.0		27.4	20.9	20.9		48.7	26.1	26.1
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.3	0.0	0.0		0.0	1.8	1.8		27.2	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	1.9	0.0	0.0		2.1	19.5	20.4		5.3	8.7	8.9
LnGrp Delay(d),s/veh	46.7	0.0	0.0	44.2	0.0	0.0		27.4	22.7	22.7		75.9	27.8	27.8
LnGrp LOS	D			D				C	C	C		E	C	C
Approach Vol, veh/h		132			70				1721				873	
Approach Delay, s/veh		46.7			44.2				22.9				35.6	
Approach LOS		D			D				C				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	76.6		17.4	44.6	46.0		17.4
Change Period (Y+Rc), s	4.4	5.0		4.9	5.0	* 4.9		4.9
Max Green Setting (Gmax), s	9.6	52.0		32.1	20.6	* 41		32.1
Max Q Clear Time (g_c+I1), s	10.5	40.8		10.5	6.2	19.4		6.0
Green Ext Time (p_c), s	0.0	10.2		0.5	0.1	3.1		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	28.5
HCM 2010 LOS	C

Notes

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	60	120	1350	70	10	50	640
Future Volume (veh/h)	60	120	1350	70	10	50	640
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.99		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	72	109	1646	62		58	744
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.83	0.83	0.82	0.82		0.86	0.86
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	87	131	1846	69		311	2684
Arrive On Green	0.13	0.13	1.00	1.00		0.12	0.51
Sat Flow, veh/h	651	986	3572	131		1774	3632
Grp Volume(v), veh/h	182	0	834	874		58	744
Grp Sat Flow(s),veh/h/ln	1646	0	1770	1840		1774	1770
Q Serve(g_s), s	11.6	0.0	0.0	0.0		3.2	13.0
Cycle Q Clear(g_c), s	11.6	0.0	0.0	0.0		3.2	13.0
Prop In Lane	0.40	0.60		0.07		1.00	
Lane Grp Cap(c), veh/h	219	0	939	976		311	2684
V/C Ratio(X)	0.83	0.00	0.89	0.90		0.19	0.28
Avail Cap(c_a), veh/h	367	0	939	976		311	2684
HCM Platoon Ratio	1.00	1.00	2.00	2.00		0.67	0.67
Upstream Filter(I)	1.00	0.00	0.66	0.66		0.93	0.93
Uniform Delay (d), s/veh	45.6	0.0	0.0	0.0		40.7	9.6
Incr Delay (d2), s/veh	3.1	0.0	8.7	8.8		0.1	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	5.5	0.0	2.3	2.4		1.6	6.4
LnGrp Delay(d),s/veh	48.7	0.0	8.7	8.8		40.8	9.9
LnGrp LOS	D		A	A		D	A
Approach Vol, veh/h	182		1708				802
Approach Delay, s/veh	48.7		8.7				12.1
Approach LOS	D		A				B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	24.7	63.0				87.7		20.3
Change Period (Y+Rc), s	5.8	* 5.7				5.8		5.9
Max Green Setting (Gmax), s	9.6	* 57				72.2		24.1
Max Q Clear Time (g_c+I1), s	15.2	2.0				15.0		13.6
Green Ext Time (p_c), s	0.0	36.2				10.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	190	0	50	20	0	50	10	50	1150	10	10	30	610	60
Future Volume (veh/h)	190	0	50	20	0	50	10	50	1150	10	10	30	610	60
Number	7	4	14	3	8	18		1	6	16		5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	284	0	63	28	0	52		58	1337	11		37	744	56
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.67	0.67	0.67	0.72	0.72	0.72		0.86	0.86	0.86		0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	364	0	67	179	20	286		75	2064	17		47	1861	140
Arrive On Green	0.26	0.00	0.26	0.26	0.00	0.26		0.04	0.57	0.57		0.05	1.00	1.00
Sat Flow, veh/h	1166	0	259	516	76	1100		1774	3597	30		1774	3336	251
Grp Volume(v), veh/h	347	0	0	80	0	0		58	658	690		37	395	405
Grp Sat Flow(s),veh/h/ln	1425	0	0	1693	0	0		1774	1770	1857		1774	1770	1817
Q Serve(g_s), s	21.6	0.0	0.0	0.0	0.0	0.0		3.5	27.2	27.2		2.2	0.0	0.0
Cycle Q Clear(g_c), s	25.6	0.0	0.0	4.1	0.0	0.0		3.5	27.2	27.2		2.2	0.0	0.0
Prop In Lane	0.82		0.18	0.35		0.65		1.00		0.02		1.00		0.14
Lane Grp Cap(c), veh/h	431	0	0	485	0	0		75	1015	1066		47	987	1014
V/C Ratio(X)	0.80	0.00	0.00	0.16	0.00	0.00		0.78	0.65	0.65		0.79	0.40	0.40
Avail Cap(c_a), veh/h	457	0	0	513	0	0		174	1015	1066		174	987	1014
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.85	0.85	0.85		0.93	0.93	0.93
Uniform Delay (d), s/veh	38.6	0.0	0.0	31.1	0.0	0.0		51.2	15.6	15.6		50.9	0.0	0.0
Incr Delay (d2), s/veh	8.7	0.0	0.0	0.1	0.0	0.0		5.4	2.7	2.6		9.9	1.1	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	11.2	0.0	0.0	1.9	0.0	0.0		1.8	13.9	14.6		1.2	0.3	0.3
LnGrp Delay(d),s/veh	47.4	0.0	0.0	31.1	0.0	0.0		56.6	18.3	18.2		60.8	1.1	1.1
LnGrp LOS	D			C				E	B	B		E	A	A
Approach Vol, veh/h		347			80				1406				837	
Approach Delay, s/veh		47.4			31.1				19.9				3.7	
Approach LOS		D			C				B				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	66.1		33.0	7.2	67.8		33.0
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	10.6	* 53		30.1	10.6	52.2		30.1
Max Q Clear Time (g_c+I1), s	6.5	2.0		27.6	4.2	29.2		6.1
Green Ext Time (p_c), s	0.0	8.5		0.4	0.0	12.8		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	18.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	30	20	30	170	20	80	10	40	1080	190	10	100	530	50
Future Volume (veh/h)	30	20	30	170	20	80	10	40	1080	190	10	100	530	50
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.95		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	40	27	29	198	23	67		47	1271	163		120	639	54
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.75	0.75	0.75	0.86	0.86	0.86		0.85	0.85	0.85		0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	70	47	35	283	27	459		219	2326	298		144	2197	184
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31		0.25	1.00	1.00		0.08	0.46	0.46
Sat Flow, veh/h	111	155	115	766	89	1497		1774	4551	584		1774	4776	400
Grp Volume(v), veh/h	96	0	0	221	0	67		47	947	487		120	452	241
Grp Sat Flow(s),veh/h/ln	380	0	0	854	0	1497		1774	1695	1745		1774	1695	1786
Q Serve(g_s), s	5.5	0.0	0.0	0.0	0.0	4.5		2.9	0.0	0.0		9.3	11.6	11.8
Cycle Q Clear(g_c), s	40.9	0.0	0.0	35.3	0.0	4.5		2.9	0.0	0.0		9.3	11.6	11.8
Prop In Lane	0.42		0.30	0.90		1.00		1.00		0.33		1.00		0.22
Lane Grp Cap(c), veh/h	153	0	0	311	0	459		219	1733	892		144	1559	822
V/C Ratio(X)	0.63	0.00	0.00	0.71	0.00	0.15		0.21	0.55	0.55		0.84	0.29	0.29
Avail Cap(c_a), veh/h	176	0	0	332	0	482		219	1733	892		286	1559	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.90	0.90	0.90		0.91	0.91	0.91
Uniform Delay (d), s/veh	51.8	0.0	0.0	45.9	0.0	35.2		47.3	0.0	0.0		63.4	23.6	23.6
Incr Delay (d2), s/veh	3.1	0.0	0.0	5.3	0.0	0.1		0.2	1.1	2.2		4.4	0.4	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	3.8	0.0	0.0	8.6	0.0	1.9		1.4	0.3	0.5		4.7	5.6	6.0
LnGrp Delay(d),s/veh	54.9	0.0	0.0	51.2	0.0	35.3		47.5	1.1	2.2		67.8	24.0	24.4
LnGrp LOS	D			D		D		D	A	A		E	C	C
Approach Vol, veh/h		96			288				1481				813	
Approach Delay, s/veh		54.9			47.5				2.9				30.6	
Approach LOS		D			D				A				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.7	76.5		47.8	22.2	70.0		47.8
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	22.6	58.1		45.1	15.6	* 64		45.1
Max Q Clear Time (g_c+I1), s	11.3	2.0		42.9	4.9	13.8		37.3
Green Ext Time (p_c), s	0.1	46.8		0.1	0.0	13.0		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	18.0
HCM 2010 LOS	B

Notes

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	80	100	70	40	10	80	50	80	20	60	10
Future Vol, veh/h	10	80	100	70	40	10	80	50	80	20	60	10
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	95	119	90	51	13	121	76	121	27	80	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.4	10.2	11.9	9.6
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	5%	58%	22%
Vol Thru, %	24%	42%	33%	67%
Vol Right, %	38%	53%	8%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	190	120	90
LT Vol	80	10	70	20
Through Vol	50	80	40	60
RT Vol	80	100	10	10
Lane Flow Rate	318	226	154	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.441	0.316	0.235	0.18
Departure Headway (Hd)	4.988	5.034	5.503	5.41
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	722	715	652	662
Service Time	3.015	3.065	3.537	3.445
HCM Lane V/C Ratio	0.44	0.316	0.236	0.181
HCM Control Delay	11.9	10.4	10.2	9.6
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	2.3	1.4	0.9	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	40	30	80	100	40	90	10	110	1140	140	10	130	610	60
Future Volume (veh/h)	40	30	80	100	40	90	10	110	1140	140	10	130	610	60
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	48	36	72	128	51	86		120	1239	114		143	670	54
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	193	102	205	217	116	195		144	2915	268		165	2226	987
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19		0.08	0.62	0.62		0.19	1.00	1.00
Sat Flow, veh/h	1235	543	1085	1262	612	1033		1774	4726	435		1774	3539	1569
Grp Volume(v), veh/h	48	0	108	128	0	137		120	889	464		143	670	54
Grp Sat Flow(s),veh/h/ln	1235	0	1628	1262	0	1645		1774	1695	1771		1774	1770	1569
Q Serve(g_s), s	5.0	0.0	8.1	13.7	0.0	10.3		9.3	19.1	19.1		10.9	0.0	0.0
Cycle Q Clear(g_c), s	15.3	0.0	8.1	21.8	0.0	10.3		9.3	19.1	19.1		10.9	0.0	0.0
Prop In Lane	1.00		0.67	1.00		0.63		1.00		0.25		1.00		1.00
Lane Grp Cap(c), veh/h	193	0	307	217	0	310		144	2091	1092		165	2226	987
V/C Ratio(X)	0.25	0.00	0.35	0.59	0.00	0.44		0.83	0.43	0.43		0.86	0.30	0.05
Avail Cap(c_a), veh/h	349	0	513	376	0	518		400	2091	1092		400	2226	987
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.98	0.98	0.98
Uniform Delay (d), s/veh	57.1	0.0	49.4	58.8	0.0	50.3		63.4	13.9	13.9		56.1	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.5	1.9	0.0	0.7		4.7	0.6	1.2		5.0	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	3.7	4.9	0.0	4.7		4.8	9.1	9.7		5.6	0.1	0.0
LnGrp Delay(d),s/veh	57.5	0.0	49.9	60.7	0.0	51.0		68.1	14.6	15.2		61.1	0.3	0.1
LnGrp LOS	E		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		156			265				1473				867	
Approach Delay, s/veh		52.2			55.7				19.1				10.4	
Approach LOS		D			E				B				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.5	91.2		31.3	15.8	92.9		31.3
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	13.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	12.3	21.1		17.3	11.3	2.0		23.8
Green Ext Time (p_c), s	0.2	13.0		0.6	0.1	6.6		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	10	210	870	90	430	830	180	20	270	530	490	10	220	310	310
Future Volume (veh/h)	10	210	870	90	430	830	180	20	270	530	490	10	220	310	310
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		219	906	71	457	883	160		325	639	590		242	341	244
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		405	1041	82	507	985	178		344	921	646		264	421	294
Arrive On Green		0.12	0.31	0.31	0.15	0.33	0.33		0.19	0.26	0.26		0.15	0.22	0.22
Sat Flow, veh/h		3442	3310	259	3442	2974	539		1774	3539	1583		1774	1956	1366
Grp Volume(v), veh/h		219	484	493	457	525	518		325	639	590		242	308	277
Grp Sat Flow(s),veh/h/ln		1721	1770	1800	1721	1770	1743		1774	1770	1583		1774	1770	1552
Q Serve(g_s), s		9.2	39.7	39.7	20.1	43.4	43.4		27.8	25.0	40.0		20.7	25.4	26.2
Cycle Q Clear(g_c), s		9.2	39.7	39.7	20.1	43.4	43.4		27.8	25.0	40.0		20.7	25.4	26.2
Prop In Lane		1.00		0.14	1.00		0.31		1.00		1.00		1.00		0.88
Lane Grp Cap(c), veh/h		405	557	566	507	586	577		344	921	646		264	381	334
V/C Ratio(X)		0.54	0.87	0.87	0.90	0.90	0.90		0.94	0.69	0.91		0.92	0.81	0.83
Avail Cap(c_a), veh/h		672	691	703	672	691	681		346	921	646		346	461	404
HCM Platoon Ratio		1.00	1.00	1.00	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		63.9	49.7	49.7	64.4	48.9	48.9		61.1	51.3	42.9		64.4	57.3	57.6
Incr Delay (d2), s/veh		0.4	10.3	10.1	10.7	13.0	13.2		33.7	2.1	17.4		21.3	8.2	11.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		4.4	21.0	21.3	10.3	23.3	23.0		16.8	12.5	26.7		11.7	13.3	12.3
LnGrp Delay(d),s/veh		64.3	60.0	59.8	75.1	61.9	62.1		94.8	53.4	60.3		85.7	65.4	68.6
LnGrp LOS		E	E	E	E	E	E		F	D	E		F	E	E
Approach Vol, veh/h			1196			1500				1554				827	
Approach Delay, s/veh			60.7			65.9				64.7				72.4	
Approach LOS			E			E				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	27.1	54.0	34.2	38.4	23.8	57.3	27.3	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I2), s	22.1	41.7	29.8	28.2	11.2	45.4	22.7	42.0
Green Ext Time (p_c), s	0.6	6.6	0.0	2.5	0.3	5.5	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	65.4
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	70	1300	140	10	180	1160	130	250	100	130	100	120	90
Future Volume (veh/h)	20	70	1300	140	10	180	1160	130	250	100	130	100	120	90
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		80	1477	129		222	1432	125	368	147	154	127	152	89
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		100	1818	158		122	1859	161	240	96	101	121	145	85
Arrive On Green		0.06	0.55	0.55		0.02	0.19	0.19	0.25	0.25	0.25	0.20	0.20	0.20
Sat Flow, veh/h		1774	3288	285		1774	3289	285	959	383	401	604	723	423
Grp Volume(v), veh/h		80	790	816		222	766	791	669	0	0	368	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1803		1774	1770	1805	1743	0	0	1750	0	0
Q Serve(g_s), s		6.2	50.5	51.7		9.6	57.6	58.3	35.1	0.0	0.0	28.1	0.0	0.0
Cycle Q Clear(g_c), s		6.2	50.5	51.7		9.6	57.6	58.3	35.1	0.0	0.0	28.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.16	0.55		0.23	0.35		0.24
Lane Grp Cap(c), veh/h		100	978	997		122	1000	1020	437	0	0	351	0	0
V/C Ratio(X)		0.80	0.81	0.82		1.82	0.77	0.78	1.53	0.00	0.00	1.05	0.00	0.00
Avail Cap(c_a), veh/h		122	978	997		122	1000	1020	437	0	0	351	0	0
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)		1.00	1.00	1.00		0.51	0.51	0.51	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		65.3	25.3	25.6		68.4	48.2	48.5	52.5	0.0	0.0	56.0	0.0	0.0
Incr Delay (d2), s/veh		21.6	7.1	7.5		387.1	2.9	3.0	250.1	0.0	0.0	61.1	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		3.7	26.5	27.7		17.8	29.1	30.1	47.2	0.0	0.0	19.5	0.0	0.0
LnGrp Delay(d),s/veh		86.9	32.4	33.0		455.5	51.1	51.5	302.5	0.0	0.0	117.0	0.0	0.0
LnGrp LOS		F	C	C		F	D	D	F			F		
Approach Vol, veh/h			1686				1779			669			368	
Approach Delay, s/veh			35.3				101.7			302.5			117.0	
Approach LOS			D				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	84.5		33.0	12.3	86.2		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	11.6	53.7		30.1	8.2	60.3		37.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	107.9
HCM 2010 LOS	F

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	230	1060	300	10	110	860	340	10	300	790	80	10	240	440	220
Future Volume (veh/h)	10	230	1060	300	10	110	860	340	10	300	790	80	10	240	440	220
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		258	1191	249		126	989	302		319	840	64		276	506	196
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		420	1468	304		175	1195	364		364	1038	79		322	720	313
Arrive On Green		0.31	0.67	0.67		0.05	0.31	0.31		0.21	0.43	0.43		0.16	0.34	0.34
Sat Flow, veh/h		1774	2911	603		3442	3836	1170		3442	4816	365		3442	3539	1540
Grp Volume(v), veh/h		258	720	720		126	874	417		319	590	314		276	506	196
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1616		1721	1695	1791		1721	1770	1540
Q Serve(g_s), s		17.3	40.8	42.2		5.1	33.5	33.6		12.6	21.3	21.5		10.9	17.4	9.1
Cycle Q Clear(g_c), s		17.3	40.8	42.2		5.1	33.5	33.6		12.6	21.3	21.5		10.9	17.4	9.1
Prop In Lane		1.00		0.35		1.00		0.72		1.00		0.20		1.00		1.00
Lane Grp Cap(c), veh/h		420	893	880		175	1056	503		364	731	386		322	720	313
V/C Ratio(X)		0.61	0.81	0.82		0.72	0.83	0.83		0.88	0.81	0.81		0.86	0.70	0.63
Avail Cap(c_a), veh/h		420	893	880		383	1056	503		457	826	436		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		1.00	1.00	1.00		2.00	2.00	2.00		1.67	1.67	1.67
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.85	0.85	0.85		1.00	1.00	1.00
Uniform Delay (d), s/veh		42.6	18.1	18.4		65.5	44.7	44.7		54.3	37.3	37.3		58.2	42.6	15.6
Incr Delay (d2), s/veh		0.2	0.7	0.8		1.9	6.9	13.5		11.0	5.4	10.0		13.5	3.2	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		8.4	19.9	20.2		2.4	16.7	16.8		6.5	10.4	11.5		5.8	8.7	5.3
LnGrp Delay(d),s/veh		42.7	18.9	19.2		67.4	51.6	58.2		65.3	42.7	47.4		71.7	45.8	20.0
LnGrp LOS		D	B	B		E	D	E		E	D	D		E	D	B
Approach Vol, veh/h			1698				1417				1223				978	
Approach Delay, s/veh			22.6				54.9				49.8				47.9	
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	11.5	75.9	19.2	33.4	38.4	49.0	17.5	35.1
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	7.1	44.2	14.6	19.4	19.3	35.6	12.9	23.5
Green Ext Time (p_c), s	0.1	7.3	0.3	4.7	0.2	4.6	0.1	6.0

Intersection Summary	
HCM 2010 Ctrl Delay	42.1
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	110	1170	70	10	70	1070	190	40	30	50	130	40	90
Future Volume (veh/h)	20	110	1170	70	10	70	1070	190	40	30	50	130	40	90
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	0.98		0.98	0.99		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		117	1245	61		74	1138	149	48	36	43	181	56	106
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.94	0.94	0.94		0.94	0.94	0.94	0.84	0.84	0.84	0.72	0.72	0.72
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		166	3199	157		116	2859	374	250	205	171	306	275	229
Arrive On Green		0.02	0.21	0.21		0.07	1.00	1.00	0.04	0.11	0.11	0.08	0.15	0.15
Sat Flow, veh/h		3442	4966	243		3442	4542	594	1774	1863	1553	1774	1863	1548
Grp Volume(v), veh/h		117	850	456		74	849	438	48	36	43	181	56	106
Grp Sat Flow(s),veh/h/ln		1721	1695	1819		1721	1695	1746	1774	1863	1553	1774	1863	1548
Q Serve(g_s), s		4.7	30.1	30.1		2.9	0.0	0.0	3.3	2.5	3.5	10.6	3.7	8.8
Cycle Q Clear(g_c), s		4.7	30.1	30.1		2.9	0.0	0.0	3.3	2.5	3.5	10.6	3.7	8.8
Prop In Lane		1.00		0.13		1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		166	2184	1172		116	2134	1099	250	205	171	306	275	229
V/C Ratio(X)		0.71	0.39	0.39		0.64	0.40	0.40	0.19	0.18	0.25	0.59	0.20	0.46
Avail Cap(c_a), veh/h		310	2184	1172		310	2134	1099	317	547	456	306	547	454
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)		0.20	0.20	0.20		0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		67.9	31.5	31.5		64.5	0.0	0.0	52.2	56.5	57.0	50.7	52.4	54.6
Incr Delay (d2), s/veh		0.4	0.1	0.2		1.9	0.5	0.9	0.1	0.1	0.3	2.1	0.1	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		2.3	14.2	15.3		1.4	0.1	0.3	1.6	1.3	1.5	6.3	1.9	3.8
LnGrp Delay(d),s/veh		68.3	31.6	31.7		66.4	0.5	0.9	52.3	56.7	57.3	52.8	52.6	55.1
LnGrp LOS		E	C	C		E	A	A	D	E	E	D	D	E
Approach Vol, veh/h			1423				1361			127			343	
Approach Delay, s/veh			34.6				4.2			55.2			53.5	
Approach LOS			C				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	9.1	95.6	9.7	25.6	11.1	93.5	15.0	20.3
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	12.6	* 57	10.6	41.1	12.6	56.6	10.6	41.1
Max Q Clear Time (g_c+I1), s	4.7	32.1	5.3	10.8	6.7	2.0	12.6	5.5
Green Ext Time (p_c), s	0.0	15.7	0.0	0.4	0.1	15.5	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	24.7
HCM 2010 LOS	C

Notes

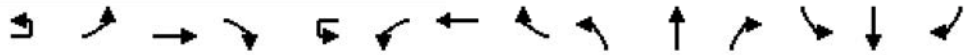


Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	20	100	1160	90	210	1200	140	90	140	400	170	150	140
Future Volume (veh/h)	20	100	1160	90	210	1200	140	90	140	400	170	150	140
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.97	1.00		0.96	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		109	1261	93	221	1263	113	106	165	406	191	169	119
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.92	0.92	0.92	0.95	0.95	0.95	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		132	1298	96	637	2655	238	153	296	809	240	652	280
Arrive On Green		0.02	0.09	0.09	0.72	1.00	1.00	0.01	0.05	0.05	0.07	0.18	0.18
Sat Flow, veh/h		1774	4819	355	1774	4738	424	3442	1863	1512	3442	3539	1522
Grp Volume(v), veh/h		109	887	467	221	904	472	106	165	406	191	169	119
Grp Sat Flow(s),veh/h/ln		1774	1695	1785	1774	1695	1772	1721	1863	1512	1721	1770	1522
Q Serve(g_s), s		8.6	36.5	36.5	6.5	0.0	0.0	4.3	12.1	4.7	7.7	5.7	9.7
Cycle Q Clear(g_c), s		8.6	36.5	36.5	6.5	0.0	0.0	4.3	12.1	4.7	7.7	5.7	9.7
Prop In Lane		1.00		0.20	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		132	913	481	637	1900	993	153	296	809	240	652	280
V/C Ratio(X)		0.82	0.97	0.97	0.35	0.48	0.48	0.69	0.56	0.50	0.80	0.26	0.42
Avail Cap(c_a), veh/h		172	913	481	637	1900	993	236	520	991	334	1090	469
HCM Platoon Ratio		0.33	0.33	0.33	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)		0.90	0.90	0.90	0.64	0.64	0.64	0.55	0.55	0.55	1.00	1.00	1.00
Uniform Delay (d), s/veh		67.4	63.2	63.2	13.6	0.0	0.0	68.0	61.5	11.5	64.1	48.9	50.5
Incr Delay (d2), s/veh		15.5	22.2	32.6	0.1	0.5	1.0	1.2	0.3	0.1	5.8	0.1	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		4.8	20.0	22.4	3.2	0.1	0.3	2.1	6.3	7.5	3.8	2.8	4.1
LnGrp Delay(d),s/veh		82.9	85.4	95.8	13.6	0.5	1.0	69.2	61.9	11.6	69.9	49.0	50.9
LnGrp LOS		F	F	F	B	A	A	E	E	B	E	D	D
Approach Vol, veh/h			1463			1597			677			479	
Approach Delay, s/veh			88.6			2.5			32.9			57.8	
Approach LOS			F			A			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	43.0	10.6	30.7	14.8	83.8	14.2	27.1
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	10.6	* 38	9.6	43.1	13.6	54.6	13.6	39.1
Max Q Clear Time (g_c+I1), s	8.5	38.5	6.3	11.7	10.6	2.0	9.7	14.1
Green Ext Time (p_c), s	0.3	0.0	0.0	0.9	0.0	31.0	0.1	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	43.5
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	40	1710	40	20	80	1400	40	40	60	180	70	40	70
Future Volume (veh/h)	10	40	1710	40	20	80	1400	40	40	60	180	70	40	70
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		44	1879	37		89	1556	35	53	79	173	92	53	70
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.91	0.91	0.91		0.90	0.90	0.90	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		56	2310	45		109	2453	55	59	88	193	103	59	78
Arrive On Green		0.06	0.90	0.90		0.12	0.96	0.96	0.21	0.21	0.21	0.14	0.14	0.14
Sat Flow, veh/h		1774	5134	101		1774	5115	115	284	424	928	730	420	555
Grp Volume(v), veh/h		44	1240	676		89	1031	560	305	0	0	215	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1844		1774	1695	1840	1636	0	0	1705	0	0
Q Serve(g_s), s		3.4	19.1	19.2		6.8	4.4	4.4	25.4	0.0	0.0	17.4	0.0	0.0
Cycle Q Clear(g_c), s		3.4	19.1	19.2		6.8	4.4	4.4	25.4	0.0	0.0	17.4	0.0	0.0
Prop In Lane		1.00		0.05		1.00		0.06	0.17		0.57	0.43		0.33
Lane Grp Cap(c), veh/h		56	1526	830		109	1626	882	340	0	0	240	0	0
V/C Ratio(X)		0.78	0.81	0.81		0.82	0.63	0.63	0.90	0.00	0.00	0.90	0.00	0.00
Avail Cap(c_a), veh/h		134	1526	830		185	1626	882	410	0	0	294	0	0
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)		0.69	0.69	0.69		0.85	0.85	0.85	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		65.1	4.8	4.8		60.6	1.6	1.6	54.0	0.0	0.0	59.2	0.0	0.0
Incr Delay (d2), s/veh		5.9	3.4	6.1		4.7	1.6	2.9	17.6	0.0	0.0	22.3	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		1.8	8.6	10.0		3.5	1.8	2.3	13.2	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh		70.9	8.2	10.9		65.3	3.2	4.5	71.5	0.0	0.0	81.5	0.0	0.0
LnGrp LOS		E	A	B		E	A	A	E			F		
Approach Vol, veh/h			1960				1680			305			215	
Approach Delay, s/veh			10.5				6.9			71.5			81.5	
Approach LOS			B				A			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	68.4		34.0	8.9	72.6		24.6
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	14.6	* 47		35.1	10.6	50.6		24.1
Max Q Clear Time (g_c+I1), s	19.8	21.2		27.4	5.4	6.4		19.4
Green Ext Time (p_c), s	0.0	21.6		0.8	0.0	21.4		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1890	140	400	1340	310	110	120	640	290	180	20
Future Volume (veh/h)	20	1890	140	400	1340	310	110	120	640	290	180	20
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1948	107	435	1457	249	126	138	644	322	200	20
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1864	102	350	2847	867	255	267	1064	293	274	27
Arrive On Green	0.03	0.76	0.76	0.20	0.56	0.56	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4925	270	1774	5085	1549	1774	1863	3066	1774	1661	166
Grp Volume(v), veh/h	21	1339	716	435	1457	249	126	138	644	322	0	220
Grp Sat Flow(s),veh/h/ln	1774	1695	1804	1774	1695	1549	1774	1863	1533	1774	0	1827
Q Serve(g_s), s	1.6	53.0	53.0	27.6	24.7	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Cycle Q Clear(g_c), s	1.6	53.0	53.0	27.6	24.7	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	28	1283	683	350	2847	867	255	267	1064	293	0	301
V/C Ratio(X)	0.74	1.04	1.05	1.24	0.51	0.29	0.49	0.52	0.61	1.10	0.00	0.73
Avail Cap(c_a), veh/h	274	1283	683	350	2847	867	255	267	1064	293	0	301
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)	0.25	0.25	0.25	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	17.0	17.0	56.2	19.0	16.2	55.3	55.5	38.5	58.4	0.0	55.5
Incr Delay (d2), s/veh	3.5	25.8	31.6	131.6	0.7	0.8	1.1	1.3	0.9	82.1	0.0	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	28.1	31.0	26.3	11.8	5.3	4.6	5.0	10.5	18.0	0.0	8.7
LnGrp Delay(d),s/veh	71.0	42.8	48.6	187.8	19.7	17.0	56.4	56.8	39.4	140.5	0.0	63.1
LnGrp LOS	E	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2076			2141			908			542	
Approach Delay, s/veh		45.1			53.5			44.4			109.1	
Approach LOS		D			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	58.5		25.0	6.6	83.9		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	3.6	26.7		25.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.3
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	1530	0	0	0	0	0	1	450
Future Volume (veh/h)	0	0	0	0	1530	0	0	0	0	0	1	450
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	1800	0				0	1	592
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.85	0.85	0.85				0.76	0.76	0.76
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	2661	829				0	473	707
Arrive On Green				0.00	0.52	0.00				0.00	0.25	0.25
Sat Flow, veh/h				0	5253	1583				0	1863	2783
Grp Volume(v), veh/h				0	1800	0				0	1	592
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1392
Q Serve(g_s), s				0.0	12.8	0.0				0.0	0.0	9.9
Cycle Q Clear(g_c), s				0.0	12.8	0.0				0.0	0.0	9.9
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	2661	829				0	473	707
V/C Ratio(X)				0.00	0.68	0.00				0.00	0.00	0.84
Avail Cap(c_a), veh/h				0	5193	1617				0	1332	1990
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	8.6	0.0				0.0	13.6	17.3
Incr Delay (d2), s/veh				0.0	0.1	0.0				0.0	0.0	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	5.9	0.0				0.0	0.0	3.9
LnGrp Delay(d),s/veh				0.0	8.7	0.0				0.0	13.6	18.3
LnGrp LOS					A						B	B
Approach Vol, veh/h					1800						593	
Approach Delay, s/veh					8.7						18.3	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				17.5		31.4		
Change Period (Y+Rc), s				5.1		5.8		
Max Green Setting (Gmax), s				35.0		50.0		
Max Q Clear Time (g_c+I1), s				11.9		14.8		
Green Ext Time (p_c), s				0.6		10.8		

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱					↑	↱↱			
Traffic Volume (veh/h)	0	2140	480	0	0	0	0	1	380	0	0	0
Future Volume (veh/h)	0	2140	480	0	0	0	0	1	380	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	2352	0				0	1	413			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.91	0.91	0.91				0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	3158	983				0	362	530			
Arrive On Green	0.00	0.62	0.00				0.00	0.19	0.19			
Sat Flow, veh/h	0	5253	1583				0	1863	2729			
Grp Volume(v), veh/h	0	2352	0				0	1	413			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1364			
Q Serve(g_s), s	0.0	19.2	0.0				0.0	0.0	8.5			
Cycle Q Clear(g_c), s	0.0	19.2	0.0				0.0	0.0	8.5			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	3158	983				0	362	530			
V/C Ratio(X)	0.00	0.74	0.00				0.00	0.00	0.78			
Avail Cap(c_a), veh/h	0	4310	1342				0	1421	2082			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	7.9	0.0				0.0	19.2	22.6			
Incr Delay (d2), s/veh	0.0	0.3	0.0				0.0	0.0	1.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	8.8	0.0				0.0	0.0	3.2			
LnGrp Delay(d),s/veh	0.0	8.2	0.0				0.0	19.2	23.5			
LnGrp LOS		A						B	C			
Approach Vol, veh/h		2352						414				
Approach Delay, s/veh		8.2						23.5				
Approach LOS		A						C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		42.4						16.6
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						45.0
Max Q Clear Time (g_c+I1), s		21.2						10.5
Green Ext Time (p_c), s		15.4						1.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	180	390	90	140	270	140	10	80	940	220	10	40	590	140
Future Volume (veh/h)	180	390	90	140	270	140	10	80	940	220	10	40	590	140
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.95		1.00		0.96		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	222	481	86	161	310	118		85	1000	171		47	694	119
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87		0.94	0.94	0.94		0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	242	555	103	206	426	267		106	1471	440		246	1331	592
Arrive On Green	0.25	0.25	0.25	0.18	0.18	0.18		0.06	0.29	0.29		0.14	0.38	0.38
Sat Flow, veh/h	965	2213	411	1165	2410	1508		1774	5085	1520		1774	3539	1573
Grp Volume(v), veh/h	417	0	372	249	222	118		85	1000	171		47	694	119
Grp Sat Flow(s),veh/h/ln	1814	0	1774	1805	1770	1508		1774	1695	1520		1774	1770	1573
Q Serve(g_s), s	31.3	0.0	27.8	18.5	16.5	9.8		6.6	24.4	12.6		3.3	21.3	7.1
Cycle Q Clear(g_c), s	31.3	0.0	27.8	18.5	16.5	9.8		6.6	24.4	12.6		3.3	21.3	7.1
Prop In Lane	0.53		0.23	0.65		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	455	0	445	319	313	267		106	1471	440		246	1331	592
V/C Ratio(X)	0.92	0.00	0.83	0.78	0.71	0.44		0.80	0.68	0.39		0.19	0.52	0.20
Avail Cap(c_a), veh/h	507	0	495	401	393	335		185	1471	440		246	1331	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	0.00	1.00	0.89	0.89	0.89		1.00	1.00	1.00		0.74	0.74	0.74
Uniform Delay (d), s/veh	51.0	0.0	49.7	55.0	54.2	51.4		65.0	44.0	39.8		53.4	33.9	29.5
Incr Delay (d2), s/veh	19.3	0.0	9.7	5.2	2.4	0.4		5.3	2.6	2.6		0.1	1.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.1	0.0	14.8	9.7	8.3	4.1		3.4	11.7	5.6		1.6	10.6	3.2
LnGrp Delay(d),s/veh	70.3	0.0	59.4	60.2	56.6	51.8		70.3	46.6	42.4		53.5	35.0	30.1
LnGrp LOS	E		E	E	E	D		E	D	D		D	C	C
Approach Vol, veh/h		789			589				1256				860	
Approach Delay, s/veh		65.2			57.2				47.6				35.3	
Approach LOS		E			E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.3	46.0		40.0	12.7	57.5		29.7
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	9.6	* 41		39.1	14.6	36.1		31.1
Max Q Clear Time (g_c+I1), s	15.3	26.4		33.3	8.6	23.3		20.5
Green Ext Time (p_c), s	0.0	7.6		1.8	0.0	9.4		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	50.2
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
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	-	-	1622	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	1021	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1622	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	150	670	260	20	210	750	140	270	470	140	10
Future Volume (veh/h)	10	150	670	260	20	210	750	140	270	470	140	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		167	744	206		226	806	117	287	500	115	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		222	1129	313		281	1339	194	342	652	149	
Arrive On Green		0.06	0.42	0.42		0.08	0.43	0.43	0.13	0.31	0.31	
Sat Flow, veh/h		3442	2717	752		3442	3094	449	3442	2829	646	
Grp Volume(v), veh/h		167	485	465		226	461	462	287	311	304	
Grp Sat Flow(s),veh/h/ln		1721	1770	1699		1721	1770	1773	1721	1770	1706	
Q Serve(g_s), s		6.0	27.8	27.8		8.1	25.2	25.2	10.3	20.1	20.4	
Cycle Q Clear(g_c), s		6.0	27.8	27.8		8.1	25.2	25.2	10.3	20.1	20.4	
Prop In Lane		1.00		0.44		1.00		0.25	1.00		0.38	
Lane Grp Cap(c), veh/h		222	736	706		281	766	768	342	408	393	
V/C Ratio(X)		0.75	0.66	0.66		0.80	0.60	0.60	0.84	0.76	0.77	
Avail Cap(c_a), veh/h		399	736	706		399	766	768	481	479	462	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.95	0.95	0.95	
Uniform Delay (d), s/veh		57.9	29.6	29.6		56.9	27.4	27.4	53.7	40.6	40.7	
Incr Delay (d2), s/veh		1.9	4.6	4.8		5.0	3.5	3.5	6.2	4.6	5.2	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		2.9	14.5	14.0		4.1	13.0	13.1	5.2	10.3	10.2	
LnGrp Delay(d),s/veh		59.9	34.2	34.4		61.9	30.9	30.9	59.9	45.2	45.9	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1117				1149			902		
Approach Delay, s/veh			38.1				37.0			50.1		
Approach LOS			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	14.7	57.4	16.9	37.0	12.5	59.5	20.0	33.9
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	10.1	29.8	12.3	34.1	8.0	27.2	16.9	22.4
Green Ext Time (p_c), s	0.2	5.4	0.3	0.0	0.1	5.6	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	95.9
HCM 2010 LOS	F

Notes



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	200	1070	150
Future Volume (veh/h)	200	1070	150
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	211	1126	126
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	220	814	91
Arrive On Green	0.12	0.25	0.25
Sat Flow, veh/h	1774	3194	357
Grp Volume(v), veh/h	211	623	629
Grp Sat Flow(s),veh/h/ln	1774	1770	1782
Q Serve(g_s), s	14.9	32.1	32.1
Cycle Q Clear(g_c), s	14.9	32.1	32.1
Prop In Lane	1.00		0.20
Lane Grp Cap(c), veh/h	220	451	454
V/C Ratio(X)	0.96	1.38	1.39
Avail Cap(c_a), veh/h	220	451	454
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	47.0	47.0
Incr Delay (d2), s/veh	49.2	185.0	187.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	38.8	39.3
LnGrp Delay(d),s/veh	104.0	232.0	234.0
LnGrp LOS	F	F	F
Approach Vol, veh/h		1463	
Approach Delay, s/veh		214.4	
Approach LOS		F	
Timer			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	30	10	90	20	10	10	10	80	850	10	10	10	1490	30
Future Volume (veh/h)	30	10	90	20	10	10	10	80	850	10	10	10	1490	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)	0.99		0.95	0.98		0.97		1.00		0.99		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	43	14	95	31	16	14		84	895	10		11	1585	26
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.69	0.69	0.69	0.64	0.64	0.64		0.95	0.95	0.95		0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	83	33	134	124	62	43		106	2642	30		18	2450	40
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14		0.08	0.98	0.98		0.01	0.69	0.69
Sat Flow, veh/h	336	240	959	577	448	305		1774	3585	40		1774	3563	58
Grp Volume(v), veh/h	152	0	0	61	0	0		84	442	463		11	786	825
Grp Sat Flow(s),veh/h/ln	1535	0	0	1331	0	0		1774	1770	1855		1774	1770	1852
Q Serve(g_s), s	6.8	0.0	0.0	0.0	0.0	0.0		5.9	0.9	0.9		0.8	31.5	31.6
Cycle Q Clear(g_c), s	11.7	0.0	0.0	4.9	0.0	0.0		5.9	0.9	0.9		0.8	31.5	31.6
Prop In Lane	0.28		0.62	0.51		0.23		1.00		0.02		1.00		0.03
Lane Grp Cap(c), veh/h	251	0	0	229	0	0		106	1304	1367		18	1217	1273
V/C Ratio(X)	0.61	0.00	0.00	0.27	0.00	0.00		0.80	0.34	0.34		0.61	0.65	0.65
Avail Cap(c_a), veh/h	387	0	0	360	0	0		234	1304	1367		191	1217	1273
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.33	1.33	1.33		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.91	0.91	0.91		0.09	0.09	0.09
Uniform Delay (d), s/veh	51.6	0.0	0.0	48.5	0.0	0.0		57.3	0.3	0.3		62.1	11.1	11.1
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.2	0.0	0.0		4.6	0.6	0.6		1.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	0.0	1.9	0.0	0.0		3.0	0.5	0.6		0.4	15.4	16.1
LnGrp Delay(d),s/veh	52.4	0.0	0.0	48.8	0.0	0.0		61.9	1.0	1.0		63.2	11.3	11.3
LnGrp LOS	D			D				E	A	A		E	B	B
Approach Vol, veh/h		152			61				989				1622	
Approach Delay, s/veh		52.4			48.8				6.1				11.7	
Approach LOS		D			D				A				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.7	97.9		22.5	11.9	91.6		22.5
Change Period (Y+Rc), s	4.4	5.0		4.9	4.4	* 5		4.9
Max Green Setting (Gmax), s	13.6	69.0		29.1	16.6	* 66		29.1
Max Q Clear Time (g_c+I1), s	2.8	2.9		13.7	7.9	33.6		6.9
Green Ext Time (p_c), s	0.0	17.1		0.5	0.0	10.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Notes



Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	50	70	830	70	10	130	1440
Future Volume (veh/h)	50	70	830	70	10	130	1440
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.94		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	56	59	883	58		134	1485
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.89	0.89	0.94	0.94		0.97	0.97
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	85	90	2246	148		158	2824
Arrive On Green	0.11	0.11	1.00	1.00		0.18	1.00
Sat Flow, veh/h	782	824	3464	221		1774	3632
Grp Volume(v), veh/h	116	0	464	477		134	1485
Grp Sat Flow(s),veh/h/ln	1620	0	1770	1823		1774	1770
Q Serve(g_s), s	8.7	0.0	0.0	0.0		9.2	0.0
Cycle Q Clear(g_c), s	8.7	0.0	0.0	0.0		9.2	0.0
Prop In Lane	0.48	0.51		0.12		1.00	
Lane Grp Cap(c), veh/h	177	0	1179	1215		158	2824
V/C Ratio(X)	0.66	0.00	0.39	0.39		0.85	0.53
Avail Cap(c_a), veh/h	310	0	1179	1215		248	2824
HCM Platoon Ratio	1.00	1.00	2.00	2.00		2.00	2.00
Upstream Filter(I)	1.00	0.00	0.94	0.94		0.69	0.69
Uniform Delay (d), s/veh	53.9	0.0	0.0	0.0		51.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.9	0.9		6.3	0.5
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	0.0	0.3	0.3		4.7	0.2
LnGrp Delay(d),s/veh	55.4	0.0	0.9	0.9		57.3	0.5
LnGrp LOS	E		A	A		E	A
Approach Vol, veh/h	116		941				1619
Approach Delay, s/veh	55.4		0.9				5.2
Approach LOS	E		A				A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.6	89.8				106.4		19.6
Change Period (Y+Rc), s	5.4	* 5.8				5.8		5.9
Max Green Setting (Gmax), s	17.6	* 67				90.2		24.1
Max Q Clear Time (g_c+I1), s	11.2	2.0				2.0		10.7
Green Ext Time (p_c), s	0.1	14.0				35.3		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	5.9
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	110	30	60	20	10	20	10	60	760	50	20	1330	140
Future Volume (veh/h)	110	30	60	20	10	20	10	60	760	50	20	1330	140
Number	7	4	14	3	8	18		1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	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	1900	1863	1900	1900	1863	1900		1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	124	34	52	31	16	23		64	809	48	22	1430	109
Adj No. of Lanes	0	1	0	0	1	0		1	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.64	0.64	0.64		0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h	185	41	60	131	70	78		82	2391	142	30	2250	171
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16		0.05	0.70	0.70	0.03	1.00	1.00
Sat Flow, veh/h	880	261	376	563	438	490		1774	3395	201	1774	3334	253
Grp Volume(v), veh/h	210	0	0	70	0	0		64	422	435	22	756	783
Grp Sat Flow(s),veh/h/ln	1516	0	0	1491	0	0		1774	1770	1827	1774	1770	1817
Q Serve(g_s), s	12.1	0.0	0.0	0.0	0.0	0.0		4.5	11.7	11.7	1.5	0.0	0.0
Cycle Q Clear(g_c), s	16.9	0.0	0.0	4.8	0.0	0.0		4.5	11.7	11.7	1.5	0.0	0.0
Prop In Lane	0.59		0.25	0.44		0.33		1.00		0.11	1.00		0.14
Lane Grp Cap(c), veh/h	286	0	0	278	0	0		82	1246	1286	30	1194	1226
V/C Ratio(X)	0.73	0.00	0.00	0.25	0.00	0.00		0.78	0.34	0.34	0.73	0.63	0.64
Avail Cap(c_a), veh/h	427	0	0	421	0	0		234	1246	1286	234	1194	1226
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.86	0.86	0.86	0.83	0.83	0.83
Uniform Delay (d), s/veh	51.4	0.0	0.0	46.5	0.0	0.0		59.4	7.2	7.2	60.6	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.2	0.0	0.0		5.1	0.6	0.6	9.8	2.1	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	7.2	0.0	0.0	2.2	0.0	0.0		2.3	5.8	6.0	0.8	0.7	0.7
LnGrp Delay(d),s/veh	52.8	0.0	0.0	46.7	0.0	0.0		64.5	7.9	7.9	70.4	2.1	2.1
LnGrp LOS	D			D				E	A	A	E	A	A
Approach Vol, veh/h		210			70				921			1561	
Approach Delay, s/veh		52.8			46.7				11.8			3.1	
Approach LOS		D			D				B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.2	90.8		24.9	6.5	94.5		24.9
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	16.6	* 63		32.1	16.6	62.2		32.1
Max Q Clear Time (g_c+I1), s	13.5	2.0		18.9	3.5	13.7		6.8
Green Ext Time (p_c), s	0.0	26.3		0.6	0.0	9.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	30	30	40	240	30	90	10	70	790	320	20	150	1150	60
Future Volume (veh/h)	30	30	40	240	30	90	10	70	790	320	20	150	1150	60
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.96		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	37	37	37	255	32	68		78	878	268		161	1237	50
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94		0.90	0.90	0.90		0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	34	33	17	258	26	532		191	1705	518		185	2163	87
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35		0.07	0.30	0.30		0.10	0.43	0.43
Sat Flow, veh/h	0	95	47	598	75	1517		1774	3845	1167		1774	5013	203
Grp Volume(v), veh/h	111	0	0	287	0	68		78	774	372		161	837	450
Grp Sat Flow(s),veh/h/ln	142	0	0	673	0	1517		1774	1695	1622		1774	1695	1825
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.3		5.9	26.5	26.7		12.5	26.1	26.1
Cycle Q Clear(g_c), s	49.1	0.0	0.0	49.1	0.0	4.3		5.9	26.5	26.7		12.5	26.1	26.1
Prop In Lane	0.33		0.33	0.89		1.00		1.00		0.72		1.00		0.11
Lane Grp Cap(c), veh/h	84	0	0	285	0	532		191	1504	719		185	1463	787
V/C Ratio(X)	1.32	0.00	0.00	1.01	0.00	0.13		0.41	0.51	0.52		0.87	0.57	0.57
Avail Cap(c_a), veh/h	84	0	0	285	0	532		198	1504	719		274	1463	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.67	0.67	0.67		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.91	0.91	0.91		0.63	0.63	0.63
Uniform Delay (d), s/veh	42.1	0.0	0.0	49.6	0.0	30.9		60.7	36.7	36.8		61.8	30.0	30.0
Incr Delay (d2), s/veh	206.0	0.0	0.0	55.4	0.0	0.0		0.5	1.1	2.4		8.7	1.0	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	8.1	0.0	0.0	15.4	0.0	1.8		2.9	12.7	12.5		6.6	12.4	13.6
LnGrp Delay(d),s/veh	248.1	0.0	0.0	105.1	0.0	30.9		61.1	37.8	39.2		70.5	31.1	32.0
LnGrp LOS	F			F		C		E	D	D		E	C	C
Approach Vol, veh/h		111			355				1224				1448	
Approach Delay, s/veh		248.1			90.9				39.7				35.7	
Approach LOS		F			F				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.0	67.0		54.0	20.0	66.0		54.0
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	21.6	35.1		49.1	15.6	* 60		49.1
Max Q Clear Time (g_c+I1), s	14.5	28.7		51.1	7.9	28.1		51.1
Green Ext Time (p_c), s	0.1	5.8		0.0	0.0	21.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	51.0
HCM 2010 LOS	D

Notes

Intersection	
Intersection Delay, s/veh	13.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	70	50	230	100	20	110	40	90	10	90	10
Future Vol, veh/h	0	70	50	230	100	20	110	40	90	10	90	10
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	106	76	264	115	23	121	44	99	12	111	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.8	17.1	12.8	10.9
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	46%	0%	66%	9%
Vol Thru, %	17%	58%	29%	82%
Vol Right, %	38%	42%	6%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	240	120	350	110
LT Vol	110	0	230	10
Through Vol	40	70	100	90
RT Vol	90	50	20	10
Lane Flow Rate	264	182	402	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.417	0.28	0.616	0.228
Departure Headway (Hd)	5.686	5.548	5.512	6.036
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	630	644	652	591
Service Time	3.753	3.621	3.569	4.114
HCM Lane V/C Ratio	0.419	0.283	0.617	0.23
HCM Control Delay	12.8	10.8	17.1	10.9
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	2.1	1.1	4.2	0.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	70	50	140	110	50	140	20	160	910	170	10	190	1110	130
Future Volume (veh/h)	70	50	140	110	50	140	20	160	910	170	10	190	1110	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)	0.99		0.96	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	74	53	109	120	54	110		176	1000	145		200	1168	97
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	204	114	234	204	115	234		510	2507	363		222	1393	604
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21		0.29	0.56	0.56		0.25	0.79	0.79
Sat Flow, veh/h	1206	531	1092	1204	538	1096		1774	4481	648		1774	3539	1534
Grp Volume(v), veh/h	74	0	162	120	0	164		176	756	389		200	1168	97
Grp Sat Flow(s),veh/h/ln	1206	0	1623	1204	0	1634		1774	1695	1739		1774	1770	1534
Q Serve(g_s), s	8.0	0.0	12.2	13.5	0.0	12.3		11.0	17.7	17.8		15.3	28.9	2.2
Cycle Q Clear(g_c), s	20.3	0.0	12.2	25.7	0.0	12.3		11.0	17.7	17.8		15.3	28.9	2.2
Prop In Lane	1.00		0.67	1.00		0.67		1.00		0.37		1.00		1.00
Lane Grp Cap(c), veh/h	204	0	347	204	0	350		510	1897	973		222	1393	604
V/C Ratio(X)	0.36	0.00	0.47	0.59	0.00	0.47		0.35	0.40	0.40		0.90	0.84	0.16
Avail Cap(c_a), veh/h	377	0	581	377	0	585		510	1897	973		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.85	0.85	0.85
Uniform Delay (d), s/veh	56.9	0.0	48.0	59.3	0.0	48.1		39.5	17.5	17.5		51.6	12.1	9.3
Incr Delay (d2), s/veh	0.8	0.0	0.7	2.0	0.0	0.7		0.1	0.6	1.2		4.6	5.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	5.6	4.6	0.0	5.6		5.4	8.5	8.9		7.7	14.3	0.9
LnGrp Delay(d),s/veh	57.7	0.0	48.8	61.3	0.0	48.8		39.6	18.1	18.7		56.2	17.4	9.8
LnGrp LOS	E		D	E		D		D	B	B		E	B	A
Approach Vol, veh/h		236			284				1321				1465	
Approach Delay, s/veh		51.6			54.1				21.2				22.2	
Approach LOS		D			D				C				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.9	83.2		34.9	45.1	60.0		34.9
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	36.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	17.3	19.8		22.3	13.0	30.9		27.7
Green Ext Time (p_c), s	0.2	8.8		1.0	0.1	11.3		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	26.6
HCM 2010 LOS	C

Notes



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	360	1000	80	530	920	170	20	180	410	490	320	690	310
Future Volume (veh/h)	20	360	1000	80	530	920	170	20	180	410	490	320	690	310
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		375	1042	64	564	979	147		191	436	409	372	802	262
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		524	1106	68	580	1020	153		210	795	606	299	716	234
Arrive On Green		0.15	0.33	0.33	0.17	0.33	0.33		0.12	0.22	0.22	0.17	0.27	0.27
Sat Flow, veh/h		3442	3379	207	3442	3070	461		1774	3539	1509	1774	2606	851
Grp Volume(v), veh/h		375	546	560	564	564	562		191	436	409	372	544	520
Grp Sat Flow(s),veh/h/ln		1721	1770	1817	1721	1770	1761		1774	1770	1509	1774	1770	1688
Q Serve(g_s), s		18.5	53.4	53.4	29.0	55.6	55.7		18.9	19.4	40.0	30.0	48.9	48.9
Cycle Q Clear(g_c), s		18.5	53.4	53.4	29.0	55.6	55.7		18.9	19.4	40.0	30.0	48.9	48.9
Prop In Lane		1.00		0.11	1.00		0.26		1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h		524	579	595	580	588	585		210	795	606	299	486	463
V/C Ratio(X)		0.72	0.94	0.94	0.97	0.96	0.96		0.91	0.55	0.68	1.24	1.12	1.12
Avail Cap(c_a), veh/h		580	596	612	580	596	593		299	795	606	299	486	463
HCM Platoon Ratio		1.00	1.00	1.00	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		71.8	58.3	58.3	73.6	58.3	58.3		77.5	61.1	45.0	74.0	64.6	64.6
Incr Delay (d2), s/veh		3.0	23.3	23.0	30.3	26.8	27.2		19.4	0.6	2.7	135.1	78.1	79.3
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		9.0	29.8	30.6	16.2	31.6	31.6		10.4	9.6	17.2	25.9	34.4	33.0
LnGrp Delay(d),s/veh		74.8	81.6	81.2	104.0	85.1	85.5		96.9	61.7	47.7	209.1	142.7	143.9
LnGrp LOS		E	F	F	F	F	F		F	E	D	F	F	F
Approach Vol, veh/h			1481			1690				1036			1436	
Approach Delay, s/veh			79.7			91.5				62.7			160.3	
Approach LOS			E			F				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	34.4	64.0	25.5	54.2	32.8	65.6	34.4	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	31.0	55.4	20.9	50.9	20.5	57.7	32.0	42.0
Green Ext Time (p_c), s	0.0	2.8	0.2	0.0	0.5	1.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	100.6
HCM 2010 LOS	F

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	60	1500	180	50	150	1450	120	100	60	60	90	160	150
Future Volume (veh/h)	10	60	1500	180	50	150	1450	120	100	60	60	90	160	150
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		63	1579	145		160	1543	97	112	67	55	99	176	125
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		176	1426	130		172	1421	89	125	75	61	77	138	98
Arrive On Green		0.10	0.43	0.43		0.03	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3280	298		1774	3383	212	833	499	409	432	767	545
Grp Volume(v), veh/h		63	845	879		160	803	837	234	0	0	400	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1809		1774	1770	1825	1741	0	0	1744	0	0
Q Serve(g_s), s		4.6	60.9	60.9		12.6	58.8	58.8	18.5	0.0	0.0	25.1	0.0	0.0
Cycle Q Clear(g_c), s		4.6	60.9	60.9		12.6	58.8	58.8	18.5	0.0	0.0	25.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.12	0.48		0.24	0.25		0.31
Lane Grp Cap(c), veh/h		176	769	786		172	743	767	261	0	0	313	0	0
V/C Ratio(X)		0.36	1.10	1.12		0.93	1.08	1.09	0.90	0.00	0.00	1.28	0.00	0.00
Avail Cap(c_a), veh/h		176	769	786		172	743	767	312	0	0	313	0	0
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)		1.00	1.00	1.00		0.09	0.09	0.09	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		58.9	39.6	39.6		67.3	60.3	60.3	58.5	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh		0.5	62.8	69.5		8.4	39.1	43.4	22.2	0.0	0.0	148.1	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.3	43.1	45.6		6.6	36.9	39.0	10.5	0.0	0.0	24.9	0.0	0.0
LnGrp Delay(d),s/veh		59.4	102.3	109.1		75.7	99.4	103.7	80.6	0.0	0.0	205.5	0.0	0.0
LnGrp LOS		E	F	F		E	F	F	F			F		
Approach Vol, veh/h			1787				1800			234			400	
Approach Delay, s/veh			104.1				99.3			80.6			205.5	
Approach LOS			F				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.0	66.2		30.0	19.2	65.0		25.8
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	14.6	62.9		27.1	6.6	60.8		20.5
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	110.4
HCM 2010 LOS	F

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	350	1040	280	10	330	1120	370	20	280	550	120	30	420	690	250
Future Volume (veh/h)	10	350	1040	280	10	330	1120	370	20	280	550	120	30	420	690	250
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		380	1130	231		367	1244	324		311	611	101		472	775	221
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		362	1033	210		540	1249	325		359	844	137		525	852	355
Arrive On Green		0.07	0.12	0.12		0.05	0.10	0.10		0.21	0.39	0.39		0.15	0.24	0.24
Sat Flow, veh/h		1774	2909	590		3442	3974	1034		3442	4382	712		3442	3539	1476
Grp Volume(v), veh/h		380	684	677		367	1061	507		311	470	242		472	775	221
Grp Sat Flow(s),veh/h/ln		1774	1770	1729		1721	1695	1619		1721	1695	1703		1721	1770	1476
Q Serve(g_s), s		28.6	49.7	49.7		14.7	43.8	43.8		12.2	16.5	17.0		18.9	29.8	18.7
Cycle Q Clear(g_c), s		28.6	49.7	49.7		14.7	43.8	43.8		12.2	16.5	17.0		18.9	29.8	18.7
Prop In Lane		1.00		0.34		1.00		0.64		1.00		0.42		1.00		1.00
Lane Grp Cap(c), veh/h		362	628	614		540	1065	508		359	653	328		525	852	355
V/C Ratio(X)		1.05	1.09	1.10		0.68	1.00	1.00		0.87	0.72	0.74		0.90	0.91	0.62
Avail Cap(c_a), veh/h		362	628	614		540	1065	508		556	753	378		629	862	360
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.09	0.09	0.09		0.82	0.82	0.82		0.92	0.92	0.92		1.00	1.00	1.00
Uniform Delay (d), s/veh		65.3	61.8	61.8		62.9	62.7	62.7		54.4	39.8	40.0		58.3	51.7	47.5
Incr Delay (d2), s/veh		29.1	43.2	48.6		2.3	24.1	35.5		5.2	3.4	7.4		12.9	13.8	4.2
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		17.0	31.9	32.1		7.2	24.2	24.7		6.0	8.0	8.6		9.9	16.2	8.0
LnGrp Delay(d),s/veh		94.4	105.0	110.4		65.2	86.8	98.2		59.6	43.2	47.3		71.2	65.5	51.6
LnGrp LOS		F	F	F		E	F	F		E	D	D		E	E	D
Approach Vol, veh/h			1741				1935				1023				1468	
Approach Delay, s/veh			104.8				85.7				49.2				65.2	
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	27.4	55.0	19.0	38.6	33.0	49.4	25.7	31.9
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	14.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	16.7	51.7	14.2	31.8	30.6	45.8	20.9	19.0
Green Ext Time (p_c), s	0.0	0.0	0.4	1.6	0.0	0.0	0.5	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	80.2
HCM 2010 LOS	F

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	180	1200	160	40	160	1340	150	130	50	130	250	80	230
Future Volume (veh/h)	10	180	1200	160	40	160	1340	150	130	50	130	250	80	230
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.98	0.98		0.95	0.97		0.97
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		196	1304	146		163	1367	110	144	56	104	284	91	191
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.92	0.92	0.92		0.98	0.98	0.98	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		242	2354	264		210	2390	192	378	394	317	420	405	333
Arrive On Green		0.14	1.00	1.00		0.12	1.00	1.00	0.08	0.21	0.21	0.08	0.22	0.22
Sat Flow, veh/h		3442	4633	519		3442	4792	386	1774	1863	1497	1774	1863	1531
Grp Volume(v), veh/h		196	954	496		163	967	510	144	56	104	284	91	191
Grp Sat Flow(s),veh/h/ln		1721	1695	1761		1721	1695	1787	1774	1863	1497	1774	1863	1531
Q Serve(g_s), s		7.7	0.0	0.0		6.4	0.2	0.2	8.8	3.4	8.2	11.6	5.6	15.6
Cycle Q Clear(g_c), s		7.7	0.0	0.0		6.4	0.2	0.2	8.8	3.4	8.2	11.6	5.6	15.6
Prop In Lane		1.00		0.29		1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		242	1723	895		210	1691	892	378	394	317	420	405	333
V/C Ratio(X)		0.81	0.55	0.55		0.78	0.57	0.57	0.38	0.14	0.33	0.68	0.22	0.57
Avail Cap(c_a), veh/h		334	1723	895		334	1691	892	388	573	461	420	573	471
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		0.58	0.58	0.58	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		59.2	0.0	0.0		60.5	0.1	0.1	38.7	44.9	46.8	43.4	45.1	49.0
Incr Delay (d2), s/veh		0.7	0.1	0.2		1.4	0.8	1.5	0.2	0.1	0.2	3.5	0.1	0.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		3.7	0.0	0.1		3.1	0.2	0.4	4.3	1.8	3.4	9.0	2.9	6.7
LnGrp Delay(d),s/veh		59.9	0.1	0.2		61.9	0.9	1.6	38.9	44.9	47.0	46.9	45.2	49.6
LnGrp LOS		E	A	A		E	A	A	D	D	D	D	D	D
Approach Vol, veh/h			1646				1640			304			566	
Approach Delay, s/veh			7.3				7.2			42.8			47.5	
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	12.9	76.5	15.2	35.4	14.2	75.2	16.0	34.5
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	13.6	* 53	11.6	43.1	13.6	52.6	11.6	43.1
Max Q Clear Time (g_c+I1), s	9.4	2.0	10.8	17.6	9.7	2.2	13.6	10.2
Green Ext Time (p_c), s	0.1	27.8	0.0	0.7	0.1	18.8	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B

Notes

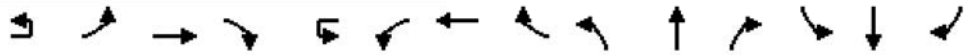


Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	40	150	1270	130	340	1560	180	90	130	220	300	450	240
Future Volume (veh/h)	40	150	1270	130	340	1560	180	90	130	220	300	450	240
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.95	1.00		0.93	1.00		0.95
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		160	1351	108	370	1696	145	101	146	212	341	511	212
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		184	1607	128	396	2166	185	148	372	647	359	925	393
Arrive On Green		0.10	0.34	0.34	0.15	0.31	0.31	0.04	0.20	0.20	0.10	0.26	0.26
Sat Flow, veh/h		1774	4782	382	1774	4752	405	3442	1863	1466	3442	3539	1503
Grp Volume(v), veh/h		160	958	501	370	1209	632	101	146	212	341	511	212
Grp Sat Flow(s),veh/h/ln		1774	1695	1774	1774	1695	1767	1721	1863	1466	1721	1770	1503
Q Serve(g_s), s		12.4	36.6	36.6	28.9	45.5	45.8	4.1	9.5	13.7	13.8	17.4	17.0
Cycle Q Clear(g_c), s		12.4	36.6	36.6	28.9	45.5	45.8	4.1	9.5	13.7	13.8	17.4	17.0
Prop In Lane		1.00		0.22	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		184	1139	596	396	1545	806	148	372	647	359	925	393
V/C Ratio(X)		0.87	0.84	0.84	0.93	0.78	0.78	0.68	0.39	0.33	0.95	0.55	0.54
Avail Cap(c_a), veh/h		236	1139	596	527	1545	806	310	494	742	359	988	420
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)		0.79	0.79	0.79	0.55	0.55	0.55	0.55	0.55	0.55	1.00	1.00	1.00
Uniform Delay (d), s/veh		61.8	43.0	43.0	58.5	42.3	42.3	66.1	48.6	27.2	62.3	44.6	44.5
Incr Delay (d2), s/veh		16.7	6.1	11.0	11.4	2.2	4.3	1.1	0.1	0.1	34.3	0.3	0.5
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		6.9	18.1	19.8	15.4	21.8	23.3	2.0	4.9	5.5	8.3	8.6	7.1
LnGrp Delay(d),s/veh		78.6	49.1	54.0	69.9	44.5	46.6	67.2	48.8	27.3	96.6	44.9	44.9
LnGrp LOS		E	D	D	E	D	D	E	D	C	F	D	D
Approach Vol, veh/h			1619			2211			459			1064	
Approach Delay, s/veh			53.5			49.4			42.9			61.5	
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	15.7	52.4	10.4	41.5	18.9	69.2	19.0	32.9
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	11.6	* 28	12.6	39.1	18.6	50.6	14.6	37.1
Max Q Clear Time (g_c+I1), s	10.9	38.6	6.1	19.4	14.4	47.8	15.8	15.7
Green Ext Time (p_c), s	0.4	0.0	0.1	2.6	0.1	2.7	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	52.5
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	100	1600	100	10	130	2000	50	30	20	90	50	60	70
Future Volume (veh/h)	20	100	1600	100	10	130	2000	50	30	20	90	50	60	70
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	1.00		0.95	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		109	1739	92		135	2083	43	33	22	73	60	71	65
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.92	0.92	0.92		0.96	0.96	0.96	0.92	0.92	0.92	0.84	0.84	0.84
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		362	2605	138		157	2072	43	52	34	114	64	75	69
Arrive On Green		0.27	0.70	0.70		0.18	0.81	0.81	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h		1774	4945	261		1774	5126	106	418	279	925	522	618	566
Grp Volume(v), veh/h		109	1192	639		135	1376	750	128	0	0	196	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1816		1774	1695	1842	1623	0	0	1706	0	0
Q Serve(g_s), s		6.8	27.7	27.7		10.3	56.6	56.6	10.5	0.0	0.0	15.9	0.0	0.0
Cycle Q Clear(g_c), s		6.8	27.7	27.7		10.3	56.6	56.6	10.5	0.0	0.0	15.9	0.0	0.0
Prop In Lane		1.00		0.14		1.00		0.06	0.26		0.57	0.31		0.33
Lane Grp Cap(c), veh/h		362	1786	957		157	1371	745	200	0	0	208	0	0
V/C Ratio(X)		0.30	0.67	0.67		0.86	1.00	1.01	0.64	0.00	0.00	0.94	0.00	0.00
Avail Cap(c_a), veh/h		362	1786	957		248	1371	745	407	0	0	208	0	0
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)		0.54	0.54	0.54		0.69	0.69	0.69	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		43.1	14.0	14.1		56.8	13.4	13.4	58.4	0.0	0.0	60.9	0.0	0.0
Incr Delay (d2), s/veh		0.1	1.1	2.0		7.1	21.2	29.0	1.3	0.0	0.0	45.2	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		3.4	13.1	14.3		5.3	28.8	32.9	4.8	0.0	0.0	10.1	0.0	0.0
LnGrp Delay(d),s/veh		43.2	15.1	16.1		63.9	34.6	42.4	59.7	0.0	0.0	106.1	0.0	0.0
LnGrp LOS		D	B	B		E	F	F	E			F		
Approach Vol, veh/h			1940				2261			128			196	
Approach Delay, s/veh			17.0				39.0			59.7			106.1	
Approach LOS			B				D			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.8	79.1		22.2	33.8	62.0		22.0
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 5.4		4.9
Max Green Setting (Gmax), s	12.6	48.7		35.1	11.6	* 57		17.1
Max Q Clear Time (g_c+I1), s	12.3	29.7		12.5	8.8	58.6		17.9
Green Ext Time (p_c), s	0.1	16.2		0.5	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.0
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1490	180	440	2000	320	130	70	300	220	180	50
Future Volume (veh/h)	50	1490	180	440	2000	320	130	70	300	220	180	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	1536	141	454	2062	239	114	128	293	244	200	50
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1940	178	400	3139	976	173	182	1011	191	154	38
Arrive On Green	0.07	0.86	0.86	0.23	0.62	0.62	0.10	0.10	0.10	0.11	0.11	0.11
Sat Flow, veh/h	1774	4523	415	1774	5085	1581	1774	1863	3036	1774	1424	356
Grp Volume(v), veh/h	52	1075	602	454	2062	239	114	128	293	244	0	250
Grp Sat Flow(s),veh/h/ln	1774	1583	1771	1774	1695	1581	1774	1863	1518	1774	0	1780
Q Serve(g_s), s	4.0	21.0	21.1	31.6	36.6	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Cycle Q Clear(g_c), s	4.0	21.0	21.1	31.6	36.6	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	66	1358	760	400	3139	976	173	182	1011	191	0	192
V/C Ratio(X)	0.78	0.79	0.79	1.13	0.66	0.24	0.66	0.70	0.29	1.28	0.00	1.30
Avail Cap(c_a), veh/h	134	1358	760	400	3139	976	318	334	1259	191	0	192
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)	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.2	7.2	7.2	54.2	17.3	12.1	60.9	61.2	35.5	62.5	0.0	62.5
Incr Delay (d2), s/veh	4.8	3.1	5.5	86.7	1.1	0.6	3.2	3.7	0.1	158.0	0.0	168.6
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	8.9	10.8	25.1	17.3	4.3	4.4	5.0	4.3	15.8	0.0	16.4
LnGrp Delay(d),s/veh	69.0	10.3	12.7	140.9	18.3	12.7	64.1	64.9	35.6	220.5	0.0	231.1
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1729			2755			535			494	
Approach Delay, s/veh		12.9			38.0			48.7			225.8	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	65.5		20.0	9.6	91.8		18.5
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	11.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	13.6	23.1		17.1	6.0	38.6		12.1
Green Ext Time (p_c), s	0.0	19.8		0.0	0.0	25.2		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	48.0
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	2380	0	0	0	0	0	1	370
Future Volume (veh/h)	0	0	0	0	2380	0	0	0	0	0	1	370
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.98
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	2479	0				0	1	407
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	3352	1044				0	343	504
Arrive On Green				0.00	0.66	0.00				0.00	0.18	0.18
Sat Flow, veh/h				0	5253	1583				0	1863	2732
Grp Volume(v), veh/h				0	2479	0				0	1	407
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1366
Q Serve(g_s), s				0.0	18.6	0.0				0.0	0.0	8.2
Cycle Q Clear(g_c), s				0.0	18.6	0.0				0.0	0.0	8.2
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	3352	1044				0	343	504
V/C Ratio(X)				0.00	0.74	0.00				0.00	0.00	0.81
Avail Cap(c_a), veh/h				0	4536	1412				0	1153	1691
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	6.5	0.0				0.0	19.1	22.5
Incr Delay (d2), s/veh				0.0	0.3	0.0				0.0	0.0	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	8.6	0.0				0.0	0.0	3.2
LnGrp Delay(d),s/veh				0.0	6.8	0.0				0.0	19.1	23.7
LnGrp LOS					A						B	C
Approach Vol, veh/h					2479						408	
Approach Delay, s/veh					6.8						23.7	
Approach LOS					A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				15.1		42.4		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				35.6		51.3		
Max Q Clear Time (g_c+I1), s				10.2		20.6		
Green Ext Time (p_c), s				0.4		17.3		

Intersection Summary	
HCM 2010 Ctrl Delay	9.2
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱					↑	↱↱			
Traffic Volume (veh/h)	0	1560	410	0	0	0	0	1	510	0	0	0
Future Volume (veh/h)	0	1560	410	0	0	0	0	1	510	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	1642	0				0	1	560			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.95	0.95	0.95				0.91	0.91	0.91			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	2509	781				0	496	720			
Arrive On Green	0.00	0.49	0.00				0.00	0.27	0.27			
Sat Flow, veh/h	0	5253	1583				0	1863	2702			
Grp Volume(v), veh/h	0	1642	0				0	1	560			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1351			
Q Serve(g_s), s	0.0	11.0	0.0				0.0	0.0	8.7			
Cycle Q Clear(g_c), s	0.0	11.0	0.0				0.0	0.0	8.7			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	2509	781				0	496	720			
V/C Ratio(X)	0.00	0.65	0.00				0.00	0.00	0.78			
Avail Cap(c_a), veh/h	0	5600	1744				0	1846	2678			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	8.6	0.0				0.0	12.2	15.4			
Incr Delay (d2), s/veh	0.0	0.1	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			
%ile BackOfQ(50%),veh/ln	0.0	5.0	0.0				0.0	0.0	3.3			
LnGrp Delay(d),s/veh	0.0	8.7	0.0				0.0	12.2	16.1			
LnGrp LOS		A						B	B			
Approach Vol, veh/h		1642						561				
Approach Delay, s/veh		8.7						16.1				
Approach LOS		A						B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		28.2						17.2
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						45.0
Max Q Clear Time (g_c+I1), s		13.0						10.7
Green Ext Time (p_c), s		9.4						1.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	190	270	140	380	360	140	10	110	590	190	10	110	1050	270
Future Volume (veh/h)	190	270	140	380	360	140	10	110	590	190	10	110	1050	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		0.95	1.00		0.95		1.00		0.94		1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	211	300	117	447	424	127		115	615	151		113	1082	214
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85		0.96	0.96	0.96		0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	238	356	144	445	444	379		134	1398	409		213	1157	509
Arrive On Green	0.21	0.21	0.21	0.25	0.25	0.25		0.08	0.28	0.28		0.12	0.33	0.33
Sat Flow, veh/h	1131	1693	684	1774	1770	1511		1774	5085	1487		1774	3539	1556
Grp Volume(v), veh/h	337	0	291	447	424	127		115	615	151		113	1082	214
Grp Sat Flow(s),veh/h/ln	1806	0	1701	1774	1770	1511		1774	1695	1487		1774	1770	1556
Q Serve(g_s), s	25.4	0.0	22.8	35.1	33.1	9.6		9.0	14.0	11.5		8.4	41.5	15.0
Cycle Q Clear(g_c), s	25.4	0.0	22.8	35.1	33.1	9.6		9.0	14.0	11.5		8.4	41.5	15.0
Prop In Lane	0.63		0.40	1.00		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	379	0	357	445	444	379		134	1398	409		213	1157	509
V/C Ratio(X)	0.89	0.00	0.81	1.00	0.96	0.34		0.86	0.44	0.37		0.53	0.93	0.42
Avail Cap(c_a), veh/h	401	0	378	445	444	379		134	1398	409		213	1157	509
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.49	0.49	0.49		1.00	1.00	1.00		0.18	0.18	0.18
Uniform Delay (d), s/veh	53.7	0.0	52.7	52.5	51.7	42.9		63.9	41.9	41.0		57.9	45.7	36.8
Incr Delay (d2), s/veh	19.2	0.0	11.2	31.0	19.7	0.1		37.2	1.0	2.6		0.2	3.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.7	0.0	11.9	21.0	18.6	4.0		5.8	6.7	5.0		4.1	20.9	6.5
LnGrp Delay(d),s/veh	72.9	0.0	63.9	83.5	71.4	43.0		101.2	42.9	43.5		58.2	49.3	37.2
LnGrp LOS	E		E	F	E	D		F	D	D		E	D	D
Approach Vol, veh/h		628			998				881				1409	
Approach Delay, s/veh		68.7			73.2				50.6				48.2	
Approach LOS		E			E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.7	44.0		34.3	15.0	50.7		40.0
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	15.6	* 39		31.1	10.6	44.1		35.1
Max Q Clear Time (g_c+I1), s	10.4	16.0		27.4	11.0	43.5		37.1
Green Ext Time (p_c), s	0.1	6.1		1.0	0.0	0.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	58.4
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
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	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
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	-	-	1622	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	1021	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1622	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Appendix K
Peak Hour Intersection LOS Worksheets – Horizon Year 2050 Plus Project Conditions

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	210	440	192	10	190	550	360	245	1242	90	10
Future Volume (veh/h)	10	210	440	192	10	190	550	360	245	1242	90	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		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	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		221	463	161		204	591	284	253	1280	72	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		285	854	294		622	1001	481	314	1105	62	
Arrive On Green		0.08	0.33	0.33		0.18	0.44	0.44	0.12	0.43	0.43	
Sat Flow, veh/h		3442	2562	883		3442	2293	1101	3442	3401	191	
Grp Volume(v), veh/h		221	318	306		204	456	419	253	665	687	
Grp Sat Flow(s),veh/h/ln		1721	1770	1675		1721	1770	1625	1721	1770	1822	
Q Serve(g_s), s		6.8	15.8	16.1		5.6	21.1	21.2	7.7	35.1	35.1	
Cycle Q Clear(g_c), s		6.8	15.8	16.1		5.6	21.1	21.2	7.7	35.1	35.1	
Prop In Lane		1.00		0.53		1.00		0.68	1.00		0.10	
Lane Grp Cap(c), veh/h		285	590	558		622	773	709	314	575	592	
V/C Ratio(X)		0.77	0.54	0.55		0.33	0.59	0.59	0.80	1.16	1.16	
Avail Cap(c_a), veh/h		433	590	558		622	773	709	402	575	592	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.54	0.54	0.54	
Uniform Delay (d), s/veh		48.5	29.3	29.4		38.5	23.1	23.1	46.5	30.7	30.7	
Incr Delay (d2), s/veh		2.1	3.5	3.8		0.1	3.3	3.6	3.9	81.1	82.4	
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		3.3	8.3	8.0		2.7	11.0	10.1	3.8	30.0	31.1	
LnGrp Delay(d),s/veh		50.6	32.8	33.2		38.7	26.4	26.7	50.4	111.8	113.0	
LnGrp LOS		D	C	C		D	C	C	D	F	F	
Approach Vol, veh/h			845				1079			1605		
Approach Delay, s/veh			37.6				28.8			102.6		
Approach LOS			D				C			F		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.6	41.0	14.3	40.2	13.4	52.3	14.5	40.0
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	7.6	18.1	9.7	23.7	8.8	23.2	11.6	37.1
Green Ext Time (p_c), s	0.0	3.9	0.1	2.0	0.2	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	68.2
HCM 2010 LOS	E

Notes



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	190	537	190
Future Volume (veh/h)	190	537	190
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	216	610	182
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	158	870	259
Arrive On Green	0.09	0.33	0.33
Sat Flow, veh/h	1774	2660	792
Grp Volume(v), veh/h	216	405	387
Grp Sat Flow(s),veh/h/ln	1774	1770	1683
Q Serve(g_s), s	9.6	21.6	21.7
Cycle Q Clear(g_c), s	9.6	21.6	21.7
Prop In Lane	1.00		0.47
Lane Grp Cap(c), veh/h	158	579	551
V/C Ratio(X)	1.37	0.70	0.70
Avail Cap(c_a), veh/h	158	579	551
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	31.7	31.7
Incr Delay (d2), s/veh	201.3	3.2	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	11.1	10.6
LnGrp Delay(d),s/veh	250.5	34.9	35.1
LnGrp LOS	F	C	D
Approach Vol, veh/h		1008	
Approach Delay, s/veh		81.2	
Approach LOS		F	
Timer			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	40	10	70	20	20	20	10	80	1478	20	10	130	600	90
Future Volume (veh/h)	40	10	70	20	20	20	10	80	1478	20	10	130	600	90
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.97		1.00		1.00		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	53	13	66	25	25	20		89	1642	21		141	652	91
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.79	0.79	0.79		0.90	0.90	0.90		0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	107	30	91	94	88	55		650	2372	30		158	1186	165
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12		0.25	0.44	0.44		0.09	0.38	0.38
Sat Flow, veh/h	525	261	786	421	759	472		1774	3578	46		1774	3117	434
Grp Volume(v), veh/h	132	0	0	70	0	0		89	811	852		141	370	373
Grp Sat Flow(s),veh/h/ln	1572	0	0	1653	0	0		1774	1770	1854		1774	1770	1781
Q Serve(g_s), s	4.5	0.0	0.0	0.0	0.0	0.0		4.2	39.7	39.8		8.5	17.7	17.7
Cycle Q Clear(g_c), s	8.5	0.0	0.0	4.0	0.0	0.0		4.2	39.7	39.8		8.5	17.7	17.7
Prop In Lane	0.40		0.50	0.36		0.29		1.00		0.02		1.00		0.24
Lane Grp Cap(c), veh/h	229	0	0	237	0	0		650	1173	1229		158	673	678
V/C Ratio(X)	0.58	0.00	0.00	0.30	0.00	0.00		0.14	0.69	0.69		0.89	0.55	0.55
Avail Cap(c_a), veh/h	498	0	0	515	0	0		650	1173	1229		158	673	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.67	0.67	0.67		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.54	0.54	0.54		0.54	0.54	0.54
Uniform Delay (d), s/veh	45.8	0.0	0.0	44.0	0.0	0.0		27.4	21.2	21.2		48.7	26.2	26.2
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.3	0.0	0.0		0.0	1.8	1.8		26.8	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	1.9	0.0	0.0		2.1	20.0	21.0		5.3	9.0	9.0
LnGrp Delay(d),s/veh	46.7	0.0	0.0	44.2	0.0	0.0		27.4	23.0	23.0		75.5	27.9	28.0
LnGrp LOS	D			D				C	C	C		E	C	C
Approach Vol, veh/h		132			70				1752				884	
Approach Delay, s/veh		46.7			44.2				23.2				35.5	
Approach LOS		D			D				C				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	76.6		17.4	44.6	46.0		17.4
Change Period (Y+Rc), s	4.4	5.0		4.9	5.0	* 4.9		4.9
Max Green Setting (Gmax), s	9.6	52.0		32.1	20.6	* 41		32.1
Max Q Clear Time (g_c+I1), s	10.5	41.8		10.5	6.2	19.7		6.0
Green Ext Time (p_c), s	0.0	9.3		0.5	0.1	3.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	28.7
HCM 2010 LOS	C

Notes



Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	61	120	1378	72	10	50	650
Future Volume (veh/h)	61	120	1378	72	10	50	650
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.99		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	73	109	1680	65		58	756
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.83	0.83	0.82	0.82		0.86	0.86
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	88	131	1844	71		310	2682
Arrive On Green	0.13	0.13	1.00	1.00		0.12	0.51
Sat Flow, veh/h	657	981	3568	134		1774	3632
Grp Volume(v), veh/h	183	0	852	893		58	756
Grp Sat Flow(s),veh/h/ln	1646	0	1770	1839		1774	1770
Q Serve(g_s), s	11.7	0.0	0.0	0.0		3.2	13.3
Cycle Q Clear(g_c), s	11.7	0.0	0.0	0.0		3.2	13.3
Prop In Lane	0.40	0.60		0.07		1.00	
Lane Grp Cap(c), veh/h	220	0	939	976		310	2682
V/C Ratio(X)	0.83	0.00	0.91	0.91		0.19	0.28
Avail Cap(c_a), veh/h	367	0	939	976		310	2682
HCM Platoon Ratio	1.00	1.00	2.00	2.00		0.67	0.67
Upstream Filter(I)	1.00	0.00	0.64	0.64		0.93	0.93
Uniform Delay (d), s/veh	45.6	0.0	0.0	0.0		40.8	9.7
Incr Delay (d2), s/veh	3.1	0.0	9.8	10.0		0.1	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	5.5	0.0	2.5	2.7		1.6	6.6
LnGrp Delay(d),s/veh	48.7	0.0	9.8	10.0		40.9	9.9
LnGrp LOS	D		A	B		D	A
Approach Vol, veh/h	183		1745				814
Approach Delay, s/veh	48.7		9.9				12.1
Approach LOS	D		A				B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	24.7	63.0				87.7		20.3
Change Period (Y+Rc), s	5.8	* 5.7				5.8		5.9
Max Green Setting (Gmax), s	9.6	* 57				72.2		24.1
Max Q Clear Time (g_c+I1), s	15.2	2.0				15.3		13.7
Green Ext Time (p_c), s	0.0	37.3				10.5		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.2
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	190	0	50	20	0	50	10	50	1180	10	10	30	620	60
Future Volume (veh/h)	190	0	50	20	0	50	10	50	1180	10	10	30	620	60
Number	7	4	14	3	8	18		1	6	16		5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	284	0	63	28	0	52		58	1372	11		37	756	56
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.67	0.67	0.67	0.72	0.72	0.72		0.86	0.86	0.86		0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	364	0	67	179	20	286		75	2065	17		47	1864	138
Arrive On Green	0.26	0.00	0.26	0.26	0.00	0.26		0.04	0.57	0.57		0.05	1.00	1.00
Sat Flow, veh/h	1166	0	259	516	76	1100		1774	3598	29		1774	3340	247
Grp Volume(v), veh/h	347	0	0	80	0	0		58	675	708		37	400	412
Grp Sat Flow(s),veh/h/ln	1425	0	0	1693	0	0		1774	1770	1858		1774	1770	1818
Q Serve(g_s), s	21.6	0.0	0.0	0.0	0.0	0.0		3.5	28.4	28.4		2.2	0.0	0.0
Cycle Q Clear(g_c), s	25.6	0.0	0.0	4.1	0.0	0.0		3.5	28.4	28.4		2.2	0.0	0.0
Prop In Lane	0.82		0.18	0.35		0.65		1.00		0.02		1.00		0.14
Lane Grp Cap(c), veh/h	431	0	0	485	0	0		75	1015	1066		47	987	1014
V/C Ratio(X)	0.80	0.00	0.00	0.16	0.00	0.00		0.78	0.66	0.66		0.79	0.41	0.41
Avail Cap(c_a), veh/h	457	0	0	513	0	0		174	1015	1066		174	987	1014
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.84	0.84	0.84		0.93	0.93	0.93
Uniform Delay (d), s/veh	38.6	0.0	0.0	31.1	0.0	0.0		51.2	15.9	15.9		50.9	0.0	0.0
Incr Delay (d2), s/veh	8.7	0.0	0.0	0.1	0.0	0.0		5.3	2.9	2.7		9.9	1.2	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	11.2	0.0	0.0	1.9	0.0	0.0		1.8	14.5	15.2		1.2	0.3	0.3
LnGrp Delay(d),s/veh	47.4	0.0	0.0	31.1	0.0	0.0		56.6	18.7	18.6		60.8	1.2	1.1
LnGrp LOS	D			C				E	B	B		E	A	A
Approach Vol, veh/h		347			80				1441				849	
Approach Delay, s/veh		47.4			31.1				20.2				3.7	
Approach LOS		D			C				C				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	66.1		33.0	7.2	67.8		33.0
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	10.6	* 53		30.1	10.6	52.2		30.1
Max Q Clear Time (g_c+I1), s	6.5	2.0		27.6	4.2	30.4		6.1
Green Ext Time (p_c), s	0.0	8.7		0.4	0.0	12.8		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	18.8
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	30	20	30	174	20	80	10	40	1110	202	10	100	540	50
Future Volume (veh/h)	30	20	30	174	20	80	10	40	1110	202	10	100	540	50
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.95		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	40	27	29	202	23	67		47	1306	177		120	651	54
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.75	0.75	0.75	0.86	0.86	0.86		0.85	0.85	0.85		0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	70	47	35	287	27	466		210	2287	310		144	2201	181
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31		0.24	1.00	1.00		0.08	0.46	0.46
Sat Flow, veh/h	109	152	113	766	87	1498		1774	4517	612		1774	4784	394
Grp Volume(v), veh/h	96	0	0	225	0	67		47	980	503		120	460	245
Grp Sat Flow(s),veh/h/ln	374	0	0	853	0	1498		1774	1695	1739		1774	1695	1788
Q Serve(g_s), s	5.5	0.0	0.0	0.0	0.0	4.5		3.0	0.0	0.0		9.3	11.9	12.0
Cycle Q Clear(g_c), s	41.6	0.0	0.0	36.0	0.0	4.5		3.0	0.0	0.0		9.3	11.9	12.0
Prop In Lane	0.42		0.30	0.90		1.00		1.00		0.35		1.00		0.22
Lane Grp Cap(c), veh/h	153	0	0	314	0	466		210	1716	880		144	1559	822
V/C Ratio(X)	0.63	0.00	0.00	0.72	0.00	0.14		0.22	0.57	0.57		0.84	0.29	0.30
Avail Cap(c_a), veh/h	169	0	0	329	0	483		210	1716	880		286	1559	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.87	0.87	0.87		0.90	0.90	0.90
Uniform Delay (d), s/veh	51.5	0.0	0.0	45.6	0.0	34.7		48.2	0.0	0.0		63.4	23.6	23.7
Incr Delay (d2), s/veh	4.0	0.0	0.0	5.8	0.0	0.1		0.2	1.2	2.4		4.4	0.4	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	3.8	0.0	0.0	8.8	0.0	1.9		1.5	0.3	0.6		4.7	5.7	6.1
LnGrp Delay(d),s/veh	55.5	0.0	0.0	51.4	0.0	34.8		48.4	1.2	2.4		67.8	24.1	24.5
LnGrp LOS	E			D		C		D	A	A		E	C	C
Approach Vol, veh/h		96			292				1530				825	
Approach Delay, s/veh		55.5			47.6				3.0				30.5	
Approach LOS		E			D				A				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.7	75.8		48.5	21.5	70.0		48.5
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	22.6	58.1		45.1	15.6	* 64		45.1
Max Q Clear Time (g_c+I1), s	11.3	2.0		43.6	5.0	14.0		38.0
Green Ext Time (p_c), s	0.1	47.8		0.0	0.0	13.2		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	17.9
HCM 2010 LOS	B

Notes

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	81	100	93	42	10	80	50	89	20	60	10
Future Vol, veh/h	10	81	100	93	42	10	80	50	89	20	60	10
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	96	119	119	54	13	121	76	135	27	80	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	10.9	12.6	9.9
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	37%	5%	64%	22%
Vol Thru, %	23%	42%	29%	67%
Vol Right, %	41%	52%	7%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	219	191	145	90
LT Vol	80	10	93	20
Through Vol	50	81	42	60
RT Vol	89	100	10	10
Lane Flow Rate	332	227	186	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.469	0.326	0.289	0.186
Departure Headway (Hd)	5.086	5.156	5.594	5.565
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	707	696	641	643
Service Time	3.123	3.197	3.638	3.611
HCM Lane V/C Ratio	0.47	0.326	0.29	0.187
HCM Control Delay	12.6	10.7	10.9	9.9
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	2.5	1.4	1.2	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	84	37	157	100	43	90	10	141	1140	140	10	130	610	78
Future Volume (veh/h)	84	37	157	100	43	90	10	141	1140	140	10	130	610	78
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.98		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	101	45	165	128	55	86		153	1239	114		143	670	74
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	265	83	306	201	157	246		178	2654	244		165	1963	869
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24		0.10	0.56	0.56		0.19	1.00	1.00
Sat Flow, veh/h	1233	342	1256	1157	645	1009		1774	4726	435		1774	3539	1568
Grp Volume(v), veh/h	101	0	210	128	0	141		153	889	464		143	670	74
Grp Sat Flow(s),veh/h/ln	1233	0	1598	1157	0	1655		1774	1695	1771		1774	1770	1568
Q Serve(g_s), s	10.3	0.0	16.0	15.2	0.0	9.9		11.9	21.8	21.8		10.9	0.0	0.0
Cycle Q Clear(g_c), s	20.2	0.0	16.0	31.2	0.0	9.9		11.9	21.8	21.8		10.9	0.0	0.0
Prop In Lane	1.00		0.79	1.00		0.61		1.00		0.25		1.00		1.00
Lane Grp Cap(c), veh/h	265	0	390	201	0	403		178	1904	994		165	1963	869
V/C Ratio(X)	0.38	0.00	0.54	0.64	0.00	0.35		0.86	0.47	0.47		0.86	0.34	0.09
Avail Cap(c_a), veh/h	353	0	503	284	0	521		400	1904	994		400	1963	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.98	0.98	0.98
Uniform Delay (d), s/veh	52.1	0.0	46.1	59.7	0.0	43.8		62.0	18.2	18.2		56.1	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.9	2.5	0.0	0.4		4.7	0.8	1.6		5.0	0.5	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	3.6	0.0	7.2	5.0	0.0	4.5		6.1	10.3	11.0		5.6	0.1	0.0
LnGrp Delay(d),s/veh	52.8	0.0	47.0	62.1	0.0	44.2		66.7	19.1	19.8		61.1	0.5	0.2
LnGrp LOS	D		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		311			269				1506				887	
Approach Delay, s/veh		48.8			52.7				24.1				10.2	
Approach LOS		D			D				C				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.5	83.5		39.0	18.4	82.6		39.0
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	13.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	12.9	23.8		22.2	13.9	2.0		33.2
Green Ext Time (p_c), s	0.2	12.4		1.3	0.2	6.7		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	25.2
HCM 2010 LOS	C

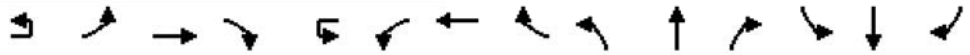
Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	10	210	878	90	435	853	182	20	270	530	492	10	221	310	310
Future Volume (veh/h)	10	210	878	90	435	853	182	20	270	530	492	10	221	310	310
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		219	915	71	463	907	163		325	639	593		243	341	244
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		396	1047	81	513	1005	180		343	913	644		265	418	292
Arrive On Green		0.11	0.32	0.32	0.15	0.34	0.34		0.19	0.26	0.26		0.15	0.21	0.21
Sat Flow, veh/h		3442	3313	257	3442	2979	535		1774	3539	1583		1774	1956	1366
Grp Volume(v), veh/h		219	489	497	463	539	531		325	639	593		243	308	277
Grp Sat Flow(s),veh/h/ln		1721	1770	1801	1721	1770	1744		1774	1770	1583		1774	1770	1552
Q Serve(g_s), s		9.3	40.5	40.5	20.5	45.0	45.0		28.1	25.4	40.0		20.9	25.7	26.5
Cycle Q Clear(g_c), s		9.3	40.5	40.5	20.5	45.0	45.0		28.1	25.4	40.0		20.9	25.7	26.5
Prop In Lane		1.00		0.14	1.00		0.31		1.00		1.00		1.00		0.88
Lane Grp Cap(c), veh/h		396	559	569	513	597	588		343	913	644		265	378	332
V/C Ratio(X)		0.55	0.87	0.87	0.90	0.90	0.90		0.95	0.70	0.92		0.92	0.81	0.84
Avail Cap(c_a), veh/h		666	685	697	666	685	675		343	913	644		343	456	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)		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		64.9	50.1	50.1	64.9	49.0	49.0		61.7	52.1	43.6		65.0	58.0	58.4
Incr Delay (d2), s/veh		0.5	10.8	10.6	11.4	14.1	14.3		34.5	2.2	18.4		22.0	8.7	11.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		4.5	21.5	21.8	10.6	24.3	24.0		17.0	12.7	27.3		11.9	13.5	12.5
LnGrp Delay(d),s/veh		65.3	60.9	60.7	76.3	63.0	63.3		96.3	54.3	62.0		87.1	66.7	70.1
LnGrp LOS		E	E	E	E	E	E		F	D	E		F	E	E
Approach Vol, veh/h			1205			1533				1557				828	
Approach Delay, s/veh			61.6			67.1				66.0				73.8	
Approach LOS			E			E				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	27.5	54.7	34.4	38.4	23.5	58.7	27.5	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	22.5	42.5	30.1	28.5	11.3	47.0	22.9	42.0
Green Ext Time (p_c), s	0.6	6.6	0.0	2.4	0.3	5.3	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	66.6
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	80	1300	140	10	180	1160	130	250	101	130	100	123	120
Future Volume (veh/h)	20	80	1300	140	10	180	1160	130	250	101	130	100	123	120
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		91	1477	129		222	1432	125	368	149	154	127	156	127
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		112	1818	158		122	1836	159	240	97	100	108	132	108
Arrive On Green		0.06	0.55	0.55		0.02	0.18	0.18	0.25	0.25	0.25	0.20	0.20	0.20
Sat Flow, veh/h		1774	3288	285		1774	3289	285	956	387	400	536	659	536
Grp Volume(v), veh/h		91	790	816		222	766	791	671	0	0	410	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1803		1774	1770	1805	1744	0	0	1731	0	0
Q Serve(g_s), s		7.1	50.5	51.7		9.6	57.7	58.5	35.1	0.0	0.0	28.1	0.0	0.0
Cycle Q Clear(g_c), s		7.1	50.5	51.7		9.6	57.7	58.5	35.1	0.0	0.0	28.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.16	0.55		0.23	0.31		0.31
Lane Grp Cap(c), veh/h		112	978	997		122	988	1008	437	0	0	347	0	0
V/C Ratio(X)		0.81	0.81	0.82		1.82	0.78	0.78	1.53	0.00	0.00	1.18	0.00	0.00
Avail Cap(c_a), veh/h		122	978	997		122	988	1008	437	0	0	347	0	0
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)		1.00	1.00	1.00		0.47	0.47	0.47	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		64.8	25.3	25.6		68.4	48.8	49.1	52.5	0.0	0.0	56.0	0.0	0.0
Incr Delay (d2), s/veh		28.1	7.1	7.5		386.1	2.9	3.0	252.0	0.0	0.0	106.8	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		4.4	26.5	27.7		17.8	29.1	30.1	47.5	0.0	0.0	23.7	0.0	0.0
LnGrp Delay(d),s/veh		92.9	32.4	33.0		454.5	51.7	52.1	304.4	0.0	0.0	162.7	0.0	0.0
LnGrp LOS		F	C	C		F	D	D	F			F		
Approach Vol, veh/h			1697				1779			671			410	
Approach Delay, s/veh			35.9				102.1			304.4			162.7	
Approach LOS			D				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	84.5		33.0	13.2	85.3		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	11.6	53.7		30.1	9.1	60.5		37.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	112.7
HCM 2010 LOS	F

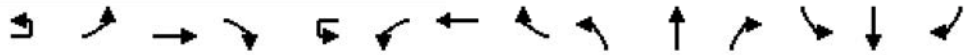
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	230	1060	300	10	110	860	357	10	300	797	80	10	291	462	220
Future Volume (veh/h)	10	230	1060	300	10	110	860	357	10	300	797	80	10	291	462	220
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		258	1191	249		126	989	321		319	848	64		334	531	196
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		390	1419	294		175	1175	381		364	1044	78		376	778	339
Arrive On Green		0.29	0.65	0.65		0.03	0.21	0.21		0.21	0.43	0.43		0.18	0.37	0.37
Sat Flow, veh/h		1774	2911	603		3442	3772	1223		3442	4819	362		3442	3539	1542
Grp Volume(v), veh/h		258	720	720		126	889	421		319	596	316		334	531	196
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1605		1721	1695	1792		1721	1770	1542
Q Serve(g_s), s		17.9	43.6	45.0		5.1	35.2	35.3		12.6	21.5	21.7		13.3	17.7	8.9
Cycle Q Clear(g_c), s		17.9	43.6	45.0		5.1	35.2	35.3		12.6	21.5	21.7		13.3	17.7	8.9
Prop In Lane		1.00		0.35		1.00		0.76		1.00		0.20		1.00		1.00
Lane Grp Cap(c), veh/h		390	863	851		175	1056	500		364	734	388		376	778	339
V/C Ratio(X)		0.66	0.83	0.85		0.72	0.84	0.84		0.88	0.81	0.82		0.89	0.68	0.58
Avail Cap(c_a), veh/h		390	863	851		383	1056	500		457	826	436		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		0.67	0.67	0.67		2.00	2.00	2.00		1.67	1.67	1.67
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.85	0.85	0.85		1.00	1.00	1.00
Uniform Delay (d), s/veh		44.9	20.3	20.5		66.6	52.1	52.1		54.3	37.2	37.2		56.4	40.2	15.2
Incr Delay (d2), s/veh		0.3	0.9	1.0		1.9	7.5	14.6		11.0	5.5	10.3		20.7	2.9	3.3
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		8.7	21.3	21.6		2.5	17.6	17.7		6.5	10.5	11.7		7.3	8.9	5.1
LnGrp Delay(d),s/veh		45.3	21.2	21.6		68.5	59.5	66.7		65.3	42.7	47.5		77.1	43.0	18.5
LnGrp LOS		D	C	C		E	E	E		E	D	D		E	D	B
Approach Vol, veh/h			1698				1436				1231				1061	
Approach Delay, s/veh			25.0				62.4				49.8				49.2	
Approach LOS			C				E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	73.6	19.2	35.7	36.1	49.0	19.7	35.2
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	7.1	47.0	14.6	19.7	19.9	37.3	15.3	23.7
Green Ext Time (p_c), s	0.1	5.9	0.3	4.8	0.2	3.9	0.0	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	45.3
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	110	1221	70	10	70	1087	190	40	30	50	130	40	90
Future Volume (veh/h)	20	110	1221	70	10	70	1087	190	40	30	50	130	40	90
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	0.98		0.98	0.99		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		117	1299	61		74	1156	149	48	36	43	181	56	106
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.94	0.94	0.94		0.94	0.94	0.94	0.84	0.84	0.84	0.72	0.72	0.72
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		166	3206	151		116	2865	369	250	205	171	306	275	229
Arrive On Green		0.02	0.21	0.21		0.07	1.00	1.00	0.04	0.11	0.11	0.08	0.15	0.15
Sat Flow, veh/h		3442	4977	234		3442	4551	586	1774	1863	1553	1774	1863	1548
Grp Volume(v), veh/h		117	885	475		74	861	444	48	36	43	181	56	106
Grp Sat Flow(s),veh/h/ln		1721	1695	1820		1721	1695	1747	1774	1863	1553	1774	1863	1548
Q Serve(g_s), s		4.7	31.5	31.5		2.9	0.0	0.0	3.3	2.5	3.5	10.6	3.7	8.8
Cycle Q Clear(g_c), s		4.7	31.5	31.5		2.9	0.0	0.0	3.3	2.5	3.5	10.6	3.7	8.8
Prop In Lane		1.00		0.13		1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		166	2184	1173		116	2134	1100	250	205	171	306	275	229
V/C Ratio(X)		0.71	0.41	0.41		0.64	0.40	0.40	0.19	0.18	0.25	0.59	0.20	0.46
Avail Cap(c_a), veh/h		310	2184	1173		310	2134	1100	317	547	456	306	547	454
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)		0.13	0.13	0.13		0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		67.9	32.0	32.0		64.5	0.0	0.0	52.2	56.5	57.0	50.7	52.4	54.6
Incr Delay (d2), s/veh		0.3	0.1	0.1		1.9	0.5	0.9	0.1	0.1	0.3	2.1	0.1	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		2.3	14.9	16.0		1.4	0.1	0.3	1.6	1.3	1.5	6.3	1.9	3.8
LnGrp Delay(d),s/veh		68.2	32.1	32.2		66.3	0.5	0.9	52.3	56.7	57.3	52.8	52.6	55.1
LnGrp LOS		E	C	C		E	A	A	D	E	E	D	D	E
Approach Vol, veh/h			1477				1379			127			343	
Approach Delay, s/veh			35.0				4.2			55.2			53.5	
Approach LOS			C				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	9.1	95.6	9.7	25.6	11.1	93.5	15.0	20.3
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	12.6	* 57	10.6	41.1	12.6	56.6	10.6	41.1
Max Q Clear Time (g_c+I1), s	4.9	33.5	5.3	10.8	6.7	2.0	12.6	5.5
Green Ext Time (p_c), s	0.0	15.7	0.0	0.4	0.1	15.8	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C

Notes

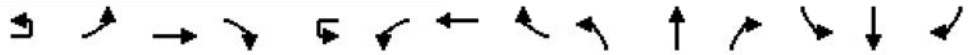


Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	20	102	1210	90	210	1217	140	90	140	400	170	150	141
Future Volume (veh/h)	20	102	1210	90	210	1217	140	90	140	400	170	150	141
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.97	1.00		0.96	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		111	1315	93	221	1281	113	106	165	406	191	169	120
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.92	0.92	0.92	0.95	0.95	0.95	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		134	1302	92	637	2653	234	153	296	809	240	652	280
Arrive On Green		0.03	0.09	0.09	0.72	1.00	1.00	0.01	0.05	0.05	0.07	0.18	0.18
Sat Flow, veh/h		1774	4836	342	1774	4745	419	3442	1863	1512	3442	3539	1522
Grp Volume(v), veh/h		111	922	486	221	915	479	106	165	406	191	169	120
Grp Sat Flow(s),veh/h/ln		1774	1695	1787	1774	1695	1773	1721	1863	1512	1721	1770	1522
Q Serve(g_s), s		8.7	37.7	37.7	6.5	0.0	0.0	4.3	12.1	4.7	7.7	5.7	9.8
Cycle Q Clear(g_c), s		8.7	37.7	37.7	6.5	0.0	0.0	4.3	12.1	4.7	7.7	5.7	9.8
Prop In Lane		1.00		0.19	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		134	913	481	637	1896	991	153	296	809	240	652	280
V/C Ratio(X)		0.83	1.01	1.01	0.35	0.48	0.48	0.69	0.56	0.50	0.80	0.26	0.43
Avail Cap(c_a), veh/h		172	913	481	637	1896	991	236	520	991	334	1090	469
HCM Platoon Ratio		0.33	0.33	0.33	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)		0.89	0.89	0.89	0.63	0.63	0.63	0.55	0.55	0.55	1.00	1.00	1.00
Uniform Delay (d), s/veh		67.3	63.8	63.8	13.6	0.0	0.0	68.0	61.5	11.5	64.1	48.9	50.6
Incr Delay (d2), s/veh		16.2	30.6	41.2	0.1	0.6	1.1	1.2	0.3	0.1	5.8	0.1	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		4.9	21.6	24.2	3.2	0.1	0.3	2.1	6.3	7.5	3.8	2.8	4.1
LnGrp Delay(d),s/veh		83.5	94.4	105.1	13.6	0.6	1.1	69.2	61.9	11.6	69.9	49.0	51.0
LnGrp LOS		F	F	F	B	A	A	E	E	B	E	D	D
Approach Vol, veh/h			1519			1615			677			480	
Approach Delay, s/veh			97.0			2.5			32.9			57.8	
Approach LOS			F			A			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	43.0	10.6	30.7	15.0	83.7	14.2	27.1
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	30.6	* 38	9.6	43.1	13.6	54.6	13.6	39.1
Max Q Clear Time (g_c+I1), s	9.5	39.7	6.3	11.8	10.7	2.0	9.7	14.1
Green Ext Time (p_c), s	0.3	0.0	0.0	0.9	0.0	31.5	0.1	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	46.9
HCM 2010 LOS	D

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	40	1760	40	20	80	1417	40	40	60	180	70	40	70
Future Volume (veh/h)	10	40	1760	40	20	80	1417	40	40	60	180	70	40	70
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		44	1934	37		89	1574	35	53	79	173	92	53	70
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.91	0.91	0.91		0.90	0.90	0.90	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		56	2312	44		109	2454	55	59	88	193	103	59	78
Arrive On Green		0.06	0.90	0.90		0.12	0.96	0.96	0.21	0.21	0.21	0.14	0.14	0.14
Sat Flow, veh/h		1774	5137	98		1774	5116	114	284	424	928	730	420	555
Grp Volume(v), veh/h		44	1276	695		89	1043	566	305	0	0	215	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1845		1774	1695	1840	1636	0	0	1705	0	0
Q Serve(g_s), s		3.4	21.3	21.4		6.8	4.6	4.6	25.4	0.0	0.0	17.4	0.0	0.0
Cycle Q Clear(g_c), s		3.4	21.3	21.4		6.8	4.6	4.6	25.4	0.0	0.0	17.4	0.0	0.0
Prop In Lane		1.00		0.05		1.00		0.06	0.17		0.57	0.43		0.33
Lane Grp Cap(c), veh/h		56	1526	830		109	1626	883	340	0	0	240	0	0
V/C Ratio(X)		0.78	0.84	0.84		0.82	0.64	0.64	0.90	0.00	0.00	0.90	0.00	0.00
Avail Cap(c_a), veh/h		134	1526	830		185	1626	883	410	0	0	294	0	0
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)		0.66	0.66	0.66		0.84	0.84	0.84	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		65.1	4.9	4.9		60.6	1.6	1.6	54.0	0.0	0.0	59.2	0.0	0.0
Incr Delay (d2), s/veh		5.7	3.8	6.8		4.7	1.6	3.0	17.6	0.0	0.0	22.3	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		1.8	9.6	11.2		3.5	1.8	2.3	13.2	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh		70.8	8.7	11.7		65.3	3.2	4.6	71.5	0.0	0.0	81.5	0.0	0.0
LnGrp LOS		E	A	B		E	A	A	E			F		
Approach Vol, veh/h			2015				1698			305			215	
Approach Delay, s/veh			11.1				6.9			71.5			81.5	
Approach LOS			B				A			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	68.4		34.0	8.9	72.6		24.6
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	14.6	* 47		35.1	10.6	50.6		24.1
Max Q Clear Time (g_c+I1), s	8.8	23.4		27.4	5.4	6.6		19.4
Green Ext Time (p_c), s	0.0	20.2		0.8	0.0	21.7		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.4
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1940	140	400	1357	310	110	120	640	290	180	20
Future Volume (veh/h)	20	1940	140	400	1357	310	110	120	640	290	180	20
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	2000	107	435	1475	249	126	138	644	322	200	20
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1867	99	350	2847	867	255	267	1064	293	274	27
Arrive On Green	0.03	0.76	0.76	0.20	0.56	0.56	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4933	263	1774	5085	1549	1774	1863	3066	1774	1661	166
Grp Volume(v), veh/h	21	1372	735	435	1475	249	126	138	644	322	0	220
Grp Sat Flow(s),veh/h/ln	1774	1695	1806	1774	1695	1549	1774	1863	1533	1774	0	1827
Q Serve(g_s), s	1.6	53.0	53.0	27.6	25.2	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Cycle Q Clear(g_c), s	1.6	53.0	53.0	27.6	25.2	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	28	1283	684	350	2847	867	255	267	1064	293	0	301
V/C Ratio(X)	0.74	1.07	1.08	1.24	0.52	0.29	0.49	0.52	0.61	1.10	0.00	0.73
Avail Cap(c_a), veh/h	274	1283	684	350	2847	867	255	267	1064	293	0	301
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)	0.19	0.19	0.19	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	17.0	17.0	56.2	19.1	16.2	55.3	55.5	38.5	58.4	0.0	55.5
Incr Delay (d2), s/veh	2.7	34.7	40.0	131.6	0.7	0.8	1.1	1.3	0.9	82.1	0.0	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	29.7	32.7	26.3	11.9	5.3	4.6	5.0	10.5	18.0	0.0	8.7
LnGrp Delay(d),s/veh	70.2	51.7	57.0	187.8	19.8	17.0	56.4	56.8	39.4	140.5	0.0	63.1
LnGrp LOS	E	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2128			2159			908			542	
Approach Delay, s/veh		53.7			53.3			44.4			109.1	
Approach LOS		D			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	58.5		25.0	6.6	83.9		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	3.6	27.2		25.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	57.3
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	1546	0	0	0	0	0	1	451
Future Volume (veh/h)	0	0	0	0	1546	0	0	0	0	0	1	451
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	1819	0				0	1	593
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.85	0.85	0.85				0.76	0.76	0.76
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	2675	833				0	473	707
Arrive On Green				0.00	0.53	0.00				0.00	0.25	0.25
Sat Flow, veh/h				0	5253	1583				0	1863	2783
Grp Volume(v), veh/h				0	1819	0				0	1	593
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1392
Q Serve(g_s), s				0.0	13.1	0.0				0.0	0.0	10.0
Cycle Q Clear(g_c), s				0.0	13.1	0.0				0.0	0.0	10.0
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	2675	833				0	473	707
V/C Ratio(X)				0.00	0.68	0.00				0.00	0.00	0.84
Avail Cap(c_a), veh/h				0	5130	1597				0	1315	1966
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	8.7	0.0				0.0	13.8	17.5
Incr Delay (d2), s/veh				0.0	0.1	0.0				0.0	0.0	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	6.1	0.0				0.0	0.0	3.9
LnGrp Delay(d),s/veh				0.0	8.8	0.0				0.0	13.8	18.6
LnGrp LOS					A						B	B
Approach Vol, veh/h					1819						594	
Approach Delay, s/veh					8.8						18.6	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				17.7		31.9		
Change Period (Y+Rc), s				5.1		5.8		
Max Green Setting (Gmax), s				35.0		50.0		
Max Q Clear Time (g_c+I1), s				12.0		15.1		
Green Ext Time (p_c), s				0.6		11.0		

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)	0	2165	480	0	0	0	0	1	380	0	0	0
Future Volume (veh/h)	0	2165	480	0	0	0	0	1	380	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	2379	0				0	1	413			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.91	0.91	0.91				0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	3173	988				0	361	528			
Arrive On Green	0.00	0.62	0.00				0.00	0.19	0.19			
Sat Flow, veh/h	0	5253	1583				0	1863	2729			
Grp Volume(v), veh/h	0	2379	0				0	1	413			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1364			
Q Serve(g_s), s	0.0	19.7	0.0				0.0	0.0	8.6			
Cycle Q Clear(g_c), s	0.0	19.7	0.0				0.0	0.0	8.6			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	3173	988				0	361	528			
V/C Ratio(X)	0.00	0.75	0.00				0.00	0.00	0.78			
Avail Cap(c_a), veh/h	0	4257	1325				0	1403	2056			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	7.9	0.0				0.0	19.4	22.9			
Incr Delay (d2), s/veh	0.0	0.3	0.0				0.0	0.0	1.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	9.1	0.0				0.0	0.0	3.3			
LnGrp Delay(d),s/veh	0.0	8.3	0.0				0.0	19.4	23.9			
LnGrp LOS		A						B	C			
Approach Vol, veh/h		2379						414				
Approach Delay, s/veh		8.3						23.8				
Approach LOS		A						C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		43.1						16.7
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						45.0
Max Q Clear Time (g_c+I1), s		21.7						10.6
Green Ext Time (p_c), s		15.5						1.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	180	390	90	140	270	141	10	80	946	220	10	42	609	140
Future Volume (veh/h)	180	390	90	140	270	141	10	80	946	220	10	42	609	140
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.95		1.00		0.96		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	222	481	86	161	310	119		85	1006	171		49	716	119
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87		0.94	0.94	0.94		0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	242	555	103	206	426	267		106	1471	440		246	1331	592
Arrive On Green	0.25	0.25	0.25	0.18	0.18	0.18		0.06	0.29	0.29		0.14	0.38	0.38
Sat Flow, veh/h	965	2213	411	1165	2410	1508		1774	5085	1520		1774	3539	1573
Grp Volume(v), veh/h	417	0	372	249	222	119		85	1006	171		49	716	119
Grp Sat Flow(s),veh/h/ln	1814	0	1774	1805	1770	1508		1774	1695	1520		1774	1770	1573
Q Serve(g_s), s	31.3	0.0	27.8	18.5	16.5	9.9		6.6	24.5	12.6		3.4	22.2	7.1
Cycle Q Clear(g_c), s	31.3	0.0	27.8	18.5	16.5	9.9		6.6	24.5	12.6		3.4	22.2	7.1
Prop In Lane	0.53		0.23	0.65		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	455	0	445	319	313	267		106	1471	440		246	1331	592
V/C Ratio(X)	0.92	0.00	0.83	0.78	0.71	0.45		0.80	0.68	0.39		0.20	0.54	0.20
Avail Cap(c_a), veh/h	507	0	495	401	393	335		185	1471	440		246	1331	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	0.00	1.00	0.89	0.89	0.89		1.00	1.00	1.00		0.73	0.73	0.73
Uniform Delay (d), s/veh	51.0	0.0	49.7	55.0	54.2	51.5		65.0	44.1	39.8		53.4	34.2	29.5
Incr Delay (d2), s/veh	19.3	0.0	9.7	5.2	2.4	0.4		5.3	2.6	2.6		0.1	1.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.1	0.0	14.8	9.7	8.3	4.1		3.4	11.8	5.6		1.7	11.1	3.2
LnGrp Delay(d),s/veh	70.3	0.0	59.4	60.2	56.6	51.9		70.3	46.7	42.4		53.5	35.3	30.0
LnGrp LOS	E		E	E	E	D		E	D	D		D	D	C
Approach Vol, veh/h		789			590				1262				884	
Approach Delay, s/veh		65.2			57.2				47.7				35.6	
Approach LOS		E			E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.3	46.0		40.0	12.7	57.5		29.7
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	9.6	* 41		39.1	14.6	36.1		31.1
Max Q Clear Time (g_c+I1), s	15.4	26.5		33.3	8.6	24.2		20.5
Green Ext Time (p_c), s	0.0	7.6		1.8	0.0	9.0		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	50.2
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	176	14	51	109	36	127
Future Vol, veh/h	176	14	51	109	36	127
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	191	15	55	118	39	138

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	206	0	427	199
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	228	-
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	-	-	1365	-	584	842
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	810	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1365	-	559	842
Mov Cap-2 Maneuver	-	-	-	-	559	-
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	810	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	757	-	-	1365	-
HCM Lane V/C Ratio	0.234	-	-	0.041	-
HCM Control Delay (s)	11.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	150	670	265	20	210	750	140	273	484	140	10
Future Volume (veh/h)	10	150	670	265	20	210	750	140	273	484	140	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		167	744	211		226	806	117	290	515	115	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		222	1120	318		281	1337	194	345	658	146	
Arrive On Green		0.06	0.41	0.41		0.08	0.43	0.43	0.13	0.31	0.31	
Sat Flow, veh/h		3442	2700	766		3442	3094	449	3442	2847	632	
Grp Volume(v), veh/h		167	488	467		226	461	462	290	319	311	
Grp Sat Flow(s),veh/h/ln		1721	1770	1696		1721	1770	1773	1721	1770	1709	
Q Serve(g_s), s		6.0	28.0	28.0		8.1	25.2	25.2	10.4	20.7	21.0	
Cycle Q Clear(g_c), s		6.0	28.0	28.0		8.1	25.2	25.2	10.4	20.7	21.0	
Prop In Lane		1.00		0.45		1.00		0.25	1.00		0.37	
Lane Grp Cap(c), veh/h		222	734	704		281	765	766	345	409	395	
V/C Ratio(X)		0.75	0.66	0.66		0.80	0.60	0.60	0.84	0.78	0.79	
Avail Cap(c_a), veh/h		399	734	704		399	765	766	481	479	463	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.95	0.95	0.95	
Uniform Delay (d), s/veh		57.9	29.8	29.8		56.9	27.5	27.5	53.6	40.7	40.8	
Incr Delay (d2), s/veh		1.9	4.7	4.9		5.0	3.5	3.5	6.5	5.4	6.0	
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		2.9	14.6	14.1		4.1	13.0	13.1	5.2	10.7	10.5	
LnGrp Delay(d),s/veh		59.9	34.5	34.7		61.9	31.0	31.0	60.1	46.1	46.8	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1122				1149			920		
Approach Delay, s/veh			38.3				37.1			50.7		
Approach LOS			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	14.7	57.3	17.0	37.0	12.5	59.4	20.0	34.0
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	10.1	30.0	12.4	34.1	8.0	27.2	16.9	23.0
Green Ext Time (p_c), s	0.2	5.3	0.3	0.0	0.1	5.6	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	100.0
HCM 2010 LOS	F

Notes



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	200	1095	150
Future Volume (veh/h)	200	1095	150
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	211	1153	126
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	220	816	89
Arrive On Green	0.12	0.25	0.25
Sat Flow, veh/h	1774	3204	349
Grp Volume(v), veh/h	211	636	643
Grp Sat Flow(s),veh/h/ln	1774	1770	1783
Q Serve(g_s), s	14.9	32.1	32.1
Cycle Q Clear(g_c), s	14.9	32.1	32.1
Prop In Lane	1.00		0.20
Lane Grp Cap(c), veh/h	220	451	454
V/C Ratio(X)	0.96	1.41	1.42
Avail Cap(c_a), veh/h	220	451	454
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	47.0	47.0
Incr Delay (d2), s/veh	49.2	197.4	199.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	40.4	41.0
LnGrp Delay(d),s/veh	104.0	244.3	246.8
LnGrp LOS	F	F	F
Approach Vol, veh/h		1490	
Approach Delay, s/veh		225.5	
Approach LOS		F	
Timer			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	30	10	90	20	10	10	10	80	868	10	10	10	1523	30
Future Volume (veh/h)	30	10	90	20	10	10	10	80	868	10	10	10	1523	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)	0.99		0.95	0.98		0.97		1.00		0.99		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	43	14	95	31	16	14		84	914	10		11	1620	26
Adj No. of Lanes	0	1	0	0	1	0		1	2	0		1	2	0
Peak Hour Factor	0.69	0.69	0.69	0.64	0.64	0.64		0.95	0.95	0.95		0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	83	33	134	124	62	43		106	2643	29		18	2451	39
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14		0.08	0.98	0.98		0.01	0.69	0.69
Sat Flow, veh/h	336	240	959	577	448	305		1774	3586	39		1774	3564	57
Grp Volume(v), veh/h	152	0	0	61	0	0		84	451	473		11	803	843
Grp Sat Flow(s),veh/h/ln	1535	0	0	1331	0	0		1774	1770	1856		1774	1770	1852
Q Serve(g_s), s	6.8	0.0	0.0	0.0	0.0	0.0		5.9	1.0	1.0		0.8	32.7	32.9
Cycle Q Clear(g_c), s	11.7	0.0	0.0	4.9	0.0	0.0		5.9	1.0	1.0		0.8	32.7	32.9
Prop In Lane	0.28		0.62	0.51		0.23		1.00		0.02		1.00		0.03
Lane Grp Cap(c), veh/h	251	0	0	229	0	0		106	1304	1368		18	1217	1273
V/C Ratio(X)	0.61	0.00	0.00	0.27	0.00	0.00		0.80	0.35	0.35		0.61	0.66	0.66
Avail Cap(c_a), veh/h	387	0	0	360	0	0		234	1304	1368		191	1217	1273
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.33	1.33	1.33		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.91	0.91	0.91		0.09	0.09	0.09
Uniform Delay (d), s/veh	51.6	0.0	0.0	48.5	0.0	0.0		57.3	0.3	0.3		62.1	11.3	11.3
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.2	0.0	0.0		4.6	0.7	0.6		1.1	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	0.0	1.9	0.0	0.0		3.0	0.6	0.6		0.4	15.9	16.7
LnGrp Delay(d),s/veh	52.4	0.0	0.0	48.8	0.0	0.0		61.9	1.0	1.0		63.2	11.5	11.5
LnGrp LOS	D			D				E	A	A		E	B	B
Approach Vol, veh/h		152			61				1008				1657	
Approach Delay, s/veh		52.4			48.8				6.1				11.9	
Approach LOS		D			D				A				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.7	97.9		22.5	11.9	91.6		22.5
Change Period (Y+Rc), s	4.4	5.0		4.9	4.4	* 5		4.9
Max Green Setting (Gmax), s	13.6	69.0		29.1	16.6	* 66		29.1
Max Q Clear Time (g_c+I1), s	2.8	3.0		13.7	7.9	34.9		6.9
Green Ext Time (p_c), s	0.0	17.7		0.5	0.0	10.6		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Notes



Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	52	70	848	71	10	130	1473
Future Volume (veh/h)	52	70	848	71	10	130	1473
Number	3	18	2	12		1	6
Initial Q (Qb), veh	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00	0.94		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00		1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900		1863	1863
Adj Flow Rate, veh/h	58	59	902	60		134	1519
Adj No. of Lanes	0	0	2	0		1	2
Peak Hour Factor	0.89	0.89	0.94	0.94		0.97	0.97
Percent Heavy Veh, %	0	0	2	2		2	2
Cap, veh/h	88	89	2241	149		158	2821
Arrive On Green	0.11	0.11	1.00	1.00		0.18	1.00
Sat Flow, veh/h	798	812	3461	224		1774	3632
Grp Volume(v), veh/h	118	0	474	488		134	1519
Grp Sat Flow(s),veh/h/ln	1623	0	1770	1822		1774	1770
Q Serve(g_s), s	8.8	0.0	0.0	0.0		9.2	0.0
Cycle Q Clear(g_c), s	8.8	0.0	0.0	0.0		9.2	0.0
Prop In Lane	0.49	0.50		0.12		1.00	
Lane Grp Cap(c), veh/h	179	0	1178	1213		158	2821
V/C Ratio(X)	0.66	0.00	0.40	0.40		0.85	0.54
Avail Cap(c_a), veh/h	310	0	1178	1213		248	2821
HCM Platoon Ratio	1.00	1.00	2.00	2.00		2.00	2.00
Upstream Filter(I)	1.00	0.00	0.94	0.94		0.67	0.67
Uniform Delay (d), s/veh	53.8	0.0	0.0	0.0		51.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	1.0	0.9		6.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.3	0.3		4.7	0.2
LnGrp Delay(d),s/veh	55.4	0.0	1.0	0.9		57.1	0.5
LnGrp LOS	E		A	A		E	A
Approach Vol, veh/h	118		962				1653
Approach Delay, s/veh	55.4		0.9				5.1
Approach LOS	E		A				A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.6	89.6				106.2		19.8
Change Period (Y+Rc), s	5.4	* 5.8				5.8		5.9
Max Green Setting (Gmax), s	17.6	* 67				90.2		24.1
Max Q Clear Time (g_c+I1), s	11.2	2.0				2.0		10.8
Green Ext Time (p_c), s	0.1	14.5				36.9		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	5.8
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	110	30	60	20	10	20	10	60	779	50	20	1364	140
Future Volume (veh/h)	110	30	60	20	10	20	10	60	779	50	20	1364	140
Number	7	4	14	3	8	18		1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	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	1900	1863	1900	1900	1863	1900		1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	124	34	52	31	16	23		64	829	48	22	1467	109
Adj No. of Lanes	0	1	0	0	1	0		1	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.64	0.64	0.64		0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h	185	41	60	131	70	78		82	2394	139	30	2255	167
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16		0.05	0.70	0.70	0.03	1.00	1.00
Sat Flow, veh/h	880	261	376	563	438	490		1774	3400	197	1774	3341	247
Grp Volume(v), veh/h	210	0	0	70	0	0		64	431	446	22	774	802
Grp Sat Flow(s),veh/h/ln	1516	0	0	1491	0	0		1774	1770	1827	1774	1770	1818
Q Serve(g_s), s	12.1	0.0	0.0	0.0	0.0	0.0		4.5	12.0	12.0	1.5	0.0	0.0
Cycle Q Clear(g_c), s	16.9	0.0	0.0	4.8	0.0	0.0		4.5	12.0	12.0	1.5	0.0	0.0
Prop In Lane	0.59		0.25	0.44		0.33		1.00		0.11	1.00		0.14
Lane Grp Cap(c), veh/h	286	0	0	278	0	0		82	1246	1287	30	1194	1227
V/C Ratio(X)	0.73	0.00	0.00	0.25	0.00	0.00		0.78	0.35	0.35	0.73	0.65	0.65
Avail Cap(c_a), veh/h	427	0	0	421	0	0		234	1246	1287	234	1194	1227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.85	0.85	0.85	0.82	0.82	0.82
Uniform Delay (d), s/veh	51.4	0.0	0.0	46.5	0.0	0.0		59.4	7.3	7.3	60.6	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.2	0.0	0.0		5.0	0.6	0.6	9.7	2.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.0	0.0	2.2	0.0	0.0		2.3	6.1	6.3	0.8	0.7	0.8
LnGrp Delay(d),s/veh	52.8	0.0	0.0	46.7	0.0	0.0		64.4	7.9	7.9	70.3	2.3	2.2
LnGrp LOS	D			D				E	A	A	E	A	A
Approach Vol, veh/h		210			70				941			1598	
Approach Delay, s/veh		52.8			46.7				11.8			3.2	
Approach LOS		D			D				B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.2	90.8		24.9	6.5	94.5		24.9
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9
Max Green Setting (Gmax), s	16.6	* 63		32.1	16.6	62.2		32.1
Max Q Clear Time (g_c+I1), s	6.5	2.0		18.9	3.5	14.0		6.8
Green Ext Time (p_c), s	0.0	27.6		0.6	0.0	9.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	30	30	40	254	30	90	10	70	809	328	20	150	1184	60
Future Volume (veh/h)	30	30	40	254	30	90	10	70	809	328	20	150	1184	60
Number	7	4	14	3	8	18		5	2	12		1	6	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		0.96		1.00		0.98		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h	37	37	37	270	32	68		78	899	276		161	1273	50
Adj No. of Lanes	0	1	0	0	1	1		1	3	0		1	3	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94		0.90	0.90	0.90		0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	34	33	17	259	25	532		191	1702	520		185	2165	85
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35		0.07	0.30	0.30		0.10	0.43	0.43
Sat Flow, veh/h	0	95	47	600	71	1517		1774	3838	1173		1774	5019	197
Grp Volume(v), veh/h	111	0	0	302	0	68		78	794	381		161	860	463
Grp Sat Flow(s),veh/h/ln	142	0	0	671	0	1517		1774	1695	1621		1774	1695	1826
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.3		5.9	27.3	27.5		12.5	27.0	27.1
Cycle Q Clear(g_c), s	49.1	0.0	0.0	49.1	0.0	4.3		5.9	27.3	27.5		12.5	27.0	27.1
Prop In Lane	0.33		0.33	0.89		1.00		1.00		0.72		1.00		0.11
Lane Grp Cap(c), veh/h	84	0	0	284	0	532		191	1504	719		185	1463	788
V/C Ratio(X)	1.32	0.00	0.00	1.06	0.00	0.13		0.41	0.53	0.53		0.87	0.59	0.59
Avail Cap(c_a), veh/h	84	0	0	284	0	532		198	1504	719		274	1463	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		0.67	0.67	0.67		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		0.88	0.88	0.88		0.61	0.61	0.61
Uniform Delay (d), s/veh	42.1	0.0	0.0	49.7	0.0	30.9		60.7	37.0	37.0		61.8	30.3	30.3
Incr Delay (d2), s/veh	206.0	0.0	0.0	71.3	0.0	0.0		0.5	1.2	2.5		8.4	1.1	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	8.1	0.0	0.0	16.6	0.0	1.8		2.9	13.1	12.8		6.6	12.9	14.1
LnGrp Delay(d),s/veh	248.1	0.0	0.0	120.9	0.0	30.9		61.1	38.1	39.5		70.2	31.4	32.3
LnGrp LOS	F			F		C		E	D	D		E	C	C
Approach Vol, veh/h		111			370				1253				1484	
Approach Delay, s/veh		248.1			104.4				40.0				35.9	
Approach LOS		F			F				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.0	67.0		54.0	20.0	66.0		54.0
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.6		4.9
Max Green Setting (Gmax), s	21.6	35.1		49.1	15.6	* 60		49.1
Max Q Clear Time (g_c+I1), s	14.5	29.5		51.1	7.9	29.1		51.1
Green Ext Time (p_c), s	0.1	5.2		0.0	0.0	21.8		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	52.7
HCM 2010 LOS	D

Notes

Intersection	
Intersection Delay, s/veh	15.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	72	50	248	101	20	110	40	119	10	90	10
Future Vol, veh/h	0	72	50	248	101	20	110	40	119	10	90	10
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	109	76	285	116	23	121	44	131	12	111	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.2	19.3	13.9	11.3
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	41%	0%	67%	9%
Vol Thru, %	15%	59%	27%	82%
Vol Right, %	44%	41%	5%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	269	122	369	110
LT Vol	110	0	248	10
Through Vol	40	72	101	90
RT Vol	119	50	20	10
Lane Flow Rate	296	185	424	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.472	0.294	0.665	0.235
Departure Headway (Hd)	5.751	5.734	5.646	6.225
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	621	621	636	572
Service Time	3.83	3.823	3.714	4.321
HCM Lane V/C Ratio	0.477	0.298	0.667	0.238
HCM Control Delay	13.9	11.2	19.3	11.3
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	2.5	1.2	5	0.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	105	55	200	110	58	140	20	257	910	170	10	190	1110	186
Future Volume (veh/h)	105	55	200	110	58	140	20	257	910	170	10	190	1110	186
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.98		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	112	59	173	120	63	110		282	1000	145		200	1168	156
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	248	103	302	194	151	264		443	2337	338		222	1393	604
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25		0.25	0.52	0.52		0.25	0.79	0.79
Sat Flow, veh/h	1198	408	1197	1134	600	1047		1774	4480	648		1774	3539	1534
Grp Volume(v), veh/h	112	0	232	120	0	173		282	756	389		200	1168	156
Grp Sat Flow(s),veh/h/ln	1198	0	1605	1134	0	1647		1774	1695	1738		1774	1770	1534
Q Serve(g_s), s	12.1	0.0	17.7	14.5	0.0	12.3		19.9	19.2	19.3		15.3	28.9	3.8
Cycle Q Clear(g_c), s	24.4	0.0	17.7	32.2	0.0	12.3		19.9	19.2	19.3		15.3	28.9	3.8
Prop In Lane	1.00		0.75	1.00		0.64		1.00		0.37		1.00		1.00
Lane Grp Cap(c), veh/h	248	0	404	194	0	415		443	1768	906		222	1393	604
V/C Ratio(X)	0.45	0.00	0.57	0.62	0.00	0.42		0.64	0.43	0.43		0.90	0.84	0.26
Avail Cap(c_a), veh/h	375	0	574	314	0	589		443	1768	906		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.83	0.83	0.83
Uniform Delay (d), s/veh	54.0	0.0	45.8	59.9	0.0	43.8		46.9	20.6	20.6		51.6	12.1	9.4
Incr Delay (d2), s/veh	1.0	0.0	1.0	2.4	0.0	0.5		2.3	0.8	1.5		4.5	5.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	8.0	4.7	0.0	5.6		10.0	9.1	9.7		7.7	14.3	1.7
LnGrp Delay(d),s/veh	54.9	0.0	46.8	62.3	0.0	44.3		49.2	21.4	22.1		56.1	17.3	10.3
LnGrp LOS	D		D	E		D		D	C	C		E	B	B
Approach Vol, veh/h		344			293				1427				1524	
Approach Delay, s/veh		49.4			51.6				27.1				21.7	
Approach LOS		D			D				C				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.9	77.9		40.2	39.8	60.0		40.2
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	36.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	17.3	21.3		26.4	21.9	30.9		34.2
Green Ext Time (p_c), s	0.2	8.4		1.5	0.0	11.6		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

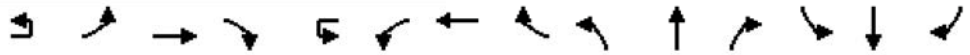
Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	360	1027	80	533	935	171	20	180	410	495	322	690	310
Future Volume (veh/h)	20	360	1027	80	533	935	171	20	180	410	495	322	690	310
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		375	1070	64	567	995	148		191	436	415	374	802	262
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		528	1119	67	577	1026	152		210	791	603	297	711	232
Arrive On Green		0.15	0.33	0.33	0.17	0.33	0.33		0.12	0.22	0.22	0.17	0.27	0.27
Sat Flow, veh/h		3442	3385	202	3442	3074	457		1774	3539	1509	1774	2606	851
Grp Volume(v), veh/h		375	559	575	567	572	571		191	436	415	374	544	520
Grp Sat Flow(s),veh/h/ln		1721	1770	1818	1721	1770	1762		1774	1770	1509	1774	1770	1688
Q Serve(g_s), s		18.5	55.3	55.4	29.4	57.0	57.1		19.0	19.5	40.0	30.0	48.8	48.8
Cycle Q Clear(g_c), s		18.5	55.3	55.4	29.4	57.0	57.1		19.0	19.5	40.0	30.0	48.8	48.8
Prop In Lane		1.00		0.11	1.00		0.26		1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h		528	585	601	577	590	588		210	791	603	297	483	460
V/C Ratio(X)		0.71	0.96	0.96	0.98	0.97	0.97		0.91	0.55	0.69	1.26	1.13	1.13
Avail Cap(c_a), veh/h		577	593	610	577	593	591		297	791	603	297	483	460
HCM Platoon Ratio		1.00	1.00	1.00	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		72.0	58.6	58.6	74.2	58.7	58.8		77.9	61.5	45.8	74.5	65.1	65.1
Incr Delay (d2), s/veh		2.9	26.3	25.9	32.9	29.2	29.6		19.7	0.7	3.0	140.3	81.0	82.2
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		9.1	31.3	32.1	16.7	32.6	32.6		10.5	9.6	17.7	26.3	34.7	33.3
LnGrp Delay(d),s/veh		74.9	84.9	84.6	107.1	87.9	88.4		97.6	62.2	48.8	214.8	146.1	147.3
LnGrp LOS		E	F	F	F	F	F		F	E	D	F	F	F
Approach Vol, veh/h			1509			1710				1042			1438	
Approach Delay, s/veh			82.3			94.4				63.3			164.4	
Approach LOS			F			F				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	34.4	64.9	25.6	54.1	33.1	66.1	34.4	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	31.4	57.4	21.0	50.8	20.5	59.1	32.0	42.0
Green Ext Time (p_c), s	0.0	1.8	0.2	0.0	0.5	0.6	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	103.2
HCM 2010 LOS	F

Notes

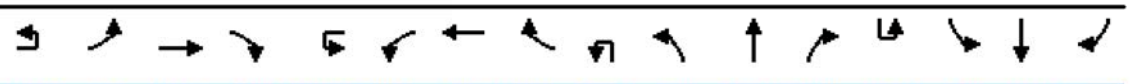


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	94	1500	180	50	150	1450	120	100	64	60	90	162	169
Future Volume (veh/h)	10	94	1500	180	50	150	1450	120	100	64	60	90	162	169
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		99	1579	145		160	1543	97	112	72	55	99	178	146
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		171	1418	129		172	1421	89	124	80	61	73	131	107
Arrive On Green		0.10	0.43	0.43		0.03	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3280	298		1774	3383	212	817	525	401	406	730	599
Grp Volume(v), veh/h		99	845	879		160	803	837	239	0	0	423	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1809		1774	1770	1825	1744	0	0	1736	0	0
Q Serve(g_s), s		7.5	60.5	60.5		12.6	58.8	58.8	18.9	0.0	0.0	25.1	0.0	0.0
Cycle Q Clear(g_c), s		7.5	60.5	60.5		12.6	58.8	58.8	18.9	0.0	0.0	25.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.12	0.47		0.23	0.23		0.35
Lane Grp Cap(c), veh/h		171	765	782		172	743	767	265	0	0	311	0	0
V/C Ratio(X)		0.58	1.10	1.12		0.93	1.08	1.09	0.90	0.00	0.00	1.36	0.00	0.00
Avail Cap(c_a), veh/h		171	765	782		172	743	767	313	0	0	311	0	0
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)		1.00	1.00	1.00		0.09	0.09	0.09	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		60.5	39.7	39.7		67.3	60.3	60.3	58.3	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh		3.2	65.2	72.0		8.4	39.1	43.4	23.1	0.0	0.0	181.3	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		3.8	43.4	45.8		6.6	36.9	39.0	10.8	0.0	0.0	27.7	0.0	0.0
LnGrp Delay(d),s/veh		63.7	104.9	111.8		75.7	99.4	103.7	81.4	0.0	0.0	238.7	0.0	0.0
LnGrp LOS		E	F	F		E	F	F	F			F		
Approach Vol, veh/h			1823				1800			239			423	
Approach Delay, s/veh			106.0				99.3			81.4			238.7	
Approach LOS			F				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.0	65.8		30.0	18.8	65.0		26.2
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	14.6	62.5		27.1	9.5	60.8		20.9
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	114.9
HCM 2010 LOS	F

Notes

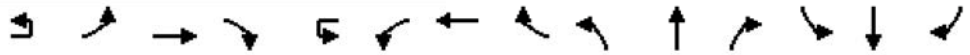


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	350	1040	280	10	330	1120	430	20	280	575	120	30	454	704	250
Future Volume (veh/h)	10	350	1040	280	10	330	1120	430	20	280	575	120	30	454	704	250
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.96		1.00		0.94
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		380	1130	231		367	1244	391		311	639	101		510	791	221
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		362	1033	210		494	1138	357		359	863	134		560	899	376
Arrive On Green		0.07	0.12	0.12		0.05	0.10	0.10		0.21	0.39	0.39		0.16	0.25	0.25
Sat Flow, veh/h		1774	2909	590		3442	3783	1187		3442	4413	687		3442	3539	1481
Grp Volume(v), veh/h		380	684	677		367	1114	521		311	489	251		510	791	221
Grp Sat Flow(s),veh/h/ln		1774	1770	1729		1721	1695	1580		1721	1695	1709		1721	1770	1481
Q Serve(g_s), s		28.6	49.7	49.7		14.7	42.1	42.1		12.2	17.3	17.8		20.4	30.1	18.3
Cycle Q Clear(g_c), s		28.6	49.7	49.7		14.7	42.1	42.1		12.2	17.3	17.8		20.4	30.1	18.3
Prop In Lane		1.00		0.34		1.00		0.75		1.00		0.40		1.00		1.00
Lane Grp Cap(c), veh/h		362	628	614		494	1020	475		359	663	334		560	899	376
V/C Ratio(X)		1.05	1.09	1.10		0.74	1.09	1.10		0.87	0.74	0.75		0.91	0.88	0.59
Avail Cap(c_a), veh/h		362	628	614		494	1020	475		556	753	380		629	899	376
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.09	0.09	0.09		0.81	0.81	0.81		0.91	0.91	0.91		1.00	1.00	1.00
Uniform Delay (d), s/veh		65.3	61.8	61.8		64.1	63.1	63.1		54.4	39.5	39.7		57.6	50.2	45.8
Incr Delay (d2), s/veh		29.1	43.2	48.6		4.3	54.6	65.8		5.1	3.8	8.1		15.4	10.4	3.2
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		17.0	31.9	32.1		7.3	27.5	27.1		6.0	8.4	9.1		10.9	16.0	7.9
LnGrp Delay(d),s/veh		94.4	105.0	110.4		68.4	117.6	128.8		59.6	43.3	47.8		73.0	60.6	49.0
LnGrp LOS		F	F	F		E	F	F		E	D	D		E	E	D
Approach Vol, veh/h			1741				2002				1051				1522	
Approach Delay, s/veh			104.8				111.5				49.2				63.0	
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	25.5	55.0	19.0	40.5	33.0	47.5	27.2	32.3
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	14.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	16.7	51.7	14.2	32.1	30.6	44.1	22.4	19.8
Green Ext Time (p_c), s	0.0	0.0	0.4	1.5	0.0	0.0	0.4	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	87.6
HCM 2010 LOS	F

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	180	1234	160	40	160	1400	150	130	50	130	250	80	230
Future Volume (veh/h)	10	180	1234	160	40	160	1400	150	130	50	130	250	80	230
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.98	0.98		0.95	0.97		0.97
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		196	1341	146		163	1429	110	144	56	104	284	91	191
Adj No. of Lanes		2	3	0		2	3	0	1	1	1	1	1	1
Peak Hour Factor		0.92	0.92	0.92		0.98	0.98	0.98	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		242	2362	257		210	2399	185	378	394	317	420	405	333
Arrive On Green		0.14	1.00	1.00		0.12	1.00	1.00	0.08	0.21	0.21	0.08	0.22	0.22
Sat Flow, veh/h		3442	4648	506		3442	4810	370	1774	1863	1497	1774	1863	1531
Grp Volume(v), veh/h		196	978	509		163	1007	532	144	56	104	284	91	191
Grp Sat Flow(s),veh/h/ln		1721	1695	1764		1721	1695	1790	1774	1863	1497	1774	1863	1531
Q Serve(g_s), s		7.7	0.0	0.0		6.4	0.3	0.3	8.8	3.4	8.2	11.6	5.6	15.6
Cycle Q Clear(g_c), s		7.7	0.0	0.0		6.4	0.3	0.3	8.8	3.4	8.2	11.6	5.6	15.6
Prop In Lane		1.00		0.29		1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		242	1723	896		210	1691	893	378	394	317	420	405	333
V/C Ratio(X)		0.81	0.57	0.57		0.78	0.60	0.60	0.38	0.14	0.33	0.68	0.22	0.57
Avail Cap(c_a), veh/h		334	1723	896		334	1691	893	388	573	461	420	573	471
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		0.54	0.54	0.54	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		59.2	0.0	0.0		60.5	0.1	0.1	38.7	44.9	46.8	43.4	45.1	49.0
Incr Delay (d2), s/veh		0.7	0.1	0.2		1.3	0.8	1.6	0.2	0.1	0.2	3.5	0.1	0.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		3.7	0.0	0.1		3.1	0.2	0.4	4.3	1.8	3.4	9.0	2.9	6.7
LnGrp Delay(d),s/veh		59.9	0.1	0.2		61.8	0.9	1.7	38.9	44.9	47.0	46.9	45.2	49.6
LnGrp LOS		E	A	A		E	A	A	D	D	D	D	D	D
Approach Vol, veh/h			1683				1702			304			566	
Approach Delay, s/veh			7.1				7.0			42.8			47.5	
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	12.9	76.5	15.2	35.4	14.2	75.2	16.0	34.5
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	13.6	* 53	11.6	43.1	13.6	52.6	11.6	43.1
Max Q Clear Time (g_c+I1), s	9.4	2.0	10.8	17.6	9.7	2.3	13.6	10.2
Green Ext Time (p_c), s	0.1	28.7	0.0	0.7	0.1	20.1	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Notes

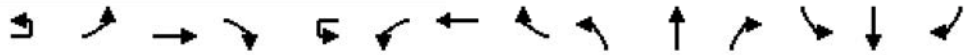


Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	40	151	1303	130	340	1618	180	90	130	220	300	450	242
Future Volume (veh/h)	40	151	1303	130	340	1618	180	90	130	220	300	450	242
Number		5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.95	1.00		0.93	1.00		0.95
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h		161	1386	108	370	1759	145	101	146	212	341	511	214
Adj No. of Lanes		1	3	0	1	3	0	2	1	1	2	2	1
Peak Hour Factor		0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		185	1610	125	396	2171	178	148	372	647	359	925	393
Arrive On Green		0.10	0.34	0.34	0.15	0.31	0.31	0.04	0.20	0.20	0.10	0.26	0.26
Sat Flow, veh/h		1774	4793	373	1774	4769	392	3442	1863	1466	3442	3539	1503
Grp Volume(v), veh/h		161	980	514	370	1249	655	101	146	212	341	511	214
Grp Sat Flow(s),veh/h/ln		1774	1695	1776	1774	1695	1771	1721	1863	1466	1721	1770	1503
Q Serve(g_s), s		12.5	37.8	37.8	28.9	47.6	47.9	4.1	9.5	13.7	13.8	17.4	17.2
Cycle Q Clear(g_c), s		12.5	37.8	37.8	28.9	47.6	47.9	4.1	9.5	13.7	13.8	17.4	17.2
Prop In Lane		1.00		0.21	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h		185	1139	597	396	1544	806	148	372	647	359	925	393
V/C Ratio(X)		0.87	0.86	0.86	0.93	0.81	0.81	0.68	0.39	0.33	0.95	0.55	0.54
Avail Cap(c_a), veh/h		236	1139	597	527	1544	806	310	494	742	359	988	420
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)		0.78	0.78	0.78	0.51	0.51	0.51	0.54	0.54	0.54	1.00	1.00	1.00
Uniform Delay (d), s/veh		61.8	43.4	43.4	58.5	43.0	43.1	66.1	48.6	27.2	62.3	44.6	44.5
Incr Delay (d2), s/veh		16.8	6.9	12.2	10.8	2.5	4.7	1.1	0.1	0.1	34.3	0.3	0.5
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		7.0	18.8	20.6	15.4	22.8	24.5	2.0	4.9	5.5	8.3	8.6	7.2
LnGrp Delay(d),s/veh		78.7	50.3	55.7	69.3	45.5	47.8	67.2	48.8	27.3	96.6	44.9	45.1
LnGrp LOS		E	D	E	E	D	D	E	D	C	F	D	D
Approach Vol, veh/h			1655			2274			459			1066	
Approach Delay, s/veh			54.7			50.0			42.9			61.5	
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	15.7	52.4	10.4	41.5	19.0	69.1	19.0	32.9
Change Period (Y+Rc), s	4.4	* 5.4	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	11.6	* 28	12.6	39.1	18.6	50.6	14.6	37.1
Max Q Clear Time (g_c+I1), s	10.9	39.8	6.1	19.4	14.5	49.9	15.8	15.7
Green Ext Time (p_c), s	0.4	0.0	0.1	2.7	0.1	0.7	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	53.1
HCM 2010 LOS	D

Notes

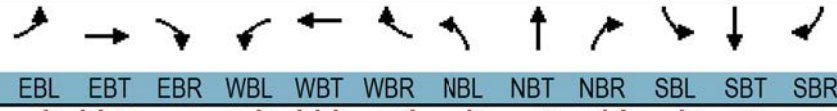


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	100	1633	100	10	130	2058	50	30	20	90	50	60	70
Future Volume (veh/h)	20	100	1633	100	10	130	2058	50	30	20	90	50	60	70
Number		5	2	12		1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		0.98	1.00		0.95	1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		109	1775	92		135	2144	43	33	22	73	60	71	65
Adj No. of Lanes		1	3	0		1	3	0	0	1	0	0	1	0
Peak Hour Factor		0.92	0.92	0.92		0.96	0.96	0.96	0.92	0.92	0.92	0.84	0.84	0.84
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		362	2608	135		157	2074	42	52	34	114	64	75	69
Arrive On Green		0.27	0.70	0.70		0.18	0.81	0.81	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h		1774	4951	256		1774	5130	103	418	279	925	522	618	566
Grp Volume(v), veh/h		109	1215	652		135	1416	771	128	0	0	196	0	0
Grp Sat Flow(s),veh/h/ln		1774	1695	1817		1774	1695	1842	1623	0	0	1706	0	0
Q Serve(g_s), s		6.8	28.7	28.8		10.3	56.6	56.6	10.5	0.0	0.0	15.9	0.0	0.0
Cycle Q Clear(g_c), s		6.8	28.7	28.8		10.3	56.6	56.6	10.5	0.0	0.0	15.9	0.0	0.0
Prop In Lane		1.00		0.14		1.00		0.06	0.26		0.57	0.31		0.33
Lane Grp Cap(c), veh/h		362	1786	957		157	1371	745	200	0	0	208	0	0
V/C Ratio(X)		0.30	0.68	0.68		0.86	1.03	1.04	0.64	0.00	0.00	0.94	0.00	0.00
Avail Cap(c_a), veh/h		362	1786	957		248	1371	745	407	0	0	208	0	0
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)		0.52	0.52	0.52		0.67	0.67	0.67	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		43.1	14.2	14.2		56.8	13.4	13.4	58.4	0.0	0.0	60.9	0.0	0.0
Incr Delay (d2), s/veh		0.1	1.1	2.0		6.9	28.9	36.6	1.3	0.0	0.0	45.2	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		3.4	13.6	14.8		5.3	30.2	34.5	4.8	0.0	0.0	10.1	0.0	0.0
LnGrp Delay(d),s/veh		43.2	15.3	16.3		63.7	42.3	50.0	59.7	0.0	0.0	106.1	0.0	0.0
LnGrp LOS		D	B	B		E	F	F	E			F		
Approach Vol, veh/h			1976				2322			128			196	
Approach Delay, s/veh			17.2				46.1			59.7			106.1	
Approach LOS			B				D			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.8	79.1		22.2	33.8	62.0		22.0
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 5.4		4.9
Max Green Setting (Gmax), s	12.6	48.7		35.1	11.6	* 57		17.1
Max Q Clear Time (g_c+I1), s	12.3	30.8		12.5	8.8	58.6		17.9
Green Ext Time (p_c), s	0.1	15.6		0.5	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	36.6
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1523	180	440	2058	320	130	70	300	220	180	50
Future Volume (veh/h)	50	1523	180	440	2058	320	130	70	300	220	180	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	1570	141	454	2122	239	114	128	293	244	200	50
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1944	174	400	3139	976	173	182	1011	191	154	38
Arrive On Green	0.07	0.86	0.86	0.23	0.62	0.62	0.10	0.10	0.10	0.11	0.11	0.11
Sat Flow, veh/h	1774	4533	407	1774	5085	1581	1774	1863	3036	1774	1424	356
Grp Volume(v), veh/h	52	1096	615	454	2122	239	114	128	293	244	0	250
Grp Sat Flow(s),veh/h/ln	1774	1583	1773	1774	1695	1581	1774	1863	1518	1774	0	1780
Q Serve(g_s), s	4.0	22.4	22.5	31.6	38.4	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Cycle Q Clear(g_c), s	4.0	22.4	22.5	31.6	38.4	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	66	1358	760	400	3139	976	173	182	1011	191	0	192
V/C Ratio(X)	0.78	0.81	0.81	1.13	0.68	0.24	0.66	0.70	0.29	1.28	0.00	1.30
Avail Cap(c_a), veh/h	134	1358	760	400	3139	976	318	334	1259	191	0	192
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)	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.2	7.3	7.3	54.2	17.6	12.1	60.9	61.2	35.5	62.5	0.0	62.5
Incr Delay (d2), s/veh	4.7	3.3	5.9	86.7	1.2	0.6	3.2	3.7	0.1	158.0	0.0	168.6
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	9.8	11.5	25.1	18.2	4.3	4.4	5.0	4.3	15.8	0.0	16.4
LnGrp Delay(d),s/veh	68.9	10.6	13.1	140.9	18.8	12.7	64.1	64.9	35.6	220.5	0.0	231.1
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1763			2815			535			494	
Approach Delay, s/veh		13.2			38.0			48.7			225.8	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	65.5		20.0	9.6	91.8		18.5
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	11.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	13.6	24.5		17.1	6.0	40.4		12.1
Green Ext Time (p_c), s	0.0	19.2		0.0	0.0	24.4		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	47.8
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑	↱					↑	↱↱
Traffic Volume (veh/h)	0	0	0	0	2434	0	0	0	0	0	1	374
Future Volume (veh/h)	0	0	0	0	2434	0	0	0	0	0	1	374
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.98
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				0	1863	1863				0	1863	1863
Adj Flow Rate, veh/h				0	2535	0				0	1	411
Adj No. of Lanes				0	3	1				0	1	2
Peak Hour Factor				0.96	0.96	0.96				0.91	0.91	0.91
Percent Heavy Veh, %				0	2	2				0	2	2
Cap, veh/h				0	3373	1050				0	344	505
Arrive On Green				0.00	0.66	0.00				0.00	0.18	0.18
Sat Flow, veh/h				0	5253	1583				0	1863	2732
Grp Volume(v), veh/h				0	2535	0				0	1	411
Grp Sat Flow(s),veh/h/ln				0	1695	1583				0	1863	1366
Q Serve(g_s), s				0.0	19.8	0.0				0.0	0.0	8.6
Cycle Q Clear(g_c), s				0.0	19.8	0.0				0.0	0.0	8.6
Prop In Lane				0.00		1.00				0.00		1.00
Lane Grp Cap(c), veh/h				0	3373	1050				0	344	505
V/C Ratio(X)				0.00	0.75	0.00				0.00	0.00	0.81
Avail Cap(c_a), veh/h				0	4404	1371				0	1120	1642
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	6.7	0.0				0.0	19.7	23.2
Incr Delay (d2), s/veh				0.0	0.4	0.0				0.0	0.0	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	9.0	0.0				0.0	0.0	3.3
LnGrp Delay(d),s/veh				0.0	7.0	0.0				0.0	19.7	24.4
LnGrp LOS					A						B	C
Approach Vol, veh/h					2535						412	
Approach Delay, s/veh					7.0						24.4	
Approach LOS					A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				15.4		43.8		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				35.6		51.3		
Max Q Clear Time (g_c+I1), s				10.6		21.8		
Green Ext Time (p_c), s				0.4		17.5		

Intersection Summary	
HCM 2010 Ctrl Delay	9.5
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱					↑	↱↱			
Traffic Volume (veh/h)	0	1576	410	0	0	0	0	1	510	0	0	0
Future Volume (veh/h)	0	1576	410	0	0	0	0	1	510	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863				0	1863	1863			
Adj Flow Rate, veh/h	0	1659	0				0	1	560			
Adj No. of Lanes	0	3	1				0	1	2			
Peak Hour Factor	0.95	0.95	0.95				0.91	0.91	0.91			
Percent Heavy Veh, %	0	2	2				0	2	2			
Cap, veh/h	0	2524	786				0	495	718			
Arrive On Green	0.00	0.50	0.00				0.00	0.27	0.27			
Sat Flow, veh/h	0	5253	1583				0	1863	2702			
Grp Volume(v), veh/h	0	1659	0				0	1	560			
Grp Sat Flow(s),veh/h/ln	0	1695	1583				0	1863	1351			
Q Serve(g_s), s	0.0	11.2	0.0				0.0	0.0	8.8			
Cycle Q Clear(g_c), s	0.0	11.2	0.0				0.0	0.0	8.8			
Prop In Lane	0.00		1.00				0.00		1.00			
Lane Grp Cap(c), veh/h	0	2524	786				0	495	718			
V/C Ratio(X)	0.00	0.66	0.00				0.00	0.00	0.78			
Avail Cap(c_a), veh/h	0	5544	1726				0	1828	2651			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	8.6	0.0				0.0	12.4	15.6			
Incr Delay (d2), s/veh	0.0	0.1	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			
%ile BackOfQ(50%),veh/ln	0.0	5.1	0.0				0.0	0.0	3.3			
LnGrp Delay(d),s/veh	0.0	8.7	0.0				0.0	12.4	16.3			
LnGrp LOS		A						B	B			
Approach Vol, veh/h		1659						561				
Approach Delay, s/veh		8.7						16.3				
Approach LOS		A						B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						8
Phs Duration (G+Y+Rc), s		28.6						17.3
Change Period (Y+Rc), s		5.8						5.1
Max Green Setting (Gmax), s		50.0						45.0
Max Q Clear Time (g_c+I1), s		13.2						10.8
Green Ext Time (p_c), s		9.6						1.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	190	270	140	380	360	142	10	110	612	190	10	111	1062	270
Future Volume (veh/h)	190	270	140	380	360	142	10	110	612	190	10	111	1062	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		0.95	1.00		0.95		1.00		0.94		1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863		1863	1863	1863		1863	1863	1863
Adj Flow Rate, veh/h	211	300	117	447	424	129		115	638	151		114	1095	214
Adj No. of Lanes	0	2	0	0	2	1		1	3	1		1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85		0.96	0.96	0.96		0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	238	356	144	445	444	379		134	1398	409		213	1157	509
Arrive On Green	0.21	0.21	0.21	0.25	0.25	0.25		0.08	0.28	0.28		0.12	0.33	0.33
Sat Flow, veh/h	1131	1693	684	1774	1770	1511		1774	5085	1487		1774	3539	1556
Grp Volume(v), veh/h	337	0	291	447	424	129		115	638	151		114	1095	214
Grp Sat Flow(s),veh/h/ln	1806	0	1701	1774	1770	1511		1774	1695	1487		1774	1770	1556
Q Serve(g_s), s	25.4	0.0	22.8	35.1	33.1	9.8		9.0	14.6	11.5		8.5	42.2	15.0
Cycle Q Clear(g_c), s	25.4	0.0	22.8	35.1	33.1	9.8		9.0	14.6	11.5		8.5	42.2	15.0
Prop In Lane	0.63		0.40	1.00		1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	379	0	357	445	444	379		134	1398	409		213	1157	509
V/C Ratio(X)	0.89	0.00	0.81	1.00	0.96	0.34		0.86	0.46	0.37		0.54	0.95	0.42
Avail Cap(c_a), veh/h	401	0	378	445	444	379		134	1398	409		213	1157	509
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.49	0.49	0.49		1.00	1.00	1.00		0.19	0.19	0.19
Uniform Delay (d), s/veh	53.7	0.0	52.7	52.5	51.7	43.0		63.9	42.1	41.0		57.9	45.9	36.8
Incr Delay (d2), s/veh	19.2	0.0	11.2	31.0	19.7	0.1		37.2	1.1	2.6		0.3	4.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.7	0.0	11.9	21.0	18.6	4.1		5.8	6.9	5.0		4.2	21.4	6.5
LnGrp Delay(d),s/veh	72.9	0.0	63.9	83.5	71.4	43.1		101.2	43.1	43.5		58.2	50.2	37.2
LnGrp LOS	E		E	F	E	D		F	D	D		E	D	D
Approach Vol, veh/h		628			1000				904				1423	
Approach Delay, s/veh		68.7			73.2				50.6				48.9	
Approach LOS		E			E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.7	44.0		34.3	15.0	50.7		40.0
Change Period (Y+Rc), s	4.9	* 5.5		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	15.6	* 39		31.1	10.6	44.1		35.1
Max Q Clear Time (g_c+I1), s	10.5	16.6		27.4	11.0	44.2		37.1
Green Ext Time (p_c), s	0.1	6.2		1.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	58.6
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	155	46	161	341	28	100
Future Vol, veh/h	155	46	161	341	28	100
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	168	50	175	371	30	109

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	218	0	914	193
Stage 1	-	-	-	-	193	-
Stage 2	-	-	-	-	721	-
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	-	-	1352	-	303	849
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	482	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1352	-	254	849
Mov Cap-2 Maneuver	-	-	-	-	254	-
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	482	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	561	-	-	1352	-
HCM Lane V/C Ratio	0.248	-	-	0.129	-
HCM Control Delay (s)	13.5	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0.4	-

Appendix L
Trigger Analysis and Peak Hour Intersection LOS Worksheets – Horizon Year 2050 Plus Project with Mitigation Conditions

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	210	440	192	10	190	550	360	244	1240	90	10
Future Volume (veh/h)	10	210	440	192	10	190	550	360	244	1240	90	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		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	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		221	463	161		204	591	284	252	1278	72	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		285	854	294		622	1001	481	313	1105	62	
Arrive On Green		0.08	0.33	0.33		0.18	0.44	0.44	0.12	0.43	0.43	
Sat Flow, veh/h		3442	2562	883		3442	2293	1101	3442	3401	191	
Grp Volume(v), veh/h		221	318	306		204	456	419	252	664	686	
Grp Sat Flow(s),veh/h/ln		1721	1770	1675		1721	1770	1625	1721	1770	1822	
Q Serve(g_s), s		6.8	15.8	16.1		5.6	21.1	21.2	7.7	35.1	35.1	
Cycle Q Clear(g_c), s		6.8	15.8	16.1		5.6	21.1	21.2	7.7	35.1	35.1	
Prop In Lane		1.00		0.53		1.00		0.68	1.00		0.10	
Lane Grp Cap(c), veh/h		285	590	558		622	773	709	313	575	592	
V/C Ratio(X)		0.77	0.54	0.55		0.33	0.59	0.59	0.80	1.15	1.16	
Avail Cap(c_a), veh/h		433	590	558		622	773	709	402	575	592	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.54	0.54	0.54	
Uniform Delay (d), s/veh		48.5	29.3	29.4		38.5	23.1	23.1	46.5	30.7	30.7	
Incr Delay (d2), s/veh		2.1	3.5	3.8		0.1	3.3	3.6	3.8	80.4	81.7	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	8.3	8.0		2.7	11.0	10.1	3.8	29.9	31.0	
LnGrp Delay(d),s/veh		50.6	32.8	33.2		38.6	26.4	26.7	50.4	111.1	112.3	
LnGrp LOS		D	C	C		D	C	C	D	F	F	
Approach Vol, veh/h			845				1079			1602		
Approach Delay, s/veh			37.6				28.8			102.1		
Approach LOS			D				C			F		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.6	41.0	14.2	40.3	13.4	52.3	14.5	40.0
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	7.6	18.1	9.7	23.6	8.8	23.2	11.6	37.1
Green Ext Time (p_c), s	0.0	3.9	0.1	2.0	0.2	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	68.0
HCM 2010 LOS	E

Notes



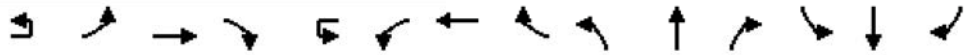
Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	190	536	190
Future Volume (veh/h)	190	536	190
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	216	609	182
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	158	871	260
Arrive On Green	0.09	0.33	0.33
Sat Flow, veh/h	1774	2659	793
Grp Volume(v), veh/h	216	405	386
Grp Sat Flow(s),veh/h/ln	1774	1770	1683
Q Serve(g_s), s	9.6	21.5	21.6
Cycle Q Clear(g_c), s	9.6	21.5	21.6
Prop In Lane	1.00		0.47
Lane Grp Cap(c), veh/h	158	579	551
V/C Ratio(X)	1.37	0.70	0.70
Avail Cap(c_a), veh/h	158	579	551
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	31.7	31.7
Incr Delay (d2), s/veh	201.3	3.1	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	11.0	10.6
LnGrp Delay(d),s/veh	250.5	34.8	35.1
LnGrp LOS	F	C	D
Approach Vol, veh/h		1007	
Approach Delay, s/veh		81.2	
Approach LOS		F	
Timer			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	10	210	878	90	435	853	182	20	270	530	492	10	221	310	310
Future Volume (veh/h)	10	210	878	90	435	853	182	20	270	530	492	10	221	310	310
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		219	915	71	463	907	163		325	639	593		243	341	244
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		396	1047	81	513	1005	180		343	913	644		265	418	292
Arrive On Green		0.11	0.32	0.32	0.15	0.34	0.34		0.19	0.26	0.26		0.15	0.21	0.21
Sat Flow, veh/h		3442	3313	257	3442	2979	535		1774	3539	1583		1774	1956	1366
Grp Volume(v), veh/h		219	489	497	463	539	531		325	639	593		243	308	277
Grp Sat Flow(s),veh/h/ln		1721	1770	1801	1721	1770	1744		1774	1770	1583		1774	1770	1552
Q Serve(g_s), s		9.3	40.5	40.5	20.5	45.0	45.0		28.1	25.4	40.0		20.9	25.7	26.5
Cycle Q Clear(g_c), s		9.3	40.5	40.5	20.5	45.0	45.0		28.1	25.4	40.0		20.9	25.7	26.5
Prop In Lane		1.00		0.14	1.00		0.31		1.00		1.00		1.00		0.88
Lane Grp Cap(c), veh/h		396	559	569	513	597	588		343	913	644		265	378	332
V/C Ratio(X)		0.55	0.87	0.87	0.90	0.90	0.90		0.95	0.70	0.92		0.92	0.81	0.84
Avail Cap(c_a), veh/h		666	685	697	666	685	675		343	913	644		343	456	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)		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		64.9	50.1	50.1	64.9	49.0	49.0		61.7	52.1	43.6		65.0	58.0	58.4
Incr Delay (d2), s/veh		0.5	10.8	10.6	11.4	14.1	14.3		34.5	2.2	18.4		22.0	8.7	11.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		4.5	21.5	21.8	10.6	24.3	24.0		17.0	12.7	27.3		11.9	13.5	12.5
LnGrp Delay(d),s/veh		65.3	60.9	60.7	76.3	63.0	63.3		96.3	54.3	62.0		87.1	66.7	70.1
LnGrp LOS		E	E	E	E	E	E		F	D	E		F	E	E
Approach Vol, veh/h			1205			1533				1557				828	
Approach Delay, s/veh			61.6			67.1				66.0				73.8	
Approach LOS			E			E				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	27.5	54.7	34.4	38.4	23.5	58.7	27.5	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	22.5	42.5	30.1	28.5	11.3	47.0	22.9	42.0
Green Ext Time (p_c), s	0.6	6.6	0.0	2.4	0.3	5.3	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	66.6
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	73	1300	140	10	180	1160	130	250	100	130	100	121	100
Future Volume (veh/h)	20	73	1300	140	10	180	1160	130	250	100	130	100	121	100
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		83	1477	129		222	1432	125	368	147	154	127	153	102
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		103	1818	158		122	1852	161	240	96	101	116	140	93
Arrive On Green		0.06	0.55	0.55		0.02	0.19	0.19	0.25	0.25	0.25	0.20	0.20	0.20
Sat Flow, veh/h		1774	3288	285		1774	3289	285	959	383	401	579	698	465
Grp Volume(v), veh/h		83	790	816		222	766	791	669	0	0	382	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1803		1774	1770	1805	1743	0	0	1743	0	0
Q Serve(g_s), s		6.5	50.5	51.7		9.6	57.6	58.4	35.1	0.0	0.0	28.1	0.0	0.0
Cycle Q Clear(g_c), s		6.5	50.5	51.7		9.6	57.6	58.4	35.1	0.0	0.0	28.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.16	0.55		0.23	0.33		0.27
Lane Grp Cap(c), veh/h		103	978	997		122	997	1016	437	0	0	350	0	0
V/C Ratio(X)		0.80	0.81	0.82		1.82	0.77	0.78	1.53	0.00	0.00	1.09	0.00	0.00
Avail Cap(c_a), veh/h		122	978	997		122	997	1016	437	0	0	350	0	0
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)		1.00	1.00	1.00		0.47	0.47	0.47	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		65.1	25.3	25.6		68.4	48.3	48.6	52.5	0.0	0.0	56.0	0.0	0.0
Incr Delay (d2), s/veh		23.5	7.1	7.5		386.1	2.8	2.8	250.1	0.0	0.0	75.1	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		3.9	26.5	27.7		17.8	29.0	30.0	47.2	0.0	0.0	20.8	0.0	0.0
LnGrp Delay(d),s/veh		88.7	32.4	33.0		454.5	51.1	51.5	302.5	0.0	0.0	131.1	0.0	0.0
LnGrp LOS		F	C	C		F	D	D	F			F		
Approach Vol, veh/h			1689				1779			669			382	
Approach Delay, s/veh			35.5				101.6			302.5			131.1	
Approach LOS			D				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	84.5		33.0	12.5	86.0		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	11.6	53.7		30.1	8.5	60.4		37.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	109.1
HCM 2010 LOS	F

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	230	1060	300	10	110	860	357	10	300	797	80	10	291	462	220
Future Volume (veh/h)	10	230	1060	300	10	110	860	357	10	300	797	80	10	291	462	220
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		258	1191	249		126	989	321		319	848	64		334	531	196
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		390	1419	294		175	1175	381		364	1044	78		376	778	339
Arrive On Green		0.29	0.65	0.65		0.03	0.21	0.21		0.21	0.43	0.43		0.18	0.37	0.37
Sat Flow, veh/h		1774	2911	603		3442	3772	1223		3442	4819	362		3442	3539	1542
Grp Volume(v), veh/h		258	720	720		126	889	421		319	596	316		334	531	196
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1605		1721	1695	1792		1721	1770	1542
Q Serve(g_s), s		17.9	43.6	45.0		5.1	35.2	35.3		12.6	21.5	21.7		13.3	17.7	8.9
Cycle Q Clear(g_c), s		17.9	43.6	45.0		5.1	35.2	35.3		12.6	21.5	21.7		13.3	17.7	8.9
Prop In Lane		1.00		0.35		1.00		0.76		1.00		0.20		1.00		1.00
Lane Grp Cap(c), veh/h		390	863	851		175	1056	500		364	734	388		376	778	339
V/C Ratio(X)		0.66	0.83	0.85		0.72	0.84	0.84		0.88	0.81	0.82		0.89	0.68	0.58
Avail Cap(c_a), veh/h		390	863	851		383	1056	500		457	826	436		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		0.67	0.67	0.67		2.00	2.00	2.00		1.67	1.67	1.67
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.85	0.85	0.85		1.00	1.00	1.00
Uniform Delay (d), s/veh		44.9	20.3	20.5		66.6	52.1	52.1		54.3	37.2	37.2		56.4	40.2	15.2
Incr Delay (d2), s/veh		0.3	0.9	1.0		1.9	7.5	14.6		11.0	5.5	10.3		20.7	2.9	3.3
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		8.7	21.3	21.6		2.5	17.6	17.7		6.5	10.5	11.7		7.3	8.9	5.1
LnGrp Delay(d),s/veh		45.3	21.2	21.6		68.5	59.5	66.7		65.3	42.7	47.5		77.1	43.0	18.5
LnGrp LOS		D	C	C		E	E	E		E	D	D		E	D	B
Approach Vol, veh/h			1698				1436				1231				1061	
Approach Delay, s/veh			25.0				62.4				49.8				49.2	
Approach LOS			C				E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	73.6	19.2	35.7	36.1	49.0	19.7	35.2
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	7.1	47.0	14.6	19.7	19.9	37.3	15.3	23.7
Green Ext Time (p_c), s	0.1	5.9	0.3	4.8	0.2	3.9	0.0	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	45.3
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1907	140	400	1346	310	110	120	640	290	180	20
Future Volume (veh/h)	20	1907	140	400	1346	310	110	120	640	290	180	20
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1966	107	435	1463	249	126	138	644	322	200	20
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1865	101	350	2847	867	255	267	1064	293	274	27
Arrive On Green	0.03	0.76	0.76	0.20	0.56	0.56	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4928	267	1774	5085	1549	1774	1863	3066	1774	1661	166
Grp Volume(v), veh/h	21	1350	723	435	1463	249	126	138	644	322	0	220
Grp Sat Flow(s),veh/h/ln	1774	1695	1805	1774	1695	1549	1774	1863	1533	1774	0	1827
Q Serve(g_s), s	1.6	53.0	53.0	27.6	24.9	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Cycle Q Clear(g_c), s	1.6	53.0	53.0	27.6	24.9	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	28	1283	683	350	2847	867	255	267	1064	293	0	301
V/C Ratio(X)	0.74	1.05	1.06	1.24	0.51	0.29	0.49	0.52	0.61	1.10	0.00	0.73
Avail Cap(c_a), veh/h	274	1283	683	350	2847	867	255	267	1064	293	0	301
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)	0.19	0.19	0.19	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	17.0	17.0	56.2	19.0	16.2	55.3	55.5	38.5	58.4	0.0	55.5
Incr Delay (d2), s/veh	2.7	27.9	33.2	131.6	0.7	0.8	1.1	1.3	0.9	82.1	0.0	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	28.5	31.4	26.3	11.8	5.3	4.6	5.0	10.5	18.0	0.0	8.7
LnGrp Delay(d),s/veh	70.2	44.9	50.2	187.8	19.7	17.0	56.4	56.8	39.4	140.5	0.0	63.1
LnGrp LOS	E	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2094			2147			908			542	
Approach Delay, s/veh		47.0			53.5			44.4			109.1	
Approach LOS		D			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	58.5		25.0	6.6	83.9		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	3.6	26.9		25.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.9
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	150	670	261	20	210	750	140	271	474	140	10
Future Volume (veh/h)	10	150	670	261	20	210	750	140	271	474	140	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		167	744	207		226	806	117	288	504	115	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		222	1127	314		281	1339	194	343	654	148	
Arrive On Green		0.06	0.42	0.42		0.08	0.43	0.43	0.13	0.31	0.31	
Sat Flow, veh/h		3442	2713	755		3442	3094	449	3442	2834	642	
Grp Volume(v), veh/h		167	485	466		226	461	462	288	313	306	
Grp Sat Flow(s),veh/h/ln		1721	1770	1699		1721	1770	1773	1721	1770	1707	
Q Serve(g_s), s		6.0	27.8	27.8		8.1	25.2	25.2	10.3	20.2	20.5	
Cycle Q Clear(g_c), s		6.0	27.8	27.8		8.1	25.2	25.2	10.3	20.2	20.5	
Prop In Lane		1.00		0.44		1.00		0.25	1.00		0.38	
Lane Grp Cap(c), veh/h		222	735	706		281	766	767	343	408	394	
V/C Ratio(X)		0.75	0.66	0.66		0.80	0.60	0.60	0.84	0.77	0.78	
Avail Cap(c_a), veh/h		399	735	706		399	766	767	481	479	462	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.95	0.95	0.95	
Uniform Delay (d), s/veh		57.9	29.7	29.7		56.9	27.4	27.4	53.7	40.6	40.7	
Incr Delay (d2), s/veh		1.9	4.6	4.8		5.0	3.5	3.5	6.3	4.8	5.4	
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		2.9	14.6	14.0		4.1	13.0	13.1	5.2	10.4	10.3	
LnGrp Delay(d),s/veh		59.9	34.3	34.5		61.9	30.9	30.9	60.0	45.4	46.1	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1118				1149			907		
Approach Delay, s/veh			38.2				37.0			50.3		
Approach LOS			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	14.7	57.3	17.0	37.0	12.5	59.5	20.0	34.0
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	10.1	29.8	12.3	34.1	8.0	27.2	16.9	22.5
Green Ext Time (p_c), s	0.2	5.4	0.3	0.0	0.1	5.6	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	97.1
HCM 2010 LOS	F

Notes



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	200	1077	150
Future Volume (veh/h)	200	1077	150
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	211	1134	126
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	220	815	90
Arrive On Green	0.12	0.25	0.25
Sat Flow, veh/h	1774	3197	354
Grp Volume(v), veh/h	211	627	633
Grp Sat Flow(s),veh/h/ln	1774	1770	1782
Q Serve(g_s), s	14.9	32.1	32.1
Cycle Q Clear(g_c), s	14.9	32.1	32.1
Prop In Lane	1.00		0.20
Lane Grp Cap(c), veh/h	220	451	454
V/C Ratio(X)	0.96	1.39	1.40
Avail Cap(c_a), veh/h	220	451	454
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	47.0	47.0
Incr Delay (d2), s/veh	49.2	188.7	190.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	39.3	39.8
LnGrp Delay(d),s/veh	104.0	235.6	237.8
LnGrp LOS	F	F	F
Approach Vol, veh/h		1471	
Approach Delay, s/veh		217.7	
Approach LOS		F	
Timer			

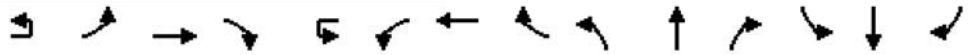


Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	360	1012	80	531	926	170	20	180	410	492	321	690	310
Future Volume (veh/h)	20	360	1012	80	531	926	170	20	180	410	492	321	690	310
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		375	1054	64	565	985	147		191	436	411	373	802	262
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		526	1112	67	579	1022	152		210	793	604	298	713	233
Arrive On Green		0.15	0.33	0.33	0.17	0.33	0.33		0.12	0.22	0.22	0.17	0.27	0.27
Sat Flow, veh/h		3442	3382	205	3442	3073	458		1774	3539	1509	1774	2606	851
Grp Volume(v), veh/h		375	551	567	565	567	565		191	436	411	373	544	520
Grp Sat Flow(s),veh/h/ln		1721	1770	1818	1721	1770	1761		1774	1770	1509	1774	1770	1688
Q Serve(g_s), s		18.5	54.2	54.3	29.2	56.1	56.3		19.0	19.5	40.0	30.0	48.9	48.9
Cycle Q Clear(g_c), s		18.5	54.2	54.3	29.2	56.1	56.3		19.0	19.5	40.0	30.0	48.9	48.9
Prop In Lane		1.00		0.11	1.00		0.26		1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h		526	582	598	579	589	586		210	793	604	298	484	462
V/C Ratio(X)		0.71	0.95	0.95	0.98	0.96	0.96		0.91	0.55	0.68	1.25	1.12	1.12
Avail Cap(c_a), veh/h		579	595	611	579	595	592		298	793	604	298	484	462
HCM Platoon Ratio		1.00	1.00	1.00	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		71.9	58.4	58.4	73.9	58.5	58.5		77.7	61.3	45.3	74.2	64.8	64.8
Incr Delay (d2), s/veh		2.9	24.5	24.2	31.3	27.7	28.1		19.5	0.6	2.8	137.6	79.4	80.6
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		9.0	30.5	31.2	16.4	31.9	31.9		10.5	9.6	17.4	26.1	34.5	33.1
LnGrp Delay(d),s/veh		74.8	82.9	82.6	105.2	86.1	86.6		97.2	61.9	48.1	211.8	144.2	145.4
LnGrp LOS		E	F	F	F	F	F		F	E	D	F	F	F
Approach Vol, veh/h			1493			1697				1038			1437	
Approach Delay, s/veh			80.7			92.6				63.0			162.2	
Approach LOS			F			F				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	34.4	64.4	25.5	54.2	33.0	65.8	34.4	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	31.2	56.3	21.0	50.9	20.5	58.3	32.0	42.0
Green Ext Time (p_c), s	0.0	2.4	0.2	0.0	0.5	1.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	101.7
HCM 2010 LOS	F

Notes

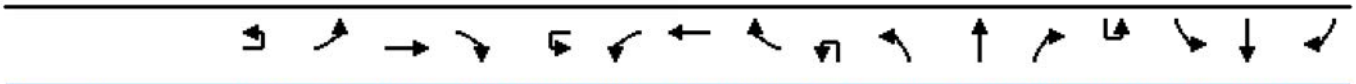


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	68	1500	180	50	150	1450	120	100	61	60	90	160	155
Future Volume (veh/h)	10	68	1500	180	50	150	1450	120	100	61	60	90	160	155
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		72	1579	145		160	1543	97	112	69	55	99	176	130
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		174	1423	129		172	1421	89	125	77	61	76	136	100
Arrive On Green		0.10	0.43	0.43		0.03	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3280	298		1774	3383	212	827	509	406	426	757	559
Grp Volume(v), veh/h		72	845	879		160	803	837	236	0	0	405	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1809		1774	1770	1825	1742	0	0	1742	0	0
Q Serve(g_s), s		5.3	60.7	60.7		12.6	58.8	58.8	18.6	0.0	0.0	25.1	0.0	0.0
Cycle Q Clear(g_c), s		5.3	60.7	60.7		12.6	58.8	58.8	18.6	0.0	0.0	25.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.12	0.47		0.23	0.24		0.32
Lane Grp Cap(c), veh/h		174	767	785		172	743	767	262	0	0	312	0	0
V/C Ratio(X)		0.41	1.10	1.12		0.93	1.08	1.09	0.90	0.00	0.00	1.30	0.00	0.00
Avail Cap(c_a), veh/h		174	767	785		172	743	767	312	0	0	312	0	0
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)		1.00	1.00	1.00		0.09	0.09	0.09	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		59.4	39.6	39.6		67.3	60.3	60.3	58.4	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh		0.6	63.7	70.5		8.4	39.1	43.4	22.5	0.0	0.0	155.3	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.6	43.2	45.7		6.6	36.9	39.0	10.6	0.0	0.0	25.5	0.0	0.0
LnGrp Delay(d),s/veh		60.0	103.4	110.2		75.7	99.4	103.7	80.9	0.0	0.0	212.8	0.0	0.0
LnGrp LOS		E	F	F		E	F	F	F			F		
Approach Vol, veh/h			1796				1800			236			405	
Approach Delay, s/veh			104.9				99.3			80.9			212.8	
Approach LOS			F				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	66.0		30.0	19.0	65.0		26.0
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	14.6	62.7		27.1	7.3	60.8		20.6
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	111.5
HCM 2010 LOS	F

Notes

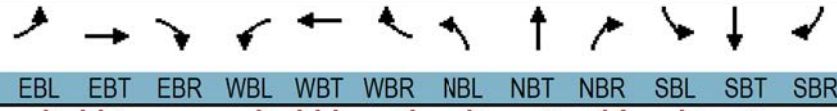


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	350	1040	280	10	330	1120	382	20	280	555	120	30	427	693	250
Future Volume (veh/h)	10	350	1040	280	10	330	1120	382	20	280	555	120	30	427	693	250
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		380	1130	231		367	1244	337		311	617	101		480	779	221
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		362	1033	210		531	1225	332		359	848	137		532	862	360
Arrive On Green		0.07	0.12	0.12		0.05	0.10	0.10		0.21	0.39	0.39		0.15	0.24	0.24
Sat Flow, veh/h		1774	2909	590		3442	3936	1065		3442	4389	706		3442	3539	1477
Grp Volume(v), veh/h		380	684	677		367	1071	510		311	474	244		480	779	221
Grp Sat Flow(s),veh/h/ln		1774	1770	1729		1721	1695	1611		1721	1695	1705		1721	1770	1477
Q Serve(g_s), s		28.6	49.7	49.7		14.7	43.6	43.6		12.2	16.7	17.2		19.2	29.9	18.6
Cycle Q Clear(g_c), s		28.6	49.7	49.7		14.7	43.6	43.6		12.2	16.7	17.2		19.2	29.9	18.6
Prop In Lane		1.00		0.34		1.00		0.66		1.00		0.41		1.00		1.00
Lane Grp Cap(c), veh/h		362	628	614		531	1055	501		359	655	330		532	862	360
V/C Ratio(X)		1.05	1.09	1.10		0.69	1.02	1.02		0.87	0.72	0.74		0.90	0.90	0.61
Avail Cap(c_a), veh/h		362	628	614		531	1055	501		556	753	379		629	862	360
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.09	0.09	0.09		0.81	0.81	0.81		0.91	0.91	0.91		1.00	1.00	1.00
Uniform Delay (d), s/veh		65.3	61.8	61.8		63.2	62.8	62.8		54.4	39.7	39.9		58.1	51.4	47.1
Incr Delay (d2), s/veh		29.1	43.2	48.6		2.6	28.8	40.2		5.1	3.5	7.5		13.4	13.2	4.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		17.0	31.9	32.1		7.2	24.7	25.1		6.0	8.1	8.7		10.1	16.2	8.0
LnGrp Delay(d),s/veh		94.4	105.0	110.4		65.8	91.6	103.1		59.6	43.2	47.4		71.6	64.5	51.1
LnGrp LOS		F	F	F		E	F	F		E	D	D		E	E	D
Approach Vol, veh/h			1741				1948				1029				1480	
Approach Delay, s/veh			104.8				89.7				49.1				64.8	
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	27.0	55.0	19.0	39.0	33.0	49.0	26.1	32.0
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	14.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	16.7	51.7	14.2	31.9	30.6	45.6	21.2	19.2
Green Ext Time (p_c), s	0.0	0.0	0.4	1.6	0.0	0.0	0.5	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	81.3
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1523	180	440	2058	320	130	70	300	220	180	50
Future Volume (veh/h)	50	1523	180	440	2058	320	130	70	300	220	180	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	1570	141	454	2122	239	114	128	293	244	200	50
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1944	174	400	3139	976	173	182	1011	191	154	38
Arrive On Green	0.07	0.86	0.86	0.23	0.62	0.62	0.10	0.10	0.10	0.11	0.11	0.11
Sat Flow, veh/h	1774	4533	407	1774	5085	1581	1774	1863	3036	1774	1424	356
Grp Volume(v), veh/h	52	1096	615	454	2122	239	114	128	293	244	0	250
Grp Sat Flow(s),veh/h/ln	1774	1583	1773	1774	1695	1581	1774	1863	1518	1774	0	1780
Q Serve(g_s), s	4.0	22.4	22.5	31.6	38.4	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Cycle Q Clear(g_c), s	4.0	22.4	22.5	31.6	38.4	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	66	1358	760	400	3139	976	173	182	1011	191	0	192
V/C Ratio(X)	0.78	0.81	0.81	1.13	0.68	0.24	0.66	0.70	0.29	1.28	0.00	1.30
Avail Cap(c_a), veh/h	134	1358	760	400	3139	976	318	334	1259	191	0	192
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)	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.2	7.3	7.3	54.2	17.6	12.1	60.9	61.2	35.5	62.5	0.0	62.5
Incr Delay (d2), s/veh	4.7	3.3	5.9	86.7	1.2	0.6	3.2	3.7	0.1	158.0	0.0	168.6
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	9.8	11.5	25.1	18.2	4.3	4.4	5.0	4.3	15.8	0.0	16.4
LnGrp Delay(d),s/veh	68.9	10.6	13.1	140.9	18.8	12.7	64.1	64.9	35.6	220.5	0.0	231.1
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1763			2815			535			494	
Approach Delay, s/veh		13.2			38.0			48.7			225.8	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	65.5		20.0	9.6	91.8		18.5
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	11.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	13.6	24.5		17.1	6.0	40.4		12.1
Green Ext Time (p_c), s	0.0	19.2		0.0	0.0	24.4		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	47.8
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	210	440	192	10	190	550	360	245	1242	90	10
Future Volume (veh/h)	10	210	440	192	10	190	550	360	245	1242	90	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		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	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		221	463	161		204	591	284	253	1280	72	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		249	678	233		1026	1139	547	315	1231	69	
Arrive On Green		0.07	0.26	0.26		0.30	0.50	0.50	0.12	0.48	0.48	
Sat Flow, veh/h		3442	2559	882		3442	2296	1102	3442	3401	191	
Grp Volume(v), veh/h		221	319	305		204	455	420	253	665	687	
Grp Sat Flow(s),veh/h/ln		1721	1770	1671		1721	1770	1628	1721	1770	1823	
Q Serve(g_s), s		6.9	17.5	17.7		4.8	18.9	18.9	7.7	39.1	39.1	
Cycle Q Clear(g_c), s		6.9	17.5	17.7		4.8	18.9	18.9	7.7	39.1	39.1	
Prop In Lane		1.00		0.53		1.00		0.68	1.00		0.10	
Lane Grp Cap(c), veh/h		249	469	442		1026	878	808	315	641	660	
V/C Ratio(X)		0.89	0.68	0.69		0.20	0.52	0.52	0.80	1.04	1.04	
Avail Cap(c_a), veh/h		249	469	442		1026	878	808	433	641	660	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.54	0.54	0.54	
Uniform Delay (d), s/veh		49.7	35.6	35.7		28.3	18.4	18.5	46.5	28.0	28.0	
Incr Delay (d2), s/veh		29.2	7.8	8.5		0.0	2.2	2.4	2.8	36.4	37.1	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		4.3	9.5	9.2		2.3	9.6	8.9	3.8	25.5	26.4	
LnGrp Delay(d),s/veh		78.8	43.4	44.2		28.3	20.6	20.8	49.3	64.4	65.1	
LnGrp LOS		E	D	D		C	C	C	D	F	F	
Approach Vol, veh/h			845				1079			1605		
Approach Delay, s/veh			53.0				22.2			62.3		
Approach LOS			D				C			E		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.7	33.6	14.3	48.4	12.2	59.1	18.7	44.0
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	7.8	* 29	13.6	39.3	7.8	28.6	13.8	* 39
Max Q Clear Time (g_c+I1), s	6.8	19.7	9.7	21.2	8.9	20.9	15.1	41.1
Green Ext Time (p_c), s	0.0	2.7	0.2	2.7	0.0	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	46.1
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	190	537	190
Future Volume (veh/h)	190	537	190
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	216	610	182
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	227	1073	320
Arrive On Green	0.13	0.40	0.40
Sat Flow, veh/h	1774	2664	793
Grp Volume(v), veh/h	216	405	387
Grp Sat Flow(s),veh/h/ln	1774	1770	1688
Q Serve(g_s), s	13.1	19.1	19.2
Cycle Q Clear(g_c), s	13.1	19.1	19.2
Prop In Lane	1.00		0.47
Lane Grp Cap(c), veh/h	227	713	680
V/C Ratio(X)	0.95	0.57	0.57
Avail Cap(c_a), veh/h	227	713	680
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	25.0	25.0
Incr Delay (d2), s/veh	46.2	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	9.5	9.1
LnGrp Delay(d),s/veh	92.9	25.6	25.7
LnGrp LOS	F	C	C
Approach Vol, veh/h		1008	
Approach Delay, s/veh		40.1	
Approach LOS		D	
Timer			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	10	210	878	90	435	853	182	20	270	530	492	10	221	310	310
Future Volume (veh/h)	10	210	878	90	435	853	182	20	270	530	492	10	221	310	310
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		219	915	71	463	907	163		325	639	593		243	341	244
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		357	1038	81	515	1031	185		347	917	647		265	417	291
Arrive On Green		0.10	0.31	0.31	0.15	0.35	0.35		0.20	0.26	0.26		0.15	0.21	0.21
Sat Flow, veh/h		3442	3313	257	3442	2979	535		1774	3539	1583		1774	1956	1366
Grp Volume(v), veh/h		219	489	497	463	539	531		325	639	593		243	308	277
Grp Sat Flow(s),veh/h/ln		1721	1770	1800	1721	1770	1745		1774	1770	1583		1774	1770	1552
Q Serve(g_s), s		9.4	40.4	40.4	20.4	44.1	44.1		27.8	25.1	39.9		20.8	25.5	26.4
Cycle Q Clear(g_c), s		9.4	40.4	40.4	20.4	44.1	44.1		27.8	25.1	39.9		20.8	25.5	26.4
Prop In Lane		1.00		0.14	1.00		0.31		1.00		1.00		1.00		0.88
Lane Grp Cap(c), veh/h		357	554	564	515	612	604		347	917	647		265	377	331
V/C Ratio(X)		0.61	0.88	0.88	0.90	0.88	0.88		0.94	0.70	0.92		0.92	0.82	0.84
Avail Cap(c_a), veh/h		357	650	662	729	838	826		433	917	647		364	390	342
HCM Platoon Ratio		1.00	1.00	1.00	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		66.0	50.2	50.2	64.3	47.3	47.3		61.0	51.6	43.0		64.5	57.7	58.0
Incr Delay (d2), s/veh		2.3	12.4	12.2	8.6	8.2	8.4		23.0	2.1	17.8		19.1	12.1	15.9
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		4.6	21.6	21.9	10.3	22.9	22.7		15.9	12.6	26.9		11.6	13.7	12.8
LnGrp Delay(d),s/veh		68.3	62.6	62.4	73.0	55.5	55.7		84.0	53.7	60.8		83.7	69.8	74.0
LnGrp LOS		E	E	E	E	E	E		F	D	E		F	E	E
Approach Vol, veh/h			1205			1533				1557				828	
Approach Delay, s/veh			63.6			60.9				62.7				75.3	
Approach LOS			E			E				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	27.4	53.9	34.5	38.1	21.7	59.7	27.4	45.2
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	22.6	56.6	37.6	33.9	15.6	* 73	31.6	39.9
Max Q Clear Time (g_c+I1), s	22.4	42.4	29.8	28.4	11.4	46.1	22.8	41.9
Green Ext Time (p_c), s	0.7	5.9	0.3	1.5	0.1	7.2	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	64.4
HCM 2010 LOS	E

Notes

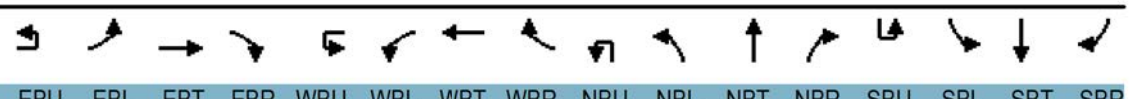


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	80	1300	140	10	180	1160	130	250	101	130	100	123	120
Future Volume (veh/h)	20	80	1300	140	10	180	1160	130	250	101	130	100	123	120
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		91	1477	129		222	1432	125	368	149	154	127	156	127
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		96	1240	108		185	1405	122	342	162	167	319	170	138
Arrive On Green		0.05	0.38	0.38		0.14	0.57	0.57	0.19	0.19	0.19	0.18	0.18	0.18
Sat Flow, veh/h		1774	3287	285		1774	3289	285	1774	840	868	1774	944	768
Grp Volume(v), veh/h		91	790	816		222	767	790	368	0	303	127	0	283
Grp Sat Flow(s),veh/h/ln		1774	1770	1802		1774	1770	1804	1774	0	1708	1774	0	1712
Q Serve(g_s), s		7.2	52.8	52.8		14.6	59.8	59.8	27.0	0.0	24.4	8.9	0.0	22.7
Cycle Q Clear(g_c), s		7.2	52.8	52.8		14.6	59.8	59.8	27.0	0.0	24.4	8.9	0.0	22.7
Prop In Lane		1.00		0.16		1.00		0.16	1.00		0.51	1.00		0.45
Lane Grp Cap(c), veh/h		96	668	680		185	756	771	342	0	329	319	0	308
V/C Ratio(X)		0.94	1.18	1.20		1.20	1.01	1.03	1.08	0.00	0.92	0.40	0.00	0.92
Avail Cap(c_a), veh/h		96	668	680		185	756	771	342	0	329	342	0	330
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)		1.00	1.00	1.00		0.48	0.48	0.48	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		66.0	43.6	43.6		60.3	30.2	30.2	56.5	0.0	55.4	50.7	0.0	56.4
Incr Delay (d2), s/veh		73.0	97.2	103.7		112.6	26.2	29.2	70.3	0.0	29.4	0.3	0.0	27.8
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		5.5	43.8	45.8		12.9	34.3	35.7	19.9	0.0	14.2	4.4	0.0	13.1
LnGrp Delay(d),s/veh		139.0	140.8	147.3		172.9	56.4	59.4	126.8	0.0	84.9	51.0	0.0	84.2
LnGrp LOS		F	F	F		F	F	F	F		F	D		F
Approach Vol, veh/h			1697				1779			671			410	
Approach Delay, s/veh			143.8				72.3			107.8			73.9	
Approach LOS			F				E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	59.0		30.1	12.0	66.0		31.9
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	4.6	* 52		27.0	7.6	58.0		27.0
Max Q Clear Time (g_c+I1), s	16.6	54.8		24.7	9.2	61.8		29.0
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	104.3
HCM 2010 LOS	F

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	230	1060	300	10	110	860	357	10	300	797	80	10	291	462	220
Future Volume (veh/h)	10	230	1060	300	10	110	860	357	10	300	797	80	10	291	462	220
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		258	1191	249		126	989	321		319	848	64		334	531	196
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		362	1422	295		167	1229	398		363	1050	79		376	785	342
Arrive On Green		0.41	0.98	0.98		0.03	0.22	0.22		0.14	0.29	0.29		0.18	0.37	0.37
Sat Flow, veh/h		1774	2911	603		3442	3773	1223		3442	4819	362		3442	3539	1542
Grp Volume(v), veh/h		258	720	720		126	889	421		319	596	316		334	531	196
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1606		1721	1695	1792		1721	1770	1542
Q Serve(g_s), s		17.0	7.0	7.6		5.1	34.8	34.9		12.7	22.8	23.0		13.3	17.6	9.2
Cycle Q Clear(g_c), s		17.0	7.0	7.6		5.1	34.8	34.9		12.7	22.8	23.0		13.3	17.6	9.2
Prop In Lane		1.00		0.35		1.00		0.76		1.00		0.20		1.00		1.00
Lane Grp Cap(c), veh/h		362	865	852		167	1104	523		363	739	390		376	785	342
V/C Ratio(X)		0.71	0.83	0.84		0.75	0.80	0.81		0.88	0.81	0.81		0.89	0.68	0.57
Avail Cap(c_a), veh/h		362	865	852		167	1104	523		369	802	424		383	852	371
HCM Platoon Ratio		2.00	2.00	2.00		0.67	0.67	0.67		1.33	1.33	1.33		1.67	1.67	1.67
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.85	0.85	0.85		1.00	1.00	1.00
Uniform Delay (d), s/veh		38.0	0.9	0.9		66.9	50.5	50.5		59.3	47.0	47.0		56.4	39.9	16.1
Incr Delay (d2), s/veh		0.5	0.9	1.0		14.5	5.7	11.5		17.5	5.5	10.3		20.7	2.5	2.8
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		8.2	1.8	1.8		2.8	17.2	17.2		6.9	11.2	12.5		7.3	8.9	5.0
LnGrp Delay(d),s/veh		38.5	1.8	1.9		81.4	56.2	62.0		76.8	52.5	57.3		77.1	42.3	18.9
LnGrp LOS		D	A	A		F	E	E		E	D	E		E	D	B
Approach Vol, veh/h			1698				1436				1231				1061	
Approach Delay, s/veh			7.4				60.1				60.0				48.9	
Approach LOS			A				E				E				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	73.7	19.1	35.9	33.9	51.0	19.7	35.4
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	6.8	65.5	15.0	33.7	26.6	* 46	15.6	33.1
Max Q Clear Time (g_c+I1), s	7.1	9.6	14.7	19.6	19.0	36.9	15.3	25.0
Green Ext Time (p_c), s	0.0	15.8	0.0	5.4	0.2	5.0	0.0	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	41.4
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1940	140	400	1357	310	110	120	640	290	180	20
Future Volume (veh/h)	20	1940	140	400	1357	310	110	120	640	290	180	20
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	2000	107	435	1475	249	126	138	644	322	200	20
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1990	106	350	2973	906	193	121	720	345	250	25
Arrive On Green	0.03	0.81	0.81	0.20	0.58	0.58	0.11	0.07	0.07	0.19	0.15	0.15
Sat Flow, veh/h	1774	4933	263	1774	5085	1549	1774	1863	2631	1774	1661	166
Grp Volume(v), veh/h	21	1372	735	435	1475	249	126	138	644	322	0	220
Grp Sat Flow(s),veh/h/ln	1774	1695	1806	1774	1695	1549	1774	1863	1315	1774	0	1827
Q Serve(g_s), s	1.6	56.5	56.5	27.6	23.8	4.0	9.5	9.1	9.1	25.0	0.0	16.3
Cycle Q Clear(g_c), s	1.6	56.5	56.5	27.6	23.8	4.0	9.5	9.1	9.1	25.0	0.0	16.3
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	28	1368	728	350	2973	906	193	121	720	345	0	275
V/C Ratio(X)	0.74	1.00	1.01	1.24	0.50	0.27	0.65	1.14	0.89	0.93	0.00	0.80
Avail Cap(c_a), veh/h	75	1368	728	350	2973	906	193	121	720	393	0	405
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)	0.19	0.19	0.19	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	13.5	13.5	56.2	17.0	1.8	59.8	65.4	32.9	55.5	0.0	57.4
Incr Delay (d2), s/veh	2.7	11.3	16.8	131.6	0.6	0.8	7.0	124.3	13.5	26.1	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	26.8	29.7	26.3	11.2	4.1	5.1	8.9	12.3	14.8	0.0	8.6
LnGrp Delay(d),s/veh	70.2	24.8	30.3	187.8	17.6	2.6	66.8	189.7	46.4	81.6	0.0	61.5
LnGrp LOS	E	F	F	F	B	A	E	F	D	F		E
Approach Vol, veh/h		2128			2159			908			542	
Approach Delay, s/veh		27.2			50.2			71.0			73.4	
Approach LOS		C			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.0	61.9	32.1	14.0	6.6	87.2	20.1	26.0
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	27.6	* 53	31.0	9.1	5.9	74.4	9.1	31.0
Max Q Clear Time (g_c+I1), s	29.6	58.5	27.0	11.1	3.6	25.8	11.5	18.3
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	23.9	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	47.1
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	150	670	265	20	210	750	140	273	484	140	10
Future Volume (veh/h)	10	150	670	265	20	210	750	140	273	484	140	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.97	1.00		0.96	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		167	744	211		226	806	117	290	515	115	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	821	233		277	999	145	322	950	211	
Arrive On Green		0.06	0.30	0.30		0.08	0.32	0.32	0.06	0.22	0.22	
Sat Flow, veh/h		3442	2695	764		3442	3091	449	3442	2855	634	
Grp Volume(v), veh/h		167	489	466		226	461	462	290	318	312	
Grp Sat Flow(s),veh/h/ln		1721	1770	1689		1721	1770	1770	1721	1770	1719	
Q Serve(g_s), s		6.0	33.4	33.4		8.1	30.1	30.1	10.5	20.0	20.2	
Cycle Q Clear(g_c), s		6.0	33.4	33.4		8.1	30.1	30.1	10.5	20.0	20.2	
Prop In Lane		1.00		0.45		1.00		0.25	1.00		0.37	
Lane Grp Cap(c), veh/h		213	539	514		277	572	572	322	589	572	
V/C Ratio(X)		0.78	0.91	0.91		0.82	0.81	0.81	0.90	0.54	0.55	
Avail Cap(c_a), veh/h		213	539	514		279	572	572	322	589	572	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	0.67	0.67	0.67	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.95	0.95	0.95	
Uniform Delay (d), s/veh		58.3	42.1	42.1		57.0	39.0	39.0	58.5	40.5	40.5	
Incr Delay (d2), s/veh		15.9	21.5	22.2		15.8	11.6	11.6	24.9	0.5	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	
%ile BackOfQ(50%),veh/ln		3.3	19.5	18.7		4.5	16.6	16.6	6.1	9.9	9.7	
LnGrp Delay(d),s/veh		74.1	63.5	64.3		72.8	50.6	50.7	83.4	41.0	41.1	
LnGrp LOS		E	E	E		E	D	D	F	D	D	
Approach Vol, veh/h			1122				1149			920		
Approach Delay, s/veh			65.4				55.0			54.4		
Approach LOS			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	14.5	43.4	16.2	51.9	12.2	45.7	21.3	46.8
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	10.2	38.0	11.8	47.3	7.8	40.4	23.8	35.3
Max Q Clear Time (g_c+I1), s	10.1	35.4	12.5	46.5	8.0	32.1	16.7	22.2
Green Ext Time (p_c), s	0.0	1.5	0.0	0.5	0.0	3.8	0.2	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	60.6
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	200	1095	150
Future Volume (veh/h)	200	1095	150
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	211	1153	126
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	238	1196	130
Arrive On Green	0.13	0.37	0.37
Sat Flow, veh/h	1774	3207	350
Grp Volume(v), veh/h	211	635	644
Grp Sat Flow(s),veh/h/ln	1774	1770	1787
Q Serve(g_s), s	14.7	44.2	44.5
Cycle Q Clear(g_c), s	14.7	44.2	44.5
Prop In Lane	1.00		0.20
Lane Grp Cap(c), veh/h	238	660	666
V/C Ratio(X)	0.89	0.96	0.97
Avail Cap(c_a), veh/h	335	664	671
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	38.6	38.7
Incr Delay (d2), s/veh	14.8	25.6	26.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	26.2	26.9
LnGrp Delay(d),s/veh	68.4	64.2	65.0
LnGrp LOS	E	E	E
Approach Vol, veh/h		1490	
Approach Delay, s/veh		65.1	
Approach LOS		E	
Timer			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	360	1027	80	533	935	171	20	180	410	495	322	690	310
Future Volume (veh/h)	20	360	1027	80	533	935	171	20	180	410	495	322	690	310
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		375	1070	64	567	995	148		191	436	415	374	802	262
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		406	1036	62	545	1031	153		208	732	562	389	806	263
Arrive On Green		0.12	0.31	0.31	0.16	0.34	0.34		0.12	0.21	0.21	0.22	0.31	0.31
Sat Flow, veh/h		3442	3385	202	3442	3075	457		1774	3539	1504	1774	2608	852
Grp Volume(v), veh/h		375	559	575	567	572	571		191	436	415	374	544	520
Grp Sat Flow(s),veh/h/ln		1721	1770	1818	1721	1770	1762		1774	1770	1504	1774	1770	1691
Q Serve(g_s), s		19.5	55.5	55.5	28.7	57.6	57.7		19.3	20.2	37.5	37.8	55.6	55.7
Cycle Q Clear(g_c), s		19.5	55.5	55.5	28.7	57.6	57.7		19.3	20.2	37.5	37.8	55.6	55.7
Prop In Lane		1.00		0.11	1.00		0.26		1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h		406	541	556	545	593	591		208	732	562	389	547	522
V/C Ratio(X)		0.92	1.03	1.03	1.04	0.96	0.97		0.92	0.60	0.74	0.96	0.99	1.00
Avail Cap(c_a), veh/h		406	541	556	545	598	596		208	732	562	390	547	522
HCM Platoon Ratio		1.00	1.00	1.00	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		79.1	62.9	62.9	76.3	59.2	59.2		79.1	65.0	50.4	70.0	62.5	62.5
Incr Delay (d2), s/veh		26.0	47.4	47.1	49.5	28.0	28.4		39.2	1.1	4.8	35.0	37.1	38.2
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		10.8	34.2	35.1	17.4	32.8	32.7		11.8	10.0	19.0	22.4	32.8	31.5
LnGrp Delay(d),s/veh		105.1	110.3	110.0	125.7	87.2	87.7		118.3	66.1	55.2	105.0	99.6	100.7
LnGrp LOS		F	F	F	F	F	F		F	E	E	F	F	F
Approach Vol, veh/h			1509			1710				1042			1438	
Approach Delay, s/veh			108.9			100.1				71.3			101.4	
Approach LOS			F			F				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	13.1	61.2	25.7	61.3	27.1	67.2	44.2	42.8
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	28.7	54.7	21.3	56.0	21.4	* 61	39.8	37.5
Max Q Clear Time (g_c+I1), s	30.7	57.5	21.3	57.7	21.5	59.7	39.8	39.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	97.5
HCM 2010 LOS	F

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	94	1500	180	50	150	1450	120	100	64	60	90	162	169
Future Volume (veh/h)	10	94	1500	180	50	150	1450	120	100	64	60	90	162	169
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		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		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		99	1579	145		160	1543	97	112	72	55	99	178	146
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		96	1570	143		160	1740	109	164	90	69	342	183	150
Arrive On Green		0.05	0.48	0.48		0.09	0.51	0.51	0.09	0.09	0.09	0.19	0.19	0.19
Sat Flow, veh/h		1774	3280	298		1774	3383	212	1774	973	743	1774	947	777
Grp Volume(v), veh/h		99	845	879		160	803	837	112	0	127	99	0	324
Grp Sat Flow(s),veh/h/ln		1774	1770	1809		1774	1770	1825	1774	0	1716	1774	0	1724
Q Serve(g_s), s		7.6	66.7	67.0		12.6	56.5	57.5	8.6	0.0	10.2	6.7	0.0	26.1
Cycle Q Clear(g_c), s		7.6	66.7	67.0		12.6	56.5	57.5	8.6	0.0	10.2	6.7	0.0	26.1
Prop In Lane		1.00		0.16		1.00		0.12	1.00		0.43	1.00		0.45
Lane Grp Cap(c), veh/h		96	847	866		160	910	939	164	0	159	342	0	333
V/C Ratio(X)		1.03	1.00	1.01		1.00	0.88	0.89	0.68	0.00	0.80	0.29	0.00	0.97
Avail Cap(c_a), veh/h		96	847	866		160	910	939	342	0	331	342	0	333
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		0.13	0.13	0.13	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		66.2	36.4	36.5		63.7	30.2	30.5	61.5	0.0	62.2	48.3	0.0	56.2
Incr Delay (d2), s/veh		99.5	30.3	34.3		25.8	1.8	1.9	1.8	0.0	3.5	0.2	0.0	42.1
Initial Q Delay(d3),s/veh		0.4	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		6.4	39.5	41.7		7.3	27.9	29.3	4.3	0.0	5.0	3.3	0.0	16.3
LnGrp Delay(d),s/veh		166.1	66.7	70.8		89.6	32.0	32.4	63.4	0.0	65.7	48.5	0.0	98.3
LnGrp LOS		F	E	F		F	C	C	E		E	D		F
Approach Vol, veh/h			1823				1800			239			423	
Approach Delay, s/veh			74.1				37.3			64.6			86.6	
Approach LOS			E				D			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	73.2		31.9	12.0	78.2		17.9
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	12.6	* 54		27.0	7.6	58.0		27.0
Max Q Clear Time (g_c+I1), s	14.6	69.0		28.1	9.6	59.5		12.2
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	59.4
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	350	1040	280	10	330	1120	430	20	280	575	120	30	454	704	250
Future Volume (veh/h)	10	350	1040	280	10	330	1120	430	20	280	575	120	30	454	704	250
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.97		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		380	1130	231		367	1244	391		311	639	101		510	791	221
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		355	1181	240		368	1181	371		352	966	150		457	882	369
Arrive On Green		0.07	0.13	0.13		0.07	0.21	0.21		0.20	0.44	0.44		0.22	0.42	0.42
Sat Flow, veh/h		1774	2911	591		3442	3785	1187		3442	4415	687		3442	3539	1479
Grp Volume(v), veh/h		380	684	677		367	1114	521		311	488	252		510	791	221
Grp Sat Flow(s),veh/h/ln		1774	1770	1732		1721	1695	1582		1721	1695	1713		1721	1770	1479
Q Serve(g_s), s		28.0	53.7	54.4		14.9	43.7	43.7		12.3	15.9	16.4		18.6	29.1	10.5
Cycle Q Clear(g_c), s		28.0	53.7	54.4		14.9	43.7	43.7		12.3	15.9	16.4		18.6	29.1	10.5
Prop In Lane		1.00		0.34		1.00		0.75		1.00		0.40		1.00		1.00
Lane Grp Cap(c), veh/h		355	718	703		368	1058	494		352	741	375		457	882	369
V/C Ratio(X)		1.07	0.95	0.96		1.00	1.05	1.06		0.88	0.66	0.67		1.12	0.90	0.60
Avail Cap(c_a), veh/h		355	718	703		368	1058	494		364	799	404		457	930	389
HCM Platoon Ratio		0.33	0.33	0.33		0.67	0.67	0.67		2.00	2.00	2.00		1.67	1.67	1.67
Upstream Filter(I)		0.09	0.09	0.09		0.81	0.81	0.81		0.91	0.91	0.91		1.00	1.00	1.00
Uniform Delay (d), s/veh		65.4	59.3	59.6		65.0	55.4	55.4		54.9	35.3	35.4		54.5	39.2	14.8
Incr Delay (d2), s/veh		38.1	3.8	4.7		41.2	40.0	51.8		19.0	2.2	4.7		77.4	11.5	3.3
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		17.5	27.1	27.1		9.2	26.4	26.2		6.7	7.5	8.2		13.7	15.5	5.3
LnGrp Delay(d),s/veh		103.4	63.1	64.3		106.1	95.4	107.1		73.8	37.4	40.0		131.9	50.7	18.0
LnGrp LOS		F	E	E		F	F	F		E	D	D		F	D	B
Approach Vol, veh/h			1741				2002				1051				1522	
Approach Delay, s/veh			72.4				100.4				48.8				73.2	
Approach LOS			E				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	19.4	62.1	18.7	39.8	32.4	49.1	23.0	35.5
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	12.6	56.8	14.8	36.8	25.6	43.7	18.6	33.0
Max Q Clear Time (g_c+I1), s	16.9	56.4	14.3	31.1	30.0	45.7	20.6	18.4
Green Ext Time (p_c), s	0.0	0.3	0.0	3.8	0.0	0.0	0.0	6.2

Intersection Summary	
HCM 2010 Ctrl Delay	77.5
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1523	180	440	2058	320	130	70	300	220	180	50
Future Volume (veh/h)	50	1523	180	440	2058	320	130	70	300	220	180	50
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	1570	141	454	2122	239	148	80	293	244	200	50
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	1687	151	408	2872	893	173	133	830	340	237	59
Arrive On Green	0.04	0.37	0.37	0.23	0.56	0.56	0.10	0.07	0.07	0.19	0.17	0.17
Sat Flow, veh/h	1774	4532	407	1774	5085	1581	1774	1863	2642	1774	1428	357
Grp Volume(v), veh/h	52	1097	614	454	2122	239	148	80	293	244	0	250
Grp Sat Flow(s),veh/h/ln	1774	1583	1772	1774	1695	1581	1774	1863	1321	1774	0	1785
Q Serve(g_s), s	4.2	48.5	48.7	33.6	45.5	4.5	12.0	6.1	7.5	18.8	0.0	19.8
Cycle Q Clear(g_c), s	4.2	48.5	48.7	33.6	45.5	4.5	12.0	6.1	7.5	18.8	0.0	19.8
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	67	1179	660	408	2872	893	173	133	830	340	0	296
V/C Ratio(X)	0.78	0.93	0.93	1.11	0.74	0.27	0.86	0.60	0.35	0.72	0.00	0.84
Avail Cap(c_a), veh/h	104	1179	660	408	2872	893	375	410	1222	377	0	394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.7	44.0	44.0	56.2	23.7	2.6	64.9	65.8	17.9	55.3	0.0	59.0
Incr Delay (d2), s/veh	4.6	9.7	15.5	78.5	1.7	0.7	8.8	1.6	0.1	4.5	0.0	9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	22.8	26.6	25.3	21.7	4.3	6.3	3.2	2.8	9.6	0.0	10.6
LnGrp Delay(d),s/veh	74.2	53.7	59.5	134.7	25.5	3.3	73.7	67.4	18.0	59.8	0.0	68.6
LnGrp LOS	E	D	E	F	C	A	E	E	B	E		E
Approach Vol, veh/h		1763			2815			521			494	
Approach Delay, s/veh		56.3			41.2			41.4			64.2	
Approach LOS		E			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	38.0	59.8	32.9	15.3	9.9	87.9	19.1	29.1
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	33.6	* 30	31.0	32.1	8.6	54.6	30.9	32.2
Max Q Clear Time (g_c+I1), s	35.6	50.7	20.8	9.5	6.2	47.5	14.0	21.8
Green Ext Time (p_c), s	0.0	0.0	0.3	1.0	0.0	6.7	0.2	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	48.0
HCM 2010 LOS	D

Notes

Appendix M
SANDAG Series 13 Model – VMT Analysis

Vehicle Miles of Travel Report

Scenario ID 1029

Clairemont Mesa County Crime Lab - 2050 City of San Diego Adopted Kearny Mesa CPU - Project Site

VMT per Resident						
		Residents	Total Trips	Person Miles of Travel	Vehicle Miles of Travel	VMT per Resident
Regionwide		4,099,980	14,593,211	85,445,299	58,739,911	14.3
Jurisdiction	San Diego	1,808,994	6,467,426	33,843,855	22,497,508	12.4
CPA	Clairemont Mesa	99,762	372,742	2,027,387	1,433,670	14.4
Project Site		1,019	3,954	17,914	12,901	**12.7**

VMT per Employee						
		Employees	Total Trips	Person Miles of Travel	Vehicle Miles of Travel	VMT per Employee
Regionwide		1,731,130	5,504,906	43,102,649	36,912,122	21.3
Jurisdiction	San Diego	888,429	2,690,263	20,430,135	17,656,942	19.9
CPA	Clairemont Mesa	20,614	72,302	488,523	408,817	19.8
Project Site		287	931	5,634	4,930	**17.2**

Report Generated: 01/10/19

SANDAG

I-2 Traffic Impact Study Addendum

Mt. Etna - Clairemont Mesa Community Plan Amendment and Zone Change
TRANSPORTATION IMPACT STUDY ADDENDUM

TO: Janelle Firoozi, ESA

FROM: Monique Chen, Dale Domingo, and Joseph Perez, Chen Ryan Associates

DATE: ~~September 25, 2019~~January 2, 2019

RE: Transportation Impact Study Addendum for the Mt. Etna - Clairemont Mesa Community Plan Amendment and Zone Change

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The purpose of this addendum to the "Mt. Etna – Clairemont Mesa Community Plan Amendment and Zone Change Transportation Impact Study (TIS)", dated May 2019, is to evaluate the roadway segment Level of Service (LOS) as well as intersection operational delay and LOS under the new Proposed Project description. The new project proposes 404 affordable multifamily units including 150 senior units and 1,500 square feet of ancillary uses. Analysis was conducted under the following three (3) project access options:

- Access Option 1 - One Driveway: Full access on Mt Etna Drive;
- Access Option 2 - Two Driveways: Full access on Mt Etna Drive and a right-in-right-out (RIRO) driveway on Genesee Avenue; and
- Access Option 3 - Three Driveways: Full access on Mt Etna Drive, RIRO driveway on Genesee Avenue, and RIRO driveway on Balboa Avenue.

The project trips were assigned to the transportation network under all three project access options. Given that the new project does not substantially deviate from the previous one (i.e. 448 dwelling units versus 404 dwelling units), the trip distribution was not expected to change, and therefore, has remained the same as what was used in the original analysis.

However, the new project access options would change traffic circulation immediately adjacent to the site. As a result, driveway operations analysis was conducted at the following four (4) roadway segments and seven (7) intersections:

Roadways

- Genesee Avenue, between Mt Etna Drive and Balboa Avenue;
- Mt Everest, between Mt Etna Drive and Balboa Avenue;
- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue; and
- Balboa Avenue, between Mt Everest Drive and Genesee Avenue

Intersections

- Mt Everest Boulevard & Mt Etna Drive (All-Way Stop Controlled);
- Genesee Avenue & Mt Etna Drive (Signal);
- Mt Everest Boulevard & Balboa Avenue (Signal);
- Genesee Avenue & Balboa Avenue (Signal);
- Project Driveway #1 & Mt Etna Drive (Side-Street Stop Controlled);
- Project Driveway #2 & Genesee Avenue (Side-Street Stop Controlled); and
- Project Driveway #3 & Balboa Avenue (Side-Street Stop Controlled).

The analysis methodology and traffic volumes for the transportation network remained the same as those provided in the TIS. Similar to the TIS, the following three study scenarios are analyzed in this addendum:

1. **Existing Conditions Plus Project** shows how implementation of the new Proposed Project would affect existing traffic operations immediately adjacent to the project site.

2. **Near-Term Base (Year 2021) Conditions Plus Project** shows how implementation of the new Proposed Project would affect forecasted Near-Term Year 2021 traffic operations immediately adjacent to the project site.

3. **Year 2050 Conditions Plus Project** shows how implementation of the new Proposed Project would affect forecasted Horizon Year 2050 traffic operations immediately adjacent to the project site.

Since the new project would generate fewer trips compared to the previous project, an analysis of only the previously identified project impacts was conducted to determine which facilities would no longer be impacted and which would remain with the new project description. Mitigation measures are provided for Existing Plus Project, Near-Term Base (Year 2021) Plus Project, and Horizon Year 2050 Plus Project for all three access options.

A site access evaluation was also conducted to evaluate access to the project site by all travel modes per access option.

1.0 New Project Trip Geneartion, Distribution, and Assignment

The new project proposes 404 affordable multifamily units including 150 senior dwelling units. Additionally, the project would include 1,500 square feet of ground floor ancillary uses, which would be used primarily by the residents and would not generate new trips to the site.

The trip generation estimates for the residential units were derived utilizing the trip generation rates outlined in *Table 1 of the City of San Diego Land Development Code – Trip Generation Manual 2003*. The following trip reduction from the City's Traffic Impact Study Manual was applied to the estimate:

Transit Reductions

The project site is located in a Transit Oriented Development (TOD) area, with high frequency transit services immediately adjacent to the site on Genesee Avenue. Bus Route # 41 is serviced along Genesee Avenue operating with 15-minute headways during peak hours and bus route #27 is serviced along Balboa Avenue operating with 30-minutes headways during peak hours. Transit stops for Bus Routes #41 and #27 are each within 400 feet of the Project site. Consequently, the following transit reductions were applied to account for residents using transit in lieu of driving:

- Daily = 5%
- AM Peak Hour = 9%
- PM Peak Hour = 6%

Table 1 displays the projected daily, as well as AM and PM peak hour Project trip generation under the new project.

Table 1- Project Trip Generation

		Trip	%		AM Peak Hour					PM Peak Hour				
Land Use	Units	Rate	Daily	ADT	%	Trips	Split	In	Out	%	Trips	Split	In	Out
Residential – Multi – Family	254 Units	6 / Unit	-	1,524	8%	122	(2:8)	24	98	9%	138	(7:3)	97	41
Residential - Retirement/ Senior Citizen Housing	150 Units	4 / Unit	-	600	5%	30	(4:6)	12	18	7%	42	(6:4)	25	17
			Subtotal	2,124		152		36	116		180		122	58
Residential Reduction due to Transit Stations*	-	-	5%	-106	9%	-14		-3	-11	6%	-11		-7	-4
			Total	**2,018**		**138**		**33**	**105**		**169**		**115**	**54**

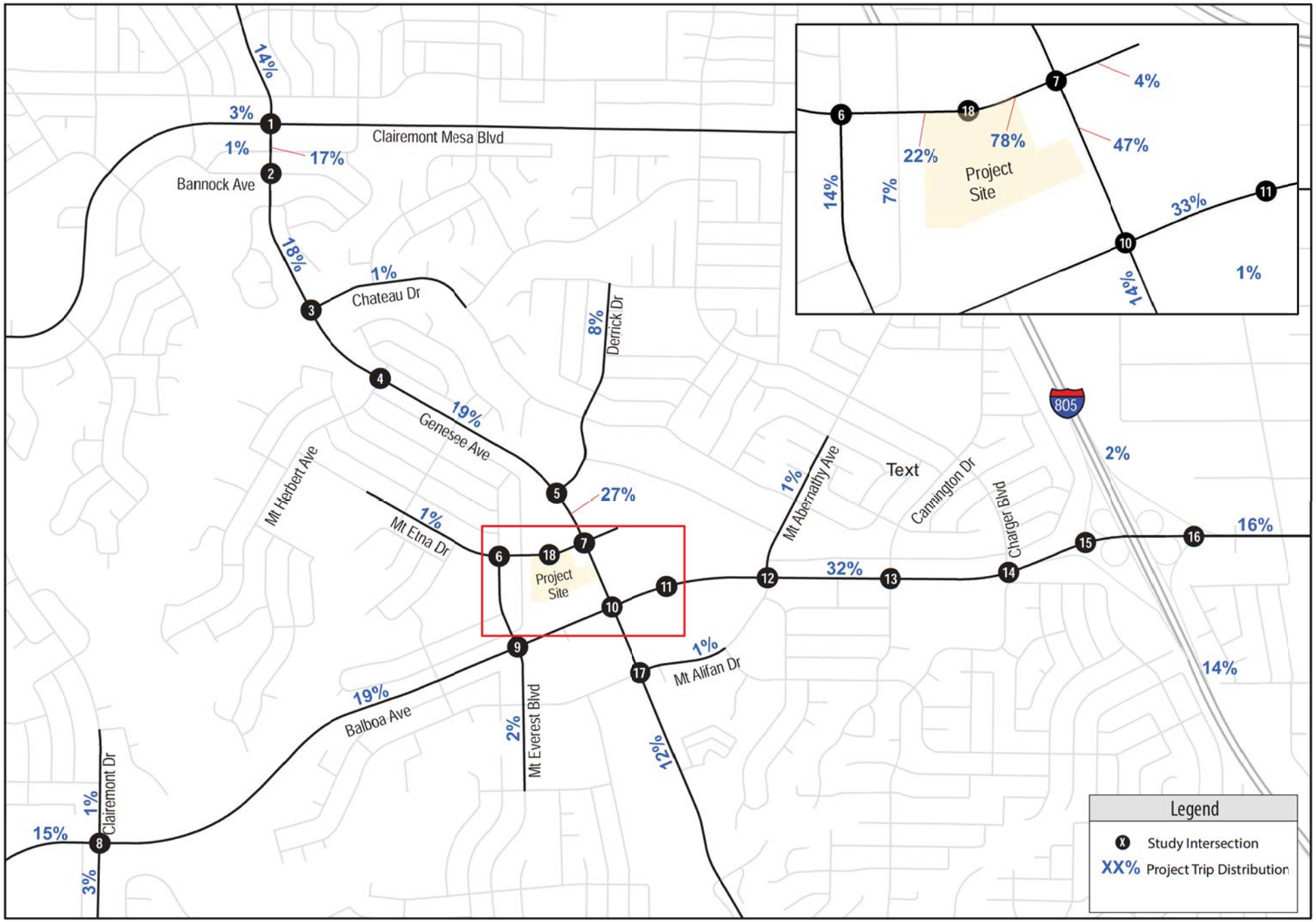
Source: City of San Diego Land Use Code – Trip Generation Manual, May 2003
*Reductions applied from City of San Diego Traffic Impact Study Manual (July 1998)

As shown in Table 1, the new project is anticipated to generate a total of 2,018 daily trips, including 138 (33-in / 105-out) AM peak hour trips and 169 (115-in / 54-out) PM peak hour trips.

The trip distribution will remain the same as what was used in the original TIS as shown in **Figure 1**.

Based upon the assumed Project trip distribution and the three access options, daily and AM/PM peak hour Project trips were assigned to the adjacent network as displayed in **Figure 2, Figure 3, and Figure 4**, for the Access Option 1, Access Option 2, and Access Option 3, respectively.

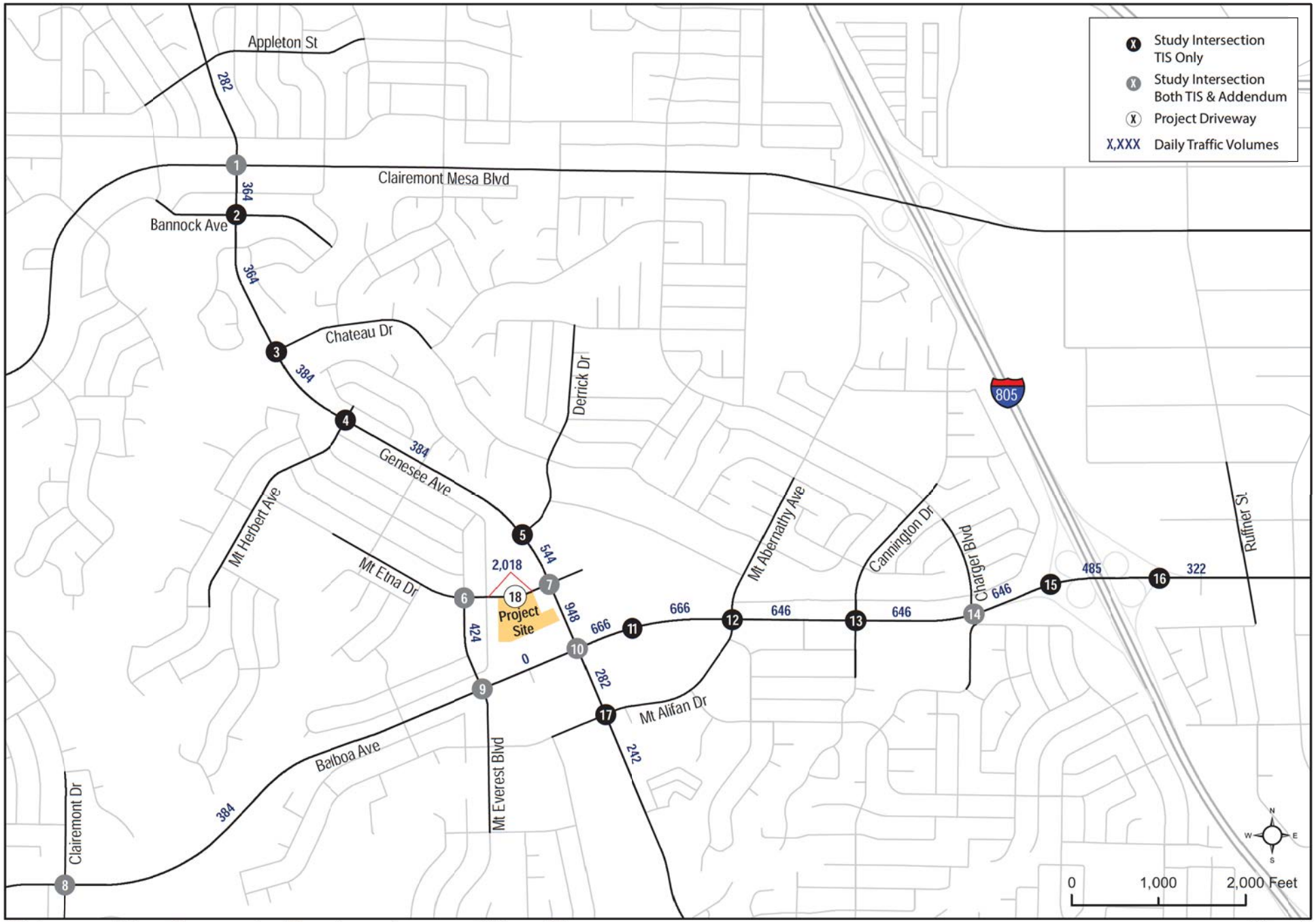
Also depicted in Figures 2, 3, and 4 is the project trip assignment for the study roadways and intersections that were previously identified as impact under the old project.



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study

CHEN RYAN

Figure 1
Project Trip Distribution



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study Addendum

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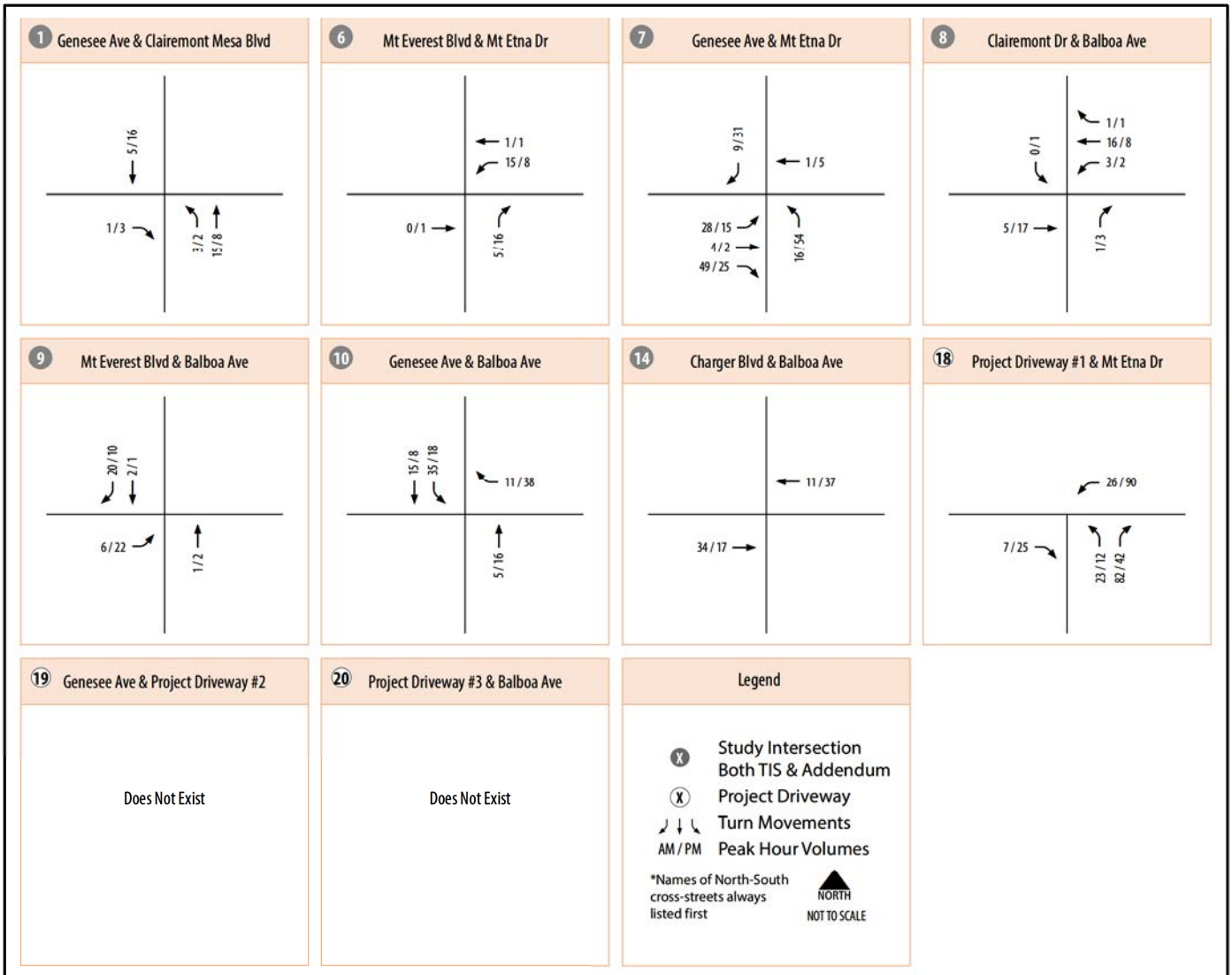
Figure 2
Project Trip Assignment
Access Option 1



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study Addendum

Figure 2
Project Trip Assignment
Access Option 1

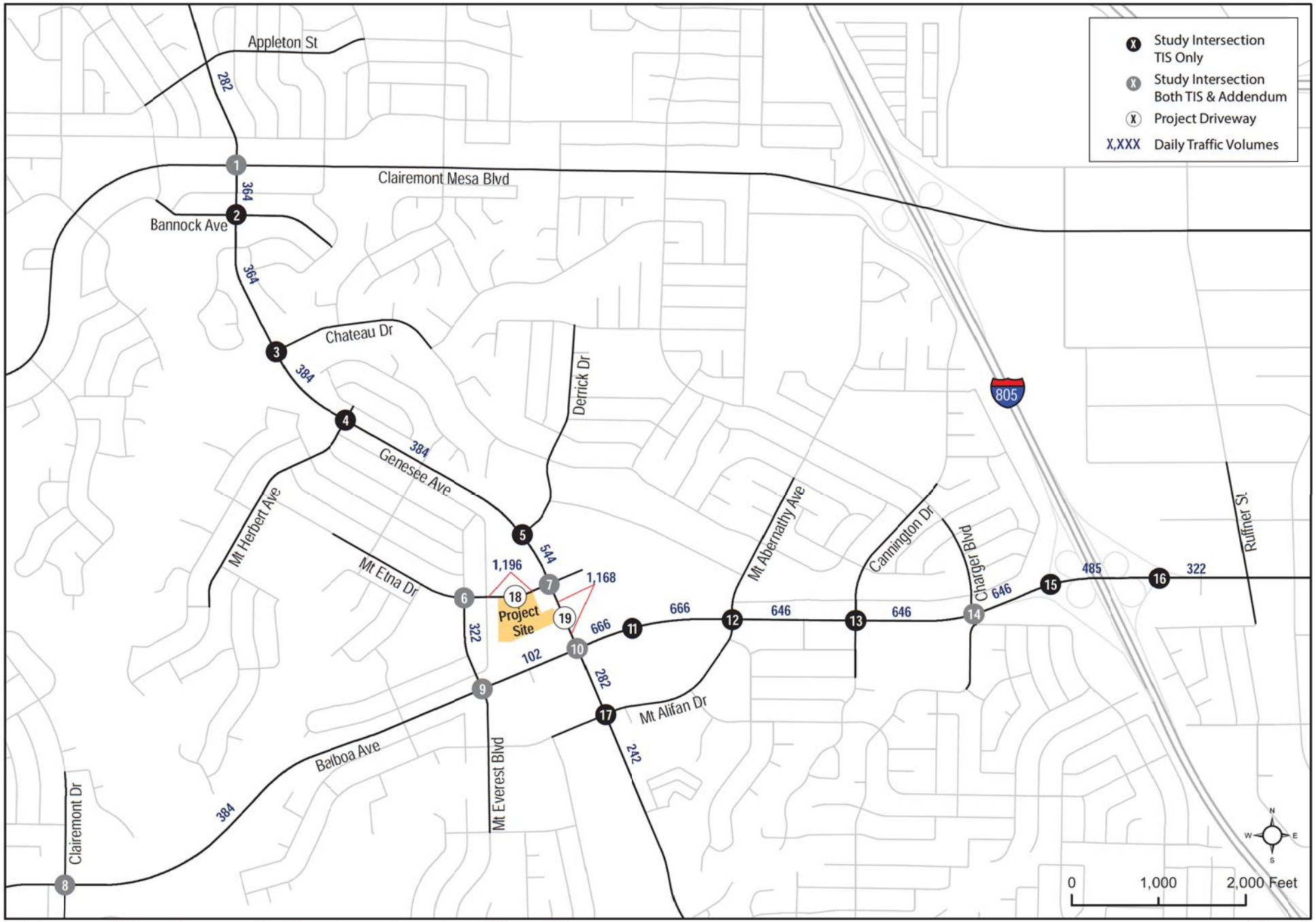


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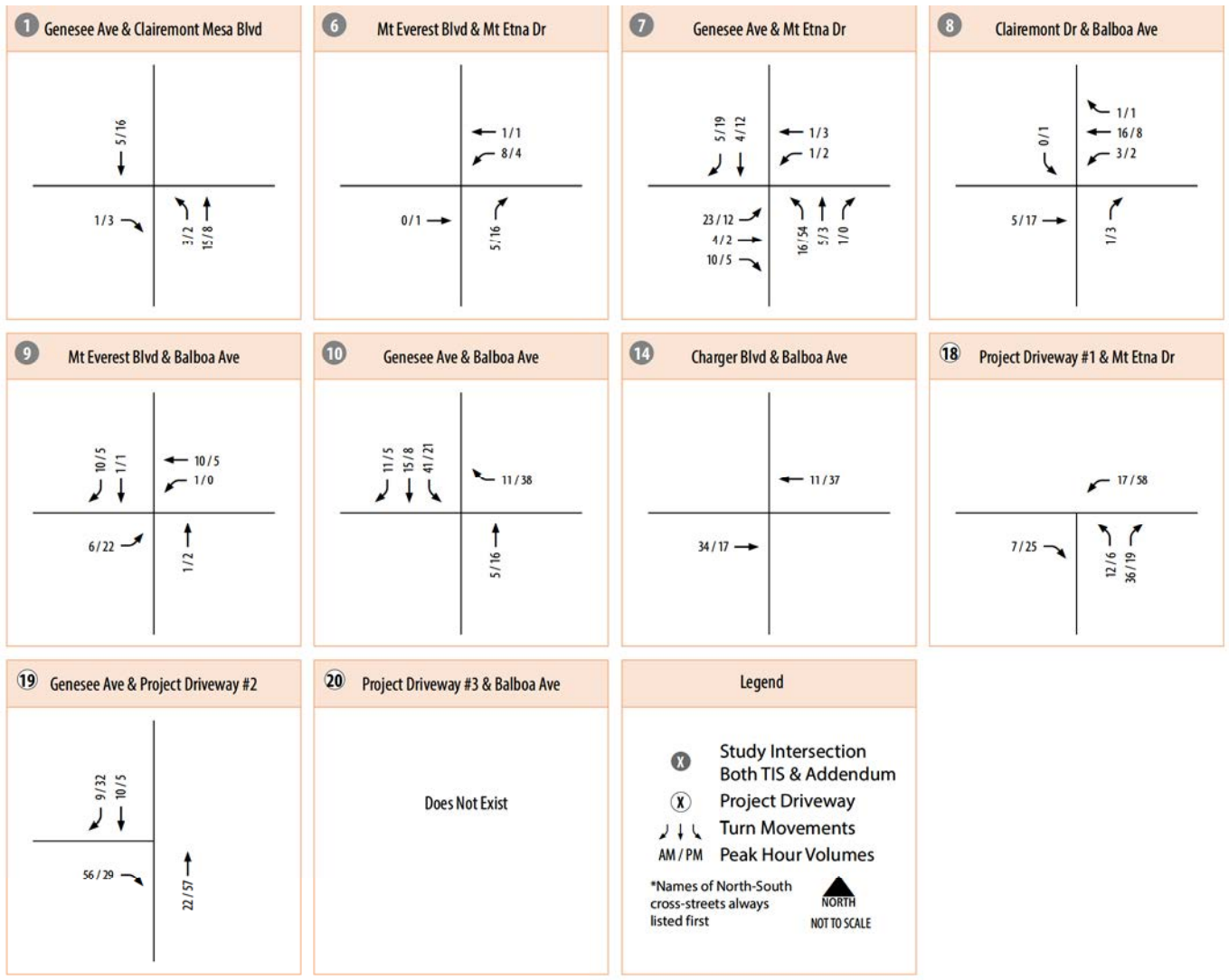
Figure 3
Project Trip Assignment
Access Option 2



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study Addendum

Figure 3
Project Trip Assignment
Access Option 2

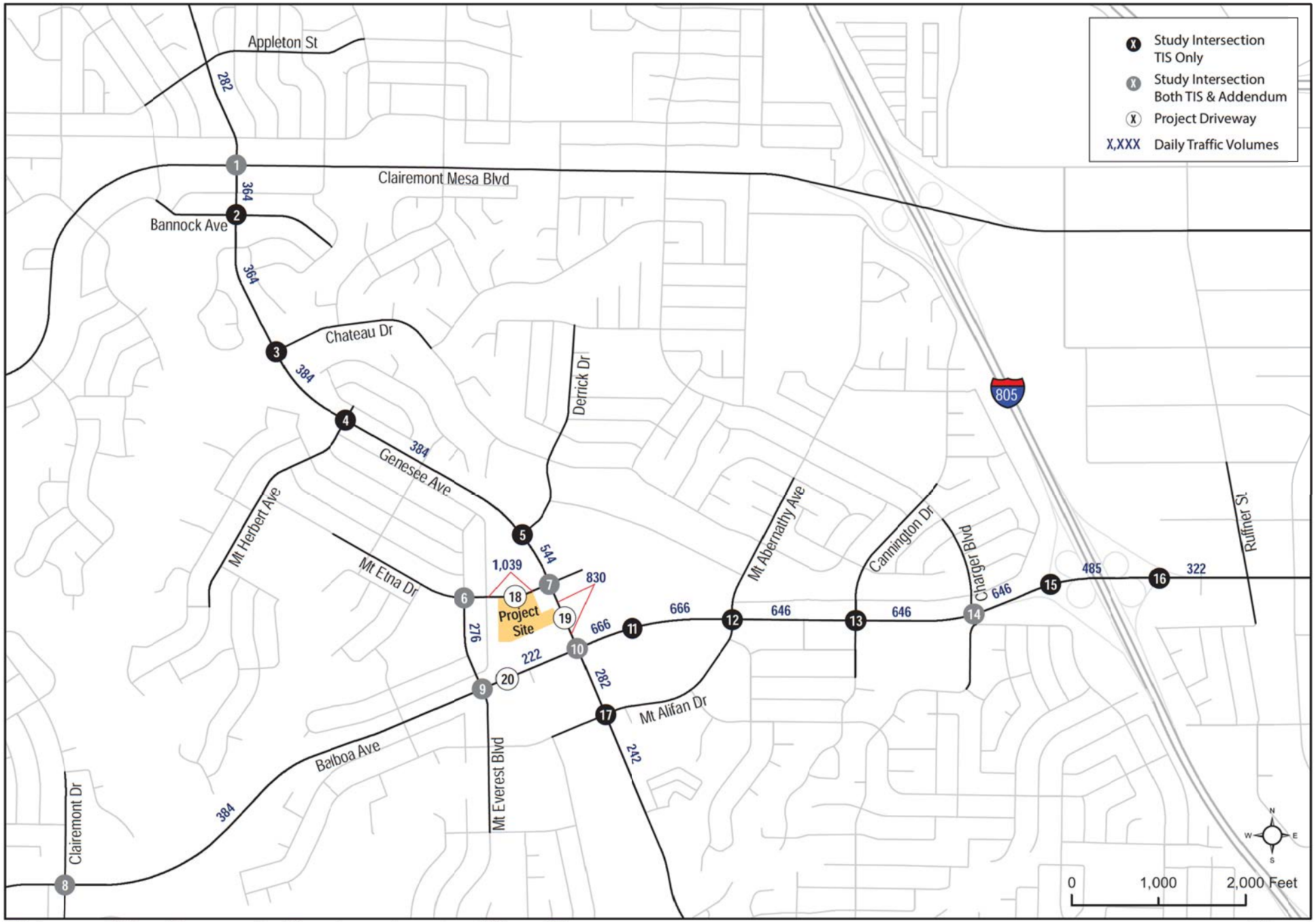


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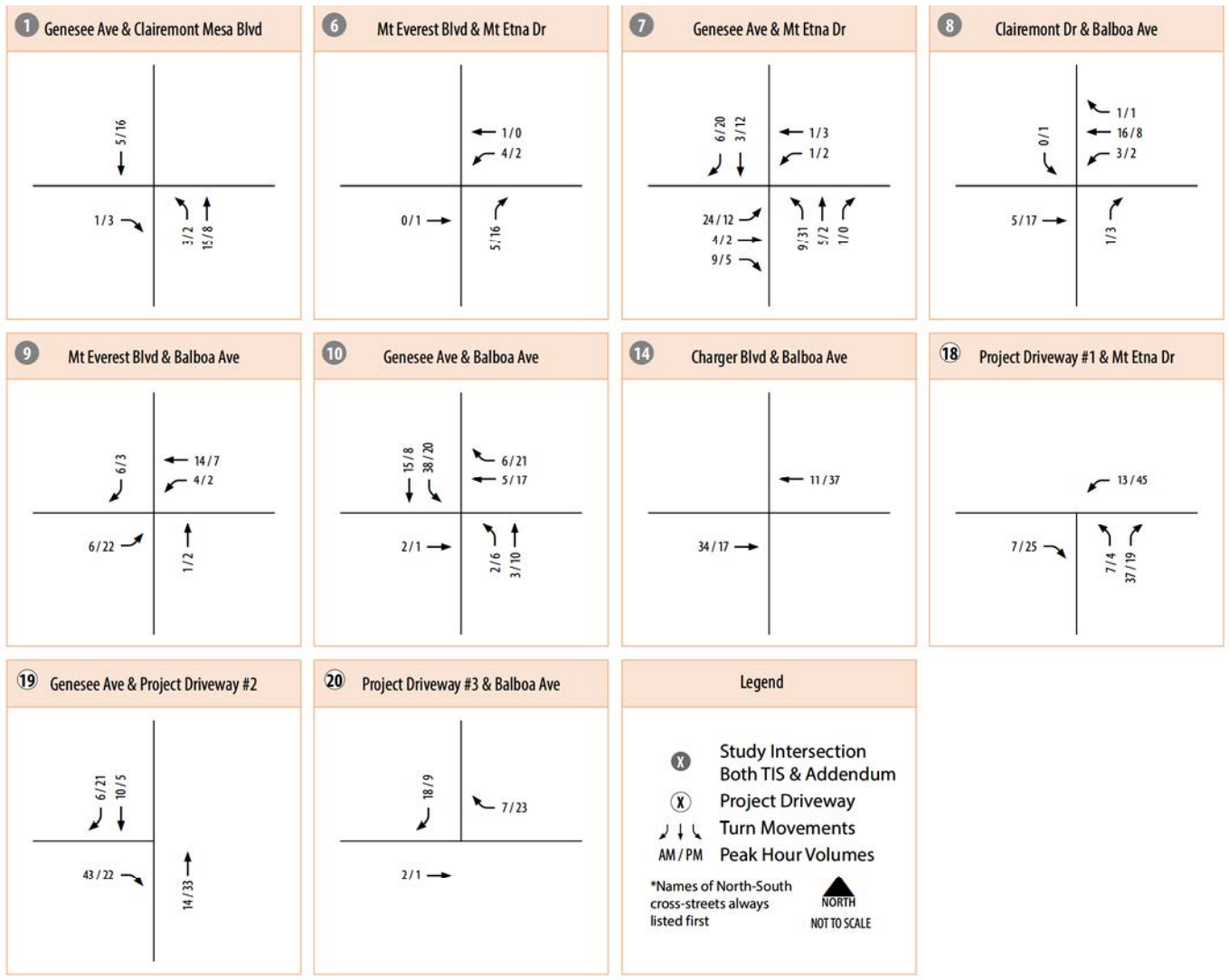
Figure 4
Project Trip Assignment
Access Option 3



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study Addendum

Figure 4
Project Trip Assignment
Access Option 3

2.0 Driveway Operations Analysis

This section provides an operations analysis for the following three (3) access options:

- Access Option 1 - One Driveway: Full access on Mt Etna Drive;
- Access Option 2 - Two Driveways: Full access on Mt Etna Drive and a right-in-right-out (RIRO) driveway on Genesee Avenue; and
- Access Option 3 - Three Driveways: Full access on Mt Etna Drive, RIRO driveway on Genesee Avenue, and RIRO driveway on Balboa Avenue.

The driveway analysis was conducted for all three study scenarios (Existing Plus Project, Near-Term Base (Year 2021) Plus Project, and Horizon Year 2050 Plus Project) based on the new project description.

Existing Plus Project Conditions

Existing Plus Project traffic volumes were derived by combining the existing traffic volumes from the TIS and Project trip assignment volumes (displayed in Figures 2, 3, and 4). Existing Plus Project daily roadway and peak hour intersection volumes are displayed in **Figure 5, Figure 6,** and **Figure 7** for Access Option 1, Access Option 2, and Access Option 3 conditions, respectively. Also depicted in Figures 5, 6, and 7 is the daily roadway and peak hour intersection volumes for the study roadways and intersections that were previously identified as impact under the old project.

Roadway Segment Analysis

Table 2 displays the roadway segment LOS analysis results under Existing Plus Project Conditions.

As shown in Table 2, all of the study roadway segments would operate at an acceptable LOS D or better with the addition of Project traffic for all three access options.

Based upon the City of San Diego Significance Criteria, outlined in Section 2.5 of the TIS, the traffic associated with the new project would not cause a significant impact to any of the study roadway segments under Existing Plus Project Conditions for all three access options.

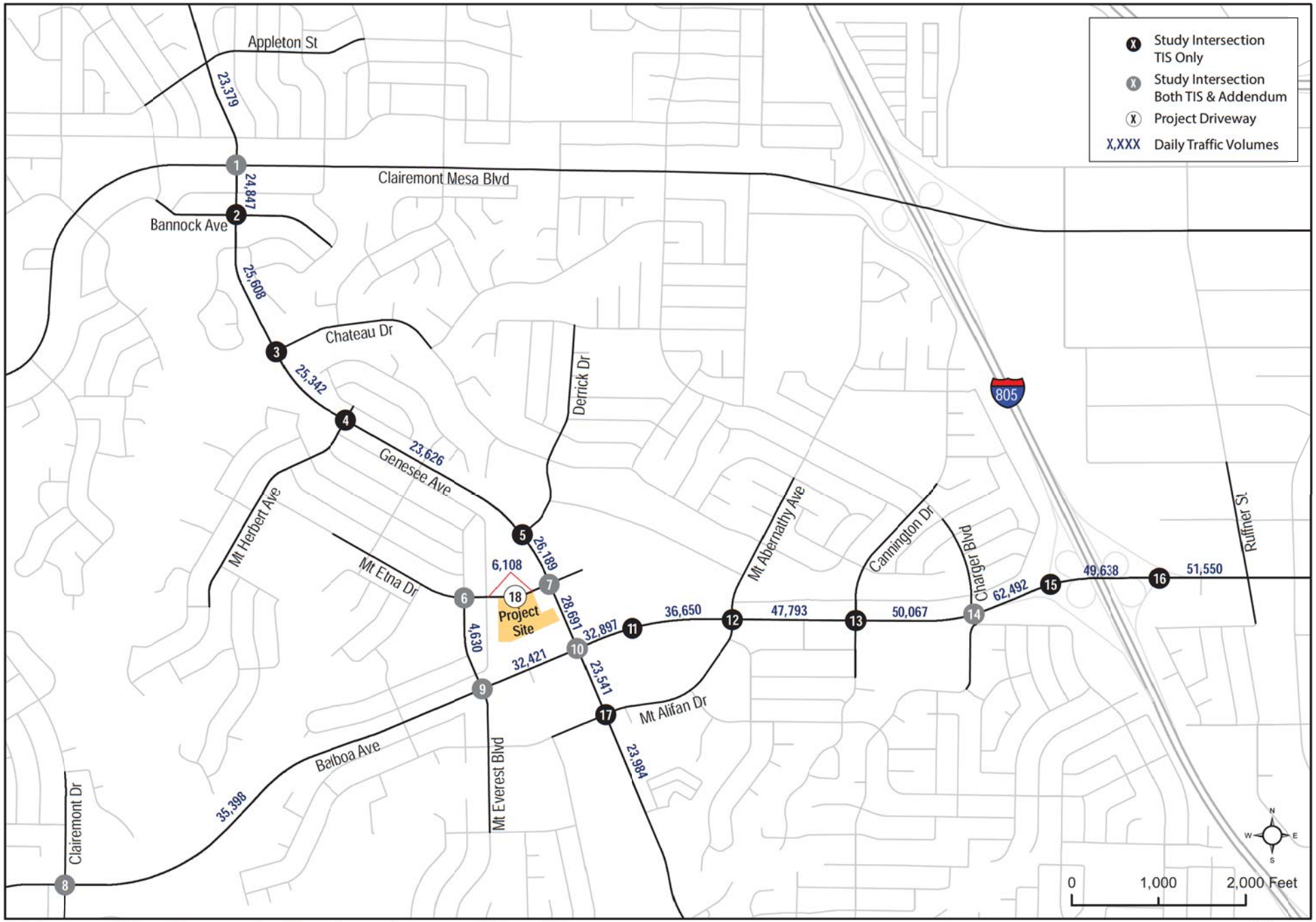


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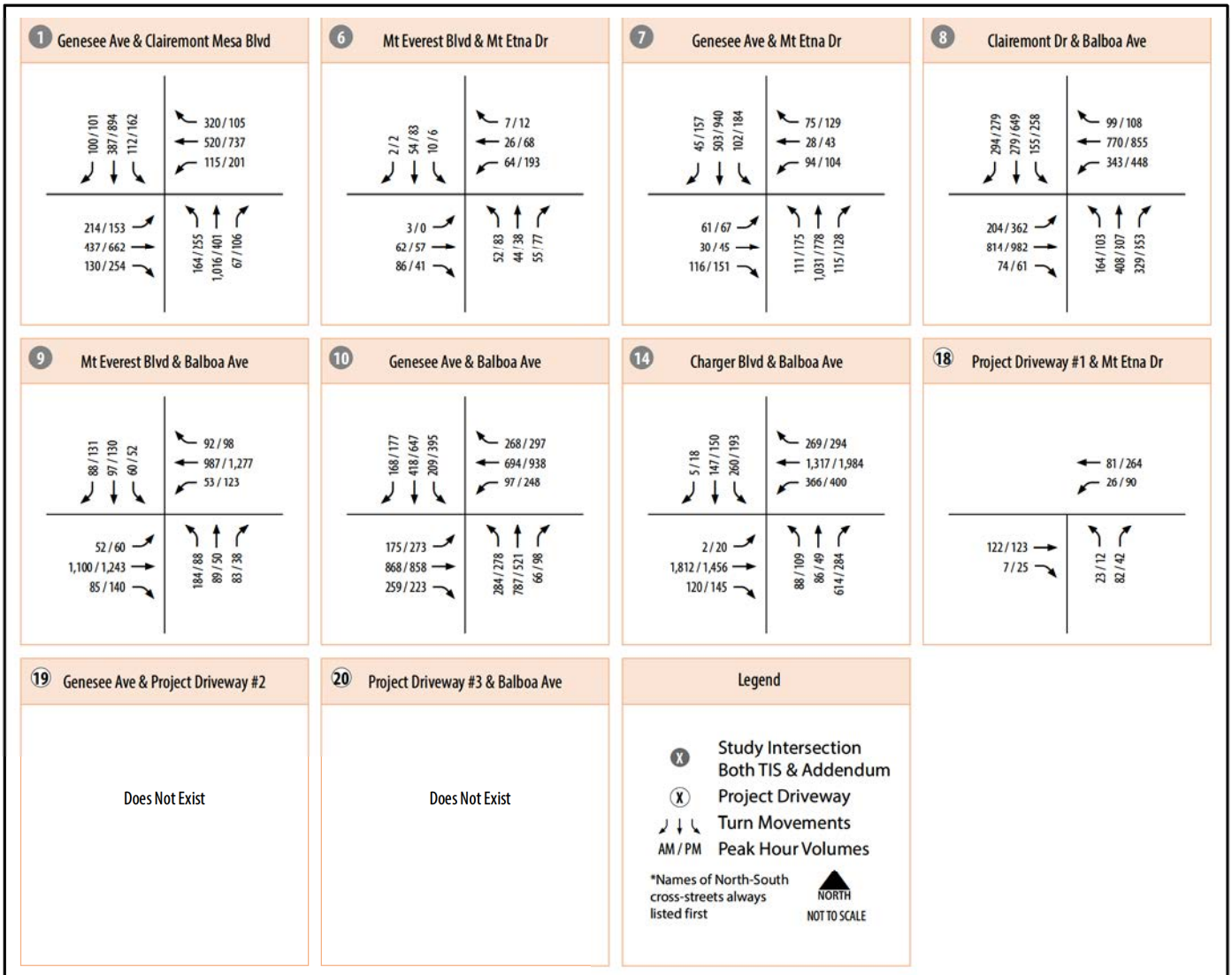
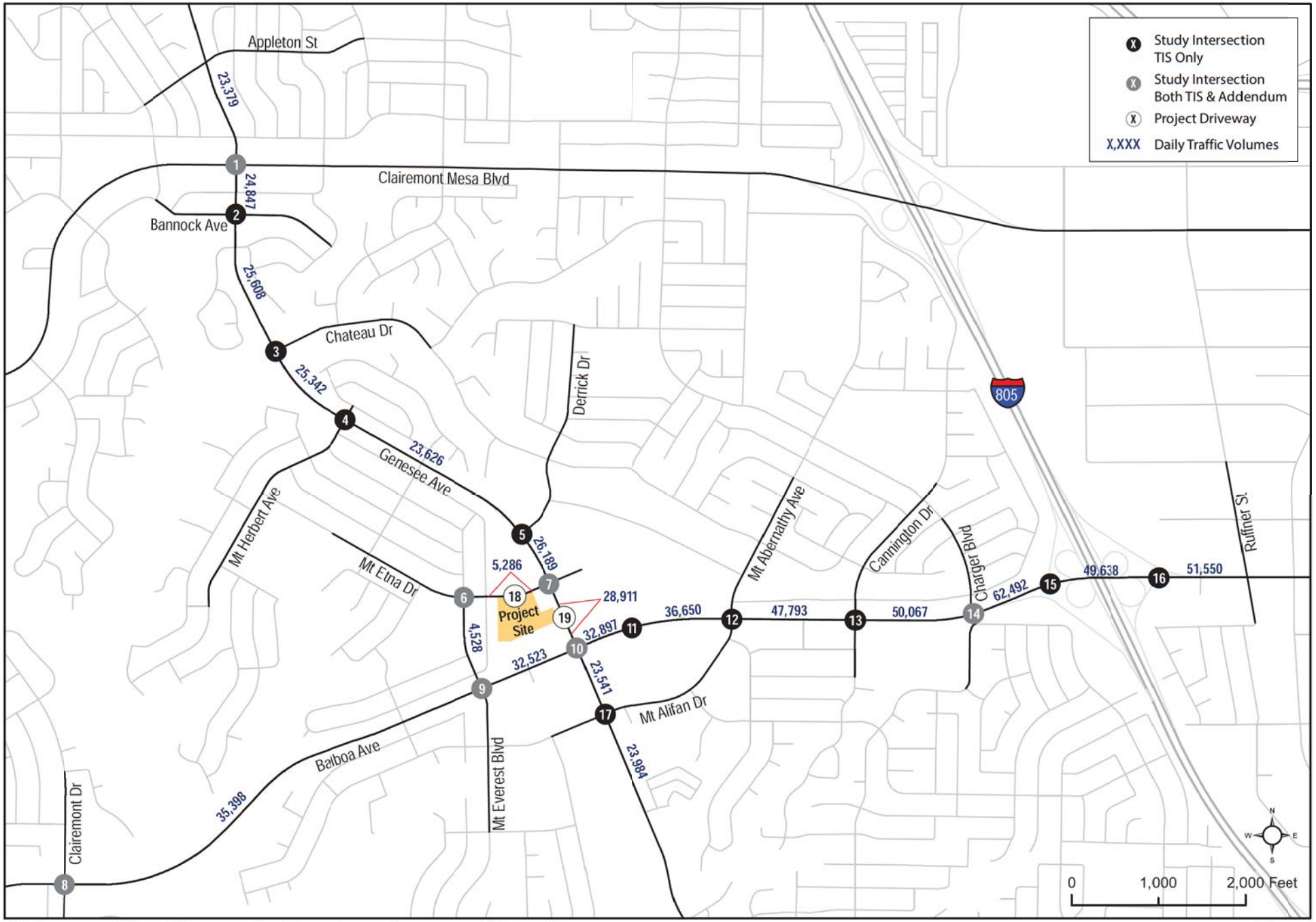
Figure 5
Existing Plus Project Conditions
Access Option 1



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study Addendum

Figure 5
Existing Plus Project Conditions
Access Option 1



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study Addendum

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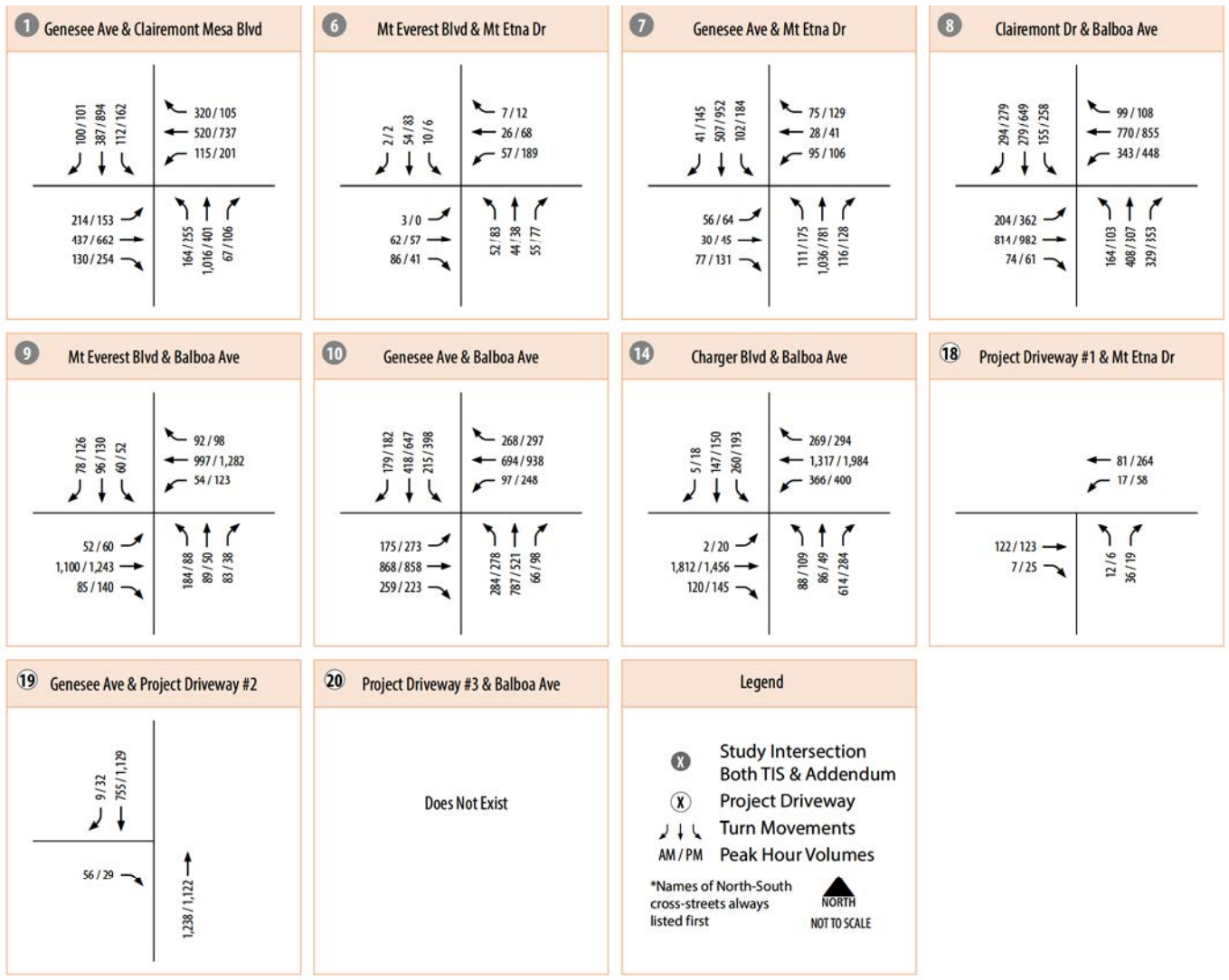
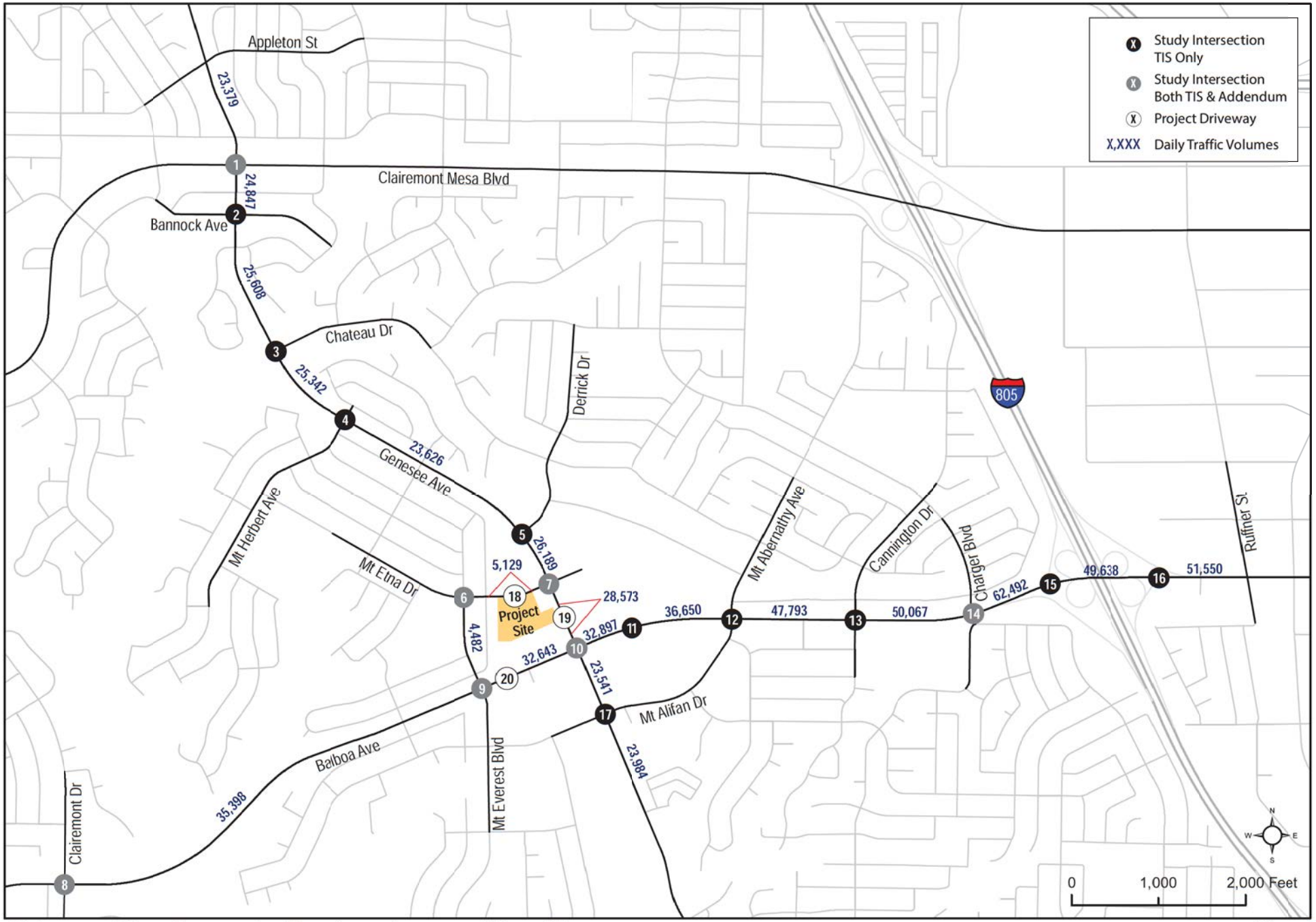
Figure 6
Existing Plus Project Conditions
Access Option 2



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study Addendum

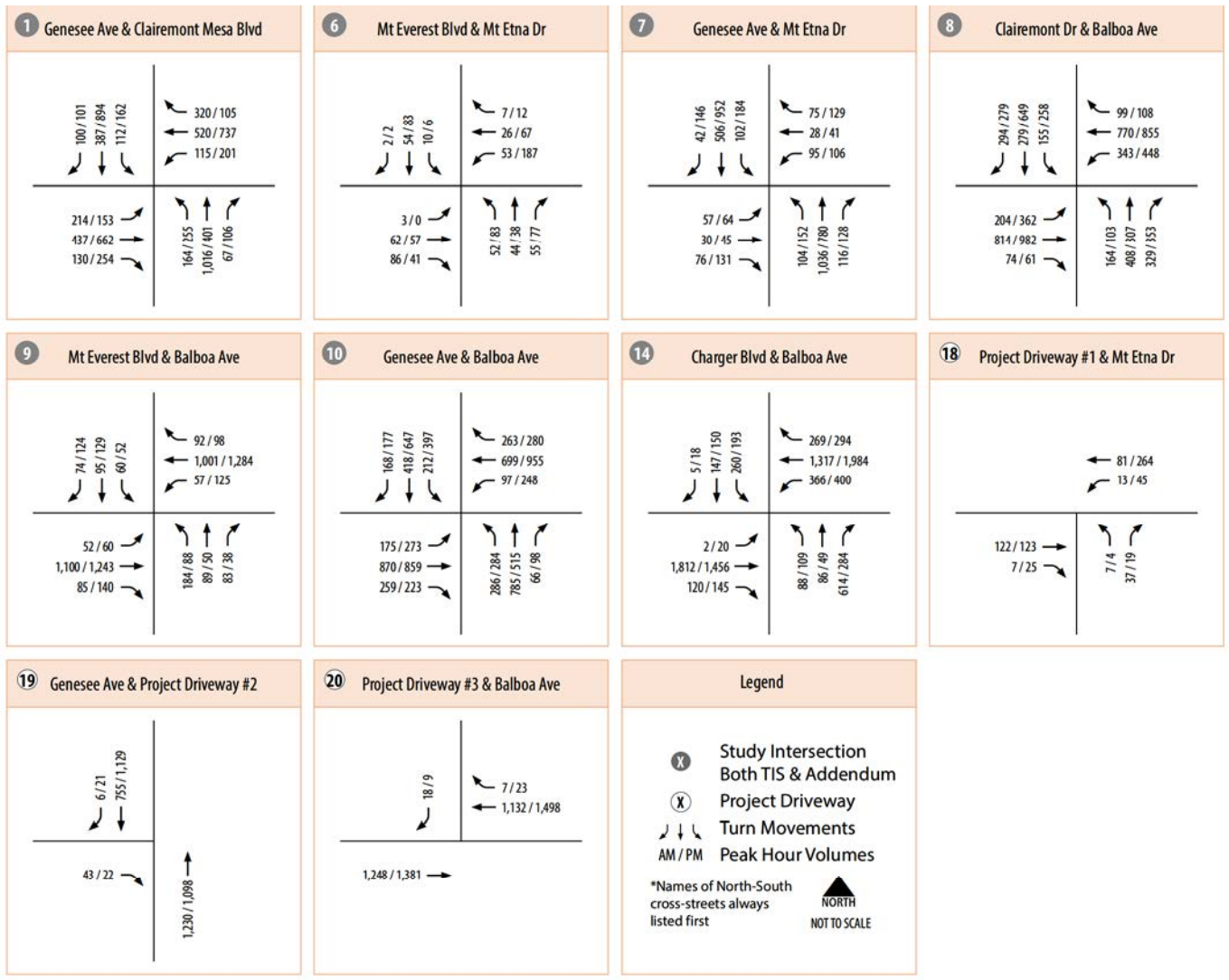
Figure 6
Existing Plus Project Conditions
Access Option 2



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study Addendum

CHEN RYAN

Figure 7
Existing Plus Project Conditions
Access Option 2



Clairemont Mesa Community Plan Amendment and Zone Change - Transportation Impact Study Addendum

Figure 7
Existing Plus Project Conditions
Access Option 2

Table 2 - Roadway Segment Level of Service Results - Existing Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	Capacity (LOS E)	No Project			With Access Option 1					With Access Option 2					With Access Option 3				
					ADT	V/C	LOS	ADT	V/C	LOS	Δ	S?	ADT	V/C	LOS	Δ	S?	ADT	V/C	LOS	Δ	S?
Genesee Avenue	Between Mt Etna Drive & Balboa Avenue	5-Ln Major Arterial	Raised Median	45,000	27,743	0.617	C	28,691	0.638	C	0.021	N	28,911	0.642	C	0.025	N	28,573	0.635	C	0.018	N
Mt Everest Boulevard	Between Mt Etna Drive & Balboa Avenue	2-Ln Collector w/o CLTL	Undivided	8,000	4,206	0.526	C	4,630	0.579	C	0.053	N	4,528	0.566	C	0.040	N	4,482	0.560	C	0.034	N
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	8,000	4,090	0.511	C	6,108	0.764	D	0.253	N	5,286	0.661	D	0.150	N	5,129	0.641	D	0.130	N
Balboa Avenue	Between Mt Everest Boulevard & Genesee Avenue	4-Ln Major Arterial	Raised Median	40,000	32,421	0.811	D	32,421	0.811	D	0.000	N	32,523	0.813	D	0.002	N	32,643	0.816	D	0.005	N

Notes:
Bold letter indicates unacceptable LOS E or F.
V/C = Volume to Capacity Ratio.
Ln = Lane.
S? = Indicates if change in V/C ratio is significant.
ADT = Average Daily Traffic.
LOS = Level of Service.
CLTL = Continuous Left-Turn Lane.
Δ = Change in V/C Ratio.

Intersection Analysis

Table 3 displays intersection LOS and average vehicle delay results under Existing Plus Project Conditions for all three access options. LOS calculation worksheets for Existing Plus Project Conditions are provided in **Attachment A**.

As shown in Table 3, the following study intersections would operate at unacceptable LOS E/F during one or both of the peak hours:

Access Option 1:

9. Mt Everest Boulevard & Balboa Avenue – LOS F during the AM peak hour and LOS E during the PM peak hour; and
10. Genesee Avenue & Balboa Avenue – LOS E during the PM peak hour.

Access Option 2:

9. Mt Everest Boulevard & Balboa Avenue – LOE during both AM and PM peak hour; and
10. Genesee Avenue & Balboa Avenue – LOS E during the PM peak hour.

Access Option 3:

9. Mt Everest Boulevard & Balboa Avenue – LOS E during both AM and PM peak hours; and
10. Genesee Avenue & Balboa Avenue – LOS E during the PM peak hour.

Based upon the City of San Diego Significance Criteria, outlined in Section 2.5 of the TIS, the traffic associated with the project would cause a significant impact to the following study intersections under Existing Plus Project Conditions:

Access Option 1:

9. Mt Everest Boulevard & Balboa Avenue.

Access Option 3:

9. Mt Everest Boulevard & Balboa Avenue; and
10. Genesee Avenue & Balboa Avenue.

Table 3 - Peak Hour Intersection Level of Service Results - Existing Plus Project Conditions

Intersection	Control	No Project		With Access Option 1				With Access Option 2				With Access Option 3			
		Avg. Delay (sec) AM/PM	LOS AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM
6. Mt Everest Boulevard & Mt Etna Drive	AWSC	9.0 / 10.6	A / B	9.2 / 11.0	A / B	0.2 / 0.4	N / N	9.1 / 10.9	A / B	0.1 / 0.3	N / N	1.2 / 2.3	A / A	-7.8 / -8.3	N / N
7. Genesee Avenue & Mt Etna Drive	Signal	20.1 / 24.5	C / C	22.5 / 25.4	C / C	2.4 / 0.9	N / N	21.2 / 25.1	C / C	1.1 / 0.6	N / N	21.1 / 25.0	C / C	1.0 / 0.5	N / N
9. Mt Everest Boulevard & Balboa Avenue	Signal	73.7 / 58.7	**E / E**	80.1 / 59.5	**F / E**	6.4 / 0.8	**Y** / N	75.0 / 59.2	**E / E**	1.3 / 0.5	N / N	78.7 / 62.7	**E / E**	5.0 / 4.0	**Y / Y**
10. Genesee Avenue & Balboa Avenue	Signal	36.3 / 59.1	D / **E**	36.9 / 59.4	D / **E**	0.6 / 0.3	N / N	37.0 / 59.8	D / **E**	0.7 / 0.7	N / N	37.8 / 63.2	D / **E**	1.5 / 4.1	N / **Y**
18. Project Driveway #1 & Mt Etna Drive	SSSC	DNE	DNE	9.9 / 10.5	A / B	9.9 / 10.5	N / N	9.5 / 10.1	A / B	9.5 / 10.1	N / N	9.3 / 9.7	A / A	9.3 / 9.7	N / N
19. Project Driveway #2 & Genesee Avenue	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	11.9 / 17.3	B / C	11.9 / 17.3	N / N	11.7 / 16.8	B / C	11.7 / 16.8	N / N
20. Project Driveway #3 & Balboa Avenue	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	13.7 / 16.8	B / C	13.7 / 16.8	N / N

Notes:
Bold letter indicates unacceptable LOS E or F and significant impact.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
DNE = Does Not Exist.

Near-Term Base (Year 2021) Plus Project Conditions

Near-Term Base (Year 2021) Plus Project traffic volumes were derived by combining the Near-Term Base (Year 2021) traffic volumes from the TIS and Project trip assignment volumes (displayed in Figures 2, 3, and 4). Near-Term Base (Year 2021) Plus Project daily roadway and peak hour intersection volumes are displayed in **Figure 8**, **Figure 9**, and **Figure 10** for Access Option 1, Access Option 2, and Access Option 3 conditions, respectively. Also depicted in Figures 8, 9, and 10 is the daily roadway and peak hour intersection volumes for the study roadways and intersections that were previously identified as impact under the old project.

Roadway Segment Analysis

Table 4 displays the roadway segment LOS analysis results under Near-Term Base (Year 2021) Plus Project Conditions.

As shown in Table 4, all of the study roadway segments would operate at an acceptable LOS D or better with the addition of Project traffic for all three access options.

Based upon the City of San Diego Significance Criteria, outlined in Section 2.5 of the TIS, the traffic associated with the new project would not cause a significant impact to any of the study roadway segments under Near-Term Base (Year 2021) Plus Project Conditions for all three access options.

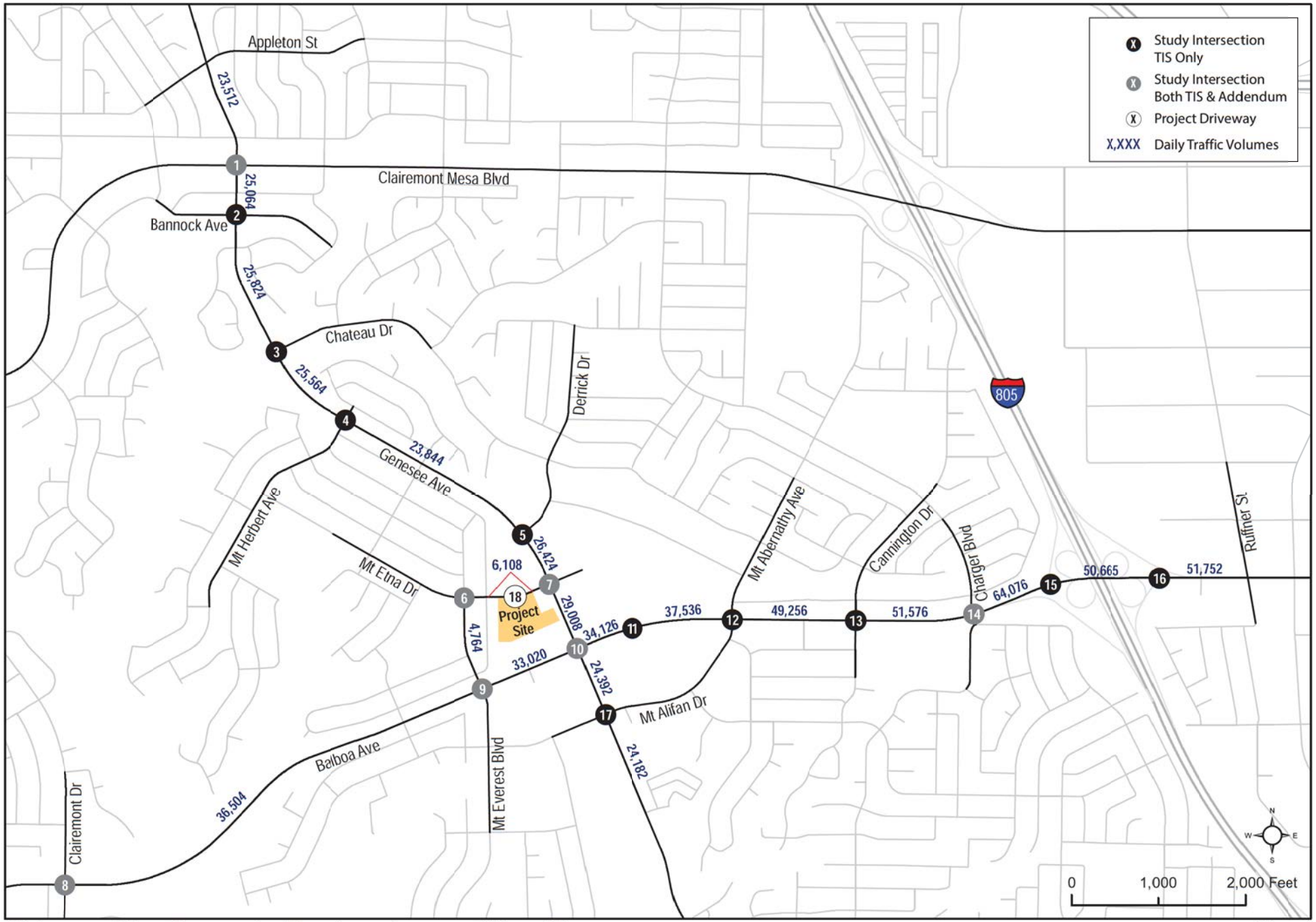


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Figure 8

Near-Term Base (Year 2021) Plus Project Conditions

Access Option 1

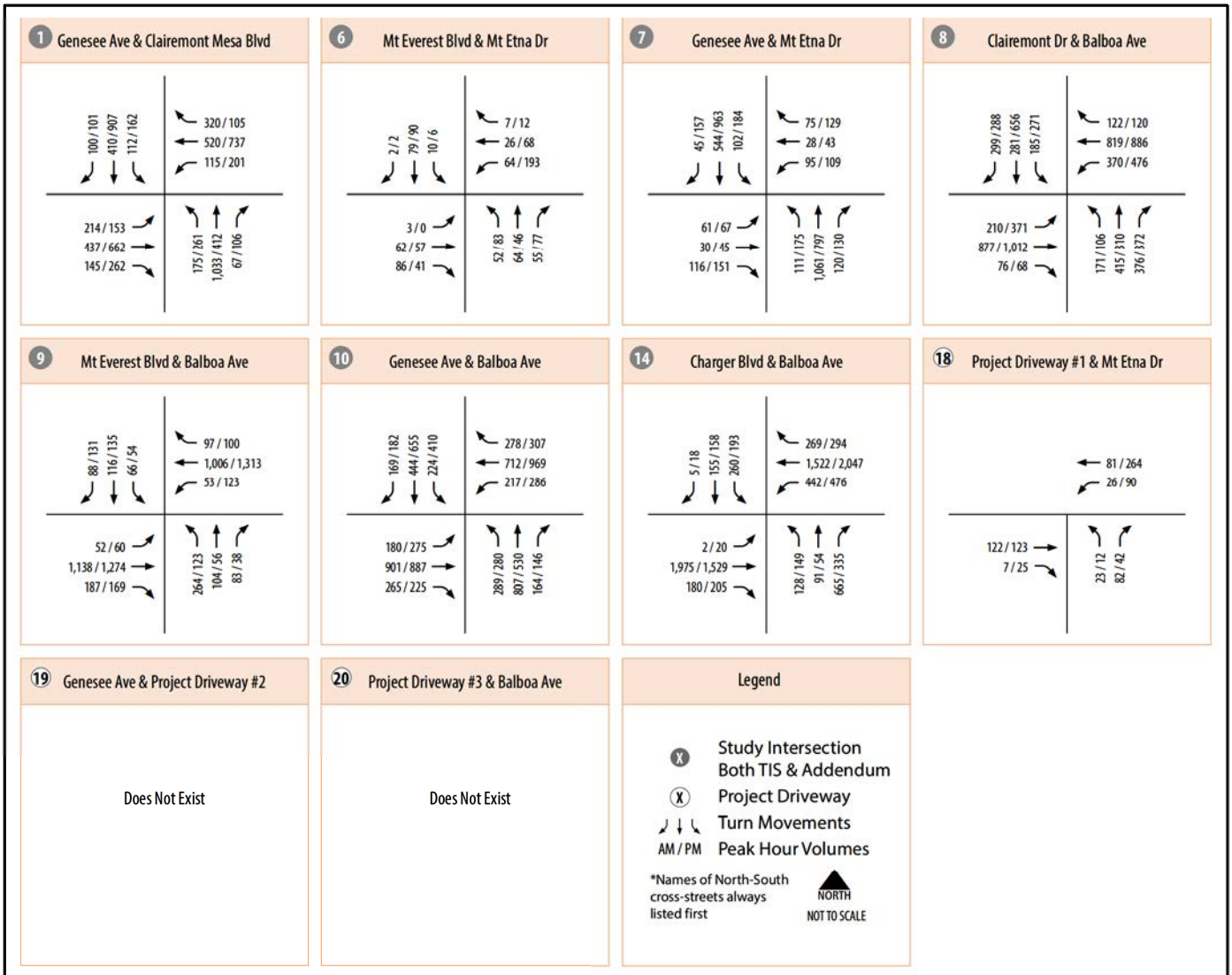

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Figure 8

Near-Term Base (Year 2021) Plus Project Conditions

Access Option 1

[redacted]

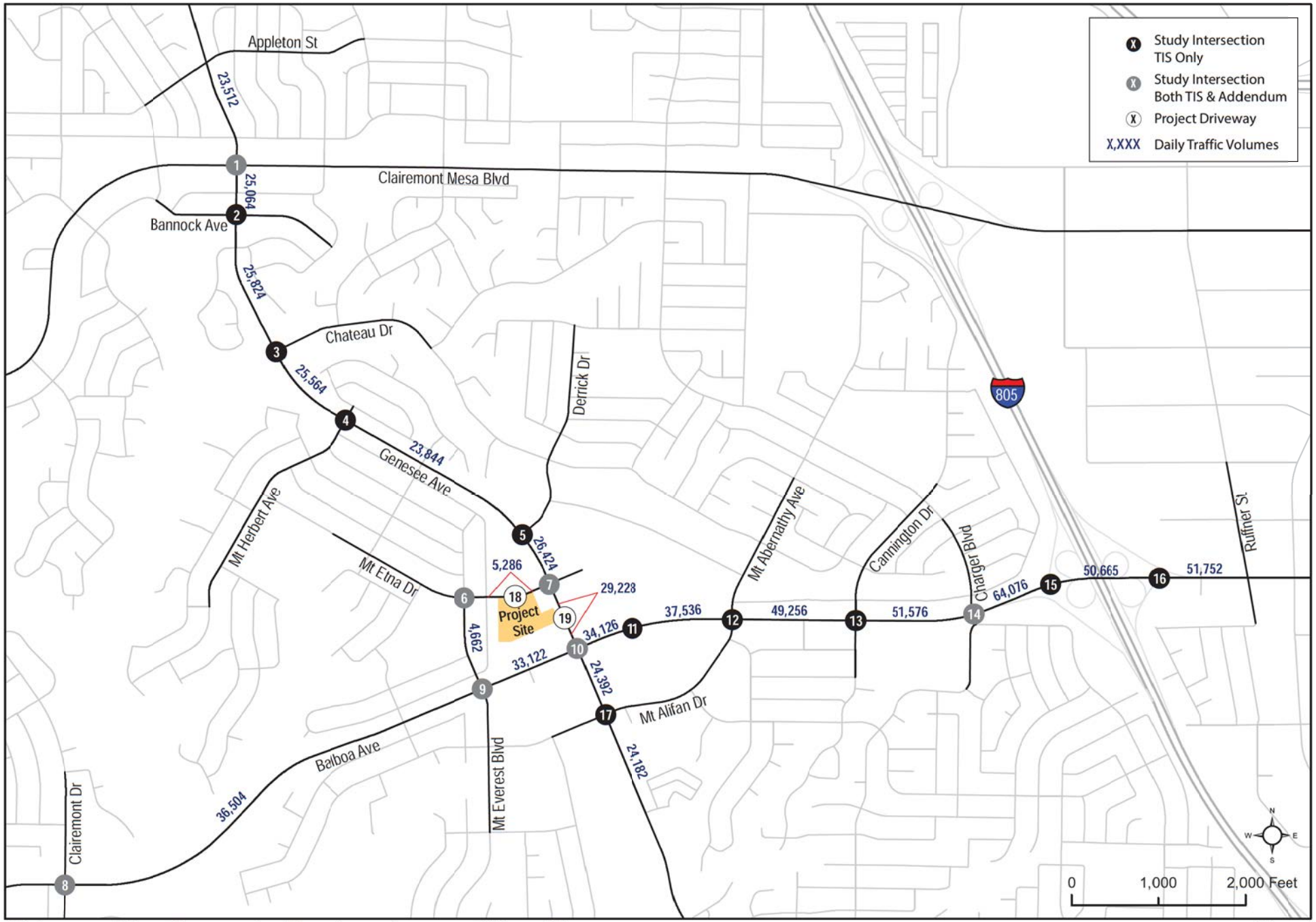

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Figure 9

Near-Term Base (Year 2021) Plus Project Conditions Access Option 2

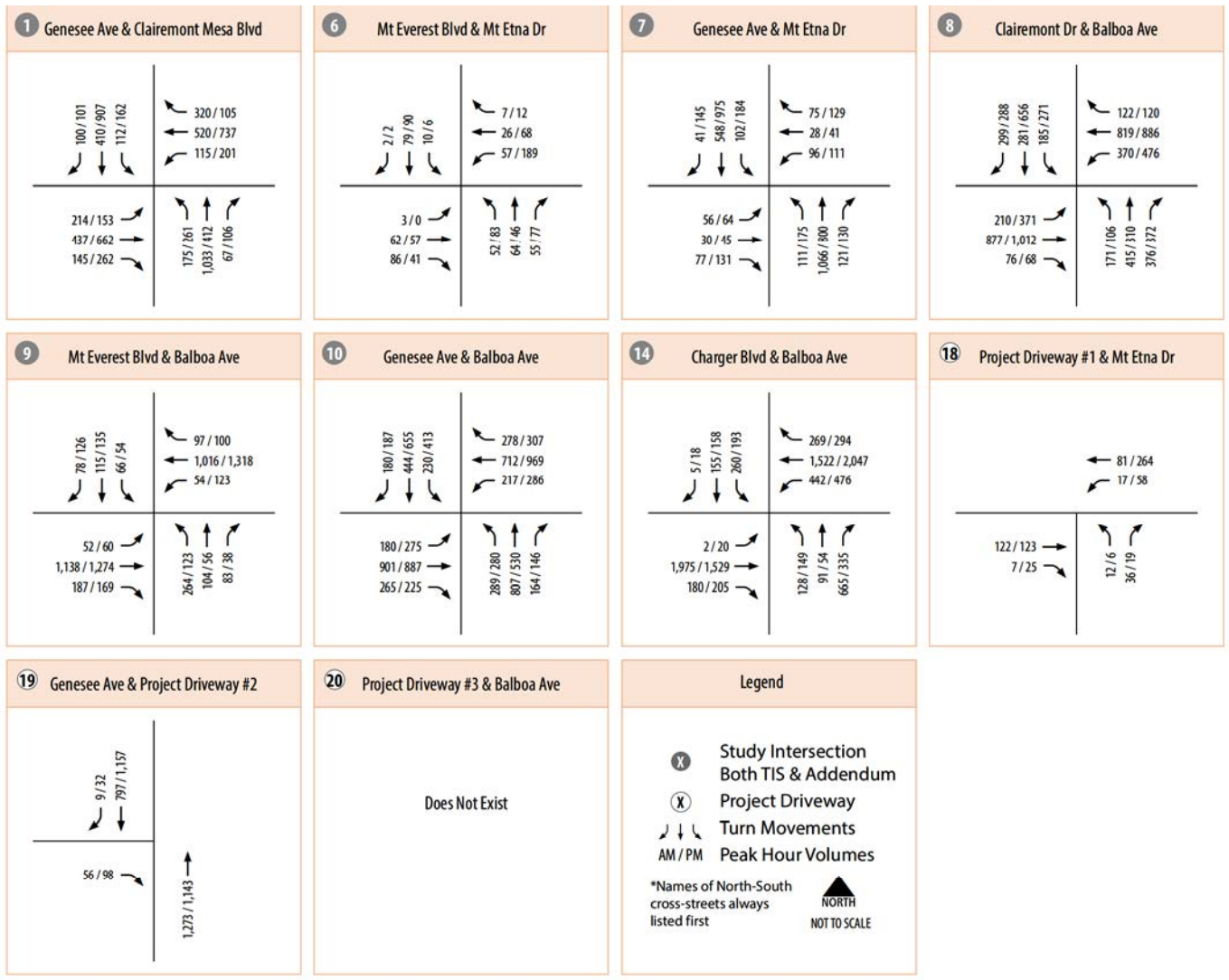

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Figure 9
Near-Term Base (Year 2021) Plus Project Conditions
Access Option 2

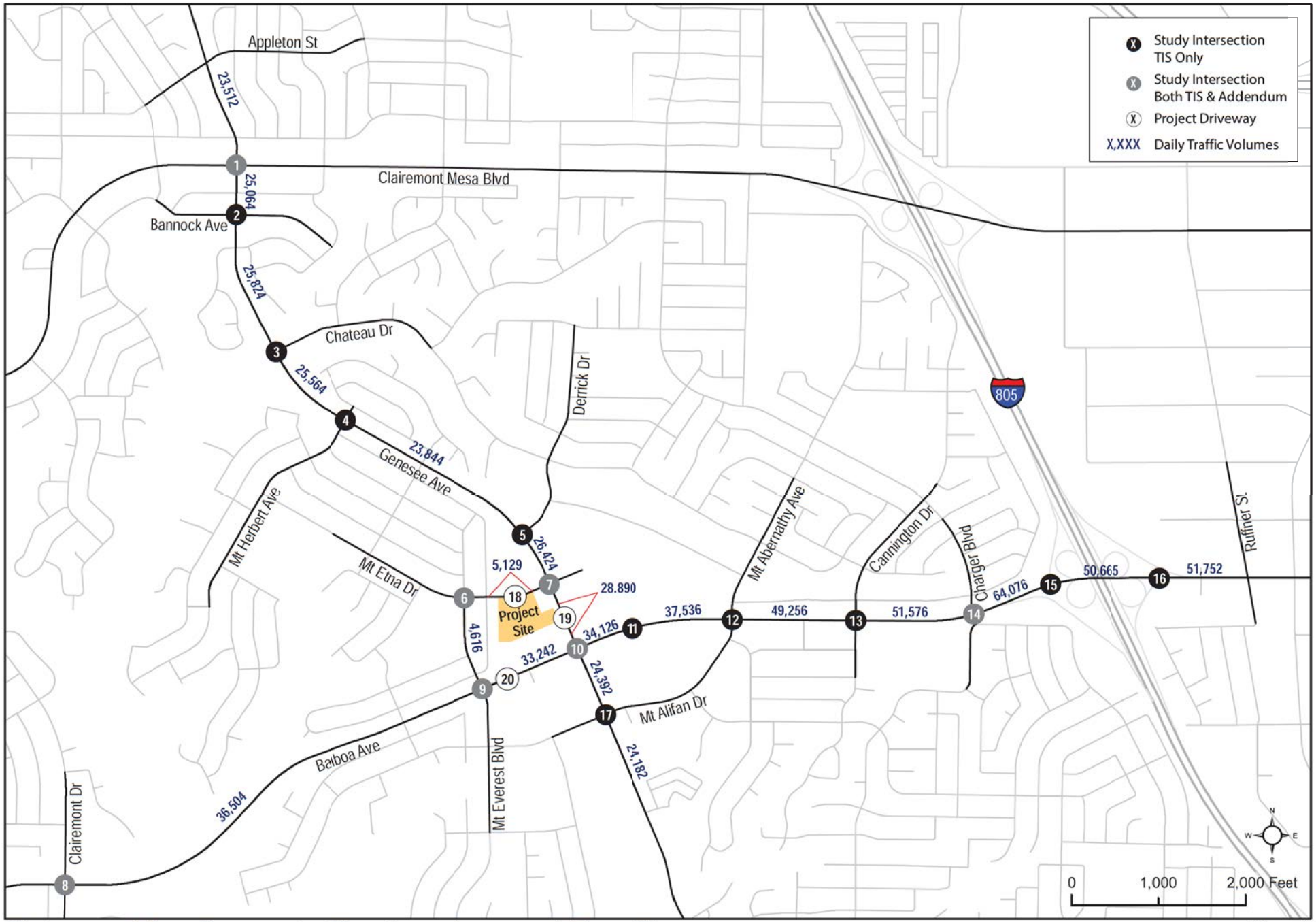

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Figure 10

Near-Term Base (Year 2021) Plus Project Conditions

Access Option 3

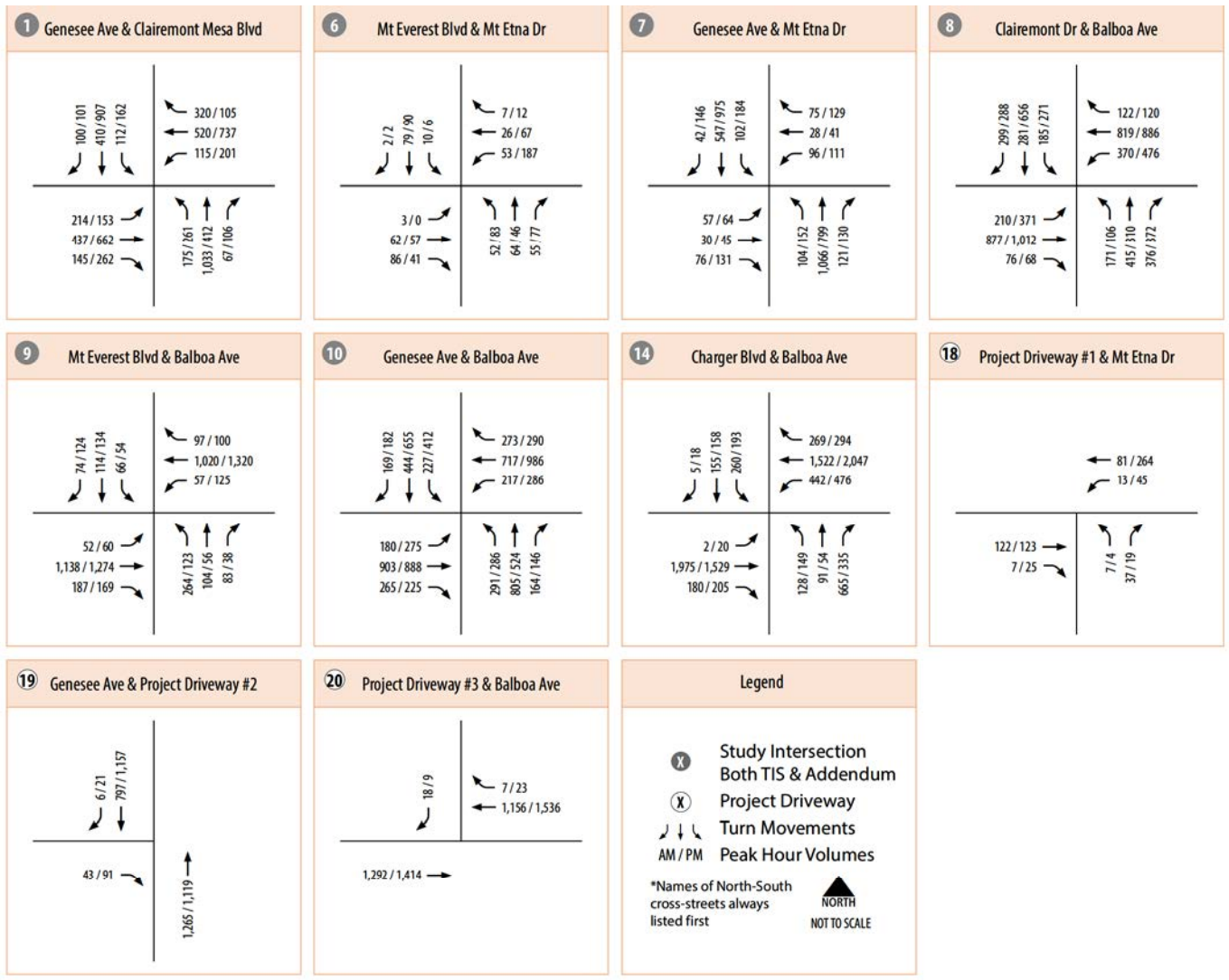

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Figure 10
Near-Term Base (Year 2021) Plus Project Conditions
Access Option 3

Table 4 - Roadway Segment Level of Service Results - Near-Term Base (Year 2021) Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	Capacity (LOS E)	No Project			With Access Option 1					With Access Option 2					With Access Option 3				
					ADT	V/C	LOS	ADT	V/C	LOS	Δ	S?	ADT	V/C	LOS	Δ	S?	ADT	V/C	LOS	Δ	S?
Genesee Avenue	Between Mt Etna Drive & Balboa Avenue	5-Ln Major Arterial	Raised Median	45,000	28,060	0.624	C	29,008	0.645	C	0.021	N	29,228	0.650	C	0.026	N	28,890	0.642	C	0.018	N
Mt Everest Boulevard	Between Mt Etna Drive & Balboa Avenue	2-Ln Collector w/o CLTL	Undivided	8,000	4,340	0.543	C	4,764	0.596	C	0.053	N	4,662	0.583	C	0.040	N	4,616	0.577	C	0.034	N
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	8,000	4,090	0.511	C	6,108	0.764	D	0.253	N	5,286	0.661	D	0.150	N	5,129	0.641	D	0.130	N
Balboa Avenue	Between Mt Everest Boulevard & Genesee Avenue	4-Ln Major Arterial	Raised Median	40,000	33,020	0.826	D	33,020	0.826	D	0.000	N	33,122	0.828	D	0.002	N	33,242	0.831	D	0.005	N

Notes:
Bold letter indicates unacceptable LOS E or F.
V/C = Volume to Capacity Ratio.
Ln = Lane.
S? = Indicates if change in V/C ratio is significant.
ADT = Average Daily Traffic.
LOS = Level of Service.
CLTL = Continuous Left-Turn Lane.
Δ = Change in V/C Ratio.

Intersection Analysis

Table 5 displays intersection LOS and average vehicle delay results under Near-Term Base (Year 2021) Plus Project Conditions for all three access options. LOS calculation worksheets for Near-Term Base (Year 2021) Plus Project Conditions are provided in **Attachment B**.

As shown in Table 5, the following study intersections would operate at unacceptable LOS E/F during one or both of the peak hours:

Access Option 1:

9. Mt Everest Boulevard & Balboa Avenue – LOS F during the AM peak hour and LOS E during the PM peak hour; and
10. Genesee Avenue & Balboa Avenue – LOS E during the PM peak hour.

Access Option 2:

9. Mt Everest Boulevard & Balboa Avenue – LOS F during the AM peak hour and LOS E during the PM peak hour; and
10. Genesee Avenue & Balboa Avenue – LOS E during the PM peak hour.

Access Option 3:

9. Mt Everest Boulevard & Balboa Avenue – LOS F during the AM peak hour and LOS E during the PM peak hour; and
10. Genesee Avenue & Balboa Avenue – LOS E during the PM peak hour.

Based upon the City of San Diego Significance Criteria, outlined in Section 2.5 of the TIS, the traffic associated with the new project would cause a significant impact to the following study intersections under Near-Term Base (Year 2021) Plus Project Conditions:

Access Option 1:

9. Mt Everest Boulevard & Balboa Avenue.

Access Option 2:

9. Mt Everest Boulevard & Balboa Avenue.

Access Option 3:

9. Mt Everest Boulevard & Balboa Avenue; and
10. Genesee Avenue & Balboa Avenue.

Table 5 - Peak Hour Intersection Level of Service Results - Near-Term Base (Year 2021) Plus Project Conditions

Intersection	Control	No Project		With Access Option 1				With Access Option 2				With Access Option 3			
		Avg. Delay (sec) AM/PM	LOS AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM
6. Mt Everest Boulevard & Mt Etna Drive	AWSC	9.4 / 10.8	A / B	9.6 / 11.1	A / B	0.2 / 0.3	N / N	9.5 / 11.0	A / B	0.1 / 0.2	N / N	9.5 / 11.0	A / B	0.1 / 0.2	N / N
7. Genesee Avenue & Mt Etna Drive	Signal	19.7 / 24.6	B / C	22.1 / 25.6	C / C	2.4 / 1.0	N / N	20.8 / 25.2	C / C	1.1 / 0.6	N / N	20.7 / 25.1	C / C	1.0 / 0.5	N / N
9. Mt Everest Boulevard & Balboa Avenue	Signal	116.5 / 64.7	**F / E**	127.7 / 65.5	**F / E**	11.2 / 0.8	**Y** / N	123.4 / 65.2	**F / E**	6.9 / 0.5	**Y** / N	124.5 / 69.5	**F / E**	8.0 / 4.8	**Y / Y**
10. Genesee Avenue & Balboa Avenue	Signal	41.1 / 59.2	D / **E**	41.8 / 60.0	D / **E**	0.7 / 0.8	N / N	41.9 / 60.1	D / **E**	0.8 / 0.9	N / N	43.3 / 64.9	D / **E**	2.2 / 5.7	N / **Y**
18. Project Driveway #1 & Mt Etna Drive	SSSC	DNE	DNE	9.9 / 10.5	A / B	9.9 / 10.5	N / N	9.5 / 10.1	A / B	9.5 / 10.1	N / N	9.3 / 9.7	A / A	9.3 / 9.7	N / N
19. Project Driveway #2 & Genesee Avenue	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	12.1 / 17.7	B / C	12.1 / 17.7	N / N	11.9 / 17.2	B / C	11.9 / 17.2	N / N
20. Project Driveway #3 & Balboa Avenue	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	13.9 / 17.2	B / C	13.9 / 17.2	N / N

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
DNE = Does Not Exist.

Horizon Year 2050 Plus Project Conditions

Horizon Year 2050 Plus Project traffic volumes were derived by combining the Horizon Year 2050 traffic volumes from the TIS and Project trip assignment volumes (displayed in Figures 2, 3, and 4). Horizon Year 2050 Plus Project daily roadway and peak hour intersection volumes are displayed in **Figure 11**, **Figure 12**, and **Figure 13** for Access Option 1, Access Option 2, and Access Option 3 conditions, respectively. Also depicted in Figures 11, 12, and 13 is the daily roadway and peak hour intersection volumes for the study roadways and intersections that were previously identified as impact under the old project.

Roadway Segment Analysis

Table 6 displays the roadway segment LOS analysis results under Horizon Year 2050 Plus Project Conditions.

As shown in Table 6, the following study roadway segments would operate at unacceptable LOS E/F:

Access Option 1:

- Mt Etna Drive, between Mt Everest Boulevard & Genesee Avenue (LOS E).

Access Option 2:

- Balboa Avenue, between Mt Everest Boulevard & Genesee Avenue (LOS E).

Access Option 3:

- Balboa Avenue, between Mt Everest Boulevard & Genesee Avenue (LOS E).

Based upon the City of San Diego Significance Criteria, outlined in Section 2.5 of the TIS, the traffic associated with the project would cause a significant impact to the following roadway segments under Horizon Year 2050 Plus Project Conditions:

Access Option 1:

- Mt Etna Drive, between Mt Everest Boulevard & Genesee Avenue.

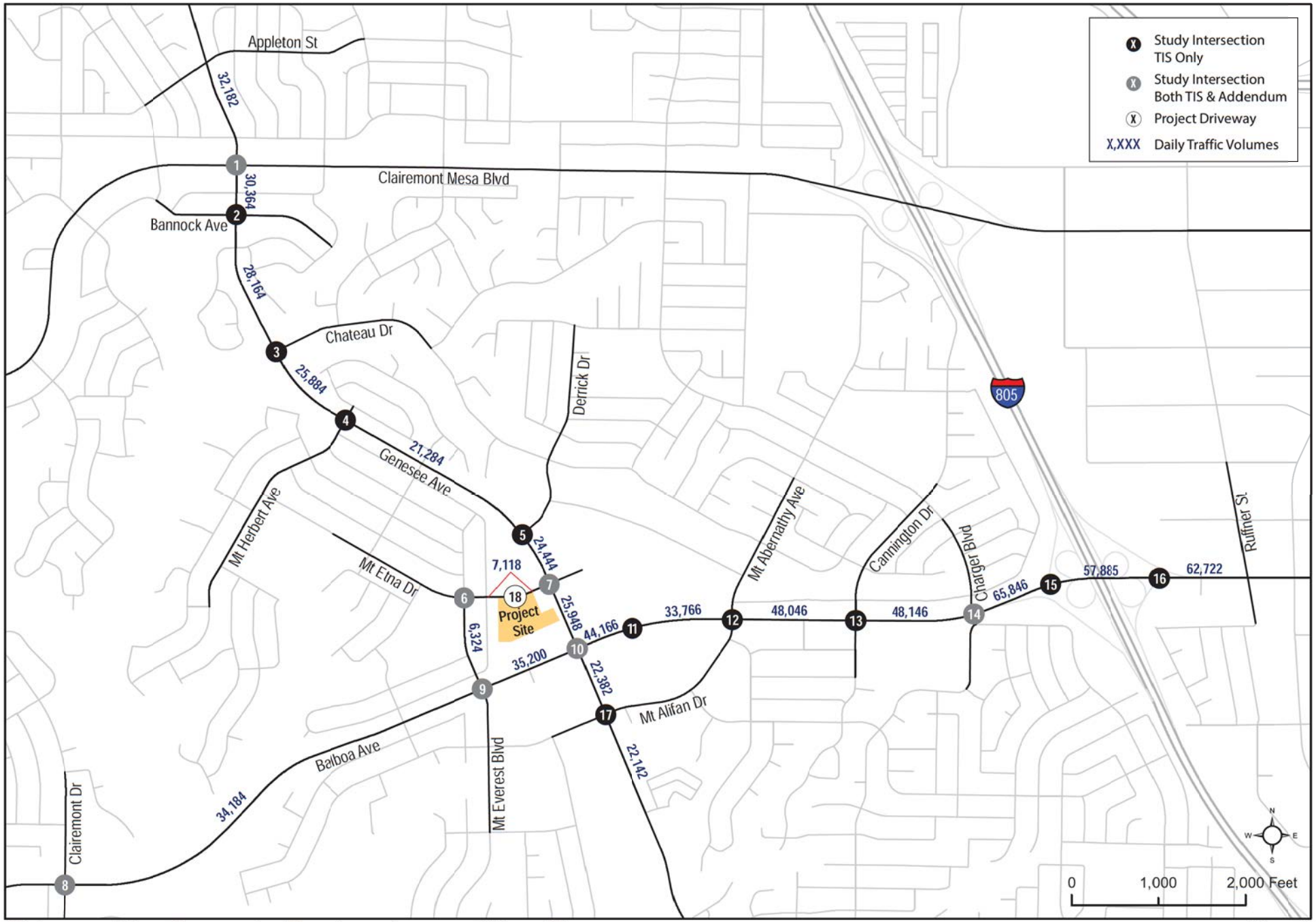

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Figure 11

Horizon Year 2050 Plus Project Conditions

Access Option 1

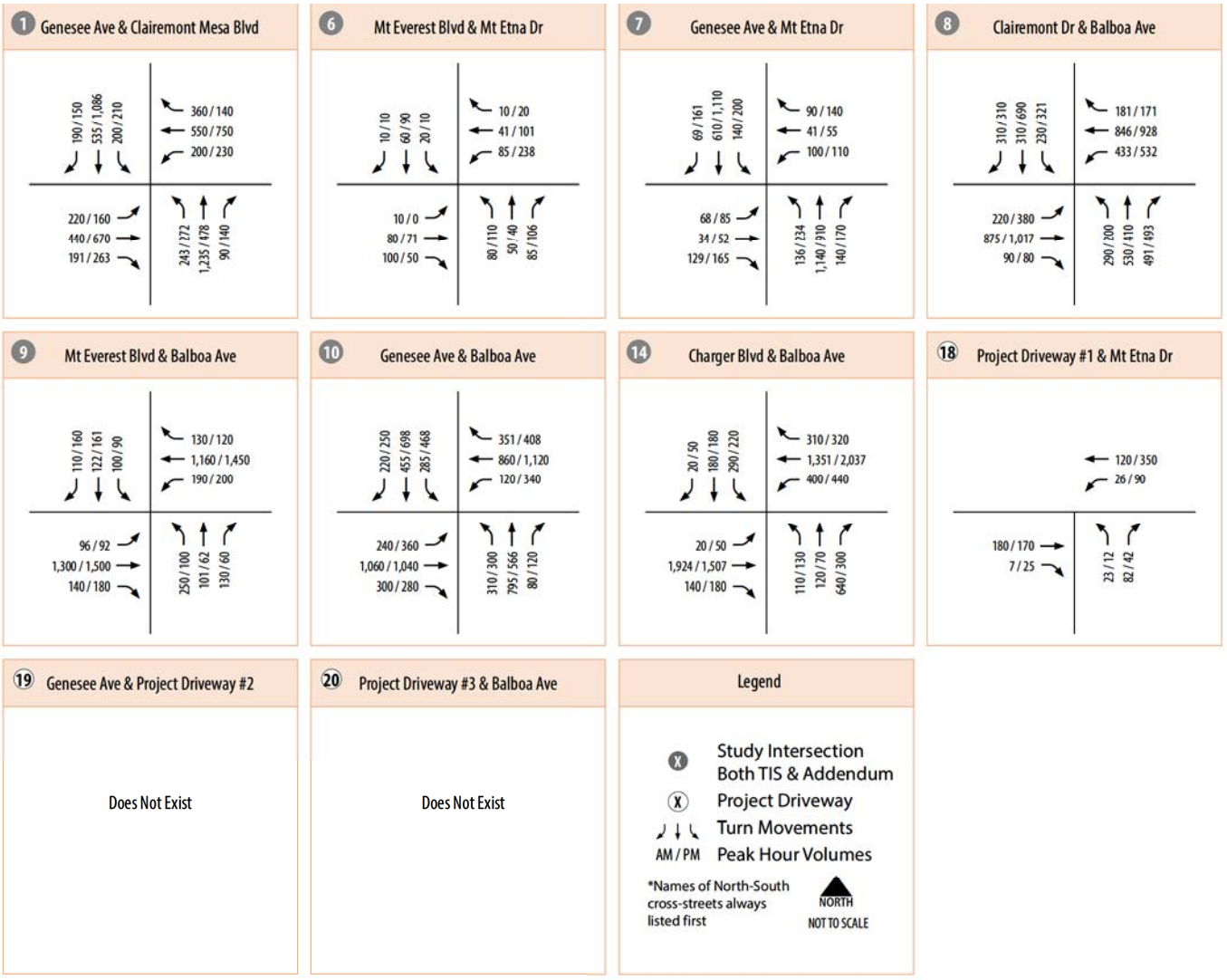

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Figure 11
Horizon Year 2050 Plus Project Conditions
Access Option 1

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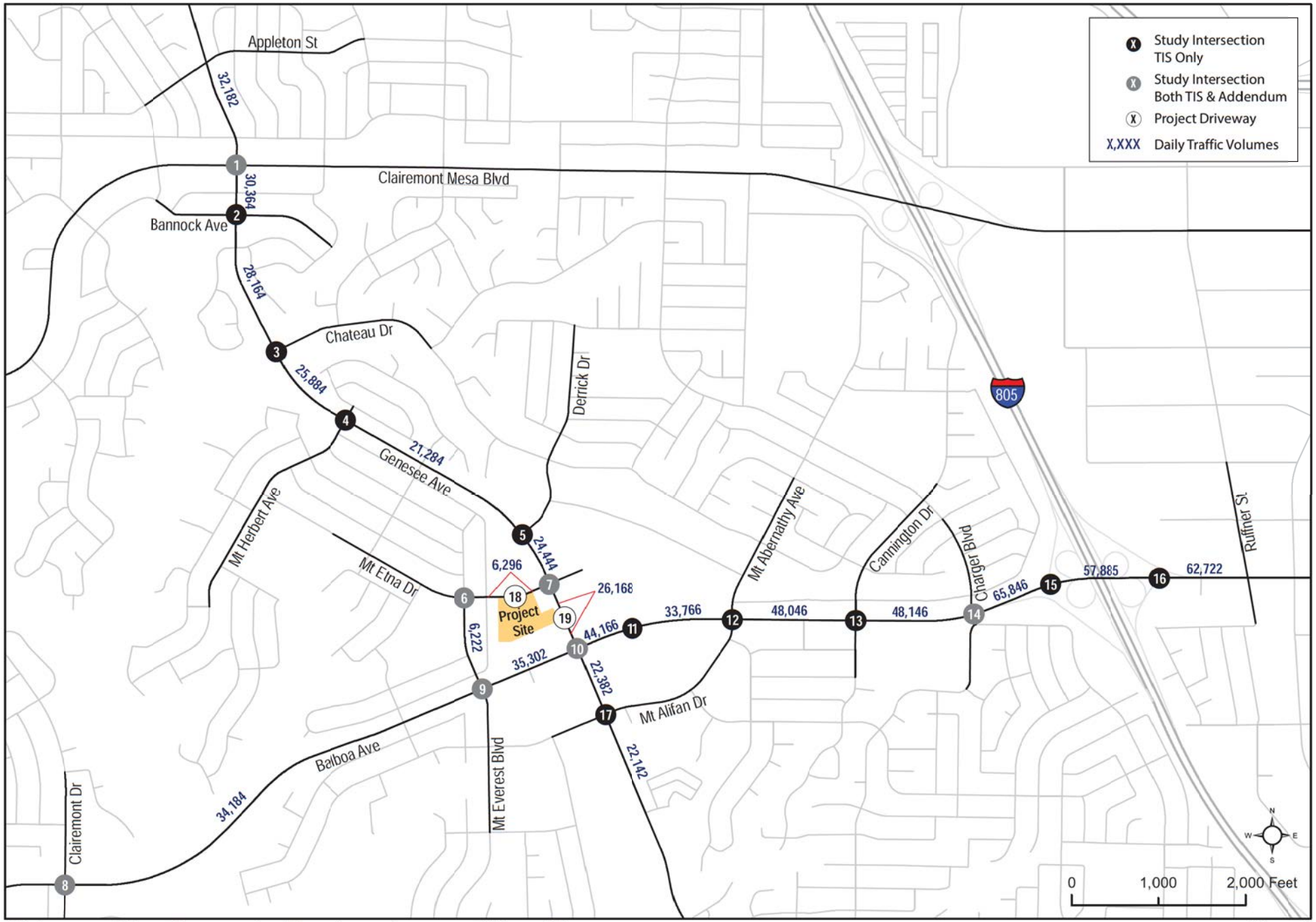

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Figure 12

Horizon Year 2050 Plus Project Conditions

Access Option 2

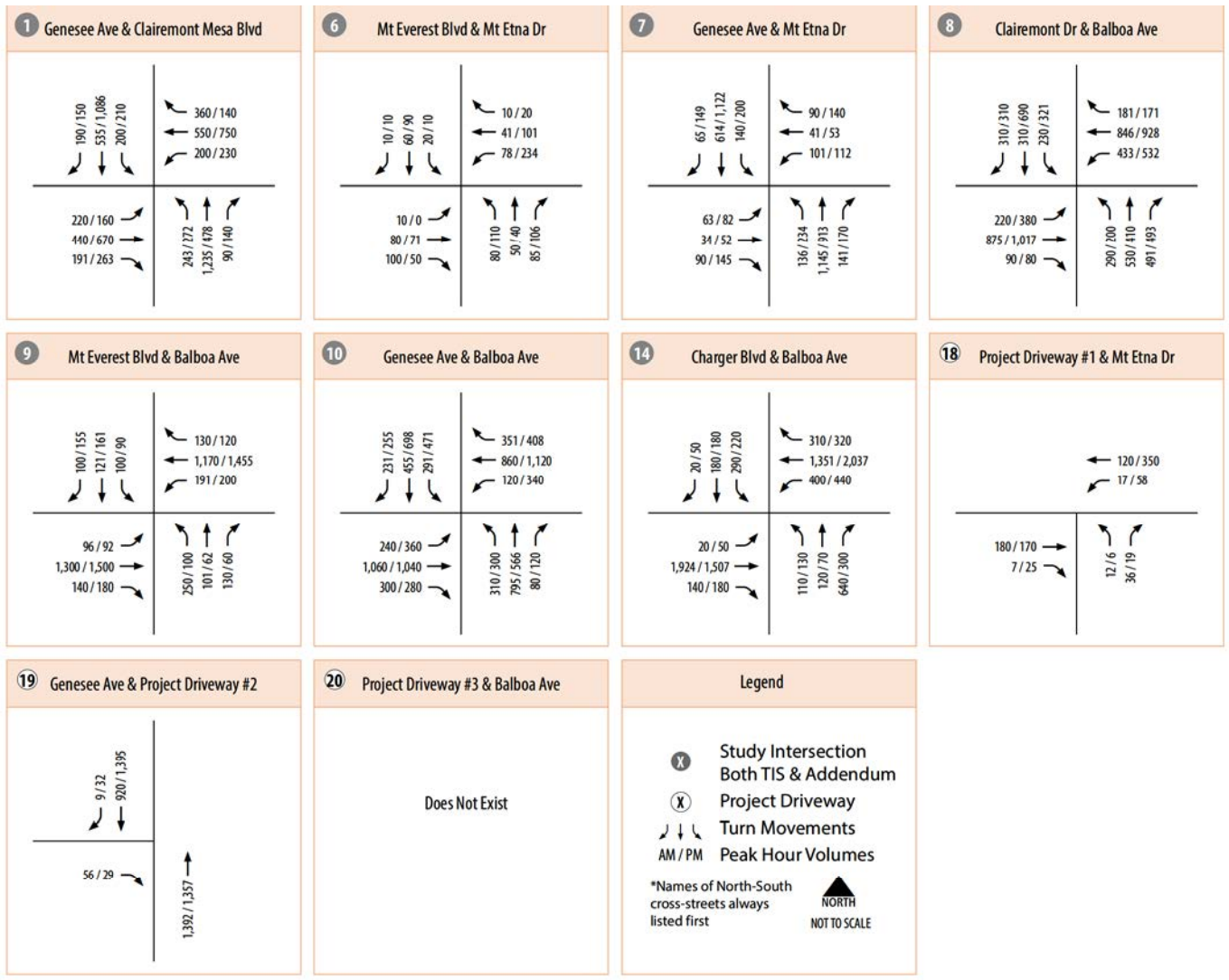

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Figure 12
Horizon Year 2050 Plus Project Conditions
Access Option 2

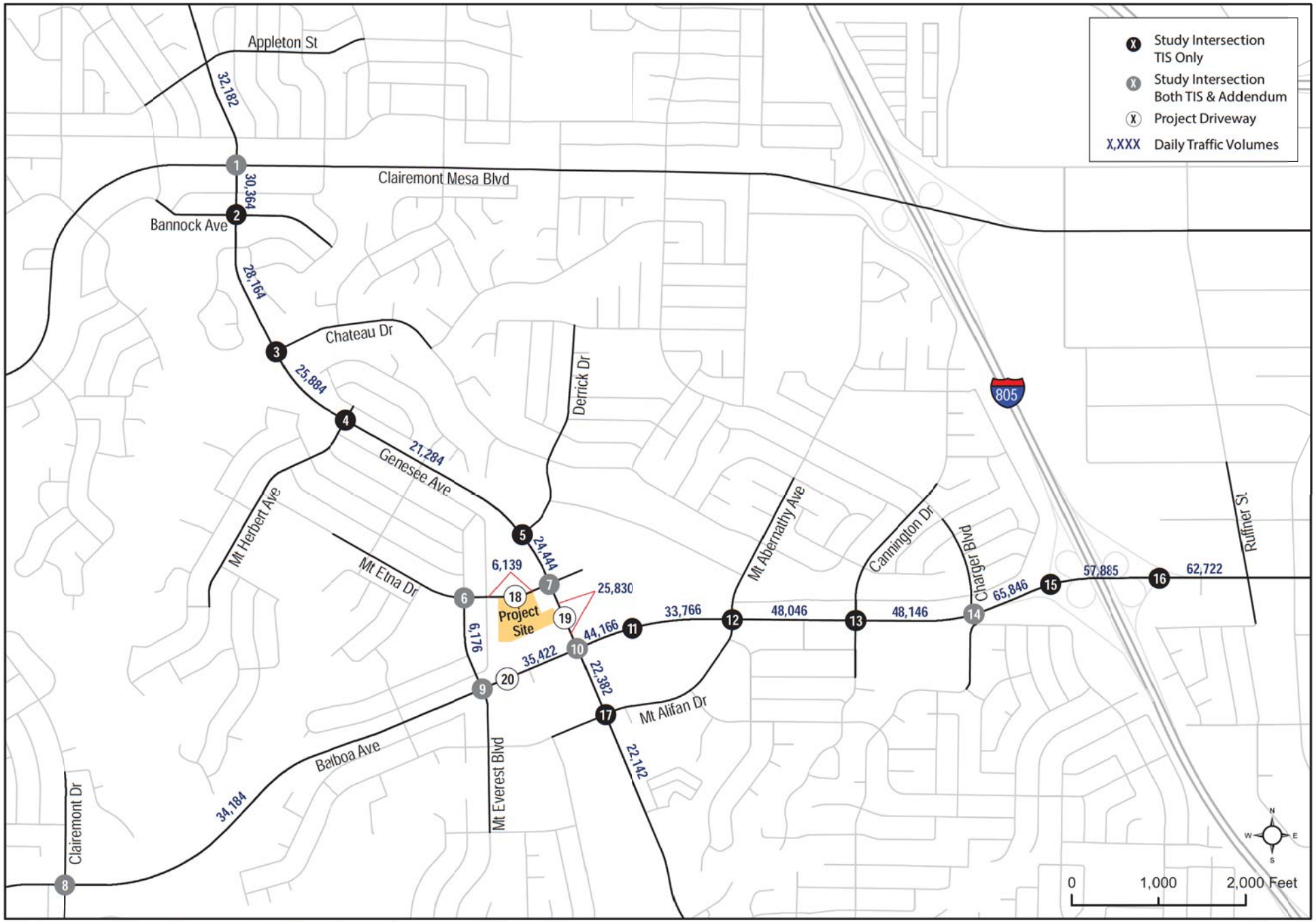

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Figure 13

Horizon Year 2050 Plus Project Conditions

Access Option 3

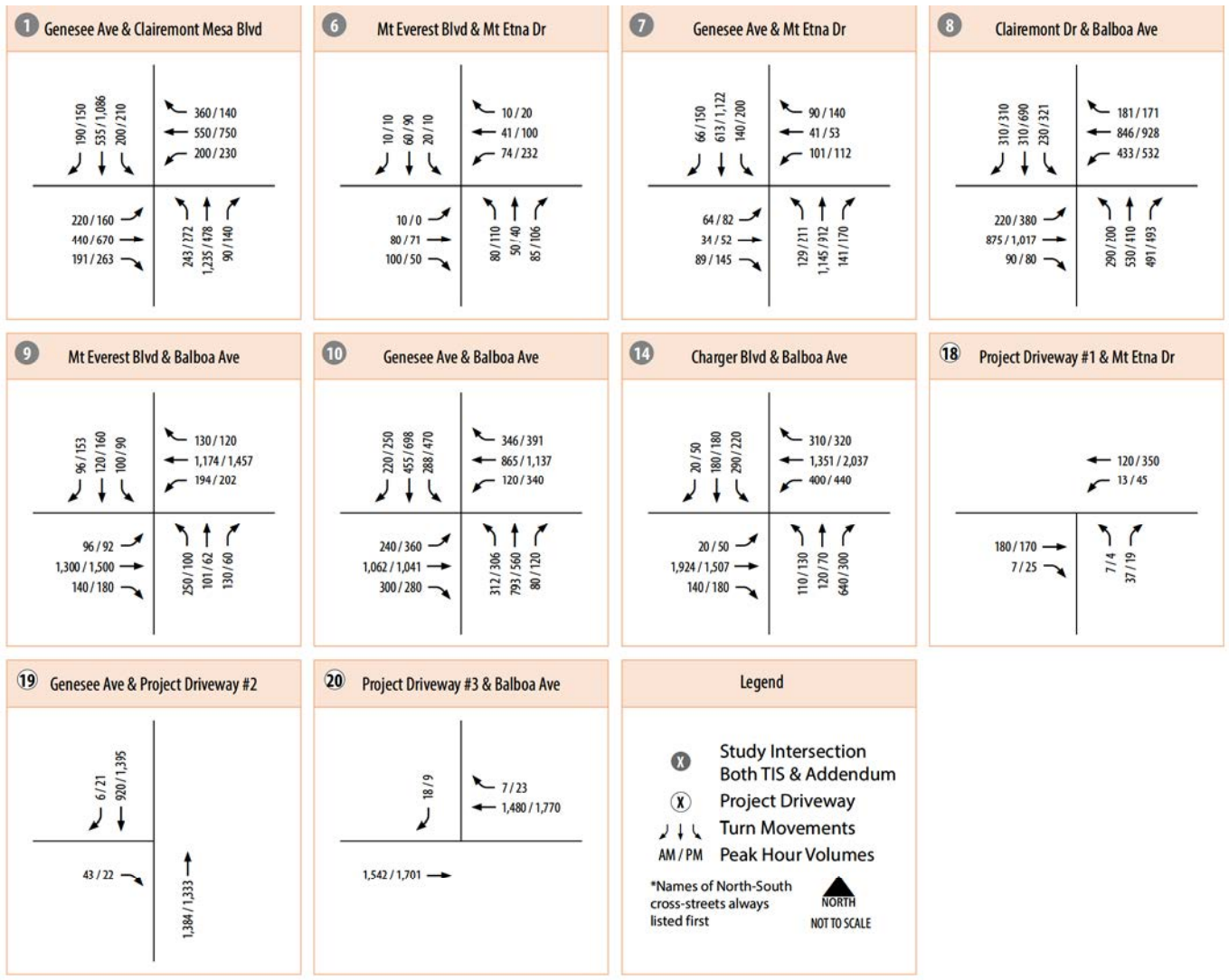

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Figure 13
Horizon Year 2050 Plus Project Conditions
Access Option 3

Table 6 - Roadway Segment Level of Service Results – Horizon Year 2050 Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	Capacity (LOS E)	No Project			With Access Option 1					With Access Option 2					With Access Option 3				
					ADT	V/C	LOS	ADT	V/C	LOS	Δ	S?	ADT	V/C	LOS	Δ	S?	ADT	V/C	LOS	Δ	S?
Genesee Avenue	Between Mt Etna Drive & Balboa Avenue	5-Ln Major Arterial	Raised Median	45,000	25,000	0.556	C	25,948	0.577	C	0.021	N	26,168	0.582	C	0.026	N	25,830	0.574	C	0.018	N
Mt Everest Boulevard	Between Mt Etna Drive & Balboa Avenue	2-Ln Collector w/o CLTL	Undivided	8,000	5,900	0.738	D	6,324	0.791	D	0.053	N	6,222	0.778	D	0.040	N	6,176	0.772	D	0.034	N
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	8,000	5,100	0.638	D	7,118	0.890	**E**	0.252	**Y**	6,296	0.787	D	0.149	N	6,139	0.767	D	0.129	N
Balboa Avenue	Between Mt Everest Boulevard & Genesee Avenue	4-Ln Major Arterial	Raised Median	40,000	35,200	0.880	**E**	35,200	0.880	**E**	0.000	N	35,302	0.883	**E**	0.003	N	35,422	0.886	**E**	0.006	N

Notes:
Bold letter indicates unacceptable LOS E or F.
V/C = Volume to Capacity Ratio.
Ln = Lane.
S? = Indicates if change in V/C ratio is significant.
ADT = Average Daily Traffic.
LOS = Level of Service.
CLTL = Continuous Left-Turn Lane.
Δ = Change in V/C Ratio.

Intersection Analysis

Table 7 displays intersection LOS and average vehicle delay results under Horizon Year 2050 Plus Project Conditions for all three access options. LOS calculation worksheets for Horizon Year 2050 Plus Project Conditions are provided in **Attachment C**.

As shown in Table 7, the following study intersections would operate at unacceptable LOS E/F during one or both of the peak hours:

Access Option 1:

9. Mt Everest Boulevard & Balboa Avenue – LOS F during both AM and PM peak hours; and
10. Genesee Avenue & Balboa Avenue – LOS F during the PM peak hour.

Access Option 2:

9. Mt Everest Boulevard & Balboa Avenue – LOS F during both AM and PM peak hours; and
10. Genesee Avenue & Balboa Avenue – LOS F during the PM peak hour.

Access Option 3:

9. Mt Everest Boulevard & Balboa Avenue – LOS F during both AM and PM peak hours; and
10. Genesee Avenue & Balboa Avenue – LOS F during the PM peak hour.

Based upon the City of San Diego Significance Criteria, outlined in Section 2.5 of the TIS, the traffic associated with the project would cause a significant impact to the following study intersections under Horizon Year 2050 Plus Project Conditions:

Access Option 1:

9. Mt Everest Boulevard & Balboa Avenue; and
10. Genesee Avenue & Balboa Avenue.

Access Option 2:

9. Mt Everest Boulevard & Balboa Avenue; and
10. Genesee Avenue & Balboa Avenue.

Access Option 3:

9. Mt Everest Boulevard & Balboa Avenue; and
10. Genesee Avenue & Balboa Avenue.

Table 7 - Peak Hour Intersection Level of Service Results – Horizon Year 2050 Plus Project Conditions

		No Project		With Access Option 1				With Access Option 2				With Access Option 3			
Intersection	Control	Avg. Delay (sec) AM/PM	LOS AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	Significant Impact? AM/PM
6. Mt Everest Boulevard & Mt Etna Drive	AWSC	10.8 / 13.9	B / B	11.1 / 14.6	B / B	0.3 / 0.7	N / N	11.0 / 14.4	B / B	0.2 / 0.5	N / N	11.0 / 14.3	B / B	0.2 / 0.4	N / N
7. Genesee Avenue & Mt Etna Drive	Signal	21.7 / 26.6	C / C	23.6 / 27.4	C / C	1.9 / 0.8	N / N	22.8 / 27.3	C / C	1.1 / 0.7	N / N	22.6 / 27.2	C / C	0.9 / 0.6	N / N
9. Mt Everest Boulevard & Balboa Avenue	Signal	107.9 / 110.4	**F / F**	110.9 / 112.7	**F / F**	3.0 / 2.3	**Y / Y**	109.8 / 112.3	**F / F**	1.9 / 1.9	**Y / Y**	112.1 / 120.2	**F / F**	4.2 / 9.8	**Y / Y**
10. Genesee Avenue & Balboa Avenue	Signal	42.1 / 80.2	D / **F**	44.7 / 83.4	D / **F**	2.6 / 3.2	N / **Y**	44.9 / 84.3	D / **F**	2.8 / 4.1	N / **Y**	47.3 / 90.2	D / **F**	5.2 / 10.0	N / **Y**
18. Project Driveway #1 & Mt Etna Drive	SSSC	DNE	DNE	10.5 / 11.3	B / B	10.5 / 11.3	N / N	10.0 / 10.8	A / B	10.0 / 10.8	N / N	9.8 / 10.3	A / B	9.8 / 10.3	N / N
19. Project Driveway #2 & Genesee Avenue	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	13.0 / 16.7	B / C	13.0 / 16.7	N / N	12.7 / 16.3	B / C	12.7 / 16.3	N / N
20. Project Driveway #3 & Balboa Avenue	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	16.9 / 19.9	C / C	16.9 / 19.9	N / N

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
DNE = Does Not Exist.

3.0 Impact Analysis & Mitigation

The driveway analysis was conducted for all three access options, for all three study scenarios (Existing Plus Project, Near-Term Base (Year 2021) Plus Project, and Horizon Year 2050 Plus Project) based on the new project. Mitigation measures are also provided for each impacted facility.

Existing Plus Project Conditions

As discussed in the TIS, this scenario is required for the environmental assessment of substantive land use or roadway network modifications and provides decision-makers and the public with development impacts referenced to an "observable" baseline.

Roadway Segment Analysis

Table 8 displays the roadway segment LOS analysis results only for roadway segments that were previously identified as a significant impact with the old project and those that remain or identify as a new significant impact with the new project under Existing Plus Project Conditions.

As shown in Table 8, the following roadway segment would no longer be impacted with the new project for all three access options under Existing Plus Project Conditions:

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue.

Also shown in Table 8, the following roadway would remain impacted with the new project for all three access options under Existing Plus Project Conditions:

- Balboa Avenue, between Cannington Drive and Charger Boulevard.

Table 8 – Impact Analysis - Roadway Segment Level of Service – Existing Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	Capacity (LOS E)	With Project Studied in the TIS[1]					With Access Option 1					With Access Option 2					With Access Option 3				
					ADT	V/C	LOS	Δ from No Project	S?	ADT	V/C	LOS	Δ from No Project	S?	ADT	V/C	LOS	Δ from No Project	S?	ADT	V/C	LOS	Δ from No Project	S?
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	8,000	7,576	0.947	**E**	0.436	Y	6,108	0.764	D	0.253	N	5,286	0.661	D	0.150	N	5,129	0.641	D	0.130	N
Balboa Avenue	Between Cannington Drive & Charger Boulevard	6-Ln Major Arterial	Raised Median	50,000	50,383	1.008	**F**	0.019	Y	50,067	1.001	**F**	0.013	Y	50,067	1.001	**F**	0.013	Y	50,067	1.001	**F**	0.013	Y

Notes:
Bold letter indicates unacceptable LOS E or F.
V/C = Volume to Capacity Ratio.
Ln = Lane.
S? = Indicates if change in V/C ratio is significant.
ADT = Average Daily Traffic.
LOS = Level of Service.
CLTL = Continuous Left-Turn Lane.
Δ = Change in V/C Ratio.
[1]The project studied in the TIS included 448 multi-family units, 10,000 sq. ft retail space, and a single full access driveway off of Mt Etna Drive.

Mitigation

As mentioned previously in this section, Existing Plus Project is a hypothetical scenario, therefore, the mitigation measures described below are presented for informational purposes only.

Similar to the TIS (May 2019), the following roadway segment would remain significantly impacted:

- Balboa Avenue, between Cannington Drive and Charger Boulevard (Applies to all three access options. This impact occurs after the project generates more than 1,811 daily trips) –This roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the existing land use fronting this roadway (i.e. residential and school uses) as well as the right-of-way constraints, there are no feasible improvements that would expand the capacity of the roadway segment. The implementation of adaptive signal controls along the Balboa Avenue corridor, as well as signal modifications at the Charger Boulevard & Balboa Avenue intersection, would partially mitigate the project's impacts. However, the County cannot assure that the City would implement adaptive signal controls along the Balboa Avenue corridor. Therefore, this impact would remain *significant and unavoidable*.

Intersection Analysis

Table 9 displays the intersection LOS analysis results only for intersections that were previously identified as a significant impact with the old project and those that remain or identify as a new significant impact with the new project under Existing Plus Project Conditions.

As shown in Table 9, the following intersections would no longer be impacted with the new project for all three access options under Existing Plus Project Conditions:

1. Genesee Avenue & Clairemont Mesa Boulevard; and
8. Clairemont Drive & Balboa Avenue.

Also shown in Table 9, the following intersection would remain impacted with the new project under Existing Plus Project Conditions:

Access Option 1:

9. Balboa Avenue & Mt Everest Boulevard.

Access Option 3:

9. Balboa Avenue & Mt Everest Boulevard.

In addition, the following intersection would be identified as a new impact with the new project under Existing Plus Project Conditions:

Access Option 3:

10. Genesee Avenue & Balboa Avenue.

Table 9 – Impact Analysis - Intersection Level of Service – Existing Plus Project Conditions

		With Project Studied in the TIS[1]				With Access Option 1				With Access Option 2				With Access Option 3			
Intersection	Control	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	43.2 / 62.9	D / **E**	0.6 / 3.0	N / **Y**	42.9 / 61.8	D / **E**	0.3 / 1.9	N / N	42.9 / 61.8	D / **E**	0.3 / 1.9	N / N	42.9 / 61.8	D / **E**	0.3 / 1.9	N / N
8. Clairemont Drive & Balboa Avenue	Signal	38.3 / 62.6	D / **E**	0.6 / 2.5	N / **Y**	38.0 / 61.7	D / **E**	0.3 / 1.6	N / N	38.0 / 61.7	D / **E**	0.3 / 1.6	N / N	38.0 / 61.7	D / **E**	0.3 / 1.6	N / N
9. Mt Everest Boulevard & Balboa Avenue	Signal	84.3 / 60.6	**F / E**	10.6 / 1.9	**Y** / N	80.1 / 59.5	**F / E**	6.4 / 0.8	**Y** / N	75.0 / 59.2	**E / E**	1.3 / 0.5	N / N	78.7 / 62.7	**E / E**	5.0 / 4.0	**Y / Y**
10. Genesee Avenue & Balboa Avenue*	Signal	38.8 / 60.3	D / **E**	2.5 / 1.2	N / N	36.9 / 59.4	D / **E**	0.6 / 0.3	N / N	37.0 / 59.8	D / **E**	0.7 / 0.7	N / N	37.8 / 63.2	D / **E**	1.5 / 4.1	N / **Y**

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
DNE = Does Not Exist.
*New Impacted Intersection.
[1]The project studied in the TIS included 448 multi-family units, 10,000 sq. ft retail space, and a single full access driveway off of Mt Etna Drive.

Mitigation

Similar to the TIS (May 2019), the following intersection would remain significantly impacted:

9. Mt Everest Boulevard & Balboa Avenue (Applies to Access Option 1 and Access Option 3. This impact occurs after the project generates more than 650 daily trips) –Restripe the northbound and southbound approaches on Mt Everest Boulevard to provide an exclusive left-turn lane and a shared through-right turn lane, then convert the northbound and southbound approaches from split phasing to protected left-turn phasing. Implementing this improvement could be done within the existing right-of-way and would reduce intersection delays to pre-Project conditions. Implementing these improvements would mitigate the impact and would reduce this impact to *less than significant.*

The traffic generated by the new project is anticipated to create an impact at the following intersection:

10. Genesee Avenue & Balboa Avenue (Applies to Access Option 3. This impact occurs after the project generates more than 600 daily trips) – Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway. The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

Near-Term Base (Year 2021) Plus Project Conditions

Roadway Segment Analysis

Table 10 displays the roadway segment LOS analysis results only for roadway segments that were previously identified as a significant impact with the old project and those that remain or identify as a significant impact with the new project under Near-Term Base (Year 2021) Plus Project Conditions.

As shown in Table 10, the following roadway segment would no longer be impacted with the new project for all three access options under Near-Term Base (Year 2021) Plus Project Conditions:

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue.

Also shown in Table 10, the following roadway would remain impacted with the new project for all three access options under Near-Term Base (Year 2021) Plus Project Conditions:

- Balboa Avenue, between Cannington Drive and Charger Boulevard; and
- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps.

Mitigation

Similar to the TIS (May 2019), the following roadway segments would remain significantly impacted:

- Balboa Avenue, between Cannington Drive and Charger Boulevard (Applies to all three access options. This impact occurs after the project generates more than 1,811 daily trips) –This roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the existing land use fronting this roadway (i.e. residential and school uses) as well as the right-of-way constraints, there are no feasible improvements that would expand the capacity of the roadway segment. The implementation of adaptive signal controls along the Balboa Avenue corridor, as well as signal modifications at the Charger Boulevard & Balboa Avenue intersection, would partially mitigate the project's impacts. However, the County cannot assure that the City would implement adaptive signal controls along the Balboa Avenue corridor. Therefore, this impact would remain *significant and unavoidable.*

- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps (Applies to all three access options. This impact occurs after the project generates more than 1,561 daily trips) – This roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the existing land use fronting this roadway (i.e. residential and school uses) as well as the right-of-way constraints, there are no feasible improvements that would expand the capacity of the roadway segment. The implementation of adaptive signal controls along the Balboa Avenue corridor, as well as signal modifications at the Charger Boulevard & Balboa Avenue intersection, would partially mitigate the project's impacts. However, the County cannot assure that the City would implement adaptive signal controls along the Balboa Avenue corridor. Therefore, this impact would remain *significant and unavoidable.*

Table 10 – Impact Analysis - Roadway Segment Level of Service – Near-Term Base (Year 2021) Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	Capacity (LOS E)	With Project Studied in the TIS[1]					With Access Option 1					With Access Option 2					With Access Option 3				
					ADT	V/C	LOS	Δ from No Project	S?	ADT	V/C	LOS	Δ from No Project	S?	ADT	V/C	LOS	Δ from No Project	S?	ADT	V/C	LOS	Δ from No Project	S?
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	8,000	7,576	0.947	**E**	0.436	**Y**	6,108	0.764	D	0.253	N	5,286	0.661	D	0.150	N	5,129	0.641	D	0.130	N
Balboa Avenue	Between Cannington Drive & Charger Boulevard	6-Ln Major Arterial	Raised Median	50,000	51,892	1.038	**F**	0.019	**Y**	51,576	1.032	**F**	0.013	**Y**	51,576	1.032	**F**	0.013	**Y**	51,576	1.032	**F**	0.013	**Y**
Balboa Avenue	Between Charger Boulevard & I-805 Southbound Ramps	6-Ln Major Arterial	Raised Median	50,000	64,392	1.288	**F**	0.019	**Y**	64,076	1.282	**F**	0.013	**Y**	64,076	1.282	**F**	0.013	**Y**	64,076	1.282	**F**	0.013	**Y**

Notes:
Bold letter indicates unacceptable LOS E or F.
V/C = Volume to Capacity Ratio.
Ln = Lane.
S? = Indicates if change in V/C ratio is significant.

ADT = Average Daily Traffic.
LOS = Level of Service.
CLTL = Continuous Left-Turn Lane.
Δ = Change in V/C Ratio.

[1]The project studied in the TIS included 448 multi-family units, 10,000 sq. ft retail space, and a single full access driveway off of Mt Etna Drive.

Intersection Analysis

Table 11 displays the intersection LOS analysis results only for intersections that were previously identified as a significant impact with the old project and those that remain or identify as a significant impact with the new project under Near-Term Base (Year 2021) Plus Project Conditions.

As shown in Table 11, the following intersections would no longer be impacted with the new project for all three access options under Near-Term Base (Year 2021) Plus Project Conditions:

1. Genesee Avenue & Clairemont Mesa Boulevard; and
8. Clairemont Drive & Balboa Avenue.

Also shown in Table 11, the following intersections would remain impacted with the new project for all three access options under Near-Term Base (Year 2021) Plus Project Conditions:

9. Balboa Avenue & Mt Everest Boulevard; and
14. Balboa Avenue & Charger Boulevard.

In addition, the following intersection would be identified as a new impact with the new project under Near-Term Base (Year 2021) Plus Project Conditions:

<u>Access Option 3:</u>

10. Genesee Avenue & Balboa Avenue.

Table 11 – Impact Analysis - Intersection Level of Service – Near-Term Base (Year 2021) Plus Project Conditions

		With Project Studied in the TIS[1]				With Access Option 1				With Access Option 2				With Access Option 3			
Intersection	Control	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	43.6 / 64.5	D / **E**	0.6 / 3.0	N / **Y**	43.4 / 63.4	D / **E**	0.4 / 1.9	N / N	43.4 / 63.4	D / **E**	0.4 / 1.9	N / N	43.4 / 63.4	D / **E**	0.4 / 1.9	N / N
8. Clairemont Drive & Balboa Avenue	Signal	49.1 / 70.5	D / **E**	1.1 / 2.3	N / **Y**	48.6 / 69.7	D / **E**	0.6 / 1.5	N / N	48.6 / 69.7	D / **E**	0.6 / 1.5	N / N	48.6 / 69.7	D / **E**	0.6 / 1.5	N / N
9. Mt Everest Boulevard & Balboa Avenue	Signal	133.6 / 66.4	**F** / **E**	17.1 / 1.7	**Y** / N	127.7 / 65.5	**F** / **E**	11.2 / 0.8	**Y** / N	123.4 / 65.2	**F** / **E**	6.9 / 0.5	**Y** / N	124.5 / 69.5	**F** / **E**	8.0 / 4.8	**Y** / **Y**
10. Genesee Avenue & Balboa Avenue*	Signal	42.1 / 60.4	D / **E**	1.0 / 1.2	N / N	41.8 / 60.0	D / **E**	0.7 / 0.8	N / N	41.9 / 60.1	D / **E**	0.8 / 0.9	N / N	43.3 / 64.9	D / **E**	2.2 / 5.7	N / **Y**
14. Charger Boulevard & Balboa Avenue	Signal	68.3 / 42.8	**E** / D	3.6 / -0.1	**Y** / N	67.1 / 42.8	**E** / D	2.4 / -0.1	**Y** / N	67.1 / 42.8	**E** / D	2.4 / -0.1	**Y** / N	67.1 / 42.8	**E** / D	2.4 / -0.1	**Y** / N

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
DNE = Does Not Exist.
*New Impacted Intersection.
[1]The project studied in the TIS included 448 multi-family units, 10,000 sq. ft retail space, and a single full access driveway off of Mt Etna Drive.

Mitigation

Similar to the TIS (May 2019), the following intersections would remain significantly impacted:

9. Mt Everest Boulevard & Balboa Avenue (Applies to all three access options. This impact occurs after the project generates more than 650 daily trips) – Restripe the northbound and southbound approaches on Mt Everest Boulevard to provide an exclusive left-turn lane and a shared through-right turn lane, then convert the northbound and southbound approaches from split phasing to protected left-turn phasing. Implementing this improvement could be done within the existing right-of-way and would reduce intersection delays to pre-Project conditions and would reduce this impact to *less than significant.*

14. Charger Boulevard & Balboa Avenue (Applies to all three access options. This impact occurs after the project generates more than 1,811 daily trips) – Restripe the northbound shared through-left turn lane into an exclusive through lane and convert the northbound and southbound signal from split phasing to protective phasing. Implementing this improvement would reduce intersection delays to pre-Project conditions and would reduce this impact to *less than significant.*

Figure 14 shows a conceptual design of the Charger Boulevard & Balboa Avenue intersection mitigation.

The traffic generated by the new project is anticipated to create an impact at the following intersection:

10. Genesee Avenue & Balboa Avenue (Applies to Access Option 3. This impact occurs after the project generates more than 600 daily trips) – Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway. The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact would reduce this impact to *less than significant.*

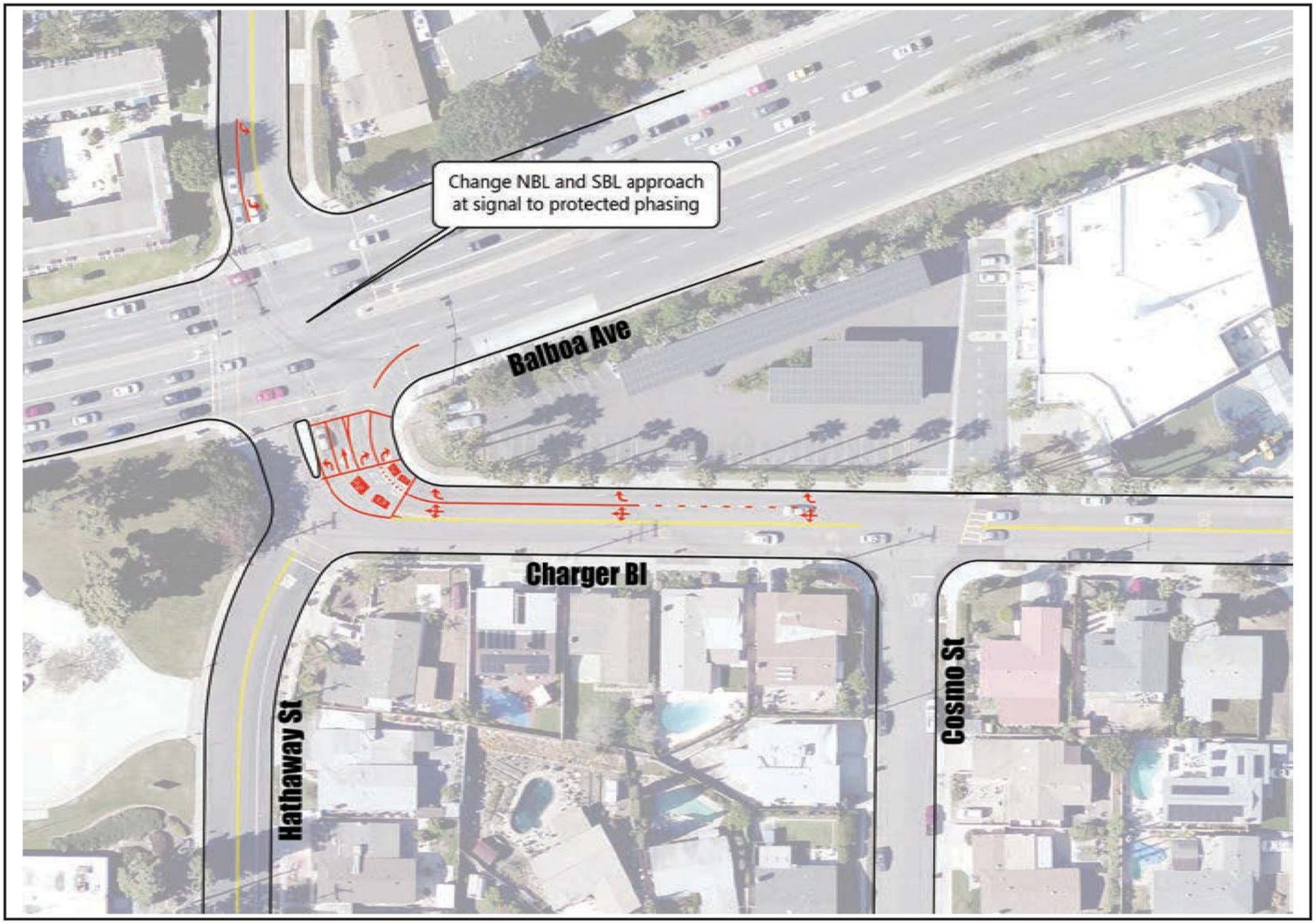


Figure 14
Balboa Avenue and Charger Boulevard Intersection Mitigation Conceptual Design

Horizon Year 2050 Plus Project Conditions

Roadway Segment Analysis

Table 12 displays the roadway segment LOS analysis results only for roadway segments that were previously identified as a significant impact with the old project and those that remain or identify as a significant impact with the new project under Horizon Year 2050 Plus Project Conditions.

As shown in Table 12, the following roadway segment would no longer be impacted with the new project for all three access options under Horizon Year 2050 Plus Project Conditions:

- Mt Everest Boulevard, between Mt Etna Drive and Balboa Avenue.

Also shown in Table 12, the following roadway segments would remain impacted with the new project under Horizon Year 2050 Plus Project Conditions:

Access Option 1:

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue; and
- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps.

Access Option 2:

- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps.

Access Option 3:

- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps.

Table 12 – Impact Analysis - Roadway Segment Level of Service – Horizon Year 2050 Plus Project Conditions

Roadway	Segment	Functional Classification	Cross-Section	Capacity (LOS E)	With Project Studied in the TIS[1]					With Access Option 1					With Access Option 2					With Access Option 3				
					ADT	V/C	LOS	Δ from No Project	S?	ADT	V/C	LOS	Δ from No Project	S?	ADT	V/C	LOS	Δ from No Project	S?	ADT	V/C	LOS	Δ from No Project	S?
Mt Everest Boulevard	Between Mt Etna Drive & Balboa Avenue	2-Ln Collector w/o CLTL	Undivided	8,000	6,532	0.817	E	0.079	Y	6,324	0.791	D	0.053	N	6,222	0.778	D	0.040	N	6,176	0.772	D	0.034	N
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	2-Ln Collector w/o CLTL	Undivided	8,000	8,586	1.073	F	0.435	Y	7,118	0.890	E	0.252	Y	6,296	0.787	D	0.149	N	6,139	0.767	D	0.129	N
Balboa Avenue	Between Charger Boulevard & I-805 Southbound Ramps	6-Ln Major Arterial	Raised Median	50,000	66,162	1.323	F	0.019	Y	65,846	1.317	F	0.013	Y	65,846	1.317	F	0.013	Y	65,846	1.317	F	0.013	Y

Notes:
Bold letter indicates unacceptable LOS E or F.
V/C = Volume to Capacity Ratio.
Ln = Lane.
S? = Indicates if change in V/C ratio is significant.

ADT = Average Daily Traffic.
LOS = Level of Service.
CLTL = Continuous Left-Turn Lane.
Δ = Change in V/C Ratio.

[1]The project studied in the TIS included 448 multi-family units, 10,000 sq. ft retail space, and a single full access driveway off of Mt Etna Drive.

Mitigation

Similar to the TIS (May 2019), the following roadway segments would remain significantly impacted:

- Mt Etna Drive, between Mt Everest Boulevard and Genesee Avenue (Applies to Access Option 1. This impact occurs after the project generates more than 1,399 daily trips) – This roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the classification of this roadway, there is insufficient right-of-way and street parking removal limitations that would prevent any improvements to the capacity of the impacted roadway segment. Therefore, this impact would remain *significant and unavoidable*.

- Balboa Avenue, between Charger Boulevard and I-805 Southbound Ramps (Applies to all three access options. This impact occurs after the project generates more than 1,561 daily trips) – This roadway is currently built to its ultimate classification per the currently adopted Clairemont Mesa Community Plan. Based on the existing land use fronting this roadway (i.e. residential and school uses) as well as the right-of-way constraints, there are no feasible improvements that would expand the capacity of the roadway segment. The implementation of adaptive signal controls along the Balboa Avenue corridor, as well as signal modifications at the Charger Boulevard & Balboa Avenue intersection, would partially mitigate the project's impacts. However, the County cannot assure that the City would implement adaptive signal controls along the Balboa Avenue corridor. Therefore, this impact would remain *significant and unavoidable*.

Intersection Analysis

Table 13 displays the intersection LOS analysis results only for intersections that were previously identified as a significant impact with the old project and those that remain or identify as a significant impact with the new project under Horizon Year 2050 Plus Project Conditions.

As shown in Table 13, the following intersection would remain impacted with the new project for all three access options under Horizon Year 2050 Plus Project Conditions:

1. Genesee Avenue & Clairemont Mesa Boulevard;
8. Clairemont Drive & Balboa Avenue;
9. Mt Everest Boulevard & Balboa Avenue;
10. Genesee Avenue & Balboa Avenue; and
14. Charger Boulevard & Balboa Avenue.

Table 13 – Impact Analysis – Intersection Level of Service – Horizon Year 2050 Plus Project Conditions

		With Project Studied in the TIS[1]				With Access Option 1				With Access Option 2				With Access Option 3			
Intersection	Control	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) No Project AM/PM	Significant Impact? AM/PM
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	68.2 / 100.0	**E / F**	2.3 / 4.1	**Y / Y**	67.5 / 98.5	**E / F**	1.6 / 2.6	**N / Y**	67.5 / 98.5	**E / F**	1.6 / 2.6	**N / Y**	67.5 / 98.5	**E / F**	1.6 / 2.6	**N / Y**
8. Clairemont Drive & Balboa Avenue	Signal	66.6 / 103.2	**E / F**	1.2 / 2.6	**N / Y**	66.0 / 102.1	**E / F**	0.6 / 1.5	**N / Y**	66.0 / 102.1	**E / F**	0.6 / 1.5	**N / Y**	66.0 / 102.1	**E / F**	0.6 / 1.5	**N / Y**
9. Mt Everest Boulevard & Balboa Avenue	Signal	112.7 / 114.9	**F / F**	4.8 / 4.5	**Y / Y**	110.9 / 112.7	**F / F**	3.0 / 2.3	**Y / Y**	109.8 / 112.3	**F / F**	1.9 / 1.9	**Y / Y**	112.1 / 120.2	**F / F**	4.2 / 9.8	**Y / Y**
10. Genesee Avenue & Balboa Avenue	Signal	45.3 / 87.6	D / **F**	3.2 / 7.4	**N / Y**	44.7 / 83.4	D / **F**	2.6 / 3.2	**N / Y**	44.9 / 84.3	D / **F**	2.8 / 4.1	**N / Y**	47.3 / 90.2	D / **F**	5.2 / 10.0	**N / Y**
14. Charger Boulevard & Balboa Avenue	Signal	57.3 / 47.8	**E** / D	3.0 / -0.2	**Y** / N	56.3 / 47.9	**E** / D	2.0 / -0.1	**N / Y**	56.3 / 47.9	**E** / D	2.0 / -0.1	**N / Y**	56.3 / 47.9	**E** / D	2.0 / -0.1	**N / Y**

Notes:
Bold letter indicates unacceptable LOS E or F.
AWSC = All-Way Stop Controlled.
SSSC = Side-Street Stop Controlled.
DNE = Does Not Exist.
[1]The project studied in the TIS included 448 multi-family units, 10,000 sq. ft retail space, and a single full access driveway off of Mt Etna Drive.

Mitigation

Similar to the TIS (May 2019), the following intersections would remain significantly impacted:

1. Genesee Avenue & Clairemont Mesa Boulevard (Applies to all three access options. This impact occurs after the project generates more than 800 daily trips) – Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway. The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this improvement would reduce delays to pre-Project conditions and would mitigate the impact to less than significant. However, there is no specific mitigation program established by the City that would ensure the improvements would be implemented. Therefore, unless and until a specific mitigation program is created by the City to accommodate proportionate contributions toward the implementation of adaptive signal controls or other improvements at these locations, the County cannot assume that payment of its fair share of the mitigation improvements would reduce or avoid the project's cumulative impact Therefore, this impact would remain *significant and unavoidable*.

8. Clairemont Drive & Balboa Avenue (Applies to all three access options. This impact occurs after the project generates more than 1,300 daily trips) - Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway. The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this improvement would reduce delays to pre-Project conditions and would mitigate the impact to less than significant. However, there is no specific mitigation program established by the City that would ensure the improvements would be implemented. Therefore, unless and until a specific mitigation program is created by the City to accommodate proportionate contributions toward the implementation of adaptive signal controls or other improvements at these locations, the County cannot assume that payment of its fair share of the mitigation improvements would reduce or avoid the project's cumulative impact Therefore, this impact would remain *significant and unavoidable*.

9. Mt Everest Boulevard & Balboa Avenue (Applies to all three access options. This impact occurs after the project generates more than 650 daily trips)– Restripe the northbound and southbound approaches on Mt Everest Boulevard to provide an exclusive left-turn lane and a shared through-right turn lane, then convert the northbound and southbound approaches from split phasing to protected left-turn phasing. Implementing this improvement could be done within the existing right-of-way and would reduce intersection delays to pre-Project conditions and would reduce this impact to *less than significant*

10. Genesee Avenue & Balboa Avenue (Applies to all three access options. This impact occurs after the project generates more than 1,811 daily trips) – Optimize signal timing or install traffic systems management (TSM) strategies (e.g. adaptive signal technology) to maximize efficiency of the existing roadway. The City of San Diego's *Traffic Signal Communications Master Plan (TSCMP)* (December 2014) identifies deficient intersections throughout the City where implementation of traffic signal communications and ITS improvements could be done to improve signal communication and operations. This intersection is identified in that Plan as deficient and in need of repair. Improving signal timings could result in an increase in intersection capacity, vehicle throughput, and reduction in vehicle delays. Implementing this would mitigate the impact, and the project applicant would coordinate with the City to define the fees for the implementation of this improvement. Therefore, this impact would be reduced to *less than significant.*

14. Charger Boulevard & Balboa Avenue (Applies to all three access options. This impact occurs after the project generates more than 1,850 daily trips) – Restripe the northbound shared through-left turn lane into an exclusive through lane and convert the northbound and southbound signal from split phasing to protective phasing. Implementing this improvement would reduce intersection delays to pre-Project conditions. However, the County of San Diego cannot guarantee improvements to an intersection under the jurisdiction of the City of San Diego. Implementing this would mitigate the impact would reduce this impact to *less than significant.*

Figure 14 shows a conceptual design of the Charger Boulevard & Balboa Avenue intersection mitigation.

Impact Analysis Summary

Table 14 and **Table 15** displays the impact summary for roadway segment analysis and intersection analysis respectively.

Table 14 – Impact Analysis - Roadway Segment Level of Service – Summary

Roadway	Segment	With Project Studied in the TIS[1]			With Access Option 1			With Access Option 2			With Access Option 3		
		Existing Plus Project	Near-Term Plus Project	Horizon Plus Project	Existing Plus Project	Near-Term Plus Project	Horizon Plus Project	Existing Plus Project	Near-Term Plus Project	Horizon Plus Project	Existing Plus Project	Near-Term Plus Project	Horizon Plus Project
Mt Everest Boulevard	Between Mt Etna Drive & Balboa Avenue			X									
Mt Etna Drive	Between Mt Everest Boulevard & Genesee Avenue	X	X	X			X						
Balboa Avenue	Between Cannington Drive & Charger Boulevard	X	X		X	X		X	X		X	X	
Balboa Avenue	Between Charger Boulevard & I-805 Southbound Ramps		X	X		X	X		X	X		X	X

Notes:

[1]The project studied in the TIS included 448 multi-family units, 10,000 sq. ft retail space, and a single full access driveway off of Mt Etna Drive.

Table 15 – Impact Analysis - Intersection Level of Service – Summary

	With Project Studied in the TIS[1]			With Access Option 1			With Access Option 2			With Access Option 3		
	Existing Plus Project	Near-Term Plus Project	Horizon Plus Project	Existing Plus Project	Near-Term Plus Project	Horizon Plus Project	Existing Plus Project	Near-Term Plus Project	Horizon Plus Project	Existing Plus Project	Near-Term Plus Project	Horizon Plus Project
1. Genesee Avenue & Clairemont Mesa Boulevard	X	X	X			X			X			X
8. Clairemont Drive & Balboa Avenue	X	X	X			X			X			X
9. Mt Everest Boulevard & Balboa Avenue	X	X	X	X	X	X		X	X	X	X	X
10. Genesee Avenue & Balboa Avenue			X			X			X	X*	X*	X
14. Charger Boulevard & Balboa Avenue		X	X		X	X		X	X		X	X

Notes:

*New Impacted Intersection.

[1]The project studied in the TIS included 448 multi-family units, 10,C00 sq. ft retail space, and a single full access driveway off of Mt Etna Drive.

4.0 Site Access

This section evaluates access to the project site for all transportation modes and for each project access options.

Access Option 1

For Access Option 1, the Project would provide full-access via a single driveway located along Mt Etna Drive. The driveway would be a side street stop-controlled intersection. Sidewalks currently exist along Mt Etna Drive and are expected to remain to allow full access from-to the project site for pedestrians. Bicycle facilities currently do not exist along Mt Etna Drive nor are there expected improvements per *San Diego Bicycle Master Plan, December 2013*. Since the proposed Access Option 1 would not alter the existing sidewalk, there are no impacts related to pedestrian or bicycle facilities under Access Option 1 for the Proposed Project.

Overall, this driveway is expected to serve at most 169 vehicles during the peak hour and would operate at LOS B or better for all study scenarios (i.e. Existing Plus Project, Near-Term Base Year Plus Project, and Horizon Year Plus Project). Therefore, no operational issues are expected to occur at the driveway located on Mt Etna Drive under Access Option 1. However, during the development of the site plan, the project should conduct a sight distance analysis to ensure sufficient line of sight exist at the project driveway.

Access Option 2

For Access Option 2, the Project would provide access via two driveways. The Mt Etna Drive driveway would provide full-access and operate as a side street stop-controlled intersection. The second driveway would be located on Genesee Avenue between Mt Etna Drive and Balboa Avenue and would provide right-in-right-out access with operation as a side street stop-controlled intersection. Sidewalks currently exist along the Mt Etna Drive and Genesee Avenue, and are expected to remain to allow full access from-to project site for pedestrians. Bicycle facilities currently do not exist along Mt Etna Drive, but a Class II bike lane does exist along Genesee Avenue with highly visible green striped markings. No bicycle facility improvements are expected for Mt Etna Drive or Genesee Avenue with in the project vicinity per *San Diego Bicycle Master Plan, December 2013*. Installation of the two driveways would not conflict with the current bicycle and pedestrian facilities; therefore, no impacts related to pedestrian or bicycle facilities are expected to occur under Access Option 2 of the Proposed Project.

Overall, the Mt Etna Drive driveway is expected to serve at most 108 project generated vehicles and the Genesee Avenue driveway is expected to serve at most 61 project generated vehicles during the PM Peak Hour. For the worst case, the driveway along Mt Etna Drive would operate at LOS B and driveway along Genesee Avenue at LOS C for all study scenarios (Existing Plus Project, Near-Term Base Year Plus Project, and Horizon Year Plus Project). Genesee Avenue's outer lane provides sufficient lane width of approximately 13 feet allowing for deceleration of vehicles entering the project site without substantially impeding traffic flow on Genesee Avenue. Therefore, no operational issues are expected to occur under Access Option 2 for the Proposed Project. However, during the development of the site plan, the project should conduct a sight distance analysis to ensure sufficient line of sight exist at the project driveway.

Access Option 3

For Access Option 3, the Project would provide access via three driveways. The Mt Etna Drive driveway would provide full-access and operate as a side street stop-controlled intersection. The second driveway would be located on Genesee Avenue between Mt Etna Drive and Balboa Avenue and would provide right-in-right-out access with operation as a side street stop-controlled intersection. The third driveway would be located on Balboa Avenue between Mt Everest Drive and Balboa Way and would provide right-in-right-out access with operation as a side-street stop-controlled intersection.

Sidewalks currently exist along Mt Etna Drive, Genesee Avenue, and Balboa Avenue, and are expected to remain to allow full access from-to project site for pedestrians. Bicycle facilities currently do not exist along Mt Etna Drive, but a Class II bike lane do exist along Genesee Avenue with highly visible, green striped markings. Additionally, Class II bike lanes are currently striped along Balboa Avenue in the vicinity of the project. No additional bicycle facility improvements are expected for Mt Etna Drive, Genesee Avenue, or Balboa Avenue within the project vicinity per *San Diego Bicycle Master Plan, December 2013*. Installation of the three site driveways would not conflict with the current bicycle and pedestrian facilities; therefore, no impacts related to pedestrian or bicycle facilities are expected to occur under Access Option 3 of the Proposed Project. However, during the development of the site plan, the project should conduct a sight distance analysis to ensure sufficient line of sight exist at the project driveway.

Overall, the driveways along Mt Etna Drive, Genesee Avenue, and Balboa Avenue are expected to serve at most 93, 43, and 32 project generated vehicles, respectively, during the PM Peak Hour. For the worst case, the driveways along Mt Etna Drive, Genesee Avenue, and Balboa Avenue would operate at LOS B, LOS C, and LOS C respectively for all study scenarios (Existing Plus Project, Near-Term Base Year Plus Project, and Horizon Year Plus Project). Furthermore, Genesee Avenue and Balboa Avenue's outer lanes provide sufficient lane width of approximately 13 feet and 18 feet, respectively, which allow for deceleration of vehicles entering the project site without substantially impeding traffic flow on Genesee Avenue or Balboa Avenue. Therefore, no operational issues are expected to occur under the Access Option 3 for the Proposed Project. However, during the development of the site plan, the project should conduct a sight distance analysis to ensure sufficient line of sight exist at the project driveway.

ATTACHMENT A
EXISTING PLUS PROJECT CONDITIONS – SYNCHRO WORKSHEETS

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	130	9	106	520	320	164	1016	67	6
Future Volume (veh/h)	6	208	437	130	9	106	520	320	164	1016	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	96		114	559	241	169	1047	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	968	200		280	804	346	231	1098	50	
Arrive On Green		0.08	0.33	0.33		0.08	0.34	0.34	0.09	0.42	0.42	
Sat Flow, veh/h		3442	2904	601		3442	2380	1023	3442	3441	158	
Grp Volume(v), veh/h		219	279	277		114	415	385	169	538	557	
Grp Sat Flow(s),veh/h/ln		1721	1770	1735		1721	1770	1634	1721	1770	1829	
Q Serve(g_s), s		6.7	13.5	13.7		3.4	21.9	22.0	5.2	31.8	31.8	
Cycle Q Clear(g_c), s		6.7	13.5	13.7		3.4	21.9	22.0	5.2	31.8	31.8	
Prop In Lane		1.00		0.35		1.00		0.63	1.00		0.09	
Lane Grp Cap(c), veh/h		283	590	578		280	598	552	231	565	584	
V/C Ratio(X)		0.77	0.47	0.48		0.41	0.69	0.70	0.73	0.95	0.95	
Avail Cap(c_a), veh/h		433	590	578		280	598	552	402	575	595	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.86	0.86	0.86	
Uniform Delay (d), s/veh		48.6	28.5	28.6		47.1	30.9	31.0	48.2	30.3	30.3	
Incr Delay (d2), s/veh		1.9	2.7	2.8		0.4	6.5	7.1	1.5	23.5	23.0	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	7.0	7.0		1.6	11.8	11.0	2.5	19.0	19.6	
LnGrp Delay(d),s/veh		50.5	31.2	31.4		47.5	37.4	38.1	49.7	53.8	53.3	
LnGrp LOS		D	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			775				914			1264		
Approach Delay, s/veh			36.7				39.0			53.0		
Approach LOS			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	13.8	41.0	11.6	41.6	13.3	41.5	13.8	39.4
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	15.7	7.2	14.5	8.7	24.0	9.2	33.8
Green Ext Time (p_c), s	0.0	3.5	0.1	1.6	0.2	3.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	42.9
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	387	100
Future Volume (veh/h)	106	387	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	440	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1010	182
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	2975	536
Grp Volume(v), veh/h	120	260	260
Grp Sat Flow(s),veh/h/ln	1774	1770	1742
Q Serve(g_s), s	7.2	12.3	12.5
Cycle Q Clear(g_c), s	7.2	12.3	12.5
Prop In Lane	1.00		0.31
Lane Grp Cap(c), veh/h	147	601	591
V/C Ratio(X)	0.82	0.43	0.44
Avail Cap(c_a), veh/h	158	601	591
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.6	27.7
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.0	6.0
LnGrp Delay(d),s/veh	72.5	27.8	27.9
LnGrp LOS	E	C	C
Approach Vol, veh/h		640	
Approach Delay, s/veh		36.2	
Approach LOS		D	
Timer			

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	62	86	64	26	7	52	44	55	10	54	2
Future Vol, veh/h	3	62	86	64	26	7	52	44	55	10	54	2
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	74	102	82	33	9	79	67	83	13	72	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	9.1	9.6	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	2%	66%	15%
Vol Thru, %	29%	41%	27%	82%
Vol Right, %	36%	57%	7%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	151	151	97	66
LT Vol	52	3	64	10
Through Vol	44	62	26	54
RT Vol	55	86	7	2
Lane Flow Rate	229	180	124	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.293	0.225	0.172	0.121
Departure Headway (Hd)	4.612	4.509	4.989	4.944
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	776	793	715	721
Service Time	2.661	2.561	3.046	3.004
HCM Lane V/C Ratio	0.295	0.227	0.173	0.122
HCM Control Delay	9.6	8.9	9.1	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.2	0.9	0.6	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	61	30	116	94	28	75	7	104	1031	115	4	98	503	45
Future Volume (veh/h)	61	30	116	94	28	75	7	104	1031	115	4	98	503	45
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	73	36	116	121	36	67		113	1121	87		108	553	37
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	248	79	253	203	119	221		137	2967	230		130	2173	964
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21		0.08	0.62	0.62		0.15	1.00	1.00
Sat Flow, veh/h	1273	379	1222	1216	573	1067		1774	4802	372		1774	3539	1569
Grp Volume(v), veh/h	73	0	152	121	0	103		113	791	417		108	553	37
Grp Sat Flow(s),veh/h/ln	1273	0	1601	1216	0	1640		1774	1695	1784		1774	1770	1569
Q Serve(g_s), s	7.2	0.0	11.6	13.5	0.0	7.4		8.8	16.3	16.3		8.3	0.0	0.0
Cycle Q Clear(g_c), s	14.6	0.0	11.6	25.2	0.0	7.4		8.8	16.3	16.3		8.3	0.0	0.0
Prop In Lane	1.00		0.76	1.00		0.65		1.00		0.21		1.00		1.00
Lane Grp Cap(c), veh/h	248	0	332	203	0	340		137	2095	1102		130	2173	964
V/C Ratio(X)	0.29	0.00	0.46	0.60	0.00	0.30		0.83	0.38	0.38		0.83	0.25	0.04
Avail Cap(c_a), veh/h	385	0	504	333	0	517		400	2095	1102		400	2173	964
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.99	0.99	0.99
Uniform Delay (d), s/veh	53.1	0.0	48.6	59.6	0.0	46.9		63.7	13.3	13.3		58.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.7	2.1	0.0	0.4		4.8	0.5	1.0		5.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	5.2	4.7	0.0	3.4		4.5	7.7	8.3		4.2	0.1	0.0
LnGrp Delay(d),s/veh	53.6	0.0	49.3	61.7	0.0	47.3		68.5	13.9	14.3		64.0	0.3	0.1
LnGrp LOS	D		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		225			224				1321				698	
Approach Delay, s/veh		50.7			55.1				18.7				10.1	
Approach LOS		D			E				B				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	91.4		33.9	15.2	90.9		33.9
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	10.3	18.3		16.6	10.8	2.0		27.2
Green Ext Time (p_c), s	0.1	11.7		0.9	0.1	5.2		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	22.5
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	199	814	74	343	770	99	15	149	408	329	2	153	279	294
Future Volume (veh/h)	5	199	814	74	343	770	99	15	149	408	329	2	153	279	294
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		207	848	54	365	819	74		180	492	396		168	307	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		417	1069	68	440	999	90		212	903	607		200	482	344
Arrive On Green		0.12	0.32	0.32	0.13	0.31	0.31		0.12	0.26	0.26		0.11	0.25	0.25
Sat Flow, veh/h		3442	3366	214	3442	3270	295		1774	3539	1583		1774	1940	1384
Grp Volume(v), veh/h		207	446	456	365	443	450		180	492	396		168	279	254
Grp Sat Flow(s),veh/h/ln		1721	1770	1811	1721	1770	1796		1774	1770	1583		1774	1770	1555
Q Serve(g_s), s		6.0	24.4	24.4	11.0	24.6	24.6		10.6	12.8	21.8		9.9	14.9	15.6
Cycle Q Clear(g_c), s		6.0	24.4	24.4	11.0	24.6	24.6		10.6	12.8	21.8		9.9	14.9	15.6
Prop In Lane		1.00		0.12	1.00		0.16		1.00		1.00		1.00		0.89
Lane Grp Cap(c), veh/h		417	562	575	440	541	549		212	903	607		200	439	386
V/C Ratio(X)		0.50	0.79	0.79	0.83	0.82	0.82		0.85	0.54	0.65		0.84	0.64	0.66
Avail Cap(c_a), veh/h		973	1000	1024	973	1000	1015		501	1334	799		501	667	586
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	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		43.6	33.0	33.0	45.2	34.2	34.2		45.8	34.2	26.9		46.2	35.6	35.8
Incr Delay (d2), s/veh		0.3	3.1	3.0	1.6	3.1	3.1		3.6	0.3	0.8		3.6	1.2	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		2.9	12.4	12.7	5.3	12.5	12.7		5.4	6.3	9.6		5.0	7.4	6.9
LnGrp Delay(d),s/veh		44.0	36.1	36.1	46.7	37.3	37.3		49.4	34.5	27.7		49.8	36.8	37.4
LnGrp LOS		D	D	D	D	D	D		D	C	C		D	D	D
Approach Vol, veh/h			1109			1258				1068				701	
Approach Delay, s/veh			37.6			40.0				34.5				40.1	
Approach LOS			D			D				C				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	39.4	17.1	31.7	18.6	38.8	16.4	32.4
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	13.0	26.4	12.6	17.6	8.0	26.6	11.9	23.8
Green Ext Time (p_c), s	0.6	7.3	0.2	2.8	0.3	5.8	0.2	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	38.0
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	39	1100	85	3	50	987	92	184	89	83	60	97	88
Future Volume (veh/h)	13	39	1100	85	3	50	987	92	184	89	83	60	97	88
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		44	1250	67		62	1219	79	271	131	85	76	123	86
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		57	1296	69		79	1323	86	245	119	77	83	134	94
Arrive On Green		0.03	0.38	0.38		0.01	0.13	0.13	0.25	0.25	0.25	0.18	0.18	0.18
Sat Flow, veh/h		1774	3411	183		1774	3369	218	979	473	307	463	750	524
Grp Volume(v), veh/h		44	648	669		62	639	659	487	0	0	285	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1824		1774	1770	1818	1759	0	0	1737	0	0
Q Serve(g_s), s		3.4	50.1	50.3		4.9	50.0	50.1	35.1	0.0	0.0	22.6	0.0	0.0
Cycle Q Clear(g_c), s		3.4	50.1	50.3		4.9	50.0	50.1	35.1	0.0	0.0	22.6	0.0	0.0
Prop In Lane		1.00		0.10		1.00		0.12	0.56		0.17	0.27		0.30
Lane Grp Cap(c), veh/h		57	672	693		79	695	714	441	0	0	311	0	0
V/C Ratio(X)		0.78	0.96	0.97		0.78	0.92	0.92	1.10	0.00	0.00	0.92	0.00	0.00
Avail Cap(c_a), veh/h		122	672	693		122	695	714	441	0	0	349	0	0
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)		1.00	1.00	1.00		0.71	0.71	0.71	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.3	42.5	42.5		68.3	58.8	58.8	52.5	0.0	0.0	56.5	0.0	0.0
Incr Delay (d2), s/veh		8.2	26.8	26.8		5.3	15.0	14.9	74.2	0.0	0.0	25.4	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		1.8	29.5	30.4		2.5	27.5	28.3	26.1	0.0	0.0	13.0	0.0	0.0
LnGrp Delay(d),s/veh		75.5	69.3	69.3		73.6	73.7	73.8	126.7	0.0	0.0	81.8	0.0	0.0
LnGrp LOS		E	E	E		E	E	E	F			F		
Approach Vol, veh/h			1361				1360			487			285	
Approach Delay, s/veh			69.5				73.7			126.7			81.8	
Approach LOS			E				E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.7	59.4		29.9	8.9	61.2		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	6.9	52.3		24.6	5.4	52.1		37.1
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	80.1
HCM 2010 LOS	F

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	172	868	259	5	92	694	268	2	282	787	66	5	204	418	168
Future Volume (veh/h)	3	172	868	259	5	92	694	268	2	282	787	66	5	204	418	168
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		193	975	203		106	798	219		300	837	49		234	480	136
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		446	1528	318		153	1231	335		346	1046	61		280	687	298
Arrive On Green		0.33	0.70	0.70		0.06	0.41	0.41		0.20	0.43	0.43		0.16	0.39	0.39
Sat Flow, veh/h		1774	2909	605		3442	3952	1074		3442	4910	287		3442	3539	1539
Grp Volume(v), veh/h		193	592	586		106	683	334		300	577	309		234	480	136
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1636		1721	1695	1806		1721	1770	1539
Q Serve(g_s), s		11.9	25.4	25.6		4.2	22.6	22.9		11.8	20.7	20.9		9.2	15.9	5.5
Cycle Q Clear(g_c), s		11.9	25.4	25.6		4.2	22.6	22.9		11.8	20.7	20.9		9.2	15.9	5.5
Prop In Lane		1.00		0.35		1.00		0.66		1.00		0.16		1.00		1.00
Lane Grp Cap(c), veh/h		446	930	917		153	1056	510		346	722	385		280	687	298
V/C Ratio(X)		0.43	0.64	0.64		0.69	0.65	0.65		0.87	0.80	0.80		0.84	0.70	0.46
Avail Cap(c_a), veh/h		446	930	917		383	1056	510		457	826	440		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		1.33	1.33	1.33		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.09	0.09	0.09		0.93	0.93	0.93		0.89	0.89	0.89		1.00	1.00	1.00
Uniform Delay (d), s/veh		38.9	13.8	13.9		64.9	34.9	35.0		55.0	37.6	37.6		57.7	39.4	13.4
Incr Delay (d2), s/veh		0.0	0.3	0.3		2.0	2.9	6.0		9.5	5.2	9.7		8.3	3.0	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		5.8	12.4	12.2		2.0	10.9	11.1		6.0	10.1	11.3		4.7	8.0	3.3
LnGrp Delay(d),s/veh		38.9	14.1	14.2		66.9	37.7	41.0		64.6	42.8	47.3		66.0	42.5	15.2
LnGrp LOS		D	B	B		E	D	D		E	D	D		E	D	B
Approach Vol, veh/h			1371				1123				1186				850	
Approach Delay, s/veh			17.6				41.4				49.5				44.6	
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	10.6	78.8	18.5	32.1	40.5	49.0	15.8	34.7
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	10.2	27.6	13.8	17.9	13.9	24.9	11.2	22.9
Green Ext Time (p_c), s	0.1	9.5	0.3	4.5	0.2	5.9	0.2	6.1

Intersection Summary	
HCM 2010 Ctrl Delay	36.9
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	122	7	26	81	23	82
Future Vol, veh/h	122	7	26	81	23	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	133	8	28	88	25	89

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	281	137
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	144	-
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	-	-	1442	-	709	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	883	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	695	911
Mov Cap-2 Maneuver	-	-	-	-	695	-
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	883	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1442	-
HCM Lane V/C Ratio	0.134	-	-	0.02	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	254	15	186	737	105	255	401	106	2
Future Volume (veh/h)	11	142	662	254	15	186	737	105	255	401	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	199		200	792	79	271	427	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1168	316		255	1427	142	328	713	131	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.10	0.24	0.24	
Sat Flow, veh/h		3442	2733	739		3442	3245	324	3442	2960	542	
Grp Volume(v), veh/h		158	476	459		200	432	439	271	254	252	
Grp Sat Flow(s),veh/h/ln		1721	1770	1703		1721	1770	1799	1721	1770	1732	
Q Serve(g_s), s		5.7	26.6	26.6		7.2	22.8	22.8	9.7	16.0	16.3	
Cycle Q Clear(g_c), s		5.7	26.6	26.6		7.2	22.8	22.8	9.7	16.0	16.3	
Prop In Lane		1.00		0.43		1.00		0.18	1.00		0.31	
Lane Grp Cap(c), veh/h		213	756	728		255	778	791	328	426	417	
V/C Ratio(X)		0.74	0.63	0.63		0.78	0.56	0.56	0.83	0.59	0.60	
Avail Cap(c_a), veh/h		399	756	728		399	778	791	481	479	469	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.3	28.3		57.3	26.2	26.2	56.0	42.4	42.5	
Incr Delay (d2), s/veh		1.9	4.0	4.1		2.1	2.8	2.8	4.7	0.8	1.0	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		2.8	13.8	13.3		3.5	11.8	12.0	4.8	7.9	7.9	
LnGrp Delay(d),s/veh		60.0	32.2	32.4		59.4	29.0	29.0	60.7	43.2	43.4	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1093				1071			777		
Approach Delay, s/veh			36.3				34.7			49.4		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.8	16.4	37.0	12.2	60.4	18.1	35.3
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	28.6	11.7	34.1	7.7	24.8	13.7	18.3
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	61.8
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	894	101
Future Volume (veh/h)	160	894	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	941	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	844	66
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3313	260
Grp Volume(v), veh/h	168	503	512
Grp Sat Flow(s),veh/h/ln	1774	1770	1803
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	451	459
V/C Ratio(X)	0.87	1.12	1.12
Avail Cap(c_a), veh/h	220	451	459
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	77.6	77.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	25.4	25.8
LnGrp Delay(d),s/veh	79.8	124.5	124.2
LnGrp LOS	E	F	F
Approach Vol, veh/h		1183	
Approach Delay, s/veh		118.0	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	57	41	193	68	12	83	38	77	6	83	2
Future Vol, veh/h	0	57	41	193	68	12	83	38	77	6	83	2
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	86	62	222	78	14	91	42	85	7	102	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	12.4	10.6	9.7
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	42%	0%	71%	7%
Vol Thru, %	19%	58%	25%	91%
Vol Right, %	39%	42%	4%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	98	273	91
LT Vol	83	0	193	6
Through Vol	38	57	68	83
RT Vol	77	41	12	2
Lane Flow Rate	218	148	314	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.314	0.209	0.453	0.172
Departure Headway (Hd)	5.189	5.057	5.195	5.507
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	692	710	697	650
Service Time	3.224	3.092	3.195	3.547
HCM Lane V/C Ratio	0.315	0.208	0.451	0.172
HCM Control Delay	10.6	9.4	12.4	9.7
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.3	0.8	2.4	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	67	45	151	104	43	129	17	158	778	128	8	176	940	157
Future Volume (veh/h)	67	45	151	104	43	129	17	158	778	128	8	176	940	157
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	71	48	121	113	47	98		174	855	99		185	989	125
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	219	98	246	196	113	235		511	2626	303		207	1393	604
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21		0.29	0.57	0.57		0.23	0.79	0.79
Sat Flow, veh/h	1226	457	1153	1197	529	1103		1774	4619	532		1774	3539	1534
Grp Volume(v), veh/h	71	0	169	113	0	145		174	626	328		185	989	125
Grp Sat Flow(s),veh/h/ln	1226	0	1610	1197	0	1632		1774	1695	1761		1774	1770	1534
Q Serve(g_s), s	7.4	0.0	12.9	12.8	0.0	10.7		10.8	13.7	13.8		14.1	18.9	2.9
Cycle Q Clear(g_c), s	18.2	0.0	12.9	25.8	0.0	10.7		10.8	13.7	13.8		14.1	18.9	2.9
Prop In Lane	1.00		0.72	1.00		0.68		1.00		0.30		1.00		1.00
Lane Grp Cap(c), veh/h	219	0	343	196	0	348		511	1927	1001		207	1393	604
V/C Ratio(X)	0.32	0.00	0.49	0.58	0.00	0.42		0.34	0.33	0.33		0.89	0.71	0.21
Avail Cap(c_a), veh/h	396	0	576	369	0	584		511	1927	1001		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		0.58	0.58	0.58		0.91	0.91	0.91
Uniform Delay (d), s/veh	55.4	0.0	48.4	59.7	0.0	47.5		39.3	16.0	16.0		52.8	11.0	9.3
Incr Delay (d2), s/veh	0.6	0.0	0.8	2.0	0.0	0.6		0.1	0.3	0.5		4.8	2.8	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	2.6	0.0	5.9	4.3	0.0	4.9		5.3	6.4	6.9		7.2	9.3	1.3
LnGrp Delay(d),s/veh	56.0	0.0	49.2	61.7	0.0	48.1		39.4	16.3	16.5		57.6	13.9	10.1
LnGrp LOS	E		D	E		D		D	B	B		E	B	B
Approach Vol, veh/h		240			258				1128				1299	
Approach Delay, s/veh		51.2			54.1				19.9				19.7	
Approach LOS		D			D				B				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	84.5		34.8	45.2	60.0		34.8
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	16.4	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	16.1	15.8		20.2	12.8	20.9		27.8
Green Ext Time (p_c), s	0.2	7.8		1.1	0.1	10.8		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	25.4
HCM 2010 LOS	C

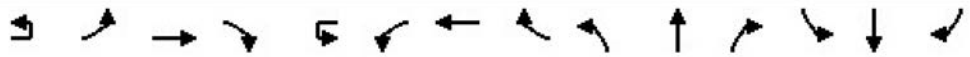
Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	347	982	61	448	855	108	21	82	307	353	258	649	279
Future Volume (veh/h)	15	347	982	61	448	855	108	21	82	307	353	258	649	279
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		361	1023	45	477	910	81		87	327	264	300	755	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		566	1171	52	530	1034	92		108	677	530	322	832	249
Arrive On Green		0.16	0.34	0.34	0.15	0.32	0.32		0.06	0.19	0.19	0.18	0.31	0.31
Sat Flow, veh/h		3442	3447	152	3442	3276	292		1774	3539	1499	1774	2671	800
Grp Volume(v), veh/h		361	525	543	477	492	499		87	327	264	300	500	481
Grp Sat Flow(s),veh/h/ln		1721	1770	1830	1721	1770	1798		1774	1770	1499	1774	1770	1701
Q Serve(g_s), s		14.5	41.2	41.2	20.1	38.9	38.9		7.2	12.2	20.7	24.6	40.1	40.1
Cycle Q Clear(g_c), s		14.5	41.2	41.2	20.1	38.9	38.9		7.2	12.2	20.7	24.6	40.1	40.1
Prop In Lane		1.00		0.08	1.00		0.16		1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h		566	601	621	530	558	567		108	677	530	322	551	530
V/C Ratio(X)		0.64	0.87	0.87	0.90	0.88	0.88		0.81	0.48	0.50	0.93	0.91	0.91
Avail Cap(c_a), veh/h		698	718	743	698	718	730		360	958	649	360	551	530
HCM Platoon Ratio		1.00	1.00	1.00	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		57.6	45.8	45.8	61.4	47.9	47.9		68.6	53.3	38.5	59.6	48.8	48.8
Incr Delay (d2), s/veh		0.6	10.5	10.2	10.4	10.1	9.9		5.3	0.4	0.5	28.0	18.6	19.2
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		6.9	21.9	22.6	10.4	20.5	20.8		3.7	6.0	8.6	14.6	22.4	21.7
LnGrp Delay(d),s/veh		58.3	56.3	56.0	71.8	58.0	57.9		73.8	53.6	39.0	87.6	67.4	68.0
LnGrp LOS		E	E	E	E	E	E		E	D	D	F	E	E
Approach Vol, veh/h			1429			1468				678			1281	
Approach Delay, s/veh			56.7			62.5				50.5			72.4	
Approach LOS			E			E				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	27.1	55.9	13.4	51.4	30.0	53.1	31.2	33.6
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I2), s	22.1	43.2	9.2	42.1	16.5	40.9	26.6	22.7
Green Ext Time (p_c), s	0.6	7.0	0.1	0.0	0.6	5.7	0.2	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	61.7
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	54	1243	140	47	76	1277	98	88	50	38	52	130	131
Future Volume (veh/h)	6	54	1243	140	47	76	1277	98	88	50	38	52	130	131
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		57	1308	103		81	1359	73	99	56	31	57	143	104
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		224	1668	131		102	1435	77	114	65	36	58	147	107
Arrive On Green		0.13	0.50	0.50		0.02	0.14	0.14	0.12	0.12	0.12	0.18	0.18	0.18
Sat Flow, veh/h		1774	3325	261		1774	3417	183	936	529	293	326	819	595
Grp Volume(v), veh/h		57	695	716		81	703	729	186	0	0	304	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1816		1774	1770	1830	1759	0	0	1740	0	0
Q Serve(g_s), s		4.1	45.1	45.4		6.4	55.1	55.3	14.5	0.0	0.0	24.3	0.0	0.0
Cycle Q Clear(g_c), s		4.1	45.1	45.4		6.4	55.1	55.3	14.5	0.0	0.0	24.3	0.0	0.0
Prop In Lane		1.00		0.14		1.00		0.10	0.53		0.17	0.19		0.34
Lane Grp Cap(c), veh/h		224	888	911		102	743	769	215	0	0	312	0	0
V/C Ratio(X)		0.25	0.78	0.79		0.80	0.95	0.95	0.87	0.00	0.00	0.97	0.00	0.00
Avail Cap(c_a), veh/h		224	888	911		172	743	769	315	0	0	312	0	0
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)		1.00	1.00	1.00		0.51	0.51	0.51	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		55.2	28.6	28.7		67.9	58.7	58.8	60.3	0.0	0.0	57.1	0.0	0.0
Incr Delay (d2), s/veh		0.2	6.8	6.8		2.7	13.7	13.8	11.1	0.0	0.0	43.7	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.0	23.7	24.4		3.2	29.9	31.0	7.7	0.0	0.0	15.5	0.0	0.0
LnGrp Delay(d),s/veh		55.4	35.4	35.5		70.6	72.4	72.6	71.5	0.0	0.0	100.8	0.0	0.0
LnGrp LOS		E	D	D		E	E	E	E			F		
Approach Vol, veh/h			1468				1513			186			304	
Approach Delay, s/veh			36.2				72.4			71.5			100.8	
Approach LOS			D				E			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	75.5		30.0	23.0	65.0		22.0
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	8.4	47.4		26.3	6.1	57.3		16.5
Green Ext Time (p_c), s	0.0	7.3		0.0	0.0	1.1		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	59.5
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	270	858	223	8	240	938	297	13	265	521	98	31	364	647	177
Future Volume (veh/h)	3	270	858	223	8	240	938	297	13	265	521	98	31	364	647	177
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.96		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		293	933	169		267	1042	243		294	579	77		409	727	139
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		319	1055	191		580	1430	333		343	901	118		464	828	345
Arrive On Green		0.06	0.12	0.12		0.06	0.12	0.12		0.20	0.40	0.40		0.13	0.23	0.23
Sat Flow, veh/h		1774	2973	538		3442	4082	951		3442	4528	593		3442	3539	1473
Grp Volume(v), veh/h		293	555	547		267	865	420		294	431	225		409	727	139
Grp Sat Flow(s),veh/h/ln		1774	1770	1741		1721	1695	1643		1721	1695	1731		1721	1770	1473
Q Serve(g_s), s		23.0	43.3	43.3		10.5	34.5	34.6		11.6	14.4	14.8		16.3	27.7	11.2
Cycle Q Clear(g_c), s		23.0	43.3	43.3		10.5	34.5	34.6		11.6	14.4	14.8		16.3	27.7	11.2
Prop In Lane		1.00		0.31		1.00		0.58		1.00		0.34		1.00		1.00
Lane Grp Cap(c), veh/h		319	628	618		580	1187	575		343	674	344		464	828	345
V/C Ratio(X)		0.92	0.88	0.88		0.46	0.73	0.73		0.86	0.64	0.65		0.88	0.88	0.40
Avail Cap(c_a), veh/h		362	628	618		580	1187	575		556	753	384		629	862	359
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.25	0.25	0.25		0.86	0.86	0.86		0.95	0.95	0.95		0.82	0.82	0.82
Uniform Delay (d), s/veh		64.8	59.0	59.0		59.9	55.5	55.5		55.1	38.1	38.2		59.5	51.7	45.3
Incr Delay (d2), s/veh		8.3	4.9	5.0		0.2	3.4	6.9		3.8	2.1	4.4		7.4	8.8	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		12.1	22.1	21.8		5.1	16.8	16.9		5.7	6.9	7.4		8.3	14.5	4.7
LnGrp Delay(d),s/veh		73.2	63.9	64.0		60.1	58.9	62.4		58.9	40.2	42.7		66.9	60.5	46.4
LnGrp LOS		E	E	E		E	E	E		E	D	D		E	E	D
Approach Vol, veh/h			1395				1552				950				1275	
Approach Delay, s/veh			65.9				60.0				46.6				61.0	
Approach LOS			E				E				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	9.0	55.0	18.3	37.7	29.6	54.4	23.3	32.7
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	4.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	2.5	45.3	13.6	29.7	25.0	36.6	18.3	16.8
Green Ext Time (p_c), s	0.1	2.7	0.4	2.7	0.2	0.0	0.5	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	59.4
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	123	25	90	264	12	42
Future Vol, veh/h	123	25	90	264	12	42
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	134	27	98	287	13	46

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	161	0	631	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	483	-
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	-	-	1418	-	445	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	409	899
Mov Cap-2 Maneuver	-	-	-	-	409	-
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	620	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	710	-	-	1418	-
HCM Lane V/C Ratio	0.083	-	-	0.069	-
HCM Control Delay (s)	10.5	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	130	9	106	520	320	164	1016	67	6
Future Volume (veh/h)	6	208	437	130	9	106	520	320	164	1016	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	96		114	559	241	169	1047	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	968	200		280	804	346	231	1098	50	
Arrive On Green		0.08	0.33	0.33		0.08	0.34	0.34	0.09	0.42	0.42	
Sat Flow, veh/h		3442	2904	601		3442	2380	1023	3442	3441	158	
Grp Volume(v), veh/h		219	279	277		114	415	385	169	538	557	
Grp Sat Flow(s),veh/h/ln		1721	1770	1735		1721	1770	1634	1721	1770	1829	
Q Serve(g_s), s		6.7	13.5	13.7		3.4	21.9	22.0	5.2	31.8	31.8	
Cycle Q Clear(g_c), s		6.7	13.5	13.7		3.4	21.9	22.0	5.2	31.8	31.8	
Prop In Lane		1.00		0.35		1.00		0.63	1.00		0.09	
Lane Grp Cap(c), veh/h		283	590	578		280	598	552	231	565	584	
V/C Ratio(X)		0.77	0.47	0.48		0.41	0.69	0.70	0.73	0.95	0.95	
Avail Cap(c_a), veh/h		433	590	578		280	598	552	402	575	595	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.86	0.86	0.86	
Uniform Delay (d), s/veh		48.6	28.5	28.6		47.1	30.9	31.0	48.2	30.3	30.3	
Incr Delay (d2), s/veh		1.9	2.7	2.8		0.4	6.5	7.1	1.5	23.5	23.0	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	7.0	7.0		1.6	11.8	11.0	2.5	19.0	19.6	
LnGrp Delay(d),s/veh		50.5	31.2	31.4		47.5	37.4	38.1	49.7	53.8	53.3	
LnGrp LOS		D	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			775				914			1264		
Approach Delay, s/veh			36.7				39.0			53.0		
Approach LOS			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	13.8	41.0	11.6	41.6	13.3	41.5	13.8	39.4
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	15.7	7.2	14.5	8.7	24.0	9.2	33.8
Green Ext Time (p_c), s	0.0	3.5	0.1	1.6	0.2	3.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	42.9
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	387	100
Future Volume (veh/h)	106	387	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	440	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1010	182
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	2975	536
Grp Volume(v), veh/h	120	260	260
Grp Sat Flow(s),veh/h/ln	1774	1770	1742
Q Serve(g_s), s	7.2	12.3	12.5
Cycle Q Clear(g_c), s	7.2	12.3	12.5
Prop In Lane	1.00		0.31
Lane Grp Cap(c), veh/h	147	601	591
V/C Ratio(X)	0.82	0.43	0.44
Avail Cap(c_a), veh/h	158	601	591
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.6	27.7
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.0	6.0
LnGrp Delay(d),s/veh	72.5	27.8	27.9
LnGrp LOS	E	C	C
Approach Vol, veh/h		640	
Approach Delay, s/veh		36.2	
Approach LOS		D	
Timer			

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	62	86	57	26	7	52	44	55	10	54	2
Future Vol, veh/h	3	62	86	57	26	7	52	44	55	10	54	2
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	74	102	73	33	9	79	67	83	13	72	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	9	9.5	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	2%	63%	15%
Vol Thru, %	29%	41%	29%	82%
Vol Right, %	36%	57%	8%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	151	151	90	66
LT Vol	52	3	57	10
Through Vol	44	62	26	54
RT Vol	55	86	7	2
Lane Flow Rate	229	180	115	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.292	0.224	0.16	0.12
Departure Headway (Hd)	4.587	4.494	4.978	4.917
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	780	795	717	724
Service Time	2.635	2.544	3.033	2.977
HCM Lane V/C Ratio	0.294	0.226	0.16	0.122
HCM Control Delay	9.5	8.9	9	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.2	0.9	0.6	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	56	30	77	95	28	75	7	104	1036	116	4	98	507	41
Future Volume (veh/h)	56	30	77	95	28	75	7	104	1036	116	4	98	507	41
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	67	36	69	122	36	67		113	1126	88		108	557	33
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	214	102	195	211	104	194		137	3086	241		130	2262	1003
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18		0.08	0.64	0.64		0.15	1.00	1.00
Sat Flow, veh/h	1272	559	1071	1265	572	1065		1774	4799	375		1774	3539	1570
Grp Volume(v), veh/h	67	0	105	122	0	103		113	795	419		108	557	33
Grp Sat Flow(s),veh/h/ln	1272	0	1630	1265	0	1637		1774	1695	1784		1774	1770	1570
Q Serve(g_s), s	6.8	0.0	7.9	13.1	0.0	7.7		8.8	15.3	15.3		8.3	0.0	0.0
Cycle Q Clear(g_c), s	14.5	0.0	7.9	20.9	0.0	7.7		8.8	15.3	15.3		8.3	0.0	0.0
Prop In Lane	1.00		0.66	1.00		0.65		1.00		0.21		1.00		1.00
Lane Grp Cap(c), veh/h	214	0	297	211	0	299		137	2180	1147		130	2262	1003
V/C Ratio(X)	0.31	0.00	0.35	0.58	0.00	0.34		0.83	0.36	0.37		0.83	0.25	0.03
Avail Cap(c_a), veh/h	382	0	513	379	0	516		400	2180	1147		400	2262	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.99	0.99	0.99
Uniform Delay (d), s/veh	56.3	0.0	50.0	59.2	0.0	49.9		63.7	11.7	11.7		58.9	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.5	1.9	0.0	0.5		4.8	0.5	0.9		5.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.6	4.7	0.0	3.5		4.5	7.3	7.8		4.2	0.1	0.0
LnGrp Delay(d),s/veh	56.9	0.0	50.6	61.0	0.0	50.4		68.5	12.1	12.6		64.0	0.3	0.1
LnGrp LOS	E		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		172			225				1327				698	
Approach Delay, s/veh		53.0			56.2				17.1				10.1	
Approach LOS		D			E				B				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	94.9		30.4	15.2	94.4		30.4
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	10.3	17.3		16.5	10.8	2.0		22.9
Green Ext Time (p_c), s	0.1	11.9		0.7	0.1	5.2		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	21.2
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	199	814	74	343	770	99	15	149	408	329	2	153	279	294
Future Volume (veh/h)	5	199	814	74	343	770	99	15	149	408	329	2	153	279	294
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		207	848	54	365	819	74		180	492	396		168	307	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		417	1069	68	440	999	90		212	903	607		200	482	344
Arrive On Green		0.12	0.32	0.32	0.13	0.31	0.31		0.12	0.26	0.26		0.11	0.25	0.25
Sat Flow, veh/h		3442	3366	214	3442	3270	295		1774	3539	1583		1774	1940	1384
Grp Volume(v), veh/h		207	446	456	365	443	450		180	492	396		168	279	254
Grp Sat Flow(s),veh/h/ln		1721	1770	1811	1721	1770	1796		1774	1770	1583		1774	1770	1555
Q Serve(g_s), s		6.0	24.4	24.4	11.0	24.6	24.6		10.6	12.8	21.8		9.9	14.9	15.6
Cycle Q Clear(g_c), s		6.0	24.4	24.4	11.0	24.6	24.6		10.6	12.8	21.8		9.9	14.9	15.6
Prop In Lane		1.00		0.12	1.00		0.16		1.00		1.00		1.00		0.89
Lane Grp Cap(c), veh/h		417	562	575	440	541	549		212	903	607		200	439	386
V/C Ratio(X)		0.50	0.79	0.79	0.83	0.82	0.82		0.85	0.54	0.65		0.84	0.64	0.66
Avail Cap(c_a), veh/h		973	1000	1024	973	1000	1015		501	1334	799		501	667	586
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	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		43.6	33.0	33.0	45.2	34.2	34.2		45.8	34.2	26.9		46.2	35.6	35.8
Incr Delay (d2), s/veh		0.3	3.1	3.0	1.6	3.1	3.1		3.6	0.3	0.8		3.6	1.2	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		2.9	12.4	12.7	5.3	12.5	12.7		5.4	6.3	9.6		5.0	7.4	6.9
LnGrp Delay(d),s/veh		44.0	36.1	36.1	46.7	37.3	37.3		49.4	34.5	27.7		49.8	36.8	37.4
LnGrp LOS		D	D	D	D	D	D		D	C	C		D	D	D
Approach Vol, veh/h			1109			1258				1068				701	
Approach Delay, s/veh			37.6			40.0				34.5				40.1	
Approach LOS			D			D				C				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	39.4	17.1	31.7	18.6	38.8	16.4	32.4
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	13.0	26.4	12.6	17.6	8.0	26.6	11.9	23.8
Green Ext Time (p_c), s	0.6	7.3	0.2	2.8	0.3	5.8	0.2	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	38.0
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	39	1100	85	3	51	997	92	184	89	83	60	96	78
Future Volume (veh/h)	13	39	1100	85	3	51	997	92	184	89	83	60	96	78
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		44	1250	67		63	1231	79	271	131	85	76	122	74
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		57	1319	71		81	1349	86	245	119	77	84	134	81
Arrive On Green		0.03	0.39	0.39		0.02	0.13	0.13	0.25	0.25	0.25	0.17	0.17	0.17
Sat Flow, veh/h		1774	3411	183		1774	3372	216	979	473	307	488	783	475
Grp Volume(v), veh/h		44	648	669		63	645	665	487	0	0	272	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1824		1774	1770	1818	1759	0	0	1745	0	0
Q Serve(g_s), s		3.4	49.6	49.8		5.0	50.4	50.5	35.1	0.0	0.0	21.4	0.0	0.0
Cycle Q Clear(g_c), s		3.4	49.6	49.8		5.0	50.4	50.5	35.1	0.0	0.0	21.4	0.0	0.0
Prop In Lane		1.00		0.10		1.00		0.12	0.56		0.17	0.28		0.27
Lane Grp Cap(c), veh/h		57	684	705		81	708	728	441	0	0	299	0	0
V/C Ratio(X)		0.78	0.95	0.95		0.78	0.91	0.91	1.10	0.00	0.00	0.91	0.00	0.00
Avail Cap(c_a), veh/h		122	684	705		122	708	728	441	0	0	350	0	0
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)		0.59	0.59	0.59		0.71	0.71	0.71	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.3	41.5	41.6		68.3	58.3	58.4	52.5	0.0	0.0	56.9	0.0	0.0
Incr Delay (d2), s/veh		5.0	16.3	16.3		6.0	13.7	13.7	74.2	0.0	0.0	22.7	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.8	27.2	28.3		2.6	27.4	28.3	26.1	0.0	0.0	12.2	0.0	0.0
LnGrp Delay(d),s/veh		72.2	57.9	57.9		74.3	72.0	72.1	126.7	0.0	0.0	79.6	0.0	0.0
LnGrp LOS		E	E	E		E	E	E	F			E		
Approach Vol, veh/h			1361				1373			487			272	
Approach Delay, s/veh			58.3				72.2			126.7			79.6	
Approach LOS			E				E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.8	60.3		28.9	8.9	62.2		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	7.4	51.8		23.4	5.4	52.5		37.1
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	75.0
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	172	868	259	5	92	694	268	2	282	787	66	5	210	418	179
Future Volume (veh/h)	3	172	868	259	5	92	694	268	2	282	787	66	5	210	418	179
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		193	975	203		106	798	219		300	837	49		241	480	149
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		442	1523	317		153	1231	335		346	1046	61		287	693	302
Arrive On Green		0.33	0.70	0.70		0.06	0.41	0.41		0.20	0.43	0.43		0.17	0.39	0.39
Sat Flow, veh/h		1774	2909	605		3442	3952	1074		3442	4910	287		3442	3539	1539
Grp Volume(v), veh/h		193	592	586		106	683	334		300	577	309		241	480	149
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1636		1721	1695	1806		1721	1770	1539
Q Serve(g_s), s		11.9	25.7	25.8		4.2	22.6	22.9		11.8	20.7	20.9		9.5	15.8	6.1
Cycle Q Clear(g_c), s		11.9	25.7	25.8		4.2	22.6	22.9		11.8	20.7	20.9		9.5	15.8	6.1
Prop In Lane		1.00		0.35		1.00		0.66		1.00		0.16		1.00		1.00
Lane Grp Cap(c), veh/h		442	926	913		153	1056	510		346	722	385		287	693	302
V/C Ratio(X)		0.44	0.64	0.64		0.69	0.65	0.65		0.87	0.80	0.80		0.84	0.69	0.49
Avail Cap(c_a), veh/h		442	926	913		383	1056	510		457	826	440		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		1.33	1.33	1.33		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.09	0.09	0.09		0.93	0.93	0.93		0.89	0.89	0.89		1.00	1.00	1.00
Uniform Delay (d), s/veh		39.1	14.0	14.1		64.9	34.9	35.0		55.0	37.6	37.6		57.4	39.0	13.4
Incr Delay (d2), s/veh		0.0	0.3	0.3		2.0	2.9	6.0		9.5	5.2	9.7		9.2	2.9	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		5.8	12.4	12.2		2.0	10.9	11.1		6.0	10.1	11.3		4.9	8.0	3.7
LnGrp Delay(d),s/veh		39.1	14.3	14.4		66.9	37.7	41.0		64.6	42.8	47.3		66.7	42.0	15.6
LnGrp LOS		D	B	B		E	D	D		E	D	D		E	D	B
Approach Vol, veh/h			1371				1123				1186				870	
Approach Delay, s/veh			17.8				41.4				49.5				44.3	
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	10.6	78.6	18.5	32.3	40.2	49.0	16.1	34.7
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	10.2	27.8	13.8	17.8	13.9	24.9	11.5	22.9
Green Ext Time (p_c), s	0.1	9.4	0.3	4.6	0.2	5.9	0.2	6.1

Intersection Summary	
HCM 2010 Ctrl Delay	37.0
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	122	7	17	81	12	36
Future Vol, veh/h	122	7	17	81	12	36
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	133	8	18	88	13	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	261	137
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	124	-
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	-	-	1442	-	728	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	719	911
Mov Cap-2 Maneuver	-	-	-	-	719	-
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	902	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	854	-	-	1442	-
HCM Lane V/C Ratio	0.061	-	-	0.013	-
HCM Control Delay (s)	9.5	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	56	0	1238	755	9
Future Vol, veh/h	0	56	0	1238	755	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	61	0	1346	821	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	416	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	585	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	585	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	585	-	-
HCM Lane V/C Ratio	-	0.104	-	-
HCM Control Delay (s)	-	11.9	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	254	15	186	737	105	255	401	106	2
Future Volume (veh/h)	11	142	662	254	15	186	737	105	255	401	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	199		200	792	79	271	427	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1168	316		255	1427	142	328	713	131	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.10	0.24	0.24	
Sat Flow, veh/h		3442	2733	739		3442	3245	324	3442	2960	542	
Grp Volume(v), veh/h		158	476	459		200	432	439	271	254	252	
Grp Sat Flow(s),veh/h/ln		1721	1770	1703		1721	1770	1799	1721	1770	1732	
Q Serve(g_s), s		5.7	26.6	26.6		7.2	22.8	22.8	9.7	16.0	16.3	
Cycle Q Clear(g_c), s		5.7	26.6	26.6		7.2	22.8	22.8	9.7	16.0	16.3	
Prop In Lane		1.00		0.43		1.00		0.18	1.00		0.31	
Lane Grp Cap(c), veh/h		213	756	728		255	778	791	328	426	417	
V/C Ratio(X)		0.74	0.63	0.63		0.78	0.56	0.56	0.83	0.59	0.60	
Avail Cap(c_a), veh/h		399	756	728		399	778	791	481	479	469	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.3	28.3		57.3	26.2	26.2	56.0	42.4	42.5	
Incr Delay (d2), s/veh		1.9	4.0	4.1		2.1	2.8	2.8	4.7	0.8	1.0	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		2.8	13.8	13.3		3.5	11.8	12.0	4.8	7.9	7.9	
LnGrp Delay(d),s/veh		60.0	32.2	32.4		59.4	29.0	29.0	60.7	43.2	43.4	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1093				1071			777		
Approach Delay, s/veh			36.3				34.7			49.4		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.8	16.4	37.0	12.2	60.4	18.1	35.3
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	28.6	11.7	34.1	7.7	24.8	13.7	18.3
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	61.8
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	894	101
Future Volume (veh/h)	160	894	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	941	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	844	66
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3313	260
Grp Volume(v), veh/h	168	503	512
Grp Sat Flow(s),veh/h/ln	1774	1770	1803
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	451	459
V/C Ratio(X)	0.87	1.12	1.12
Avail Cap(c_a), veh/h	220	451	459
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	77.6	77.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	25.4	25.8
LnGrp Delay(d),s/veh	79.8	124.5	124.2
LnGrp LOS	E	F	F
Approach Vol, veh/h		1183	
Approach Delay, s/veh		118.0	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	57	41	189	68	12	83	38	77	6	83	2
Future Vol, veh/h	0	57	41	189	68	12	83	38	77	6	83	2
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	86	62	217	78	14	91	42	85	7	102	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	12.3	10.6	9.7
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	42%	0%	70%	7%
Vol Thru, %	19%	58%	25%	91%
Vol Right, %	39%	42%	4%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	98	269	91
LT Vol	83	0	189	6
Through Vol	38	57	68	83
RT Vol	77	41	12	2
Lane Flow Rate	218	148	309	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.313	0.208	0.446	0.171
Departure Headway (Hd)	5.175	5.047	5.189	5.492
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	694	711	699	653
Service Time	3.207	3.08	3.189	3.53
HCM Lane V/C Ratio	0.314	0.208	0.442	0.172
HCM Control Delay	10.6	9.4	12.3	9.7
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.3	0.8	2.3	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	64	45	131	106	41	129	17	158	781	128	8	176	952	145
Future Volume (veh/h)	64	45	131	106	41	129	17	158	781	128	8	176	952	145
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	68	48	99	115	45	98		174	858	99		185	1002	113
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	206	107	221	202	104	226		530	2676	307		207	1393	604
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20		0.30	0.58	0.58		0.23	0.79	0.79
Sat Flow, veh/h	1228	529	1092	1219	512	1116		1774	4621	531		1774	3539	1534
Grp Volume(v), veh/h	68	0	147	115	0	143		174	628	329		185	1002	113
Grp Sat Flow(s),veh/h/ln	1228	0	1621	1219	0	1629		1774	1695	1761		1774	1770	1534
Q Serve(g_s), s	7.2	0.0	11.1	12.8	0.0	10.7		10.7	13.4	13.5		14.1	19.4	2.6
Cycle Q Clear(g_c), s	17.9	0.0	11.1	23.9	0.0	10.7		10.7	13.4	13.5		14.1	19.4	2.6
Prop In Lane	1.00		0.67	1.00		0.69		1.00		0.30		1.00		1.00
Lane Grp Cap(c), veh/h	206	0	329	202	0	330		530	1963	1020		207	1393	604
V/C Ratio(X)	0.33	0.00	0.45	0.57	0.00	0.43		0.33	0.32	0.32		0.89	0.72	0.19
Avail Cap(c_a), veh/h	397	0	580	391	0	583		530	1963	1020		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.91	0.91	0.91
Uniform Delay (d), s/veh	56.6	0.0	48.9	59.4	0.0	48.8		38.2	15.2	15.2		52.8	11.1	9.3
Incr Delay (d2), s/veh	0.7	0.0	0.7	1.9	0.0	0.7		0.1	0.4	0.8		4.8	3.0	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	2.5	0.0	5.0	4.4	0.0	4.9		5.2	6.4	6.8		7.2	9.8	1.2
LnGrp Delay(d),s/veh	57.3	0.0	49.7	61.3	0.0	49.5		38.3	15.7	16.1		57.6	14.1	9.9
LnGrp LOS	E		D	E		D		D	B	B		E	B	A
Approach Vol, veh/h		215			258				1131				1300	
Approach Delay, s/veh		52.1			54.7				19.3				19.9	
Approach LOS		D			D				B				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.8	86.0		33.3	46.7	60.0		33.3
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	26.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	16.1	15.5		19.9	12.7	21.4		25.9
Green Ext Time (p_c), s	0.2	7.9		0.9	0.1	10.8		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	25.1
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	347	982	61	448	855	108	21	82	307	353	258	649	279
Future Volume (veh/h)	15	347	982	61	448	855	108	21	82	307	353	258	649	279
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		361	1023	45	477	910	81		87	327	264	300	755	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		566	1171	52	530	1034	92		108	677	530	322	832	249
Arrive On Green		0.16	0.34	0.34	0.15	0.32	0.32		0.06	0.19	0.19	0.18	0.31	0.31
Sat Flow, veh/h		3442	3447	152	3442	3276	292		1774	3539	1499	1774	2671	800
Grp Volume(v), veh/h		361	525	543	477	492	499		87	327	264	300	500	481
Grp Sat Flow(s),veh/h/ln		1721	1770	1830	1721	1770	1798		1774	1770	1499	1774	1770	1701
Q Serve(g_s), s		14.5	41.2	41.2	20.1	38.9	38.9		7.2	12.2	20.7	24.6	40.1	40.1
Cycle Q Clear(g_c), s		14.5	41.2	41.2	20.1	38.9	38.9		7.2	12.2	20.7	24.6	40.1	40.1
Prop In Lane		1.00		0.08	1.00		0.16		1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h		566	601	621	530	558	567		108	677	530	322	551	530
V/C Ratio(X)		0.64	0.87	0.87	0.90	0.88	0.88		0.81	0.48	0.50	0.93	0.91	0.91
Avail Cap(c_a), veh/h		698	718	743	698	718	730		360	958	649	360	551	530
HCM Platoon Ratio		1.00	1.00	1.00	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		57.6	45.8	45.8	61.4	47.9	47.9		68.6	53.3	38.5	59.6	48.8	48.8
Incr Delay (d2), s/veh		0.6	10.5	10.2	10.4	10.1	9.9		5.3	0.4	0.5	28.0	18.6	19.2
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		6.9	21.9	22.6	10.4	20.5	20.8		3.7	6.0	8.6	14.6	22.4	21.7
LnGrp Delay(d),s/veh		58.3	56.3	56.0	71.8	58.0	57.9		73.8	53.6	39.0	87.6	67.4	68.0
LnGrp LOS		E	E	E	E	E	E		E	D	D	F	E	E
Approach Vol, veh/h			1429			1468				678			1281	
Approach Delay, s/veh			56.7			62.5				50.5			72.4	
Approach LOS			E			E				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	27.1	55.9	13.4	51.4	30.0	53.1	31.2	33.6
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I2), s	22.1	43.2	9.2	42.1	16.5	40.9	26.6	22.7
Green Ext Time (p_c), s	0.6	7.0	0.1	0.0	0.6	5.7	0.2	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	61.7
HCM 2010 LOS	E

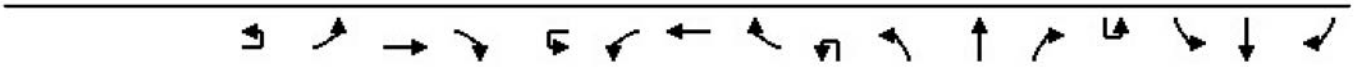
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	54	1243	140	47	76	1282	98	88	50	38	52	130	126
Future Volume (veh/h)	6	54	1243	140	47	76	1282	98	88	50	38	52	130	126
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		57	1308	103		81	1364	73	99	56	31	57	143	98
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		224	1668	131		102	1435	77	114	65	36	60	150	103
Arrive On Green		0.13	0.50	0.50		0.02	0.14	0.14	0.12	0.12	0.12	0.18	0.18	0.18
Sat Flow, veh/h		1774	3325	261		1774	3418	183	936	529	293	334	837	573
Grp Volume(v), veh/h		57	695	716		81	705	732	186	0	0	298	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1816		1774	1770	1831	1759	0	0	1744	0	0
Q Serve(g_s), s		4.1	45.1	45.4		6.4	55.3	55.6	14.5	0.0	0.0	23.7	0.0	0.0
Cycle Q Clear(g_c), s		4.1	45.1	45.4		6.4	55.3	55.6	14.5	0.0	0.0	23.7	0.0	0.0
Prop In Lane		1.00		0.14		1.00		0.10	0.53		0.17	0.19		0.33
Lane Grp Cap(c), veh/h		224	888	911		102	743	769	215	0	0	313	0	0
V/C Ratio(X)		0.25	0.78	0.79		0.80	0.95	0.95	0.87	0.00	0.00	0.95	0.00	0.00
Avail Cap(c_a), veh/h		224	888	911		172	743	769	315	0	0	313	0	0
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)		1.00	1.00	1.00		0.51	0.51	0.51	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		55.2	28.6	28.7		67.9	58.8	58.9	60.3	0.0	0.0	56.9	0.0	0.0
Incr Delay (d2), s/veh		0.2	6.8	6.8		2.7	14.1	14.3	11.1	0.0	0.0	38.1	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.0	23.7	24.4		3.2	30.1	31.2	7.7	0.0	0.0	14.7	0.0	0.0
LnGrp Delay(d),s/veh		55.4	35.4	35.5		70.6	72.9	73.2	71.5	0.0	0.0	95.0	0.0	0.0
LnGrp LOS		E	D	D		E	E	E	E			F		
Approach Vol, veh/h			1468				1518			186			298	
Approach Delay, s/veh			36.2				72.9			71.5			95.0	
Approach LOS			D				E			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	75.5		30.0	23.0	65.0		22.0
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	8.4	47.4		25.7	6.1	57.6		16.5
Green Ext Time (p_c), s	0.0	7.3		0.0	0.0	1.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	59.2
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	270	858	223	8	240	938	297	13	265	521	98	31	367	647	182
Future Volume (veh/h)	3	270	858	223	8	240	938	297	13	265	521	98	31	367	647	182
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.96		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		293	933	169		267	1042	243		294	579	77		412	727	144
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		319	1055	191		580	1430	333		343	897	117		467	828	345
Arrive On Green		0.06	0.12	0.12		0.06	0.12	0.12		0.20	0.40	0.40		0.14	0.23	0.23
Sat Flow, veh/h		1774	2973	538		3442	4082	951		3442	4528	593		3442	3539	1473
Grp Volume(v), veh/h		293	555	547		267	865	420		294	431	225		412	727	144
Grp Sat Flow(s),veh/h/ln		1774	1770	1741		1721	1695	1643		1721	1695	1731		1721	1770	1473
Q Serve(g_s), s		23.0	43.3	43.3		10.5	34.5	34.6		11.6	14.4	14.8		16.5	27.7	11.6
Cycle Q Clear(g_c), s		23.0	43.3	43.3		10.5	34.5	34.6		11.6	14.4	14.8		16.5	27.7	11.6
Prop In Lane		1.00		0.31		1.00		0.58		1.00		0.34		1.00		1.00
Lane Grp Cap(c), veh/h		319	628	618		580	1187	575		343	671	343		467	828	345
V/C Ratio(X)		0.92	0.88	0.88		0.46	0.73	0.73		0.86	0.64	0.66		0.88	0.88	0.42
Avail Cap(c_a), veh/h		362	628	618		580	1187	575		556	753	384		629	862	359
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.25	0.25	0.25		0.86	0.86	0.86		0.95	0.95	0.95		1.00	1.00	1.00
Uniform Delay (d), s/veh		64.8	59.0	59.0		59.9	55.5	55.5		55.1	38.3	38.4		59.4	51.7	45.5
Incr Delay (d2), s/veh		8.3	4.9	5.0		0.2	3.4	6.9		3.8	2.1	4.5		9.1	10.5	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		12.1	22.1	21.8		5.1	16.8	16.9		5.7	6.9	7.4		8.4	14.7	4.9
LnGrp Delay(d),s/veh		73.2	63.9	64.0		60.1	58.9	62.4		58.9	40.4	42.9		68.5	62.2	46.9
LnGrp LOS		E	E	E		E	E	E		E	D	D		E	E	D
Approach Vol, veh/h			1395				1552				950				1283	
Approach Delay, s/veh			65.9				60.0				46.7				62.5	
Approach LOS			E				E				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	9.0	55.0	18.3	37.7	29.6	54.4	23.4	32.6
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	4.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	2.5	45.3	13.6	29.7	25.0	36.6	18.5	16.8
Green Ext Time (p_c), s	0.1	2.7	0.4	2.7	0.2	0.0	0.5	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	59.8
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	123	25	58	264	6	19
Future Vol, veh/h	123	25	58	264	6	19
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	134	27	63	287	7	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	161	0	561	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	413	-
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	-	-	1418	-	489	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	463	899
Mov Cap-2 Maneuver	-	-	-	-	463	-
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	668	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	733	-	-	1418	-
HCM Lane V/C Ratio	0.037	-	-	0.044	-
HCM Control Delay (s)	10.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	98	0	1122	1129	32
Future Vol, veh/h	0	98	0	1122	1129	32
Conflicting Peds, #/hr	0	3	0	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	94	94	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	131	0	1194	1214	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	630	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	424	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	422	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	422	-	-
HCM Lane V/C Ratio	-	0.31	-	-
HCM Control Delay (s)	-	17.3	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1.3	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	130	9	106	520	320	164	1016	67	6
Future Volume (veh/h)	6	208	437	130	9	106	520	320	164	1016	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	96		114	559	241	169	1047	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	968	200		280	804	346	231	1098	50	
Arrive On Green		0.08	0.33	0.33		0.08	0.34	0.34	0.09	0.42	0.42	
Sat Flow, veh/h		3442	2904	601		3442	2380	1023	3442	3441	158	
Grp Volume(v), veh/h		219	279	277		114	415	385	169	538	557	
Grp Sat Flow(s),veh/h/ln		1721	1770	1735		1721	1770	1634	1721	1770	1829	
Q Serve(g_s), s		6.7	13.5	13.7		3.4	21.9	22.0	5.2	31.8	31.8	
Cycle Q Clear(g_c), s		6.7	13.5	13.7		3.4	21.9	22.0	5.2	31.8	31.8	
Prop In Lane		1.00		0.35		1.00		0.63	1.00		0.09	
Lane Grp Cap(c), veh/h		283	590	578		280	598	552	231	565	584	
V/C Ratio(X)		0.77	0.47	0.48		0.41	0.69	0.70	0.73	0.95	0.95	
Avail Cap(c_a), veh/h		433	590	578		280	598	552	402	575	595	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.86	0.86	0.86	
Uniform Delay (d), s/veh		48.6	28.5	28.6		47.1	30.9	31.0	48.2	30.3	30.3	
Incr Delay (d2), s/veh		1.9	2.7	2.8		0.4	6.5	7.1	1.5	23.5	23.0	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	7.0	7.0		1.6	11.8	11.0	2.5	19.0	19.6	
LnGrp Delay(d),s/veh		50.5	31.2	31.4		47.5	37.4	38.1	49.7	53.8	53.3	
LnGrp LOS		D	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			775				914			1264		
Approach Delay, s/veh			36.7				39.0			53.0		
Approach LOS			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	13.8	41.0	11.6	41.6	13.3	41.5	13.8	39.4
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	15.7	7.2	14.5	8.7	24.0	9.2	33.8
Green Ext Time (p_c), s	0.0	3.5	0.1	1.6	0.2	3.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	42.9
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	387	100
Future Volume (veh/h)	106	387	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	440	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1010	182
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	2975	536
Grp Volume(v), veh/h	120	260	260
Grp Sat Flow(s),veh/h/ln	1774	1770	1742
Q Serve(g_s), s	7.2	12.3	12.5
Cycle Q Clear(g_c), s	7.2	12.3	12.5
Prop In Lane	1.00		0.31
Lane Grp Cap(c), veh/h	147	601	591
V/C Ratio(X)	0.82	0.43	0.44
Avail Cap(c_a), veh/h	158	601	591
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.6	27.7
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.0	6.0
LnGrp Delay(d),s/veh	72.5	27.8	27.9
LnGrp LOS	E	C	C
Approach Vol, veh/h		640	
Approach Delay, s/veh		36.2	
Approach LOS		D	
Timer			

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	62	86	53	26	7	52	44	55	10	54	2
Future Vol, veh/h	3	62	86	53	26	7	52	44	55	10	54	2
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	74	102	68	33	9	79	67	83	13	72	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	8.9	9.5	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	2%	62%	15%
Vol Thru, %	29%	41%	30%	82%
Vol Right, %	36%	57%	8%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	151	151	86	66
LT Vol	52	3	53	10
Through Vol	44	62	26	54
RT Vol	55	86	7	2
Lane Flow Rate	229	180	110	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.291	0.224	0.152	0.12
Departure Headway (Hd)	4.573	4.485	4.97	4.903
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	782	796	718	727
Service Time	2.62	2.534	3.025	2.96
HCM Lane V/C Ratio	0.293	0.226	0.153	0.121
HCM Control Delay	9.5	8.8	8.9	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.2	0.9	0.5	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	57	30	76	95	28	75	7	97	1036	116	4	98	506	42
Future Volume (veh/h)	57	30	76	95	28	75	7	97	1036	116	4	98	506	42
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	69	36	68	122	36	67		105	1126	88		108	556	34
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	213	103	194	211	104	194		128	3089	241		130	2281	1012
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18		0.07	0.64	0.64		0.15	1.00	1.00
Sat Flow, veh/h	1272	564	1066	1266	572	1065		1774	4799	375		1774	3539	1570
Grp Volume(v), veh/h	69	0	104	122	0	103		105	795	419		108	556	34
Grp Sat Flow(s),veh/h/ln	1272	0	1631	1266	0	1637		1774	1695	1784		1774	1770	1570
Q Serve(g_s), s	7.0	0.0	7.8	13.0	0.0	7.7		8.2	15.3	15.3		8.3	0.0	0.0
Cycle Q Clear(g_c), s	14.7	0.0	7.8	20.8	0.0	7.7		8.2	15.3	15.3		8.3	0.0	0.0
Prop In Lane	1.00		0.65	1.00		0.65		1.00		0.21		1.00		1.00
Lane Grp Cap(c), veh/h	213	0	296	211	0	298		128	2182	1148		130	2281	1012
V/C Ratio(X)	0.32	0.00	0.35	0.58	0.00	0.35		0.82	0.36	0.36		0.83	0.24	0.03
Avail Cap(c_a), veh/h	382	0	514	380	0	516		400	2182	1148		400	2281	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.99	0.99	0.99
Uniform Delay (d), s/veh	56.4	0.0	50.1	59.2	0.0	50.0		64.0	11.6	11.6		58.9	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.5	1.9	0.0	0.5		4.8	0.5	0.9		5.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	3.6	4.7	0.0	3.5		4.2	7.2	7.7		4.2	0.1	0.0
LnGrp Delay(d),s/veh	57.1	0.0	50.6	61.0	0.0	50.5		68.9	12.1	12.5		64.0	0.3	0.1
LnGrp LOS	E		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		173			225				1319				698	
Approach Delay, s/veh		53.2			56.2				16.7				10.1	
Approach LOS		D			E				B				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	95.0		30.4	14.5	95.1		30.4
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	10.3	17.3		16.7	10.2	2.0		22.8
Green Ext Time (p_c), s	0.1	11.9		0.7	0.1	5.2		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	199	814	74	343	770	99	15	149	408	329	2	153	279	294
Future Volume (veh/h)	5	199	814	74	343	770	99	15	149	408	329	2	153	279	294
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		207	848	54	365	819	74		180	492	396		168	307	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		417	1069	68	440	999	90		212	903	607		200	482	344
Arrive On Green		0.12	0.32	0.32	0.13	0.31	0.31		0.12	0.26	0.26		0.11	0.25	0.25
Sat Flow, veh/h		3442	3366	214	3442	3270	295		1774	3539	1583		1774	1940	1384
Grp Volume(v), veh/h		207	446	456	365	443	450		180	492	396		168	279	254
Grp Sat Flow(s),veh/h/ln		1721	1770	1811	1721	1770	1796		1774	1770	1583		1774	1770	1555
Q Serve(g_s), s		6.0	24.4	24.4	11.0	24.6	24.6		10.6	12.8	21.8		9.9	14.9	15.6
Cycle Q Clear(g_c), s		6.0	24.4	24.4	11.0	24.6	24.6		10.6	12.8	21.8		9.9	14.9	15.6
Prop In Lane		1.00		0.12	1.00		0.16		1.00		1.00		1.00		0.89
Lane Grp Cap(c), veh/h		417	562	575	440	541	549		212	903	607		200	439	386
V/C Ratio(X)		0.50	0.79	0.79	0.83	0.82	0.82		0.85	0.54	0.65		0.84	0.64	0.66
Avail Cap(c_a), veh/h		973	1000	1024	973	1000	1015		501	1334	799		501	667	586
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	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		43.6	33.0	33.0	45.2	34.2	34.2		45.8	34.2	26.9		46.2	35.6	35.8
Incr Delay (d2), s/veh		0.3	3.1	3.0	1.6	3.1	3.1		3.6	0.3	0.8		3.6	1.2	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		2.9	12.4	12.7	5.3	12.5	12.7		5.4	6.3	9.6		5.0	7.4	6.9
LnGrp Delay(d),s/veh		44.0	36.1	36.1	46.7	37.3	37.3		49.4	34.5	27.7		49.8	36.8	37.4
LnGrp LOS		D	D	D	D	D	D		D	C	C		D	D	D
Approach Vol, veh/h			1109			1258				1068				701	
Approach Delay, s/veh			37.6			40.0				34.5				40.1	
Approach LOS			D			D				C				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	39.4	17.1	31.7	18.6	38.8	16.4	32.4
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	13.0	26.4	12.6	17.6	8.0	26.6	11.9	23.8
Green Ext Time (p_c), s	0.6	7.3	0.2	2.8	0.3	5.8	0.2	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	38.0
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	39	1100	85	3	54	1001	92	184	89	83	60	95	74
Future Volume (veh/h)	13	39	1100	85	3	54	1001	92	184	89	83	60	95	74
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		44	1250	67		67	1236	79	271	131	85	76	120	69
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		57	1323	71		85	1363	87	245	119	77	84	133	76
Arrive On Green		0.03	0.39	0.39		0.02	0.13	0.13	0.25	0.25	0.25	0.17	0.17	0.17
Sat Flow, veh/h		1774	3411	183		1774	3373	215	979	473	307	501	792	455
Grp Volume(v), veh/h		44	648	669		67	648	667	487	0	0	265	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1824		1774	1770	1819	1759	0	0	1748	0	0
Q Serve(g_s), s		3.4	49.5	49.7		5.3	50.5	50.7	35.1	0.0	0.0	20.8	0.0	0.0
Cycle Q Clear(g_c), s		3.4	49.5	49.7		5.3	50.5	50.7	35.1	0.0	0.0	20.8	0.0	0.0
Prop In Lane		1.00		0.10		1.00		0.12	0.56		0.17	0.29		0.26
Lane Grp Cap(c), veh/h		57	686	707		85	715	735	441	0	0	293	0	0
V/C Ratio(X)		0.78	0.94	0.95		0.78	0.91	0.91	1.10	0.00	0.00	0.90	0.00	0.00
Avail Cap(c_a), veh/h		122	686	707		122	715	735	441	0	0	351	0	0
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)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.3	41.4	41.4		68.2	58.0	58.1	52.5	0.0	0.0	57.2	0.0	0.0
Incr Delay (d2), s/veh		8.2	23.0	23.0		11.8	17.2	17.2	74.2	0.0	0.0	21.4	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		1.8	28.5	29.4		2.9	28.2	29.1	26.1	0.0	0.0	11.8	0.0	0.0
LnGrp Delay(d),s/veh		75.5	64.4	64.4		80.0	75.2	75.3	126.7	0.0	0.0	78.5	0.0	0.0
LnGrp LOS		E	E	E		F	E	E	F			E		
Approach Vol, veh/h			1361				1382			487			265	
Approach Delay, s/veh			64.8				75.5			126.7			78.5	
Approach LOS			E				E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.1	60.5		28.4	8.9	62.8		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	7.3	51.7		22.8	5.4	52.7		37.1
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	78.7
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	172	870	259	5	92	699	263	2	284	785	66	5	207	418	168
Future Volume (veh/h)	3	172	870	259	5	92	699	263	2	284	785	66	5	207	418	168
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		193	978	203		106	803	213		302	835	49		238	480	136
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		444	1527	316		153	1241	326		348	1045	61		284	688	299
Arrive On Green		0.33	0.70	0.70		0.06	0.41	0.41		0.20	0.43	0.43		0.17	0.39	0.39
Sat Flow, veh/h		1774	2911	603		3442	3985	1047		3442	4909	287		3442	3539	1539
Grp Volume(v), veh/h		193	594	587		106	682	334		302	576	308		238	480	136
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1642		1721	1695	1806		1721	1770	1539
Q Serve(g_s), s		11.9	25.7	25.8		4.2	22.5	22.9		11.9	20.7	20.8		9.4	15.9	5.5
Cycle Q Clear(g_c), s		11.9	25.7	25.8		4.2	22.5	22.9		11.9	20.7	20.8		9.4	15.9	5.5
Prop In Lane		1.00		0.35		1.00		0.64		1.00		0.16		1.00		1.00
Lane Grp Cap(c), veh/h		444	928	915		153	1056	511		348	722	384		284	688	299
V/C Ratio(X)		0.43	0.64	0.64		0.69	0.65	0.65		0.87	0.80	0.80		0.84	0.70	0.45
Avail Cap(c_a), veh/h		444	928	915		383	1056	511		457	826	440		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		1.33	1.33	1.33		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		1.00	1.00	1.00		0.93	0.93	0.93		0.89	0.89	0.89		1.00	1.00	1.00
Uniform Delay (d), s/veh		39.0	13.9	14.0		64.9	34.8	34.9		54.9	37.6	37.6		57.5	39.4	13.4
Incr Delay (d2), s/veh		0.2	3.4	3.4		2.0	2.9	6.0		9.7	5.2	9.6		8.8	3.0	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		5.8	13.2	13.1		2.0	10.9	11.1		6.1	10.1	11.3		4.8	8.0	3.3
LnGrp Delay(d),s/veh		39.2	17.3	17.4		66.9	37.7	40.9		64.7	42.8	47.2		66.4	42.4	15.2
LnGrp LOS		D	B	B		E	D	D		E	D	D		E	D	B
Approach Vol, veh/h			1374				1122				1186				854	
Approach Delay, s/veh			20.4				41.4				49.5				44.7	
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	10.6	78.7	18.6	32.1	40.3	49.0	16.0	34.7
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	10.2	27.8	13.9	17.9	13.9	24.9	11.4	22.8
Green Ext Time (p_c), s	0.1	9.5	0.3	4.5	0.2	5.9	0.2	6.1

Intersection Summary	
HCM 2010 Ctrl Delay	37.8
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	122	7	13	81	7	37
Future Vol, veh/h	122	7	13	81	7	37
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	133	8	14	88	8	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	253	137
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	116	-
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	-	-	1442	-	736	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	729	911
Mov Cap-2 Maneuver	-	-	-	-	729	-
Stage 1	-	-	-	-	881	-
Stage 2	-	-	-	-	909	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	876	-	-	1442	-
HCM Lane V/C Ratio	0.055	-	-	0.01	-
HCM Control Delay (s)	9.3	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	43	0	1230	755	6
Future Vol, veh/h	0	43	0	1230	755	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	47	0	1337	821	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	414	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	587	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	587	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	587	-	-
HCM Lane V/C Ratio	-	0.08	-	-
HCM Control Delay (s)	-	11.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1248	1132	7	0	18
Future Vol, veh/h	0	1248	1132	7	0	18
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	1357	1230	8	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	619
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	432
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	432
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	432
HCM Lane V/C Ratio	-	-	-	0.045
HCM Control Delay (s)	-	-	-	13.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	254	15	186	737	105	255	401	106	2
Future Volume (veh/h)	11	142	662	254	15	186	737	105	255	401	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	199		200	792	79	271	427	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1168	316		255	1427	142	328	713	131	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.10	0.24	0.24	
Sat Flow, veh/h		3442	2733	739		3442	3245	324	3442	2960	542	
Grp Volume(v), veh/h		158	476	459		200	432	439	271	254	252	
Grp Sat Flow(s),veh/h/ln		1721	1770	1703		1721	1770	1799	1721	1770	1732	
Q Serve(g_s), s		5.7	26.6	26.6		7.2	22.8	22.8	9.7	16.0	16.3	
Cycle Q Clear(g_c), s		5.7	26.6	26.6		7.2	22.8	22.8	9.7	16.0	16.3	
Prop In Lane		1.00		0.43		1.00		0.18	1.00		0.31	
Lane Grp Cap(c), veh/h		213	756	728		255	778	791	328	426	417	
V/C Ratio(X)		0.74	0.63	0.63		0.78	0.56	0.56	0.83	0.59	0.60	
Avail Cap(c_a), veh/h		399	756	728		399	778	791	481	479	469	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.3	28.3		57.3	26.2	26.2	56.0	42.4	42.5	
Incr Delay (d2), s/veh		1.9	4.0	4.1		2.1	2.8	2.8	4.7	0.8	1.0	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		2.8	13.8	13.3		3.5	11.8	12.0	4.8	7.9	7.9	
LnGrp Delay(d),s/veh		60.0	32.2	32.4		59.4	29.0	29.0	60.7	43.2	43.4	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1093				1071			777		
Approach Delay, s/veh			36.3				34.7			49.4		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.8	16.4	37.0	12.2	60.4	18.1	35.3
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	28.6	11.7	34.1	7.7	24.8	13.7	18.3
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	61.8
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	894	101
Future Volume (veh/h)	160	894	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	941	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	844	66
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3313	260
Grp Volume(v), veh/h	168	503	512
Grp Sat Flow(s),veh/h/ln	1774	1770	1803
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	451	459
V/C Ratio(X)	0.87	1.12	1.12
Avail Cap(c_a), veh/h	220	451	459
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	77.6	77.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	25.4	25.8
LnGrp Delay(d),s/veh	79.8	124.5	124.2
LnGrp LOS	E	F	F
Approach Vol, veh/h		1183	
Approach Delay, s/veh		118.0	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	57	41	187	67	12	83	38	77	6	83	2
Future Vol, veh/h	0	57	41	187	67	12	83	38	77	6	83	2
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	86	62	215	77	14	91	42	85	7	102	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	12.2	10.5	9.7
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	42%	0%	70%	7%
Vol Thru, %	19%	58%	25%	91%
Vol Right, %	39%	42%	5%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	98	266	91
LT Vol	83	0	187	6
Through Vol	38	57	67	83
RT Vol	77	41	12	2
Lane Flow Rate	218	148	306	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.312	0.208	0.441	0.171
Departure Headway (Hd)	5.163	5.04	5.187	5.48
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	696	711	697	654
Service Time	3.198	3.073	3.187	3.519
HCM Lane V/C Ratio	0.313	0.208	0.439	0.171
HCM Control Delay	10.5	9.4	12.2	9.7
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.3	0.8	2.3	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	64	45	131	106	41	129	17	135	780	128	8	176	952	146
Future Volume (veh/h)	64	45	131	106	41	129	17	135	780	128	8	176	952	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)	0.99		0.96	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	68	48	99	115	45	98		148	857	99		185	1002	114
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	206	107	221	202	104	226		530	2676	308		207	1393	604
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20		0.30	0.58	0.58		0.23	0.79	0.79
Sat Flow, veh/h	1228	529	1092	1219	512	1116		1774	4620	531		1774	3539	1534
Grp Volume(v), veh/h	68	0	147	115	0	143		148	628	328		185	1002	114
Grp Sat Flow(s),veh/h/ln	1228	0	1621	1219	0	1629		1774	1695	1761		1774	1770	1534
Q Serve(g_s), s	7.2	0.0	11.1	12.8	0.0	10.7		8.9	13.4	13.5		14.1	19.4	2.6
Cycle Q Clear(g_c), s	17.9	0.0	11.1	23.9	0.0	10.7		8.9	13.4	13.5		14.1	19.4	2.6
Prop In Lane	1.00		0.67	1.00		0.69		1.00		0.30		1.00		1.00
Lane Grp Cap(c), veh/h	206	0	329	202	0	330		530	1963	1020		207	1393	604
V/C Ratio(X)	0.33	0.00	0.45	0.57	0.00	0.43		0.28	0.32	0.32		0.89	0.72	0.19
Avail Cap(c_a), veh/h	397	0	580	391	0	583		530	1963	1020		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.91	0.91	0.91
Uniform Delay (d), s/veh	56.6	0.0	48.9	59.4	0.0	48.8		37.5	15.2	15.2		52.8	11.1	9.3
Incr Delay (d2), s/veh	0.7	0.0	0.7	1.9	0.0	0.7		0.1	0.4	0.8		4.8	3.0	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	2.5	0.0	5.0	4.4	0.0	4.9		4.4	6.4	6.8		7.2	9.8	1.2
LnGrp Delay(d),s/veh	57.3	0.0	49.7	61.3	0.0	49.5		37.7	15.6	16.1		57.6	14.1	9.9
LnGrp LOS	E		D	E		D		D	B	B		E	B	A
Approach Vol, veh/h		215			258				1104				1301	
Approach Delay, s/veh		52.1			54.7				18.7				19.9	
Approach LOS		D			D				B				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	86.0		33.3	46.7	60.0		33.3
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	16.4	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	13.1	15.5		19.9	10.9	21.4		25.9
Green Ext Time (p_c), s	0.2	7.8		0.9	0.1	10.8		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	25.0
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	347	982	61	448	855	108	21	82	307	353	258	649	279
Future Volume (veh/h)	15	347	982	61	448	855	108	21	82	307	353	258	649	279
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		361	1023	45	477	910	81		87	327	264	300	755	226
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		566	1171	52	530	1034	92		108	677	530	322	832	249
Arrive On Green		0.16	0.34	0.34	0.15	0.32	0.32		0.06	0.19	0.19	0.18	0.31	0.31
Sat Flow, veh/h		3442	3447	152	3442	3276	292		1774	3539	1499	1774	2671	800
Grp Volume(v), veh/h		361	525	543	477	492	499		87	327	264	300	500	481
Grp Sat Flow(s),veh/h/ln		1721	1770	1830	1721	1770	1798		1774	1770	1499	1774	1770	1701
Q Serve(g_s), s		14.5	41.2	41.2	20.1	38.9	38.9		7.2	12.2	20.7	24.6	40.1	40.1
Cycle Q Clear(g_c), s		14.5	41.2	41.2	20.1	38.9	38.9		7.2	12.2	20.7	24.6	40.1	40.1
Prop In Lane		1.00		0.08	1.00		0.16		1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h		566	601	621	530	558	567		108	677	530	322	551	530
V/C Ratio(X)		0.64	0.87	0.87	0.90	0.88	0.88		0.81	0.48	0.50	0.93	0.91	0.91
Avail Cap(c_a), veh/h		698	718	743	698	718	730		360	958	649	360	551	530
HCM Platoon Ratio		1.00	1.00	1.00	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		57.6	45.8	45.8	61.4	47.9	47.9		68.6	53.3	38.5	59.6	48.8	48.8
Incr Delay (d2), s/veh		0.6	10.5	10.2	10.4	10.1	9.9		5.3	0.4	0.5	28.0	18.6	19.2
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		6.9	21.9	22.6	10.4	20.5	20.8		3.7	6.0	8.6	14.6	22.4	21.7
LnGrp Delay(d),s/veh		58.3	56.3	56.0	71.8	58.0	57.9		73.8	53.6	39.0	87.6	67.4	68.0
LnGrp LOS		E	E	E	E	E	E		E	D	D	F	E	E
Approach Vol, veh/h			1429			1468				678			1281	
Approach Delay, s/veh			56.7			62.5				50.5			72.4	
Approach LOS			E			E				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	27.1	55.9	13.4	51.4	30.0	53.1	31.2	33.6
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I2), s	22.1	43.2	9.2	42.1	16.5	40.9	26.6	22.7
Green Ext Time (p_c), s	0.6	7.0	0.1	0.0	0.6	5.7	0.2	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	61.7
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	54	1243	140	47	78	1284	98	88	50	38	52	129	124
Future Volume (veh/h)	6	54	1243	140	47	78	1284	98	88	50	38	52	129	124
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		57	1308	103		83	1366	73	99	56	31	57	142	96
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		224	1664	131		104	1436	77	114	65	36	60	151	102
Arrive On Green		0.13	0.50	0.50		0.02	0.14	0.14	0.12	0.12	0.12	0.18	0.18	0.18
Sat Flow, veh/h		1774	3325	261		1774	3418	182	936	529	293	337	840	568
Grp Volume(v), veh/h		57	695	716		83	706	733	186	0	0	295	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1816		1774	1770	1831	1759	0	0	1745	0	0
Q Serve(g_s), s		4.1	45.2	45.6		6.5	55.4	55.7	14.5	0.0	0.0	23.4	0.0	0.0
Cycle Q Clear(g_c), s		4.1	45.2	45.6		6.5	55.4	55.7	14.5	0.0	0.0	23.4	0.0	0.0
Prop In Lane		1.00		0.14		1.00		0.10	0.53		0.17	0.19		0.33
Lane Grp Cap(c), veh/h		224	886	909		104	743	769	215	0	0	313	0	0
V/C Ratio(X)		0.25	0.78	0.79		0.80	0.95	0.95	0.87	0.00	0.00	0.94	0.00	0.00
Avail Cap(c_a), veh/h		224	886	909		172	743	769	315	0	0	313	0	0
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)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		55.2	28.8	28.8		67.8	58.8	58.9	60.3	0.0	0.0	56.7	0.0	0.0
Incr Delay (d2), s/veh		0.2	6.9	6.9		5.2	22.8	22.9	11.1	0.0	0.0	35.7	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.0	23.7	24.4		3.4	31.9	33.1	7.7	0.0	0.0	14.4	0.0	0.0
LnGrp Delay(d),s/veh		55.4	35.6	35.7		73.0	81.6	81.9	71.5	0.0	0.0	92.4	0.0	0.0
LnGrp LOS		E	D	D		E	F	F	E			F		
Approach Vol, veh/h			1468				1522			186			295	
Approach Delay, s/veh			36.5				81.3			71.5			92.4	
Approach LOS			D				F			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.6	75.4		30.0	23.0	65.0		22.0
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	8.5	47.6		25.4	6.1	57.7		16.5
Green Ext Time (p_c), s	0.0	7.2		0.0	0.0	0.9		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	62.7
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	270	859	223	8	240	955	280	13	271	515	98	31	366	647	177
Future Volume (veh/h)	3	270	859	223	8	240	955	280	13	271	515	98	31	366	647	177
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.96		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		293	934	169		267	1061	224		301	572	77		411	727	139
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		319	1056	191		573	1452	306		349	906	120		466	828	345
Arrive On Green		0.06	0.12	0.12		0.05	0.11	0.11		0.20	0.40	0.40		0.14	0.23	0.23
Sat Flow, veh/h		1774	2973	538		3442	4170	879		3442	4521	599		3442	3539	1473
Grp Volume(v), veh/h		293	556	547		267	862	423		301	426	223		411	727	139
Grp Sat Flow(s),veh/h/ln		1774	1770	1741		1721	1695	1659		1721	1695	1730		1721	1770	1473
Q Serve(g_s), s		23.0	43.3	43.3		10.5	34.4	34.5		11.8	14.1	14.5		16.4	27.7	11.2
Cycle Q Clear(g_c), s		23.0	43.3	43.3		10.5	34.4	34.5		11.8	14.1	14.5		16.4	27.7	11.2
Prop In Lane		1.00		0.31		1.00		0.53		1.00		0.35		1.00		1.00
Lane Grp Cap(c), veh/h		319	628	618		573	1181	578		349	679	346		466	828	345
V/C Ratio(X)		0.92	0.88	0.89		0.47	0.73	0.73		0.86	0.63	0.64		0.88	0.88	0.40
Avail Cap(c_a), veh/h		362	628	618		573	1181	578		556	753	384		629	862	359
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		0.86	0.86	0.86		0.95	0.95	0.95		1.00	1.00	1.00
Uniform Delay (d), s/veh		64.8	59.0	59.0		60.1	55.6	55.6		54.8	37.8	37.9		59.4	51.7	45.3
Incr Delay (d2), s/veh		24.7	16.6	16.9		0.2	3.5	6.9		4.4	2.0	4.2		9.0	10.5	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		13.5	24.2	23.8		5.0	16.7	17.0		5.8	6.7	7.3		8.4	14.7	4.7
LnGrp Delay(d),s/veh		89.5	75.6	75.9		60.3	59.1	62.5		59.3	39.7	42.1		68.5	62.2	46.6
LnGrp LOS		F	E	E		E	E	E		E	D	D		E	E	D
Approach Vol, veh/h			1396				1552				950				1277	
Approach Delay, s/veh			78.7				60.2				46.5				62.5	
Approach LOS			E				E				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	55.0	18.6	37.7	29.6	54.2	23.3	32.9
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	4.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	2.5	45.3	13.8	29.7	25.0	36.5	18.4	16.5
Green Ext Time (p_c), s	0.1	2.6	0.4	2.7	0.2	0.0	0.5	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	63.2
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	123	25	45	264	4	19
Future Vol, veh/h	123	25	45	264	4	19
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	134	27	49	287	4	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	161	0	533	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	385	-
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	-	-	1418	-	507	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	486	899
Mov Cap-2 Maneuver	-	-	-	-	486	-
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	688	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	783	-	-	1418	-
HCM Lane V/C Ratio	0.032	-	-	0.034	-
HCM Control Delay (s)	9.7	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	91	0	1098	1129	21
Future Vol, veh/h	0	91	0	1098	1129	21
Conflicting Peds, #/hr	0	3	0	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	94	94	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	121	0	1168	1214	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	625	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	428	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	426	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	426	-	-
HCM Lane V/C Ratio	-	0.285	-	-
HCM Control Delay (s)	-	16.8	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1.2	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1381	1498	23	0	9
Future Vol, veh/h	0	1381	1498	23	0	9
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	1501	1628	25	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	827
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	315
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	315
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	315
HCM Lane V/C Ratio	-	-	-	0.031
HCM Control Delay (s)	-	-	-	16.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

ATTACHMENT B
NEAR-TERM BASE (YEAR 2021) PLUS PROJECT CONDITIONS – SYNCHRO WORKSHEETS

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	145	9	106	520	320	175	1033	67	6
Future Volume (veh/h)	6	208	437	145	9	106	520	320	175	1033	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	112		114	559	241	180	1065	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	937	226		270	797	343	242	1110	50	
Arrive On Green		0.08	0.33	0.33		0.08	0.33	0.33	0.09	0.43	0.43	
Sat Flow, veh/h		3442	2810	679		3442	2380	1023	3442	3444	155	
Grp Volume(v), veh/h		219	288	284		114	415	385	180	547	566	
Grp Sat Flow(s),veh/h/ln		1721	1770	1719		1721	1770	1633	1721	1770	1830	
Q Serve(g_s), s		6.7	14.0	14.2		3.4	22.0	22.1	5.5	32.4	32.4	
Cycle Q Clear(g_c), s		6.7	14.0	14.2		3.4	22.0	22.1	5.5	32.4	32.4	
Prop In Lane		1.00		0.39		1.00		0.63	1.00		0.08	
Lane Grp Cap(c), veh/h		283	590	573		270	593	547	242	570	590	
V/C Ratio(X)		0.77	0.49	0.50		0.42	0.70	0.70	0.74	0.96	0.96	
Avail Cap(c_a), veh/h		433	590	573		274	593	547	402	575	595	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.86	0.86	0.86	
Uniform Delay (d), s/veh		48.6	28.7	28.7		47.4	31.2	31.2	48.0	30.2	30.2	
Incr Delay (d2), s/veh		1.9	2.9	3.0		0.4	6.8	7.4	1.5	24.8	24.3	
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		3.3	7.3	7.3		1.6	11.8	11.1	2.6	19.7	20.3	
LnGrp Delay(d),s/veh		50.5	31.6	31.8		47.8	38.0	38.6	49.5	54.9	54.5	
LnGrp LOS		D	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			791				914			1293		
Approach Delay, s/veh			36.9				39.5			54.0		
Approach LOS			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	13.5	41.0	12.0	41.5	13.3	41.2	13.8	39.7
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	16.2	7.5	15.2	8.7	24.1	9.2	34.4
Green Ext Time (p_c), s	0.0	3.6	0.1	1.7	0.2	2.9	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	43.4
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	410	100
Future Volume (veh/h)	106	410	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	466	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1019	174
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	3004	512
Grp Volume(v), veh/h	120	273	273
Grp Sat Flow(s),veh/h/ln	1774	1770	1747
Q Serve(g_s), s	7.2	13.0	13.2
Cycle Q Clear(g_c), s	7.2	13.0	13.2
Prop In Lane	1.00		0.29
Lane Grp Cap(c), veh/h	147	600	593
V/C Ratio(X)	0.82	0.45	0.46
Avail Cap(c_a), veh/h	158	600	593
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.9	27.9
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.4	6.4
LnGrp Delay(d),s/veh	72.5	28.1	28.2
LnGrp LOS	E	C	C
Approach Vol, veh/h		666	
Approach Delay, s/veh		36.1	
Approach LOS		D	
Timer			

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	3	62	86	64	26	7	52	64	55	10	79	2
Future Vol, veh/h	3	62	86	64	26	7	52	64	55	10	79	2
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	74	102	82	33	9	79	97	83	13	105	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	9.4	10.2	9.1
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	2%	66%	11%
Vol Thru, %	37%	41%	27%	87%
Vol Right, %	32%	57%	7%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	171	151	97	91
LT Vol	52	3	64	10
Through Vol	64	62	26	79
RT Vol	55	86	7	2
Lane Flow Rate	259	180	124	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.338	0.233	0.178	0.169
Departure Headway (Hd)	4.692	4.673	5.158	5
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	762	762	689	711
Service Time	2.756	2.745	3.237	3.076
HCM Lane V/C Ratio	0.34	0.236	0.18	0.17
HCM Control Delay	10.2	9.2	9.4	9.1
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.5	0.9	0.6	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	61	30	116	95	28	75	7	104	1061	120	4	98	544	45
Future Volume (veh/h)	61	30	116	95	28	75	7	104	1061	120	4	98	544	45
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	73	36	116	122	36	67		113	1153	92		108	598	37
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	249	79	254	204	119	222		137	2957	236		130	2171	963
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21		0.08	0.62	0.62		0.15	1.00	1.00
Sat Flow, veh/h	1274	379	1222	1216	573	1067		1774	4790	382		1774	3539	1569
Grp Volume(v), veh/h	73	0	152	122	0	103		113	816	429		108	598	37
Grp Sat Flow(s),veh/h/ln	1274	0	1601	1216	0	1640		1774	1695	1782		1774	1770	1569
Q Serve(g_s), s	7.2	0.0	11.6	13.7	0.0	7.4		8.8	17.0	17.0		8.3	0.0	0.0
Cycle Q Clear(g_c), s	14.6	0.0	11.6	25.3	0.0	7.4		8.8	17.0	17.0		8.3	0.0	0.0
Prop In Lane	1.00		0.76	1.00		0.65		1.00		0.21		1.00		1.00
Lane Grp Cap(c), veh/h	249	0	333	204	0	341		137	2093	1100		130	2171	963
V/C Ratio(X)	0.29	0.00	0.46	0.60	0.00	0.30		0.83	0.39	0.39		0.83	0.28	0.04
Avail Cap(c_a), veh/h	385	0	504	334	0	517		400	2093	1100		400	2171	963
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.99	0.99	0.99
Uniform Delay (d), s/veh	53.0	0.0	48.5	59.6	0.0	46.8		63.7	13.5	13.5		58.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.7	2.1	0.0	0.4		4.8	0.5	1.0		5.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	5.2	4.7	0.0	3.4		4.5	8.1	8.7		4.2	0.1	0.0
LnGrp Delay(d),s/veh	53.5	0.0	49.2	61.7	0.0	47.2		68.5	14.1	14.5		64.0	0.3	0.1
LnGrp LOS	D		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		225			225				1358				743	
Approach Delay, s/veh		50.6			55.0				18.7				9.6	
Approach LOS		D			E				B				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	91.3		34.0	15.2	90.8		34.0
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	10.3	19.0		16.6	10.8	2.0		27.3
Green Ext Time (p_c), s	0.1	12.1		0.9	0.1	5.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	22.1
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	205	877	76	370	819	122	15	156	415	376	2	183	281	299
Future Volume (veh/h)	5	205	877	76	370	819	122	15	156	415	376	2	183	281	299
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.97
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		214	914	56	394	871	99		188	500	453		201	309	232
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		419	1087	67	453	1010	115		214	957	637		227	534	389
Arrive On Green		0.12	0.32	0.32	0.13	0.32	0.32		0.12	0.27	0.27		0.13	0.28	0.28
Sat Flow, veh/h		3442	3376	207	3442	3189	362		1774	3539	1583		1774	1924	1402
Grp Volume(v), veh/h		214	479	491	394	483	487		188	500	453		201	283	258
Grp Sat Flow(s),veh/h/ln		1721	1770	1813	1721	1770	1782		1774	1770	1583		1774	1770	1556
Q Serve(g_s), s		7.8	33.7	33.7	15.0	34.3	34.3		13.9	16.0	32.0		14.9	18.4	19.2
Cycle Q Clear(g_c), s		7.8	33.7	33.7	15.0	34.3	34.3		13.9	16.0	32.0		14.9	18.4	19.2
Prop In Lane		1.00		0.11	1.00		0.20		1.00		1.00		1.00		0.90
Lane Grp Cap(c), veh/h		419	570	584	453	561	564		214	957	637		227	491	432
V/C Ratio(X)		0.51	0.84	0.84	0.87	0.86	0.86		0.88	0.52	0.71		0.89	0.58	0.60
Avail Cap(c_a), veh/h		772	794	814	772	794	800		398	1059	682		398	530	466
HCM Platoon Ratio		1.00	1.00	1.00	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		55.0	42.1	42.1	56.9	42.9	42.9		57.8	41.4	33.5		57.3	41.5	41.8
Incr Delay (d2), s/veh		0.4	6.4	6.2	2.5	7.0	6.9		4.5	0.3	2.9		5.0	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		3.7	17.5	17.9	7.3	17.9	18.0		7.1	7.9	14.5		7.6	9.1	8.4
LnGrp Delay(d),s/veh		55.3	48.5	48.4	59.4	49.9	49.8		62.3	41.7	36.4		62.3	42.7	43.4
LnGrp LOS		E	D	D	E	D	D		E	D	D		E	D	D
Approach Vol, veh/h			1184			1364				1141				742	
Approach Delay, s/veh			49.7			52.6				43.0				48.2	
Approach LOS			D			D				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	48.7	20.5	42.4	22.0	48.7	21.5	41.4
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	17.0	35.7	15.9	21.2	9.8	36.3	16.9	34.0
Green Ext Time (p_c), s	0.6	7.4	0.2	2.7	0.3	6.0	0.2	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	48.6
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	39	1138	187	3	50	1006	97	264	104	83	66	116	88
Future Volume (veh/h)	13	39	1138	187	3	50	1006	97	264	104	83	66	116	88
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		44	1293	182		62	1242	85	388	153	85	84	147	86
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		57	1133	158		79	1267	87	274	108	60	90	157	92
Arrive On Green		0.03	0.36	0.36		0.01	0.12	0.12	0.25	0.25	0.25	0.19	0.19	0.19
Sat Flow, veh/h		1774	3106	434		1774	3356	229	1094	431	240	463	810	474
Grp Volume(v), veh/h		44	732	743		62	654	673	626	0	0	317	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1771		1774	1770	1816	1765	0	0	1747	0	0
Q Serve(g_s), s		3.4	51.1	51.1		4.9	51.6	51.8	35.1	0.0	0.0	25.0	0.0	0.0
Cycle Q Clear(g_c), s		3.4	51.1	51.1		4.9	51.6	51.8	35.1	0.0	0.0	25.0	0.0	0.0
Prop In Lane		1.00		0.25		1.00		0.13	0.62		0.14	0.26		0.27
Lane Grp Cap(c), veh/h		57	645	646		79	668	685	443	0	0	339	0	0
V/C Ratio(X)		0.78	1.13	1.15		0.78	0.98	0.98	1.41	0.00	0.00	0.93	0.00	0.00
Avail Cap(c_a), veh/h		122	645	646		122	668	685	443	0	0	351	0	0
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)		1.00	1.00	1.00		0.68	0.68	0.68	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.3	44.5	44.5		68.3	60.7	60.8	52.5	0.0	0.0	55.5	0.0	0.0
Incr Delay (d2), s/veh		8.2	78.8	84.6		5.1	23.9	24.3	199.4	0.0	0.0	30.7	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.8	39.0	40.1		2.5	29.8	30.7	41.6	0.0	0.0	15.0	0.0	0.0
LnGrp Delay(d),s/veh		75.5	123.3	129.1		73.4	84.7	85.1	251.9	0.0	0.0	86.2	0.0	0.0
LnGrp LOS		E	F	F		E	F	F	F			F		
Approach Vol, veh/h			1519				1389			626			317	
Approach Delay, s/veh			124.7				84.4			251.9			86.2	
Approach LOS			F				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.7	57.3		32.1	8.9	59.1		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	10.9	53.1		27.0	5.4	53.8		37.1
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	127.7
HCM 2010 LOS	F

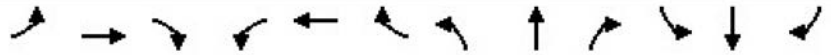
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	177	901	265	5	212	712	278	2	287	807	164	5	219	444	169
Future Volume (veh/h)	3	177	901	265	5	212	712	278	2	287	807	164	5	219	444	169
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		199	1012	210		244	818	231		305	859	153		252	510	137
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		408	1350	279		293	1222	342		351	993	176		298	756	329
Arrive On Green		0.31	0.62	0.62		0.09	0.31	0.31		0.20	0.46	0.46		0.17	0.43	0.43
Sat Flow, veh/h		1774	2912	603		3442	3923	1098		3442	4335	768		3442	3539	1541
Grp Volume(v), veh/h		199	614	608		244	706	343		305	671	341		252	510	137
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1631		1721	1695	1713		1721	1770	1541
Q Serve(g_s), s		12.8	34.6	34.9		9.8	25.4	25.7		12.0	24.8	25.1		9.9	16.2	5.3
Cycle Q Clear(g_c), s		12.8	34.6	34.9		9.8	25.4	25.7		12.0	24.8	25.1		9.9	16.2	5.3
Prop In Lane		1.00		0.35		1.00		0.67		1.00		0.45		1.00		1.00
Lane Grp Cap(c), veh/h		408	820	809		293	1056	508		351	776	392		298	756	329
V/C Ratio(X)		0.49	0.75	0.75		0.83	0.67	0.68		0.87	0.86	0.87		0.85	0.67	0.42
Avail Cap(c_a), veh/h		408	820	809		383	1056	508		457	826	417		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		1.00	1.00	1.00		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.82	0.82	0.82		1.00	1.00	1.00
Uniform Delay (d), s/veh		41.8	21.0	21.1		63.0	41.9	42.0		54.8	36.0	36.1		57.0	36.2	12.9
Incr Delay (d2), s/veh		0.0	0.6	0.6		8.2	3.1	6.4		9.4	8.2	15.5		10.7	2.7	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		6.3	16.8	16.8		5.0	12.3	12.4		6.1	12.4	13.4		5.1	8.2	3.2
LnGrp Delay(d),s/veh		41.9	21.6	21.7		71.3	45.0	48.4		64.2	44.2	51.6		67.7	38.9	14.3
LnGrp LOS		D	C	C		E	D	D		E	D	D		E	D	B
Approach Vol, veh/h			1421				1293				1317				899	
Approach Delay, s/veh			24.5				50.9				50.7				43.2	
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	16.3	70.2	18.7	34.8	37.5	49.0	16.5	37.0
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	11.8	36.9	14.0	18.2	14.8	27.7	11.9	27.1
Green Ext Time (p_c), s	0.2	8.4	0.3	4.7	0.2	5.7	0.2	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	41.8
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1975	180	442	1522	269	128	91	665	260	155	5
Future Volume (veh/h)	2	1975	180	442	1522	269	128	91	665	260	155	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2036	149	480	1654	204	126	134	672	289	172	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1827	133	350	2917	889	255	267	1064	293	299	7
Arrive On Green	0.00	0.76	0.76	0.20	0.57	0.57	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4826	351	1774	5085	1549	1774	1863	3066	1774	1812	42
Grp Volume(v), veh/h	2	1426	759	480	1654	204	126	134	672	289	0	176
Grp Sat Flow(s),veh/h/ln	1774	1695	1786	1774	1695	1549	1774	1863	1533	1774	0	1854
Q Serve(g_s), s	0.2	53.0	53.0	27.6	28.8	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Cycle Q Clear(g_c), s	0.2	53.0	53.0	27.6	28.8	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	4	1283	676	350	2917	889	255	267	1064	293	0	306
V/C Ratio(X)	0.53	1.11	1.12	1.37	0.57	0.23	0.49	0.50	0.63	0.99	0.00	0.58
Avail Cap(c_a), veh/h	274	1283	676	350	2917	889	255	267	1064	293	0	306
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)	0.39	0.39	0.39	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.6	17.0	17.0	56.2	18.9	14.7	55.3	55.3	39.0	58.3	0.0	53.9
Incr Delay (d2), s/veh	15.5	54.9	63.4	184.8	0.8	0.6	1.1	1.1	1.1	48.9	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	33.3	36.7	31.5	13.5	4.0	4.6	4.9	11.1	15.1	0.0	6.5
LnGrp Delay(d),s/veh	85.1	71.9	80.4	241.0	19.7	15.3	56.4	56.4	40.0	107.2	0.0	55.7
LnGrp LOS	F	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2187			2338			932			465	
Approach Delay, s/veh		74.9			64.7			44.6			87.7	
Approach LOS		E			E			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.0	58.5		25.0	4.7	85.8		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	2.2	30.8		24.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	67.1
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	122	7	26	81	23	82
Future Vol, veh/h	122	7	26	81	23	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	133	8	28	88	25	89

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	281	137
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	144	-
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	-	-	1442	-	709	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	883	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	695	911
Mov Cap-2 Maneuver	-	-	-	-	695	-
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	883	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1442	-
HCM Lane V/C Ratio	0.134	-	-	0.02	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	262	15	186	737	105	261	412	106	2
Future Volume (veh/h)	11	142	662	262	15	186	737	105	261	412	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	208		200	792	79	278	438	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1150	325		255	1420	142	335	722	129	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.10	0.24	0.24	
Sat Flow, veh/h		3442	2703	764		3442	3245	324	3442	2973	531	
Grp Volume(v), veh/h		158	482	462		200	432	439	278	259	258	
Grp Sat Flow(s),veh/h/ln		1721	1770	1697		1721	1770	1798	1721	1770	1735	
Q Serve(g_s), s		5.7	27.1	27.1		7.2	22.9	22.9	10.0	16.4	16.7	
Cycle Q Clear(g_c), s		5.7	27.1	27.1		7.2	22.9	22.9	10.0	16.4	16.7	
Prop In Lane		1.00		0.45		1.00		0.18	1.00		0.31	
Lane Grp Cap(c), veh/h		213	753	722		255	775	787	335	430	422	
V/C Ratio(X)		0.74	0.64	0.64		0.78	0.56	0.56	0.83	0.60	0.61	
Avail Cap(c_a), veh/h		399	753	722		399	775	787	481	479	470	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.6	28.6		57.3	26.4	26.4	55.9	42.3	42.4	
Incr Delay (d2), s/veh		1.9	4.1	4.3		2.1	2.9	2.8	5.3	1.0	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	
%ile BackOfQ(50%),veh/ln		2.8	14.1	13.6		3.5	11.8	12.0	5.0	8.1	8.1	
LnGrp Delay(d),s/veh		60.0	32.7	32.9		59.4	29.2	29.2	61.2	43.3	43.5	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1102				1071			795		
Approach Delay, s/veh			36.7				34.9			49.6		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.6	16.7	37.0	12.2	60.1	18.1	35.5
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	29.1	12.0	34.1	7.7	24.9	13.7	18.7
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	63.4
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	907	101
Future Volume (veh/h)	160	907	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	955	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	845	65
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3317	257
Grp Volume(v), veh/h	168	509	520
Grp Sat Flow(s),veh/h/ln	1774	1770	1804
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	451	460
V/C Ratio(X)	0.87	1.13	1.13
Avail Cap(c_a), veh/h	220	451	460
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	83.0	82.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	26.0	26.5
LnGrp Delay(d),s/veh	79.8	130.0	129.6
LnGrp LOS	E	F	F
Approach Vol, veh/h		1197	
Approach Delay, s/veh		122.8	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	57	41	193	68	12	83	46	77	6	90	2
Future Vol, veh/h	0	57	41	193	68	12	83	46	77	6	90	2
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	86	62	222	78	14	91	51	85	7	111	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	12.6	10.8	9.8
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	40%	0%	71%	6%
Vol Thru, %	22%	58%	25%	92%
Vol Right, %	37%	42%	4%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	206	98	273	98
LT Vol	83	0	193	6
Through Vol	46	57	68	90
RT Vol	77	41	12	2
Lane Flow Rate	226	148	314	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.328	0.211	0.456	0.186
Departure Headway (Hd)	5.223	5.122	5.226	5.537
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	688	701	690	647
Service Time	3.256	3.154	3.251	3.574
HCM Lane V/C Ratio	0.328	0.211	0.455	0.187
HCM Control Delay	10.8	9.5	12.6	9.8
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.4	0.8	2.4	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	67	45	151	109	43	129	17	158	797	130	8	176	963	157
Future Volume (veh/h)	67	45	151	109	43	129	17	158	797	130	8	176	963	157
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	71	48	121	118	47	98		174	876	101		185	1014	125
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	223	99	250	200	115	239		506	2612	300		207	1393	604
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22		0.28	0.57	0.57		0.23	0.79	0.79
Sat Flow, veh/h	1226	457	1153	1197	529	1103		1774	4621	530		1774	3539	1534
Grp Volume(v), veh/h	71	0	169	118	0	145		174	642	335		185	1014	125
Grp Sat Flow(s),veh/h/ln	1226	0	1610	1197	0	1633		1774	1695	1761		1774	1770	1534
Q Serve(g_s), s	7.4	0.0	12.9	13.4	0.0	10.7		10.9	14.2	14.3		14.1	20.0	2.9
Cycle Q Clear(g_c), s	18.1	0.0	12.9	26.3	0.0	10.7		10.9	14.2	14.3		14.1	20.0	2.9
Prop In Lane	1.00		0.72	1.00		0.68		1.00		0.30		1.00		1.00
Lane Grp Cap(c), veh/h	223	0	348	200	0	353		506	1917	996		207	1393	604
V/C Ratio(X)	0.32	0.00	0.48	0.59	0.00	0.41		0.34	0.33	0.34		0.89	0.73	0.21
Avail Cap(c_a), veh/h	397	0	576	370	0	584		506	1917	996		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.91	0.91	0.91
Uniform Delay (d), s/veh	54.9	0.0	48.0	59.5	0.0	47.2		39.7	16.3	16.3		52.8	11.2	9.3
Incr Delay (d2), s/veh	0.6	0.0	0.8	2.0	0.0	0.6		0.1	0.5	0.9		4.8	3.1	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	2.5	0.0	5.8	4.5	0.0	4.9		5.3	6.7	7.1		7.2	9.9	1.3
LnGrp Delay(d),s/veh	55.5	0.0	48.8	61.6	0.0	47.7		39.8	16.8	17.3		57.6	14.2	10.0
LnGrp LOS	E		D	E		D		D	B	B		E	B	B
Approach Vol, veh/h		240			263				1151				1324	
Approach Delay, s/veh		50.8			53.9				20.4				19.9	
Approach LOS		D			D				C				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	84.0		35.2	44.8	60.0		35.2
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	16.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	16.1	16.3		20.1	12.9	22.0		28.3
Green Ext Time (p_c), s	0.2	7.9		1.1	0.1	11.0		1.0

Intersection Summary		
HCM 2010 Ctrl Delay	25.6	
HCM 2010 LOS	C	

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	356	1012	68	476	886	120	21	85	310	372	271	656	288
Future Volume (veh/h)	15	356	1012	68	476	886	120	21	85	310	372	271	656	288
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		371	1054	52	506	943	94		90	330	284	315	763	237
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		570	1166	58	552	1045	104		110	671	538	331	831	258
Arrive On Green		0.17	0.34	0.34	0.16	0.32	0.32		0.06	0.19	0.19	0.19	0.31	0.31
Sat Flow, veh/h		3442	3426	169	3442	3238	323		1774	3539	1499	1774	2645	822
Grp Volume(v), veh/h		371	544	562	506	515	522		90	330	284	315	510	490
Grp Sat Flow(s),veh/h/ln		1721	1770	1826	1721	1770	1791		1774	1770	1499	1774	1770	1697
Q Serve(g_s), s		16.2	47.1	47.1	23.3	44.8	44.8		8.1	13.4	24.4	28.2	44.7	44.7
Cycle Q Clear(g_c), s		16.2	47.1	47.1	23.3	44.8	44.8		8.1	13.4	24.4	28.2	44.7	44.7
Prop In Lane		1.00		0.09	1.00		0.18		1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h		570	602	621	552	571	578		110	671	538	331	556	533
V/C Ratio(X)		0.65	0.90	0.90	0.92	0.90	0.90		0.82	0.49	0.53	0.95	0.92	0.92
Avail Cap(c_a), veh/h		642	660	681	642	660	668		331	880	627	331	556	533
HCM Platoon Ratio		1.00	1.00	1.00	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		62.7	50.5	50.5	66.5	52.1	52.1		74.5	58.2	41.9	64.7	53.1	53.1
Incr Delay (d2), s/veh		1.3	15.3	15.0	15.6	14.4	14.3		5.5	0.4	0.5	36.5	20.2	20.9
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		7.8	25.5	26.3	12.3	24.2	24.5		4.1	6.6	10.2	17.2	25.0	24.0
LnGrp Delay(d),s/veh		64.1	65.9	65.5	82.0	66.5	66.4		80.1	58.6	42.5	101.2	73.4	74.0
LnGrp LOS		E	E	E	F	E	E		F	E	D	F	E	E
Approach Vol, veh/h			1477			1543				704			1315	
Approach Delay, s/veh			65.3			71.5				54.8			80.3	
Approach LOS			E			E				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	30.2	60.4	14.4	55.8	32.3	58.3	34.4	35.8
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	25.3	49.1	10.1	46.7	18.2	46.8	30.2	26.4
Green Ext Time (p_c), s	0.5	5.6	0.1	0.0	0.5	5.1	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	69.7
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	54	1274	169	47	76	1313	100	123	56	38	54	135	131
Future Volume (veh/h)	6	54	1274	169	47	76	1313	100	123	56	38	54	135	131
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		57	1341	134		81	1397	75	138	63	31	59	148	104
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		180	1551	154		102	1435	77	154	70	35	59	149	104
Arrive On Green		0.10	0.48	0.48		0.02	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3251	323		1774	3417	183	1049	479	236	331	829	583
Grp Volume(v), veh/h		57	727	748		81	722	750	232	0	0	311	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1805		1774	1770	1830	1764	0	0	1742	0	0
Q Serve(g_s), s		4.2	51.1	51.8		6.4	56.8	57.1	18.1	0.0	0.0	25.0	0.0	0.0
Cycle Q Clear(g_c), s		4.2	51.1	51.8		6.4	56.8	57.1	18.1	0.0	0.0	25.0	0.0	0.0
Prop In Lane		1.00		0.18		1.00		0.10	0.59		0.13	0.19		0.33
Lane Grp Cap(c), veh/h		180	844	861		102	743	769	259	0	0	312	0	0
V/C Ratio(X)		0.32	0.86	0.87		0.80	0.97	0.98	0.90	0.00	0.00	1.00	0.00	0.00
Avail Cap(c_a), veh/h		180	844	861		172	743	769	316	0	0	312	0	0
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)		1.00	1.00	1.00		0.45	0.45	0.45	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		58.4	32.5	32.7		67.9	59.5	59.6	58.7	0.0	0.0	57.4	0.0	0.0
Incr Delay (d2), s/veh		0.4	11.2	11.5		2.4	16.4	16.8	20.9	0.0	0.0	49.6	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.1	27.5	28.5		3.2	31.3	32.6	10.3	0.0	0.0	16.3	0.0	0.0
LnGrp Delay(d),s/veh		58.7	43.7	44.2		70.3	75.8	76.4	79.6	0.0	0.0	107.0	0.0	0.0
LnGrp LOS		E	D	D		E	E	E	E			F		
Approach Vol, veh/h			1532				1553			232			311	
Approach Delay, s/veh			44.5				75.8			79.6			107.0	
Approach LOS			D				E			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	72.1		30.0	19.5	65.0		25.5
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	8.4	53.8		27.0	6.2	59.1		20.1
Green Ext Time (p_c), s	0.0	2.5		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	65.5
HCM 2010 LOS	E

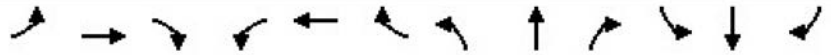
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	272	887	225	8	278	969	307	13	267	530	146	31	379	655	182
Future Volume (veh/h)	3	272	887	225	8	278	969	307	13	267	530	146	31	379	655	182
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.96		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		296	964	172		309	1077	254		297	589	130		426	736	144
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		322	1058	189		575	1413	333		346	813	175		480	831	346
Arrive On Green		0.06	0.12	0.12		0.06	0.11	0.11		0.20	0.39	0.39		0.14	0.23	0.23
Sat Flow, veh/h		1774	2981	531		3442	4071	959		3442	4156	897		3442	3539	1474
Grp Volume(v), veh/h		296	572	564		309	897	434		297	478	241		426	736	144
Grp Sat Flow(s),veh/h/ln		1774	1770	1743		1721	1695	1641		1721	1695	1662		1721	1770	1474
Q Serve(g_s), s		23.2	44.7	44.8		12.2	35.9	36.0		11.7	16.7	17.4		17.0	28.1	11.6
Cycle Q Clear(g_c), s		23.2	44.7	44.8		12.2	35.9	36.0		11.7	16.7	17.4		17.0	28.1	11.6
Prop In Lane		1.00		0.30		1.00		0.58		1.00		0.54		1.00		1.00
Lane Grp Cap(c), veh/h		322	628	619		575	1177	569		346	663	325		480	831	346
V/C Ratio(X)		0.92	0.91	0.91		0.54	0.76	0.76		0.86	0.72	0.74		0.89	0.89	0.42
Avail Cap(c_a), veh/h		362	628	619		575	1177	569		556	753	369		629	862	359
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.09	0.09	0.09		0.84	0.84	0.84		0.93	0.93	0.93		1.00	1.00	1.00
Uniform Delay (d), s/veh		64.8	59.6	59.6		60.9	56.4	56.4		55.0	39.4	39.6		59.2	51.8	45.4
Incr Delay (d2), s/veh		3.5	2.5	2.5		0.5	4.0	8.0		4.0	3.5	7.9		10.0	11.3	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		11.7	22.4	22.1		5.9	17.6	17.6		5.7	8.1	8.6		8.8	15.1	4.9
LnGrp Delay(d),s/veh		68.3	62.1	62.2		61.3	60.3	64.3		59.0	42.9	47.5		69.1	63.0	46.8
LnGrp LOS		E	E	E		E	E	E		E	D	D		E	E	D
Approach Vol, veh/h			1432				1640				1016				1306	
Approach Delay, s/veh			63.4				61.6				48.7				63.2	
Approach LOS			E				E				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	55.0	18.5	37.8	29.8	54.0	23.9	32.3
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	4.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	4.2	46.8	13.7	30.1	25.2	38.0	19.0	19.4
Green Ext Time (p_c), s	0.0	1.9	0.4	2.5	0.2	0.0	0.5	5.2

Intersection Summary	
HCM 2010 Ctrl Delay	60.0
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1529	205	476	2047	294	149	54	335	193	158	18
Future Volume (veh/h)	20	1529	205	476	2047	294	149	54	335	193	158	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1576	166	491	2110	212	115	137	333	214	176	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1866	196	400	3196	993	191	201	1043	191	183	15
Arrive On Green	0.03	0.84	0.84	0.23	0.63	0.63	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1774	4457	469	1774	5085	1581	1774	1863	3045	1774	1696	135
Grp Volume(v), veh/h	21	1119	623	491	2110	212	115	137	333	214	0	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1759	1774	1695	1581	1774	1863	1522	1774	0	1831
Q Serve(g_s), s	1.6	27.4	27.6	31.6	36.9	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Cycle Q Clear(g_c), s	1.6	27.4	27.6	31.6	36.9	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	28	1326	736	400	3196	993	191	201	1043	191	0	198
V/C Ratio(X)	0.74	0.84	0.85	1.23	0.66	0.21	0.60	0.68	0.32	1.12	0.00	0.96
Avail Cap(c_a), veh/h	134	1326	736	400	3196	993	318	334	1261	191	0	198
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)	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	8.8	8.9	54.2	16.5	11.2	59.6	60.2	34.9	62.5	0.0	62.2
Incr Delay (d2), s/veh	9.8	4.9	8.6	122.1	1.1	0.5	2.3	3.0	0.1	100.4	0.0	52.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	12.1	14.2	29.0	17.5	3.7	4.4	5.3	4.8	12.7	0.0	10.2
LnGrp Delay(d),s/veh	77.3	13.8	17.5	176.3	17.6	11.7	61.8	63.2	35.0	162.9	0.0	114.8
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1763			2813			585			404	
Approach Delay, s/veh		15.8			44.9			46.9			140.3	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	64.0		20.0	6.6	93.4		20.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	1.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	3.6	29.6		17.1	3.6	38.9		13.5
Green Ext Time (p_c), s	0.0	15.9		0.0	0.0	25.2		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	42.8
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	123	25	90	264	12	42
Future Vol, veh/h	123	25	90	264	12	42
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	134	27	98	287	13	46

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	161	0	631	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	483	-
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	-	-	1418	-	445	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	409	899
Mov Cap-2 Maneuver	-	-	-	-	409	-
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	620	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	710	-	-	1418	-
HCM Lane V/C Ratio	0.083	-	-	0.069	-
HCM Control Delay (s)	10.5	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	145	9	106	520	320	175	1033	67	6
Future Volume (veh/h)	6	208	437	145	9	106	520	320	175	1033	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	112		114	559	241	180	1065	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	937	226		270	797	343	242	1110	50	
Arrive On Green		0.08	0.33	0.33		0.08	0.33	0.33	0.09	0.43	0.43	
Sat Flow, veh/h		3442	2810	679		3442	2380	1023	3442	3444	155	
Grp Volume(v), veh/h		219	288	284		114	415	385	180	547	566	
Grp Sat Flow(s),veh/h/ln		1721	1770	1719		1721	1770	1633	1721	1770	1830	
Q Serve(g_s), s		6.7	14.0	14.2		3.4	22.0	22.1	5.5	32.4	32.4	
Cycle Q Clear(g_c), s		6.7	14.0	14.2		3.4	22.0	22.1	5.5	32.4	32.4	
Prop In Lane		1.00		0.39		1.00		0.63	1.00		0.08	
Lane Grp Cap(c), veh/h		283	590	573		270	593	547	242	570	590	
V/C Ratio(X)		0.77	0.49	0.50		0.42	0.70	0.70	0.74	0.96	0.96	
Avail Cap(c_a), veh/h		433	590	573		274	593	547	402	575	595	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.86	0.86	0.86	
Uniform Delay (d), s/veh		48.6	28.7	28.7		47.4	31.2	31.2	48.0	30.2	30.2	
Incr Delay (d2), s/veh		1.9	2.9	3.0		0.4	6.8	7.4	1.5	24.8	24.3	
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		3.3	7.3	7.3		1.6	11.8	11.1	2.6	19.7	20.3	
LnGrp Delay(d),s/veh		50.5	31.6	31.8		47.8	38.0	38.6	49.5	54.9	54.5	
LnGrp LOS		D	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			791				914			1293		
Approach Delay, s/veh			36.9				39.5			54.0		
Approach LOS			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	13.5	41.0	12.0	41.5	13.3	41.2	13.8	39.7
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	16.2	7.5	15.2	8.7	24.1	9.2	34.4
Green Ext Time (p_c), s	0.0	3.6	0.1	1.7	0.2	2.9	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	43.4
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	410	100
Future Volume (veh/h)	106	410	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	466	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1019	174
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	3004	512
Grp Volume(v), veh/h	120	273	273
Grp Sat Flow(s),veh/h/ln	1774	1770	1747
Q Serve(g_s), s	7.2	13.0	13.2
Cycle Q Clear(g_c), s	7.2	13.0	13.2
Prop In Lane	1.00		0.29
Lane Grp Cap(c), veh/h	147	600	593
V/C Ratio(X)	0.82	0.45	0.46
Avail Cap(c_a), veh/h	158	600	593
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.9	27.9
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.4	6.4
LnGrp Delay(d),s/veh	72.5	28.1	28.2
LnGrp LOS	E	C	C
Approach Vol, veh/h		666	
Approach Delay, s/veh		36.1	
Approach LOS		D	
Timer			

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	62	86	57	26	7	52	64	55	10	79	2
Future Vol, veh/h	3	62	86	57	26	7	52	64	55	10	79	2
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	74	102	73	33	9	79	97	83	13	105	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9.2	10.1	9.1
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	2%	63%	11%
Vol Thru, %	37%	41%	29%	87%
Vol Right, %	32%	57%	8%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	171	151	90	91
LT Vol	52	3	57	10
Through Vol	64	62	26	79
RT Vol	55	86	7	2
Lane Flow Rate	259	180	115	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.336	0.232	0.165	0.168
Departure Headway (Hd)	4.668	4.656	5.146	4.975
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	764	764	691	716
Service Time	2.728	2.725	3.221	3.045
HCM Lane V/C Ratio	0.339	0.236	0.166	0.169
HCM Control Delay	10.1	9.1	9.2	9.1
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.5	0.9	0.6	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	56	30	77	96	28	75	7	104	1066	121	4	98	548	41
Future Volume (veh/h)	56	30	77	96	28	75	7	104	1066	121	4	98	548	41
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	67	36	69	123	36	67		113	1159	94		108	602	33
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	214	102	196	212	105	195		137	3073	249		130	2260	1002
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18		0.08	0.64	0.64		0.15	1.00	1.00
Sat Flow, veh/h	1272	559	1071	1265	572	1065		1774	4784	388		1774	3539	1570
Grp Volume(v), veh/h	67	0	105	123	0	103		113	821	432		108	602	33
Grp Sat Flow(s),veh/h/ln	1272	0	1630	1265	0	1638		1774	1695	1781		1774	1770	1570
Q Serve(g_s), s	6.8	0.0	7.9	13.2	0.0	7.7		8.8	16.0	16.0		8.3	0.0	0.0
Cycle Q Clear(g_c), s	14.5	0.0	7.9	21.0	0.0	7.7		8.8	16.0	16.0		8.3	0.0	0.0
Prop In Lane	1.00		0.66	1.00		0.65		1.00		0.22		1.00		1.00
Lane Grp Cap(c), veh/h	214	0	298	212	0	300		137	2178	1144		130	2260	1002
V/C Ratio(X)	0.31	0.00	0.35	0.58	0.00	0.34		0.83	0.38	0.38		0.83	0.27	0.03
Avail Cap(c_a), veh/h	382	0	513	379	0	516		400	2178	1144		400	2260	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.99	0.99	0.99
Uniform Delay (d), s/veh	56.2	0.0	49.9	59.1	0.0	49.9		63.7	11.8	11.8		58.9	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.5	1.9	0.0	0.5		4.8	0.5	1.0		5.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.6	4.7	0.0	3.5		4.5	7.6	8.1		4.2	0.1	0.0
LnGrp Delay(d),s/veh	56.8	0.0	50.5	61.0	0.0	50.4		68.5	12.3	12.8		64.0	0.3	0.1
LnGrp LOS	E		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		172			226				1366				743	
Approach Delay, s/veh		52.9			56.2				17.1				9.5	
Approach LOS		D			E				B				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	94.8		30.5	15.2	94.3		30.5
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	10.3	18.0		16.5	10.8	2.0		23.0
Green Ext Time (p_c), s	0.1	12.3		0.7	0.1	5.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	20.8
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	205	877	76	370	819	122	15	156	415	376	2	183	281	299
Future Volume (veh/h)	5	205	877	76	370	819	122	15	156	415	376	2	183	281	299
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.97
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		214	914	56	394	871	99		188	500	453		201	309	232
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		419	1087	67	453	1010	115		214	957	637		227	534	389
Arrive On Green		0.12	0.32	0.32	0.13	0.32	0.32		0.12	0.27	0.27		0.13	0.28	0.28
Sat Flow, veh/h		3442	3376	207	3442	3189	362		1774	3539	1583		1774	1924	1402
Grp Volume(v), veh/h		214	479	491	394	483	487		188	500	453		201	283	258
Grp Sat Flow(s),veh/h/ln		1721	1770	1813	1721	1770	1782		1774	1770	1583		1774	1770	1556
Q Serve(g_s), s		7.8	33.7	33.7	15.0	34.3	34.3		13.9	16.0	32.0		14.9	18.4	19.2
Cycle Q Clear(g_c), s		7.8	33.7	33.7	15.0	34.3	34.3		13.9	16.0	32.0		14.9	18.4	19.2
Prop In Lane		1.00		0.11	1.00		0.20		1.00		1.00		1.00		0.90
Lane Grp Cap(c), veh/h		419	570	584	453	561	564		214	957	637		227	491	432
V/C Ratio(X)		0.51	0.84	0.84	0.87	0.86	0.86		0.88	0.52	0.71		0.89	0.58	0.60
Avail Cap(c_a), veh/h		772	794	814	772	794	800		398	1059	682		398	530	466
HCM Platoon Ratio		1.00	1.00	1.00	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		55.0	42.1	42.1	56.9	42.9	42.9		57.8	41.4	33.5		57.3	41.5	41.8
Incr Delay (d2), s/veh		0.4	6.4	6.2	2.5	7.0	6.9		4.5	0.3	2.9		5.0	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		3.7	17.5	17.9	7.3	17.9	18.0		7.1	7.9	14.5		7.6	9.1	8.4
LnGrp Delay(d),s/veh		55.3	48.5	48.4	59.4	49.9	49.8		62.3	41.7	36.4		62.3	42.7	43.4
LnGrp LOS		E	D	D	E	D	D		E	D	D		E	D	D
Approach Vol, veh/h			1184			1364				1141				742	
Approach Delay, s/veh			49.7			52.6				43.0				48.2	
Approach LOS			D			D				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	48.7	20.5	42.4	22.0	48.7	21.5	41.4
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	17.0	35.7	15.9	21.2	9.8	36.3	16.9	34.0
Green Ext Time (p_c), s	0.6	7.4	0.2	2.7	0.3	6.0	0.2	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	48.6
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	39	1138	187	3	51	1016	97	264	104	83	66	115	78
Future Volume (veh/h)	13	39	1138	187	3	51	1016	97	264	104	83	66	115	78
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		44	1293	182		63	1254	85	388	153	85	84	146	74
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		57	1153	161		81	1292	87	274	108	60	91	158	80
Arrive On Green		0.03	0.37	0.37		0.02	0.13	0.13	0.25	0.25	0.25	0.19	0.19	0.19
Sat Flow, veh/h		1774	3106	434		1774	3358	227	1094	431	240	485	843	427
Grp Volume(v), veh/h		44	732	743		63	660	679	626	0	0	304	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1771		1774	1770	1816	1765	0	0	1755	0	0
Q Serve(g_s), s		3.4	52.0	52.0		5.0	52.0	52.2	35.1	0.0	0.0	23.9	0.0	0.0
Cycle Q Clear(g_c), s		3.4	52.0	52.0		5.0	52.0	52.2	35.1	0.0	0.0	23.9	0.0	0.0
Prop In Lane		1.00		0.25		1.00		0.13	0.62		0.14	0.28		0.24
Lane Grp Cap(c), veh/h		57	657	657		81	681	699	443	0	0	328	0	0
V/C Ratio(X)		0.78	1.12	1.13		0.78	0.97	0.97	1.41	0.00	0.00	0.93	0.00	0.00
Avail Cap(c_a), veh/h		122	657	657		122	681	699	443	0	0	352	0	0
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)		1.00	1.00	1.00		0.67	0.67	0.67	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.3	44.0	44.0		68.3	60.3	60.4	52.5	0.0	0.0	56.0	0.0	0.0
Incr Delay (d2), s/veh		8.2	71.2	76.7		5.7	21.8	22.1	199.4	0.0	0.0	28.0	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.8	38.3	39.4		2.6	29.7	30.6	41.6	0.0	0.0	14.1	0.0	0.0
LnGrp Delay(d),s/veh		75.5	115.2	120.7		74.0	82.1	82.5	251.9	0.0	0.0	84.0	0.0	0.0
LnGrp LOS		E	F	F		E	F	F	F			F		
Approach Vol, veh/h			1519				1402			626			304	
Approach Delay, s/veh			116.8				81.9			251.9			84.0	
Approach LOS			F				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.8	58.2		31.1	8.9	60.0		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	7.0	54.0		25.9	5.4	54.2		37.1
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	123.4
HCM 2010 LOS	F

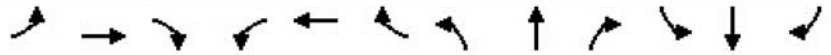
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	177	901	265	5	212	712	278	2	287	807	164	5	225	444	180
Future Volume (veh/h)	3	177	901	265	5	212	712	278	2	287	807	164	5	225	444	180
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		199	1012	210		244	818	231		305	859	153		259	510	150
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		405	1344	278		293	1222	342		351	993	176		304	763	332
Arrive On Green		0.30	0.61	0.61		0.09	0.31	0.31		0.20	0.46	0.46		0.18	0.43	0.43
Sat Flow, veh/h		1774	2912	603		3442	3923	1098		3442	4335	768		3442	3539	1541
Grp Volume(v), veh/h		199	614	608		244	706	343		305	671	341		259	510	150
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1631		1721	1695	1713		1721	1770	1541
Q Serve(g_s), s		12.9	34.8	35.1		9.8	25.4	25.7		12.0	24.8	25.1		10.2	16.1	5.9
Cycle Q Clear(g_c), s		12.9	34.8	35.1		9.8	25.4	25.7		12.0	24.8	25.1		10.2	16.1	5.9
Prop In Lane		1.00		0.35		1.00		0.67		1.00		0.45		1.00		1.00
Lane Grp Cap(c), veh/h		405	817	805		293	1056	508		351	776	392		304	763	332
V/C Ratio(X)		0.49	0.75	0.75		0.83	0.67	0.68		0.87	0.86	0.87		0.85	0.67	0.45
Avail Cap(c_a), veh/h		405	817	805		383	1056	508		457	826	417		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		1.00	1.00	1.00		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.82	0.82	0.82		1.00	1.00	1.00
Uniform Delay (d), s/veh		42.1	21.3	21.3		63.0	41.9	42.0		54.8	36.0	36.1		56.7	35.8	12.9
Incr Delay (d2), s/veh		0.0	0.6	0.6		8.2	3.1	6.4		9.4	8.2	15.5		11.6	2.6	1.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		6.3	17.0	16.8		5.0	12.3	12.4		6.1	12.4	13.4		5.3	8.1	3.4
LnGrp Delay(d),s/veh		42.1	21.9	21.9		71.3	45.0	48.4		64.2	44.2	51.6		68.4	38.4	14.5
LnGrp LOS		D	C	C		E	D	D		E	D	D		E	D	B
Approach Vol, veh/h			1421				1293				1317				919	
Approach Delay, s/veh			24.7				50.9				50.7				43.0	
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	16.3	69.9	18.7	35.1	37.3	49.0	16.8	37.0
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	11.8	37.1	14.0	18.1	14.9	27.7	12.2	27.1
Green Ext Time (p_c), s	0.2	8.3	0.3	4.8	0.2	5.7	0.2	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	41.9
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1975	180	442	1522	269	128	91	665	260	155	5
Future Volume (veh/h)	2	1975	180	442	1522	269	128	91	665	260	155	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2036	149	480	1654	204	126	134	672	289	172	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1827	133	350	2917	889	255	267	1064	293	299	7
Arrive On Green	0.00	0.76	0.76	0.20	0.57	0.57	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4826	351	1774	5085	1549	1774	1863	3066	1774	1812	42
Grp Volume(v), veh/h	2	1426	759	480	1654	204	126	134	672	289	0	176
Grp Sat Flow(s),veh/h/ln	1774	1695	1786	1774	1695	1549	1774	1863	1533	1774	0	1854
Q Serve(g_s), s	0.2	53.0	53.0	27.6	28.8	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Cycle Q Clear(g_c), s	0.2	53.0	53.0	27.6	28.8	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	4	1283	676	350	2917	889	255	267	1064	293	0	306
V/C Ratio(X)	0.53	1.11	1.12	1.37	0.57	0.23	0.49	0.50	0.63	0.99	0.00	0.58
Avail Cap(c_a), veh/h	274	1283	676	350	2917	889	255	267	1064	293	0	306
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)	0.39	0.39	0.39	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.6	17.0	17.0	56.2	18.9	14.7	55.3	55.3	39.0	58.3	0.0	53.9
Incr Delay (d2), s/veh	15.5	54.9	63.4	184.8	0.8	0.6	1.1	1.1	1.1	48.9	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	33.3	36.7	31.5	13.5	4.0	4.6	4.9	11.1	15.1	0.0	6.5
LnGrp Delay(d),s/veh	85.1	71.9	80.4	241.0	19.7	15.3	56.4	56.4	40.0	107.2	0.0	55.7
LnGrp LOS	F	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2187			2338			932			465	
Approach Delay, s/veh		74.9			64.7			44.6			87.7	
Approach LOS		E			E			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.0	58.5		25.0	4.7	85.8		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	2.2	30.8		24.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	67.1
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	122	7	17	81	12	36
Future Vol, veh/h	122	7	17	81	12	36
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	133	8	18	88	13	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	261	137
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	124	-
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	-	-	1442	-	728	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	719	911
Mov Cap-2 Maneuver	-	-	-	-	719	-
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	902	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	854	-	-	1442	-
HCM Lane V/C Ratio	0.061	-	-	0.013	-
HCM Control Delay (s)	9.5	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	56	0	1273	797	9
Future Vol, veh/h	0	56	0	1273	797	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	61	0	1384	866	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	438	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	567	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	567	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	567	-	-
HCM Lane V/C Ratio	-	0.107	-	-
HCM Control Delay (s)	-	12.1	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	262	15	186	737	105	261	412	106	2
Future Volume (veh/h)	11	142	662	262	15	186	737	105	261	412	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	208		200	792	79	278	438	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1150	325		255	1420	142	335	722	129	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.10	0.24	0.24	
Sat Flow, veh/h		3442	2703	764		3442	3245	324	3442	2973	531	
Grp Volume(v), veh/h		158	482	462		200	432	439	278	259	258	
Grp Sat Flow(s),veh/h/ln		1721	1770	1697		1721	1770	1798	1721	1770	1735	
Q Serve(g_s), s		5.7	27.1	27.1		7.2	22.9	22.9	10.0	16.4	16.7	
Cycle Q Clear(g_c), s		5.7	27.1	27.1		7.2	22.9	22.9	10.0	16.4	16.7	
Prop In Lane		1.00		0.45		1.00		0.18	1.00		0.31	
Lane Grp Cap(c), veh/h		213	753	722		255	775	787	335	430	422	
V/C Ratio(X)		0.74	0.64	0.64		0.78	0.56	0.56	0.83	0.60	0.61	
Avail Cap(c_a), veh/h		399	753	722		399	775	787	481	479	470	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.6	28.6		57.3	26.4	26.4	55.9	42.3	42.4	
Incr Delay (d2), s/veh		1.9	4.1	4.3		2.1	2.9	2.8	5.3	1.0	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	
%ile BackOfQ(50%),veh/ln		2.8	14.1	13.6		3.5	11.8	12.0	5.0	8.1	8.1	
LnGrp Delay(d),s/veh		60.0	32.7	32.9		59.4	29.2	29.2	61.2	43.3	43.5	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1102				1071			795		
Approach Delay, s/veh			36.7				34.9			49.6		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.6	16.7	37.0	12.2	60.1	18.1	35.5
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	29.1	12.0	34.1	7.7	24.9	13.7	18.7
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	63.4
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	907	101
Future Volume (veh/h)	160	907	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	955	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	845	65
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3317	257
Grp Volume(v), veh/h	168	509	520
Grp Sat Flow(s),veh/h/ln	1774	1770	1804
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	451	460
V/C Ratio(X)	0.87	1.13	1.13
Avail Cap(c_a), veh/h	220	451	460
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	83.0	82.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	26.0	26.5
LnGrp Delay(d),s/veh	79.8	130.0	129.6
LnGrp LOS	E	F	F
Approach Vol, veh/h		1197	
Approach Delay, s/veh		122.8	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	57	41	189	68	12	83	46	77	6	90	2
Future Vol, veh/h	0	57	41	189	68	12	83	46	77	6	90	2
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	86	62	217	78	14	91	51	85	7	111	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	12.4	10.8	9.8
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	40%	0%	70%	6%
Vol Thru, %	22%	58%	25%	92%
Vol Right, %	37%	42%	4%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	206	98	269	98
LT Vol	83	0	189	6
Through Vol	46	57	68	90
RT Vol	77	41	12	2
Lane Flow Rate	226	148	309	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.327	0.211	0.448	0.186
Departure Headway (Hd)	5.208	5.11	5.221	5.522
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	690	702	690	650
Service Time	3.24	3.143	3.248	3.557
HCM Lane V/C Ratio	0.328	0.211	0.448	0.186
HCM Control Delay	10.8	9.5	12.4	9.8
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.4	0.8	2.3	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	64	45	131	111	41	129	17	158	800	130	8	176	975	145
Future Volume (veh/h)	64	45	131	111	41	129	17	158	800	130	8	176	975	145
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	68	48	99	121	45	98		174	879	101		185	1026	113
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	211	109	225	207	106	230		524	2660	304		207	1393	604
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21		0.30	0.58	0.58		0.23	0.79	0.79
Sat Flow, veh/h	1228	530	1092	1219	513	1116		1774	4623	529		1774	3539	1534
Grp Volume(v), veh/h	68	0	147	121	0	143		174	644	336		185	1026	113
Grp Sat Flow(s),veh/h/ln	1228	0	1622	1219	0	1629		1774	1695	1762		1774	1770	1534
Q Serve(g_s), s	7.1	0.0	11.1	13.5	0.0	10.7		10.7	13.9	14.0		14.1	20.6	2.6
Cycle Q Clear(g_c), s	17.8	0.0	11.1	24.5	0.0	10.7		10.7	13.9	14.0		14.1	20.6	2.6
Prop In Lane	1.00		0.67	1.00		0.69		1.00		0.30		1.00		1.00
Lane Grp Cap(c), veh/h	211	0	335	207	0	336		524	1951	1014		207	1393	604
V/C Ratio(X)	0.32	0.00	0.44	0.59	0.00	0.43		0.33	0.33	0.33		0.89	0.74	0.19
Avail Cap(c_a), veh/h	397	0	580	391	0	583		524	1951	1014		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.91	0.91	0.91
Uniform Delay (d), s/veh	56.1	0.0	48.5	59.2	0.0	48.3		38.6	15.6	15.6		52.8	11.2	9.3
Incr Delay (d2), s/veh	0.6	0.0	0.7	2.0	0.0	0.6		0.1	0.5	0.9		4.8	3.2	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	2.5	0.0	5.0	4.6	0.0	4.9		5.3	6.6	7.1		7.2	10.3	1.2
LnGrp Delay(d),s/veh	56.7	0.0	49.2	61.2	0.0	49.0		38.7	16.0	16.5		57.6	14.4	9.9
LnGrp LOS	E		D	E		D		D	B	B		E	B	A
Approach Vol, veh/h		215			264				1154				1324	
Approach Delay, s/veh		51.6			54.6				19.6				20.1	
Approach LOS		D			D				B				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	85.5		33.8	46.2	60.0		33.8
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	16.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	16.1	16.0		19.8	12.7	22.6		26.5
Green Ext Time (p_c), s	0.2	8.0		0.9	0.1	11.0		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	25.2
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	356	1012	68	476	886	120	21	85	310	372	271	656	288
Future Volume (veh/h)	15	356	1012	68	476	886	120	21	85	310	372	271	656	288
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		371	1054	52	506	943	94		90	330	284	315	763	237
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		570	1166	58	552	1045	104		110	671	538	331	831	258
Arrive On Green		0.17	0.34	0.34	0.16	0.32	0.32		0.06	0.19	0.19	0.19	0.31	0.31
Sat Flow, veh/h		3442	3426	169	3442	3238	323		1774	3539	1499	1774	2645	822
Grp Volume(v), veh/h		371	544	562	506	515	522		90	330	284	315	510	490
Grp Sat Flow(s),veh/h/ln		1721	1770	1826	1721	1770	1791		1774	1770	1499	1774	1770	1697
Q Serve(g_s), s		16.2	47.1	47.1	23.3	44.8	44.8		8.1	13.4	24.4	28.2	44.7	44.7
Cycle Q Clear(g_c), s		16.2	47.1	47.1	23.3	44.8	44.8		8.1	13.4	24.4	28.2	44.7	44.7
Prop In Lane		1.00		0.09	1.00		0.18		1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h		570	602	621	552	571	578		110	671	538	331	556	533
V/C Ratio(X)		0.65	0.90	0.90	0.92	0.90	0.90		0.82	0.49	0.53	0.95	0.92	0.92
Avail Cap(c_a), veh/h		642	660	681	642	660	668		331	880	627	331	556	533
HCM Platoon Ratio		1.00	1.00	1.00	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		62.7	50.5	50.5	66.5	52.1	52.1		74.5	58.2	41.9	64.7	53.1	53.1
Incr Delay (d2), s/veh		1.3	15.3	15.0	15.6	14.4	14.3		5.5	0.4	0.5	36.5	20.2	20.9
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		7.8	25.5	26.3	12.3	24.2	24.5		4.1	6.6	10.2	17.2	25.0	24.0
LnGrp Delay(d),s/veh		64.1	65.9	65.5	82.0	66.5	66.4		80.1	58.6	42.5	101.2	73.4	74.0
LnGrp LOS		E	E	E	F	E	E		F	E	D	F	E	E
Approach Vol, veh/h			1477			1543				704			1315	
Approach Delay, s/veh			65.3			71.5				54.8			80.3	
Approach LOS			E			E				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	30.2	60.4	14.4	55.8	32.3	58.3	34.4	35.8
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	25.3	49.1	10.1	46.7	18.2	46.8	30.2	26.4
Green Ext Time (p_c), s	0.5	5.6	0.1	0.0	0.5	5.1	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	69.7
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	54	1274	169	47	76	1318	100	123	56	38	54	135	126
Future Volume (veh/h)	6	54	1274	169	47	76	1318	100	123	56	38	54	135	126
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		57	1341	134		81	1402	75	138	63	31	59	148	98
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		180	1551	154		102	1435	77	154	70	35	61	152	101
Arrive On Green		0.10	0.48	0.48		0.02	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3251	323		1774	3418	182	1049	479	236	338	847	561
Grp Volume(v), veh/h		57	727	748		81	724	753	232	0	0	305	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1805		1774	1770	1831	1764	0	0	1746	0	0
Q Serve(g_s), s		4.2	51.1	51.8		6.4	57.1	57.4	18.1	0.0	0.0	24.3	0.0	0.0
Cycle Q Clear(g_c), s		4.2	51.1	51.8		6.4	57.1	57.4	18.1	0.0	0.0	24.3	0.0	0.0
Prop In Lane		1.00		0.18		1.00		0.10	0.59		0.13	0.19		0.32
Lane Grp Cap(c), veh/h		180	844	861		102	743	769	259	0	0	313	0	0
V/C Ratio(X)		0.32	0.86	0.87		0.80	0.97	0.98	0.90	0.00	0.00	0.97	0.00	0.00
Avail Cap(c_a), veh/h		180	844	861		172	743	769	316	0	0	313	0	0
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)		1.00	1.00	1.00		0.45	0.45	0.45	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		58.4	32.5	32.7		67.9	59.6	59.7	58.7	0.0	0.0	57.1	0.0	0.0
Incr Delay (d2), s/veh		0.4	11.2	11.5		2.4	16.9	17.4	20.9	0.0	0.0	43.6	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.1	27.5	28.5		3.2	31.5	32.9	10.3	0.0	0.0	15.6	0.0	0.0
LnGrp Delay(d),s/veh		58.7	43.7	44.2		70.3	76.5	77.1	79.6	0.0	0.0	100.7	0.0	0.0
LnGrp LOS		E	D	D		E	E	E	E			F		
Approach Vol, veh/h			1532				1558			232			305	
Approach Delay, s/veh			44.5				76.5			79.6			100.7	
Approach LOS			D				E			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	72.1		30.0	19.5	65.0		25.5
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	8.4	53.8		26.3	6.2	59.4		20.1
Green Ext Time (p_c), s	0.0	2.5		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	65.2
HCM 2010 LOS	E

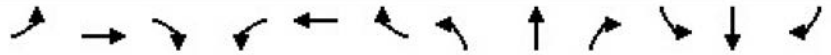
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	272	887	225	8	278	969	307	13	267	530	146	31	382	655	187
Future Volume (veh/h)	3	272	887	225	8	278	969	307	13	267	530	146	31	382	655	187
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.96		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		296	964	172		309	1077	254		297	589	130		429	736	150
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		322	1058	189		575	1413	333		346	809	175		483	831	346
Arrive On Green		0.06	0.12	0.12		0.06	0.11	0.11		0.20	0.39	0.39		0.14	0.23	0.23
Sat Flow, veh/h		1774	2981	531		3442	4071	959		3442	4156	897		3442	3539	1474
Grp Volume(v), veh/h		296	572	564		309	897	434		297	478	241		429	736	150
Grp Sat Flow(s),veh/h/ln		1774	1770	1743		1721	1695	1641		1721	1695	1662		1721	1770	1474
Q Serve(g_s), s		23.2	44.7	44.8		12.2	35.9	36.0		11.7	16.8	17.5		17.1	28.1	12.1
Cycle Q Clear(g_c), s		23.2	44.7	44.8		12.2	35.9	36.0		11.7	16.8	17.5		17.1	28.1	12.1
Prop In Lane		1.00		0.30		1.00		0.58		1.00		0.54		1.00		1.00
Lane Grp Cap(c), veh/h		322	628	619		575	1177	569		346	660	324		483	831	346
V/C Ratio(X)		0.92	0.91	0.91		0.54	0.76	0.76		0.86	0.72	0.74		0.89	0.89	0.43
Avail Cap(c_a), veh/h		362	628	619		575	1177	569		556	753	369		629	862	359
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.09	0.09	0.09		0.84	0.84	0.84		0.93	0.93	0.93		1.00	1.00	1.00
Uniform Delay (d), s/veh		64.8	59.6	59.6		60.9	56.4	56.4		55.0	39.5	39.7		59.1	51.8	45.6
Incr Delay (d2), s/veh		3.5	2.5	2.5		0.5	4.0	8.0		4.0	3.6	8.1		10.2	11.3	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		11.7	22.4	22.1		5.9	17.6	17.6		5.7	8.2	8.6		8.8	15.1	5.1
LnGrp Delay(d),s/veh		68.3	62.1	62.2		61.3	60.3	64.4		59.0	43.1	47.8		69.3	63.0	47.1
LnGrp LOS		E	E	E		E	E	E		E	D	D		E	E	D
Approach Vol, veh/h			1432				1640				1016				1315	
Approach Delay, s/veh			63.4				61.6				48.9				63.3	
Approach LOS			E				E				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	28.8	55.0	18.5	37.8	29.8	54.0	24.1	32.2
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	14.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	14.2	46.8	13.7	30.1	25.2	38.0	19.1	19.5
Green Ext Time (p_c), s	0.0	1.9	0.4	2.5	0.2	0.0	0.5	5.2

Intersection Summary	
HCM 2010 Ctrl Delay	60.1
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1529	205	476	2047	294	149	54	335	193	158	18
Future Volume (veh/h)	20	1529	205	476	2047	294	149	54	335	193	158	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1576	166	491	2110	212	115	137	333	214	176	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1866	196	400	3196	993	191	201	1043	191	183	15
Arrive On Green	0.03	0.84	0.84	0.23	0.63	0.63	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1774	4457	469	1774	5085	1581	1774	1863	3045	1774	1696	135
Grp Volume(v), veh/h	21	1119	623	491	2110	212	115	137	333	214	0	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1759	1774	1695	1581	1774	1863	1522	1774	0	1831
Q Serve(g_s), s	1.6	27.4	27.6	31.6	36.9	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Cycle Q Clear(g_c), s	1.6	27.4	27.6	31.6	36.9	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	28	1326	736	400	3196	993	191	201	1043	191	0	198
V/C Ratio(X)	0.74	0.84	0.85	1.23	0.66	0.21	0.60	0.68	0.32	1.12	0.00	0.96
Avail Cap(c_a), veh/h	134	1326	736	400	3196	993	318	334	1261	191	0	198
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)	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	8.8	8.9	54.2	16.5	11.2	59.6	60.2	34.9	62.5	0.0	62.2
Incr Delay (d2), s/veh	9.8	4.9	8.6	122.1	1.1	0.5	2.3	3.0	0.1	100.4	0.0	52.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	12.1	14.2	29.0	17.5	3.7	4.4	5.3	4.8	12.7	0.0	10.2
LnGrp Delay(d),s/veh	77.3	13.8	17.5	176.3	17.6	11.7	61.8	63.2	35.0	162.9	0.0	114.8
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1763			2813			585			404	
Approach Delay, s/veh		15.8			44.9			46.9			140.3	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	36.0	64.0		20.0	6.6	93.4		20.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	31.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	33.6	29.6		17.1	3.6	38.9		13.5
Green Ext Time (p_c), s	0.0	15.9		0.0	0.0	25.2		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	42.8
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	123	25	58	264	6	19
Future Vol, veh/h	123	25	58	264	6	19
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	134	27	63	287	7	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	161	0	561	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	413	-
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	-	-	1418	-	489	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	463	899
Mov Cap-2 Maneuver	-	-	-	-	463	-
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	668	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	733	-	-	1418	-
HCM Lane V/C Ratio	0.037	-	-	0.044	-
HCM Control Delay (s)	10.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	98	0	1143	1157	32
Future Vol, veh/h	0	98	0	1143	1157	32
Conflicting Peds, #/hr	0	3	0	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	94	94	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	131	0	1216	1244	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	645	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	415	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	413	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	413	-	-
HCM Lane V/C Ratio	-	0.316	-	-
HCM Control Delay (s)	-	17.7	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1.3	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	6	208	437	145	9	106	520	320	175	1033	67	6
Future Volume (veh/h)	6	208	437	145	9	106	520	320	175	1033	67	6
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		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	
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		219	460	112		114	559	241	180	1065	48	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		283	937	226		270	797	343	242	1110	50	
Arrive On Green		0.08	0.33	0.33		0.08	0.33	0.33	0.09	0.43	0.43	
Sat Flow, veh/h		3442	2810	679		3442	2380	1023	3442	3444	155	
Grp Volume(v), veh/h		219	288	284		114	415	385	180	547	566	
Grp Sat Flow(s),veh/h/ln		1721	1770	1719		1721	1770	1633	1721	1770	1830	
Q Serve(g_s), s		6.7	14.0	14.2		3.4	22.0	22.1	5.5	32.4	32.4	
Cycle Q Clear(g_c), s		6.7	14.0	14.2		3.4	22.0	22.1	5.5	32.4	32.4	
Prop In Lane		1.00		0.39		1.00		0.63	1.00		0.08	
Lane Grp Cap(c), veh/h		283	590	573		270	593	547	242	570	590	
V/C Ratio(X)		0.77	0.49	0.50		0.42	0.70	0.70	0.74	0.96	0.96	
Avail Cap(c_a), veh/h		433	590	573		274	593	547	402	575	595	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.86	0.86	0.86	
Uniform Delay (d), s/veh		48.6	28.7	28.7		47.4	31.2	31.2	48.0	30.2	30.2	
Incr Delay (d2), s/veh		1.9	2.9	3.0		0.4	6.8	7.4	1.5	24.8	24.3	
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		3.3	7.3	7.3		1.6	11.8	11.1	2.6	19.7	20.3	
LnGrp Delay(d),s/veh		50.5	31.6	31.8		47.8	38.0	38.6	49.5	54.9	54.5	
LnGrp LOS		D	C	C		D	D	D	D	D	D	
Approach Vol, veh/h			791				914			1293		
Approach Delay, s/veh			36.9				39.5			54.0		
Approach LOS			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	13.5	41.0	12.0	41.5	13.3	41.2	13.8	39.7
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	5.4	16.2	7.5	15.2	8.7	24.1	9.2	34.4
Green Ext Time (p_c), s	0.0	3.6	0.1	1.7	0.2	2.9	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	43.4
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	106	410	100
Future Volume (veh/h)	106	410	100
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	120	466	80
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	147	1019	174
Arrive On Green	0.08	0.34	0.34
Sat Flow, veh/h	1774	3004	512
Grp Volume(v), veh/h	120	273	273
Grp Sat Flow(s),veh/h/ln	1774	1770	1747
Q Serve(g_s), s	7.2	13.0	13.2
Cycle Q Clear(g_c), s	7.2	13.0	13.2
Prop In Lane	1.00		0.29
Lane Grp Cap(c), veh/h	147	600	593
V/C Ratio(X)	0.82	0.45	0.46
Avail Cap(c_a), veh/h	158	600	593
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	27.9	27.9
Incr Delay (d2), s/veh	23.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	6.4	6.4
LnGrp Delay(d),s/veh	72.5	28.1	28.2
LnGrp LOS	E	C	C
Approach Vol, veh/h		666	
Approach Delay, s/veh		36.1	
Approach LOS		D	
Timer			

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	62	86	53	26	7	52	64	55	10	79	2
Future Vol, veh/h	3	62	86	53	26	7	52	64	55	10	79	2
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	74	102	68	33	9	79	97	83	13	105	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9.2	10.1	9
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	2%	62%	11%
Vol Thru, %	37%	41%	30%	87%
Vol Right, %	32%	57%	8%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	171	151	86	91
LT Vol	52	3	53	10
Through Vol	64	62	26	79
RT Vol	55	86	7	2
Lane Flow Rate	259	180	110	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.335	0.232	0.157	0.167
Departure Headway (Hd)	4.653	4.648	5.14	4.959
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	767	768	692	718
Service Time	2.712	2.712	3.211	3.028
HCM Lane V/C Ratio	0.338	0.234	0.159	0.169
HCM Control Delay	10.1	9.1	9.2	9
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.5	0.9	0.6	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	57	30	76	96	28	75	7	97	1066	121	4	98	547	42
Future Volume (veh/h)	57	30	76	96	28	75	7	97	1066	121	4	98	547	42
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	69	36	68	123	36	67		105	1159	94		108	601	34
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	214	103	195	212	104	194		128	3076	249		130	2279	1011
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18		0.07	0.64	0.64		0.15	1.00	1.00
Sat Flow, veh/h	1272	565	1066	1266	572	1065		1774	4784	388		1774	3539	1570
Grp Volume(v), veh/h	69	0	104	123	0	103		105	821	432		108	601	34
Grp Sat Flow(s),veh/h/ln	1272	0	1631	1266	0	1638		1774	1695	1781		1774	1770	1570
Q Serve(g_s), s	7.0	0.0	7.8	13.2	0.0	7.7		8.2	16.0	16.0		8.3	0.0	0.0
Cycle Q Clear(g_c), s	14.7	0.0	7.8	20.9	0.0	7.7		8.2	16.0	16.0		8.3	0.0	0.0
Prop In Lane	1.00		0.65	1.00		0.65		1.00		0.22		1.00		1.00
Lane Grp Cap(c), veh/h	214	0	297	212	0	299		128	2180	1145		130	2279	1011
V/C Ratio(X)	0.32	0.00	0.35	0.58	0.00	0.34		0.82	0.38	0.38		0.83	0.26	0.03
Avail Cap(c_a), veh/h	382	0	514	380	0	516		400	2180	1145		400	2279	1011
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.99	0.99	0.99
Uniform Delay (d), s/veh	56.3	0.0	50.0	59.1	0.0	49.9		64.0	11.8	11.8		58.9	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.5	1.9	0.0	0.5		4.8	0.5	0.9		5.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	3.6	4.7	0.0	3.5		4.2	7.6	8.1		4.2	0.1	0.0
LnGrp Delay(d),s/veh	57.0	0.0	50.5	61.0	0.0	50.4		68.9	12.3	12.7		64.0	0.3	0.1
LnGrp LOS	E		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		173			226				1358				743	
Approach Delay, s/veh		53.1			56.2				16.8				9.5	
Approach LOS		D			E				B				A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	94.9		30.4	14.5	95.0		30.4
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	10.3	18.0		16.7	10.2	2.0		22.9
Green Ext Time (p_c), s	0.1	12.3		0.7	0.1	5.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	20.7
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	5	205	877	76	370	819	122	15	156	415	376	2	183	281	299
Future Volume (veh/h)	5	205	877	76	370	819	122	15	156	415	376	2	183	281	299
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.97
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		214	914	56	394	871	99		188	500	453		201	309	232
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		419	1087	67	453	1010	115		214	957	637		227	534	389
Arrive On Green		0.12	0.32	0.32	0.13	0.32	0.32		0.12	0.27	0.27		0.13	0.28	0.28
Sat Flow, veh/h		3442	3376	207	3442	3189	362		1774	3539	1583		1774	1924	1402
Grp Volume(v), veh/h		214	479	491	394	483	487		188	500	453		201	283	258
Grp Sat Flow(s),veh/h/ln		1721	1770	1813	1721	1770	1782		1774	1770	1583		1774	1770	1556
Q Serve(g_s), s		7.8	33.7	33.7	15.0	34.3	34.3		13.9	16.0	32.0		14.9	18.4	19.2
Cycle Q Clear(g_c), s		7.8	33.7	33.7	15.0	34.3	34.3		13.9	16.0	32.0		14.9	18.4	19.2
Prop In Lane		1.00		0.11	1.00		0.20		1.00		1.00		1.00		0.90
Lane Grp Cap(c), veh/h		419	570	584	453	561	564		214	957	637		227	491	432
V/C Ratio(X)		0.51	0.84	0.84	0.87	0.86	0.86		0.88	0.52	0.71		0.89	0.58	0.60
Avail Cap(c_a), veh/h		772	794	814	772	794	800		398	1059	682		398	530	466
HCM Platoon Ratio		1.00	1.00	1.00	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		55.0	42.1	42.1	56.9	42.9	42.9		57.8	41.4	33.5		57.3	41.5	41.8
Incr Delay (d2), s/veh		0.4	6.4	6.2	2.5	7.0	6.9		4.5	0.3	2.9		5.0	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		3.7	17.5	17.9	7.3	17.9	18.0		7.1	7.9	14.5		7.6	9.1	8.4
LnGrp Delay(d),s/veh		55.3	48.5	48.4	59.4	49.9	49.8		62.3	41.7	36.4		62.3	42.7	43.4
LnGrp LOS		E	D	D	E	D	D		E	D	D		E	D	D
Approach Vol, veh/h			1184			1364				1141				742	
Approach Delay, s/veh			49.7			52.6				43.0				48.2	
Approach LOS			D			D				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	48.7	20.5	42.4	22.0	48.7	21.5	41.4
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	17.0	35.7	15.9	21.2	9.8	36.3	16.9	34.0
Green Ext Time (p_c), s	0.6	7.4	0.2	2.7	0.3	6.0	0.2	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	48.6
HCM 2010 LOS	D

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	39	1138	187	3	54	1020	97	264	104	83	66	114	74
Future Volume (veh/h)	13	39	1138	187	3	54	1020	97	264	104	83	66	114	74
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		44	1293	182		67	1259	85	388	153	85	84	144	69
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		57	1156	162		85	1305	88	274	108	60	91	156	75
Arrive On Green		0.03	0.37	0.37		0.02	0.13	0.13	0.25	0.25	0.25	0.18	0.18	0.18
Sat Flow, veh/h		1774	3106	434		1774	3359	226	1094	431	240	497	852	408
Grp Volume(v), veh/h		44	732	743		67	662	682	626	0	0	297	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1771		1774	1770	1816	1765	0	0	1758	0	0
Q Serve(g_s), s		3.4	52.1	52.1		5.3	52.1	52.3	35.1	0.0	0.0	23.2	0.0	0.0
Cycle Q Clear(g_c), s		3.4	52.1	52.1		5.3	52.1	52.3	35.1	0.0	0.0	23.2	0.0	0.0
Prop In Lane		1.00		0.25		1.00		0.12	0.62		0.14	0.28		0.23
Lane Grp Cap(c), veh/h		57	659	659		85	687	705	443	0	0	322	0	0
V/C Ratio(X)		0.78	1.11	1.13		0.78	0.96	0.97	1.41	0.00	0.00	0.92	0.00	0.00
Avail Cap(c_a), veh/h		122	659	659		122	687	705	443	0	0	353	0	0
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)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		67.3	43.9	43.9		68.2	60.0	60.1	52.5	0.0	0.0	56.2	0.0	0.0
Incr Delay (d2), s/veh		8.2	70.0	75.5		11.8	26.4	26.7	199.4	0.0	0.0	26.6	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.8	38.2	39.3		2.9	30.6	31.6	41.6	0.0	0.0	13.7	0.0	0.0
LnGrp Delay(d),s/veh		75.5	113.9	119.4		80.0	86.5	86.8	251.9	0.0	0.0	82.8	0.0	0.0
LnGrp LOS		E	F	F		F	F	F	F			F		
Approach Vol, veh/h			1519				1411			626			297	
Approach Delay, s/veh			115.5				86.3			251.9			82.8	
Approach LOS			F				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.1	58.3		30.6	8.9	60.6		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	7.3	54.1		25.2	5.4	54.3		37.1
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	124.5
HCM 2010 LOS	F

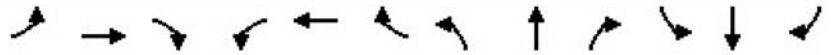
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	177	903	265	5	212	717	273	2	289	805	164	5	222	444	169
Future Volume (veh/h)	3	177	903	265	5	212	717	273	2	289	805	164	5	222	444	169
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		199	1015	210		244	824	225		307	856	153		255	510	137
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		407	1349	278		293	1232	334		353	991	176		300	756	329
Arrive On Green		0.31	0.62	0.62		0.09	0.31	0.31		0.20	0.46	0.46		0.17	0.43	0.43
Sat Flow, veh/h		1774	2913	601		3442	3956	1071		3442	4333	770		3442	3539	1541
Grp Volume(v), veh/h		199	615	610		244	705	344		307	669	340		255	510	137
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1637		1721	1695	1712		1721	1770	1541
Q Serve(g_s), s		12.8	34.8	35.1		9.8	25.3	25.6		12.1	24.7	25.1		10.1	16.2	5.3
Cycle Q Clear(g_c), s		12.8	34.8	35.1		9.8	25.3	25.6		12.1	24.7	25.1		10.1	16.2	5.3
Prop In Lane		1.00		0.34		1.00		0.65		1.00		0.45		1.00		1.00
Lane Grp Cap(c), veh/h		407	819	808		293	1056	510		353	775	392		300	756	329
V/C Ratio(X)		0.49	0.75	0.75		0.83	0.67	0.67		0.87	0.86	0.87		0.85	0.67	0.42
Avail Cap(c_a), veh/h		407	819	808		383	1056	510		457	826	417		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		1.00	1.00	1.00		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		1.00	1.00	1.00		0.91	0.91	0.91		0.82	0.82	0.82		1.00	1.00	1.00
Uniform Delay (d), s/veh		41.9	21.1	21.2		63.0	41.9	42.0		54.8	36.0	36.1		56.9	36.2	12.9
Incr Delay (d2), s/veh		0.3	6.3	6.5		8.2	3.1	6.4		9.5	8.1	15.3		11.1	2.7	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		6.3	18.3	18.2		5.0	12.3	12.5		6.2	12.4	13.4		5.2	8.2	3.2
LnGrp Delay(d),s/veh		42.2	27.4	27.6		71.3	45.0	48.4		64.3	44.1	51.4		68.0	38.9	14.3
LnGrp LOS		D	C	C		E	D	D		E	D	D		E	D	B
Approach Vol, veh/h			1424				1293				1316				902	
Approach Delay, s/veh			29.6				50.8				50.7				43.4	
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	16.3	70.1	18.7	34.8	37.5	49.0	16.6	36.9
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	11.8	37.1	14.1	18.2	14.8	27.6	12.1	27.1
Green Ext Time (p_c), s	0.2	8.3	0.3	4.7	0.2	5.7	0.2	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	43.3
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1975	180	442	1522	269	128	91	665	260	155	5
Future Volume (veh/h)	2	1975	180	442	1522	269	128	91	665	260	155	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2036	149	480	1654	204	126	134	672	289	172	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1827	133	350	2917	889	255	267	1064	293	299	7
Arrive On Green	0.00	0.76	0.76	0.20	0.57	0.57	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4826	351	1774	5085	1549	1774	1863	3066	1774	1812	42
Grp Volume(v), veh/h	2	1426	759	480	1654	204	126	134	672	289	0	176
Grp Sat Flow(s),veh/h/ln	1774	1695	1786	1774	1695	1549	1774	1863	1533	1774	0	1854
Q Serve(g_s), s	0.2	53.0	53.0	27.6	28.8	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Cycle Q Clear(g_c), s	0.2	53.0	53.0	27.6	28.8	9.1	9.2	9.3	20.1	22.7	0.0	12.3
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	4	1283	676	350	2917	889	255	267	1064	293	0	306
V/C Ratio(X)	0.53	1.11	1.12	1.37	0.57	0.23	0.49	0.50	0.63	0.99	0.00	0.58
Avail Cap(c_a), veh/h	274	1283	676	350	2917	889	255	267	1064	293	0	306
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)	0.39	0.39	0.39	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.6	17.0	17.0	56.2	18.9	14.7	55.3	55.3	39.0	58.3	0.0	53.9
Incr Delay (d2), s/veh	15.5	54.9	63.4	184.8	0.8	0.6	1.1	1.1	1.1	48.9	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	33.3	36.7	31.5	13.5	4.0	4.6	4.9	11.1	15.1	0.0	6.5
LnGrp Delay(d),s/veh	85.1	71.9	80.4	241.0	19.7	15.3	56.4	56.4	40.0	107.2	0.0	55.7
LnGrp LOS	F	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2187			2338			932			465	
Approach Delay, s/veh		74.9			64.7			44.6			87.7	
Approach LOS		E			E			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.0	58.5		25.0	4.7	85.8		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	2.2	30.8		24.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	67.1
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	122	7	13	81	7	37
Future Vol, veh/h	122	7	13	81	7	37
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	133	8	14	88	8	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	253	137
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	116	-
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	-	-	1442	-	736	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	729	911
Mov Cap-2 Maneuver	-	-	-	-	729	-
Stage 1	-	-	-	-	881	-
Stage 2	-	-	-	-	909	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	876	-	-	1442	-
HCM Lane V/C Ratio	0.055	-	-	0.01	-
HCM Control Delay (s)	9.3	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	43	0	1265	797	6
Future Vol, veh/h	0	43	0	1265	797	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	47	0	1375	866	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	437	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	567	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	567	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	567	-	-
HCM Lane V/C Ratio	-	0.082	-	-
HCM Control Delay (s)	-	11.9	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1292	1156	7	0	18
Future Vol, veh/h	0	1292	1156	7	0	18
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	1404	1257	8	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	633
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	422
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	422
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	422
HCM Lane V/C Ratio	-	-	-	0.046
HCM Control Delay (s)	-	-	-	13.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	11	142	662	262	15	186	737	105	261	412	106	2
Future Volume (veh/h)	11	142	662	262	15	186	737	105	261	412	106	2
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		158	736	208		200	792	79	278	438	79	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	1150	325		255	1420	142	335	722	129	
Arrive On Green		0.06	0.43	0.43		0.07	0.44	0.44	0.10	0.24	0.24	
Sat Flow, veh/h		3442	2703	764		3442	3245	324	3442	2973	531	
Grp Volume(v), veh/h		158	482	462		200	432	439	278	259	258	
Grp Sat Flow(s),veh/h/ln		1721	1770	1697		1721	1770	1798	1721	1770	1735	
Q Serve(g_s), s		5.7	27.1	27.1		7.2	22.9	22.9	10.0	16.4	16.7	
Cycle Q Clear(g_c), s		5.7	27.1	27.1		7.2	22.9	22.9	10.0	16.4	16.7	
Prop In Lane		1.00		0.45		1.00		0.18	1.00		0.31	
Lane Grp Cap(c), veh/h		213	753	722		255	775	787	335	430	422	
V/C Ratio(X)		0.74	0.64	0.64		0.78	0.56	0.56	0.83	0.60	0.61	
Avail Cap(c_a), veh/h		399	753	722		399	775	787	481	479	470	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.97	0.97	0.97	
Uniform Delay (d), s/veh		58.1	28.6	28.6		57.3	26.4	26.4	55.9	42.3	42.4	
Incr Delay (d2), s/veh		1.9	4.1	4.3		2.1	2.9	2.8	5.3	1.0	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	
%ile BackOfQ(50%),veh/ln		2.8	14.1	13.6		3.5	11.8	12.0	5.0	8.1	8.1	
LnGrp Delay(d),s/veh		60.0	32.7	32.9		59.4	29.2	29.2	61.2	43.3	43.5	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1102				1071			795		
Approach Delay, s/veh			36.7				34.9			49.6		
Approach LOS			D				C			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	58.6	16.7	37.0	12.2	60.1	18.1	35.5
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	9.2	29.1	12.0	34.1	7.7	24.9	13.7	18.7
Green Ext Time (p_c), s	0.2	5.5	0.3	0.0	0.1	5.6	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	63.4
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	160	907	101
Future Volume (veh/h)	160	907	101
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	168	955	74
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	194	845	65
Arrive On Green	0.11	0.25	0.25
Sat Flow, veh/h	1774	3317	257
Grp Volume(v), veh/h	168	509	520
Grp Sat Flow(s),veh/h/ln	1774	1770	1804
Q Serve(g_s), s	11.7	32.1	32.1
Cycle Q Clear(g_c), s	11.7	32.1	32.1
Prop In Lane	1.00		0.14
Lane Grp Cap(c), veh/h	194	451	460
V/C Ratio(X)	0.87	1.13	1.13
Avail Cap(c_a), veh/h	220	451	460
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	47.0	47.0
Incr Delay (d2), s/veh	24.6	83.0	82.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	26.0	26.5
LnGrp Delay(d),s/veh	79.8	130.0	129.6
LnGrp LOS	E	F	F
Approach Vol, veh/h		1197	
Approach Delay, s/veh		122.8	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	57	41	187	67	12	83	46	77	6	90	2
Future Vol, veh/h	0	57	41	187	67	12	83	46	77	6	90	2
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	86	62	215	77	14	91	51	85	7	111	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	12.3	10.7	9.8
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	40%	0%	70%	6%
Vol Thru, %	22%	58%	25%	92%
Vol Right, %	37%	42%	5%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	206	98	266	98
LT Vol	83	0	187	6
Through Vol	46	57	67	90
RT Vol	77	41	12	2
Lane Flow Rate	226	148	306	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.327	0.21	0.443	0.185
Departure Headway (Hd)	5.2	5.103	5.219	5.512
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	693	704	691	651
Service Time	3.228	3.135	3.245	3.545
HCM Lane V/C Ratio	0.326	0.21	0.443	0.186
HCM Control Delay	10.7	9.5	12.3	9.8
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.4	0.8	2.3	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	64	45	131	111	41	129	17	135	799	130	8	176	975	146
Future Volume (veh/h)	64	45	131	111	41	129	17	135	799	130	8	176	975	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)	0.99		0.96	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	68	48	99	121	45	98		148	878	101		185	1026	114
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	211	109	225	207	106	230		524	2660	305		207	1393	604
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21		0.30	0.58	0.58		0.23	0.79	0.79
Sat Flow, veh/h	1228	530	1092	1219	513	1116		1774	4622	529		1774	3539	1534
Grp Volume(v), veh/h	68	0	147	121	0	143		148	643	336		185	1026	114
Grp Sat Flow(s),veh/h/ln	1228	0	1622	1219	0	1629		1774	1695	1762		1774	1770	1534
Q Serve(g_s), s	7.1	0.0	11.1	13.5	0.0	10.7		9.0	13.9	14.0		14.1	20.6	2.6
Cycle Q Clear(g_c), s	17.8	0.0	11.1	24.5	0.0	10.7		9.0	13.9	14.0		14.1	20.6	2.6
Prop In Lane	1.00		0.67	1.00		0.69		1.00		0.30		1.00		1.00
Lane Grp Cap(c), veh/h	211	0	335	207	0	336		524	1951	1014		207	1393	604
V/C Ratio(X)	0.32	0.00	0.44	0.59	0.00	0.43		0.28	0.33	0.33		0.89	0.74	0.19
Avail Cap(c_a), veh/h	397	0	580	391	0	583		524	1951	1014		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.91	0.91	0.91
Uniform Delay (d), s/veh	56.1	0.0	48.5	59.2	0.0	48.3		37.9	15.6	15.6		52.8	11.2	9.3
Incr Delay (d2), s/veh	0.6	0.0	0.7	2.0	0.0	0.6		0.1	0.5	0.9		4.8	3.2	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	2.5	0.0	5.0	4.6	0.0	4.9		4.4	6.6	7.1		7.2	10.3	1.2
LnGrp Delay(d),s/veh	56.7	0.0	49.2	61.2	0.0	49.0		38.1	16.0	16.5		57.6	14.4	9.9
LnGrp LOS	E		D	E		D		D	B	B		E	B	A
Approach Vol, veh/h		215			264				1127				1325	
Approach Delay, s/veh		51.6			54.6				19.0				20.1	
Approach LOS		D			D				B				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.8	85.5		33.8	46.2	60.0		33.8
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	16.4	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	16.1	16.0		19.8	11.0	22.6		26.5
Green Ext Time (p_c), s	0.2	8.0		0.9	0.1	11.0		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	25.1
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	15	356	1012	68	476	886	120	21	85	310	372	271	656	288
Future Volume (veh/h)	15	356	1012	68	476	886	120	21	85	310	372	271	656	288
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		371	1054	52	506	943	94		90	330	284	315	763	237
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		570	1166	58	552	1045	104		110	671	538	331	831	258
Arrive On Green		0.17	0.34	0.34	0.16	0.32	0.32		0.06	0.19	0.19	0.19	0.31	0.31
Sat Flow, veh/h		3442	3426	169	3442	3238	323		1774	3539	1499	1774	2645	822
Grp Volume(v), veh/h		371	544	562	506	515	522		90	330	284	315	510	490
Grp Sat Flow(s),veh/h/ln		1721	1770	1826	1721	1770	1791		1774	1770	1499	1774	1770	1697
Q Serve(g_s), s		16.2	47.1	47.1	23.3	44.8	44.8		8.1	13.4	24.4	28.2	44.7	44.7
Cycle Q Clear(g_c), s		16.2	47.1	47.1	23.3	44.8	44.8		8.1	13.4	24.4	28.2	44.7	44.7
Prop In Lane		1.00		0.09	1.00		0.18		1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h		570	602	621	552	571	578		110	671	538	331	556	533
V/C Ratio(X)		0.65	0.90	0.90	0.92	0.90	0.90		0.82	0.49	0.53	0.95	0.92	0.92
Avail Cap(c_a), veh/h		642	660	681	642	660	668		331	880	627	331	556	533
HCM Platoon Ratio		1.00	1.00	1.00	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		62.7	50.5	50.5	66.5	52.1	52.1		74.5	58.2	41.9	64.7	53.1	53.1
Incr Delay (d2), s/veh		1.3	15.3	15.0	15.6	14.4	14.3		5.5	0.4	0.5	36.5	20.2	20.9
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		7.8	25.5	26.3	12.3	24.2	24.5		4.1	6.6	10.2	17.2	25.0	24.0
LnGrp Delay(d),s/veh		64.1	65.9	65.5	82.0	66.5	66.4		80.1	58.6	42.5	101.2	73.4	74.0
LnGrp LOS		E	E	E	F	E	E		F	E	D	F	E	E
Approach Vol, veh/h			1477			1543				704			1315	
Approach Delay, s/veh			65.3			71.5				54.8			80.3	
Approach LOS			E			E				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	30.2	60.4	14.4	55.8	32.3	58.3	34.4	35.8
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	25.3	49.1	10.1	46.7	18.2	46.8	30.2	26.4
Green Ext Time (p_c), s	0.5	5.6	0.1	0.0	0.5	5.1	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	69.7
HCM 2010 LOS	E

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	54	1274	169	47	78	1320	100	123	56	38	54	134	124
Future Volume (veh/h)	6	54	1274	169	47	78	1320	100	123	56	38	54	134	124
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		57	1341	134		83	1404	75	138	63	31	59	147	96
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		180	1547	154		104	1436	77	154	70	35	61	152	100
Arrive On Green		0.10	0.48	0.48		0.02	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3251	323		1774	3418	182	1049	479	236	341	850	555
Grp Volume(v), veh/h		57	727	748		83	725	754	232	0	0	302	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1805		1774	1770	1831	1764	0	0	1747	0	0
Q Serve(g_s), s		4.2	51.2	51.9		6.5	57.2	57.5	18.1	0.0	0.0	24.0	0.0	0.0
Cycle Q Clear(g_c), s		4.2	51.2	51.9		6.5	57.2	57.5	18.1	0.0	0.0	24.0	0.0	0.0
Prop In Lane		1.00		0.18		1.00		0.10	0.59		0.13	0.20		0.32
Lane Grp Cap(c), veh/h		180	842	859		104	743	769	259	0	0	313	0	0
V/C Ratio(X)		0.32	0.86	0.87		0.80	0.98	0.98	0.90	0.00	0.00	0.96	0.00	0.00
Avail Cap(c_a), veh/h		180	842	859		172	743	769	316	0	0	313	0	0
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)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		58.4	32.6	32.8		67.8	59.6	59.7	58.7	0.0	0.0	57.0	0.0	0.0
Incr Delay (d2), s/veh		0.4	11.4	11.8		5.2	27.6	28.0	20.9	0.0	0.0	40.9	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.1	27.5	28.6		3.4	33.8	35.2	10.3	0.0	0.0	15.1	0.0	0.0
LnGrp Delay(d),s/veh		58.7	44.1	44.6		73.0	87.2	87.7	79.6	0.0	0.0	97.9	0.0	0.0
LnGrp LOS		E	D	D		E	F	F	E			F		
Approach Vol, veh/h			1532				1562			232			302	
Approach Delay, s/veh			44.9				86.7			79.6			97.9	
Approach LOS			D				F			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.6	71.9		30.0	19.5	65.0		25.5
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	8.5	53.9		26.0	6.2	59.5		20.1
Green Ext Time (p_c), s	0.0	2.4		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	69.5
HCM 2010 LOS	E

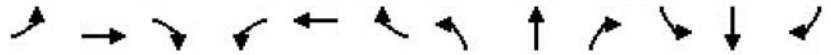
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	272	888	225	8	278	986	290	13	273	524	146	31	381	655	182
Future Volume (veh/h)	3	272	888	225	8	278	986	290	13	273	524	146	31	381	655	182
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.96		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		296	965	172		309	1096	235		303	582	130		428	736	144
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		322	1058	188		569	1436	308		351	816	178		482	831	346
Arrive On Green		0.06	0.12	0.12		0.05	0.11	0.11		0.20	0.39	0.39		0.14	0.23	0.23
Sat Flow, veh/h		1774	2982	531		3442	4156	890		3442	4146	905		3442	3539	1474
Grp Volume(v), veh/h		296	572	565		309	894	437		303	473	239		428	736	144
Grp Sat Flow(s),veh/h/ln		1774	1770	1743		1721	1695	1656		1721	1695	1661		1721	1770	1474
Q Serve(g_s), s		23.2	44.7	44.8		12.2	35.8	35.9		11.9	16.5	17.1		17.1	28.1	11.6
Cycle Q Clear(g_c), s		23.2	44.7	44.8		12.2	35.8	35.9		11.9	16.5	17.1		17.1	28.1	11.6
Prop In Lane		1.00		0.30		1.00		0.54		1.00		0.54		1.00		1.00
Lane Grp Cap(c), veh/h		322	628	619		569	1171	572		351	667	327		482	831	346
V/C Ratio(X)		0.92	0.91	0.91		0.54	0.76	0.76		0.86	0.71	0.73		0.89	0.89	0.42
Avail Cap(c_a), veh/h		362	628	619		569	1171	572		556	753	369		629	862	359
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		0.84	0.84	0.84		0.93	0.93	0.93		1.00	1.00	1.00
Uniform Delay (d), s/veh		64.8	59.6	59.7		61.0	56.5	56.5		54.8	39.1	39.3		59.1	51.8	45.4
Incr Delay (d2), s/veh		25.1	19.7	20.1		0.5	4.0	8.0		4.6	3.3	7.4		10.1	11.3	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		13.7	25.4	25.2		5.9	17.5	17.8		5.9	7.9	8.5		8.8	15.1	4.9
LnGrp Delay(d),s/veh		89.9	79.3	79.8		61.5	60.5	64.5		59.3	42.4	46.7		69.2	63.0	46.8
LnGrp LOS		F	E	E		E	E	E		E	D	D		E	E	D
Approach Vol, veh/h			1433				1640				1015				1308	
Approach Delay, s/veh			81.7				61.7				48.5				63.3	
Approach LOS			F				E				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	8.6	55.0	18.7	37.8	29.8	53.8	24.0	32.4
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	4.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	4.2	46.8	13.9	30.1	25.2	37.9	19.1	19.1
Green Ext Time (p_c), s	0.0	1.9	0.4	2.5	0.2	0.0	0.5	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	64.9
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1529	205	476	2047	294	149	54	335	193	158	18
Future Volume (veh/h)	20	1529	205	476	2047	294	149	54	335	193	158	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1576	166	491	2110	212	115	137	333	214	176	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1866	196	400	3196	993	191	201	1043	191	183	15
Arrive On Green	0.03	0.84	0.84	0.23	0.63	0.63	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1774	4457	469	1774	5085	1581	1774	1863	3045	1774	1696	135
Grp Volume(v), veh/h	21	1119	623	491	2110	212	115	137	333	214	0	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1759	1774	1695	1581	1774	1863	1522	1774	0	1831
Q Serve(g_s), s	1.6	27.4	27.6	31.6	36.9	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Cycle Q Clear(g_c), s	1.6	27.4	27.6	31.6	36.9	8.1	8.7	9.9	11.5	15.1	0.0	14.5
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	28	1326	736	400	3196	993	191	201	1043	191	0	198
V/C Ratio(X)	0.74	0.84	0.85	1.23	0.66	0.21	0.60	0.68	0.32	1.12	0.00	0.96
Avail Cap(c_a), veh/h	134	1326	736	400	3196	993	318	334	1261	191	0	198
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)	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	8.8	8.9	54.2	16.5	11.2	59.6	60.2	34.9	62.5	0.0	62.2
Incr Delay (d2), s/veh	9.8	4.9	8.6	122.1	1.1	0.5	2.3	3.0	0.1	100.4	0.0	52.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	12.1	14.2	29.0	17.5	3.7	4.4	5.3	4.8	12.7	0.0	10.2
LnGrp Delay(d),s/veh	77.3	13.8	17.5	176.3	17.6	11.7	61.8	63.2	35.0	162.9	0.0	114.8
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1763			2813			585			404	
Approach Delay, s/veh		15.8			44.9			46.9			140.3	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	64.0		20.0	6.6	93.4		20.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	1.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	3.6	29.6		17.1	3.6	38.9		13.5
Green Ext Time (p_c), s	0.0	15.9		0.0	0.0	25.2		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	42.8
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	123	25	45	264	4	19
Future Vol, veh/h	123	25	45	264	4	19
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	134	27	49	287	4	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	161	0	533	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	385	-
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	-	-	1418	-	507	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	486	899
Mov Cap-2 Maneuver	-	-	-	-	486	-
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	688	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	783	-	-	1418	-
HCM Lane V/C Ratio	0.032	-	-	0.034	-
HCM Control Delay (s)	9.7	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	91	0	1119	1157	21
Future Vol, veh/h	0	91	0	1119	1157	21
Conflicting Peds, #/hr	0	3	0	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	94	94	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	121	0	1190	1244	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	640	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	418	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	416	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	416	-	-
HCM Lane V/C Ratio	-	0.292	-	-
HCM Control Delay (s)	-	17.2	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1.2	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1414	1536	23	0	9
Future Vol, veh/h	0	1414	1536	23	0	9
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	1537	1670	25	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	848
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	305
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	305
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	305
HCM Lane V/C Ratio	-	-	-	0.032
HCM Control Delay (s)	-	-	-	17.2
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

ATTACHMENT C
HORIZON YEAR 2050 PLUS PROJECT CONDITIONS– SYNCHRO WORKSHEETS

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Future Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		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	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		221	463	160		204	591	284	251	1273	72	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		285	856	293		622	1001	481	312	1105	62	
Arrive On Green		0.08	0.33	0.33		0.18	0.44	0.44	0.12	0.43	0.43	
Sat Flow, veh/h		3442	2567	879		3442	2293	1101	3442	3400	192	
Grp Volume(v), veh/h		221	318	305		204	456	419	251	662	683	
Grp Sat Flow(s),veh/h/ln		1721	1770	1676		1721	1770	1625	1721	1770	1822	
Q Serve(g_s), s		6.8	15.8	16.0		5.6	21.1	21.2	7.7	35.1	35.1	
Cycle Q Clear(g_c), s		6.8	15.8	16.0		5.6	21.1	21.2	7.7	35.1	35.1	
Prop In Lane		1.00		0.52		1.00		0.68	1.00		0.11	
Lane Grp Cap(c), veh/h		285	590	559		622	773	709	312	575	592	
V/C Ratio(X)		0.77	0.54	0.55		0.33	0.59	0.59	0.80	1.15	1.15	
Avail Cap(c_a), veh/h		433	590	559		622	773	709	402	575	592	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.55	0.55	0.55	
Uniform Delay (d), s/veh		48.5	29.3	29.3		38.5	23.1	23.1	46.5	30.7	30.7	
Incr Delay (d2), s/veh		2.1	3.5	3.8		0.1	3.3	3.6	3.8	78.9	80.1	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	8.3	8.0		2.7	11.0	10.1	3.8	29.6	30.7	
LnGrp Delay(d),s/veh		50.6	32.8	33.1		38.7	26.4	26.7	50.4	109.5	110.7	
LnGrp LOS		D	C	C		D	C	C	D	F	F	
Approach Vol, veh/h			844				1079			1596		
Approach Delay, s/veh			37.6				28.8			100.7		
Approach LOS			D				C			F		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.6	41.0	14.2	40.3	13.4	52.3	14.5	40.0
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	7.6	18.0	9.7	23.6	8.8	23.2	11.6	37.1
Green Ext Time (p_c), s	0.0	3.8	0.1	2.0	0.2	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	67.5
HCM 2010 LOS	E

Notes

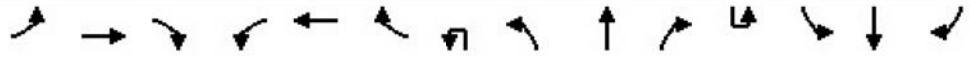
Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	190	535	190
Future Volume (veh/h)	190	535	190
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	216	608	182
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	158	871	260
Arrive On Green	0.09	0.33	0.33
Sat Flow, veh/h	1774	2658	794
Grp Volume(v), veh/h	216	404	386
Grp Sat Flow(s),veh/h/ln	1774	1770	1682
Q Serve(g_s), s	9.6	21.5	21.6
Cycle Q Clear(g_c), s	9.6	21.5	21.6
Prop In Lane	1.00		0.47
Lane Grp Cap(c), veh/h	158	580	551
V/C Ratio(X)	1.37	0.70	0.70
Avail Cap(c_a), veh/h	158	580	551
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	31.6	31.7
Incr Delay (d2), s/veh	201.3	3.1	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	10.9	10.6
LnGrp Delay(d),s/veh	250.5	34.7	35.0
LnGrp LOS	F	C	C
Approach Vol, veh/h		1006	
Approach Delay, s/veh		81.2	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	80	100	85	41	10	80	50	85	20	60	10
Future Vol, veh/h	10	80	100	85	41	10	80	50	85	20	60	10
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	95	119	109	53	13	121	76	129	27	80	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.6	10.6	12.3	9.8
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	37%	5%	62%	22%
Vol Thru, %	23%	42%	30%	67%
Vol Right, %	40%	53%	7%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	190	136	90
LT Vol	80	10	85	20
Through Vol	50	80	41	60
RT Vol	85	100	10	10
Lane Flow Rate	326	226	174	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.457	0.321	0.269	0.183
Departure Headway (Hd)	5.05	5.108	5.558	5.504
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	713	703	645	652
Service Time	3.081	3.142	3.596	3.545
HCM Lane V/C Ratio	0.457	0.321	0.27	0.184
HCM Control Delay	12.3	10.6	10.6	9.8
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	2.4	1.4	1.1	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	68	34	129	100	41	90	10	126	1140	140	10	130	610	69
Future Volume (veh/h)	68	34	129	100	41	90	10	126	1140	140	10	130	610	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)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	82	41	131	128	53	86		137	1239	114		143	670	64
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	239	85	273	207	141	228		161	2751	253		165	2068	916
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22		0.09	0.58	0.58		0.19	1.00	1.00
Sat Flow, veh/h	1234	382	1221	1196	629	1021		1774	4726	435		1774	3539	1568
Grp Volume(v), veh/h	82	0	172	128	0	139		137	889	464		143	670	64
Grp Sat Flow(s),veh/h/ln	1234	0	1603	1196	0	1651		1774	1695	1771		1774	1770	1568
Q Serve(g_s), s	8.4	0.0	13.1	14.6	0.0	10.0		10.6	20.8	20.8		10.9	0.0	0.0
Cycle Q Clear(g_c), s	18.4	0.0	13.1	27.7	0.0	10.0		10.6	20.8	20.8		10.9	0.0	0.0
Prop In Lane	1.00		0.76	1.00		0.62		1.00		0.25		1.00		1.00
Lane Grp Cap(c), veh/h	239	0	358	207	0	369		161	1973	1031		165	2068	916
V/C Ratio(X)	0.34	0.00	0.48	0.62	0.00	0.38		0.85	0.45	0.45		0.86	0.32	0.07
Avail Cap(c_a), veh/h	352	0	505	316	0	520		400	1973	1031		400	2068	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		0.54	0.54	0.54		0.98	0.98	0.98
Uniform Delay (d), s/veh	53.9	0.0	47.3	59.3	0.0	46.1		62.7	16.6	16.6		56.1	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.7	2.2	0.0	0.5		2.6	0.4	0.8		5.0	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.9	5.0	0.0	4.6		5.3	9.9	10.4		5.6	0.1	0.0
LnGrp Delay(d),s/veh	54.6	0.0	48.1	61.6	0.0	46.6		65.3	17.0	17.3		61.1	0.4	0.1
LnGrp LOS	D		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		254			267				1490				877	
Approach Delay, s/veh		50.2			53.8				21.5				10.3	
Approach LOS		D			D				C				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.5	86.4		36.2	17.1	86.7		36.2
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	12.8	22.8		20.4	12.6	2.0		29.7
Green Ext Time (p_c), s	0.2	12.7		1.1	0.2	6.7		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Future Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		219	911	71	461	900	162		325	639	592		242	341	244
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		397	1045	81	511	999	180		344	917	645		264	419	292
Arrive On Green		0.12	0.32	0.32	0.15	0.34	0.34		0.19	0.26	0.26		0.15	0.21	0.21
Sat Flow, veh/h		3442	3312	258	3442	2978	536		1774	3539	1583		1774	1956	1366
Grp Volume(v), veh/h		219	487	495	461	535	527		325	639	592		242	308	277
Grp Sat Flow(s),veh/h/ln		1721	1770	1800	1721	1770	1744		1774	1770	1583		1774	1770	1552
Q Serve(g_s), s		9.3	40.1	40.1	20.3	44.4	44.5		27.9	25.2	40.0		20.8	25.5	26.4
Cycle Q Clear(g_c), s		9.3	40.1	40.1	20.3	44.4	44.5		27.9	25.2	40.0		20.8	25.5	26.4
Prop In Lane		1.00		0.14	1.00		0.31		1.00		1.00		1.00		0.88
Lane Grp Cap(c), veh/h		397	558	568	511	594	585		344	917	645		264	379	332
V/C Ratio(X)		0.55	0.87	0.87	0.90	0.90	0.90		0.95	0.70	0.92		0.92	0.81	0.83
Avail Cap(c_a), veh/h		669	688	700	669	688	678		345	917	645		345	458	402
HCM Platoon Ratio		1.00	1.00	1.00	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		64.5	49.9	49.9	64.6	48.8	48.8		61.4	51.7	43.3		64.8	57.7	58.1
Incr Delay (d2), s/veh		0.4	10.5	10.4	11.1	13.7	13.9		34.0	2.1	17.9		21.6	8.5	11.5
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		4.4	21.2	21.6	10.5	23.9	23.6		17.0	12.6	27.1		11.8	13.4	12.4
LnGrp Delay(d),s/veh		65.0	60.5	60.3	75.7	62.5	62.7		95.4	53.9	61.2		86.4	66.3	69.6
LnGrp LOS		E	E	E	E	E	E		F	D	E		F	E	E
Approach Vol, veh/h			1201			1523				1556				827	
Approach Delay, s/veh			61.2			66.6				65.3				73.3	
Approach LOS			E			E				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	27.3	54.4	34.3	38.3	23.5	58.2	27.4	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I2), s	22.3	42.1	29.9	28.4	11.3	46.5	22.8	42.0
Green Ext Time (p_c), s	0.6	6.6	0.0	2.4	0.3	5.4	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	66.0
HCM 2010 LOS	E

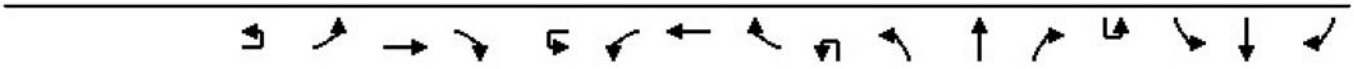
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	76	1300	140	10	180	1160	130	250	101	130	100	122	110
Future Volume (veh/h)	20	76	1300	140	10	180	1160	130	250	101	130	100	122	110
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		86	1477	129		222	1432	125	368	149	154	127	154	114
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		106	1818	158		122	1846	160	240	97	100	112	136	101
Arrive On Green		0.06	0.55	0.55		0.02	0.19	0.19	0.25	0.25	0.25	0.20	0.20	0.20
Sat Flow, veh/h		1774	3288	285		1774	3289	285	956	387	400	558	677	501
Grp Volume(v), veh/h		86	790	816		222	766	791	671	0	0	395	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1803		1774	1770	1805	1744	0	0	1737	0	0
Q Serve(g_s), s		6.7	50.5	51.7		9.6	57.6	58.4	35.1	0.0	0.0	28.1	0.0	0.0
Cycle Q Clear(g_c), s		6.7	50.5	51.7		9.6	57.6	58.4	35.1	0.0	0.0	28.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.16	0.55		0.23	0.32		0.29
Lane Grp Cap(c), veh/h		106	978	997		122	993	1013	437	0	0	349	0	0
V/C Ratio(X)		0.81	0.81	0.82		1.82	0.77	0.78	1.53	0.00	0.00	1.13	0.00	0.00
Avail Cap(c_a), veh/h		122	978	997		122	993	1013	437	0	0	349	0	0
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)		1.00	1.00	1.00		0.48	0.48	0.48	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		65.0	25.3	25.6		68.4	48.5	48.8	52.5	0.0	0.0	56.0	0.0	0.0
Incr Delay (d2), s/veh		25.3	7.1	7.5		386.4	2.9	3.0	252.0	0.0	0.0	89.4	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		4.0	26.5	27.7		17.8	29.2	30.1	47.5	0.0	0.0	22.1	0.0	0.0
LnGrp Delay(d),s/veh		90.3	32.4	33.0		454.8	51.4	51.8	304.4	0.0	0.0	145.3	0.0	0.0
LnGrp LOS		F	C	C		F	D	D	F			F		
Approach Vol, veh/h			1692				1779			671			395	
Approach Delay, s/veh			35.6				101.9			304.4			145.3	
Approach LOS			D				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	84.5		33.0	12.8	85.7		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	11.6	53.7		30.1	8.7	60.4		37.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	110.9
HCM 2010 LOS	F

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	230	1060	300	10	110	860	351	10	300	795	80	10	275	455	220
Future Volume (veh/h)	10	230	1060	300	10	110	860	351	10	300	795	80	10	275	455	220
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		258	1191	249		126	989	314		319	846	64		316	523	196
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		399	1434	297		175	1182	375		364	1042	79		359	761	331
Arrive On Green		0.30	0.66	0.66		0.03	0.21	0.21		0.21	0.43	0.43		0.17	0.36	0.36
Sat Flow, veh/h		1774	2911	603		3442	3796	1203		3442	4819	363		3442	3539	1541
Grp Volume(v), veh/h		258	720	720		126	883	420		319	594	316		316	523	196
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1609		1721	1695	1791		1721	1770	1541
Q Serve(g_s), s		17.7	42.8	44.2		5.1	35.0	35.0		12.6	21.4	21.6		12.5	17.6	9.0
Cycle Q Clear(g_c), s		17.7	42.8	44.2		5.1	35.0	35.0		12.6	21.4	21.6		12.5	17.6	9.0
Prop In Lane		1.00		0.35		1.00		0.75		1.00		0.20		1.00		1.00
Lane Grp Cap(c), veh/h		399	872	859		175	1056	501		364	733	388		359	761	331
V/C Ratio(X)		0.65	0.83	0.84		0.72	0.84	0.84		0.88	0.81	0.81		0.88	0.69	0.59
Avail Cap(c_a), veh/h		399	872	859		383	1056	501		457	826	436		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		0.67	0.67	0.67		2.00	2.00	2.00		1.67	1.67	1.67
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.85	0.85	0.85		0.90	0.90	0.90
Uniform Delay (d), s/veh		44.2	19.6	19.9		66.6	52.0	52.0		54.3	37.2	37.3		56.9	40.9	15.4
Incr Delay (d2), s/veh		0.3	0.9	1.0		1.9	7.2	14.2		11.0	5.5	10.2		17.0	2.7	3.2
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		8.7	20.7	21.3		2.5	17.5	17.6		6.5	10.5	11.6		6.8	8.9	5.1
LnGrp Delay(d),s/veh		44.5	20.5	20.8		68.5	59.2	66.2		65.3	42.7	47.5		73.9	43.5	18.6
LnGrp LOS		D	C	C		E	E	E		E	D	D		E	D	B
Approach Vol, veh/h			1698				1429				1229				1035	
Approach Delay, s/veh			24.3				62.1				49.8				48.1	
Approach LOS			C				E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	74.3	19.2	35.0	36.8	49.0	19.0	35.2
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	7.1	46.2	14.6	19.6	19.7	37.0	14.5	23.6
Green Ext Time (p_c), s	0.1	6.3	0.3	4.7	0.2	4.0	0.1	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	44.7
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1924	140	400	1351	310	110	120	640	290	180	20
Future Volume (veh/h)	20	1924	140	400	1351	310	110	120	640	290	180	20
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1984	107	435	1468	249	126	138	644	322	200	20
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1867	100	350	2847	867	255	267	1064	293	274	27
Arrive On Green	0.03	0.76	0.76	0.20	0.56	0.56	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4930	265	1774	5085	1549	1774	1863	3066	1774	1661	166
Grp Volume(v), veh/h	21	1362	729	435	1468	249	126	138	644	322	0	220
Grp Sat Flow(s),veh/h/ln	1774	1695	1805	1774	1695	1549	1774	1863	1533	1774	0	1827
Q Serve(g_s), s	1.6	53.0	53.0	27.6	25.0	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Cycle Q Clear(g_c), s	1.6	53.0	53.0	27.6	25.0	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	28	1283	683	350	2847	867	255	267	1064	293	0	301
V/C Ratio(X)	0.74	1.06	1.07	1.24	0.52	0.29	0.49	0.52	0.61	1.10	0.00	0.73
Avail Cap(c_a), veh/h	274	1283	683	350	2847	867	255	267	1064	293	0	301
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)	0.21	0.21	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	17.0	17.0	56.2	19.1	16.2	55.3	55.5	38.5	58.4	0.0	55.5
Incr Delay (d2), s/veh	3.0	31.8	37.3	131.6	0.7	0.8	1.1	1.3	0.9	82.1	0.0	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	29.2	32.1	26.3	11.9	5.3	4.6	5.0	10.5	18.0	0.0	8.7
LnGrp Delay(d),s/veh	70.5	48.8	54.3	187.8	19.7	17.0	56.4	56.8	39.4	140.5	0.0	63.1
LnGrp LOS	E	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2112			2152			908			542	
Approach Delay, s/veh		50.9			53.4			44.4			109.1	
Approach LOS		D			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	58.5		25.0	6.6	83.9		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	3.6	27.0		25.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	56.3
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	180	7	26	120	23	82
Future Vol, veh/h	180	7	26	120	23	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	196	8	28	130	25	89

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	204	0	386	200
Stage 1	-	-	-	-	200	-
Stage 2	-	-	-	-	186	-
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	-	-	1368	-	617	841
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	846	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1368	-	603	841
Mov Cap-2 Maneuver	-	-	-	-	603	-
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	846	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	774	-	-	1368	-
HCM Lane V/C Ratio	0.147	-	-	0.021	-
HCM Control Delay (s)	10.5	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Future Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		167	744	209		226	806	117	289	509	115	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		222	1124	316		281	1338	194	344	656	147	
Arrive On Green		0.06	0.42	0.42		0.08	0.43	0.43	0.13	0.31	0.31	
Sat Flow, veh/h		3442	2707	760		3442	3094	449	3442	2840	637	
Grp Volume(v), veh/h		167	486	467		226	461	462	289	316	308	
Grp Sat Flow(s),veh/h/ln		1721	1770	1697		1721	1770	1773	1721	1770	1708	
Q Serve(g_s), s		6.0	27.9	27.9		8.1	25.2	25.2	10.3	20.4	20.7	
Cycle Q Clear(g_c), s		6.0	27.9	27.9		8.1	25.2	25.2	10.3	20.4	20.7	
Prop In Lane		1.00		0.45		1.00		0.25	1.00		0.37	
Lane Grp Cap(c), veh/h		222	735	705		281	765	767	344	409	394	
V/C Ratio(X)		0.75	0.66	0.66		0.80	0.60	0.60	0.84	0.77	0.78	
Avail Cap(c_a), veh/h		399	735	705		399	765	767	481	479	462	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.95	0.95	0.95	
Uniform Delay (d), s/veh		57.9	29.7	29.7		56.9	27.5	27.5	53.6	40.7	40.8	
Incr Delay (d2), s/veh		1.9	4.7	4.8		5.0	3.5	3.5	6.4	5.1	5.7	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		2.9	14.6	14.0		4.1	13.0	13.1	5.2	10.6	10.4	
LnGrp Delay(d),s/veh		59.9	34.4	34.6		61.9	31.0	30.9	60.0	45.7	46.4	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1120				1149			913		
Approach Delay, s/veh			38.3				37.0			50.5		
Approach LOS			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	14.7	57.3	17.0	37.0	12.5	59.5	20.0	34.0
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	10.1	29.9	12.3	34.1	8.0	27.2	16.9	22.7
Green Ext Time (p_c), s	0.2	5.3	0.3	0.0	0.1	5.6	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	98.5
HCM 2010 LOS	F

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	200	1086	150
Future Volume (veh/h)	200	1086	150
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	211	1143	126
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	220	815	90
Arrive On Green	0.12	0.25	0.25
Sat Flow, veh/h	1774	3200	352
Grp Volume(v), veh/h	211	631	638
Grp Sat Flow(s),veh/h/ln	1774	1770	1783
Q Serve(g_s), s	14.9	32.1	32.1
Cycle Q Clear(g_c), s	14.9	32.1	32.1
Prop In Lane	1.00		0.20
Lane Grp Cap(c), veh/h	220	451	454
V/C Ratio(X)	0.96	1.40	1.41
Avail Cap(c_a), veh/h	220	451	454
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	47.0	47.0
Incr Delay (d2), s/veh	49.2	192.8	195.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	39.8	40.4
LnGrp Delay(d),s/veh	104.0	239.7	242.1
LnGrp LOS	F	F	F
Approach Vol, veh/h		1480	
Approach Delay, s/veh		221.4	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	71	50	238	101	20	110	40	106	10	90	10
Future Vol, veh/h	0	71	50	238	101	20	110	40	106	10	90	10
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	108	76	274	116	23	121	44	116	12	111	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11	18.1	13.4	11.1
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	0%	66%	9%
Vol Thru, %	16%	59%	28%	82%
Vol Right, %	41%	41%	6%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	256	121	359	110
LT Vol	110	0	238	10
Through Vol	40	71	101	90
RT Vol	106	50	20	10
Lane Flow Rate	281	183	413	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.446	0.287	0.64	0.231
Departure Headway (Hd)	5.713	5.642	5.581	6.13
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	627	633	644	581
Service Time	3.786	3.723	3.643	4.218
HCM Lane V/C Ratio	0.448	0.289	0.641	0.234
HCM Control Delay	13.4	11	18.1	11.1
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	2.3	1.2	4.6	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	85	52	165	110	55	140	20	214	910	170	10	190	1110	161
Future Volume (veh/h)	85	52	165	110	55	140	20	214	910	170	10	190	1110	161
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	90	55	136	120	60	110		235	1000	145		200	1168	129
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	220	107	264	200	133	244		482	2436	352		222	1393	604
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23		0.27	0.54	0.54		0.25	0.79	0.79
Sat Flow, veh/h	1200	464	1149	1174	580	1063		1774	4480	648		1774	3539	1534
Grp Volume(v), veh/h	90	0	191	120	0	170		235	756	389		200	1168	129
Grp Sat Flow(s),veh/h/ln	1200	0	1613	1174	0	1642		1774	1695	1738		1774	1770	1534
Q Serve(g_s), s	9.8	0.0	14.5	13.9	0.0	12.5		15.6	18.3	18.4		15.3	28.9	3.0
Cycle Q Clear(g_c), s	22.2	0.0	14.5	28.4	0.0	12.5		15.6	18.3	18.4		15.3	28.9	3.0
Prop In Lane	1.00		0.71	1.00		0.65		1.00		0.37		1.00		1.00
Lane Grp Cap(c), veh/h	220	0	370	200	0	377		482	1844	945		222	1393	604
V/C Ratio(X)	0.41	0.00	0.52	0.60	0.00	0.45		0.49	0.41	0.41		0.90	0.84	0.21
Avail Cap(c_a), veh/h	374	0	577	350	0	588		482	1844	945		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		0.37	0.37	0.37		0.84	0.84	0.84
Uniform Delay (d), s/veh	55.9	0.0	47.1	59.5	0.0	46.3		42.8	18.8	18.8		51.6	12.1	9.4
Incr Delay (d2), s/veh	0.9	0.0	0.8	2.2	0.0	0.6		0.1	0.3	0.5		4.5	5.3	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	3.3	0.0	6.6	4.7	0.0	5.7		7.7	8.6	9.0		7.7	14.3	1.3
LnGrp Delay(d),s/veh	56.8	0.0	47.9	61.7	0.0	47.0		42.9	19.0	19.3		56.2	17.4	10.0
LnGrp LOS	E		D	E		D		D	B	B		E	B	B
Approach Vol, veh/h		281			290				1380				1497	
Approach Delay, s/veh		50.8			53.1				23.1				21.9	
Approach LOS		D			D				C				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.9	81.0		37.1	42.9	60.0		37.1
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	36.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	17.3	20.4		24.2	17.6	30.9		30.4
Green Ext Time (p_c), s	0.2	8.6		1.2	0.1	11.5		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	27.4
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Future Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		375	1059	64	566	987	148		191	436	412	373	802	262
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		527	1114	67	578	1022	153		210	793	604	298	713	233
Arrive On Green		0.15	0.33	0.33	0.17	0.33	0.33		0.12	0.22	0.22	0.17	0.27	0.27
Sat Flow, veh/h		3442	3383	204	3442	3071	460		1774	3539	1509	1774	2606	851
Grp Volume(v), veh/h		375	554	569	566	568	567		191	436	412	373	544	520
Grp Sat Flow(s),veh/h/ln		1721	1770	1818	1721	1770	1761		1774	1770	1509	1774	1770	1688
Q Serve(g_s), s		18.5	54.6	54.6	29.3	56.4	56.5		19.0	19.5	40.0	30.0	48.8	48.8
Cycle Q Clear(g_c), s		18.5	54.6	54.6	29.3	56.4	56.5		19.0	19.5	40.0	30.0	48.8	48.8
Prop In Lane		1.00		0.11	1.00		0.26		1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h		527	583	599	578	589	586		210	793	604	298	484	461
V/C Ratio(X)		0.71	0.95	0.95	0.98	0.96	0.97		0.91	0.55	0.68	1.25	1.13	1.13
Avail Cap(c_a), veh/h		578	594	611	578	594	591		298	793	604	298	484	461
HCM Platoon Ratio		1.00	1.00	1.00	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		71.9	58.5	58.5	74.0	58.5	58.6		77.8	61.4	45.4	74.3	64.9	64.9
Incr Delay (d2), s/veh		2.9	25.0	24.7	32.0	28.1	28.5		19.6	0.6	2.9	138.0	79.9	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		9.0	30.7	31.5	16.5	32.2	32.2		10.5	9.6	17.5	26.1	34.5	33.1
LnGrp Delay(d),s/veh		74.8	83.5	83.2	106.0	86.6	87.1		97.4	62.0	48.3	212.4	144.8	146.1
LnGrp LOS		E	F	F	F	F	F		F	E	D	F	F	F
Approach Vol, veh/h			1498			1701				1039			1437	
Approach Delay, s/veh			81.2			93.2				63.1			162.8	
Approach LOS			F			F				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	34.4	64.5	25.6	54.1	33.1	65.9	34.4	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	31.3	56.6	21.0	50.8	20.5	58.5	32.0	42.0
Green Ext Time (p_c), s	0.0	2.2	0.2	0.0	0.5	1.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	102.1
HCM 2010 LOS	F

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	82	1500	180	50	150	1450	120	100	62	60	90	161	160
Future Volume (veh/h)	10	82	1500	180	50	150	1450	120	100	62	60	90	161	160
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		86	1579	145		160	1543	97	112	70	55	99	177	136
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		173	1421	129		172	1421	89	124	78	61	75	134	103
Arrive On Green		0.10	0.43	0.43		0.03	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3280	298		1774	3383	212	824	515	404	418	747	574
Grp Volume(v), veh/h		86	845	879		160	803	837	237	0	0	412	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1809		1774	1770	1825	1743	0	0	1739	0	0
Q Serve(g_s), s		6.4	60.6	60.6		12.6	58.8	58.8	18.7	0.0	0.0	25.1	0.0	0.0
Cycle Q Clear(g_c), s		6.4	60.6	60.6		12.6	58.8	58.8	18.7	0.0	0.0	25.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.12	0.47		0.23	0.24		0.33
Lane Grp Cap(c), veh/h		173	767	784		172	743	767	263	0	0	312	0	0
V/C Ratio(X)		0.50	1.10	1.12		0.93	1.08	1.09	0.90	0.00	0.00	1.32	0.00	0.00
Avail Cap(c_a), veh/h		173	767	784		172	743	767	312	0	0	312	0	0
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)		1.00	1.00	1.00		0.09	0.09	0.09	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		59.9	39.7	39.7		67.3	60.3	60.3	58.4	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh		0.8	64.2	71.0		8.4	39.1	43.4	22.7	0.0	0.0	165.3	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		3.2	43.3	45.7		6.6	36.9	39.0	10.7	0.0	0.0	26.4	0.0	0.0
LnGrp Delay(d),s/veh		60.7	103.9	110.7		75.7	99.4	103.7	81.1	0.0	0.0	222.7	0.0	0.0
LnGrp LOS		E	F	F		E	F	F	F			F		
Approach Vol, veh/h			1810				1800			237			412	
Approach Delay, s/veh			105.1				99.3			81.1			222.7	
Approach LOS			F				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.0	65.9		30.0	18.9	65.0		26.1
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	14.6	62.6		27.1	8.4	60.8		20.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	112.7
HCM 2010 LOS	F

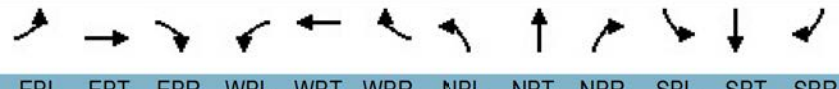
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	350	1040	280	10	330	1120	408	20	280	566	120	30	438	698	250
Future Volume (veh/h)	10	350	1040	280	10	330	1120	408	20	280	566	120	30	438	698	250
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		380	1130	231		367	1244	366		311	629	101		492	784	221
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		362	1033	210		515	1182	347		359	857	135		544	878	367
Arrive On Green		0.07	0.12	0.12		0.05	0.10	0.10		0.21	0.39	0.39		0.16	0.25	0.25
Sat Flow, veh/h		1774	2909	590		3442	3853	1132		3442	4402	695		3442	3539	1479
Grp Volume(v), veh/h		380	684	677		367	1095	515		311	482	248		492	784	221
Grp Sat Flow(s),veh/h/ln		1774	1770	1729		1721	1695	1594		1721	1695	1707		1721	1770	1479
Q Serve(g_s), s		28.6	49.7	49.7		14.7	42.9	42.9		12.2	17.0	17.5		19.7	30.0	18.5
Cycle Q Clear(g_c), s		28.6	49.7	49.7		14.7	42.9	42.9		12.2	17.0	17.5		19.7	30.0	18.5
Prop In Lane		1.00		0.34		1.00		0.71		1.00		0.41		1.00		1.00
Lane Grp Cap(c), veh/h		362	628	614		515	1040	489		359	660	332		544	878	367
V/C Ratio(X)		1.05	1.09	1.10		0.71	1.05	1.05		0.87	0.73	0.75		0.91	0.89	0.60
Avail Cap(c_a), veh/h		362	628	614		515	1040	489		556	753	379		629	878	367
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.09	0.09	0.09		0.81	0.81	0.81		0.91	0.91	0.91		0.73	0.73	0.73
Uniform Delay (d), s/veh		65.3	61.8	61.8		63.6	62.9	62.9		54.4	39.6	39.8		57.9	50.8	46.5
Incr Delay (d2), s/veh		29.1	43.2	48.6		3.2	40.2	51.8		5.2	3.7	7.8		10.9	9.0	2.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		17.0	31.9	32.1		7.3	26.0	26.0		6.0	8.2	8.8		10.2	15.7	7.8
LnGrp Delay(d),s/veh		94.4	105.0	110.4		66.8	103.1	114.7		59.6	43.3	47.6		68.9	59.9	49.2
LnGrp LOS		F	F	F		E	F	F		E	D	D		E	E	D
Approach Vol, veh/h			1741				1977				1041				1497	
Approach Delay, s/veh			104.8				99.4				49.2				61.2	
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	6.3	55.0	19.0	39.6	33.0	48.3	26.5	32.1
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	4.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	0.7	51.7	14.2	32.0	30.6	44.9	21.7	19.5
Green Ext Time (p_c), s	0.0	0.0	0.4	1.5	0.0	0.0	0.4	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	83.4
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Future Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	1554	141	454	2100	239	114	128	293	244	200	50
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1942	176	400	3139	976	173	182	1011	191	154	38
Arrive On Green	0.07	0.86	0.86	0.23	0.62	0.62	0.10	0.10	0.10	0.11	0.11	0.11
Sat Flow, veh/h	1774	4528	410	1774	5085	1581	1774	1863	3036	1774	1424	356
Grp Volume(v), veh/h	52	1086	609	454	2100	239	114	128	293	244	0	250
Grp Sat Flow(s),veh/h/ln	1774	1583	1772	1774	1695	1581	1774	1863	1518	1774	0	1780
Q Serve(g_s), s	4.0	21.7	21.8	31.6	37.7	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Cycle Q Clear(g_c), s	4.0	21.7	21.8	31.6	37.7	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	66	1358	760	400	3139	976	173	182	1011	191	0	192
V/C Ratio(X)	0.78	0.80	0.80	1.13	0.67	0.24	0.66	0.70	0.29	1.28	0.00	1.30
Avail Cap(c_a), veh/h	134	1358	760	400	3139	976	318	334	1259	191	0	192
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)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.2	7.2	7.2	54.2	17.5	12.1	60.9	61.2	35.5	62.5	0.0	62.5
Incr Delay (d2), s/veh	4.7	3.2	5.7	86.7	1.2	0.6	3.2	3.7	0.1	158.0	0.0	168.6
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	9.4	11.0	25.1	17.8	4.3	4.4	5.0	4.3	15.8	0.0	16.4
LnGrp Delay(d),s/veh	68.9	10.5	12.9	140.9	18.6	12.7	64.1	64.9	35.6	220.5	0.0	231.1
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1747			2793			535			494	
Approach Delay, s/veh		13.1			38.0			48.7			225.8	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	36.0	65.5		20.0	9.6	91.8		18.5
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	31.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	33.6	23.8		17.1	6.0	39.7		12.1
Green Ext Time (p_c), s	0.0	19.5		0.0	0.0	24.7		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	47.9
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	170	25	90	350	12	42
Future Vol, veh/h	170	25	90	350	12	42
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	185	27	98	380	13	46

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	212	0	775	199
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	576	-
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	-	-	1358	-	366	842
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	562	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1358	-	332	842
Mov Cap-2 Maneuver	-	-	-	-	332	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	562	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	628	-	-	1358	-
HCM Lane V/C Ratio	0.093	-	-	0.072	-
HCM Control Delay (s)	11.3	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Future Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		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	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		221	463	160		204	591	284	251	1273	72	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		285	856	293		622	1001	481	312	1105	62	
Arrive On Green		0.08	0.33	0.33		0.18	0.44	0.44	0.12	0.43	0.43	
Sat Flow, veh/h		3442	2567	879		3442	2293	1101	3442	3400	192	
Grp Volume(v), veh/h		221	318	305		204	456	419	251	662	683	
Grp Sat Flow(s),veh/h/ln		1721	1770	1676		1721	1770	1625	1721	1770	1822	
Q Serve(g_s), s		6.8	15.8	16.0		5.6	21.1	21.2	7.7	35.1	35.1	
Cycle Q Clear(g_c), s		6.8	15.8	16.0		5.6	21.1	21.2	7.7	35.1	35.1	
Prop In Lane		1.00		0.52		1.00		0.68	1.00		0.11	
Lane Grp Cap(c), veh/h		285	590	559		622	773	709	312	575	592	
V/C Ratio(X)		0.77	0.54	0.55		0.33	0.59	0.59	0.80	1.15	1.15	
Avail Cap(c_a), veh/h		433	590	559		622	773	709	402	575	592	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.55	0.55	0.55	
Uniform Delay (d), s/veh		48.5	29.3	29.3		38.5	23.1	23.1	46.5	30.7	30.7	
Incr Delay (d2), s/veh		2.1	3.5	3.8		0.1	3.3	3.6	3.8	78.9	80.1	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	8.3	8.0		2.7	11.0	10.1	3.8	29.6	30.7	
LnGrp Delay(d),s/veh		50.6	32.8	33.1		38.7	26.4	26.7	50.4	109.5	110.7	
LnGrp LOS		D	C	C		D	C	C	D	F	F	
Approach Vol, veh/h			844				1079			1596		
Approach Delay, s/veh			37.6				28.8			100.7		
Approach LOS			D				C			F		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.6	41.0	14.2	40.3	13.4	52.3	14.5	40.0
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	7.6	18.0	9.7	23.6	8.8	23.2	11.6	37.1
Green Ext Time (p_c), s	0.0	3.8	0.1	2.0	0.2	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	67.5
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	190	535	190
Future Volume (veh/h)	190	535	190
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	216	608	182
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	158	871	260
Arrive On Green	0.09	0.33	0.33
Sat Flow, veh/h	1774	2658	794
Grp Volume(v), veh/h	216	404	386
Grp Sat Flow(s),veh/h/ln	1774	1770	1682
Q Serve(g_s), s	9.6	21.5	21.6
Cycle Q Clear(g_c), s	9.6	21.5	21.6
Prop In Lane	1.00		0.47
Lane Grp Cap(c), veh/h	158	580	551
V/C Ratio(X)	1.37	0.70	0.70
Avail Cap(c_a), veh/h	158	580	551
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	31.6	31.7
Incr Delay (d2), s/veh	201.3	3.1	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	10.9	10.6
LnGrp Delay(d),s/veh	250.5	34.7	35.0
LnGrp LOS	F	C	C
Approach Vol, veh/h		1006	
Approach Delay, s/veh		81.2	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	80	100	78	41	10	80	50	85	20	60	10
Future Vol, veh/h	10	80	100	78	41	10	80	50	85	20	60	10
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	95	119	100	53	13	121	76	129	27	80	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.5	10.5	12.2	9.7
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	37%	5%	60%	22%
Vol Thru, %	23%	42%	32%	67%
Vol Right, %	40%	53%	8%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	190	129	90
LT Vol	80	10	78	20
Through Vol	50	80	41	60
RT Vol	85	100	10	10
Lane Flow Rate	326	226	165	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.454	0.319	0.255	0.182
Departure Headway (Hd)	5.021	5.085	5.545	5.471
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	717	706	648	655
Service Time	3.05	3.118	3.579	3.508
HCM Lane V/C Ratio	0.455	0.32	0.255	0.183
HCM Control Delay	12.2	10.5	10.5	9.7
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	2.4	1.4	1	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	63	34	90	101	41	90	10	126	1145	141	10	130	614	65
Future Volume (veh/h)	63	34	90	101	41	90	10	126	1145	141	10	130	614	65
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	76	41	84	129	53	86		137	1245	115		143	675	59
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	205	106	217	215	125	202		161	2868	265		165	2157	956
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20		0.09	0.61	0.61		0.19	1.00	1.00
Sat Flow, veh/h	1233	534	1094	1245	629	1020		1774	4724	436		1774	3539	1569
Grp Volume(v), veh/h	76	0	125	129	0	139		137	893	467		143	675	59
Grp Sat Flow(s),veh/h/ln	1233	0	1627	1245	0	1649		1774	1695	1771		1774	1770	1569
Q Serve(g_s), s	8.0	0.0	9.3	14.1	0.0	10.3		10.6	19.7	19.7		10.9	0.0	0.0
Cycle Q Clear(g_c), s	18.4	0.0	9.3	23.4	0.0	10.3		10.6	19.7	19.7		10.9	0.0	0.0
Prop In Lane	1.00		0.67	1.00		0.62		1.00		0.25		1.00		1.00
Lane Grp Cap(c), veh/h	205	0	322	215	0	327		161	2058	1075		165	2157	956
V/C Ratio(X)	0.37	0.00	0.39	0.60	0.00	0.43		0.85	0.43	0.43		0.86	0.31	0.06
Avail Cap(c_a), veh/h	349	0	513	360	0	519		400	2058	1075		400	2157	956
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.98	0.98	0.98
Uniform Delay (d), s/veh	57.2	0.0	48.8	58.9	0.0	49.2		62.7	14.7	14.7		56.1	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.6	2.0	0.0	0.7		4.7	0.7	1.3		5.0	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	4.3	5.0	0.0	4.8		5.4	9.4	10.0		5.6	0.1	0.0
LnGrp Delay(d),s/veh	58.0	0.0	49.3	60.9	0.0	49.8		67.4	15.3	15.9		61.1	0.4	0.1
LnGrp LOS	E		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		201			268				1497				877	
Approach Delay, s/veh		52.6			55.1				20.3				10.3	
Approach LOS		D			E				C				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.5	89.9		32.6	17.1	90.2		32.6
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	12.3	21.7		20.4	12.6	2.0		25.4
Green Ext Time (p_c), s	0.2	13.0		0.8	0.2	6.7		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	22.8
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Future Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		219	911	71	461	900	162		325	639	592		242	341	244
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		397	1045	81	511	999	180		344	917	645		264	419	292
Arrive On Green		0.12	0.32	0.32	0.15	0.34	0.34		0.19	0.26	0.26		0.15	0.21	0.21
Sat Flow, veh/h		3442	3312	258	3442	2978	536		1774	3539	1583		1774	1956	1366
Grp Volume(v), veh/h		219	487	495	461	535	527		325	639	592		242	308	277
Grp Sat Flow(s),veh/h/ln		1721	1770	1800	1721	1770	1744		1774	1770	1583		1774	1770	1552
Q Serve(g_s), s		9.3	40.1	40.1	20.3	44.4	44.5		27.9	25.2	40.0		20.8	25.5	26.4
Cycle Q Clear(g_c), s		9.3	40.1	40.1	20.3	44.4	44.5		27.9	25.2	40.0		20.8	25.5	26.4
Prop In Lane		1.00		0.14	1.00		0.31		1.00		1.00		1.00		0.88
Lane Grp Cap(c), veh/h		397	558	568	511	594	585		344	917	645		264	379	332
V/C Ratio(X)		0.55	0.87	0.87	0.90	0.90	0.90		0.95	0.70	0.92		0.92	0.81	0.83
Avail Cap(c_a), veh/h		669	688	700	669	688	678		345	917	645		345	458	402
HCM Platoon Ratio		1.00	1.00	1.00	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		64.5	49.9	49.9	64.6	48.8	48.8		61.4	51.7	43.3		64.8	57.7	58.1
Incr Delay (d2), s/veh		0.4	10.5	10.4	11.1	13.7	13.9		34.0	2.1	17.9		21.6	8.5	11.5
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		4.4	21.2	21.6	10.5	23.9	23.6		17.0	12.6	27.1		11.8	13.4	12.4
LnGrp Delay(d),s/veh		65.0	60.5	60.3	75.7	62.5	62.7		95.4	53.9	61.2		86.4	66.3	69.6
LnGrp LOS		E	E	E	E	E	E		F	D	E		F	E	E
Approach Vol, veh/h			1201			1523				1556				827	
Approach Delay, s/veh			61.2			66.6				65.3				73.3	
Approach LOS			E			E				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	27.3	54.4	34.3	38.3	23.5	58.2	27.4	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	22.3	42.1	29.9	28.4	11.3	46.5	22.8	42.0
Green Ext Time (p_c), s	0.6	6.6	0.0	2.4	0.3	5.4	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	66.0
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	76	1300	140	10	181	1170	130	250	101	130	100	121	100
Future Volume (veh/h)	20	76	1300	140	10	181	1170	130	250	101	130	100	121	100
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		86	1477	129		223	1444	125	368	149	154	127	153	102
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		106	1818	158		122	1848	159	240	97	100	116	140	93
Arrive On Green		0.06	0.55	0.55		0.02	0.19	0.19	0.25	0.25	0.25	0.20	0.20	0.20
Sat Flow, veh/h		1774	3288	285		1774	3291	283	956	387	400	579	698	465
Grp Volume(v), veh/h		86	790	816		223	772	797	671	0	0	382	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1803		1774	1770	1805	1744	0	0	1743	0	0
Q Serve(g_s), s		6.7	50.5	51.7		9.6	58.1	58.9	35.1	0.0	0.0	28.1	0.0	0.0
Cycle Q Clear(g_c), s		6.7	50.5	51.7		9.6	58.1	58.9	35.1	0.0	0.0	28.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.16	0.55		0.23	0.33		0.27
Lane Grp Cap(c), veh/h		106	978	997		122	993	1013	437	0	0	350	0	0
V/C Ratio(X)		0.81	0.81	0.82		1.83	0.78	0.79	1.53	0.00	0.00	1.09	0.00	0.00
Avail Cap(c_a), veh/h		122	978	997		122	993	1013	437	0	0	350	0	0
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)		1.00	1.00	1.00		0.48	0.48	0.48	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		65.0	25.3	25.6		68.4	48.7	49.0	52.5	0.0	0.0	56.0	0.0	0.0
Incr Delay (d2), s/veh		25.3	7.1	7.5		390.0	3.0	3.1	252.0	0.0	0.0	75.1	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		4.0	26.5	27.7		17.9	29.4	30.4	47.5	0.0	0.0	20.8	0.0	0.0
LnGrp Delay(d),s/veh		90.3	32.4	33.0		458.4	51.7	52.1	304.4	0.0	0.0	131.1	0.0	0.0
LnGrp LOS		F	C	C		F	D	D	F			F		
Approach Vol, veh/h			1692				1792			671			382	
Approach Delay, s/veh			35.6				102.5			304.4			131.1	
Approach LOS			D				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	84.5		33.0	12.8	85.7		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	11.6	53.7		30.1	8.7	60.9		37.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	109.8
HCM 2010 LOS	F

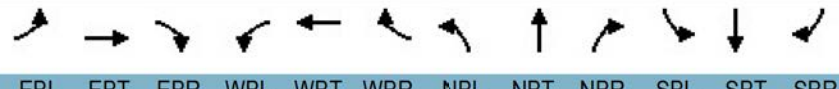
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	230	1060	300	10	110	860	351	10	300	795	80	10	281	455	231
Future Volume (veh/h)	10	230	1060	300	10	110	860	351	10	300	795	80	10	281	455	231
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		258	1191	249		126	989	314		319	846	64		323	523	209
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		396	1429	296		175	1182	375		364	1042	79		366	767	334
Arrive On Green		0.30	0.65	0.65		0.03	0.21	0.21		0.21	0.43	0.43		0.18	0.36	0.36
Sat Flow, veh/h		1774	2911	603		3442	3796	1203		3442	4819	363		3442	3539	1541
Grp Volume(v), veh/h		258	720	720		126	883	420		319	594	316		323	523	209
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1609		1721	1695	1791		1721	1770	1541
Q Serve(g_s), s		17.8	43.1	44.5		5.1	35.0	35.0		12.6	21.4	21.6		12.8	17.5	9.7
Cycle Q Clear(g_c), s		17.8	43.1	44.5		5.1	35.0	35.0		12.6	21.4	21.6		12.8	17.5	9.7
Prop In Lane		1.00		0.35		1.00		0.75		1.00		0.20		1.00		1.00
Lane Grp Cap(c), veh/h		396	868	856		175	1056	501		364	733	388		366	767	334
V/C Ratio(X)		0.65	0.83	0.84		0.72	0.84	0.84		0.88	0.81	0.81		0.88	0.68	0.63
Avail Cap(c_a), veh/h		396	868	856		383	1056	501		457	826	436		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		0.67	0.67	0.67		2.00	2.00	2.00		1.67	1.67	1.67
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.85	0.85	0.85		1.00	1.00	1.00
Uniform Delay (d), s/veh		44.5	19.9	20.1		66.6	52.0	52.0		54.3	37.2	37.3		56.7	40.6	15.5
Incr Delay (d2), s/veh		0.3	0.9	1.0		1.9	7.2	14.2		11.0	5.5	10.2		19.3	2.8	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	0.0	0.0
%ile BackOfQ(50%),veh/ln		8.7	21.0	21.3		2.5	17.5	17.6		6.5	10.5	11.6		7.0	8.8	5.5
LnGrp Delay(d),s/veh		44.8	20.8	21.1		68.5	59.2	66.2		65.3	42.7	47.5		76.0	43.4	19.9
LnGrp LOS		D	C	C		E	E	E		E	D	D		E	D	B
Approach Vol, veh/h			1698				1429				1229				1055	
Approach Delay, s/veh			24.6				62.1				49.8				48.7	
Approach LOS			C				E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	74.0	19.2	35.3	36.5	49.0	19.3	35.2
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	7.1	46.5	14.6	19.5	19.8	37.0	14.8	23.6
Green Ext Time (p_c), s	0.1	6.1	0.3	4.8	0.2	4.0	0.1	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	44.9
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1924	140	400	1351	310	110	120	640	290	180	20
Future Volume (veh/h)	20	1924	140	400	1351	310	110	120	640	290	180	20
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1984	107	435	1468	249	126	138	644	322	200	20
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1867	100	350	2847	867	255	267	1064	293	274	27
Arrive On Green	0.03	0.76	0.76	0.20	0.56	0.56	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4930	265	1774	5085	1549	1774	1863	3066	1774	1661	166
Grp Volume(v), veh/h	21	1362	729	435	1468	249	126	138	644	322	0	220
Grp Sat Flow(s),veh/h/ln	1774	1695	1805	1774	1695	1549	1774	1863	1533	1774	0	1827
Q Serve(g_s), s	1.6	53.0	53.0	27.6	25.0	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Cycle Q Clear(g_c), s	1.6	53.0	53.0	27.6	25.0	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	28	1283	683	350	2847	867	255	267	1064	293	0	301
V/C Ratio(X)	0.74	1.06	1.07	1.24	0.52	0.29	0.49	0.52	0.61	1.10	0.00	0.73
Avail Cap(c_a), veh/h	274	1283	683	350	2847	867	255	267	1064	293	0	301
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)	0.21	0.21	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	17.0	17.0	56.2	19.1	16.2	55.3	55.5	38.5	58.4	0.0	55.5
Incr Delay (d2), s/veh	3.0	31.8	37.3	131.6	0.7	0.8	1.1	1.3	0.9	82.1	0.0	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	29.2	32.1	26.3	11.9	5.3	4.6	5.0	10.5	18.0	0.0	8.7
LnGrp Delay(d),s/veh	70.5	48.8	54.3	187.8	19.7	17.0	56.4	56.8	39.4	140.5	0.0	63.1
LnGrp LOS	E	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2112			2152			908			542	
Approach Delay, s/veh		50.9			53.4			44.4			109.1	
Approach LOS		D			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	58.5		25.0	6.6	83.9		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	3.6	27.0		25.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	56.3
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	180	7	17	120	12	36
Future Vol, veh/h	180	7	17	120	12	36
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	196	8	18	130	13	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	204	0	366	200
Stage 1	-	-	-	-	200	-
Stage 2	-	-	-	-	166	-
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	-	-	1368	-	634	841
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1368	-	625	841
Mov Cap-2 Maneuver	-	-	-	-	625	-
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	863	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	774	-	-	1368	-
HCM Lane V/C Ratio	0.067	-	-	0.014	-
HCM Control Delay (s)	10	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	56	0	1392	920	9
Future Vol, veh/h	0	56	0	1392	920	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	61	0	1513	1000	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	505	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	512	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	512	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	512	-	-
HCM Lane V/C Ratio	-	0.119	-	-
HCM Control Delay (s)	-	13	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Future Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		167	744	209		226	806	117	289	509	115	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		222	1124	316		281	1338	194	344	656	147	
Arrive On Green		0.06	0.42	0.42		0.08	0.43	0.43	0.13	0.31	0.31	
Sat Flow, veh/h		3442	2707	760		3442	3094	449	3442	2840	637	
Grp Volume(v), veh/h		167	486	467		226	461	462	289	316	308	
Grp Sat Flow(s),veh/h/ln		1721	1770	1697		1721	1770	1773	1721	1770	1708	
Q Serve(g_s), s		6.0	27.9	27.9		8.1	25.2	25.2	10.3	20.4	20.7	
Cycle Q Clear(g_c), s		6.0	27.9	27.9		8.1	25.2	25.2	10.3	20.4	20.7	
Prop In Lane		1.00		0.45		1.00		0.25	1.00		0.37	
Lane Grp Cap(c), veh/h		222	735	705		281	765	767	344	409	394	
V/C Ratio(X)		0.75	0.66	0.66		0.80	0.60	0.60	0.84	0.77	0.78	
Avail Cap(c_a), veh/h		399	735	705		399	765	767	481	479	462	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.95	0.95	0.95	
Uniform Delay (d), s/veh		57.9	29.7	29.7		56.9	27.5	27.5	53.6	40.7	40.8	
Incr Delay (d2), s/veh		1.9	4.7	4.8		5.0	3.5	3.5	6.4	5.1	5.7	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		2.9	14.6	14.0		4.1	13.0	13.1	5.2	10.6	10.4	
LnGrp Delay(d),s/veh		59.9	34.4	34.6		61.9	31.0	30.9	60.0	45.7	46.4	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1120				1149			913		
Approach Delay, s/veh			38.3				37.0			50.5		
Approach LOS			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	14.7	57.3	17.0	37.0	12.5	59.5	20.0	34.0
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	10.1	29.9	12.3	34.1	8.0	27.2	16.9	22.7
Green Ext Time (p_c), s	0.2	5.3	0.3	0.0	0.1	5.6	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	98.5
HCM 2010 LOS	F

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	200	1086	150
Future Volume (veh/h)	200	1086	150
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	211	1143	126
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	220	815	90
Arrive On Green	0.12	0.25	0.25
Sat Flow, veh/h	1774	3200	352
Grp Volume(v), veh/h	211	631	638
Grp Sat Flow(s),veh/h/ln	1774	1770	1783
Q Serve(g_s), s	14.9	32.1	32.1
Cycle Q Clear(g_c), s	14.9	32.1	32.1
Prop In Lane	1.00		0.20
Lane Grp Cap(c), veh/h	220	451	454
V/C Ratio(X)	0.96	1.40	1.41
Avail Cap(c_a), veh/h	220	451	454
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	47.0	47.0
Incr Delay (d2), s/veh	49.2	192.8	195.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	39.8	40.4
LnGrp Delay(d),s/veh	104.0	239.7	242.1
LnGrp LOS	F	F	F
Approach Vol, veh/h		1480	
Approach Delay, s/veh		221.4	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	71	50	234	101	20	110	40	106	10	90	10
Future Vol, veh/h	0	71	50	234	101	20	110	40	106	10	90	10
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	108	76	269	116	23	121	44	116	12	111	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11	17.8	13.3	11.1
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	0%	66%	9%
Vol Thru, %	16%	59%	28%	82%
Vol Right, %	41%	41%	6%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	256	121	355	110
LT Vol	110	0	234	10
Through Vol	40	71	101	90
RT Vol	106	50	20	10
Lane Flow Rate	281	183	408	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.445	0.287	0.632	0.231
Departure Headway (Hd)	5.698	5.634	5.578	6.114
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	627	633	645	583
Service Time	3.77	3.711	3.64	4.2
HCM Lane V/C Ratio	0.448	0.289	0.633	0.233
HCM Control Delay	13.3	11	17.8	11.1
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	2.3	1.2	4.5	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	82	52	145	112	53	140	20	214	913	170	10	190	1122	149
Future Volume (veh/h)	82	52	145	112	53	140	20	214	913	170	10	190	1122	149
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	87	55	114	122	58	110		235	1003	145		200	1181	117
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	207	116	240	205	124	235		501	2486	359		222	1393	604
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22		0.28	0.55	0.55		0.25	0.79	0.79
Sat Flow, veh/h	1202	528	1095	1197	566	1073		1774	4483	647		1774	3539	1534
Grp Volume(v), veh/h	87	0	169	122	0	168		235	758	390		200	1181	117
Grp Sat Flow(s),veh/h/ln	1202	0	1623	1197	0	1639		1774	1695	1739		1774	1770	1534
Q Serve(g_s), s	9.5	0.0	12.7	13.9	0.0	12.5		15.3	18.0	18.0		15.3	29.9	2.7
Cycle Q Clear(g_c), s	22.0	0.0	12.7	26.6	0.0	12.5		15.3	18.0	18.0		15.3	29.9	2.7
Prop In Lane	1.00		0.67	1.00		0.65		1.00		0.37		1.00		1.00
Lane Grp Cap(c), veh/h	207	0	355	205	0	359		501	1880	964		222	1393	604
V/C Ratio(X)	0.42	0.00	0.48	0.60	0.00	0.47		0.47	0.40	0.40		0.90	0.85	0.19
Avail Cap(c_a), veh/h	374	0	581	371	0	587		501	1880	964		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.84	0.84	0.84
Uniform Delay (d), s/veh	57.2	0.0	47.7	59.2	0.0	47.6		41.5	17.9	17.9		51.6	12.2	9.3
Incr Delay (d2), s/veh	1.0	0.0	0.7	2.1	0.0	0.7		0.3	0.6	1.3		4.5	5.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	5.8	4.7	0.0	5.7		7.5	8.6	9.0		7.7	14.9	1.2
LnGrp Delay(d),s/veh	58.2	0.0	48.4	61.3	0.0	48.3		41.8	18.5	19.2		56.2	17.8	9.9
LnGrp LOS	E		D	E		D		D	B	B		E	B	A
Approach Vol, veh/h		256			290				1383				1498	
Approach Delay, s/veh		51.7			53.8				22.7				22.3	
Approach LOS		D			D				C				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.9	82.5		35.5	44.5	60.0		35.5
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	36.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	17.3	20.0		24.0	17.3	31.9		28.6
Green Ext Time (p_c), s	0.2	8.7		1.1	0.1	11.3		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	27.3
HCM 2010 LOS	C

Notes



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Future Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		375	1059	64	566	987	148		191	436	412	373	802	262
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		527	1114	67	578	1022	153		210	793	604	298	713	233
Arrive On Green		0.15	0.33	0.33	0.17	0.33	0.33		0.12	0.22	0.22	0.17	0.27	0.27
Sat Flow, veh/h		3442	3383	204	3442	3071	460		1774	3539	1509	1774	2606	851
Grp Volume(v), veh/h		375	554	569	566	568	567		191	436	412	373	544	520
Grp Sat Flow(s),veh/h/ln		1721	1770	1818	1721	1770	1761		1774	1770	1509	1774	1770	1688
Q Serve(g_s), s		18.5	54.6	54.6	29.3	56.4	56.5		19.0	19.5	40.0	30.0	48.8	48.8
Cycle Q Clear(g_c), s		18.5	54.6	54.6	29.3	56.4	56.5		19.0	19.5	40.0	30.0	48.8	48.8
Prop In Lane		1.00		0.11	1.00		0.26		1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h		527	583	599	578	589	586		210	793	604	298	484	461
V/C Ratio(X)		0.71	0.95	0.95	0.98	0.96	0.97		0.91	0.55	0.68	1.25	1.13	1.13
Avail Cap(c_a), veh/h		578	594	611	578	594	591		298	793	604	298	484	461
HCM Platoon Ratio		1.00	1.00	1.00	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		71.9	58.5	58.5	74.0	58.5	58.6		77.8	61.4	45.4	74.3	64.9	64.9
Incr Delay (d2), s/veh		2.9	25.0	24.7	32.0	28.1	28.5		19.6	0.6	2.9	138.0	79.9	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		9.0	30.7	31.5	16.5	32.2	32.2		10.5	9.6	17.5	26.1	34.5	33.1
LnGrp Delay(d),s/veh		74.8	83.5	83.2	106.0	86.6	87.1		97.4	62.0	48.3	212.4	144.8	146.1
LnGrp LOS		E	F	F	F	F	F		F	E	D	F	F	F
Approach Vol, veh/h			1498			1701				1039			1437	
Approach Delay, s/veh			81.2			93.2				63.1			162.8	
Approach LOS			F			F				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	34.4	64.5	25.6	54.1	33.1	65.9	34.4	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	31.3	56.6	21.0	50.8	20.5	58.5	32.0	42.0
Green Ext Time (p_c), s	0.0	2.2	0.2	0.0	0.5	1.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	102.1
HCM 2010 LOS	F

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	82	1500	180	50	150	1455	120	100	62	60	90	161	155
Future Volume (veh/h)	10	82	1500	180	50	150	1455	120	100	62	60	90	161	155
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		86	1579	145		160	1548	97	112	70	55	99	177	130
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		173	1421	129		172	1421	89	124	78	61	76	136	100
Arrive On Green		0.10	0.43	0.43		0.03	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3280	298		1774	3384	211	824	515	404	425	759	558
Grp Volume(v), veh/h		86	845	879		160	806	839	237	0	0	406	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1809		1774	1770	1826	1743	0	0	1742	0	0
Q Serve(g_s), s		6.4	60.6	60.6		12.6	58.8	58.8	18.7	0.0	0.0	25.1	0.0	0.0
Cycle Q Clear(g_c), s		6.4	60.6	60.6		12.6	58.8	58.8	18.7	0.0	0.0	25.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.12	0.47		0.23	0.24		0.32
Lane Grp Cap(c), veh/h		173	767	784		172	743	767	263	0	0	312	0	0
V/C Ratio(X)		0.50	1.10	1.12		0.93	1.08	1.09	0.90	0.00	0.00	1.30	0.00	0.00
Avail Cap(c_a), veh/h		173	767	784		172	743	767	312	0	0	312	0	0
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)		1.00	1.00	1.00		0.09	0.09	0.09	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		59.9	39.7	39.7		67.3	60.3	60.3	58.4	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh		0.8	64.2	71.0		8.4	40.5	44.9	22.7	0.0	0.0	156.5	0.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		3.2	43.3	45.7		6.6	37.2	39.3	10.7	0.0	0.0	25.6	0.0	0.0
LnGrp Delay(d),s/veh		60.7	103.9	110.7		75.7	100.8	105.2	81.1	0.0	0.0	214.0	0.0	0.0
LnGrp LOS		E	F	F		E	F	F	F			F		
Approach Vol, veh/h			1810				1805			237			406	
Approach Delay, s/veh			105.1				100.6			81.1			214.0	
Approach LOS			F				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.0	65.9		30.0	18.9	65.0		26.1
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	14.6	62.6		27.1	8.4	60.8		20.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	112.3
HCM 2010 LOS	F

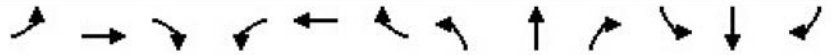
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	350	1040	280	10	330	1120	408	20	280	566	120	30	441	698	255
Future Volume (veh/h)	10	350	1040	280	10	330	1120	408	20	280	566	120	30	441	698	255
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		380	1130	231		367	1244	366		311	629	101		496	784	227
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		362	1033	210		511	1177	346		359	857	135		547	882	369
Arrive On Green		0.07	0.12	0.12		0.05	0.10	0.10		0.21	0.39	0.39		0.16	0.25	0.25
Sat Flow, veh/h		1774	2909	590		3442	3852	1132		3442	4402	695		3442	3539	1479
Grp Volume(v), veh/h		380	684	677		367	1095	515		311	482	248		496	784	227
Grp Sat Flow(s),veh/h/ln		1774	1770	1729		1721	1695	1594		1721	1695	1707		1721	1770	1479
Q Serve(g_s), s		28.6	49.7	49.7		14.7	42.8	42.8		12.2	17.0	17.5		19.8	29.9	19.1
Cycle Q Clear(g_c), s		28.6	49.7	49.7		14.7	42.8	42.8		12.2	17.0	17.5		19.8	29.9	19.1
Prop In Lane		1.00		0.34		1.00		0.71		1.00		0.41		1.00		1.00
Lane Grp Cap(c), veh/h		362	628	614		511	1036	487		359	660	332		547	882	369
V/C Ratio(X)		1.05	1.09	1.10		0.72	1.06	1.06		0.87	0.73	0.75		0.91	0.89	0.62
Avail Cap(c_a), veh/h		362	628	614		511	1036	487		556	753	379		629	882	369
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.09	0.09	0.09		0.81	0.81	0.81		0.91	0.91	0.91		1.00	1.00	1.00
Uniform Delay (d), s/veh		65.3	61.8	61.8		63.7	62.9	62.9		54.4	39.6	39.8		57.8	50.7	46.6
Incr Delay (d2), s/veh		29.1	43.2	48.6		3.4	41.5	53.0		5.2	3.7	7.8		14.5	11.4	4.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		17.0	31.9	32.1		7.3	26.1	26.1		6.0	8.2	8.8		10.5	16.0	8.2
LnGrp Delay(d),s/veh		94.4	105.0	110.4		67.1	104.5	116.0		59.6	43.3	47.6		72.3	62.1	50.6
LnGrp LOS		F	F	F		E	F	F		E	D	D		E	E	D
Approach Vol, veh/h			1741				1977				1041				1507	
Approach Delay, s/veh			104.8				100.5				49.2				63.7	
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	16.2	55.0	19.0	39.8	33.0	48.2	26.7	32.1
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	14.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	16.7	51.7	14.2	31.9	30.6	44.8	21.8	19.5
Green Ext Time (p_c), s	0.0	0.0	0.4	1.6	0.0	0.0	0.4	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	84.3
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Future Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	1554	141	454	2100	239	114	128	293	244	200	50
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1942	176	400	3139	976	173	182	1011	191	154	38
Arrive On Green	0.07	0.86	0.86	0.23	0.62	0.62	0.10	0.10	0.10	0.11	0.11	0.11
Sat Flow, veh/h	1774	4528	410	1774	5085	1581	1774	1863	3036	1774	1424	356
Grp Volume(v), veh/h	52	1086	609	454	2100	239	114	128	293	244	0	250
Grp Sat Flow(s),veh/h/ln	1774	1583	1772	1774	1695	1581	1774	1863	1518	1774	0	1780
Q Serve(g_s), s	4.0	21.7	21.8	31.6	37.7	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Cycle Q Clear(g_c), s	4.0	21.7	21.8	31.6	37.7	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	66	1358	760	400	3139	976	173	182	1011	191	0	192
V/C Ratio(X)	0.78	0.80	0.80	1.13	0.67	0.24	0.66	0.70	0.29	1.28	0.00	1.30
Avail Cap(c_a), veh/h	134	1358	760	400	3139	976	318	334	1259	191	0	192
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)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.2	7.2	7.2	54.2	17.5	12.1	60.9	61.2	35.5	62.5	0.0	62.5
Incr Delay (d2), s/veh	4.7	3.2	5.7	86.7	1.2	0.6	3.2	3.7	0.1	158.0	0.0	168.6
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	9.4	11.0	25.1	17.8	4.3	4.4	5.0	4.3	15.8	0.0	16.4
LnGrp Delay(d),s/veh	68.9	10.5	12.9	140.9	18.6	12.7	64.1	64.9	35.6	220.5	0.0	231.1
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1747			2793			535			494	
Approach Delay, s/veh		13.1			38.0			48.7			225.8	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	65.5		20.0	9.6	91.8		18.5
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	11.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	13.6	23.8		17.1	6.0	39.7		12.1
Green Ext Time (p_c), s	0.0	19.5		0.0	0.0	24.7		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	47.9
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	170	25	58	350	6	19
Future Vol, veh/h	170	25	58	350	6	19
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	185	27	63	380	7	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	212	0	705	199
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	506	-
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	-	-	1358	-	403	842
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1358	-	379	842
Mov Cap-2 Maneuver	-	-	-	-	379	-
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	651	-	-	1358	-
HCM Lane V/C Ratio	0.042	-	-	0.046	-
HCM Control Delay (s)	10.8	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	29	0	1357	1395	32
Future Vol, veh/h	0	29	0	1357	1395	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	32	0	1475	1516	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	776	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	340	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	340	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	340	-	-
HCM Lane V/C Ratio	-	0.093	-	-
HCM Control Delay (s)	-	16.7	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Future Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		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	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		221	463	160		204	591	284	251	1273	72	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		285	856	293		622	1001	481	312	1105	62	
Arrive On Green		0.08	0.33	0.33		0.18	0.44	0.44	0.12	0.43	0.43	
Sat Flow, veh/h		3442	2567	879		3442	2293	1101	3442	3400	192	
Grp Volume(v), veh/h		221	318	305		204	456	419	251	662	683	
Grp Sat Flow(s),veh/h/ln		1721	1770	1676		1721	1770	1625	1721	1770	1822	
Q Serve(g_s), s		6.8	15.8	16.0		5.6	21.1	21.2	7.7	35.1	35.1	
Cycle Q Clear(g_c), s		6.8	15.8	16.0		5.6	21.1	21.2	7.7	35.1	35.1	
Prop In Lane		1.00		0.52		1.00		0.68	1.00		0.11	
Lane Grp Cap(c), veh/h		285	590	559		622	773	709	312	575	592	
V/C Ratio(X)		0.77	0.54	0.55		0.33	0.59	0.59	0.80	1.15	1.15	
Avail Cap(c_a), veh/h		433	590	559		622	773	709	402	575	592	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.55	0.55	0.55	
Uniform Delay (d), s/veh		48.5	29.3	29.3		38.5	23.1	23.1	46.5	30.7	30.7	
Incr Delay (d2), s/veh		2.1	3.5	3.8		0.1	3.3	3.6	3.8	78.9	80.1	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		3.3	8.3	8.0		2.7	11.0	10.1	3.8	29.6	30.7	
LnGrp Delay(d),s/veh		50.6	32.8	33.1		38.7	26.4	26.7	50.4	109.5	110.7	
LnGrp LOS		D	C	C		D	C	C	D	F	F	
Approach Vol, veh/h			844				1079			1596		
Approach Delay, s/veh			37.6				28.8			100.7		
Approach LOS			D				C			F		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.6	41.0	14.2	40.3	13.4	52.3	14.5	40.0
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	8.6	* 36	12.6	32.1	13.6	31.0	9.6	* 35
Max Q Clear Time (g_c+I1), s	7.6	18.0	9.7	23.6	8.8	23.2	11.6	37.1
Green Ext Time (p_c), s	0.0	3.8	0.1	2.0	0.2	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	67.5
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	190	535	190
Future Volume (veh/h)	190	535	190
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	216	608	182
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	158	871	260
Arrive On Green	0.09	0.33	0.33
Sat Flow, veh/h	1774	2658	794
Grp Volume(v), veh/h	216	404	386
Grp Sat Flow(s),veh/h/ln	1774	1770	1682
Q Serve(g_s), s	9.6	21.5	21.6
Cycle Q Clear(g_c), s	9.6	21.5	21.6
Prop In Lane	1.00		0.47
Lane Grp Cap(c), veh/h	158	580	551
V/C Ratio(X)	1.37	0.70	0.70
Avail Cap(c_a), veh/h	158	580	551
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	31.6	31.7
Incr Delay (d2), s/veh	201.3	3.1	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	10.9	10.6
LnGrp Delay(d),s/veh	250.5	34.7	35.0
LnGrp LOS	F	C	C
Approach Vol, veh/h		1006	
Approach Delay, s/veh		81.2	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	80	100	74	41	10	80	50	85	20	60	10
Future Vol, veh/h	10	80	100	74	41	10	80	50	85	20	60	10
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.66	0.66	0.66	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	95	119	95	53	13	121	76	129	27	80	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.5	10.4	12.1	9.7
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	37%	5%	59%	22%
Vol Thru, %	23%	42%	33%	67%
Vol Right, %	40%	53%	8%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	190	125	90
LT Vol	80	10	74	20
Through Vol	50	80	41	60
RT Vol	85	100	10	10
Lane Flow Rate	326	226	160	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.453	0.319	0.246	0.182
Departure Headway (Hd)	5.003	5.07	5.533	5.45
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	720	708	649	658
Service Time	3.033	3.105	3.573	3.488
HCM Lane V/C Ratio	0.453	0.319	0.247	0.182
HCM Control Delay	12.1	10.5	10.4	9.7
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	2.4	1.4	1	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	64	34	89	101	41	90	10	119	1145	141	10	130	613	66
Future Volume (veh/h)	64	34	89	101	41	90	10	119	1145	141	10	130	613	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)	0.99		0.97	0.99		0.97		1.00		0.97		1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	77	41	83	129	53	86		129	1245	115		143	674	61
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78		0.92	0.92	0.92		0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	204	106	215	215	124	202		153	2871	265		165	2175	964
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20		0.09	0.61	0.61		0.19	1.00	1.00
Sat Flow, veh/h	1233	538	1090	1246	629	1020		1774	4724	436		1774	3539	1569
Grp Volume(v), veh/h	77	0	124	129	0	139		129	893	467		143	674	61
Grp Sat Flow(s),veh/h/ln	1233	0	1628	1246	0	1649		1774	1695	1771		1774	1770	1569
Q Serve(g_s), s	8.2	0.0	9.3	14.0	0.0	10.3		10.0	19.6	19.7		10.9	0.0	0.0
Cycle Q Clear(g_c), s	18.5	0.0	9.3	23.3	0.0	10.3		10.0	19.6	19.7		10.9	0.0	0.0
Prop In Lane	1.00		0.67	1.00		0.62		1.00		0.25		1.00		1.00
Lane Grp Cap(c), veh/h	204	0	322	215	0	326		153	2060	1076		165	2175	964
V/C Ratio(X)	0.38	0.00	0.39	0.60	0.00	0.43		0.84	0.43	0.43		0.86	0.31	0.06
Avail Cap(c_a), veh/h	349	0	513	361	0	519		400	2060	1076		400	2175	964
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.98	0.98	0.98
Uniform Delay (d), s/veh	57.3	0.0	48.8	58.9	0.0	49.2		63.0	14.6	14.6		56.1	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.6	2.0	0.0	0.7		4.7	0.7	1.3		5.0	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	4.2	5.0	0.0	4.8		5.1	9.4	10.0		5.6	0.1	0.0
LnGrp Delay(d),s/veh	58.2	0.0	49.3	60.9	0.0	49.9		67.7	15.3	15.9		61.1	0.4	0.1
LnGrp LOS	E		D	E		D		E	B	B		E	A	A
Approach Vol, veh/h		201			268				1489				878	
Approach Delay, s/veh		52.7			55.2				20.0				10.2	
Approach LOS		D			E				C				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.5	90.0		32.6	16.5	90.9		32.6
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9
Max Green Setting (Gmax), s	31.6	50.1		44.1	31.6	50.1		44.1
Max Q Clear Time (g_c+I1), s	12.3	21.7		20.5	12.0	2.0		25.3
Green Ext Time (p_c), s	0.2	13.0		0.8	0.1	6.7		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Future Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		219	911	71	461	900	162		325	639	592		242	341	244
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		397	1045	81	511	999	180		344	917	645		264	419	292
Arrive On Green		0.12	0.32	0.32	0.15	0.34	0.34		0.19	0.26	0.26		0.15	0.21	0.21
Sat Flow, veh/h		3442	3312	258	3442	2978	536		1774	3539	1583		1774	1956	1366
Grp Volume(v), veh/h		219	487	495	461	535	527		325	639	592		242	308	277
Grp Sat Flow(s),veh/h/ln		1721	1770	1800	1721	1770	1744		1774	1770	1583		1774	1770	1552
Q Serve(g_s), s		9.3	40.1	40.1	20.3	44.4	44.5		27.9	25.2	40.0		20.8	25.5	26.4
Cycle Q Clear(g_c), s		9.3	40.1	40.1	20.3	44.4	44.5		27.9	25.2	40.0		20.8	25.5	26.4
Prop In Lane		1.00		0.14	1.00		0.31		1.00		1.00		1.00		0.88
Lane Grp Cap(c), veh/h		397	558	568	511	594	585		344	917	645		264	379	332
V/C Ratio(X)		0.55	0.87	0.87	0.90	0.90	0.90		0.95	0.70	0.92		0.92	0.81	0.83
Avail Cap(c_a), veh/h		669	688	700	669	688	678		345	917	645		345	458	402
HCM Platoon Ratio		1.00	1.00	1.00	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		64.5	49.9	49.9	64.6	48.8	48.8		61.4	51.7	43.3		64.8	57.7	58.1
Incr Delay (d2), s/veh		0.4	10.5	10.4	11.1	13.7	13.9		34.0	2.1	17.9		21.6	8.5	11.5
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		4.4	21.2	21.6	10.5	23.9	23.6		17.0	12.6	27.1		11.8	13.4	12.4
LnGrp Delay(d),s/veh		65.0	60.5	60.3	75.7	62.5	62.7		95.4	53.9	61.2		86.4	66.3	69.6
LnGrp LOS		E	E	E	E	E	E		F	D	E		F	E	E
Approach Vol, veh/h			1201			1523				1556				827	
Approach Delay, s/veh			61.2			66.6				65.3				73.3	
Approach LOS			E			E				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	27.3	54.4	34.3	38.3	23.5	58.2	27.4	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.6	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I2), s	22.3	42.1	29.9	28.4	11.3	46.5	22.8	42.0
Green Ext Time (p_c), s	0.6	6.6	0.0	2.4	0.3	5.4	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	66.0
HCM 2010 LOS	E

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	76	1300	140	10	184	1174	130	250	101	130	100	120	96
Future Volume (veh/h)	20	76	1300	140	10	184	1174	130	250	101	130	100	120	96
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		86	1477	129		227	1449	125	368	149	154	127	152	97
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		106	1818	158		122	1848	158	240	97	100	118	142	90
Arrive On Green		0.06	0.55	0.55		0.02	0.19	0.19	0.25	0.25	0.25	0.20	0.20	0.20
Sat Flow, veh/h		1774	3288	285		1774	3293	282	956	387	400	589	706	450
Grp Volume(v), veh/h		86	790	816		227	775	799	671	0	0	376	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1803		1774	1770	1805	1744	0	0	1745	0	0
Q Serve(g_s), s		6.7	50.5	51.7		9.6	58.3	59.2	35.1	0.0	0.0	28.1	0.0	0.0
Cycle Q Clear(g_c), s		6.7	50.5	51.7		9.6	58.3	59.2	35.1	0.0	0.0	28.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.16	0.55		0.23	0.34		0.26
Lane Grp Cap(c), veh/h		106	978	997		122	993	1013	437	0	0	350	0	0
V/C Ratio(X)		0.81	0.81	0.82		1.87	0.78	0.79	1.53	0.00	0.00	1.07	0.00	0.00
Avail Cap(c_a), veh/h		122	978	997		122	993	1013	437	0	0	350	0	0
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)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		65.0	25.3	25.6		68.4	48.8	49.1	52.5	0.0	0.0	56.0	0.0	0.0
Incr Delay (d2), s/veh		25.3	7.1	7.5		419.3	6.0	6.2	252.0	0.0	0.0	69.0	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		4.0	26.5	27.7		18.9	30.3	31.4	47.5	0.0	0.0	20.2	0.0	0.0
LnGrp Delay(d),s/veh		90.3	32.4	33.0		487.8	54.8	55.3	304.4	0.0	0.0	125.0	0.0	0.0
LnGrp LOS		F	C	C		F	D	E	F			F		
Approach Vol, veh/h			1692				1801			671			376	
Approach Delay, s/veh			35.6				109.6			304.4			125.0	
Approach LOS			D				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	84.5		33.0	12.8	85.7		40.0
Change Period (Y+Rc), s	4.4	* 6.2		4.9	4.4	6.2		4.9
Max Green Setting (Gmax), s	9.6	* 48		28.1	9.6	46.8		35.1
Max Q Clear Time (g_c+I1), s	11.6	53.7		30.1	8.7	61.2		37.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	112.1
HCM 2010 LOS	F

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	230	1062	300	10	110	865	346	10	302	793	80	10	278	455	220
Future Volume (veh/h)	10	230	1062	300	10	110	865	346	10	302	793	80	10	278	455	220
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		258	1193	249		126	994	309		321	844	64		320	523	196
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		398	1432	296		175	1189	369		366	1041	79		363	762	332
Arrive On Green		0.30	0.65	0.65		0.03	0.21	0.21		0.21	0.43	0.43		0.18	0.36	0.36
Sat Flow, veh/h		1774	2912	602		3442	3818	1185		3442	4818	364		3442	3539	1541
Grp Volume(v), veh/h		258	721	721		126	883	420		321	593	315		320	523	196
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1613		1721	1695	1791		1721	1770	1541
Q Serve(g_s), s		17.7	43.0	44.5		5.1	34.9	35.0		12.6	21.4	21.6		12.7	17.6	9.0
Cycle Q Clear(g_c), s		17.7	43.0	44.5		5.1	34.9	35.0		12.6	21.4	21.6		12.7	17.6	9.0
Prop In Lane		1.00		0.35		1.00		0.73		1.00		0.20		1.00		1.00
Lane Grp Cap(c), veh/h		398	870	858		175	1056	502		366	733	387		363	762	332
V/C Ratio(X)		0.65	0.83	0.84		0.72	0.84	0.84		0.88	0.81	0.81		0.88	0.69	0.59
Avail Cap(c_a), veh/h		398	870	858		383	1056	502		457	826	436		383	786	342
HCM Platoon Ratio		1.33	1.33	1.33		0.67	0.67	0.67		2.00	2.00	2.00		1.67	1.67	1.67
Upstream Filter(I)		1.00	1.00	1.00		0.91	0.91	0.91		0.85	0.85	0.85		1.00	1.00	1.00
Uniform Delay (d), s/veh		44.3	19.8	20.0		66.6	52.0	52.0		54.2	37.2	37.3		56.8	40.8	15.4
Incr Delay (d2), s/veh		2.9	8.9	9.7		1.9	7.2	14.1		11.2	5.4	10.1		18.9	2.9	3.6
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		9.0	23.0	23.4		2.5	17.5	17.6		6.5	10.4	11.6		7.0	8.9	5.1
LnGrp Delay(d),s/veh		47.2	28.7	29.7		68.5	59.2	66.1		65.4	42.7	47.4		75.8	43.8	18.9
LnGrp LOS		D	C	C		E	E	E		E	D	D		E	D	B
Approach Vol, veh/h			1700				1429				1229				1039	
Approach Delay, s/veh			32.0				62.0				49.8				48.9	
Approach LOS			C				E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	74.1	19.3	35.0	36.7	49.0	19.2	35.2
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	15.6	55.7	18.6	31.1	27.6	* 44	15.6	34.1
Max Q Clear Time (g_c+I1), s	7.1	46.5	14.6	19.6	19.7	37.0	14.7	23.6
Green Ext Time (p_c), s	0.1	6.2	0.3	4.7	0.2	4.0	0.1	6.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.3
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1924	140	400	1351	310	110	120	640	290	180	20
Future Volume (veh/h)	20	1924	140	400	1351	310	110	120	640	290	180	20
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1984	107	435	1468	249	126	138	644	322	200	20
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1867	100	350	2847	867	255	267	1064	293	274	27
Arrive On Green	0.03	0.76	0.76	0.20	0.56	0.56	0.14	0.14	0.14	0.17	0.17	0.17
Sat Flow, veh/h	1774	4930	265	1774	5085	1549	1774	1863	3066	1774	1661	166
Grp Volume(v), veh/h	21	1362	729	435	1468	249	126	138	644	322	0	220
Grp Sat Flow(s),veh/h/ln	1774	1695	1805	1774	1695	1549	1774	1863	1533	1774	0	1827
Q Serve(g_s), s	1.6	53.0	53.0	27.6	25.0	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Cycle Q Clear(g_c), s	1.6	53.0	53.0	27.6	25.0	11.8	9.2	9.6	20.1	23.1	0.0	16.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	28	1283	683	350	2847	867	255	267	1064	293	0	301
V/C Ratio(X)	0.74	1.06	1.07	1.24	0.52	0.29	0.49	0.52	0.61	1.10	0.00	0.73
Avail Cap(c_a), veh/h	274	1283	683	350	2847	867	255	267	1064	293	0	301
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)	0.21	0.21	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	17.0	17.0	56.2	19.1	16.2	55.3	55.5	38.5	58.4	0.0	55.5
Incr Delay (d2), s/veh	3.0	31.8	37.3	131.6	0.7	0.8	1.1	1.3	0.9	82.1	0.0	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	29.2	32.1	26.3	11.9	5.3	4.6	5.0	10.5	18.0	0.0	8.7
LnGrp Delay(d),s/veh	70.5	48.8	54.3	187.8	19.7	17.0	56.4	56.8	39.4	140.5	0.0	63.1
LnGrp LOS	E	F	F	F	B	B	E	E	D	F		E
Approach Vol, veh/h		2112			2152			908			542	
Approach Delay, s/veh		50.9			53.4			44.4			109.1	
Approach LOS		D			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	58.5		25.0	6.6	83.9		28.0
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	27.6	* 50		20.1	21.6	55.6		23.1
Max Q Clear Time (g_c+I1), s	29.6	55.0		22.1	3.6	27.0		25.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	56.3
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	180	7	13	120	7	37
Future Vol, veh/h	180	7	13	120	7	37
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	196	8	14	130	8	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	204	0	358	200
Stage 1	-	-	-	-	200	-
Stage 2	-	-	-	-	158	-
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	-	-	1368	-	640	841
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1368	-	633	841
Mov Cap-2 Maneuver	-	-	-	-	633	-
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	799	-	-	1368	-
HCM Lane V/C Ratio	0.06	-	-	0.01	-
HCM Control Delay (s)	9.8	-	-	7.7	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	43	0	1384	920	6
Future Vol, veh/h	0	43	0	1384	920	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	47	0	1504	1000	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	504	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	513	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	513	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	513	-	-
HCM Lane V/C Ratio	-	0.091	-	-
HCM Control Delay (s)	-	12.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1542	1480	7	0	18
Future Vol, veh/h	0	1542	1480	7	0	18
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	1676	1609	8	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	809
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	323
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	323
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	323
HCM Lane V/C Ratio	-	-	-	0.061
HCM Control Delay (s)	-	-	-	16.9
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Future Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		0.95	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		167	744	209		226	806	117	289	509	115	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		222	1124	316		281	1338	194	344	656	147	
Arrive On Green		0.06	0.42	0.42		0.08	0.43	0.43	0.13	0.31	0.31	
Sat Flow, veh/h		3442	2707	760		3442	3094	449	3442	2840	637	
Grp Volume(v), veh/h		167	486	467		226	461	462	289	316	308	
Grp Sat Flow(s),veh/h/ln		1721	1770	1697		1721	1770	1773	1721	1770	1708	
Q Serve(g_s), s		6.0	27.9	27.9		8.1	25.2	25.2	10.3	20.4	20.7	
Cycle Q Clear(g_c), s		6.0	27.9	27.9		8.1	25.2	25.2	10.3	20.4	20.7	
Prop In Lane		1.00		0.45		1.00		0.25	1.00		0.37	
Lane Grp Cap(c), veh/h		222	735	705		281	765	767	344	409	394	
V/C Ratio(X)		0.75	0.66	0.66		0.80	0.60	0.60	0.84	0.77	0.78	
Avail Cap(c_a), veh/h		399	735	705		399	765	767	481	479	462	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.95	0.95	0.95	
Uniform Delay (d), s/veh		57.9	29.7	29.7		56.9	27.5	27.5	53.6	40.7	40.8	
Incr Delay (d2), s/veh		1.9	4.7	4.8		5.0	3.5	3.5	6.4	5.1	5.7	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		2.9	14.6	14.0		4.1	13.0	13.1	5.2	10.6	10.4	
LnGrp Delay(d),s/veh		59.9	34.4	34.6		61.9	31.0	30.9	60.0	45.7	46.4	
LnGrp LOS		E	C	C		E	C	C	E	D	D	
Approach Vol, veh/h			1120				1149			913		
Approach Delay, s/veh			38.3				37.0			50.5		
Approach LOS			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	14.7	57.3	17.0	37.0	12.5	59.5	20.0	34.0
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	14.6	43.0	17.6	32.1	14.6	43.0	15.6	34.1
Max Q Clear Time (g_c+I1), s	10.1	29.9	12.3	34.1	8.0	27.2	16.9	22.7
Green Ext Time (p_c), s	0.2	5.3	0.3	0.0	0.1	5.6	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	98.5
HCM 2010 LOS	F

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	200	1086	150
Future Volume (veh/h)	200	1086	150
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	211	1143	126
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	220	815	90
Arrive On Green	0.12	0.25	0.25
Sat Flow, veh/h	1774	3200	352
Grp Volume(v), veh/h	211	631	638
Grp Sat Flow(s),veh/h/ln	1774	1770	1783
Q Serve(g_s), s	14.9	32.1	32.1
Cycle Q Clear(g_c), s	14.9	32.1	32.1
Prop In Lane	1.00		0.20
Lane Grp Cap(c), veh/h	220	451	454
V/C Ratio(X)	0.96	1.40	1.41
Avail Cap(c_a), veh/h	220	451	454
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	47.0	47.0
Incr Delay (d2), s/veh	49.2	192.8	195.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	39.8	40.4
LnGrp Delay(d),s/veh	104.0	239.7	242.1
LnGrp LOS	F	F	F
Approach Vol, veh/h		1480	
Approach Delay, s/veh		221.4	
Approach LOS		F	
Timer			

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	71	50	232	100	20	110	40	106	10	90	10
Future Vol, veh/h	0	71	50	232	100	20	110	40	106	10	90	10
Peak Hour Factor	0.66	0.66	0.66	0.87	0.87	0.87	0.91	0.91	0.91	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	108	76	267	115	23	121	44	116	12	111	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11	17.6	13.3	11
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	0%	66%	9%
Vol Thru, %	16%	59%	28%	82%
Vol Right, %	41%	41%	6%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	256	121	352	110
LT Vol	110	0	232	10
Through Vol	40	71	100	90
RT Vol	106	50	20	10
Lane Flow Rate	281	183	405	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.444	0.286	0.626	0.23
Departure Headway (Hd)	5.685	5.622	5.574	6.1
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	630	634	643	584
Service Time	3.756	3.699	3.635	4.184
HCM Lane V/C Ratio	0.446	0.289	0.63	0.233
HCM Control Delay	13.3	11	17.6	11
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	2.3	1.2	4.4	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	82	52	145	112	53	140	20	191	912	170	10	190	1122	150
Future Volume (veh/h)	82	52	145	112	53	140	20	191	912	170	10	190	1122	150
Number	7	4	14	3	8	18		5	2	12		1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		0.99		1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h	87	55	114	122	58	110		210	1002	145		200	1181	118
Adj No. of Lanes	1	1	0	1	1	0		1	3	0		1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92		0.91	0.91	0.91		0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h	207	116	240	205	124	235		501	2485	359		222	1393	604
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22		0.28	0.55	0.55		0.25	0.79	0.79
Sat Flow, veh/h	1202	528	1095	1197	566	1073		1774	4482	647		1774	3539	1534
Grp Volume(v), veh/h	87	0	169	122	0	168		210	757	390		200	1181	118
Grp Sat Flow(s),veh/h/ln	1202	0	1623	1197	0	1639		1774	1695	1739		1774	1770	1534
Q Serve(g_s), s	9.5	0.0	12.7	13.9	0.0	12.5		13.5	17.9	18.0		15.3	29.9	2.7
Cycle Q Clear(g_c), s	22.0	0.0	12.7	26.6	0.0	12.5		13.5	17.9	18.0		15.3	29.9	2.7
Prop In Lane	1.00		0.67	1.00		0.65		1.00		0.37		1.00		1.00
Lane Grp Cap(c), veh/h	207	0	355	205	0	359		501	1880	964		222	1393	604
V/C Ratio(X)	0.42	0.00	0.48	0.60	0.00	0.47		0.42	0.40	0.40		0.90	0.85	0.20
Avail Cap(c_a), veh/h	374	0	581	371	0	587		501	1880	964		464	1393	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		0.84	0.84	0.84
Uniform Delay (d), s/veh	57.2	0.0	47.7	59.2	0.0	47.6		40.9	17.9	17.9		51.6	12.2	9.3
Incr Delay (d2), s/veh	1.0	0.0	0.7	2.1	0.0	0.7		0.2	0.6	1.3		4.5	5.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	5.8	4.7	0.0	5.7		6.6	8.6	9.0		7.7	14.9	1.2
LnGrp Delay(d),s/veh	58.2	0.0	48.4	61.3	0.0	48.3		41.1	18.5	19.2		56.2	17.8	9.9
LnGrp LOS	E		D	E		D		D	B	B		E	B	A
Approach Vol, veh/h		256			290				1357				1499	
Approach Delay, s/veh		51.7			53.8				22.2				22.3	
Approach LOS		D			D				C				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.9	82.5		35.5	44.5	60.0		35.5
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 4.9		4.9
Max Green Setting (Gmax), s	36.6	39.1		50.1	20.6	* 55		50.1
Max Q Clear Time (g_c+I1), s	17.3	20.0		24.0	15.5	31.9		28.6
Green Ext Time (p_c), s	0.2	8.7		1.1	0.1	11.3		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	27.2
HCM 2010 LOS	C

Notes

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Future Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		375	1059	64	566	987	148		191	436	412	373	802	262
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		527	1114	67	578	1022	153		210	793	604	298	713	233
Arrive On Green		0.15	0.33	0.33	0.17	0.33	0.33		0.12	0.22	0.22	0.17	0.27	0.27
Sat Flow, veh/h		3442	3383	204	3442	3071	460		1774	3539	1509	1774	2606	851
Grp Volume(v), veh/h		375	554	569	566	568	567		191	436	412	373	544	520
Grp Sat Flow(s),veh/h/ln		1721	1770	1818	1721	1770	1761		1774	1770	1509	1774	1770	1688
Q Serve(g_s), s		18.5	54.6	54.6	29.3	56.4	56.5		19.0	19.5	40.0	30.0	48.8	48.8
Cycle Q Clear(g_c), s		18.5	54.6	54.6	29.3	56.4	56.5		19.0	19.5	40.0	30.0	48.8	48.8
Prop In Lane		1.00		0.11	1.00		0.26		1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h		527	583	599	578	589	586		210	793	604	298	484	461
V/C Ratio(X)		0.71	0.95	0.95	0.98	0.96	0.97		0.91	0.55	0.68	1.25	1.13	1.13
Avail Cap(c_a), veh/h		578	594	611	578	594	591		298	793	604	298	484	461
HCM Platoon Ratio		1.00	1.00	1.00	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		71.9	58.5	58.5	74.0	58.5	58.6		77.8	61.4	45.4	74.3	64.9	64.9
Incr Delay (d2), s/veh		2.9	25.0	24.7	32.0	28.1	28.5		19.6	0.6	2.9	138.0	79.9	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		9.0	30.7	31.5	16.5	32.2	32.2		10.5	9.6	17.5	26.1	34.5	33.1
LnGrp Delay(d),s/veh		74.8	83.5	83.2	106.0	86.6	87.1		97.4	62.0	48.3	212.4	144.8	146.1
LnGrp LOS		E	F	F	F	F	F		F	E	D	F	F	F
Approach Vol, veh/h			1498			1701				1039			1437	
Approach Delay, s/veh			81.2			93.2				63.1			162.8	
Approach LOS			F			F				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	34.4	64.5	25.6	54.1	33.1	65.9	34.4	45.3
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	30.0	60.0	30.0	40.0	30.0	* 60	30.0	40.0
Max Q Clear Time (g_c+I1), s	31.3	56.6	21.0	50.8	20.5	58.5	32.0	42.0
Green Ext Time (p_c), s	0.0	2.2	0.2	0.0	0.5	1.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	102.1
HCM 2010 LOS	F

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	82	1500	180	50	152	1457	120	100	62	60	90	160	153
Future Volume (veh/h)	10	82	1500	180	50	152	1457	120	100	62	60	90	160	153
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.98	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		1863	1863	1900		1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h		86	1579	145		162	1550	97	112	70	55	99	176	128
Adj No. of Lanes		1	2	0		1	2	0	0	1	0	0	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		173	1421	129		172	1421	89	124	78	61	77	136	99
Arrive On Green		0.10	0.43	0.43		0.03	0.14	0.14	0.15	0.15	0.15	0.18	0.18	0.18
Sat Flow, veh/h		1774	3280	298		1774	3384	211	824	515	404	428	761	553
Grp Volume(v), veh/h		86	845	879		162	807	840	237	0	0	403	0	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1809		1774	1770	1826	1743	0	0	1743	0	0
Q Serve(g_s), s		6.4	60.6	60.6		12.8	58.8	58.8	18.7	0.0	0.0	25.1	0.0	0.0
Cycle Q Clear(g_c), s		6.4	60.6	60.6		12.8	58.8	58.8	18.7	0.0	0.0	25.1	0.0	0.0
Prop In Lane		1.00		0.16		1.00		0.12	0.47		0.23	0.25		0.32
Lane Grp Cap(c), veh/h		173	767	784		172	743	767	263	0	0	312	0	0
V/C Ratio(X)		0.50	1.10	1.12		0.94	1.09	1.10	0.90	0.00	0.00	1.29	0.00	0.00
Avail Cap(c_a), veh/h		173	767	784		172	743	767	312	0	0	312	0	0
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)		1.00	1.00	1.00		1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh		59.9	39.7	39.7		67.3	60.3	60.3	58.4	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh		0.8	64.2	71.0		50.6	58.6	61.9	22.7	0.0	0.0	152.4	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		3.2	43.3	45.7		8.7	40.9	42.9	10.7	0.0	0.0	25.3	0.0	0.0
LnGrp Delay(d),s/veh		60.7	103.9	110.7		118.0	118.9	122.2	81.1	0.0	0.0	209.9	0.0	0.0
LnGrp LOS		E	F	F		F	F	F	F			F		
Approach Vol, veh/h			1810				1809			237			403	
Approach Delay, s/veh			105.1				120.3			81.1			209.9	
Approach LOS			F				F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.0	65.9		30.0	18.9	65.0		26.1
Change Period (Y+Rc), s	4.4	5.3		4.9	5.3	* 6.2		4.9
Max Green Setting (Gmax), s	13.6	56.7		25.1	10.6	* 59		25.1
Max Q Clear Time (g_c+I1), s	14.8	62.6		27.1	8.4	60.8		20.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	120.2
HCM 2010 LOS	F

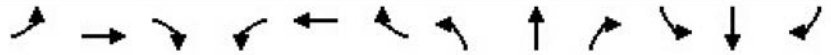
Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	350	1041	280	10	330	1137	391	20	286	560	120	30	440	698	250
Future Volume (veh/h)	10	350	1041	280	10	330	1137	391	20	286	560	120	30	440	698	250
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		380	1132	231		367	1263	347		318	622	101		494	784	221
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		362	1033	209		516	1204	330		366	852	136		545	871	364
Arrive On Green		0.07	0.12	0.12		0.05	0.10	0.10		0.21	0.39	0.39		0.16	0.25	0.25
Sat Flow, veh/h		1774	2910	590		3442	3922	1076		3442	4394	702		3442	3539	1478
Grp Volume(v), veh/h		380	685	678		367	1092	518		318	477	246		494	784	221
Grp Sat Flow(s),veh/h/ln		1774	1770	1730		1721	1695	1608		1721	1695	1706		1721	1770	1478
Q Serve(g_s), s		28.6	49.7	49.7		14.7	43.0	43.0		12.5	16.8	17.3		19.7	30.0	18.6
Cycle Q Clear(g_c), s		28.6	49.7	49.7		14.7	43.0	43.0		12.5	16.8	17.3		19.7	30.0	18.6
Prop In Lane		1.00		0.34		1.00		0.67		1.00		0.41		1.00		1.00
Lane Grp Cap(c), veh/h		362	628	614		516	1041	493		366	657	331		545	871	364
V/C Ratio(X)		1.05	1.09	1.10		0.71	1.05	1.05		0.87	0.73	0.74		0.91	0.90	0.61
Avail Cap(c_a), veh/h		362	628	614		516	1041	493		556	753	379		629	871	364
HCM Platoon Ratio		0.33	0.33	0.33		0.33	0.33	0.33		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		0.81	0.81	0.81		0.91	0.91	0.91		1.00	1.00	1.00
Uniform Delay (d), s/veh		65.3	61.8	61.8		63.6	62.9	62.9		54.2	39.7	39.9		57.9	51.1	46.8
Incr Delay (d2), s/veh		60.5	63.2	68.0		3.2	39.1	50.5		5.8	3.6	7.6		14.3	12.7	3.8
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		20.2	35.4	35.4		7.3	25.8	26.1		6.2	8.1	8.7		10.5	16.2	8.0
LnGrp Delay(d),s/veh		125.8	125.0	129.8		66.8	102.0	113.4		59.9	43.2	47.5		72.2	63.9	50.6
LnGrp LOS		F	F	F		E	F	F		E	D	D		E	E	D
Approach Vol, veh/h			1743				1977				1041				1499	
Approach Delay, s/veh			127.1				98.5				49.3				64.7	
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	26.4	55.0	19.3	39.3	33.0	48.4	26.6	32.0
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	14.6	* 50	22.6	34.1	28.6	35.6	25.6	31.1
Max Q Clear Time (g_c+I1), s	16.7	51.7	14.5	32.0	30.6	45.0	21.7	19.3
Green Ext Time (p_c), s	0.0	0.0	0.4	1.5	0.0	0.0	0.4	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	90.2
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Future Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	1554	141	454	2100	239	114	128	293	244	200	50
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1942	176	400	3139	976	173	182	1011	191	154	38
Arrive On Green	0.07	0.86	0.86	0.23	0.62	0.62	0.10	0.10	0.10	0.11	0.11	0.11
Sat Flow, veh/h	1774	4528	410	1774	5085	1581	1774	1863	3036	1774	1424	356
Grp Volume(v), veh/h	52	1086	609	454	2100	239	114	128	293	244	0	250
Grp Sat Flow(s),veh/h/ln	1774	1583	1772	1774	1695	1581	1774	1863	1518	1774	0	1780
Q Serve(g_s), s	4.0	21.7	21.8	31.6	37.7	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Cycle Q Clear(g_c), s	4.0	21.7	21.8	31.6	37.7	9.5	8.7	9.3	10.1	15.1	0.0	15.1
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	66	1358	760	400	3139	976	173	182	1011	191	0	192
V/C Ratio(X)	0.78	0.80	0.80	1.13	0.67	0.24	0.66	0.70	0.29	1.28	0.00	1.30
Avail Cap(c_a), veh/h	134	1358	760	400	3139	976	318	334	1259	191	0	192
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)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.2	7.2	7.2	54.2	17.5	12.1	60.9	61.2	35.5	62.5	0.0	62.5
Incr Delay (d2), s/veh	4.7	3.2	5.7	86.7	1.2	0.6	3.2	3.7	0.1	158.0	0.0	168.6
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	9.4	11.0	25.1	17.8	4.3	4.4	5.0	4.3	15.8	0.0	16.4
LnGrp Delay(d),s/veh	68.9	10.5	12.9	140.9	18.6	12.7	64.1	64.9	35.6	220.5	0.0	231.1
LnGrp LOS	E	B	B	F	B	B	E	E	D	F		F
Approach Vol, veh/h		1747			2793			535			494	
Approach Delay, s/veh		13.1			38.0			48.7			225.8	
Approach LOS		B			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	65.5		20.0	9.6	91.8		18.5
Change Period (Y+Rc), s	4.4	* 5.4		4.9	4.4	5.4		4.9
Max Green Setting (Gmax), s	11.6	* 49		15.1	10.6	69.6		25.1
Max Q Clear Time (g_c+I1), s	13.6	23.8		17.1	6.0	39.7		12.1
Green Ext Time (p_c), s	0.0	19.5		0.0	0.0	24.7		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	47.9
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	170	25	45	350	4	19
Future Vol, veh/h	170	25	45	350	4	19
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	185	27	49	380	4	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	212	0	677	199
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	478	-
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	-	-	1358	-	418	842
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	624	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1358	-	399	842
Mov Cap-2 Maneuver	-	-	-	-	399	-
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	624	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	706	-	-	1358	-
HCM Lane V/C Ratio	0.035	-	-	0.036	-
HCM Control Delay (s)	10.3	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	22	0	1333	1395	21
Future Vol, veh/h	0	22	0	1333	1395	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	24	0	1449	1516	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	770	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	343	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	343	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	343	-	-
HCM Lane V/C Ratio	-	0.07	-	-
HCM Control Delay (s)	-	16.3	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1701	1770	23	0	9
Future Vol, veh/h	0	1701	1770	23	0	9
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	1849	1924	25	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	975
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	251
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	251
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	251
HCM Lane V/C Ratio	-	-	-	0.039
HCM Control Delay (s)	-	-	-	19.9
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

I-3 Vehicle Miles Traveled (VMT) Addendum

Mt. Etna - Clairemont Mesa Community Plan Amendment and Zone Change
VEHICLE MILES TRAVELED ADDENDUM

TO: Janelle Firoozi, ESA

FROM: Monique Chen, Dale Domingo, and Joseph Perez, Chen Ryan Associates

DATE: August 13, 2019

RE: Vehicle Miles Traveled Addendum for the Mt. Etna - Clairemont Mesa Community Plan Amendment and Zone Change

The purpose of this addendum to the "Mt. Etna – Clairemont Mesa Community Plan Amendment and Zone Change Transportation Impact Study (TIS)", dated May 2019, is to analyze the Vehicle Miles Traveled (VMT) impacts related to the Proposed Project. The new project proposes 404 affordable multifamily units including 150 senior units and 1,500 square feet of ancillary uses.

This report has been prepared in accordance with the County of San Diego's *Guidelines for Transportation Impact Studies in the San Diego Region, January 22, 2019*[1] (Regional TIS Guidelines), which complies with the SB 743 legislation specified by the Governor's Office of Planning (OPR). SB 743 removes traffic Level of Service (LOS) as a metric for determining significant environment impact for transportation, and replaces it with VMT as the primary measure of transportation impacts.

1.0 Project Description

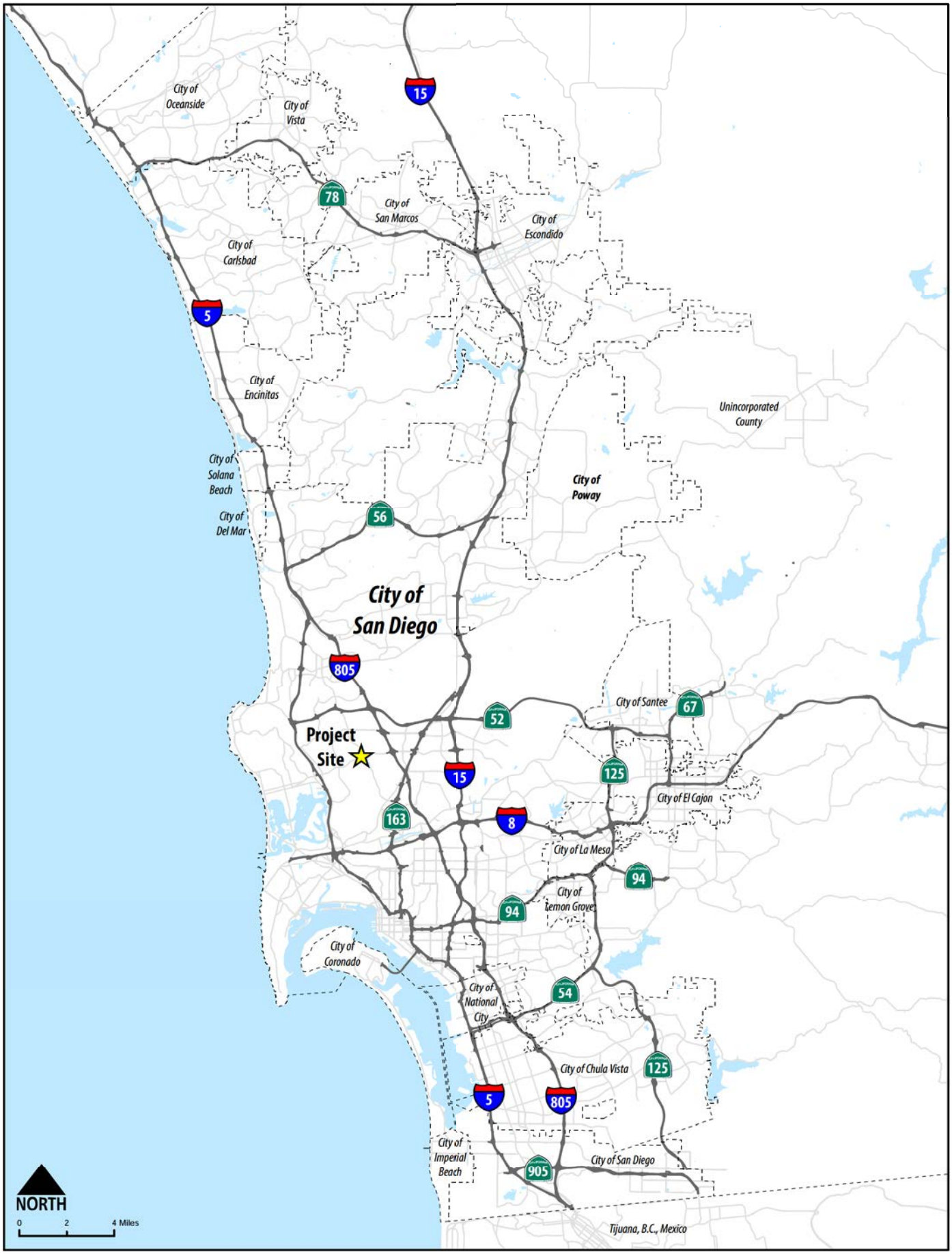
The Proposed Project would be located at 5255 Mt Etna Drive, San Diego, CA 92117 and would redevelop the vacant County's Crime Lab site into 404 affordable multifamily units, of which 150 units would be senior units. Additionally, the project would include 1,500 square feet of ground floor ancillary uses (e.g. community center, daycare, etc.) that would be used primarily by the residents. Access to the project site will be provided via one of the following driveway alternatives:

- Driveway Alternative 1 - One Driveway: Full access on Mt Etna Drive;
- Driveway Alternative 2 - Two Driveways: Full access on Mt Etna Drive and a right-in-right-out (RIRO) driveway on Genesee Avenue; and
- Driveway Alternative 3 - Three Driveways: Full access on Mt Etna Drive, RIRO driveway on Genesee Avenue, and RIRO driveway on Balboa Avenue.

Figure 1 displays the Proposed Project's regional location.

[1] Source: *Institute of Transportation Engineers San Diego Section (ITE San Diego) Transportation Capacity and Mobility Task Force SB 743 Subcommittee*

Figure 1 Proposed Project Regional Location



Clairemont Mesa Community Plan Amendment and Zone Change - Vehicle Miles Traveled Addendum

Figure 1
Project Location

CHEN RYAN

2.0 Analysis Methodology and Threshold

This chapter describes the analysis methodology that was prepared in accordance with the County of San Diego's *Guidelines for Transportation Impact Studies in the San Diego Region, January 22, 2019*[2] (Regional TIS Guidelines) as their transportation impact study guidelines and standards prior to the mandatory implementation of SB-743 (July 1, 2020). The Regional TIS Guidelines were recently developed by a committee of transportation engineers, both public and private, currently operating within the San Diego Region and were primarily based on the standards set forth in OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018)*[3]. The intention of the guidelines is to address the new transportation analysis metrics and requirements, significance thresholds, and standards enacted by SB-743. The Regional TIS Guidelines were also developed to provide a consistent approach in the way transportation related impacts are analyzed, quantified, identified and mitigated within the San Diego Region.

SB-743 Background

On September 27, 2013, Governor Edmund G. Brown, Jr. signed SB-743 into law, starting a process that is expected to fundamentally change the way transportation impact analysis is conducted under CEQA. Within the State's CEQA Guidelines, these changes will include elimination of auto delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts.

On December 2018, the Resources Agency certified and adopted the CEQA Guidelines update package, which included the California Natural Resources Agency Guidelines for the Implementation of the California Environmental Quality Act. As a result, the California Governor's Office of Planning and Research (OPR) updated and released the Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) in December 2018. According to the updated guidelines, lead agencies will have until July 1, 2020 to comply with the updated CEQA revision.

Screening Thresholds

The Regional TIS Guidelines and OPR's Technical Advisory provide the following screening thresholds for land use projects that are presumed to have a less than significant VMT impact due to project characteristics and/or location.

1. **Screening Thresholds for Small Projects**: Any project that generate less than the allowable ADT threshold (1,000 ADT if consistent with the City's General Plan and 500 if inconsistent with the City's General Plan) is not required to do a VMT analysis.

2. **Project's Located Near Transit**: Proposed CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing

[2] Source: *Institute of Transportation Engineers San Diego Section (ITE San Diego) Transportation Capacity and Mobility Task Force SB 743 Subcommittee*
[3] http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

major transit stop[4] or an existing stop along a high quality transit corridor21 will have a less-than-significant impact on VMT. This presumption would not apply, however, if project-specific or location-specific information indicates that the project will still generate significant levels of VMT.

3. **Affordable Residential Development:** Project's that include 100% affordable housing in infill locations can be presumed to have a less than significant impact. Infill locations will typically have better than average access to transit and/or greater opportunities for walking and bicycling trips.

Determination of CEQA Significant Impacts

The CEQA Guidelines recommend use of automobile VMT, as the preferred CEQA transportation metric. For land use projects, the Technical Advisory reports that research has shown that automobile VMT/Capita at the project level should be fifteen percent (15%) below those of existing development.

Therefore, consistent with the CEQA Guidelines, the Regional TIS Guidelines adopted the following threshold to determine whether a project has a significant transportation related impact. For both residential and employment-based land use developments, a project is considered to have a less than significant transportation related impact if the project VMT/Capita and VMT/Employee is lower than 85% of the regional average. **Table 2** presents the thresholds of significance and specific VMT metrics.

Table 2 Measures of Significance

Land Use Type	Threshold for Determination of a Significant Transportation VMT Impact
Residential	Below 85% of regional average* Resident VMT/Capita
Commercial Employment	Below 85% of regional average* Employee VMT/Employee

*The regional average or total regional VMT is determined using the base year of the current Regional Transportation Plan (RTP) version of the SANDAG Regional Travel Demand Model.

[4] Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.")

For land use development projects, the following two metrics are analyzed to determine if a project has a significant transportation related impact:

- *VMT/Capita*: Includes all vehicle-based person trips grouped and summed to the home location of individuals who are drivers or passengers on each trip. It includes both home-based and non-homebased trips. The VMT for each home is then summed for all homes in a particular census tract and divided by the population of that census tract to arrive at Resident VMT/Capita.

- *VMT/Employee*: Includes all vehicle-based person trips grouped and summed to the work location of individuals on the trip. This includes all trips, not just work-related trips. The VMT for each work location is then summed for all work locations in a particular census tract and then divided by the total number of employees of that census tract to arrive at the VMT/Employee.

VMT Methodology

The following data and metrics were obtained from the SANDAG Series 13 Activity Based Model (ABM). The ABM is a travel demand forecasting model that incorporates census data and travel surveys to inform the algorithms of the model's projections. It uses a simulated population based on existing and projected demographics to match residents to employment and forecasts the daily travel on the regional transportation network. In addition, the model is able to track the daily travel of individuals in the simulated population, including origins, destinations, travel distances and mode choices. The Series 13 ABM has four (4) forecast scenarios: 2012, 2020, 2035, and 2050; scenarios 2012 and 2050 were used in this analysis.

To calculate VMT/Capita and VMT/Employee, the Proposed Project's land uses was coded into the Traffic Analysis Zone (TAZ) in which the Proposed Project is located. A Select Zone assignment was then conducted for the Proposed Project's TAZ to track origin and destination pairings and routes to and from the Proposed Project. The VMT for each home is then summed for all homes in the TAZ and divided by the population of that TAZ to arrive at Resident VMT/Capita. Similarly, the VMT for each employee is summed within the TAZ and then divided by the number of jobs.

3.0 Transportation Impact & Mitigation

This chapter derives and analyzes the projected VMT that will be generated by the Proposed Project. This chapter also identifies if the Proposed Project related VMT would create significant project related impact, as it relates to the standards outlined in the California Environmental Quality Act (CEQA) and the Regional TIS Guidelines.

Determination of Analysis

As described in the previous section, the Regional TIS Guidelines and OPR provides a screening criterion to determine if a project is required to do a VMT analysis based on the project's land use and location. The Proposed Project comprises 100% affordable housing units, including family and senior housing, and is located in a Transit Priority Area (TPA), which indicates that the land use characteristic and location of the project falls under the VMT screening criteria, and the Project is presumed to have a less than significant impact on VMT.

The Project is located in a TPA, with high frequency transit services immediately adjacent to the site on Genesee Avenue. Bus Route # 41 is serviced along Genesee Avenue operating with 15-minute headways during peak hours and bus route #27 is serviced along Balboa Avenue operating with 30-minutes headways during peak hours. Transit stops for Bus Routes #41 and #27 are each within 400 feet of the Project site. Furthermore, the Project includes 100% affordable housing units, and according to OPR's Technical Advisory, adding affordable housing to infill locations generally improves jobs-housing match, which results in shortened commutes and reducing VMT[5,6].

Consequently, based on the "Project's Located Near Transit" and "Affordable Residential Development" screening criteria, the Proposed Project is considered to have a *less than significant* VMT impact.

VMT Impact Analysis

Though the Proposed Project is considered to have a less than significant VMT Impact as previously described, the VMT analysis presented in this section is provided to further support the less than significant impacts of the project.

To calculate the average VMT/Capita and VMT/Employee generated by the Proposed Project, the Proposed Project land uses were incorporated into the SANDAG Series 13 Year 2050 Regional Model. A Select Zone assignment was conducted for the Proposed Project Transportation Analysis Zone (TAZ) which tracked and calculated the Proposed Project VMT by user type. The results of the Select Zone assignment are provided in **Table 3**. Model output results are presented in **Appendix A.**

[5] Karner and Benner (2016) The convergence of social equity and environmental sustainability: Jobshousing fit and commute distance ("[P]olicies that advance a more equitable distribution of jobs and housing by linking the affordability of locally available housing with local wage levels are likely to be associated with reduced commuting distances").

[6] Karner and Benner (2015) Low-wage jobs-housing fit: identifying locations of affordable housing shortages

Table 3 VMT Results Impact Analysis

VMT Metric	Base Year Average Regional	Project VMT	Project % of Base Year Regional	Significant Impact?
Resident VMT/Capita	17.3	12.6	72.8%	NO

Source: SANDAG Regional Transportation Model, July 2019

Note:

[1] San Diego Base Year Regional Average, Source, SANDAG Series 13-year 2012 Model

As shown in Table 3, the Proposed Project's residential uses are anticipated to generate a VMT/Capita of 12.6, which is 72.8% of the base year regional average and is below the 85% threshold. Therefore, the Proposed Project is considered to have a l*ess than significant* impact.

ATTACHMENT A
SANDAG Vehicle Miles of Travel Report (SB 743 metrics for residential)

Vehicle Miles of Travel Report

Scenario ID 1080 **BASE YEAR (2012)**

VMT per Resident						
		Residents	Total Trips	Person Miles of Travel	Vehicle Miles of Travel	VMT per Resident
Regionwide		3,119,271	11,163,146	72,661,334	53,997,334	17.3
Jurisdiction	SAN DIEGO	1,308,024	4,676,126	26,965,973	19,688,397	15.1
CPA	Clairemont Mesa	73,799	270,253	1,507,607	1,141,178	15.5
TAZ List	N/A					

Report Generated: 05/03/19

SANDAG

Vehicle Miles of Travel Report

Scenario ID 1080 **Clairemont Mesa County Crime Lab - 2050 City of San Diego Adopted Kearny Mesa CPU - Project Site**

VMT per Resident						
		Residents	Total Trips	Person Miles of Travel	Vehicle Miles of Travel	VMT per Resident
Regionwide		4,099,980	14,665,608	86,637,127	59,962,716	14.6
Jurisdiction	San Diego	1,808,994	6,496,899	34,296,115	23,001,429	12.7
CPA	Clairemont Mesa	99,762	373,714	2,044,950	1,450,120	14.5
Project Site		1,019	3,980	18,125	12,800	**12.6**

Report Generated: 05/09/19

SANDAG

I-4 Revised Traffic Analysis Tables and Synchro Worksheets

Table 1 - Peak Hour Intersection Level of Service Results - Existing Plus Project Conditions

		No Project				With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM
1: Genesee Ave & Clairemont Mesa Blvd	Signal	42.6	D	59.9	E	42.90	D	61.80	E	42.90	D	61.80	E	42.90	D	61.80	E
2: Genesee Ave & Bannock Ave	Signal	19.7	B	10.5	B	19.80	B	10.50	B	19.80	B	10.50	B	19.80	B	10.50	B
3: Genesee Ave & Chateau Dr	Signal	11.0	B	4.7	A	11.20	B	4.70	A	11.20	B	4.70	A	11.20	B	4.70	A
4: Mt Herbert Ave & Genesee Ave	Signal	13.7	B	7.8	A	13.70	B	7.70	A	13.70	B	7.70	A	13.70	B	7.70	A
5: Genesee Ave & Derrick Dr	Signal	16.9	B	50.9	D	16.80	B	51.80	D	16.80	B	51.80	D	16.80	B	51.80	D
6: Mt Everest Blvd & Mt Etna Dr	AWSC	9.0	A	10.6	B	9.20	A	11.00	B	9.10	A	10.90	B	1.20	A	2.30	A
7: Genesee Ave & Mt Etna Dr	Signal	20.1	C	24.5	C	22.50	C	25.40	C	21.20	C	25.10	C	21.10	C	25.00	C
8: Clairemont Dr & Balboa Ave	Signal	37.7	D	60.1	E	38.00	D	61.70	E	38.00	D	61.70	E	38.00	D	61.70	E
9: Balboa Ave & Mt Everest Blvd	Signal	73.7	E	58.7	E	80.10	F	59.50	E	75.00	E	59.20	E	78.70	E	62.70	E
10: Genesee Ave & Balboa Ave	Signal	36.3	D	59.1	E	36.90	D	59.40	E	37.00	D	59.80	E	37.80	D	63.20	E
11: Balboa Ave & Shopping Center Drwy	Signal	20.9	C	15.4	B	21.10	C	15.20	B	21.10	C	15.20	B	21.10	C	15.20	B
12: Mt Alifan Dr/Mt Abernathy Ave & Balboa Ave	Signal	35.8	D	41.6	D	36.90	D	41.80	D	36.90	D	41.80	D	36.90	D	41.80	D
13: Mt Albertine Ave/Cannington Dr & Balboa Ave	Signal	10.6	B	24.0	C	10.50	B	25.60	C	10.50	B	25.60	C	10.50	B	25.60	C
14: Eckstrom Ave/Charger Blvd & Balboa Ave	Signal	43.4	D	33.3	C	44.60	D	33.30	C	44.60	D	33.30	C	44.60	D	33.30	C
15: I-805 SB Ramps & Balboa Ave	Signal	9.5	A	7.5	A	10.60	B	8.60	A	10.60	B	8.60	A	10.60	B	8.60	A
16: I-805 NB Ramps & Balboa Ave	Signal	8.8	A	9.1	A	9.80	A	10.10	B	9.80	A	10.10	B	9.80	A	10.10	B
17: Genesee Ave & Mt Alifan Dr	Signal	47.6	D	50.5	D	47.60	D	50.50	D	47.60	D	50.50	D	47.60	D	50.50	D
18: Project Driveway #1 & Mt Etna Dr	SSSC	DNE	DNE	DNE	DNE	9.90	A	10.50	B	9.50	A	10.10	B	9.30	A	9.70	A
19: Genesee Ave & Project Driveway #2	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	11.90	B	17.30	C	11.70	B	16.80	C
20: Balboa Ave & Project Driveway #3	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	13.70	B	16.80	C

Notes:

Bold letter indicates unacceptable LOS E or F and significant impact.

AWSC = All-Way Stop Controlled.

SSSC = Side-Street Stop Controlled.

DNE = Does Not Exist.

Table 2 - Peak Hour Intersection Level of Service Results – Near-Term Base (Year 2021) Plus Project Conditions

		No Project				With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM
1: Genesee Ave & Clairemont Mesa Blvd	Signal	43.0	D	61.5	**E**	43.40	D	63.40	**E**	43.40	D	63.40	**E**	43.40	D	63.40	**E**
2: Genesee Ave & Bannock Ave	Signal	20.0	B	10.4	B	20.10	C	10.40	B	20.10	C	10.40	B	20.10	C	10.40	B
3: Genesee Ave & Chateau Dr	Signal	11.4	B	4.6	A	11.60	B	4.60	A	11.60	B	4.60	A	11.60	B	4.60	A
4: Mt Herbert Ave & Genesee Ave	Signal	13.6	B	7.7	A	13.60	B	7.70	A	13.60	B	7.70	A	13.60	B	7.70	A
5: Genesee Ave & Derrick Dr	Signal	17.0	B	51.1	D	16.90	B	52.10	D	16.90	B	52.10	D	16.90	B	52.10	D
6: Mt Everest Blvd & Mt Etna Dr	AWSC	9.4	A	10.8	B	9.60	A	11.10	B	9.50	A	11.00	B	9.50	A	11.00	B
7: Genesee Ave & Mt Etna Dr	Signal	19.7	B	24.6	C	22.10	C	25.60	C	20.80	C	25.20	C	20.70	C	25.10	C
8: Clairemont Dr & Balboa Ave	Signal	48.0	D	68.2	**E**	48.60	D	69.70	**E**	48.60	D	69.70	**E**	48.60	D	69.70	**E**
9: Balboa Ave & Mt Everest Blvd	Signal	116.5	**F**	64.7	**E**	127.70	**F**	65.50	**E**	123.40	**F**	65.20	**E**	124.50	**F**	69.50	**E**
10: Genesee Ave & Balboa Ave	Signal	41.1	D	59.2	**E**	41.80	D	60.00	**E**	41.90	D	60.10	**E**	43.30	D	64.90	**E**
11: Balboa Ave & Shopping Center Drwy	Signal	21.1	C	15.1	B	21.30	C	14.90	B	21.30	C	14.90	B	21.30	C	14.90	B
12: Mt Alifan Dr/Mt Abernathy Ave & Balboa Ave	Signal	39.1	D	44.4	D	41.10	D	44.60	D	41.10	D	44.60	D	41.10	D	44.60	D
13: Mt Albertine Ave/Cannington Dr & Balboa Ave	Signal	10.5	B	28.9	C	10.50	B	31.20	C	10.50	B	31.20	C	10.50	B	31.20	C
14: Eckstrom Ave/Charger Blvd & Balboa Ave	Signal	64.7	**E**	42.9	D	67.10	**E**	42.80	D	67.10	**E**	42.80	D	67.10	**E**	42.80	D
15: I-805 SB Ramps & Balboa Ave	Signal	12.5	B	9.0	A	14.10	B	10.40	B	14.10	B	10.40	B	14.10	B	10.40	B
16: I-805 NB Ramps & Balboa Ave	Signal	8.8	A	9.1	A	9.90	A	10.10	B	9.90	A	10.10	B	9.90	A	10.10	B
17: Genesee Ave & Mt Alifan Dr	Signal	58.6	**E**	55.2	**E**	58.60	**E**	55.20	**E**	58.60	**E**	55.20	**E**	58.60	**E**	55.20	**E**
18: Project Driveway #1 & Mt Etna Dr	SSSC	DNE	DNE	DNE	DNE	9.90	A	10.50	B	9.50	A	10.10	B	9.30	A	9.70	A
19: Genesee Ave & Project Driveway #2	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	12.10	B	17.70	C	11.90	B	17.20	C
20: Balboa Ave & Project Driveway #3	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	13.90	B	17.20	C

Notes:

Bold letter indicates unacceptable LOS E or F and significant impact.

AWSC = All-Way Stop Controlled.

SSSC = Side-Street Stop Controlled.

DNE = Does Not Exist.

Table 3 - Peak Hour Intersection Level of Service Results –Horizon Year 2050 Plus Project Conditions

		No Project				With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM
1: Genesee Ave & Clairemont Mesa Blvd	Signal	65.9	E	95.9	F	67.50	E	98.50	F	67.50	E	98.50	F	67.50	E	98.50	F
2: Genesee Ave & Bannock Ave	Signal	28.5	C	12.7	B	28.60	C	12.80	B	28.60	C	12.80	B	28.60	C	12.80	B
3: Genesee Ave & Chateau Dr	Signal	12.4	B	5.9	A	12.90	B	5.80	A	12.90	B	5.80	A	12.90	B	5.80	A
4: Mt Herbert Ave & Genesee Ave	Signal	18.7	B	10.9	B	18.80	B	10.80	B	18.80	B	10.80	B	18.80	B	10.80	B
5: Genesee Ave & Derrick Dr	Signal	18.0	B	51.0	D	17.90	B	52.10	D	17.90	B	52.10	D	17.90	B	52.10	D
6: Mt Everest Blvd & Mt Etna Dr	AWSC	10.8	B	13.9	B	11.10	B	14.60	B	11.00	B	14.40	B	11.00	B	14.30	B
7: Genesee Ave & Mt Etna Dr	Signal	21.7	C	26.6	C	23.60	C	27.40	C	22.80	C	27.30	C	22.60	C	27.20	C
8: Clairemont Dr & Balboa Ave	Signal	65.4	E	100.6	F	66.00	E	102.10	F	66.00	E	102.10	F	66.00	E	102.10	F
9: Balboa Ave & Mt Everest Blvd	Signal	107.9	F	110.4	F	110.90	F	112.70	F	109.80	F	112.30	F	112.10	F	120.20	F
10: Genesee Ave & Balboa Ave	Signal	42.1	D	80.2	F	44.70	D	83.40	F	44.90	D	84.30	F	47.30	D	90.20	F
11: Balboa Ave & Shopping Center Drwy	Signal	24.7	C	15.3	B	24.80	C	15.10	B	24.80	C	15.10	B	24.80	C	15.10	B
12: Mt Alifan Dr/Mt Abernathy Ave & Balboa Ave	Signal	43.5	D	52.5	D	45.80	D	52.80	D	45.80	D	52.80	D	45.80	D	52.80	D
13: Mt Albertine Ave/Cannington Dr & Balboa Ave	Signal	17.2	B	33.0	C	17.30	B	35.20	D	17.30	B	35.20	D	17.30	B	35.20	D
14: Eckstrom Ave/Charger Blvd & Balboa Ave	Signal	54.3	D	48.0	D	56.30	E	47.90	D	56.30	E	47.90	D	56.30	E	47.90	D
15: I-805 SB Ramps & Balboa Ave	Signal	11.1	B	9.2	A	11.20	B	9.40	A	11.20	B	9.40	A	11.20	B	9.40	A
16: I-805 NB Ramps & Balboa Ave	Signal	10.5	B	10.6	B	10.50	B	10.60	B	10.50	B	10.60	B	10.50	B	10.60	B
17: Genesee Ave & Mt Alifan Dr	Signal	50.2	D	58.4	E	50.20	D	58.50	E	50.20	D	58.50	E	50.20	D	58.40	E
18: Project Driveway #1 & Mt Etna Dr	SSSC	DNE	DNE	DNE	DNE	10.50	B	11.30	B	10.00	A	10.80	B	9.80	A	10.30	B
19: Genesee Ave & Project Driveway #2	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	13.00	B	16.70	C	12.70	B	16.30	C
20: Balboa Ave & Project Driveway #3	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	16.90	C	19.90	C

Notes:

Bold letter indicates unacceptable LOS E or F and significant impact.

AWSC = All-Way Stop Controlled.

SSSC = Side-Street Stop Controlled.

DNE = Does Not Exist.

Table 1 - Roadway Segment Level of Service Results - Existing Plus Project Conditions

Roadway	Segment	Cross-Section	Capacity (LOS E)	No Project			With Driveway Alternative 1			With Driveway Alternative 2			With Driveway Alternative 3		
				ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS
Genesee Avenue	Appleton Street & Clairemont Mesa Boulevard	4M	40,000	23,097	0.577	C	23,379	0.584	C	23,379	0.584	C	23,379	0.584	C
Genesee Avenue	Clairemont Mesa Boulevard & Bannock Avenue	4M	40,000	24,483	0.612	C	24,847	0.621	C	24,847	0.621	C	24,847	0.621	C
Genesee Avenue	Bannock Avenue & Chateau Drive	4M	40,000	25,244	0.631	C	25,608	0.640	C	25,608	0.640	C	25,608	0.640	C
Genesee Avenue	Chateau Drive & Mount Herbert Avenue	4M	40,000	24,958	0.624	C	25,342	0.634	C	25,342	0.634	C	25,342	0.634	C
Genesee Avenue	Mount Herbert Avenue & Derrick Drive	4M	40,000	23,242	0.581	C	23,626	0.591	C	23,626	0.591	C	23,626	0.591	C
Genesee Avenue	Derrick Drive & Mount Etna Drive	6M	50,000	25,645	0.513	B	26,189	0.524	B	26,189	0.524	B	26,189	0.524	B
Genesee Avenue	Mount Etna Drive & Balboa Avenue	5M	45,000	27,743	0.617	C	28,691	0.638	C	28,911	0.642	C	28,573	0.635	C
Genesee Avenue	Balboa Avenue & Mount Alifan Drive	5M	45,000	23,259	0.517	B	23,541	0.523	B	23,541	0.523	B	23,540	0.523	B
Genesee Avenue	Mount Alifan Drive & Genesee Court	4M	40,000	23,742	0.594	C	23,984	0.600	C	23,984	0.600	C	23,984	0.600	C
Mount Everest Boulevard	Mount Etna Drive & Balboa Avenue	2C	8,000	4,206	0.526	C	4,630	0.579	C	4,528	0.566	C	4,482	0.560	C
Mount Etna Drive	Mount Everest Boulevard & Genesee Avenue	2C	8,000	4,090	0.511	C	6,108	0.764	D	5,286	0.661	D	5,129	0.641	D
Balboa Avenue	Clairemont Drive & Mount Everest Boulevard	4M	40,000	35,014	0.875	**E**	35,398	0.885	**E**	35,398	0.885	**E**	35,398	0.885	**E**
Balboa Avenue	Mount Everest Boulevard & Genesee Avenue	4M	40,000	32,421	0.811	D	32,421	0.811	D	32,523	0.813	D	32,643	0.816	D
Balboa Avenue	Genesee Avenue & Shopping Center Driveway	6M	50,000	32,231	0.645	C	32,897	0.658	C	32,897	0.658	C	32,897	0.658	C
Balboa Avenue	Shopping Center Driveway & Mount Abernathy Avenue	6M	50,000	35,984	0.720	C	36,650	0.733	C	36,650	0.733	C	36,650	0.733	C
Balboa Avenue	Mount Abernathy Avenue & Cannington Drive	6M	50,000	47,147	0.943	**E**	47,793	0.956	**E**	47,793	0.956	**E**	47,793	0.956	**E**
Balboa Avenue	Cannington Drive & Charger Boulevard	6M	50,000	49,421	0.988	**E**	50,067	1.001	**F**	50,067	1.001	**F**	50,067	1.001	**F**
Balboa Avenue	Charger Boulevard & I-805 Southbound Ramps	6M	50,000	61,846	1.237	**F**	62,492	1.250	**F**	62,492	1.250	**F**	62,492	1.250	**F**
Balboa Avenue	I-805 Southbound & I-805 Northbound Ramps	8P	80,000	49,153	0.614	B	49,638	0.620	B	49,638	0.620	B	49,638	0.620	B
Balboa Avenue	I-805 Northbound Ramps and Ruffer Street	6M	50,000	51,228	1.025	**F**	51,550	1.031	**F**	51,550	1.031	**F**	51,550	1.031	**F**

Notes:

Bold letter indicates unacceptable LOS E or F.

ADT = Average Daily Traffic.

V/C = Volume to Capacity Ratio.

LOS = Level of Service.

Table 2 - Roadway Segment Level of Service Results – Near-Term Base (Year 2021) Plus Project Conditions

Roadway	Segment	Cross-Section	Capacity (LOS E)	No Project			With Driveway Alternative 1			With Driveway Alternative 2			With Driveway Alternative 3		
				ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS
Genesee Avenue	Appleton Street & Clairemont Mesa Boulevard	4M	40,000	23,230	0.581	C	23,512	0.588	C	23,512	0.588	C	23,512	0.588	C
Genesee Avenue	Clairemont Mesa Boulevard & Bannock Avenue	4M	40,000	24,700	0.618	C	25,064	0.627	C	25,064	0.627	C	25,064	0.627	C
Genesee Avenue	Bannock Avenue & Chateau Drive	4M	40,000	25,460	0.637	C	25,824	0.646	C	25,824	0.646	C	25,824	0.646	C
Genesee Avenue	Chateau Drive & Mount Herbert Avenue	4M	40,000	25,180	0.630	C	25,564	0.639	C	25,564	0.639	C	25,564	0.639	C
Genesee Avenue	Mount Herbert Avenue & Derrick Drive	4M	40,000	23,460	0.587	C	23,844	0.596	C	23,844	0.596	C	23,844	0.596	C
Genesee Avenue	Derrick Drive & Mount Etna Drive	6M	50,000	25,880	0.518	B	26,424	0.528	B	26,424	0.528	B	26,424	0.528	B
Genesee Avenue	Mount Etna Drive & Balboa Avenue	5M	45,000	28,060	0.624	C	29,008	0.645	C	29,228	0.650	C	28,890	0.642	C
Genesee Avenue	Balboa Avenue & Mount Alifan Drive	5M	45,000	24,110	0.536	B	24,392	0.542	B	24,392	0.542	B	24,391	0.542	B
Genesee Avenue	Mount Alifan Drive & Genesee Court	4M	40,000	23,940	0.599	C	24,182	0.605	C	24,182	0.605	C	24,182	0.605	C
Mount Everest Boulevard	Mount Etna Drive & Balboa Avenue	2C	8,000	4,340	0.543	C	4,764	0.596	C	4,662	0.583	C	4,616	0.577	C
Mount Etna Drive	Mount Everest Boulevard & Genesee Avenue	2C	8,000	4,090	0.511	C	6,108	0.764	D	5,286	0.661	D	5,129	0.641	D
Balboa Avenue	Clairemont Drive & Mount Everest Boulevard	4M	40,000	36,120	0.903	**E**	36,504	0.913	**E**	36,504	0.913	**E**	36,504	0.913	**E**
Balboa Avenue	Mount Everest Boulevard & Genesee Avenue	4M	40,000	33,020	0.826	D	33,020	0.826	D	33,122	0.828	D	33,242	0.831	D
Balboa Avenue	Genesee Avenue & Shopping Center Driveway	6M	50,000	33,460	0.669	C	34,126	0.683	C	34,126	0.683	C	34,126	0.683	C
Balboa Avenue	Shopping Center Driveway & Mount Abernathy Avenue	6M	50,000	36,870	0.737	C	37,536	0.751	C	37,536	0.751	C	37,536	0.751	C
Balboa Avenue	Mount Abernathy Avenue & Cannington Drive	6M	50,000	48,610	0.972	**E**	49,256	0.985	**E**	49,256	0.985	**E**	49,256	0.985	**E**
Balboa Avenue	Cannington Drive & Charger Boulevard	6M	50,000	50,930	1.019	**F**	51,576	1.032	**F**	51,576	1.032	**F**	51,576	1.032	**F**
Balboa Avenue	Charger Boulevard & I-805 Southbound Ramps	6M	50,000	63,430	1.269	**F**	64,076	1.282	**F**	64,076	1.282	**F**	64,076	1.282	**F**
Balboa Avenue	I-805 Southbound & I-805 Northbound Ramps	8P	80,000	50,180	.627	C	50,665	0.633	C	50,665	0.633	C	50,665	0.633	C
Balboa Avenue	I-805 Northbound Ramps and Ruffer Street	6M	50,000	51,430	1.029	**F**	51,752	1.035	**F**	51,752	1.035	**F**	51,752	1.035	**F**

Notes:

Bold letter indicates unacceptable LOS E or F.

ADT = Average Daily Traffic.

V/C = Volume to Capacity Ratio.

LOS = Level of Service.

Table 3 - Roadway Segment Level of Service Results – Horizon Year 2050 Plus Project Conditions

Roadway	Segment	Cross-Section	Capacity (LOS E)	No Project			With Driveway Alternative 1			With Driveway Alternative 2			With Driveway Alternative 3		
				ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS
Genesee Avenue	Appleton Street & Clairemont Mesa Boulevard	4M	40,000	31,900	0.798	D	32,182	0.805	D	32,182	0.805	D	32,182	0.805	D
Genesee Avenue	Clairemont Mesa Boulevard & Bannock Avenue	4M	40,000	30,000	0.750	C	30,364	0.759	D	30,364	0.759	D	30,364	0.759	D
Genesee Avenue	Bannock Avenue & Chateau Drive	4M	40,000	27,800	0.695	C	28,164	0.704	C	28,164	0.704	C	28,164	0.704	C
Genesee Avenue	Chateau Drive & Mount Herbert Avenue	4M	40,000	25,500	0.638	C	25,884	0.647	C	25,884	0.647	C	25,884	0.647	C
Genesee Avenue	Mount Herbert Avenue & Derrick Drive	4M	40,000	20,900	0.523	B	21,284	0.532	C	21,284	0.532	C	21,284	0.532	C
Genesee Avenue	Derrick Drive & Mount Etna Drive	6M	50,000	23,900	0.478	B	24,444	0.489	B	24,444	0.489	B	24,444	0.489	B
Genesee Avenue	Mount Etna Drive & Balboa Avenue	5M	45,000	25,000	0.556	C	25,948	0.577	C	26,168	0.582	C	25,830	0.574	C
Genesee Avenue	Balboa Avenue & Mount Alifan Drive	5M	45,000	22,100	0.491	B	22,382	0.497	B	22,382	0.497	B	22,381	0.497	B
Genesee Avenue	Mount Alifan Drive & Genesee Court	4M	40,000	21,900	0.548	C	22,142	0.554	C	22,142	0.554	C	22,142	0.554	C
Mount Everest Boulevard	Mount Etna Drive & Balboa Avenue	2C	8,000	5,900	0.738	D	6,324	0.791	D	6,222	0.778	D	6,176	0.772	D
Mount Etna Drive	Mount Everest Boulevard & Genesee Avenue	2C	8,000	5,100	0.638	D	7,118	0.890	**E**	6,296	0.787	D	6,139	0.767	D
Balboa Avenue	Clairemont Drive & Mount Everest Boulevard	4M	40,000	33,800	0.845	D	34,184	0.855	D	34,184	0.855	D	34,184	0.855	D
Balboa Avenue	Mount Everest Boulevard & Genesee Avenue	4M	40,000	35,200	0.880	**E**	35,200	0.880	**E**	35,302	0.883	**E**	35,422	0.886	**E**
Balboa Avenue	Genesee Avenue & Shopping Center Driveway	6M	50,000	43,500	0.870	D	44,166	0.883	D	44,166	0.883	D	44,166	0.883	D
Balboa Avenue	Shopping Center Driveway & Mount Abernathy Avenue	6M	50,000	33,100	0.662	C	33,766	0.675	C	33,766	0.675	C	33,766	0.675	C
Balboa Avenue	Mount Abernathy Avenue & Cannington Drive	6M	50,000	47,400	0.948	**E**	48,046	0.961	**E**	48,046	0.961	**E**	48,046	0.961	**E**
Balboa Avenue	Cannington Drive & Charger Boulevard	6M	50,000	47,500	0.950	**E**	48,146	0.963	**E**	48,146	0.963	**E**	48,146	0.963	**E**
Balboa Avenue	Charger Boulevard & I-805 Southbound Ramps	6M	50,000	65,200	1.304	**F**	65,846	1.317	**F**	65,846	1.317	**F**	65,846	1.317	**F**
Balboa Avenue	I-805 Southbound & I-805 Northbound Ramps	8P	80,000	57,400	0.718	C	57,885	0.724	C	57,885	0.724	C	57,885	0.724	C
Balboa Avenue	I-805 Northbound Ramps and Ruffer Street	6M	50,000	62,400	1.248	**F**	62,722	1.254	**F**	62,722	1.254	**F**	62,722	1.254	**F**

Notes:

Bold letter indicates unacceptable LOS E or F.

V/C = Volume to Capacity Ratio.

ADT = Average Daily Traffic.

LOS = Level of Service.

Table 1 - Peak Hour Intersection Level of Service Results - Existing Plus Project Conditions with Mitigation

		No Project		With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM/PM	LOS AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?
9. Mt. Everest Boulevard & Balboa Avenue	Signal	73.7 / 58.7	**E / E**	37.5 / 29.5	D / C	-36.2 / -29.2	Y	Not Impacted				36.5 / 28.9	D / C	-37.2 / -29.8	Y
10. Genesee Avenue & Balboa Avenue	Signal	36.3 / 59.1	D / **E**	Not Impacted				Not Impacted				43.0 / 53.1	D / D	6.7 / -6.0	Y

Notes:

Bold letter indicates unacceptable LOS E or F and significant impact.

LOS = Level of Service.

M = Mitigated.

Table 2 - Peak Hour Intersection Level of Service Results – Near-Term Plus Project Conditions with Mitigation

		No Project		With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM/PM	LOS AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?
9. Mt. Everest Boulevard & Balboa Avenue	Signal	116.5 / 64.7	**F / E**	59.9 / 27.0	**E** / C	-56.6 / -37.7	Y	58.3 / 26.6	**E** / C	-58.2 / -38.1		57.6 / 26.4	**E** / C	-11.6 / -32.3	Y
10. Genesee Avenue & Balboa Avenue	Signal	41.1 / 59.2	D / **E**	Not Impacted				Not Impacted				42.0 / 57.0	D / **E**	0.9 / -2.2	Y
14. Charger Boulevard & Balboa Avenue	Signal	64.7 / 42.9	**E** / D	53.3 / 50.6	D / D	-11.4 / 7.7	Y	53.3 / 50.6	D / D	-11.4 / 7.7	Y	53.2 / 50.5	D / D	-11.5 / 7.6	Y

Notes:

Bold letter indicates unacceptable LOS E or F and significant impact.

LOS = Level of Service.

M = Mitigated.

Table 3 - Peak Hour Intersection Level of Service Results – Horizon Year 2050 Plus Project Conditions with Mitigation

		No Project		With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM/PM	LOS AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	65.9 / 95.9	**E / F**	45.6 / 60.0	D / E	-20.3 / -35.9	Y	45.6 / 60.0	D / E	-20.3 / -35.9	Y	45.6 / 60.0	D / E	-20.3 / -35.9	Y
8. Clairemont Drive & Balboa Avenue	Signal	65.4 / 100.6	**E / F**	63.9 / 96.5	E / F	-1.5 / -4.1	Y	63.9 / 96.5	E / F	-1.5 / -4.1	Y	63.9 / 96.5	E / F	-1.5 / -4.1	Y
9. Mt Everest Boulevard & Balboa Avenue	Signal	107.9 / 110.4	**F /F**	89.6 / 53.6	F / D	-18.3 / -56.8	Y	86.2 / 52.3	F / D	-21.7 / -58.1	Y	84.7 / 52.0	F / D	-23.2 / -58.4	Y
10. Genesee Avenue & Balboa Avenue	Signal	42.1 / 80.2	D / **F**	49.7 / 73.1	D / E	7.6 / -7.1	Y	49.8 / 68.6	D / E	7.7 / -11.6	Y	49.8 / 68.9	D / E	7.7 / -11.3	Y
14. Charger Boulevard & Balboa Avenue	Signal	54.3 / 48.0	**E** / D	46.8 / 47.7	D / D	-7.5 / -0.3	Y	46.8 / 47.7	D / D	-7.5 / -0.3	Y	46.8 / 47.7	D / D	-7.5 / -0.3	Y

Notes:

Bold letter indicates unacceptable LOS E or F and significant impact.

LOS = Level of Service.

M = Mitigated.

Table 1 - Peak Hour Intersection Level of Service Results - Existing Plus Project Conditions

		No Project				With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM
1: Genesee Ave & Clairemont Mesa Blvd	Signal	42.6	D	59.9	E	42.90	D	61.80	E	42.90	D	61.80	E	42.90	D	61.80	E
2: Genesee Ave & Bannock Ave	Signal	19.7	B	10.5	B	19.80	B	10.50	B	19.80	B	10.50	B	19.80	B	10.50	B
3: Genesee Ave & Chateau Dr	Signal	11.0	B	4.7	A	11.20	B	4.70	A	11.20	B	4.70	A	11.20	B	4.70	A
4: Mt Herbert Ave & Genesee Ave	Signal	13.7	B	7.8	A	13.70	B	7.70	A	13.70	B	7.70	A	13.70	B	7.70	A
5: Genesee Ave & Derrick Dr	Signal	16.9	B	50.9	D	16.80	B	51.80	D	16.80	B	51.80	D	16.80	B	51.80	D
6: Mt Everest Blvd & Mt Etna Dr	AWSC	9.0	A	10.6	B	9.20	A	11.00	B	9.10	A	10.90	B	1.20	A	2.30	A
7: Genesee Ave & Mt Etna Dr	Signal	20.1	C	24.5	C	22.50	C	25.40	C	21.20	C	25.10	C	21.10	C	25.00	C
8: Clairemont Dr & Balboa Ave	Signal	37.7	D	60.1	E	38.00	D	61.70	E	38.00	D	61.70	E	38.00	D	61.70	E
9: Balboa Ave & Mt Everest Blvd	Signal	73.7	E	58.7	E	80.10	F	59.50	E	75.00	E	59.20	E	78.70	E	62.70	E
10: Genesee Ave & Balboa Ave	Signal	36.3	D	59.1	E	36.90	D	59.40	E	37.00	D	59.80	E	37.80	D	63.20	E
11: Balboa Ave & Shopping Center Drwy	Signal	20.9	C	15.4	B	21.10	C	15.20	B	21.10	C	15.20	B	21.10	C	15.20	B
12: Mt Alifan Dr/Mt Abernathy Ave & Balboa Ave	Signal	35.8	D	41.6	D	36.90	D	41.80	D	36.90	D	41.80	D	36.90	D	41.80	D
13: Mt Albertine Ave/Cannington Dr & Balboa Ave	Signal	10.6	B	24.0	C	10.50	B	25.60	C	10.50	B	25.60	C	10.50	B	25.60	C
14: Eckstrom Ave/Charger Blvd & Balboa Ave	Signal	43.4	D	33.3	C	44.60	D	33.30	C	44.60	D	33.30	C	44.60	D	33.30	C
15: I-805 SB Ramps & Balboa Ave	Signal	9.5	A	7.5	A	10.60	B	8.60	A	10.60	B	8.60	A	10.60	B	8.60	A
16: I-805 NB Ramps & Balboa Ave	Signal	8.8	A	9.1	A	9.80	A	10.10	B	9.80	A	10.10	B	9.80	A	10.10	B
17: Genesee Ave & Mt Alifan Dr	Signal	47.6	D	50.5	D	47.60	D	50.50	D	47.60	D	50.50	D	47.60	D	50.50	D
18: Project Driveway #1 & Mt Etna Dr	SSSC	DNE	DNE	DNE	DNE	9.90	A	10.50	B	9.50	A	10.10	B	9.30	A	9.70	A
19: Genesee Ave & Project Driveway #2	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	11.90	B	17.30	C	11.70	B	16.80	C
20: Balboa Ave & Project Driveway #3	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	13.70	B	16.80	C

Notes:

Bold letter indicates unacceptable LOS E or F and significant impact.

AWSC = All-Way Stop Controlled.

SSSC = Side-Street Stop Controlled.

DNE = Does Not Exist.

Table 2 - Peak Hour Intersection Level of Service Results – Near-Term Base (Year 2021) Plus Project Conditions

		No Project				With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM
1: Genesee Ave & Clairemont Mesa Blvd	Signal	43.0	D	61.5	**E**	43.40	D	63.40	**E**	43.40	D	63.40	**E**	43.40	D	63.40	**E**
2: Genesee Ave & Bannock Ave	Signal	20.0	B	10.4	B	20.10	C	10.40	B	20.10	C	10.40	B	20.10	C	10.40	B
3: Genesee Ave & Chateau Dr	Signal	11.4	B	4.6	A	11.60	B	4.60	A	11.60	B	4.60	A	11.60	B	4.60	A
4: Mt Herbert Ave & Genesee Ave	Signal	13.6	B	7.7	A	13.60	B	7.70	A	13.60	B	7.70	A	13.60	B	7.70	A
5: Genesee Ave & Derrick Dr	Signal	17.0	B	51.1	D	16.90	B	52.10	D	16.90	B	52.10	D	16.90	B	52.10	D
6: Mt Everest Blvd & Mt Etna Dr	AWSC	9.4	A	10.8	B	9.60	A	11.10	B	9.50	A	11.00	B	9.50	A	11.00	B
7: Genesee Ave & Mt Etna Dr	Signal	19.7	B	24.6	C	22.10	C	25.60	C	20.80	C	25.20	C	20.70	C	25.10	C
8: Clairemont Dr & Balboa Ave	Signal	48.0	D	68.2	**E**	48.60	D	69.70	**E**	48.60	D	69.70	**E**	48.60	D	69.70	**E**
9: Balboa Ave & Mt Everest Blvd	Signal	116.5	**F**	64.7	**E**	127.70	**F**	65.50	**E**	123.40	**F**	65.20	**E**	124.50	**F**	69.50	**E**
10: Genesee Ave & Balboa Ave	Signal	41.1	D	59.2	**E**	41.80	D	60.00	**E**	41.90	D	60.10	**E**	43.30	D	64.90	**E**
11: Balboa Ave & Shopping Center Drwy	Signal	21.1	C	15.1	B	21.30	C	14.90	B	21.30	C	14.90	B	21.30	C	14.90	B
12: Mt Alifan Dr/Mt Abernathy Ave & Balboa Ave	Signal	39.1	D	44.4	D	41.10	D	44.60	D	41.10	D	44.60	D	41.10	D	44.60	D
13: Mt Albertine Ave/Cannington Dr & Balboa Ave	Signal	10.5	B	28.9	C	10.50	B	31.20	C	10.50	B	31.20	C	10.50	B	31.20	C
14: Eckstrom Ave/Charger Blvd & Balboa Ave	Signal	64.7	**E**	42.9	D	67.10	**E**	42.80	D	67.10	**E**	42.80	D	67.10	**E**	42.80	D
15: I-805 SB Ramps & Balboa Ave	Signal	12.5	B	9.0	A	14.10	B	10.40	B	14.10	B	10.40	B	14.10	B	10.40	B
16: I-805 NB Ramps & Balboa Ave	Signal	8.8	A	9.1	A	9.90	A	10.10	B	9.90	A	10.10	B	9.90	A	10.10	B
17: Genesee Ave & Mt Alifan Dr	Signal	58.6	**E**	55.2	**E**	58.60	**E**	55.20	**E**	58.60	**E**	55.20	**E**	58.60	**E**	55.20	**E**
18: Project Driveway #1 & Mt Etna Dr	SSSC	DNE	DNE	DNE	DNE	9.90	A	10.50	B	9.50	A	10.10	B	9.30	A	9.70	A
19: Genesee Ave & Project Driveway #2	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	12.10	B	17.70	C	11.90	B	17.20	C
20: Balboa Ave & Project Driveway #3	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	13.90	B	17.20	C

Notes:

Bold letter indicates unacceptable LOS E or F and significant impact.

AWSC = All-Way Stop Controlled.

SSSC = Side-Street Stop Controlled.

DNE = Does Not Exist.

Table 3 - Peak Hour Intersection Level of Service Results –Horizon Year 2050 Plus Project Conditions

		No Project				With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM	Avg. Delay (sec) AM	LOS AM	Avg. Delay (sec) PM	LOS PM
1: Genesee Ave & Clairemont Mesa Blvd	Signal	65.9	E	95.9	F	67.50	E	98.50	F	67.50	E	98.50	F	67.50	E	98.50	F
2: Genesee Ave & Bannock Ave	Signal	28.5	C	12.7	B	28.60	C	12.80	B	28.60	C	12.80	B	28.60	C	12.80	B
3: Genesee Ave & Chateau Dr	Signal	12.4	B	5.9	A	12.90	B	5.80	A	12.90	B	5.80	A	12.90	B	5.80	A
4: Mt Herbert Ave & Genesee Ave	Signal	18.7	B	10.9	B	18.80	B	10.80	B	18.80	B	10.80	B	18.80	B	10.80	B
5: Genesee Ave & Derrick Dr	Signal	18.0	B	51.0	D	17.90	B	52.10	D	17.90	B	52.10	D	17.90	B	52.10	D
6: Mt Everest Blvd & Mt Etna Dr	AWSC	10.8	B	13.9	B	11.10	B	14.60	B	11.00	B	14.40	B	11.00	B	14.30	B
7: Genesee Ave & Mt Etna Dr	Signal	21.7	C	26.6	C	23.60	C	27.40	C	22.80	C	27.30	C	22.60	C	27.20	C
8: Clairemont Dr & Balboa Ave	Signal	65.4	E	100.6	F	66.00	E	102.10	F	66.00	E	102.10	F	66.00	E	102.10	F
9: Balboa Ave & Mt Everest Blvd	Signal	107.9	F	110.4	F	110.90	F	112.70	F	109.80	F	112.30	F	112.10	F	120.20	F
10: Genesee Ave & Balboa Ave	Signal	42.1	D	80.2	F	44.70	D	83.40	F	44.90	D	84.30	F	47.30	D	90.20	F
11: Balboa Ave & Shopping Center Drwy	Signal	24.7	C	15.3	B	24.80	C	15.10	B	24.80	C	15.10	B	24.80	C	15.10	B
12: Mt Alifan Dr/Mt Abernathy Ave & Balboa Ave	Signal	43.5	D	52.5	D	45.80	D	52.80	D	45.80	D	52.80	D	45.80	D	52.80	D
13: Mt Albertine Ave/Cannington Dr & Balboa Ave	Signal	17.2	B	33.0	C	17.30	B	35.20	D	17.30	B	35.20	D	17.30	B	35.20	D
14: Eckstrom Ave/Charger Blvd & Balboa Ave	Signal	54.3	D	48.0	D	56.30	E	47.90	D	56.30	E	47.90	D	56.30	E	47.90	D
15: I-805 SB Ramps & Balboa Ave	Signal	11.1	B	9.2	A	11.20	B	9.40	A	11.20	B	9.40	A	11.20	B	9.40	A
16: I-805 NB Ramps & Balboa Ave	Signal	10.5	B	10.6	B	10.50	B	10.60	B	10.50	B	10.60	B	10.50	B	10.60	B
17: Genesee Ave & Mt Alifan Dr	Signal	50.2	D	58.4	E	50.20	D	58.50	E	50.20	D	58.50	E	50.20	D	58.40	E
18: Project Driveway #1 & Mt Etna Dr	SSSC	DNE	DNE	DNE	DNE	10.50	B	11.30	B	10.00	A	10.80	B	9.80	A	10.30	B
19: Genesee Ave & Project Driveway #2	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	13.00	B	16.70	C	12.70	B	16.30	C
20: Balboa Ave & Project Driveway #3	SSSC	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	DNE	16.90	C	19.90	C

Notes:

Bold letter indicates unacceptable LOS E or F and significant impact.

AWSC = All-Way Stop Controlled.

SSSC = Side-Street Stop Controlled.

DNE = Does Not Exist.

Table 1 - Roadway Segment Level of Service Results - Existing Plus Project Conditions

Roadway	Segment	Cross-Section	Capacity (LOS E)	No Project			With Driveway Alternative 1			With Driveway Alternative 2			With Driveway Alternative 3		
				ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS
Genesee Avenue	Appleton Street & Clairemont Mesa Boulevard	4M	40,000	23,097	0.577	C	23,379	0.584	C	23,379	0.584	C	23,379	0.584	C
Genesee Avenue	Clairemont Mesa Boulevard & Bannock Avenue	4M	40,000	24,483	0.612	C	24,847	0.621	C	24,847	0.621	C	24,847	0.621	C
Genesee Avenue	Bannock Avenue & Chateau Drive	4M	40,000	25,244	0.631	C	25,608	0.640	C	25,608	0.640	C	25,608	0.640	C
Genesee Avenue	Chateau Drive & Mount Herbert Avenue	4M	40,000	24,958	0.624	C	25,342	0.634	C	25,342	0.634	C	25,342	0.634	C
Genesee Avenue	Mount Herbert Avenue & Derrick Drive	4M	40,000	23,242	0.581	C	23,626	0.591	C	23,626	0.591	C	23,626	0.591	C
Genesee Avenue	Derrick Drive & Mount Etna Drive	6M	50,000	25,645	0.513	B	26,189	0.524	B	26,189	0.524	B	26,189	0.524	B
Genesee Avenue	Mount Etna Drive & Balboa Avenue	5M	45,000	27,743	0.617	C	28,691	0.638	C	28,911	0.642	C	28,573	0.635	C
Genesee Avenue	Balboa Avenue & Mount Alifan Drive	5M	45,000	23,259	0.517	B	23,541	0.523	B	23,541	0.523	B	23,540	0.523	B
Genesee Avenue	Mount Alifan Drive & Genesee Court	4M	40,000	23,742	0.594	C	23,984	0.600	C	23,984	0.600	C	23,984	0.600	C
Mount Everest Boulevard	Mount Etna Drive & Balboa Avenue	2C	8,000	4,206	0.526	C	4,630	0.579	C	4,528	0.566	C	4,482	0.560	C
Mount Etna Drive	Mount Everest Boulevard & Genesee Avenue	2C	8,000	4,090	0.511	C	6,108	0.764	D	5,286	0.661	D	5,129	0.641	D
Balboa Avenue	Clairemont Drive & Mount Everest Boulevard	4M	40,000	35,014	0.875	**E**	35,398	0.885	**E**	35,398	0.885	**E**	35,398	0.885	**E**
Balboa Avenue	Mount Everest Boulevard & Genesee Avenue	4M	40,000	32,421	0.811	D	32,421	0.811	D	32,523	0.813	D	32,643	0.816	D
Balboa Avenue	Genesee Avenue & Shopping Center Driveway	6M	50,000	32,231	0.645	C	32,897	0.658	C	32,897	0.658	C	32,897	0.658	C
Balboa Avenue	Shopping Center Driveway & Mount Abernathy Avenue	6M	50,000	35,984	0.720	C	36,650	0.733	C	36,650	0.733	C	36,650	0.733	C
Balboa Avenue	Mount Abernathy Avenue & Cannington Drive	6M	50,000	47,147	0.943	**E**	47,793	0.956	**E**	47,793	0.956	**E**	47,793	0.956	**E**
Balboa Avenue	Cannington Drive & Charger Boulevard	6M	50,000	49,421	0.988	**E**	50,067	1.001	**F**	50,067	1.001	**F**	50,067	1.001	**F**
Balboa Avenue	Charger Boulevard & I-805 Southbound Ramps	6M	50,000	61,846	1.237	**F**	62,492	1.250	**F**	62,492	1.250	**F**	62,492	1.250	**F**
Balboa Avenue	I-805 Southbound & I-805 Northbound Ramps	8P	80,000	49,153	0.614	B	49,638	0.620	B	49,638	0.620	B	49,638	0.620	B
Balboa Avenue	I-805 Northbound Ramps and Ruffer Street	6M	50,000	51,228	1.025	**F**	51,550	1.031	**F**	51,550	1.031	**F**	51,550	1.031	**F**

Notes:

Bold letter indicates unacceptable LOS E or F.

ADT = Average Daily Traffic.

V/C = Volume to Capacity Ratio.

LOS = Level of Service.

Table 2 - Roadway Segment Level of Service Results – Near-Term Base (Year 2021) Plus Project Conditions

Roadway	Segment	Cross-Section	Capacity (LOS E)	No Project			With Driveway Alternative 1			With Driveway Alternative 2			With Driveway Alternative 3		
				ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS
Genesee Avenue	Appleton Street & Clairemont Mesa Boulevard	4M	40,000	23,230	0.581	C	23,512	0.588	C	23,512	0.588	C	23,512	0.588	C
Genesee Avenue	Clairemont Mesa Boulevard & Bannock Avenue	4M	40,000	24,700	0.618	C	25,064	0.627	C	25,064	0.627	C	25,064	0.627	C
Genesee Avenue	Bannock Avenue & Chateau Drive	4M	40,000	25,460	0.637	C	25,824	0.646	C	25,824	0.646	C	25,824	0.646	C
Genesee Avenue	Chateau Drive & Mount Herbert Avenue	4M	40,000	25,180	0.630	C	25,564	0.639	C	25,564	0.639	C	25,564	0.639	C
Genesee Avenue	Mount Herbert Avenue & Derrick Drive	4M	40,000	23,460	0.587	C	23,844	0.596	C	23,844	0.596	C	23,844	0.596	C
Genesee Avenue	Derrick Drive & Mount Etna Drive	6M	50,000	25,880	0.518	B	26,424	0.528	B	26,424	0.528	B	26,424	0.528	B
Genesee Avenue	Mount Etna Drive & Balboa Avenue	5M	45,000	28,060	0.624	C	29,008	0.645	C	29,228	0.650	C	28,890	0.642	C
Genesee Avenue	Balboa Avenue & Mount Alifan Drive	5M	45,000	24,110	0.536	B	24,392	0.542	B	24,392	0.542	B	24,391	0.542	B
Genesee Avenue	Mount Alifan Drive & Genesee Court	4M	40,000	23,940	0.599	C	24,182	0.605	C	24,182	0.605	C	24,182	0.605	C
Mount Everest Boulevard	Mount Etna Drive & Balboa Avenue	2C	8,000	4,340	0.543	C	4,764	0.596	C	4,662	0.583	C	4,616	0.577	C
Mount Etna Drive	Mount Everest Boulevard & Genesee Avenue	2C	8,000	4,090	0.511	C	6,108	0.764	D	5,286	0.661	D	5,129	0.641	D
Balboa Avenue	Clairemont Drive & Mount Everest Boulevard	4M	40,000	36,120	0.903	**E**	36,504	0.913	**E**	36,504	0.913	**E**	36,504	0.913	**E**
Balboa Avenue	Mount Everest Boulevard & Genesee Avenue	4M	40,000	33,020	0.826	D	33,020	0.826	D	33,122	0.828	D	33,242	0.831	D
Balboa Avenue	Genesee Avenue & Shopping Center Driveway	6M	50,000	33,460	0.669	C	34,126	0.683	C	34,126	0.683	C	34,126	0.683	C
Balboa Avenue	Shopping Center Driveway & Mount Abernathy Avenue	6M	50,000	36,870	0.737	C	37,536	0.751	C	37,536	0.751	C	37,536	0.751	C
Balboa Avenue	Mount Abernathy Avenue & Cannington Drive	6M	50,000	48,610	0.972	**E**	49,256	0.985	**E**	49,256	0.985	**E**	49,256	0.985	**E**
Balboa Avenue	Cannington Drive & Charger Boulevard	6M	50,000	50,930	1.019	**F**	51,576	1.032	**F**	51,576	1.032	**F**	51,576	1.032	**F**
Balboa Avenue	Charger Boulevard & I-805 Southbound Ramps	6M	50,000	63,430	1.269	**F**	64,076	1.282	**F**	64,076	1.282	**F**	64,076	1.282	**F**
Balboa Avenue	I-805 Southbound & I-805 Northbound Ramps	8P	80,000	50,180	.627	C	50,665	0.633	C	50,665	0.633	C	50,665	0.633	C
Balboa Avenue	I-805 Northbound Ramps and Ruffer Street	6M	50,000	51,430	1.029	**F**	51,752	1.035	**F**	51,752	1.035	**F**	51,752	1.035	**F**

Notes:

Bold letter indicates unacceptable LOS E or F.

ADT = Average Daily Traffic.

V/C = Volume to Capacity Ratio.

LOS = Level of Service.

Table 3 - Roadway Segment Level of Service Results – Horizon Year 2050 Plus Project Conditions

Roadway	Segment	Cross-Section	Capacity (LOS E)	No Project			With Driveway Alternative 1			With Driveway Alternative 2			With Driveway Alternative 3		
				ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS
Genesee Avenue	Appleton Street & Clairemont Mesa Boulevard	4M	40,000	31,900	0.798	D	32,182	0.805	D	32,182	0.805	D	32,182	0.805	D
Genesee Avenue	Clairemont Mesa Boulevard & Bannock Avenue	4M	40,000	30,000	0.750	C	30,364	0.759	D	30,364	0.759	D	30,364	0.759	D
Genesee Avenue	Bannock Avenue & Chateau Drive	4M	40,000	27,800	0.695	C	28,164	0.704	C	28,164	0.704	C	28,164	0.704	C
Genesee Avenue	Chateau Drive & Mount Herbert Avenue	4M	40,000	25,500	0.638	C	25,884	0.647	C	25,884	0.647	C	25,884	0.647	C
Genesee Avenue	Mount Herbert Avenue & Derrick Drive	4M	40,000	20,900	0.523	B	21,284	0.532	C	21,284	0.532	C	21,284	0.532	C
Genesee Avenue	Derrick Drive & Mount Etna Drive	6M	50,000	23,900	0.478	B	24,444	0.489	B	24,444	0.489	B	24,444	0.489	B
Genesee Avenue	Mount Etna Drive & Balboa Avenue	5M	45,000	25,000	0.556	C	25,948	0.577	C	26,168	0.582	C	25,830	0.574	C
Genesee Avenue	Balboa Avenue & Mount Alifan Drive	5M	45,000	22,100	0.491	B	22,382	0.497	B	22,382	0.497	B	22,381	0.497	B
Genesee Avenue	Mount Alifan Drive & Genesee Court	4M	40,000	21,900	0.548	C	22,142	0.554	C	22,142	0.554	C	22,142	0.554	C
Mount Everest Boulevard	Mount Etna Drive & Balboa Avenue	2C	8,000	5,900	0.738	D	6,324	0.791	D	6,222	0.778	D	6,176	0.772	D
Mount Etna Drive	Mount Everest Boulevard & Genesee Avenue	2C	8,000	5,100	0.638	D	7,118	0.890	**E**	6,296	0.787	D	6,139	0.767	D
Balboa Avenue	Clairemont Drive & Mount Everest Boulevard	4M	40,000	33,800	0.845	D	34,184	0.855	D	34,184	0.855	D	34,184	0.855	D
Balboa Avenue	Mount Everest Boulevard & Genesee Avenue	4M	40,000	35,200	0.880	**E**	35,200	0.880	**E**	35,302	0.883	**E**	35,422	0.886	**E**
Balboa Avenue	Genesee Avenue & Shopping Center Driveway	6M	50,000	43,500	0.870	D	44,166	0.883	D	44,166	0.883	D	44,166	0.883	D
Balboa Avenue	Shopping Center Driveway & Mount Abernathy Avenue	6M	50,000	33,100	0.662	C	33,766	0.675	C	33,766	0.675	C	33,766	0.675	C
Balboa Avenue	Mount Abernathy Avenue & Cannington Drive	6M	50,000	47,400	0.948	**E**	48,046	0.961	**E**	48,046	0.961	**E**	48,046	0.961	**E**
Balboa Avenue	Cannington Drive & Charger Boulevard	6M	50,000	47,500	0.950	**E**	48,146	0.963	**E**	48,146	0.963	**E**	48,146	0.963	**E**
Balboa Avenue	Charger Boulevard & I-805 Southbound Ramps	6M	50,000	65,200	1.304	**F**	65,846	1.317	**F**	65,846	1.317	**F**	65,846	1.317	**F**
Balboa Avenue	I-805 Southbound & I-805 Northbound Ramps	8P	80,000	57,400	0.718	C	57,885	0.724	C	57,885	0.724	C	57,885	0.724	C
Balboa Avenue	I-805 Northbound Ramps and Ruffer Street	6M	50,000	62,400	1.248	**F**	62,722	1.254	**F**	62,722	1.254	**F**	62,722	1.254	**F**

Notes:

Bold letter indicates unacceptable LOS E or F.

V/C = Volume to Capacity Ratio.

ADT = Average Daily Traffic.

LOS = Level of Service.

Table 1 - Peak Hour Intersection Level of Service Results - Existing Plus Project Conditions with Mitigation

		No Project		With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM/PM	LOS AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?
9. Mt. Everest Boulevard & Balboa Avenue	Signal	73.7 / 58.7	**E / E**	37.5 / 29.5	D / C	-36.2 / -29.2	Y	Not Impacted				36.5 / 28.9	D / C	-37.2 / -29.8	Y
10. Genesee Avenue & Balboa Avenue	Signal	36.3 / 59.1	D / **E**	Not Impacted				Not Impacted				43.0 / 53.1	D / D	6.7 / -6.0	Y

Notes:

Bold letter indicates unacceptable LOS E or F and significant impact.

LOS = Level of Service.

M = Mitigated.

Table 2 - Peak Hour Intersection Level of Service Results – Near-Term Plus Project Conditions with Mitigation

		No Project		With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM/PM	LOS AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?
9. Mt. Everest Boulevard & Balboa Avenue	Signal	116.5 / 64.7	**F / E**	59.9 / 27.0	**E** / C	-56.6 / -37.7	Y	58.3 / 26.6	**E** / C	-58.2 / -38.1		57.6 / 26.4	**E** / C	-11.6 / -32.3	Y
10. Genesee Avenue & Balboa Avenue	Signal	41.1 / 59.2	D / **E**	Not Impacted				Not Impacted				42.0 / 57.0	D / **E**	0.9 / -2.2	Y
14. Charger Boulevard & Balboa Avenue	Signal	64.7 / 42.9	**E** / D	53.3 / 50.6	D / D	-11.4 / 7.7	Y	53.3 / 50.6	D / D	-11.4 / 7.7	Y	53.2 / 50.5	D / D	-11.5 / 7.6	Y

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Table 3 - Peak Hour Intersection Level of Service Results – Horizon Year 2050 Plus Project Conditions with Mitigation

		No Project		With Driveway Alternative 1				With Driveway Alternative 2				With Driveway Alternative 3			
Intersection	Control	Avg. Delay (sec) AM/PM	LOS AM/PM	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?	Avg. Delay (sec) AM/PM	LOS AM/PM	Change in Delay (sec) AM/PM	M?
1. Genesee Avenue & Clairemont Mesa Boulevard	Signal	65.9 / 95.9	**E / F**	45.6 / 60.0	D / E	-20.3 / -35.9	Y	45.6 / 60.0	D / E	-20.3 / -35.9	Y	45.6 / 60.0	D / E	-20.3 / -35.9	Y
8. Clairemont Drive & Balboa Avenue	Signal	65.4 / 100.6	**E / F**	63.9 / 96.5	E / F	-1.5 / -4.1	Y	63.9 / 96.5	E / F	-1.5 / -4.1	Y	63.9 / 96.5	E / F	-1.5 / -4.1	Y
9. Mt Everest Boulevard & Balboa Avenue	Signal	107.9 / 110.4	**F /F**	89.6 / 53.6	F / D	-18.3 / -56.8	Y	86.2 / 52.3	F / D	-21.7 / -58.1	Y	84.7 / 52.0	F / D	-23.2 / -58.4	Y
10. Genesee Avenue & Balboa Avenue	Signal	42.1 / 80.2	D / **F**	49.7 / 73.1	D / E	7.6 / -7.1	Y	49.8 / 68.6	D / E	7.7 / -11.6	Y	49.8 / 68.9	D / E	7.7 / -11.3	Y
14. Charger Boulevard & Balboa Avenue	Signal	54.3 / 48.0	**E** / D	46.8 / 47.7	D / D	-7.5 / -0.3	Y	46.8 / 47.7	D / D	-7.5 / -0.3	Y	46.8 / 47.7	D / D	-7.5 / -0.3	Y

Notes:

Bold letter indicates unacceptable LOS E or F and significant impact.

LOS = Level of Service.

M = Mitigated.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Future Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		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	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		221	463	160		204	591	284	251	1273	72	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		249	679	232		1026	1139	547	313	1231	70	
Arrive On Green		0.07	0.26	0.26		0.30	0.50	0.50	0.12	0.48	0.48	
Sat Flow, veh/h		3442	2563	878		3442	2296	1102	3442	3400	192	
Grp Volume(v), veh/h		221	318	305		204	455	420	251	662	683	
Grp Sat Flow(s),veh/h/ln		1721	1770	1672		1721	1770	1628	1721	1770	1823	
Q Serve(g_s), s		6.9	17.4	17.7		4.8	18.9	18.9	7.7	39.1	39.1	
Cycle Q Clear(g_c), s		6.9	17.4	17.7		4.8	18.9	18.9	7.7	39.1	39.1	
Prop In Lane		1.00		0.53		1.00		0.68	1.00		0.11	
Lane Grp Cap(c), veh/h		249	469	443		1026	878	808	313	641	660	
V/C Ratio(X)		0.89	0.68	0.69		0.20	0.52	0.52	0.80	1.03	1.04	
Avail Cap(c_a), veh/h		249	469	443		1026	878	808	433	641	660	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.55	0.55	0.55	
Uniform Delay (d), s/veh		49.7	35.6	35.7		28.3	18.4	18.5	46.5	28.0	28.0	
Incr Delay (d2), s/veh		29.2	7.7	8.5		0.0	2.2	2.4	2.8	35.0	35.6	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		4.3	9.5	9.2		2.3	9.6	8.9	3.7	25.2	26.1	
LnGrp Delay(d),s/veh		78.8	43.3	44.2		28.3	20.6	20.8	49.3	63.0	63.6	
LnGrp LOS		E	D	D		C	C	C	D	F	F	
Approach Vol, veh/h			844				1079			1596		
Approach Delay, s/veh			52.9				22.2			61.1		
Approach LOS			D				C			E		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.7	33.6	14.2	48.5	12.2	59.1	18.7	44.0
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	7.8	* 29	13.6	39.3	7.8	28.6	13.8	* 39
Max Q Clear Time (g_c+I1), s	6.8	19.7	9.7	21.1	8.9	20.9	15.1	41.1
Green Ext Time (p_c), s	0.0	2.7	0.2	2.7	0.0	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.6
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	190	535	190
Future Volume (veh/h)	190	535	190
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	216	608	182
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	227	1074	321
Arrive On Green	0.13	0.40	0.40
Sat Flow, veh/h	1774	2662	795
Grp Volume(v), veh/h	216	404	386
Grp Sat Flow(s),veh/h/ln	1774	1770	1688
Q Serve(g_s), s	13.1	19.0	19.1
Cycle Q Clear(g_c), s	13.1	19.0	19.1
Prop In Lane	1.00		0.47
Lane Grp Cap(c), veh/h	227	714	681
V/C Ratio(X)	0.95	0.57	0.57
Avail Cap(c_a), veh/h	227	714	681
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	24.9	24.9
Incr Delay (d2), s/veh	46.2	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	9.4	9.0
LnGrp Delay(d),s/veh	92.9	25.6	25.6
LnGrp LOS	F	C	C
Approach Vol, veh/h		1006	
Approach Delay, s/veh		40.1	
Approach LOS		D	
Timer			

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Future Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		219	911	71	461	900	162		325	639	592		242	341	244
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		360	1035	81	513	1024	184		347	921	648		264	418	292
Arrive On Green		0.10	0.31	0.31	0.15	0.34	0.34		0.20	0.26	0.26		0.15	0.21	0.21
Sat Flow, veh/h		3442	3312	258	3442	2978	536		1774	3539	1583		1774	1956	1366
Grp Volume(v), veh/h		219	487	495	461	535	527		325	639	592		242	308	277
Grp Sat Flow(s),veh/h/ln		1721	1770	1800	1721	1770	1744		1774	1770	1583		1774	1770	1552
Q Serve(g_s), s		9.3	40.0	40.0	20.2	43.6	43.6		27.7	25.0	39.9		20.6	25.4	26.2
Cycle Q Clear(g_c), s		9.3	40.0	40.0	20.2	43.6	43.6		27.7	25.0	39.9		20.6	25.4	26.2
Prop In Lane		1.00		0.14	1.00		0.31		1.00		1.00		1.00		0.88
Lane Grp Cap(c), veh/h		360	553	563	513	609	600		347	921	648		264	378	332
V/C Ratio(X)		0.61	0.88	0.88	0.90	0.88	0.88		0.94	0.69	0.91		0.92	0.81	0.84
Avail Cap(c_a), veh/h		360	653	664	732	841	829		435	921	648		366	391	343
HCM Platoon Ratio		1.00	1.00	1.00	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		65.6	50.0	50.0	64.1	47.3	47.3		60.7	51.2	42.7		64.3	57.4	57.7
Incr Delay (d2), s/veh		2.1	12.1	12.0	8.4	8.0	8.1		22.8	2.1	17.3		18.7	11.8	15.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		4.5	21.5	21.8	10.2	22.6	22.3		15.7	12.5	26.7		11.5	13.6	12.7
LnGrp Delay(d),s/veh		67.8	62.1	61.9	72.5	55.3	55.4		83.5	53.3	60.0		83.0	69.2	73.3
LnGrp LOS		E	E	E	E	E	E		F	D	E		F	E	E
Approach Vol, veh/h			1201			1523				1556				827	
Approach Delay, s/veh			63.1			60.5				62.2				74.6	
Approach LOS			E			E				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	17.3	53.6	34.4	38.1	21.8	59.1	27.2	45.2
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	12.6	56.6	37.6	33.9	15.6	* 73	31.6	39.9
Max Q Clear Time (g_c+I1), s	11.3	42.0	29.7	28.2	11.3	45.6	22.6	41.9
Green Ext Time (p_c), s	0.7	5.9	0.3	1.6	0.2	7.2	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.9
HCM 2010 LOS	E

Notes

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	76	1300	140	10	180	1160	130	250	101	130	100	122	110
Future Volume (veh/h)	20	76	1300	140	10	180	1160	130	250	101	130	100	122	110
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		86	1477	129		222	1432	125	368	149	154	127	154	114
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		106	1349	117		196	1518	132	315	220	228	149	167	123
Arrive On Green		0.06	0.41	0.41		0.11	0.46	0.46	0.18	0.26	0.26	0.08	0.17	0.17
Sat Flow, veh/h		1774	3287	285		1774	3289	285	1774	840	868	1774	988	731
Grp Volume(v), veh/h		86	790	816		222	767	790	368	0	303	127	0	268
Grp Sat Flow(s),veh/h/ln		1774	1770	1803		1774	1770	1804	1774	0	1708	1774	0	1719
Q Serve(g_s), s		7.2	61.6	61.6		16.6	61.7	63.0	26.6	0.0	23.9	10.6	0.0	23.0
Cycle Q Clear(g_c), s		7.2	61.6	61.6		16.6	61.7	63.0	26.6	0.0	23.9	10.6	0.0	23.0
Prop In Lane		1.00		0.16		1.00		0.16	1.00		0.51	1.00		0.43
Lane Grp Cap(c), veh/h		106	726	740		196	817	833	315	0	448	149	0	290
V/C Ratio(X)		0.81	1.09	1.10		1.13	0.94	0.95	1.17	0.00	0.68	0.85	0.00	0.92
Avail Cap(c_a), veh/h		114	726	740		196	817	833	315	0	448	175	0	309
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		0.49	0.49	0.49	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		69.7	44.2	44.2		66.7	38.4	38.7	61.7	0.0	49.6	67.8	0.0	61.4
Incr Delay (d2), s/veh		30.3	59.7	64.8		85.8	11.7	12.8	105.1	0.0	3.3	25.4	0.0	30.1
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		4.4	42.1	44.0		12.8	32.7	34.4	22.2	0.0	11.7	6.3	0.0	13.4
LnGrp Delay(d),s/veh		100.0	103.9	109.0		152.5	50.0	51.5	166.8	0.0	52.9	93.2	0.0	91.5
LnGrp LOS		F	F	F		F	D	D	F		D	F		F
Approach Vol, veh/h			1692				1779			671			395	
Approach Delay, s/veh			106.2				63.5			115.3			92.0	
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	21.0	67.8	31.0	30.2	13.3	75.4	17.0	44.3
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	16.6	* 61	26.6	27.0	9.6	66.9	14.8	38.8
Max Q Clear Time (g_c+I1), s	18.6	63.6	28.6	25.0	9.2	65.0	12.6	25.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	1.6	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	89.6
HCM 2010 LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	230	1060	300	10	110	860	351	10	300	795	80	10	275	455	220
Future Volume (veh/h)	10	230	1060	300	10	110	860	351	10	300	795	80	10	275	455	220
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		258	1191	249		126	989	314		319	846	64		316	523	196
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		371	1437	298		167	1237	392		363	1049	79		359	767	334
Arrive On Green		0.21	0.49	0.49		0.03	0.22	0.22		0.14	0.29	0.29		0.17	0.36	0.36
Sat Flow, veh/h		1774	2911	603		3442	3796	1204		3442	4819	363		3442	3539	1541
Grp Volume(v), veh/h		258	720	720		126	883	420		319	594	316		316	523	196
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1610		1721	1695	1791		1721	1770	1541
Q Serve(g_s), s		18.8	48.6	49.8		5.1	34.5	34.6		12.7	22.7	22.9		12.5	17.5	9.2
Cycle Q Clear(g_c), s		18.8	48.6	49.8		5.1	34.5	34.6		12.7	22.7	22.9		12.5	17.5	9.2
Prop In Lane		1.00		0.35		1.00		0.75		1.00		0.20		1.00		1.00
Lane Grp Cap(c), veh/h		371	873	861		167	1104	524		363	738	390		359	767	334
V/C Ratio(X)		0.69	0.82	0.84		0.75	0.80	0.80		0.88	0.81	0.81		0.88	0.68	0.59
Avail Cap(c_a), veh/h		371	873	861		167	1104	524		369	802	424		383	852	371
HCM Platoon Ratio		1.00	1.00	1.00		0.67	0.67	0.67		1.33	1.33	1.33		1.67	1.67	1.67
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.85	0.85	0.85		1.00	1.00	1.00
Uniform Delay (d), s/veh		51.2	30.3	30.6		66.9	50.4	50.4		59.3	47.0	47.0		56.9	40.6	16.2
Incr Delay (d2), s/veh		0.4	0.9	0.9		14.5	5.6	11.2		17.5	5.5	10.2		18.4	2.5	3.1
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		9.3	23.8	24.2		2.8	17.0	17.0		6.9	11.2	12.5		6.8	8.7	5.1
LnGrp Delay(d),s/veh		51.6	31.1	31.5		81.4	56.0	61.6		76.8	52.5	57.3		75.4	43.1	19.3
LnGrp LOS		D	C	C		F	E	E		E	D	E		E	D	B
Approach Vol, veh/h			1698				1429				1229				1035	
Approach Delay, s/veh			34.4				59.9				60.0				48.4	
Approach LOS			C				E				E				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	74.4	19.1	35.2	34.6	51.0	19.0	35.4
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	6.8	65.5	15.0	33.7	26.6	* 46	15.6	33.1
Max Q Clear Time (g_c+I1), s	7.1	51.8	14.7	19.5	20.8	36.6	14.5	24.9
Green Ext Time (p_c), s	0.0	8.3	0.0	5.4	0.2	5.0	0.1	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	49.7
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* 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)	20	1924	140	400	1351	310	110	120	640	290	180	20
Future Volume (veh/h)	20	1924	140	400	1351	310	110	120	640	290	180	20
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1984	107	435	1468	249	126	138	644	322	200	20
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1989	107	350	2973	906	193	121	720	345	250	25
Arrive On Green	0.03	0.81	0.81	0.20	0.58	0.58	0.11	0.07	0.07	0.19	0.15	0.15
Sat Flow, veh/h	1774	4931	265	1774	5085	1549	1774	1863	2631	1774	1661	166
Grp Volume(v), veh/h	21	1362	729	435	1468	249	126	138	644	322	0	220
Grp Sat Flow(s),veh/h/ln	1774	1695	1805	1774	1695	1549	1774	1863	1315	1774	0	1827
Q Serve(g_s), s	1.6	55.2	56.5	27.6	23.6	4.0	9.5	9.1	9.1	25.0	0.0	16.3
Cycle Q Clear(g_c), s	1.6	55.2	56.5	27.6	23.6	4.0	9.5	9.1	9.1	25.0	0.0	16.3
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	28	1368	728	350	2973	906	193	121	720	345	0	275
V/C Ratio(X)	0.74	1.00	1.00	1.24	0.49	0.27	0.65	1.14	0.89	0.93	0.00	0.80
Avail Cap(c_a), veh/h	75	1368	728	350	2973	906	193	121	720	393	0	405
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)	0.21	0.21	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	13.4	13.5	56.2	17.0	1.8	59.8	65.4	32.9	55.5	0.0	57.4
Incr Delay (d2), s/veh	3.0	10.2	15.6	131.6	0.6	0.8	7.0	124.3	13.5	26.1	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	26.1	29.4	26.3	11.2	4.1	5.1	8.9	12.3	14.8	0.0	8.6
LnGrp Delay(d),s/veh	70.5	23.6	29.1	187.8	17.6	2.6	66.8	189.7	46.4	81.6	0.0	61.5
LnGrp LOS	E	C	F	F	B	A	E	F	D	F		E
Approach Vol, veh/h		2112			2152			908			542	
Approach Delay, s/veh		25.9			50.2			71.0			73.4	
Approach LOS		C			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.0	61.9	32.1	14.0	6.6	87.2	20.1	26.0
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	27.6	* 53	31.0	9.1	5.9	74.4	9.1	31.0
Max Q Clear Time (g_c+I1), s	29.6	58.5	27.0	11.1	3.6	25.6	11.5	18.3
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	23.8	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	46.8
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Future Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		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	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		221	463	160		204	591	284	251	1273	72	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		249	679	232		1026	1139	547	313	1231	70	
Arrive On Green		0.07	0.26	0.26		0.30	0.50	0.50	0.12	0.48	0.48	
Sat Flow, veh/h		3442	2563	878		3442	2296	1102	3442	3400	192	
Grp Volume(v), veh/h		221	318	305		204	455	420	251	662	683	
Grp Sat Flow(s),veh/h/ln		1721	1770	1672		1721	1770	1628	1721	1770	1823	
Q Serve(g_s), s		6.9	17.4	17.7		4.8	18.9	18.9	7.7	39.1	39.1	
Cycle Q Clear(g_c), s		6.9	17.4	17.7		4.8	18.9	18.9	7.7	39.1	39.1	
Prop In Lane		1.00		0.53		1.00		0.68	1.00		0.11	
Lane Grp Cap(c), veh/h		249	469	443		1026	878	808	313	641	660	
V/C Ratio(X)		0.89	0.68	0.69		0.20	0.52	0.52	0.80	1.03	1.04	
Avail Cap(c_a), veh/h		249	469	443		1026	878	808	433	641	660	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.55	0.55	0.55	
Uniform Delay (d), s/veh		49.7	35.6	35.7		28.3	18.4	18.5	46.5	28.0	28.0	
Incr Delay (d2), s/veh		29.2	7.7	8.5		0.0	2.2	2.4	2.8	35.0	35.6	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		4.3	9.5	9.2		2.3	9.6	8.9	3.7	25.2	26.1	
LnGrp Delay(d),s/veh		78.8	43.3	44.2		28.3	20.6	20.8	49.3	63.0	63.6	
LnGrp LOS		E	D	D		C	C	C	D	F	F	
Approach Vol, veh/h			844				1079			1596		
Approach Delay, s/veh			52.9				22.2			61.1		
Approach LOS			D				C			E		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.7	33.6	14.2	48.5	12.2	59.1	18.7	44.0
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	7.8	* 29	13.6	39.3	7.8	28.6	13.8	* 39
Max Q Clear Time (g_c+I1), s	6.8	19.7	9.7	21.1	8.9	20.9	15.1	41.1
Green Ext Time (p_c), s	0.0	2.7	0.2	2.7	0.0	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.6
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	190	535	190
Future Volume (veh/h)	190	535	190
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	216	608	182
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	227	1074	321
Arrive On Green	0.13	0.40	0.40
Sat Flow, veh/h	1774	2662	795
Grp Volume(v), veh/h	216	404	386
Grp Sat Flow(s),veh/h/ln	1774	1770	1688
Q Serve(g_s), s	13.1	19.0	19.1
Cycle Q Clear(g_c), s	13.1	19.0	19.1
Prop In Lane	1.00		0.47
Lane Grp Cap(c), veh/h	227	714	681
V/C Ratio(X)	0.95	0.57	0.57
Avail Cap(c_a), veh/h	227	714	681
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	24.9	24.9
Incr Delay (d2), s/veh	46.2	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	9.4	9.0
LnGrp Delay(d),s/veh	92.9	25.6	25.6
LnGrp LOS	F	C	C
Approach Vol, veh/h		1006	
Approach Delay, s/veh		40.1	
Approach LOS		D	
Timer			

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Future Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		219	911	71	461	900	162		325	639	592		242	341	244
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		360	1035	81	513	1024	184		347	921	648		264	418	292
Arrive On Green		0.10	0.31	0.31	0.15	0.34	0.34		0.20	0.26	0.26		0.15	0.21	0.21
Sat Flow, veh/h		3442	3312	258	3442	2978	536		1774	3539	1583		1774	1956	1366
Grp Volume(v), veh/h		219	487	495	461	535	527		325	639	592		242	308	277
Grp Sat Flow(s),veh/h/ln		1721	1770	1800	1721	1770	1744		1774	1770	1583		1774	1770	1552
Q Serve(g_s), s		9.3	40.0	40.0	20.2	43.6	43.6		27.7	25.0	39.9		20.6	25.4	26.2
Cycle Q Clear(g_c), s		9.3	40.0	40.0	20.2	43.6	43.6		27.7	25.0	39.9		20.6	25.4	26.2
Prop In Lane		1.00		0.14	1.00		0.31		1.00		1.00		1.00		0.88
Lane Grp Cap(c), veh/h		360	553	563	513	609	600		347	921	648		264	378	332
V/C Ratio(X)		0.61	0.88	0.88	0.90	0.88	0.88		0.94	0.69	0.91		0.92	0.81	0.84
Avail Cap(c_a), veh/h		360	653	664	732	841	829		435	921	648		366	391	343
HCM Platoon Ratio		1.00	1.00	1.00	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		65.6	50.0	50.0	64.1	47.3	47.3		60.7	51.2	42.7		64.3	57.4	57.7
Incr Delay (d2), s/veh		2.1	12.1	12.0	8.4	8.0	8.1		22.8	2.1	17.3		18.7	11.8	15.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		4.5	21.5	21.8	10.2	22.6	22.3		15.7	12.5	26.7		11.5	13.6	12.7
LnGrp Delay(d),s/veh		67.8	62.1	61.9	72.5	55.3	55.4		83.5	53.3	60.0		83.0	69.2	73.3
LnGrp LOS		E	E	E	E	E	E		F	D	E		F	E	E
Approach Vol, veh/h			1201			1523				1556				827	
Approach Delay, s/veh			63.1			60.5				62.2				74.6	
Approach LOS			E			E				E				E	

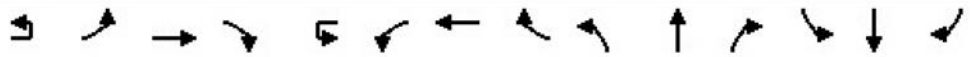
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	53.6	34.4	38.1	21.8	59.1	27.2	45.2
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	12.6	56.6	37.6	33.9	15.6	* 73	31.6	39.9
Max Q Clear Time (g_c+I1), s	11.3	42.0	29.7	28.2	11.3	45.6	22.6	41.9
Green Ext Time (p_c), s	0.7	5.9	0.3	1.6	0.2	7.2	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.9
HCM 2010 LOS	E

Notes

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	76	1300	140	10	181	1170	130	250	101	130	100	121	100
Future Volume (veh/h)	20	76	1300	140	10	181	1170	130	250	101	130	100	121	100
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		86	1477	129		223	1444	125	368	149	154	127	153	102
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		106	1373	119		196	1543	133	315	214	221	149	167	112
Arrive On Green		0.06	0.42	0.42		0.11	0.47	0.47	0.18	0.26	0.26	0.08	0.16	0.16
Sat Flow, veh/h		1774	3287	285		1774	3291	283	1774	840	868	1774	1036	691
Grp Volume(v), veh/h		86	790	816		223	772	797	368	0	303	127	0	255
Grp Sat Flow(s),veh/h/ln		1774	1770	1803		1774	1770	1805	1774	0	1708	1774	0	1727
Q Serve(g_s), s		7.2	62.7	62.7		16.6	61.7	63.0	26.6	0.0	24.1	10.6	0.0	21.8
Cycle Q Clear(g_c), s		7.2	62.7	62.7		16.6	61.7	63.0	26.6	0.0	24.1	10.6	0.0	21.8
Prop In Lane		1.00		0.16		1.00		0.16	1.00		0.51	1.00		0.40
Lane Grp Cap(c), veh/h		106	739	753		196	830	846	315	0	436	149	0	279
V/C Ratio(X)		0.81	1.07	1.08		1.14	0.93	0.94	1.17	0.00	0.70	0.85	0.00	0.91
Avail Cap(c_a), veh/h		114	739	753		196	830	846	315	0	442	175	0	311
HCM Platoon Ratio		1.00	1.00	1.00		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		0.49	0.49	0.49	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		69.7	43.7	43.7		66.7	37.5	37.9	61.7	0.0	50.6	67.8	0.0	61.9
Incr Delay (d2), s/veh		30.3	53.0	57.7		87.6	10.7	11.7	105.1	0.0	3.9	25.4	0.0	27.1
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		4.4	41.5	43.2		12.9	32.5	34.0	22.2	0.0	11.8	6.3	0.0	12.5
LnGrp Delay(d),s/veh		100.0	96.6	101.4		154.3	48.2	49.6	166.8	0.0	54.5	93.2	0.0	88.9
LnGrp LOS		F	F	F		F	D	D	F		D	F		F
Approach Vol, veh/h			1692				1792			671			382	
Approach Delay, s/veh			99.1				62.0			116.0			90.3	
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	21.0	68.9	31.0	29.1	13.3	76.5	17.0	43.2
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	16.6	* 61	26.6	27.0	9.6	66.9	14.8	38.8
Max Q Clear Time (g_c+I1), s	18.6	64.7	28.6	23.8	9.2	65.0	12.6	26.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	1.6	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	86.2
HCM 2010 LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	230	1060	300	10	110	860	351	10	300	795	80	10	281	455	231
Future Volume (veh/h)	10	230	1060	300	10	110	860	351	10	300	795	80	10	281	455	231
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		258	1191	249		126	989	314		319	846	64		323	523	209
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		368	1431	297		167	1237	392		363	1049	79		366	774	337
Arrive On Green		0.21	0.49	0.49		0.03	0.22	0.22		0.14	0.29	0.29		0.18	0.37	0.37
Sat Flow, veh/h		1774	2911	603		3442	3796	1204		3442	4819	363		3442	3539	1541
Grp Volume(v), veh/h		258	720	720		126	883	420		319	594	316		323	523	209
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1610		1721	1695	1791		1721	1770	1541
Q Serve(g_s), s		18.9	48.8	50.0		5.1	34.5	34.6		12.7	22.7	22.9		12.8	17.4	10.0
Cycle Q Clear(g_c), s		18.9	48.8	50.0		5.1	34.5	34.6		12.7	22.7	22.9		12.8	17.4	10.0
Prop In Lane		1.00		0.35		1.00		0.75		1.00		0.20		1.00		1.00
Lane Grp Cap(c), veh/h		368	870	858		167	1104	524		363	738	390		366	774	337
V/C Ratio(X)		0.70	0.83	0.84		0.75	0.80	0.80		0.88	0.81	0.81		0.88	0.68	0.62
Avail Cap(c_a), veh/h		368	870	858		167	1104	524		369	802	424		383	852	371
HCM Platoon Ratio		1.00	1.00	1.00		0.67	0.67	0.67		1.33	1.33	1.33		1.67	1.67	1.67
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.85	0.85	0.85		1.00	1.00	1.00
Uniform Delay (d), s/veh		51.5	30.5	30.8		66.9	50.4	50.4		59.3	47.0	47.0		56.7	40.3	16.3
Incr Delay (d2), s/veh		0.5	0.9	1.0		14.5	5.6	11.2		17.5	5.5	10.2		19.3	2.5	3.8
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		9.3	24.0	24.2		2.8	17.0	17.0		6.9	11.2	12.5		7.0	8.7	5.5
LnGrp Delay(d),s/veh		51.9	31.4	31.8		81.4	56.0	61.6		76.8	52.5	57.3		76.0	42.7	20.2
LnGrp LOS		D	C	C		F	E	E		E	D	E		E	D	C
Approach Vol, veh/h			1698				1429				1229				1055	
Approach Delay, s/veh			34.7				59.9				60.0				48.4	
Approach LOS			C				E				E				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	74.1	19.1	35.5	34.3	51.0	19.3	35.4
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	6.8	65.5	15.0	33.7	26.6	* 46	15.6	33.1
Max Q Clear Time (g_c+I1), s	7.1	52.0	14.7	19.4	20.9	36.6	14.8	24.9
Green Ext Time (p_c), s	0.0	8.2	0.0	5.5	0.2	5.0	0.1	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	49.8
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* 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)	20	1924	140	400	1351	310	110	120	640	290	180	20
Future Volume (veh/h)	20	1924	140	400	1351	310	110	120	640	290	180	20
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1984	107	435	1468	249	126	138	644	322	200	20
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1989	107	350	2973	906	193	121	720	345	250	25
Arrive On Green	0.03	0.81	0.81	0.20	0.58	0.58	0.11	0.07	0.07	0.19	0.15	0.15
Sat Flow, veh/h	1774	4931	265	1774	5085	1549	1774	1863	2631	1774	1661	166
Grp Volume(v), veh/h	21	1362	729	435	1468	249	126	138	644	322	0	220
Grp Sat Flow(s),veh/h/ln	1774	1695	1805	1774	1695	1549	1774	1863	1315	1774	0	1827
Q Serve(g_s), s	1.6	55.2	56.5	27.6	23.6	4.0	9.5	9.1	9.1	25.0	0.0	16.3
Cycle Q Clear(g_c), s	1.6	55.2	56.5	27.6	23.6	4.0	9.5	9.1	9.1	25.0	0.0	16.3
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	28	1368	728	350	2973	906	193	121	720	345	0	275
V/C Ratio(X)	0.74	1.00	1.00	1.24	0.49	0.27	0.65	1.14	0.89	0.93	0.00	0.80
Avail Cap(c_a), veh/h	75	1368	728	350	2973	906	193	121	720	393	0	405
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)	0.21	0.21	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	13.4	13.5	56.2	17.0	1.8	59.8	65.4	32.9	55.5	0.0	57.4
Incr Delay (d2), s/veh	3.0	10.2	15.6	131.6	0.6	0.8	7.0	124.3	13.5	26.1	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	26.1	29.4	26.3	11.2	4.1	5.1	8.9	12.3	14.8	0.0	8.6
LnGrp Delay(d),s/veh	70.5	23.6	29.1	187.8	17.6	2.6	66.8	189.7	46.4	81.6	0.0	61.5
LnGrp LOS	E	C	F	F	B	A	E	F	D	F		E
Approach Vol, veh/h		2112			2152			908			542	
Approach Delay, s/veh		25.9			50.2			71.0			73.4	
Approach LOS		C			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.0	61.9	32.1	14.0	6.6	87.2	20.1	26.0
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	27.6	* 53	31.0	9.1	5.9	74.4	9.1	31.0
Max Q Clear Time (g_c+I1), s	29.6	58.5	27.0	11.1	3.6	25.6	11.5	18.3
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	23.8	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	46.8
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Future Volume (veh/h)	10	210	440	191	10	190	550	360	243	1235	90	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		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	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		221	463	160		204	591	284	251	1273	72	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.95	0.95	0.95		0.93	0.93	0.93	0.97	0.97	0.97	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		249	679	232		1026	1139	547	313	1231	70	
Arrive On Green		0.07	0.26	0.26		0.30	0.50	0.50	0.12	0.48	0.48	
Sat Flow, veh/h		3442	2563	878		3442	2296	1102	3442	3400	192	
Grp Volume(v), veh/h		221	318	305		204	455	420	251	662	683	
Grp Sat Flow(s),veh/h/ln		1721	1770	1672		1721	1770	1628	1721	1770	1823	
Q Serve(g_s), s		6.9	17.4	17.7		4.8	18.9	18.9	7.7	39.1	39.1	
Cycle Q Clear(g_c), s		6.9	17.4	17.7		4.8	18.9	18.9	7.7	39.1	39.1	
Prop In Lane		1.00		0.53		1.00		0.68	1.00		0.11	
Lane Grp Cap(c), veh/h		249	469	443		1026	878	808	313	641	660	
V/C Ratio(X)		0.89	0.68	0.69		0.20	0.52	0.52	0.80	1.03	1.04	
Avail Cap(c_a), veh/h		249	469	443		1026	878	808	433	641	660	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33	1.33	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.55	0.55	0.55	
Uniform Delay (d), s/veh		49.7	35.6	35.7		28.3	18.4	18.5	46.5	28.0	28.0	
Incr Delay (d2), s/veh		29.2	7.7	8.5		0.0	2.2	2.4	2.8	35.0	35.6	
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln		4.3	9.5	9.2		2.3	9.6	8.9	3.7	25.2	26.1	
LnGrp Delay(d),s/veh		78.8	43.3	44.2		28.3	20.6	20.8	49.3	63.0	63.6	
LnGrp LOS		E	D	D		C	C	C	D	F	F	
Approach Vol, veh/h			844				1079			1596		
Approach Delay, s/veh			52.9				22.2			61.1		
Approach LOS			D				C			E		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.7	33.6	14.2	48.5	12.2	59.1	18.7	44.0
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9
Max Green Setting (Gmax), s	7.8	* 29	13.6	39.3	7.8	28.6	13.8	* 39
Max Q Clear Time (g_c+I1), s	6.8	19.7	9.7	21.1	8.9	20.9	15.1	41.1
Green Ext Time (p_c), s	0.0	2.7	0.2	2.7	0.0	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.6
HCM 2010 LOS	D

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	190	535	190
Future Volume (veh/h)	190	535	190
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	216	608	182
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2
Cap, veh/h	227	1074	321
Arrive On Green	0.13	0.40	0.40
Sat Flow, veh/h	1774	2662	795
Grp Volume(v), veh/h	216	404	386
Grp Sat Flow(s),veh/h/ln	1774	1770	1688
Q Serve(g_s), s	13.1	19.0	19.1
Cycle Q Clear(g_c), s	13.1	19.0	19.1
Prop In Lane	1.00		0.47
Lane Grp Cap(c), veh/h	227	714	681
V/C Ratio(X)	0.95	0.57	0.57
Avail Cap(c_a), veh/h	227	714	681
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	24.9	24.9
Incr Delay (d2), s/veh	46.2	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	9.4	9.0
LnGrp Delay(d),s/veh	92.9	25.6	25.6
LnGrp LOS	F	C	C
Approach Vol, veh/h		1006	
Approach Delay, s/veh		40.1	
Approach LOS		D	
Timer			

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Future Volume (veh/h)	10	210	875	90	433	846	181	20	270	530	491	10	220	310	310
Number		5	2	12	1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.95	1.00		0.96		1.00		1.00		1.00		0.96
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863		1863	1863	1900
Adj Flow Rate, veh/h		219	911	71	461	900	162		325	639	592		242	341	244
Adj No. of Lanes		2	2	0	2	2	0		1	2	1		1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.83	0.83	0.83		0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2		2	2	2
Cap, veh/h		360	1035	81	513	1024	184		347	921	648		264	418	292
Arrive On Green		0.10	0.31	0.31	0.15	0.34	0.34		0.20	0.26	0.26		0.15	0.21	0.21
Sat Flow, veh/h		3442	3312	258	3442	2978	536		1774	3539	1583		1774	1956	1366
Grp Volume(v), veh/h		219	487	495	461	535	527		325	639	592		242	308	277
Grp Sat Flow(s),veh/h/ln		1721	1770	1800	1721	1770	1744		1774	1770	1583		1774	1770	1552
Q Serve(g_s), s		9.3	40.0	40.0	20.2	43.6	43.6		27.7	25.0	39.9		20.6	25.4	26.2
Cycle Q Clear(g_c), s		9.3	40.0	40.0	20.2	43.6	43.6		27.7	25.0	39.9		20.6	25.4	26.2
Prop In Lane		1.00		0.14	1.00		0.31		1.00		1.00		1.00		0.88
Lane Grp Cap(c), veh/h		360	553	563	513	609	600		347	921	648		264	378	332
V/C Ratio(X)		0.61	0.88	0.88	0.90	0.88	0.88		0.94	0.69	0.91		0.92	0.81	0.84
Avail Cap(c_a), veh/h		360	653	664	732	841	829		435	921	648		366	391	343
HCM Platoon Ratio		1.00	1.00	1.00	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		65.6	50.0	50.0	64.1	47.3	47.3		60.7	51.2	42.7		64.3	57.4	57.7
Incr Delay (d2), s/veh		2.1	12.1	12.0	8.4	8.0	8.1		22.8	2.1	17.3		18.7	11.8	15.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		4.5	21.5	21.8	10.2	22.6	22.3		15.7	12.5	26.7		11.5	13.6	12.7
LnGrp Delay(d),s/veh		67.8	62.1	61.9	72.5	55.3	55.4		83.5	53.3	60.0		83.0	69.2	73.3
LnGrp LOS		E	E	E	E	E	E		F	D	E		F	E	E
Approach Vol, veh/h			1201			1523				1556				827	
Approach Delay, s/veh			63.1			60.5				62.2				74.6	
Approach LOS			E			E				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	17.3	53.6	34.4	38.1	21.8	59.1	27.2	45.2
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	12.6	56.6	37.6	33.9	15.6	* 73	31.6	39.9
Max Q Clear Time (g_c+I1), s	11.3	42.0	29.7	28.2	11.3	45.6	22.6	41.9
Green Ext Time (p_c), s	0.7	5.9	0.3	1.6	0.2	7.2	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.9
HCM 2010 LOS	E

Notes

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



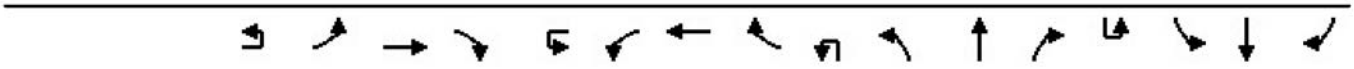
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	76	1300	140	10	184	1174	130	250	101	130	100	120	96
Future Volume (veh/h)	20	76	1300	140	10	184	1174	130	250	101	130	100	120	96
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		86	1477	129		227	1449	125	368	149	154	127	152	97
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		106	1384	120		208	1577	135	303	206	213	149	167	107
Arrive On Green		0.06	0.42	0.42		0.12	0.48	0.48	0.17	0.25	0.25	0.08	0.16	0.16
Sat Flow, veh/h		1774	3287	285		1774	3292	282	1774	840	868	1774	1056	674
Grp Volume(v), veh/h		86	790	816		227	775	799	368	0	303	127	0	249
Grp Sat Flow(s),veh/h/ln		1774	1770	1803		1774	1770	1805	1774	0	1708	1774	0	1730
Q Serve(g_s), s		7.2	63.2	63.2		17.6	60.8	62.1	25.6	0.0	24.4	10.6	0.0	21.2
Cycle Q Clear(g_c), s		7.2	63.2	63.2		17.6	60.8	62.1	25.6	0.0	24.4	10.6	0.0	21.2
Prop In Lane		1.00		0.16		1.00		0.16	1.00		0.51	1.00		0.39
Lane Grp Cap(c), veh/h		106	745	759		208	848	864	303	0	419	149	0	274
V/C Ratio(X)		0.81	1.06	1.07		1.09	0.91	0.92	1.22	0.00	0.72	0.85	0.00	0.91
Avail Cap(c_a), veh/h		116	745	759		208	848	864	303	0	430	175	0	311
HCM Platoon Ratio		1.00	1.00	1.00		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		0.49	0.49	0.49	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		69.7	43.4	43.4		66.2	36.2	36.6	62.2	0.0	52.0	67.8	0.0	62.1
Incr Delay (d2), s/veh		29.0	50.0	54.6		70.4	9.0	9.8	123.3	0.0	4.9	25.4	0.0	25.7
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		4.4	41.2	42.9		12.7	31.8	33.2	22.9	0.0	12.1	6.3	0.0	12.1
LnGrp Delay(d),s/veh		98.7	93.5	98.0		136.6	45.2	46.3	185.5	0.0	56.9	93.2	0.0	87.8
LnGrp LOS		F	F	F		F	D	D	F		E	F		F
Approach Vol, veh/h			1692				1801			671			376	
Approach Delay, s/veh			95.9				57.2			127.4			89.6	
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	12.0	69.4	30.0	28.6	13.3	78.0	17.0	41.7
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	7.6	* 61	25.6	27.0	9.8	67.7	14.8	37.8
Max Q Clear Time (g_c+I1), s	9.6	65.2	27.6	23.2	9.2	64.1	12.6	26.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	2.8	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	84.7
HCM 2010 LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	230	1062	300	10	110	865	346	10	302	793	80	10	278	455	220
Future Volume (veh/h)	10	230	1062	300	10	110	865	346	10	302	793	80	10	278	455	220
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		258	1193	249		126	994	309		321	844	64		320	523	196
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		370	1435	297		167	1244	386		364	1048	79		363	768	335
Arrive On Green		0.21	0.49	0.49		0.03	0.22	0.22		0.14	0.29	0.29		0.18	0.36	0.36
Sat Flow, veh/h		1774	2912	602		3442	3818	1185		3442	4818	364		3442	3539	1541
Grp Volume(v), veh/h		258	721	721		126	882	421		321	593	315		320	523	196
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1614		1721	1695	1791		1721	1770	1541
Q Serve(g_s), s		18.9	48.8	50.0		5.1	34.5	34.6		12.8	22.7	22.8		12.7	17.5	9.2
Cycle Q Clear(g_c), s		18.9	48.8	50.0		5.1	34.5	34.6		12.8	22.7	22.8		12.7	17.5	9.2
Prop In Lane		1.00		0.35		1.00		0.73		1.00		0.20		1.00		1.00
Lane Grp Cap(c), veh/h		370	872	860		167	1104	526		364	737	390		363	768	335
V/C Ratio(X)		0.70	0.83	0.84		0.75	0.80	0.80		0.88	0.80	0.81		0.88	0.68	0.59
Avail Cap(c_a), veh/h		370	872	860		167	1104	526		369	802	424		383	852	371
HCM Platoon Ratio		1.00	1.00	1.00		0.67	0.67	0.67		1.33	1.33	1.33		1.67	1.67	1.67
Upstream Filter(I)		0.09	0.09	0.09		0.91	0.91	0.91		0.85	0.85	0.85		1.00	1.00	1.00
Uniform Delay (d), s/veh		51.3	30.4	30.7		66.9	50.4	50.4		59.3	47.0	47.0		56.8	40.5	16.2
Incr Delay (d2), s/veh		0.4	0.9	1.0		14.5	5.6	11.1		17.8	5.5	10.2		18.9	2.5	3.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		9.3	24.0	24.3		2.8	17.0	17.0		7.0	11.1	12.4		7.0	8.7	5.1
LnGrp Delay(d),s/veh		51.8	31.3	31.7		81.4	55.9	61.5		77.0	52.4	57.2		75.8	43.0	19.3
LnGrp LOS		D	C	C		F	E	E		E	D	E		E	D	B
Approach Vol, veh/h			1700				1429				1229				1039	
Approach Delay, s/veh			34.6				59.8				60.1				48.6	
Approach LOS			C				E				E				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	74.3	19.2	35.3	34.5	51.0	19.2	35.4
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	6.8	65.5	15.0	33.7	26.6	* 46	15.6	33.1
Max Q Clear Time (g_c+I1), s	7.1	52.0	14.8	19.5	20.9	36.6	14.7	24.8
Green Ext Time (p_c), s	0.0	8.2	0.0	5.4	0.2	5.1	0.1	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	49.8
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* 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)	20	1924	140	400	1351	310	110	120	640	290	180	20
Future Volume (veh/h)	20	1924	140	400	1351	310	110	120	640	290	180	20
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1984	107	435	1468	249	126	138	644	322	200	20
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1989	107	350	2973	906	193	121	720	345	250	25
Arrive On Green	0.03	0.81	0.81	0.20	0.58	0.58	0.11	0.07	0.07	0.19	0.15	0.15
Sat Flow, veh/h	1774	4931	265	1774	5085	1549	1774	1863	2631	1774	1661	166
Grp Volume(v), veh/h	21	1362	729	435	1468	249	126	138	644	322	0	220
Grp Sat Flow(s),veh/h/ln	1774	1695	1805	1774	1695	1549	1774	1863	1315	1774	0	1827
Q Serve(g_s), s	1.6	55.2	56.5	27.6	23.6	4.0	9.5	9.1	9.1	25.0	0.0	16.3
Cycle Q Clear(g_c), s	1.6	55.2	56.5	27.6	23.6	4.0	9.5	9.1	9.1	25.0	0.0	16.3
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	28	1368	728	350	2973	906	193	121	720	345	0	275
V/C Ratio(X)	0.74	1.00	1.00	1.24	0.49	0.27	0.65	1.14	0.89	0.93	0.00	0.80
Avail Cap(c_a), veh/h	75	1368	728	350	2973	906	193	121	720	393	0	405
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)	0.21	0.21	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.5	13.4	13.5	56.2	17.0	1.8	59.8	65.4	32.9	55.5	0.0	57.4
Incr Delay (d2), s/veh	3.0	10.2	15.6	131.6	0.6	0.8	7.0	124.3	13.5	26.1	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	26.1	29.4	26.3	11.2	4.1	5.1	8.9	12.3	14.8	0.0	8.6
LnGrp Delay(d),s/veh	70.5	23.6	29.1	187.8	17.6	2.6	66.8	189.7	46.4	81.6	0.0	61.5
LnGrp LOS	E	C	F	F	B	A	E	F	D	F		E
Approach Vol, veh/h		2112			2152			908			542	
Approach Delay, s/veh		25.9			50.2			71.0			73.4	
Approach LOS		C			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.0	61.9	32.1	14.0	6.6	87.2	20.1	26.0
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	27.6	* 53	31.0	9.1	5.9	74.4	9.1	31.0
Max Q Clear Time (g_c+I1), s	29.6	58.5	27.0	11.1	3.6	25.6	11.5	18.3
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	23.8	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	46.8
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Future Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.98	1.00		0.96	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		167	744	209		226	806	117	289	509	115	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	827	232		277	1004	146	322	943	212	
Arrive On Green		0.06	0.31	0.31		0.08	0.32	0.32	0.06	0.22	0.22	
Sat Flow, veh/h		3442	2701	759		3442	3091	449	3442	2848	639	
Grp Volume(v), veh/h		167	487	466		226	461	462	289	315	309	
Grp Sat Flow(s),veh/h/ln		1721	1770	1690		1721	1770	1770	1721	1770	1718	
Q Serve(g_s), s		6.0	33.2	33.2		8.1	30.0	30.0	10.5	19.8	20.0	
Cycle Q Clear(g_c), s		6.0	33.2	33.2		8.1	30.0	30.0	10.5	19.8	20.0	
Prop In Lane		1.00		0.45		1.00		0.25	1.00		0.37	
Lane Grp Cap(c), veh/h		213	542	517		277	575	575	322	586	569	
V/C Ratio(X)		0.78	0.90	0.90		0.82	0.80	0.80	0.90	0.54	0.54	
Avail Cap(c_a), veh/h		213	542	517		279	575	575	322	586	569	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	0.67	0.67	0.67	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.95	0.95	0.95	
Uniform Delay (d), s/veh		58.3	41.9	41.9		57.0	38.9	38.9	58.4	40.5	40.6	
Incr Delay (d2), s/veh		15.9	20.5	21.2		15.8	11.3	11.3	24.4	0.5	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	
%ile BackOfQ(50%),veh/ln		3.3	19.3	18.6		4.5	16.4	16.4	6.1	9.8	9.6	
LnGrp Delay(d),s/veh		74.1	62.4	63.1		72.8	50.2	50.2	82.8	41.0	41.2	
LnGrp LOS		E	E	E		E	D	D	F	D	D	
Approach Vol, veh/h			1120				1149			913		
Approach Delay, s/veh			64.4				54.6			54.3		
Approach LOS			E				D			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.5	43.6	16.2	51.7	12.2	45.9	21.3	46.6
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	10.2	38.0	11.8	47.3	7.8	40.4	23.8	35.3
Max Q Clear Time (g_c+I1), s	10.1	35.2	12.5	46.1	8.0	32.0	16.7	22.0
Green Ext Time (p_c), s	0.0	1.6	0.0	0.7	0.0	3.8	0.2	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	60.0
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	200	1086	150
Future Volume (veh/h)	200	1086	150
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	211	1143	126
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	238	1190	131
Arrive On Green	0.13	0.37	0.37
Sat Flow, veh/h	1774	3204	352
Grp Volume(v), veh/h	211	630	639
Grp Sat Flow(s),veh/h/ln	1774	1770	1787
Q Serve(g_s), s	14.7	43.8	44.1
Cycle Q Clear(g_c), s	14.7	43.8	44.1
Prop In Lane	1.00		0.20
Lane Grp Cap(c), veh/h	238	657	663
V/C Ratio(X)	0.89	0.96	0.96
Avail Cap(c_a), veh/h	335	664	671
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	38.7	38.8
Incr Delay (d2), s/veh	14.8	24.8	25.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	25.9	26.3
LnGrp Delay(d),s/veh	68.4	63.5	64.2
LnGrp LOS	E	E	E
Approach Vol, veh/h		1480	
Approach Delay, s/veh		64.5	
Approach LOS		E	
Timer			

User approved ignoring U-Turning movement.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Future Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		375	1059	64	566	987	148		191	436	412	373	802	262
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		407	1032	62	546	1027	154		208	736	564	389	807	264
Arrive On Green		0.12	0.31	0.31	0.16	0.33	0.33		0.12	0.21	0.21	0.22	0.31	0.31
Sat Flow, veh/h		3442	3383	204	3442	3071	460		1774	3539	1505	1774	2609	852
Grp Volume(v), veh/h		375	554	569	566	568	567		191	436	412	373	544	520
Grp Sat Flow(s),veh/h/ln		1721	1770	1817	1721	1770	1761		1774	1770	1505	1774	1770	1691
Q Serve(g_s), s		19.5	55.2	55.2	28.7	57.0	57.1		19.3	20.1	37.6	37.6	55.5	55.5
Cycle Q Clear(g_c), s		19.5	55.2	55.2	28.7	57.0	57.1		19.3	20.1	37.6	37.6	55.5	55.5
Prop In Lane		1.00		0.11	1.00		0.26		1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h		407	540	554	546	592	589		208	736	564	389	548	523
V/C Ratio(X)		0.92	1.03	1.03	1.04	0.96	0.96		0.92	0.59	0.73	0.96	0.99	0.99
Avail Cap(c_a), veh/h		407	540	554	546	599	596		209	736	564	390	548	523
HCM Platoon Ratio		1.00	1.00	1.00	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		79.0	62.9	62.9	76.1	59.1	59.1		79.0	64.8	50.0	69.9	62.3	62.3
Incr Delay (d2), s/veh		25.7	45.5	45.2	48.4	27.0	27.4		39.1	1.1	4.5	34.8	36.7	37.8
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		10.7	33.8	34.7	17.3	32.4	32.3		11.7	10.0	18.6	22.2	32.8	31.5
LnGrp Delay(d),s/veh		104.7	108.4	108.1	124.6	86.1	86.6		118.0	65.8	54.5	104.7	99.0	100.1
LnGrp LOS		F	F	F	F	F	F		F	E	D	F	F	F
Approach Vol, veh/h			1498			1701				1039			1437	
Approach Delay, s/veh			107.3			99.1				70.9			100.9	
Approach LOS			F			F				E			F	

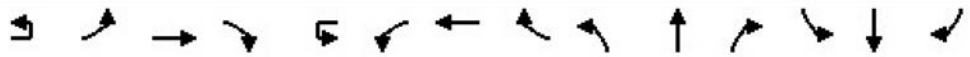
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.1	60.9	25.7	61.3	27.1	66.9	44.0	42.9
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	28.7	54.7	21.3	56.0	21.4	* 61	39.8	37.5
Max Q Clear Time (g_c+I1), s	30.7	57.2	21.3	57.5	21.5	59.1	39.6	39.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	96.5
HCM 2010 LOS	F

Notes

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	82	1500	180	50	150	1450	120	100	62	60	90	161	160
Future Volume (veh/h)	10	82	1500	180	50	150	1450	120	100	62	60	90	161	160
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		86	1579	145		160	1543	97	112	70	55	99	177	136
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		106	1618	147		183	1815	114	122	188	148	117	189	145
Arrive On Green		0.06	0.49	0.49		0.10	0.54	0.54	0.07	0.20	0.20	0.07	0.19	0.19
Sat Flow, veh/h		1774	3280	298		1774	3383	212	1774	961	755	1774	978	751
Grp Volume(v), veh/h		86	845	879		160	803	837	112	0	125	99	0	313
Grp Sat Flow(s),veh/h/ln		1774	1770	1809		1774	1770	1825	1774	0	1716	1774	0	1729
Q Serve(g_s), s		6.7	64.9	67.0		12.4	54.0	54.9	8.8	0.0	8.8	7.7	0.0	25.0
Cycle Q Clear(g_c), s		6.7	64.9	67.0		12.4	54.0	54.9	8.8	0.0	8.8	7.7	0.0	25.0
Prop In Lane		1.00		0.16		1.00		0.12	1.00		0.44	1.00		0.43
Lane Grp Cap(c), veh/h		106	873	892		183	949	979	122	0	336	117	0	333
V/C Ratio(X)		0.81	0.97	0.99		0.87	0.85	0.85	0.92	0.00	0.37	0.85	0.00	0.94
Avail Cap(c_a), veh/h		117	873	892		214	949	979	122	0	337	117	0	335
HCM Platoon Ratio		1.00	1.00	1.00		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		0.16	0.16	0.16	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		65.0	34.4	35.0		61.9	27.6	27.8	64.8	0.0	48.8	64.7	0.0	55.7
Incr Delay (d2), s/veh		27.8	23.7	26.8		5.4	1.7	1.7	56.7	0.0	0.3	39.7	0.0	33.1
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		4.1	37.2	40.1		6.4	26.8	28.1	6.2	0.0	4.2	5.1	0.0	15.0
LnGrp Delay(d),s/veh		92.8	58.1	61.7		67.2	29.2	29.5	121.5	0.0	49.1	104.4	0.0	88.8
LnGrp LOS		F	E	E		E	C	C	F		D	F		F
Approach Vol, veh/h			1810				1800			237			412	
Approach Delay, s/veh			61.5				32.7			83.3			92.5	
Approach LOS			E				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	18.9	75.2	14.0	31.9	12.8	81.3	13.6	32.3
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	16.8	* 67	9.6	27.1	9.2	74.2	9.2	27.5
Max Q Clear Time (g_c+I1), s	14.4	69.0	10.8	27.0	8.7	56.9	9.7	10.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	53.6
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

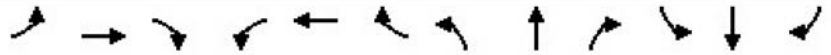
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	350	1040	280	10	330	1120	408	20	280	566	120	30	438	698	250
Future Volume (veh/h)	10	350	1040	280	10	330	1120	408	20	280	566	120	30	438	698	250
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.97		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		380	1130	231		367	1244	366		311	629	101		492	784	221
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		360	1181	240		378	1203	353		352	950	150		457	872	364
Arrive On Green		0.07	0.13	0.13		0.07	0.21	0.21		0.20	0.43	0.43		0.27	0.49	0.49
Sat Flow, veh/h		1774	2911	591		3442	3853	1132		3442	4404	696		3442	3539	1478
Grp Volume(v), veh/h		380	684	677		367	1094	516		311	482	248		492	784	221
Grp Sat Flow(s),veh/h/ln		1774	1770	1732		1721	1695	1595		1721	1695	1710		1721	1770	1478
Q Serve(g_s), s		28.4	53.7	54.4		14.9	43.7	43.7		12.3	15.8	16.3		18.6	28.3	9.7
Cycle Q Clear(g_c), s		28.4	53.7	54.4		14.9	43.7	43.7		12.3	15.8	16.3		18.6	28.3	9.7
Prop In Lane		1.00		0.34		1.00		0.71		1.00		0.41		1.00		1.00
Lane Grp Cap(c), veh/h		360	718	703		378	1058	498		352	731	369		457	872	364
V/C Ratio(X)		1.06	0.95	0.96		0.97	1.03	1.04		0.88	0.66	0.67		1.08	0.90	0.61
Avail Cap(c_a), veh/h		360	718	703		378	1058	498		364	799	403		457	930	388
HCM Platoon Ratio		0.33	0.33	0.33		0.67	0.67	0.67		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.09	0.09	0.09		0.81	0.81	0.81		0.91	0.91	0.91		1.00	1.00	1.00
Uniform Delay (d), s/veh		65.3	59.3	59.6		64.6	55.4	55.4		54.9	35.7	35.8		51.4	33.9	12.6
Incr Delay (d2), s/veh		31.9	3.8	4.7		33.7	34.2	45.9		19.0	2.2	4.7		64.0	11.8	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		17.2	27.1	27.1		8.9	25.5	25.6		6.7	7.6	8.1		12.8	15.1	4.6
LnGrp Delay(d),s/veh		97.2	63.1	64.3		98.3	89.5	101.3		73.9	37.9	40.5		115.4	45.7	16.1
LnGrp LOS		F	E	E		F	F	F		E	D	D		F	D	B
Approach Vol, veh/h			1741				1977				1041				1497	
Approach Delay, s/veh			71.0				94.2				49.3				64.2	
Approach LOS			E				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	9.8	62.1	18.7	39.4	32.8	49.1	23.0	35.1
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	12.6	56.8	14.8	36.8	25.6	43.7	18.6	33.0
Max Q Clear Time (g_c+I1), s	10.9	56.4	14.3	30.3	30.4	45.7	20.6	18.3
Green Ext Time (p_c), s	0.0	0.3	0.0	4.2	0.0	0.0	0.0	6.2

Intersection Summary	
HCM 2010 Ctrl Delay	73.1
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Future Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	1554	141	454	2100	239	148	80	293	244	200	50
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	1685	153	408	2872	893	173	133	830	340	237	59
Arrive On Green	0.04	0.37	0.37	0.23	0.56	0.56	0.10	0.07	0.07	0.19	0.17	0.17
Sat Flow, veh/h	1774	4527	410	1774	5085	1581	1774	1863	2642	1774	1428	357
Grp Volume(v), veh/h	52	1087	608	454	2100	239	148	80	293	244	0	250
Grp Sat Flow(s),veh/h/ln	1774	1583	1771	1774	1695	1581	1774	1863	1321	1774	0	1785
Q Serve(g_s), s	4.2	47.9	48.0	33.6	44.7	4.5	12.0	6.1	7.5	18.8	0.0	19.8
Cycle Q Clear(g_c), s	4.2	47.9	48.0	33.6	44.7	4.5	12.0	6.1	7.5	18.8	0.0	19.8
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	67	1179	659	408	2872	893	173	133	830	340	0	296
V/C Ratio(X)	0.78	0.92	0.92	1.11	0.73	0.27	0.86	0.60	0.35	0.72	0.00	0.84
Avail Cap(c_a), veh/h	104	1179	659	408	2872	893	375	410	1222	377	0	394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.7	43.8	43.8	56.2	23.5	2.6	64.9	65.8	17.9	55.3	0.0	59.0
Incr Delay (d2), s/veh	4.6	9.1	14.6	78.5	1.7	0.7	8.8	1.6	0.1	4.5	0.0	9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	22.5	26.2	25.3	21.3	4.3	6.3	3.2	2.8	9.6	0.0	10.6
LnGrp Delay(d),s/veh	74.3	52.9	58.4	134.7	25.2	3.3	73.7	67.4	18.0	59.8	0.0	68.6
LnGrp LOS	E	D	E	F	C	A	E	E	B	E		E
Approach Vol, veh/h		1747			2793			521			494	
Approach Delay, s/veh		55.4			41.1			41.4			64.2	
Approach LOS		E			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	38.0	59.8	32.9	15.3	9.9	87.9	19.1	29.1
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	33.6	* 30	31.0	32.1	8.6	54.6	30.9	32.2
Max Q Clear Time (g_c+I1), s	35.6	50.0	20.8	9.5	6.2	46.7	14.0	21.8
Green Ext Time (p_c), s	0.0	0.0	0.3	1.0	0.0	7.4	0.2	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	47.7
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Future Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.98	1.00		0.96	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		167	744	209		226	806	117	289	509	115	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	827	232		277	1004	146	322	943	212	
Arrive On Green		0.06	0.31	0.31		0.08	0.32	0.32	0.06	0.22	0.22	
Sat Flow, veh/h		3442	2701	759		3442	3091	449	3442	2848	639	
Grp Volume(v), veh/h		167	487	466		226	461	462	289	315	309	
Grp Sat Flow(s),veh/h/ln		1721	1770	1690		1721	1770	1770	1721	1770	1718	
Q Serve(g_s), s		6.0	33.2	33.2		8.1	30.0	30.0	10.5	19.8	20.0	
Cycle Q Clear(g_c), s		6.0	33.2	33.2		8.1	30.0	30.0	10.5	19.8	20.0	
Prop In Lane		1.00		0.45		1.00		0.25	1.00		0.37	
Lane Grp Cap(c), veh/h		213	542	517		277	575	575	322	586	569	
V/C Ratio(X)		0.78	0.90	0.90		0.82	0.80	0.80	0.90	0.54	0.54	
Avail Cap(c_a), veh/h		213	542	517		279	575	575	322	586	569	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	0.67	0.67	0.67	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.95	0.95	0.95	
Uniform Delay (d), s/veh		58.3	41.9	41.9		57.0	38.9	38.9	58.4	40.5	40.6	
Incr Delay (d2), s/veh		15.9	20.5	21.2		15.8	11.3	11.3	24.4	0.5	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	
%ile BackOfQ(50%),veh/ln		3.3	19.3	18.6		4.5	16.4	16.4	6.1	9.8	9.6	
LnGrp Delay(d),s/veh		74.1	62.4	63.1		72.8	50.2	50.2	82.8	41.0	41.2	
LnGrp LOS		E	E	E		E	D	D	F	D	D	
Approach Vol, veh/h			1120				1149			913		
Approach Delay, s/veh			64.4				54.6			54.3		
Approach LOS			E				D			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.5	43.6	16.2	51.7	12.2	45.9	21.3	46.6
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	10.2	38.0	11.8	47.3	7.8	40.4	23.8	35.3
Max Q Clear Time (g_c+I1), s	10.1	35.2	12.5	46.1	8.0	32.0	16.7	22.0
Green Ext Time (p_c), s	0.0	1.6	0.0	0.7	0.0	3.8	0.2	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	60.0
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	200	1086	150
Future Volume (veh/h)	200	1086	150
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	211	1143	126
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	238	1190	131
Arrive On Green	0.13	0.37	0.37
Sat Flow, veh/h	1774	3204	352
Grp Volume(v), veh/h	211	630	639
Grp Sat Flow(s),veh/h/ln	1774	1770	1787
Q Serve(g_s), s	14.7	43.8	44.1
Cycle Q Clear(g_c), s	14.7	43.8	44.1
Prop In Lane	1.00		0.20
Lane Grp Cap(c), veh/h	238	657	663
V/C Ratio(X)	0.89	0.96	0.96
Avail Cap(c_a), veh/h	335	664	671
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	38.7	38.8
Incr Delay (d2), s/veh	14.8	24.8	25.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	25.9	26.3
LnGrp Delay(d),s/veh	68.4	63.5	64.2
LnGrp LOS	E	E	E
Approach Vol, veh/h		1480	
Approach Delay, s/veh		64.5	
Approach LOS		E	
Timer			

User approved ignoring U-Turning movement.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Future Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		375	1059	64	566	987	148		191	436	412	373	802	262
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		407	1032	62	546	1027	154		208	736	564	389	807	264
Arrive On Green		0.12	0.31	0.31	0.16	0.33	0.33		0.12	0.21	0.21	0.22	0.31	0.31
Sat Flow, veh/h		3442	3383	204	3442	3071	460		1774	3539	1505	1774	2609	852
Grp Volume(v), veh/h		375	554	569	566	568	567		191	436	412	373	544	520
Grp Sat Flow(s),veh/h/ln		1721	1770	1817	1721	1770	1761		1774	1770	1505	1774	1770	1691
Q Serve(g_s), s		19.5	55.2	55.2	28.7	57.0	57.1		19.3	20.1	37.6	37.6	55.5	55.5
Cycle Q Clear(g_c), s		19.5	55.2	55.2	28.7	57.0	57.1		19.3	20.1	37.6	37.6	55.5	55.5
Prop In Lane		1.00		0.11	1.00		0.26		1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h		407	540	554	546	592	589		208	736	564	389	548	523
V/C Ratio(X)		0.92	1.03	1.03	1.04	0.96	0.96		0.92	0.59	0.73	0.96	0.99	0.99
Avail Cap(c_a), veh/h		407	540	554	546	599	596		209	736	564	390	548	523
HCM Platoon Ratio		1.00	1.00	1.00	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		79.0	62.9	62.9	76.1	59.1	59.1		79.0	64.8	50.0	69.9	62.3	62.3
Incr Delay (d2), s/veh		25.7	45.5	45.2	48.4	27.0	27.4		39.1	1.1	4.5	34.8	36.7	37.8
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		10.7	33.8	34.7	17.3	32.4	32.3		11.7	10.0	18.6	22.2	32.8	31.5
LnGrp Delay(d),s/veh		104.7	108.4	108.1	124.6	86.1	86.6		118.0	65.8	54.5	104.7	99.0	100.1
LnGrp LOS		F	F	F	F	F	F		F	E	D	F	F	F
Approach Vol, veh/h			1498			1701				1039			1437	
Approach Delay, s/veh			107.3			99.1				70.9			100.9	
Approach LOS			F			F				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	33.1	60.9	25.7	61.3	27.1	66.9	44.0	42.9
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	28.7	54.7	21.3	56.0	21.4	* 61	39.8	37.5
Max Q Clear Time (g_c+I1), s	30.7	57.2	21.3	57.5	21.5	59.1	39.6	39.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	96.5
HCM 2010 LOS	F

Notes

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	82	1500	180	50	150	1455	120	100	62	60	90	161	155
Future Volume (veh/h)	10	82	1500	180	50	150	1455	120	100	62	60	90	161	155
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		86	1579	145		160	1548	97	112	70	55	99	177	130
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		106	1662	151		182	1860	116	125	185	145	116	187	137
Arrive On Green		0.06	0.51	0.51		0.10	0.55	0.55	0.07	0.19	0.19	0.07	0.19	0.19
Sat Flow, veh/h		1774	3281	298		1774	3384	211	1774	961	755	1774	999	733
Grp Volume(v), veh/h		86	845	879		160	806	839	112	0	125	99	0	307
Grp Sat Flow(s),veh/h/ln		1774	1770	1809		1774	1770	1826	1774	0	1716	1774	0	1732
Q Serve(g_s), s		7.2	67.6	69.9		13.3	56.5	57.5	9.4	0.0	9.5	8.3	0.0	26.3
Cycle Q Clear(g_c), s		7.2	67.6	69.9		13.3	56.5	57.5	9.4	0.0	9.5	8.3	0.0	26.3
Prop In Lane		1.00		0.16		1.00		0.12	1.00		0.44	1.00		0.42
Lane Grp Cap(c), veh/h		106	897	917		182	973	1003	125	0	331	116	0	324
V/C Ratio(X)		0.81	0.94	0.96		0.88	0.83	0.84	0.89	0.00	0.38	0.85	0.00	0.95
Avail Cap(c_a), veh/h		142	897	917		222	973	1003	125	0	331	116	0	324
HCM Platoon Ratio		1.00	1.00	1.00		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		0.16	0.16	0.16	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		69.7	34.9	35.5		66.4	27.9	28.2	69.1	0.0	52.7	69.4	0.0	60.2
Incr Delay (d2), s/veh		16.9	18.9	21.2		5.2	1.4	1.5	48.2	0.0	0.3	41.0	0.0	35.6
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		4.0	37.6	40.1		6.8	27.9	29.3	6.3	0.0	4.5	5.4	0.0	15.7
LnGrp Delay(d),s/veh		86.6	53.9	56.7		71.6	29.3	29.6	117.4	0.0	53.0	110.4	0.0	95.8
LnGrp LOS		F	D	E		E	C	C	F		D	F		F
Approach Vol, veh/h			1810				1805			237			406	
Approach Delay, s/veh			56.8				33.2			83.4			99.4	
Approach LOS			E				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	19.8	82.2	15.0	33.0	13.3	88.7	14.2	33.8
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	18.8	* 74	10.6	28.1	12.0	79.4	9.8	28.9
Max Q Clear Time (g_c+I1), s	15.3	71.9	11.4	28.3	9.2	59.5	10.3	11.5
Green Ext Time (p_c), s	0.1	1.5	0.0	0.0	0.0	11.6	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	52.3
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

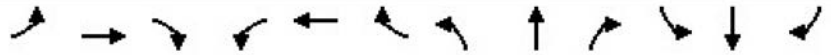
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	350	1040	280	10	330	1120	408	20	280	566	120	30	441	698	255
Future Volume (veh/h)	10	350	1040	280	10	330	1120	408	20	280	566	120	30	441	698	255
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.97		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		380	1130	231		367	1244	366		311	629	101		496	784	227
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		360	1181	240		378	1203	353		352	951	150		457	872	364
Arrive On Green		0.20	0.41	0.41		0.07	0.21	0.21		0.20	0.43	0.43		0.27	0.49	0.49
Sat Flow, veh/h		1774	2911	591		3442	3853	1132		3442	4404	696		3442	3539	1478
Grp Volume(v), veh/h		380	684	677		367	1094	516		311	482	248		496	784	227
Grp Sat Flow(s),veh/h/ln		1774	1770	1732		1721	1695	1595		1721	1695	1710		1721	1770	1478
Q Serve(g_s), s		28.4	52.4	53.4		14.9	43.7	43.7		12.3	15.8	16.3		18.6	28.2	10.1
Cycle Q Clear(g_c), s		28.4	52.4	53.4		14.9	43.7	43.7		12.3	15.8	16.3		18.6	28.2	10.1
Prop In Lane		1.00		0.34		1.00		0.71		1.00		0.41		1.00		1.00
Lane Grp Cap(c), veh/h		360	718	703		378	1058	498		352	732	369		457	872	364
V/C Ratio(X)		1.06	0.95	0.96		0.97	1.03	1.04		0.88	0.66	0.67		1.08	0.90	0.62
Avail Cap(c_a), veh/h		360	718	703		378	1058	498		364	799	403		457	930	389
HCM Platoon Ratio		1.00	1.00	1.00		0.67	0.67	0.67		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.09	0.09	0.09		0.81	0.81	0.81		0.91	0.91	0.91		1.00	1.00	1.00
Uniform Delay (d), s/veh		55.8	40.3	40.6		64.6	55.4	55.4		54.9	35.7	35.8		51.4	33.9	12.7
Incr Delay (d2), s/veh		32.1	3.8	4.7		33.9	34.2	45.9		19.0	2.2	4.7		66.9	11.7	3.8
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		17.1	26.2	26.3		8.9	25.5	25.6		6.7	7.6	8.1		13.0	15.1	4.8
LnGrp Delay(d),s/veh		87.9	44.1	45.3		98.5	89.5	101.3		73.9	37.9	40.5		118.3	45.6	16.5
LnGrp LOS		F	D	D		F	F	F		E	D	D		F	D	B
Approach Vol, veh/h			1741				1977				1041				1507	
Approach Delay, s/veh			54.1				94.3				49.3				65.2	
Approach LOS			D				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	9.8	62.1	18.7	39.4	32.8	49.1	23.0	35.1
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	12.6	56.8	14.8	36.8	25.6	43.7	18.6	33.0
Max Q Clear Time (g_c+I1), s	10.9	55.4	14.3	30.2	30.4	45.7	20.6	18.3
Green Ext Time (p_c), s	0.0	1.1	0.0	4.2	0.0	0.0	0.0	6.2

Intersection Summary	
HCM 2010 Ctrl Delay	68.6
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Future Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	1554	141	454	2100	239	148	80	293	244	200	50
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	1685	153	408	2872	893	173	133	830	340	237	59
Arrive On Green	0.04	0.37	0.37	0.23	0.56	0.56	0.10	0.07	0.07	0.19	0.17	0.17
Sat Flow, veh/h	1774	4527	410	1774	5085	1581	1774	1863	2642	1774	1428	357
Grp Volume(v), veh/h	52	1087	608	454	2100	239	148	80	293	244	0	250
Grp Sat Flow(s),veh/h/ln	1774	1583	1771	1774	1695	1581	1774	1863	1321	1774	0	1785
Q Serve(g_s), s	4.2	47.9	48.0	33.6	44.7	4.5	12.0	6.1	7.5	18.8	0.0	19.8
Cycle Q Clear(g_c), s	4.2	47.9	48.0	33.6	44.7	4.5	12.0	6.1	7.5	18.8	0.0	19.8
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	67	1179	659	408	2872	893	173	133	830	340	0	296
V/C Ratio(X)	0.78	0.92	0.92	1.11	0.73	0.27	0.86	0.60	0.35	0.72	0.00	0.84
Avail Cap(c_a), veh/h	104	1179	659	408	2872	893	375	410	1222	377	0	394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.7	43.8	43.8	56.2	23.5	2.6	64.9	65.8	17.9	55.3	0.0	59.0
Incr Delay (d2), s/veh	4.6	9.1	14.6	78.5	1.7	0.7	8.8	1.6	0.1	4.5	0.0	9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	22.5	26.2	25.3	21.3	4.3	6.3	3.2	2.8	9.6	0.0	10.6
LnGrp Delay(d),s/veh	74.3	52.9	58.4	134.7	25.2	3.3	73.7	67.4	18.0	59.8	0.0	68.6
LnGrp LOS	E	D	E	F	C	A	E	E	B	E		E
Approach Vol, veh/h		1747			2793			521			494	
Approach Delay, s/veh		55.4			41.1			41.4			64.2	
Approach LOS		E			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	38.0	59.8	32.9	15.3	9.9	87.9	19.1	29.1
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	33.6	* 30	31.0	32.1	8.6	54.6	30.9	32.2
Max Q Clear Time (g_c+I1), s	35.6	50.0	20.8	9.5	6.2	46.7	14.0	21.8
Green Ext Time (p_c), s	0.0	0.0	0.3	1.0	0.0	7.4	0.2	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	47.7
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Future Volume (veh/h)	10	150	670	263	20	210	750	140	272	478	140	10
Number		5	2	12		1	6	16	3	8	18	
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.98	1.00		0.96	
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		1863	1863	1900		1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h		167	744	209		226	806	117	289	509	115	
Adj No. of Lanes		2	2	0		2	2	0	2	2	0	
Peak Hour Factor		0.90	0.90	0.90		0.93	0.93	0.93	0.94	0.94	0.94	
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	
Cap, veh/h		213	827	232		277	1004	146	322	943	212	
Arrive On Green		0.06	0.31	0.31		0.08	0.32	0.32	0.06	0.22	0.22	
Sat Flow, veh/h		3442	2701	759		3442	3091	449	3442	2848	639	
Grp Volume(v), veh/h		167	487	466		226	461	462	289	315	309	
Grp Sat Flow(s),veh/h/ln		1721	1770	1690		1721	1770	1770	1721	1770	1718	
Q Serve(g_s), s		6.0	33.2	33.2		8.1	30.0	30.0	10.5	19.8	20.0	
Cycle Q Clear(g_c), s		6.0	33.2	33.2		8.1	30.0	30.0	10.5	19.8	20.0	
Prop In Lane		1.00		0.45		1.00		0.25	1.00		0.37	
Lane Grp Cap(c), veh/h		213	542	517		277	575	575	322	586	569	
V/C Ratio(X)		0.78	0.90	0.90		0.82	0.80	0.80	0.90	0.54	0.54	
Avail Cap(c_a), veh/h		213	542	517		279	575	575	322	586	569	
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	0.67	0.67	0.67	
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00	0.95	0.95	0.95	
Uniform Delay (d), s/veh		58.3	41.9	41.9		57.0	38.9	38.9	58.4	40.5	40.6	
Incr Delay (d2), s/veh		15.9	20.5	21.2		15.8	11.3	11.3	24.4	0.5	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	
%ile BackOfQ(50%),veh/ln		3.3	19.3	18.6		4.5	16.4	16.4	6.1	9.8	9.6	
LnGrp Delay(d),s/veh		74.1	62.4	63.1		72.8	50.2	50.2	82.8	41.0	41.2	
LnGrp LOS		E	E	E		E	D	D	F	D	D	
Approach Vol, veh/h			1120				1149			913		
Approach Delay, s/veh			64.4				54.6			54.3		
Approach LOS			E				D			D		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.5	43.6	16.2	51.7	12.2	45.9	21.3	46.6
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9
Max Green Setting (Gmax), s	10.2	38.0	11.8	47.3	7.8	40.4	23.8	35.3
Max Q Clear Time (g_c+I1), s	10.1	35.2	12.5	46.1	8.0	32.0	16.7	22.0
Green Ext Time (p_c), s	0.0	1.6	0.0	0.7	0.0	3.8	0.2	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	60.0
HCM 2010 LOS	E

Notes

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	200	1086	150
Future Volume (veh/h)	200	1086	150
Number	7	4	14
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900
Adj Flow Rate, veh/h	211	1143	126
Adj No. of Lanes	1	2	0
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	238	1190	131
Arrive On Green	0.13	0.37	0.37
Sat Flow, veh/h	1774	3204	352
Grp Volume(v), veh/h	211	630	639
Grp Sat Flow(s),veh/h/ln	1774	1770	1787
Q Serve(g_s), s	14.7	43.8	44.1
Cycle Q Clear(g_c), s	14.7	43.8	44.1
Prop In Lane	1.00		0.20
Lane Grp Cap(c), veh/h	238	657	663
V/C Ratio(X)	0.89	0.96	0.96
Avail Cap(c_a), veh/h	335	664	671
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	38.7	38.8
Incr Delay (d2), s/veh	14.8	24.8	25.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	25.9	26.3
LnGrp Delay(d),s/veh	68.4	63.5	64.2
LnGrp LOS	E	E	E
Approach Vol, veh/h		1480	
Approach Delay, s/veh		64.5	
Approach LOS		E	
Timer			

User approved ignoring U-Turning movement.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Future Volume (veh/h)	20	360	1017	80	532	928	171	20	180	410	493	321	690	310
Number		5	2	12	1	6	16		3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0	0	0	0		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96	1.00		0.96		1.00		0.95	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900	1863	1863	1900		1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h		375	1059	64	566	987	148		191	436	412	373	802	262
Adj No. of Lanes		2	2	0	2	2	0		1	2	1	1	2	0
Peak Hour Factor		0.96	0.96	0.96	0.94	0.94	0.94		0.94	0.94	0.94	0.86	0.86	0.86
Percent Heavy Veh, %		2	2	2	2	2	2		2	2	2	2	2	2
Cap, veh/h		407	1032	62	546	1027	154		208	736	564	389	807	264
Arrive On Green		0.12	0.31	0.31	0.16	0.33	0.33		0.12	0.21	0.21	0.22	0.31	0.31
Sat Flow, veh/h		3442	3383	204	3442	3071	460		1774	3539	1505	1774	2609	852
Grp Volume(v), veh/h		375	554	569	566	568	567		191	436	412	373	544	520
Grp Sat Flow(s),veh/h/ln		1721	1770	1817	1721	1770	1761		1774	1770	1505	1774	1770	1691
Q Serve(g_s), s		19.5	55.2	55.2	28.7	57.0	57.1		19.3	20.1	37.6	37.6	55.5	55.5
Cycle Q Clear(g_c), s		19.5	55.2	55.2	28.7	57.0	57.1		19.3	20.1	37.6	37.6	55.5	55.5
Prop In Lane		1.00		0.11	1.00		0.26		1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h		407	540	554	546	592	589		208	736	564	389	548	523
V/C Ratio(X)		0.92	1.03	1.03	1.04	0.96	0.96		0.92	0.59	0.73	0.96	0.99	0.99
Avail Cap(c_a), veh/h		407	540	554	546	599	596		209	736	564	390	548	523
HCM Platoon Ratio		1.00	1.00	1.00	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		79.0	62.9	62.9	76.1	59.1	59.1		79.0	64.8	50.0	69.9	62.3	62.3
Incr Delay (d2), s/veh		25.7	45.5	45.2	48.4	27.0	27.4		39.1	1.1	4.5	34.8	36.7	37.8
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		10.7	33.8	34.7	17.3	32.4	32.3		11.7	10.0	18.6	22.2	32.8	31.5
LnGrp Delay(d),s/veh		104.7	108.4	108.1	124.6	86.1	86.6		118.0	65.8	54.5	104.7	99.0	100.1
LnGrp LOS		F	F	F	F	F	F		F	E	D	F	F	F
Approach Vol, veh/h			1498			1701				1039			1437	
Approach Delay, s/veh			107.3			99.1				70.9			100.9	
Approach LOS			F			F				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	33.1	60.9	25.7	61.3	27.1	66.9	44.0	42.9
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3
Max Green Setting (Gmax), s	28.7	54.7	21.3	56.0	21.4	* 61	39.8	37.5
Max Q Clear Time (g_c+I1), s	30.7	57.2	21.3	57.5	21.5	59.1	39.6	39.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	96.5
HCM 2010 LOS	F

Notes

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



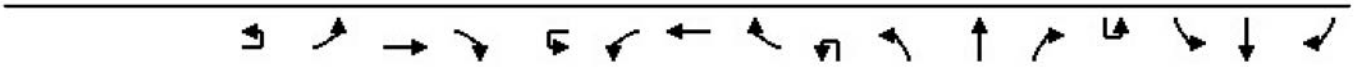
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	10	82	1500	180	50	152	1457	120	100	62	60	90	160	153
Future Volume (veh/h)	10	82	1500	180	50	152	1457	120	100	62	60	90	160	153
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		86	1579	145		162	1550	97	112	70	55	99	176	128
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		106	1667	152		184	1869	116	125	183	143	116	185	135
Arrive On Green		0.06	0.51	0.51		0.10	0.55	0.55	0.07	0.19	0.19	0.07	0.18	0.18
Sat Flow, veh/h		1774	3281	298		1774	3384	211	1774	961	755	1774	1003	730
Grp Volume(v), veh/h		86	845	879		162	807	840	112	0	125	99	0	304
Grp Sat Flow(s),veh/h/ln		1774	1770	1809		1774	1770	1826	1774	0	1716	1774	0	1733
Q Serve(g_s), s		7.2	67.4	69.7		13.5	56.3	57.3	9.4	0.0	9.5	8.3	0.0	26.0
Cycle Q Clear(g_c), s		7.2	67.4	69.7		13.5	56.3	57.3	9.4	0.0	9.5	8.3	0.0	26.0
Prop In Lane		1.00		0.16		1.00		0.12	1.00		0.44	1.00		0.42
Lane Grp Cap(c), veh/h		106	899	920		184	977	1008	125	0	326	116	0	320
V/C Ratio(X)		0.81	0.94	0.96		0.88	0.83	0.83	0.89	0.00	0.38	0.85	0.00	0.95
Avail Cap(c_a), veh/h		142	899	920		225	977	1008	125	0	326	116	0	320
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		0.16	0.16	0.16	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		69.7	34.7	35.3		66.3	27.6	27.8	69.1	0.0	53.1	69.4	0.0	60.5
Incr Delay (d2), s/veh		16.9	18.5	20.7		5.0	1.3	1.4	48.2	0.0	0.3	41.0	0.0	36.8
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		4.0	37.5	40.0		6.9	27.7	29.1	6.3	0.0	4.5	5.4	0.0	15.8
LnGrp Delay(d),s/veh		86.6	53.2	56.0		71.3	29.0	29.2	117.4	0.0	53.3	110.4	0.0	97.3
LnGrp LOS		F	D	E		E	C	C	F		D	F		F
Approach Vol, veh/h			1810				1809			237			403	
Approach Delay, s/veh			56.1				32.9			83.6			100.5	
Approach LOS			E				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	82.4	15.0	32.6	13.3	89.1	14.2	33.4
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	15.6	* 74	10.6	27.7	12.0	79.8	9.8	28.5
Max Q Clear Time (g_c+I1), s	11.5	71.7	11.4	28.0	9.2	59.3	10.3	11.5
Green Ext Time (p_c), s	0.1	1.9	0.0	0.0	0.0	11.8	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	52.0
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



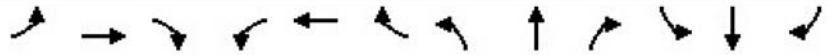
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	10	350	1041	280	10	330	1137	391	20	286	560	120	30	440	698	250
Future Volume (veh/h)	10	350	1041	280	10	330	1137	391	20	286	560	120	30	440	698	250
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.97		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		380	1132	231		367	1263	347		318	622	101		494	784	221
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		357	1181	239		372	1224	336		358	957	153		457	872	364
Arrive On Green		0.20	0.41	0.41		0.07	0.21	0.21		0.21	0.44	0.44		0.27	0.49	0.49
Sat Flow, veh/h		1774	2912	590		3442	3922	1076		3442	4397	702		3442	3539	1478
Grp Volume(v), veh/h		380	685	678		367	1091	519		318	477	246		494	784	221
Grp Sat Flow(s),veh/h/ln		1774	1770	1732		1721	1695	1608		1721	1695	1709		1721	1770	1478
Q Serve(g_s), s		28.1	52.5	53.5		14.9	43.7	43.7		12.6	15.5	16.0		18.6	28.3	9.8
Cycle Q Clear(g_c), s		28.1	52.5	53.5		14.9	43.7	43.7		12.6	15.5	16.0		18.6	28.3	9.8
Prop In Lane		1.00		0.34		1.00		0.67		1.00		0.41		1.00		1.00
Lane Grp Cap(c), veh/h		357	718	703		372	1058	502		358	738	372		457	872	364
V/C Ratio(X)		1.07	0.95	0.96		0.99	1.03	1.03		0.89	0.65	0.66		1.08	0.90	0.61
Avail Cap(c_a), veh/h		357	718	703		372	1058	502		364	799	403		457	930	388
HCM Platoon Ratio		1.00	1.00	1.00		0.67	0.67	0.67		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.09	0.09	0.09		0.81	0.81	0.81		0.91	0.91	0.91		1.00	1.00	1.00
Uniform Delay (d), s/veh		55.9	40.3	40.6		64.8	55.4	55.4		54.6	35.3	35.4		51.4	33.9	12.7
Incr Delay (d2), s/veh		35.7	3.9	4.8		38.3	33.4	45.0		19.9	2.0	4.4		65.4	11.8	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		17.3	26.5	26.6		9.1	25.4	25.7		6.9	7.4	8.0		12.9	15.1	4.6
LnGrp Delay(d),s/veh		91.7	44.3	45.5		103.1	88.7	100.3		74.5	37.3	39.8		116.8	45.7	16.2
LnGrp LOS		F	D	D		F	F	F		E	D	D		F	D	B
Approach Vol, veh/h			1743				1977				1041				1499	
Approach Delay, s/veh			55.1				94.4				49.3				64.8	
Approach LOS			E				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	9.5	62.1	19.0	39.4	32.5	49.1	23.0	35.4
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	12.6	56.8	14.8	36.8	25.6	43.7	18.6	33.0
Max Q Clear Time (g_c+I1), s	10.9	55.5	14.6	30.3	30.1	45.7	20.6	18.0
Green Ext Time (p_c), s	0.0	1.0	0.0	4.2	0.0	0.0	0.0	6.2

Intersection Summary	
HCM 2010 Ctrl Delay	68.9
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Future Volume (veh/h)	50	1507	180	440	2037	320	130	70	300	220	180	50
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	1554	141	454	2100	239	148	80	293	244	200	50
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	1685	153	408	2872	893	173	133	830	340	237	59
Arrive On Green	0.04	0.37	0.37	0.23	0.56	0.56	0.10	0.07	0.07	0.19	0.17	0.17
Sat Flow, veh/h	1774	4527	410	1774	5085	1581	1774	1863	2642	1774	1428	357
Grp Volume(v), veh/h	52	1087	608	454	2100	239	148	80	293	244	0	250
Grp Sat Flow(s),veh/h/ln	1774	1583	1771	1774	1695	1581	1774	1863	1321	1774	0	1785
Q Serve(g_s), s	4.2	47.9	48.0	33.6	44.7	4.5	12.0	6.1	7.5	18.8	0.0	19.8
Cycle Q Clear(g_c), s	4.2	47.9	48.0	33.6	44.7	4.5	12.0	6.1	7.5	18.8	0.0	19.8
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	67	1179	659	408	2872	893	173	133	830	340	0	296
V/C Ratio(X)	0.78	0.92	0.92	1.11	0.73	0.27	0.86	0.60	0.35	0.72	0.00	0.84
Avail Cap(c_a), veh/h	104	1179	659	408	2872	893	375	410	1222	377	0	394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.7	43.8	43.8	56.2	23.5	2.6	64.9	65.8	17.9	55.3	0.0	59.0
Incr Delay (d2), s/veh	4.6	9.1	14.6	78.5	1.7	0.7	8.8	1.6	0.1	4.5	0.0	9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	22.5	26.2	25.3	21.3	4.3	6.3	3.2	2.8	9.6	0.0	10.6
LnGrp Delay(d),s/veh	74.3	52.9	58.4	134.7	25.2	3.3	73.7	67.4	18.0	59.8	0.0	68.6
LnGrp LOS	E	D	E	F	C	A	E	E	B	E		E
Approach Vol, veh/h		1747			2793			521			494	
Approach Delay, s/veh		55.4			41.1			41.4			64.2	
Approach LOS		E			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	38.0	59.8	32.9	15.3	9.9	87.9	19.1	29.1
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	33.6	* 30	31.0	32.1	8.6	54.6	30.9	32.2
Max Q Clear Time (g_c+I1), s	35.6	50.0	20.8	9.5	6.2	46.7	14.0	21.8
Green Ext Time (p_c), s	0.0	0.0	0.3	1.0	0.0	7.4	0.2	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	47.7
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	39	1138	187	3	50	1006	97	264	104	83	66	116	88
Future Volume (veh/h)	13	39	1138	187	3	50	1006	97	264	104	83	66	116	88
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		44	1293	182		62	1242	85	388	153	85	84	147	86
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		57	1400	196		79	1555	106	375	342	190	105	166	97
Arrive On Green		0.03	0.45	0.45		0.03	0.31	0.31	0.21	0.30	0.30	0.06	0.15	0.15
Sat Flow, veh/h		1774	3107	434		1774	3356	229	1774	1126	626	1774	1095	641
Grp Volume(v), veh/h		44	732	743		62	654	673	388	0	238	84	0	233
Grp Sat Flow(s),veh/h/ln		1774	1770	1771		1774	1770	1816	1774	0	1752	1774	0	1736
Q Serve(g_s), s		3.4	54.3	55.5		4.9	47.4	47.6	29.6	0.0	15.3	6.5	0.0	18.4
Cycle Q Clear(g_c), s		3.4	54.3	55.5		4.9	47.4	47.6	29.6	0.0	15.3	6.5	0.0	18.4
Prop In Lane		1.00		0.25		1.00		0.13	1.00		0.36	1.00		0.37
Lane Grp Cap(c), veh/h		57	798	798		79	820	842	375	0	532	105	0	262
V/C Ratio(X)		0.78	0.92	0.93		0.78	0.80	0.80	1.03	0.00	0.45	0.80	0.00	0.89
Avail Cap(c_a), veh/h		71	798	798		80	820	842	375	0	543	167	0	335
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)		1.00	1.00	1.00		0.78	0.78	0.78	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		67.3	36.0	36.4		67.2	42.2	42.3	55.2	0.0	39.3	65.1	0.0	58.3
Incr Delay (d2), s/veh		26.5	17.2	18.8		29.0	6.3	6.2	55.6	0.0	0.2	5.6	0.0	17.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.1	30.3	31.2		3.0	24.7	25.4	20.3	0.0	7.4	3.4	0.0	10.2
LnGrp Delay(d),s/veh		93.8	53.3	55.2		96.3	48.5	48.5	110.8	0.0	39.5	70.6	0.0	76.0
LnGrp LOS		F	D	E		F	D	D	F		D	E		E
Approach Vol, veh/h			1519				1389			626			317	
Approach Delay, s/veh			55.4				50.6			83.7			74.6	
Approach LOS			E				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	10.6	69.3	34.0	26.1	8.9	71.1	12.7	47.4
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	6.3	* 58	29.6	27.0	5.6	57.9	13.2	43.4
Max Q Clear Time (g_c+I1), s	6.9	57.5	31.6	20.4	5.4	49.6	8.5	17.3
Green Ext Time (p_c), s	0.0	0.5	0.0	0.5	0.0	5.0	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	59.9
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* 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)	2	1975	180	442	1522	269	128	91	665	260	155	5
Future Volume (veh/h)	2	1975	180	442	1522	269	128	91	665	260	155	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2036	149	480	1654	204	147	105	672	289	172	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	2003	146	350	2735	833	211	134	740	313	234	5
Arrive On Green	0.13	0.83	0.83	0.20	0.54	0.54	0.12	0.07	0.07	0.18	0.13	0.13
Sat Flow, veh/h	1774	4826	351	1774	5085	1549	1774	1863	2643	1774	1811	42
Grp Volume(v), veh/h	2	1426	759	480	1654	204	147	105	672	289	0	176
Grp Sat Flow(s),veh/h/ln	1774	1695	1787	1774	1695	1549	1774	1863	1321	1774	0	1853
Q Serve(g_s), s	0.1	58.1	58.1	27.6	31.2	9.8	11.1	7.8	10.1	22.4	0.0	12.8
Cycle Q Clear(g_c), s	0.1	58.1	58.1	27.6	31.2	9.8	11.1	7.8	10.1	22.4	0.0	12.8
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	119	1407	742	350	2735	833	211	134	740	313	0	240
V/C Ratio(X)	0.02	1.01	1.02	1.37	0.60	0.24	0.70	0.78	0.91	0.92	0.00	0.73
Avail Cap(c_a), veh/h	119	1407	742	350	2735	833	211	134	740	393	0	410
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)	0.39	0.39	0.39	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.6	11.9	11.9	56.2	22.2	17.2	59.2	63.9	32.7	56.7	0.0	58.6
Incr Delay (d2), s/veh	0.0	18.4	26.9	184.8	1.0	0.7	8.9	24.3	14.9	21.8	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	29.0	32.3	31.5	14.8	4.3	6.0	4.9	13.0	12.9	0.0	6.7
LnGrp Delay(d),s/veh	56.6	30.3	38.8	241.0	23.2	17.9	68.2	88.2	47.6	78.6	0.0	60.3
LnGrp LOS	E	F	F	F	C	B	E	F	D	E		E
Approach Vol, veh/h		2187			2338			924			465	
Approach Delay, s/veh		33.3			67.4			55.5			71.6	
Approach LOS		C			E			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	12.0	63.4	29.6	15.0	14.7	80.7	21.6	23.0
Change Period (Y+Rc), s	4.4	5.3	4.9	4.9	5.3	* 5.4	4.9	4.9
Max Green Setting (Gmax), s	7.6	51.8	31.0	10.1	4.0	* 75	10.1	31.0
Max Q Clear Time (g_c+I1), s	29.6	60.1	24.4	12.1	2.1	33.2	13.1	14.8
Green Ext Time (p_c), s	0.0	0.0	0.3	0.0	0.0	25.1	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	53.3
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	13	39	1138	187	3	51	1016	97	264	104	83	66
Future Volume (veh/h)	13	39	1138	187	3	51	1016	97	264	104	83	66
Number		5	2	12		1	6	16	3	8	18	7
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863
Adj Flow Rate, veh/h		44	1293	182		63	1254	85	388	153	85	84
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		57	1423	199		80	1583	107	375	333	185	105
Arrive On Green		0.03	0.46	0.46		0.03	0.32	0.32	0.21	0.30	0.30	0.06
Sat Flow, veh/h		1774	3107	434		1774	3359	227	1774	1126	626	1774
Grp Volume(v), veh/h		44	732	743		63	660	679	388	0	238	84
Grp Sat Flow(s),veh/h/ln		1774	1770	1772		1774	1770	1816	1774	0	1752	1774
Q Serve(g_s), s		3.4	53.6	54.8		4.9	47.6	47.8	29.6	0.0	15.5	6.5
Cycle Q Clear(g_c), s		3.4	53.6	54.8		4.9	47.6	47.8	29.6	0.0	15.5	6.5
Prop In Lane		1.00		0.25		1.00		0.13	1.00		0.36	1.00
Lane Grp Cap(c), veh/h		57	811	811		80	834	856	375	0	518	105
V/C Ratio(X)		0.78	0.90	0.92		0.79	0.79	0.79	1.03	0.00	0.46	0.80
Avail Cap(c_a), veh/h		71	811	811		80	834	856	375	0	543	167
HCM Platoon Ratio		1.00	1.00	1.00		0.67	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		0.78	0.78	0.78	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		67.3	35.1	35.4		67.2	41.6	41.7	55.2	0.0	40.2	65.1
Incr Delay (d2), s/veh		26.5	15.3	16.7		30.3	6.0	5.9	55.6	0.0	0.2	5.6
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		2.1	29.5	30.4		3.1	24.7	25.4	20.3	0.0	7.5	3.4
LnGrp Delay(d),s/veh		93.8	50.4	52.1		97.6	47.6	47.6	110.8	0.0	40.4	70.6
LnGrp LOS		F	D	D		F	D	D	F		D	E
Approach Vol, veh/h			1519				1402			626		
Approach Delay, s/veh			52.5				49.8			84.1		
Approach LOS			D				D			F		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	70.3	34.0	25.0	8.9	72.2	12.7	46.3
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	6.3	* 58	29.6	27.0	5.6	57.9	13.2	43.4
Max Q Clear Time (g_c+I1), s	6.9	56.8	31.6	19.3	5.4	49.8	8.5	17.5
Green Ext Time (p_c), s	0.0	1.2	0.0	0.5	0.0	4.9	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	58.3
HCM 2010 LOS	E

Notes

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	115	78
Future Volume (veh/h)	115	78
Number	4	14
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.98
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900
Adj Flow Rate, veh/h	146	74
Adj No. of Lanes	1	0
Peak Hour Factor	0.79	0.79
Percent Heavy Veh, %	2	2
Cap, veh/h	166	84
Arrive On Green	0.14	0.14
Sat Flow, veh/h	1159	588
Grp Volume(v), veh/h	0	220
Grp Sat Flow(s),veh/h/ln	0	1747
Q Serve(g_s), s	0.0	17.3
Cycle Q Clear(g_c), s	0.0	17.3
Prop In Lane		0.34
Lane Grp Cap(c), veh/h	0	250
V/C Ratio(X)	0.00	0.88
Avail Cap(c_a), veh/h	0	337
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	58.8
Incr Delay (d2), s/veh	0.0	14.8
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.4
LnGrp Delay(d),s/veh	0.0	73.6
LnGrp LOS		E
Approach Vol, veh/h	304	
Approach Delay, s/veh	72.8	
Approach LOS	E	
Timer		

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* 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)	2	1975	180	442	1522	269	128	91	665	260	155	5
Future Volume (veh/h)	2	1975	180	442	1522	269	128	91	665	260	155	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2036	149	480	1654	204	147	105	672	289	172	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	2003	146	350	2735	833	211	134	740	313	234	5
Arrive On Green	0.13	0.83	0.83	0.20	0.54	0.54	0.12	0.07	0.07	0.18	0.13	0.13
Sat Flow, veh/h	1774	4826	351	1774	5085	1549	1774	1863	2643	1774	1811	42
Grp Volume(v), veh/h	2	1426	759	480	1654	204	147	105	672	289	0	176
Grp Sat Flow(s),veh/h/ln	1774	1695	1787	1774	1695	1549	1774	1863	1321	1774	0	1853
Q Serve(g_s), s	0.1	58.1	58.1	27.6	31.2	9.8	11.1	7.8	10.1	22.4	0.0	12.8
Cycle Q Clear(g_c), s	0.1	58.1	58.1	27.6	31.2	9.8	11.1	7.8	10.1	22.4	0.0	12.8
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	119	1407	742	350	2735	833	211	134	740	313	0	240
V/C Ratio(X)	0.02	1.01	1.02	1.37	0.60	0.24	0.70	0.78	0.91	0.92	0.00	0.73
Avail Cap(c_a), veh/h	119	1407	742	350	2735	833	211	134	740	393	0	410
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)	0.39	0.39	0.39	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.6	11.9	11.9	56.2	22.2	17.2	59.2	63.9	32.7	56.7	0.0	58.6
Incr Delay (d2), s/veh	0.0	18.4	26.9	184.8	1.0	0.7	8.9	24.3	14.9	21.8	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	29.0	32.3	31.5	14.8	4.3	6.0	4.9	13.0	12.9	0.0	6.7
LnGrp Delay(d),s/veh	56.6	30.3	38.8	241.0	23.2	17.9	68.2	88.2	47.6	78.6	0.0	60.3
LnGrp LOS	E	F	F	F	C	B	E	F	D	E		E
Approach Vol, veh/h		2187			2338			924			465	
Approach Delay, s/veh		33.3			67.4			55.5			71.6	
Approach LOS		C			E			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	12.0	63.4	29.6	15.0	14.7	80.7	21.6	23.0
Change Period (Y+Rc), s	4.4	5.3	4.9	4.9	5.3	* 5.4	4.9	4.9
Max Green Setting (Gmax), s	7.6	51.8	31.0	10.1	4.0	* 75	10.1	31.0
Max Q Clear Time (g_c+I1), s	29.6	60.1	24.4	12.1	2.1	33.2	13.1	14.8
Green Ext Time (p_c), s	0.0	0.0	0.3	0.0	0.0	25.1	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	53.3
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	13	39	1138	187	3	54	1020	97	264	104	83	66	114	74
Future Volume (veh/h)	13	39	1138	187	3	54	1020	97	264	104	83	66	114	74
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		44	1293	182		67	1259	85	388	153	85	84	144	69
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79	0.79	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		57	1436	201		80	1597	108	375	329	183	105	165	79
Arrive On Green		0.03	0.46	0.46		0.03	0.32	0.32	0.21	0.29	0.29	0.06	0.14	0.14
Sat Flow, veh/h		1774	3107	434		1774	3360	226	1774	1126	626	1774	1183	567
Grp Volume(v), veh/h		44	732	743		67	662	682	388	0	238	84	0	213
Grp Sat Flow(s),veh/h/ln		1774	1770	1772		1774	1770	1816	1774	0	1752	1774	0	1751
Q Serve(g_s), s		3.4	53.2	54.4		5.3	47.6	47.9	29.6	0.0	15.6	6.5	0.0	16.7
Cycle Q Clear(g_c), s		3.4	53.2	54.4		5.3	47.6	47.9	29.6	0.0	15.6	6.5	0.0	16.7
Prop In Lane		1.00		0.25		1.00		0.12	1.00		0.36	1.00		0.32
Lane Grp Cap(c), veh/h		57	818	819		80	841	863	375	0	511	105	0	244
V/C Ratio(X)		0.78	0.90	0.91		0.84	0.79	0.79	1.03	0.00	0.47	0.80	0.00	0.87
Avail Cap(c_a), veh/h		71	818	819		80	841	863	375	0	543	167	0	338
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)		1.00	1.00	1.00		0.78	0.78	0.78	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		67.3	34.5	34.9		67.4	41.3	41.4	55.2	0.0	40.6	65.1	0.0	59.0
Incr Delay (d2), s/veh		26.5	14.4	15.6		41.0	5.8	5.7	55.6	0.0	0.2	5.6	0.0	13.3
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		2.1	29.1	30.2		3.5	24.6	25.5	20.3	0.0	7.6	3.4	0.0	9.0
LnGrp Delay(d),s/veh		93.8	49.0	50.5		108.4	47.1	47.1	110.8	0.0	40.9	70.6	0.0	72.3
LnGrp LOS		F	D	D		F	D	D	F		D	E		E
Approach Vol, veh/h			1519				1411			626			297	
Approach Delay, s/veh			51.0				50.0			84.2			71.8	
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	10.7	70.9	34.0	24.4	8.9	72.7	12.7	45.8
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	6.3	* 58	29.6	27.0	5.6	57.9	13.2	43.4
Max Q Clear Time (g_c+I1), s	7.3	56.4	31.6	18.7	5.4	49.9	8.5	17.6
Green Ext Time (p_c), s	0.0	1.5	0.0	0.5	0.0	4.9	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	57.6
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

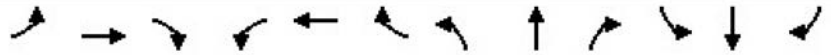
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	177	903	265	5	212	717	273	2	289	805	164	5	222	444	169
Future Volume (veh/h)	3	177	903	265	5	212	717	273	2	289	805	164	5	222	444	169
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.98		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		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		199	1015	210		244	824	225		307	856	153		255	510	137
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		223	1213	250		404	1640	444		472	1025	182		299	659	286
Arrive On Green		0.13	0.42	0.42		0.23	0.83	0.83		0.14	0.24	0.24		0.17	0.37	0.37
Sat Flow, veh/h		1774	2913	601		3442	3960	1073		3442	4333	770		3442	3539	1538
Grp Volume(v), veh/h		199	616	609		244	705	344		307	669	340		255	510	137
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1642		1721	1695	1713		1721	1770	1538
Q Serve(g_s), s		15.5	43.6	43.9		8.9	8.5	8.7		11.8	26.3	26.5		10.1	17.8	7.3
Cycle Q Clear(g_c), s		15.5	43.6	43.9		8.9	8.5	8.7		11.8	26.3	26.5		10.1	17.8	7.3
Prop In Lane		1.00		0.34		1.00		0.65		1.00		0.45		1.00		1.00
Lane Grp Cap(c), veh/h		223	737	727		404	1404	680		472	802	405		299	659	286
V/C Ratio(X)		0.89	0.84	0.84		0.60	0.50	0.51		0.65	0.83	0.84		0.85	0.77	0.48
Avail Cap(c_a), veh/h		332	737	727		404	1404	680		472	857	433		339	837	364
HCM Platoon Ratio		1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)		0.16	0.16	0.16		0.91	0.91	0.91		0.82	0.82	0.82		1.00	1.00	1.00
Uniform Delay (d), s/veh		60.2	36.6	36.6		50.7	7.8	7.8		57.2	50.8	50.9		57.0	41.3	22.6
Incr Delay (d2), s/veh		2.6	1.9	2.0		1.7	1.2	2.4		2.1	6.2	12.1		15.4	4.5	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		7.7	21.6	21.6		4.3	3.9	4.3		5.8	12.9	13.9		5.4	9.1	3.5
LnGrp Delay(d),s/veh		62.8	38.4	38.6		52.4	8.9	10.2		59.3	57.0	63.0		72.4	45.9	24.7
LnGrp LOS		E	D	D		D	A	B		E	E	E		E	D	C
Approach Vol, veh/h			1424				1293				1316				902	
Approach Delay, s/veh			41.9				17.5				59.1				50.2	
Approach LOS			D				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	21.8	63.6	23.6	31.0	22.0	63.4	16.6	38.0
Change Period (Y+Rc), s	5.4	* 5.3	4.4	4.9	4.4	5.4	4.4	4.9
Max Green Setting (Gmax), s	13.5	* 58	16.1	33.1	26.2	45.5	13.8	35.4
Max Q Clear Time (g_c+I1), s	10.9	45.9	13.8	19.8	17.5	10.7	12.1	28.5
Green Ext Time (p_c), s	0.1	6.5	0.2	4.8	0.2	7.3	0.1	4.6

Intersection Summary	
HCM 2010 Ctrl Delay	41.6
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* 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)	2	1975	180	442	1522	269	128	91	665	260	155	5
Future Volume (veh/h)	2	1975	180	442	1522	269	128	91	665	260	155	5
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2036	149	480	1654	204	147	105	672	289	172	4
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	2003	146	350	2735	833	211	134	740	313	234	5
Arrive On Green	0.13	0.83	0.83	0.20	0.54	0.54	0.12	0.07	0.07	0.18	0.13	0.13
Sat Flow, veh/h	1774	4826	351	1774	5085	1549	1774	1863	2643	1774	1811	42
Grp Volume(v), veh/h	2	1426	759	480	1654	204	147	105	672	289	0	176
Grp Sat Flow(s),veh/h/ln	1774	1695	1787	1774	1695	1549	1774	1863	1321	1774	0	1853
Q Serve(g_s), s	0.1	58.1	58.1	27.6	31.2	9.8	11.1	7.8	10.1	22.4	0.0	12.8
Cycle Q Clear(g_c), s	0.1	58.1	58.1	27.6	31.2	9.8	11.1	7.8	10.1	22.4	0.0	12.8
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	119	1407	742	350	2735	833	211	134	740	313	0	240
V/C Ratio(X)	0.02	1.01	1.02	1.37	0.60	0.24	0.70	0.78	0.91	0.92	0.00	0.73
Avail Cap(c_a), veh/h	119	1407	742	350	2735	833	211	134	740	393	0	410
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)	0.39	0.39	0.39	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.6	11.9	11.9	56.2	22.2	17.2	59.2	63.9	32.7	56.7	0.0	58.6
Incr Delay (d2), s/veh	0.0	18.4	26.9	184.5	1.0	0.7	8.9	24.3	14.9	21.8	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	29.0	32.3	31.4	14.8	4.3	6.0	4.9	13.0	12.9	0.0	6.7
LnGrp Delay(d),s/veh	56.6	30.3	38.8	240.7	23.1	17.9	68.2	88.2	47.6	78.6	0.0	60.3
LnGrp LOS	E	F	F	F	C	B	E	F	D	E		E
Approach Vol, veh/h		2187			2338			924			465	
Approach Delay, s/veh		33.3			67.3			55.5			71.6	
Approach LOS		C			E			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	32.0	63.4	29.6	15.0	14.7	80.7	21.6	23.0
Change Period (Y+Rc), s	4.4	5.3	4.9	4.9	5.3	* 5.4	4.9	4.9
Max Green Setting (Gmax), s	27.6	51.8	31.0	10.1	4.0	* 75	10.1	31.0
Max Q Clear Time (g_c+I1), s	29.6	60.1	24.4	12.1	2.1	33.2	13.1	14.8
Green Ext Time (p_c), s	0.0	0.0	0.3	0.0	0.0	25.1	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	53.2
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	54	1274	169	47	76	1313	100	123	56	38	54	135	131
Future Volume (veh/h)	6	54	1274	169	47	76	1313	100	123	56	38	54	135	131
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		57	1341	134		81	1397	75	138	63	31	59	148	104
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		73	1788	178		100	1931	103	161	245	121	76	164	115
Arrive On Green		0.04	0.55	0.55		0.11	1.00	1.00	0.09	0.21	0.21	0.04	0.16	0.16
Sat Flow, veh/h		1774	3251	323		1774	3417	183	1774	1173	577	1774	1019	716
Grp Volume(v), veh/h		57	727	748		81	722	750	138	0	94	59	0	252
Grp Sat Flow(s),veh/h/ln		1774	1770	1805		1774	1770	1830	1774	0	1751	1774	0	1735
Q Serve(g_s), s		4.5	44.0	44.6		6.2	0.0	0.0	10.7	0.0	6.3	4.6	0.0	20.0
Cycle Q Clear(g_c), s		4.5	44.0	44.6		6.2	0.0	0.0	10.7	0.0	6.3	4.6	0.0	20.0
Prop In Lane		1.00		0.18		1.00		0.10	1.00		0.33	1.00		0.41
Lane Grp Cap(c), veh/h		73	973	992		100	1000	1035	161	0	366	76	0	279
V/C Ratio(X)		0.78	0.75	0.75		0.81	0.72	0.73	0.86	0.00	0.26	0.78	0.00	0.90
Avail Cap(c_a), veh/h		101	973	992		172	1000	1035	172	0	379	132	0	336
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)		1.00	1.00	1.00		0.48	0.48	0.48	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		66.5	24.1	24.2		61.3	0.0	0.0	62.8	0.0	46.3	66.4	0.0	57.7
Incr Delay (d2), s/veh		14.9	5.2	5.3		2.8	2.2	2.2	29.3	0.0	0.1	6.4	0.0	21.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.5	22.8	23.7		3.1	0.6	0.6	6.6	0.0	3.1	2.4	0.0	11.3
LnGrp Delay(d),s/veh		81.4	29.3	29.5		64.2	2.2	2.2	92.1	0.0	46.4	72.8	0.0	79.4
LnGrp LOS		F	C	C		E	A	A	F		D	E		E
Approach Vol, veh/h			1532				1553			232			311	
Approach Delay, s/veh			31.4				5.4			73.6			78.2	
Approach LOS			C				A			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	12.3	83.2	17.1	27.4	10.2	85.3	10.4	34.2
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	7.6	* 67	13.6	27.1	8.0	71.4	10.4	30.3
Max Q Clear Time (g_c+I1), s	8.3	46.6	12.7	22.0	6.5	2.0	6.6	8.3
Green Ext Time (p_c), s	0.0	14.3	0.0	0.5	0.0	14.9	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	27.0
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* 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)	20	1529	205	476	2047	294	149	54	335	193	158	18
Future Volume (veh/h)	20	1529	205	476	2047	294	149	54	335	193	158	18
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1576	166	491	2110	212	169	61	333	214	176	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1554	163	504	3141	976	192	138	988	298	227	18
Arrive On Green	0.02	0.35	0.35	0.28	0.62	0.62	0.11	0.07	0.07	0.17	0.13	0.13
Sat Flow, veh/h	1774	4455	469	1774	5085	1581	1774	1863	2646	1774	1697	135
Grp Volume(v), veh/h	21	1120	622	491	2110	212	169	61	333	214	0	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1757	1774	1695	1581	1774	1863	1323	1774	0	1832
Q Serve(g_s), s	1.9	54.8	54.8	43.0	42.6	3.6	14.7	4.9	8.7	17.9	0.0	15.7
Cycle Q Clear(g_c), s	1.9	54.8	54.8	43.0	42.6	3.6	14.7	4.9	8.7	17.9	0.0	15.7
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	27	1105	613	504	3141	976	192	138	988	298	0	246
V/C Ratio(X)	0.77	1.01	1.02	0.97	0.67	0.22	0.88	0.44	0.34	0.72	0.00	0.77
Avail Cap(c_a), veh/h	45	1105	613	504	3141	976	349	381	1333	350	0	376
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00
Uniform Delay (d), s/veh	77.0	51.1	51.1	55.6	19.6	2.0	69.0	69.6	16.7	61.8	0.0	65.7
Incr Delay (d2), s/veh	11.8	26.4	34.8	33.3	1.2	0.5	9.4	0.8	0.1	4.2	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	28.0	32.5	25.8	20.3	3.6	7.7	2.6	3.2	9.1	0.0	8.1
LnGrp Delay(d),s/veh	88.8	77.5	85.9	88.9	20.8	2.5	78.4	70.4	16.8	66.0	0.0	67.9
LnGrp LOS	F	F	F	F	C	A	E	E	B	E		E
Approach Vol, veh/h		1763			2813			563			404	
Approach Delay, s/veh		80.6			31.3			41.1			66.9	
Approach LOS		F			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	9.0	60.2	31.3	16.6	6.8	102.4	21.9	25.9
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	4.6	* 30	31.0	32.1	4.0	70.2	30.9	32.2
Max Q Clear Time (g_c+I1), s	15.0	56.8	19.9	10.7	3.9	44.6	16.7	17.7
Green Ext Time (p_c), s	0.0	0.0	0.2	1.0	0.0	21.6	0.3	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	50.6
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	54	1274	169	47	76	1318	100	123	56	38	54	135	126
Future Volume (veh/h)	6	54	1274	169	47	76	1318	100	123	56	38	54	135	126
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		57	1341	134		81	1402	75	138	63	31	59	148	98
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		73	1799	179		100	1944	104	161	241	119	76	165	109
Arrive On Green		0.04	0.55	0.55		0.11	1.00	1.00	0.09	0.21	0.21	0.04	0.16	0.16
Sat Flow, veh/h		1774	3251	323		1774	3418	182	1774	1173	577	1774	1046	693
Grp Volume(v), veh/h		57	727	748		81	724	753	138	0	94	59	0	246
Grp Sat Flow(s),veh/h/ln		1774	1770	1805		1774	1770	1831	1774	0	1751	1774	0	1739
Q Serve(g_s), s		4.5	43.6	44.2		6.2	0.0	0.0	10.7	0.0	6.3	4.6	0.0	19.4
Cycle Q Clear(g_c), s		4.5	43.6	44.2		6.2	0.0	0.0	10.7	0.0	6.3	4.6	0.0	19.4
Prop In Lane		1.00		0.18		1.00		0.10	1.00		0.33	1.00		0.40
Lane Grp Cap(c), veh/h		73	979	999		100	1007	1041	161	0	360	76	0	273
V/C Ratio(X)		0.78	0.74	0.75		0.81	0.72	0.72	0.86	0.00	0.26	0.78	0.00	0.90
Avail Cap(c_a), veh/h		101	979	999		172	1007	1041	172	0	379	132	0	337
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)		1.00	1.00	1.00		0.48	0.48	0.48	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		66.5	23.7	23.8		61.3	0.0	0.0	62.8	0.0	46.7	66.4	0.0	57.9
Incr Delay (d2), s/veh		14.9	5.1	5.1		2.8	2.2	2.1	29.3	0.0	0.1	6.4	0.0	20.5
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.5	22.6	23.4		3.1	0.6	0.6	6.6	0.0	3.1	2.4	0.0	10.9
LnGrp Delay(d),s/veh		81.4	28.8	29.0		64.2	2.2	2.1	92.1	0.0	46.8	72.8	0.0	78.4
LnGrp LOS		F	C	C		E	A	A	F		D	E		E
Approach Vol, veh/h			1532				1558			232			305	
Approach Delay, s/veh			30.8				5.4			73.8			77.3	
Approach LOS			C				A			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	12.3	83.7	17.1	26.9	10.2	85.8	10.4	33.7
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	7.6	* 67	13.6	27.1	8.0	71.4	10.4	30.3
Max Q Clear Time (g_c+I1), s	8.2	46.2	12.7	21.4	6.5	2.0	6.6	8.3
Green Ext Time (p_c), s	0.0	14.5	0.0	0.5	0.0	15.0	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.6
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* 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)	20	1529	205	476	2047	294	149	54	335	193	158	18
Future Volume (veh/h)	20	1529	205	476	2047	294	149	54	335	193	158	18
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1576	166	491	2110	212	169	61	333	214	176	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1554	163	504	3141	976	192	138	988	298	227	18
Arrive On Green	0.02	0.35	0.35	0.28	0.62	0.62	0.11	0.07	0.07	0.17	0.13	0.13
Sat Flow, veh/h	1774	4455	469	1774	5085	1581	1774	1863	2646	1774	1697	135
Grp Volume(v), veh/h	21	1120	622	491	2110	212	169	61	333	214	0	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1757	1774	1695	1581	1774	1863	1323	1774	0	1832
Q Serve(g_s), s	1.9	54.8	54.8	43.0	42.6	3.6	14.7	4.9	8.7	17.9	0.0	15.7
Cycle Q Clear(g_c), s	1.9	54.8	54.8	43.0	42.6	3.6	14.7	4.9	8.7	17.9	0.0	15.7
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	27	1105	613	504	3141	976	192	138	988	298	0	246
V/C Ratio(X)	0.77	1.01	1.02	0.97	0.67	0.22	0.88	0.44	0.34	0.72	0.00	0.77
Avail Cap(c_a), veh/h	45	1105	613	504	3141	976	349	381	1333	350	0	376
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00
Uniform Delay (d), s/veh	77.0	51.1	51.1	55.6	19.6	2.0	69.0	69.6	16.7	61.8	0.0	65.7
Incr Delay (d2), s/veh	11.8	26.4	34.8	33.3	1.2	0.5	9.4	0.8	0.1	4.2	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	28.0	32.5	25.8	20.3	3.6	7.7	2.6	3.2	9.1	0.0	8.1
LnGrp Delay(d),s/veh	88.8	77.5	85.9	88.9	20.8	2.5	78.4	70.4	16.8	66.0	0.0	67.9
LnGrp LOS	F	F	F	F	C	A	E	E	B	E		E
Approach Vol, veh/h		1763			2813			563			404	
Approach Delay, s/veh		80.6			31.3			41.1			66.9	
Approach LOS		F			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	9.0	60.2	31.3	16.6	6.8	102.4	21.9	25.9
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	4.6	* 30	31.0	32.1	4.0	70.2	30.9	32.2
Max Q Clear Time (g_c+I1), s	15.0	56.8	19.9	10.7	3.9	44.6	16.7	17.7
Green Ext Time (p_c), s	0.0	0.0	0.2	1.0	0.0	21.6	0.3	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	50.6
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (veh/h)	6	54	1274	169	47	78	1320	100	123	56	38	54	134	124
Future Volume (veh/h)	6	54	1274	169	47	78	1320	100	123	56	38	54	134	124
Number		5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h		57	1341	134		83	1404	75	138	63	31	59	147	96
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1	1	0
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h		73	1801	179		103	1950	104	161	239	118	76	164	107
Arrive On Green		0.04	0.55	0.55		0.12	1.00	1.00	0.09	0.20	0.20	0.04	0.16	0.16
Sat Flow, veh/h		1774	3251	323		1774	3418	182	1774	1173	577	1774	1053	687
Grp Volume(v), veh/h		57	727	748		83	725	754	138	0	94	59	0	243
Grp Sat Flow(s),veh/h/ln		1774	1770	1805		1774	1770	1831	1774	0	1751	1774	0	1740
Q Serve(g_s), s		4.5	43.6	44.2		6.4	0.0	0.0	10.7	0.0	6.3	4.6	0.0	19.2
Cycle Q Clear(g_c), s		4.5	43.6	44.2		6.4	0.0	0.0	10.7	0.0	6.3	4.6	0.0	19.2
Prop In Lane		1.00		0.18		1.00		0.10	1.00		0.33	1.00		0.40
Lane Grp Cap(c), veh/h		73	980	1000		103	1010	1044	161	0	357	76	0	271
V/C Ratio(X)		0.78	0.74	0.75		0.81	0.72	0.72	0.86	0.00	0.26	0.78	0.00	0.90
Avail Cap(c_a), veh/h		101	980	1000		172	1010	1044	172	0	379	132	0	337
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)		1.00	1.00	1.00		0.48	0.48	0.48	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh		66.5	23.7	23.8		61.2	0.0	0.0	62.8	0.0	46.9	66.4	0.0	58.0
Incr Delay (d2), s/veh		14.9	5.1	5.1		2.8	2.1	2.1	29.3	0.0	0.1	6.4	0.0	19.9
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		2.5	22.6	23.4		3.2	0.6	0.6	6.6	0.0	3.1	2.4	0.0	10.7
LnGrp Delay(d),s/veh		81.4	28.7	28.9		63.9	2.1	2.1	92.1	0.0	47.1	72.8	0.0	77.9
LnGrp LOS		F	C	C		E	A	A	F		D	E		E
Approach Vol, veh/h			1532				1562			232			302	
Approach Delay, s/veh			30.8				5.4			73.8			76.9	
Approach LOS			C				A			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	12.5	83.7	17.1	26.7	10.2	86.1	10.4	33.4
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	8.1	* 67	13.6	27.1	8.0	71.4	10.4	30.3
Max Q Clear Time (g_c+I1), s	8.4	46.2	12.7	21.2	6.5	2.0	6.6	8.3
Green Ext Time (p_c), s	0.0	14.5	0.0	0.5	0.0	15.1	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.4
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Volume (veh/h)	3	272	888	225	8	278	986	290	13	273	524	146	31	381	655	182
Future Volume (veh/h)	3	272	888	225	8	278	986	290	13	273	524	146	31	381	655	182
Number		5	2	12		1	6	16		3	8	18		7	4	14
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.96		1.00		0.95		1.00		0.96		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900		1863	1863	1900		1863	1863	1863
Adj Flow Rate, veh/h		296	965	172		309	1096	235		303	582	130		428	736	144
Adj No. of Lanes		1	2	0		2	3	0		2	3	0		2	2	1
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2		2	2	2
Cap, veh/h		382	1261	225		354	1257	269		346	840	183		468	843	351
Arrive On Green		0.14	0.28	0.28		0.03	0.10	0.10		0.20	0.41	0.41		0.27	0.48	0.48
Sat Flow, veh/h		1774	2984	531		3442	4152	890		3442	4147	905		3442	3539	1475
Grp Volume(v), veh/h		296	572	565		309	895	436		303	473	239		428	736	144
Grp Sat Flow(s),veh/h/ln		1774	1770	1746		1721	1695	1651		1721	1695	1662		1721	1770	1475
Q Serve(g_s), s		22.5	41.4	41.5		12.5	36.4	36.5		12.0	16.1	16.8		16.9	26.1	5.5
Cycle Q Clear(g_c), s		22.5	41.4	41.5		12.5	36.4	36.5		12.0	16.1	16.8		16.9	26.1	5.5
Prop In Lane		1.00		0.30		1.00		0.54		1.00		0.54		1.00		1.00
Lane Grp Cap(c), veh/h		382	748	738		354	1027	500		346	687	337		468	843	351
V/C Ratio(X)		0.77	0.76	0.77		0.87	0.87	0.87		0.88	0.69	0.71		0.91	0.87	0.41
Avail Cap(c_a), veh/h		382	748	738		354	1027	500		391	799	392		506	953	397
HCM Platoon Ratio		0.67	0.67	0.67		0.33	0.33	0.33		2.00	2.00	2.00		2.00	2.00	2.00
Upstream Filter(I)		0.41	0.41	0.41		0.84	0.84	0.84		0.93	0.93	0.93		1.00	1.00	1.00
Uniform Delay (d), s/veh		56.6	43.8	43.8		66.7	60.3	60.3		55.1	38.0	38.2		50.1	34.8	11.7
Incr Delay (d2), s/veh		3.8	3.1	3.2		17.3	8.7	16.2		15.6	2.7	6.0		19.4	9.1	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		11.5	21.0	20.7		6.8	18.4	18.9		6.4	7.7	8.3		9.2	13.7	3.0
LnGrp Delay(d),s/veh		60.4	46.9	47.0		84.0	69.0	76.5		70.7	40.6	44.2		69.5	43.8	13.0
LnGrp LOS		E	D	D		F	E	E		E	D	D		E	D	B
Approach Vol, veh/h			1433				1640				1015				1308	
Approach Delay, s/veh			49.8				73.8				50.4				48.8	
Approach LOS			D				E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.8	64.5	18.5	38.2	35.5	47.8	23.5	33.3
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	14.4	53.0	15.9	37.7	24.9	* 42	20.6	33.0
Max Q Clear Time (g_c+I1), s	14.5	43.5	14.0	28.1	24.5	38.5	18.9	18.8
Green Ext Time (p_c), s	0.0	5.0	0.1	5.2	0.0	2.6	0.2	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	57.0
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* 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)	20	1529	205	476	2047	294	149	54	335	193	158	18
Future Volume (veh/h)	20	1529	205	476	2047	294	149	54	335	193	158	18
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	1576	166	491	2110	212	169	61	333	214	176	14
Adj No. of Lanes	1	3	0	1	3	1	1	1	2	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1554	163	504	3141	976	192	138	988	298	227	18
Arrive On Green	0.02	0.35	0.35	0.28	0.62	0.62	0.11	0.07	0.07	0.17	0.13	0.13
Sat Flow, veh/h	1774	4455	469	1774	5085	1581	1774	1863	2646	1774	1697	135
Grp Volume(v), veh/h	21	1120	622	491	2110	212	169	61	333	214	0	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1757	1774	1695	1581	1774	1863	1323	1774	0	1832
Q Serve(g_s), s	1.9	54.8	54.8	43.0	42.6	3.6	14.7	4.9	8.7	17.9	0.0	15.7
Cycle Q Clear(g_c), s	1.9	54.8	54.8	43.0	42.6	3.6	14.7	4.9	8.7	17.9	0.0	15.7
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	27	1105	613	504	3141	976	192	138	988	298	0	246
V/C Ratio(X)	0.77	1.01	1.02	0.97	0.67	0.22	0.88	0.44	0.34	0.72	0.00	0.77
Avail Cap(c_a), veh/h	45	1105	613	504	3141	976	349	381	1333	350	0	376
HCM Platoon Ratio	1.00	1.00	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	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	77.0	51.1	51.1	55.6	19.6	2.0	69.0	69.6	16.7	61.8	0.0	65.7
Incr Delay (d2), s/veh	11.8	26.4	34.8	32.4	1.1	0.5	9.4	0.8	0.1	4.2	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	28.0	32.5	25.7	20.3	3.6	7.7	2.6	3.2	9.1	0.0	8.1
LnGrp Delay(d),s/veh	88.8	77.5	85.9	88.0	20.7	2.5	78.4	70.4	16.8	66.0	0.0	67.9
LnGrp LOS	F	F	F	F	C	A	E	E	B	E		E
Approach Vol, veh/h		1763			2813			563			404	
Approach Delay, s/veh		80.6			31.1			41.1			66.9	
Approach LOS		F			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	9.0	60.2	31.3	16.6	6.8	102.4	21.9	25.9
Change Period (Y+Rc), s	4.4	* 5.4	4.9	4.9	4.4	5.4	4.9	4.9
Max Green Setting (Gmax), s	4.6	* 30	31.0	32.1	4.0	70.2	30.9	32.2
Max Q Clear Time (g_c+I1), s	15.0	56.8	19.9	10.7	3.9	44.6	16.7	17.7
Green Ext Time (p_c), s	0.0	0.0	0.2	1.0	0.0	21.6	0.3	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	50.5
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	13	39	1100	85	3	50	987	92	184	89	83	60
Future Volume (veh/h)	13	39	1100	85	3	50	987	92	184	89	83	60
Number		5	2	12		1	6	16	3	8	18	7
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863
Adj Flow Rate, veh/h		44	1250	67		62	1219	79	271	131	85	76
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		56	1601	86		80	1626	105	284	264	171	97
Arrive On Green		0.03	0.47	0.47		0.04	0.48	0.48	0.16	0.25	0.25	0.05
Sat Flow, veh/h		1774	3411	183		1774	3370	218	1774	1056	685	1774
Grp Volume(v), veh/h		44	648	669		62	639	659	271	0	216	76
Grp Sat Flow(s),veh/h/ln		1774	1770	1824		1774	1770	1818	1774	0	1741	1774
Q Serve(g_s), s		2.7	33.7	33.8		3.8	32.2	32.3	16.7	0.0	11.7	4.7
Cycle Q Clear(g_c), s		2.7	33.7	33.8		3.8	32.2	32.3	16.7	0.0	11.7	4.7
Prop In Lane		1.00		0.10		1.00		0.12	1.00		0.39	1.00
Lane Grp Cap(c), veh/h		56	830	856		80	854	877	284	0	436	97
V/C Ratio(X)		0.78	0.78	0.78		0.78	0.75	0.75	0.95	0.00	0.50	0.78
Avail Cap(c_a), veh/h		74	830	856		81	854	877	284	0	543	166
HCM Platoon Ratio		1.00	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	0.00	1.00	1.00
Uniform Delay (d), s/veh		52.9	24.4	24.5		52.0	23.1	23.1	45.8	0.0	35.3	51.3
Incr Delay (d2), s/veh		23.5	7.2	7.0		26.4	4.4	4.3	40.8	0.0	0.3	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
%ile BackOfQ(50%),veh/ln		1.7	18.0	18.6		2.4	16.7	17.2	11.3	0.0	5.7	2.4
LnGrp Delay(d),s/veh		76.4	31.6	31.5		78.4	27.5	27.4	86.6	0.0	35.6	56.4
LnGrp LOS		E	C	C		E	C	C	F		D	E
Approach Vol, veh/h			1361				1360			487		
Approach Delay, s/veh			33.0				29.8			64.0		
Approach LOS			C				C			E		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	57.8	22.0	20.8	7.9	59.3	10.4	32.4
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	5.0	* 41	17.6	27.0	4.6	40.9	10.3	34.3
Max Q Clear Time (g_c+I1), s	5.8	35.8	18.7	15.0	4.7	34.3	6.7	13.7
Green Ext Time (p_c), s	0.0	4.4	0.0	0.6	0.0	4.1	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	37.5
HCM 2010 LOS	D

Notes

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	97	88
Future Volume (veh/h)	97	88
Number	4	14
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.98
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900
Adj Flow Rate, veh/h	123	86
Adj No. of Lanes	1	0
Peak Hour Factor	0.79	0.79
Percent Heavy Veh, %	2	2
Cap, veh/h	147	103
Arrive On Green	0.14	0.14
Sat Flow, veh/h	1014	709
Grp Volume(v), veh/h	0	209
Grp Sat Flow(s),veh/h/ln	0	1723
Q Serve(g_s), s	0.0	13.0
Cycle Q Clear(g_c), s	0.0	13.0
Prop In Lane		0.41
Lane Grp Cap(c), veh/h	0	250
V/C Ratio(X)	0.00	0.84
Avail Cap(c_a), veh/h	0	423
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	45.8
Incr Delay (d2), s/veh	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.4
LnGrp Delay(d),s/veh	0.0	48.6
LnGrp LOS		D
Approach Vol, veh/h	285	
Approach Delay, s/veh	50.7	
Approach LOS	D	
Timer		

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	13	39	1100	85	3	54	1001	92	184	89	83	60
Future Volume (veh/h)	13	39	1100	85	3	54	1001	92	184	89	83	60
Number		5	2	12		1	6	16	3	8	18	7
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.98	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863
Adj Flow Rate, veh/h		44	1250	67		67	1236	79	271	131	85	76
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1
Peak Hour Factor		0.88	0.88	0.88		0.81	0.81	0.81	0.68	0.68	0.68	0.79
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		56	1631	87		86	1669	107	284	251	163	97
Arrive On Green		0.03	0.48	0.48		0.05	0.49	0.49	0.16	0.24	0.24	0.05
Sat Flow, veh/h		1774	3411	183		1774	3373	215	1774	1056	685	1774
Grp Volume(v), veh/h		44	648	669		67	648	667	271	0	216	76
Grp Sat Flow(s),veh/h/ln		1774	1770	1824		1774	1770	1819	1774	0	1741	1774
Q Serve(g_s), s		2.7	33.1	33.3		4.1	32.1	32.2	16.7	0.0	11.9	4.7
Cycle Q Clear(g_c), s		2.7	33.1	33.3		4.1	32.1	32.2	16.7	0.0	11.9	4.7
Prop In Lane		1.00		0.10		1.00		0.12	1.00		0.39	1.00
Lane Grp Cap(c), veh/h		56	846	872		86	876	900	284	0	414	97
V/C Ratio(X)		0.78	0.77	0.77		0.78	0.74	0.74	0.95	0.00	0.52	0.78
Avail Cap(c_a), veh/h		74	846	872		87	876	900	284	0	543	166
HCM Platoon Ratio		1.00	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		0.72	0.72	0.72	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		52.9	23.6	23.7		51.8	22.1	22.2	45.8	0.0	36.5	51.3
Incr Delay (d2), s/veh		23.5	6.5	6.4		24.9	4.1	4.0	40.8	0.0	0.4	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
%ile BackOfQ(50%),veh/ln		1.7	17.7	18.3		2.6	16.6	17.1	11.3	0.0	5.7	2.4
LnGrp Delay(d),s/veh		76.4	30.2	30.1		76.7	26.2	26.2	86.6	0.0	36.9	56.4
LnGrp LOS		E	C	C		E	C	C	F		D	E
Approach Vol, veh/h			1361				1382			487		
Approach Delay, s/veh			31.6				28.7			64.6		
Approach LOS			C				C			E		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	58.8	22.0	19.5	7.9	60.6	10.4	31.1
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	5.4	* 41	17.6	27.0	4.6	40.9	10.3	34.3
Max Q Clear Time (g_c+I1), s	6.1	35.3	18.7	13.6	4.7	34.2	6.7	13.9
Green Ext Time (p_c), s	0.0	4.5	0.0	0.6	0.0	4.2	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	36.5
HCM 2010 LOS	D

Notes

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	95	74
Future Volume (veh/h)	95	74
Number	4	14
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.98
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900
Adj Flow Rate, veh/h	120	69
Adj No. of Lanes	1	0
Peak Hour Factor	0.79	0.79
Percent Heavy Veh, %	2	2
Cap, veh/h	146	84
Arrive On Green	0.13	0.13
Sat Flow, veh/h	1103	634
Grp Volume(v), veh/h	0	189
Grp Sat Flow(s),veh/h/ln	0	1737
Q Serve(g_s), s	0.0	11.6
Cycle Q Clear(g_c), s	0.0	11.6
Prop In Lane		0.37
Lane Grp Cap(c), veh/h	0	230
V/C Ratio(X)	0.00	0.82
Avail Cap(c_a), veh/h	0	426
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	46.4
Incr Delay (d2), s/veh	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8
LnGrp Delay(d),s/veh	0.0	49.2
LnGrp LOS		D
Approach Vol, veh/h	265	
Approach Delay, s/veh	51.3	
Approach LOS	D	
Timer		

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (veh/h)	3	172	870	259	5	92	699	263	2	284	785	66
Future Volume (veh/h)	3	172	870	259	5	92	699	263	2	284	785	66
Number		5	2	12		1	6	16		3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		1.00		0.98
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		1863	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h		193	978	203		106	803	213		302	835	49
Adj No. of Lanes		1	2	0		2	3	0		2	3	0
Peak Hour Factor		0.89	0.89	0.89		0.87	0.87	0.87		0.94	0.94	0.94
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2
Cap, veh/h		419	1507	312		150	1267	333		352	1072	63
Arrive On Green		0.24	0.52	0.52		0.09	0.64	0.64		0.10	0.22	0.22
Sat Flow, veh/h		1774	2911	603		3442	3985	1047		3442	4909	287
Grp Volume(v), veh/h		193	594	587		106	682	334		302	576	308
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1642		1721	1695	1806
Q Serve(g_s), s		13.0	34.1	34.2		4.2	17.2	17.5		12.1	22.4	22.5
Cycle Q Clear(g_c), s		13.0	34.1	34.2		4.2	17.2	17.5		12.1	22.4	22.5
Prop In Lane		1.00		0.35		1.00		0.64		1.00		0.16
Lane Grp Cap(c), veh/h		419	916	903		150	1078	522		352	740	395
V/C Ratio(X)		0.46	0.65	0.65		0.71	0.63	0.64		0.86	0.78	0.78
Avail Cap(c_a), veh/h		419	916	903		187	1078	522		433	826	440
HCM Platoon Ratio		1.00	1.00	1.00		2.00	2.00	2.00		1.00	1.00	1.00
Upstream Filter(I)		0.40	0.40	0.40		0.93	0.93	0.93		0.89	0.89	0.89
Uniform Delay (d), s/veh		45.8	24.5	24.5		63.0	20.5	20.6		61.9	51.5	51.6
Incr Delay (d2), s/veh		0.1	1.4	1.5		5.3	2.6	5.5		10.5	4.5	8.4
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		6.4	17.0	16.8		2.1	8.2	8.6		6.3	10.9	12.1
LnGrp Delay(d),s/veh		45.9	25.9	26.0		68.3	23.2	26.1		72.4	56.0	60.0
LnGrp LOS		D	C	C		E	C	C		E	E	E
Approach Vol, veh/h			1374				1122				1186	
Approach Delay, s/veh			28.8				28.3				61.2	
Approach LOS			C				C				E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	77.8	18.7	33.0	38.4	49.9	16.2	35.5
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	7.6	62.7	17.6	33.1	25.7	* 45	16.6	34.1
Max Q Clear Time (g_c+I1), s	6.2	36.2	14.1	20.6	15.0	19.5	11.6	24.5
Green Ext Time (p_c), s	0.0	9.3	0.2	4.4	0.2	6.5	0.2	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	43.0
HCM 2010 LOS	D

Notes

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (veh/h)	5	207	418	168
Future Volume (veh/h)	5	207	418	168
Number		7	4	14
Initial Q (Qb), veh		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97
Parking Bus, Adj		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1863
Adj Flow Rate, veh/h		238	480	136
Adj No. of Lanes		2	2	1
Peak Hour Factor		0.87	0.87	0.87
Percent Heavy Veh, %		2	2	2
Cap, veh/h		291	710	309
Arrive On Green		0.03	0.07	0.07
Sat Flow, veh/h		3442	3539	1539
Grp Volume(v), veh/h		238	480	136
Grp Sat Flow(s),veh/h/ln		1721	1770	1539
Q Serve(g_s), s		9.6	18.6	7.3
Cycle Q Clear(g_c), s		9.6	18.6	7.3
Prop In Lane		1.00		1.00
Lane Grp Cap(c), veh/h		291	710	309
V/C Ratio(X)		0.82	0.68	0.44
Avail Cap(c_a), veh/h		408	837	364
HCM Platoon Ratio		0.33	0.33	0.33
Upstream Filter(I)		1.00	1.00	1.00
Uniform Delay (d), s/veh		67.0	60.9	21.7
Incr Delay (d2), s/veh		6.1	2.4	1.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		4.8	9.4	5.0
LnGrp Delay(d),s/veh		73.0	63.3	23.4
LnGrp LOS		E	E	C
Approach Vol, veh/h			854	
Approach Delay, s/veh			59.7	
Approach LOS			E	
Timer				

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
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Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	6	54	1243	140	47	76	1277	98	88	50	38	52
Future Volume (veh/h)	6	54	1243	140	47	76	1277	98	88	50	38	52
Number		5	2	12		1	6	16	3	8	18	7
Initial Q (Qb), veh		0	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
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863
Adj Flow Rate, veh/h		57	1308	103		81	1359	73	99	56	31	57
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		73	1704	134		103	1809	97	112	212	117	73
Arrive On Green		0.04	0.51	0.51		0.06	0.53	0.53	0.06	0.19	0.19	0.04
Sat Flow, veh/h		1774	3325	261		1774	3417	183	1774	1121	621	1774
Grp Volume(v), veh/h		57	695	716		81	703	729	99	0	87	57
Grp Sat Flow(s),veh/h/ln		1774	1770	1816		1774	1770	1830	1774	0	1742	1774
Q Serve(g_s), s		3.2	31.5	31.8		4.5	31.0	31.2	5.5	0.0	4.3	3.2
Cycle Q Clear(g_c), s		3.2	31.5	31.8		4.5	31.0	31.2	5.5	0.0	4.3	3.2
Prop In Lane		1.00		0.14		1.00		0.10	1.00		0.36	1.00
Lane Grp Cap(c), veh/h		73	907	931		103	937	969	112	0	329	73
V/C Ratio(X)		0.78	0.77	0.77		0.78	0.75	0.75	0.89	0.00	0.26	0.78
Avail Cap(c_a), veh/h		83	907	931		142	937	969	112	0	476	106
HCM Platoon Ratio		1.00	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		0.51	0.51	0.51	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		47.5	19.6	19.6		46.5	18.4	18.4	46.5	0.0	34.6	47.5
Incr Delay (d2), s/veh		28.4	6.1	6.1		6.3	2.9	2.8	50.0	0.0	0.2	11.4
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		2.1	16.8	17.3		2.4	15.8	16.4	4.3	0.0	2.1	1.8
LnGrp Delay(d),s/veh		75.9	25.7	25.7		52.8	21.2	21.2	96.5	0.0	34.8	58.9
LnGrp LOS		E	C	C		D	C	C	F		C	E
Approach Vol, veh/h			1468				1513			186		
Approach Delay, s/veh			27.7				22.9			67.6		
Approach LOS			C				C			E		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	57.4	10.7	21.6	8.5	59.2	8.5	23.8
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	8.0	* 40	6.3	27.0	4.7	42.1	6.0	27.3
Max Q Clear Time (g_c+I1), s	6.5	33.8	7.5	15.8	5.2	33.2	5.2	6.3
Green Ext Time (p_c), s	0.0	4.9	0.0	0.8	0.0	5.7	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	29.5
HCM 2010 LOS	C

Notes

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	130	131
Future Volume (veh/h)	130	131
Number	4	14
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900
Adj Flow Rate, veh/h	143	104
Adj No. of Lanes	1	0
Peak Hour Factor	0.91	0.91
Percent Heavy Veh, %	2	2
Cap, veh/h	168	122
Arrive On Green	0.17	0.17
Sat Flow, veh/h	1003	729
Grp Volume(v), veh/h	0	247
Grp Sat Flow(s),veh/h/ln	0	1732
Q Serve(g_s), s	0.0	13.8
Cycle Q Clear(g_c), s	0.0	13.8
Prop In Lane		0.42
Lane Grp Cap(c), veh/h	0	290
V/C Ratio(X)	0.00	0.85
Avail Cap(c_a), veh/h	0	468
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	40.4
Incr Delay (d2), s/veh	0.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.9
LnGrp Delay(d),s/veh	0.0	44.9
LnGrp LOS		D
Approach Vol, veh/h	304	
Approach Delay, s/veh	47.5	
Approach LOS	D	
Timer		

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	6	54	1243	140	47	78	1284	98	88	50	38	52
Future Volume (veh/h)	6	54	1243	140	47	78	1284	98	88	50	38	52
Number		5	2	12		1	6	16	3	8	18	7
Initial Q (Qb), veh		0	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
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1900		1863	1863	1900	1863	1863	1900	1863
Adj Flow Rate, veh/h		57	1308	103		83	1366	73	99	56	31	57
Adj No. of Lanes		1	2	0		1	2	0	1	1	0	1
Peak Hour Factor		0.95	0.95	0.95		0.94	0.94	0.94	0.89	0.89	0.89	0.91
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		73	1717	135		106	1829	98	112	206	114	73
Arrive On Green		0.04	0.52	0.52		0.06	0.54	0.54	0.06	0.18	0.18	0.04
Sat Flow, veh/h		1774	3325	261		1774	3418	182	1774	1121	621	1774
Grp Volume(v), veh/h		57	695	716		83	706	733	99	0	87	57
Grp Sat Flow(s),veh/h/ln		1774	1770	1816		1774	1770	1831	1774	0	1742	1774
Q Serve(g_s), s		3.2	31.2	31.5		4.6	30.9	31.1	5.5	0.0	4.3	3.2
Cycle Q Clear(g_c), s		3.2	31.2	31.5		4.6	30.9	31.1	5.5	0.0	4.3	3.2
Prop In Lane		1.00		0.14		1.00		0.10	1.00		0.36	1.00
Lane Grp Cap(c), veh/h		73	914	938		106	947	979	112	0	320	73
V/C Ratio(X)		0.78	0.76	0.76		0.78	0.75	0.75	0.89	0.00	0.27	0.78
Avail Cap(c_a), veh/h		83	914	938		145	947	979	112	0	476	106
HCM Platoon Ratio		1.00	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		0.50	0.50	0.50	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		47.5	19.2	19.3		46.4	18.0	18.0	46.5	0.0	35.1	47.5
Incr Delay (d2), s/veh		28.4	5.9	5.9		6.2	2.7	2.7	50.0	0.0	0.2	11.4
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		2.1	16.7	17.3		2.4	15.6	16.2	4.3	0.0	2.1	1.8
LnGrp Delay(d),s/veh		75.9	25.1	25.2		52.5	20.7	20.7	96.5	0.0	35.3	58.9
LnGrp LOS		E	C	C		D	C	C	F		D	E
Approach Vol, veh/h			1468				1522			186		
Approach Delay, s/veh			27.1				22.5			67.9		
Approach LOS			C				C			E		

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	57.9	10.7	21.1	8.5	59.7	8.5	23.3
Change Period (Y+Rc), s	4.4	* 6.2	4.4	4.9	4.4	6.2	4.4	4.9
Max Green Setting (Gmax), s	8.2	* 40	6.3	27.0	4.7	42.1	6.0	27.3
Max Q Clear Time (g_c+I1), s	6.6	33.5	7.5	15.3	5.2	33.1	5.2	6.3
Green Ext Time (p_c), s	0.0	4.9	0.0	0.7	0.0	5.8	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

Notes

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	129	124
Future Volume (veh/h)	129	124
Number	4	14
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900
Adj Flow Rate, veh/h	142	96
Adj No. of Lanes	1	0
Peak Hour Factor	0.91	0.91
Percent Heavy Veh, %	2	2
Cap, veh/h	168	113
Arrive On Green	0.16	0.16
Sat Flow, veh/h	1037	701
Grp Volume(v), veh/h	0	238
Grp Sat Flow(s),veh/h/ln	0	1738
Q Serve(g_s), s	0.0	13.3
Cycle Q Clear(g_c), s	0.0	13.3
Prop In Lane		0.40
Lane Grp Cap(c), veh/h	0	281
V/C Ratio(X)	0.00	0.85
Avail Cap(c_a), veh/h	0	469
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	40.7
Incr Delay (d2), s/veh	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.7
LnGrp Delay(d),s/veh	0.0	43.9
LnGrp LOS		D
Approach Vol, veh/h	295	
Approach Delay, s/veh	46.8	
Approach LOS	D	
Timer		

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (veh/h)	3	270	859	223	8	240	955	280	13	271	515	98
Future Volume (veh/h)	3	270	859	223	8	240	955	280	13	271	515	98
Number		5	2	12		1	6	16		3	8	18
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.97		1.00		0.95		1.00		0.96
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		1863	1863	1900		1863	1863	1900		1863	1863	1900
Adj Flow Rate, veh/h		293	934	169		267	1061	224		301	572	77
Adj No. of Lanes		1	2	0		2	3	0		2	3	0
Peak Hour Factor		0.92	0.92	0.92		0.90	0.90	0.90		0.90	0.90	0.90
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2
Cap, veh/h		395	1303	236		310	1241	262		344	926	123
Arrive On Green		0.22	0.44	0.44		0.03	0.10	0.10		0.20	0.41	0.41
Sat Flow, veh/h		1774	2976	538		3442	4165	878		3442	4522	599
Grp Volume(v), veh/h		293	555	548		267	863	422		301	426	223
Grp Sat Flow(s),veh/h/ln		1774	1770	1745		1721	1695	1653		1721	1695	1730
Q Serve(g_s), s		21.5	36.0	36.0		10.8	35.1	35.2		11.9	13.9	14.3
Cycle Q Clear(g_c), s		21.5	36.0	36.0		10.8	35.1	35.2		11.9	13.9	14.3
Prop In Lane		1.00		0.31		1.00		0.53		1.00		0.35
Lane Grp Cap(c), veh/h		395	775	764		310	1010	492		344	694	354
V/C Ratio(X)		0.74	0.72	0.72		0.86	0.85	0.86		0.87	0.61	0.63
Avail Cap(c_a), veh/h		395	775	764		310	1010	492		388	799	408
HCM Platoon Ratio		1.00	1.00	1.00		0.33	0.33	0.33		2.00	2.00	2.00
Upstream Filter(I)		0.28	0.28	0.28		0.86	0.86	0.86		0.95	0.95	0.95
Uniform Delay (d), s/veh		50.6	32.2	32.2		67.1	60.1	60.2		55.1	37.0	37.1
Incr Delay (d2), s/veh		1.9	1.6	1.6		18.0	8.0	15.2		15.8	1.7	3.5
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		10.8	17.9	17.7		5.9	17.6	18.2		6.4	6.6	7.1
LnGrp Delay(d),s/veh		52.5	33.8	33.9		85.1	68.2	75.3		70.9	38.6	40.6
LnGrp LOS		D	C	C		F	E	E		E	D	D
Approach Vol, veh/h			1396				1552				950	
Approach Delay, s/veh			37.8				73.0				49.3	
Approach LOS			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	17.0	66.6	18.4	38.0	36.5	47.1	22.8	33.6
Change Period (Y+Rc), s	4.4	5.3	4.4	4.9	5.3	* 5.4	4.4	4.9
Max Green Setting (Gmax), s	12.6	54.8	15.8	37.8	25.6	* 42	20.6	33.0
Max Q Clear Time (g_c+I1), s	12.8	38.0	13.9	27.7	23.5	37.2	18.2	16.3
Green Ext Time (p_c), s	0.0	6.9	0.1	5.4	0.1	2.9	0.2	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	53.6
HCM 2010 LOS	D

Notes

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (veh/h)	31	366	647	177
Future Volume (veh/h)	31	366	647	177
Number		7	4	14
Initial Q (Qb), veh		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.93
Parking Bus, Adj		1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1863	1863
Adj Flow Rate, veh/h		411	727	139
Adj No. of Lanes		2	2	1
Peak Hour Factor		0.89	0.89	0.89
Percent Heavy Veh, %		2	2	2
Cap, veh/h		453	837	348
Arrive On Green		0.26	0.47	0.47
Sat Flow, veh/h		3442	3539	1474
Grp Volume(v), veh/h		411	727	139
Grp Sat Flow(s),veh/h/ln		1721	1770	1474
Q Serve(g_s), s		16.2	25.7	8.6
Cycle Q Clear(g_c), s		16.2	25.7	8.6
Prop In Lane		1.00		1.00
Lane Grp Cap(c), veh/h		453	837	348
V/C Ratio(X)		0.91	0.87	0.40
Avail Cap(c_a), veh/h		506	956	398
HCM Platoon Ratio		2.00	2.00	2.00
Upstream Filter(I)		1.00	1.00	1.00
Uniform Delay (d), s/veh		50.7	35.0	30.4
Incr Delay (d2), s/veh		17.8	8.7	1.3
Initial Q Delay(d3),s/veh		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		8.8	13.5	3.6
LnGrp Delay(d),s/veh		68.6	43.7	31.7
LnGrp LOS		E	D	C
Approach Vol, veh/h			1277	
Approach Delay, s/veh			50.4	
Approach LOS			D	
Timer				

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