Appendix H: Transportation Supporting Information

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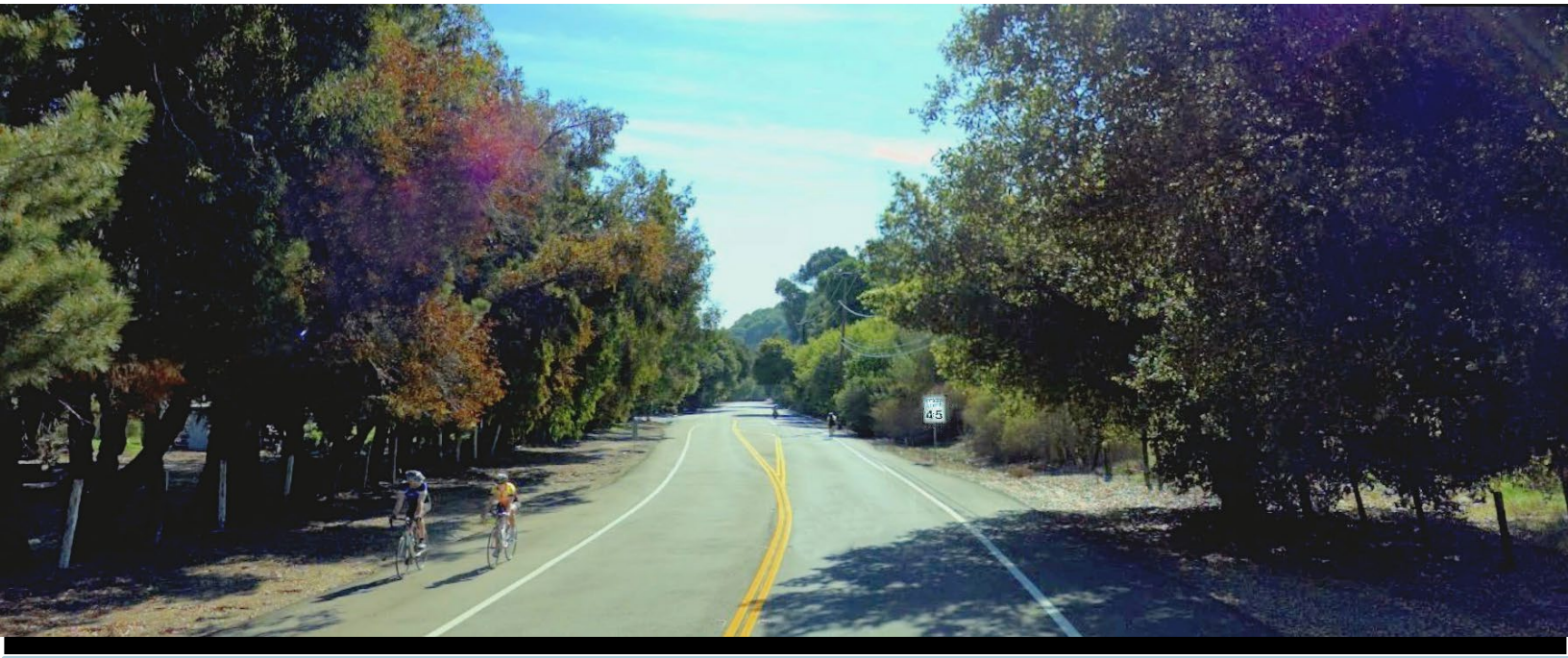
Report

Hidden Canyon Residences & Preserve Transportation Impact Study

City of Pleasanton, California

November 2019

Revised March 2023



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EXECUTIVE SUMMARY

This report summarizes the results of the Transportation Impact Study (TIS) conducted for a proposed 30-unit residential development with dedicated public park open space located on the south side of Dublin Canyon Road in unincorporated Pleasanton, California. The TIS evaluated potential transportation impacts resulting from the proposed project based on the City of Pleasanton's significance criteria. Traffic operations were evaluated at 10 study intersections during the weekday morning peak hours (7:00 a.m. to 9:00 a.m.) and evening peak hours (4:00 p.m. to 6:00 p.m.) under six study scenarios. The study intersections were evaluated under *No Project* and *plus Project* scenarios for Existing, Near Term, and Cumulative Conditions. The study area is illustrated on **Figure 1**.

PROJECT DESCRIPTION

The project site comprises four parcels totaling approximately 128.5 acres on the periphery of Pleasanton's northwestern city limit line. Two existing single-family dwellings are located on the eastern portion of the project site. Ponderosa Homes II, Inc. proposes to develop the site with 30 single-family detached houses, 28 new dwellings (lots 1 to 28) and replacement of the two existing dwellings (lots 29 and 30). Approximately 70 acres would be transferred to the East Bay Regional Park District (EBPRD) for a publicly accessible open space that would comprise 55 percent of the site area. Of note, previous iterations of the development program included one additional residential unit (totaling 31); to be consistent with previous iterations of this TIS and thus presenting a conservative assessment, the analysis of the "plus Project" scenarios includes the additional unit.

The proposed site plan is shown on **Figure 2** with more detailed site access points shown on **Figure 2b** and **2c**. **Appendix A** provides detailed project plans. Circulation within the residential portions of the site would be accommodated by two proposed streets, identified as Street A and Street B on the proposed plans:

- **Street B** would provide access to Lots 1 to 28 via an intersection with Dublin Canyon Road approximately 300 feet west of Canyon Creek Circle. The intersection would be expanded to provide a westbound left-turn lane from Dublin Canyon Road for inbound project traffic. As proposed, most of Street B would have a curb-to-curb width of 28 feet, except the portion within approximately 200 feet of Dublin Canyon Road that would widen to provide a turnaround with a 48-foot radius while the segment within approximately 100 feet of the intersection with Dublin Canyon Road would have a width of approximately 80 feet, including a six-foot wide median. Five-foot wide sidewalks would be constructed on both sides of the street except between Lots 2 and 6 where the sidewalk would be limited to one side only.
- **Street A** would intersect Street B and would serve as internal circulation within the site and would provide an emergency vehicle access (EVA) connection to an existing driveway located at 10971 Dublin Canyon Road, located on the south side of Dublin Canyon Road, east of Canyon Meadows Drive. The EVA portion of Street A would be paved to a width of 20 feet. The portions of Street A that would provide direct access to residential parcels would be paved to a curb-to-curb width of

28 feet. Five-foot wide sidewalks would be constructed along the frontage of residential lots only. No separation would be provided between the curb and sidewalk.

- **East Bay Regional Park District (EBRPD) Driveway** would provide motor vehicle access to the EBRPD portion of the site, and lots 29 and 30, by paving an existing unpaved 16-foot wide driveway and widening to a width of 28 feet with a 5-foot sidewalk on the west side. The driveway would terminate at a parking lot with 20 motor vehicle parking spaces, including two ADA accessible spaces. A secondary project EVA is proposed on west side of lots 29 and 30.

Of note, in coordination with the City, the Ponderosa Homes II, Inc. is proposing to install a traffic signal at the intersection of Dublin Canyon Road and Canyon Meadows Drive as part of the project.

Figure 1: Vicinity Map

LEGEND

- X Study Intersection
- P Proposed EBPRD Park Driveway

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Figure 2: Project Site Plan

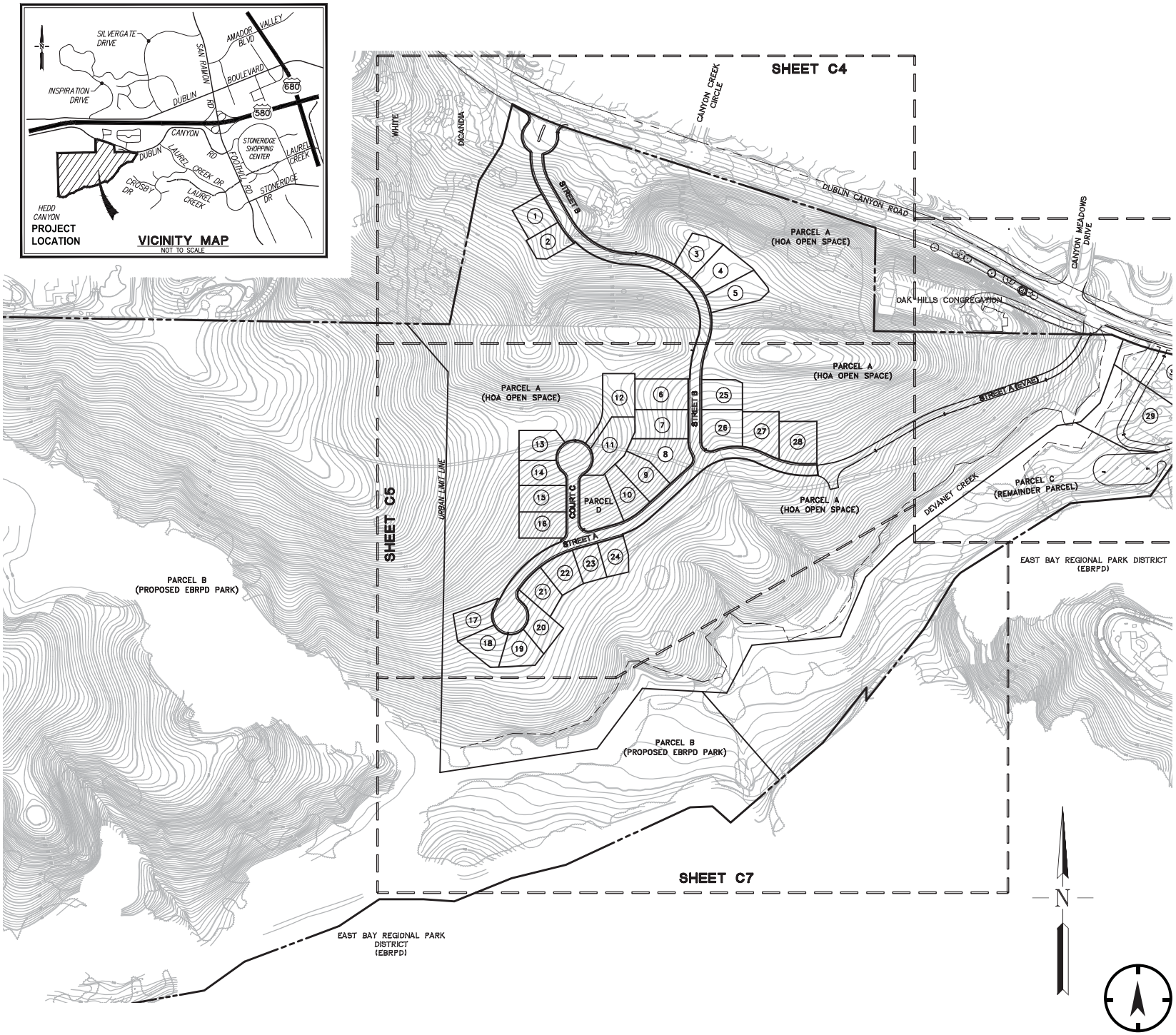


Figure 2b: Proposed Residential Entrance/Exit for Motor Vehicles

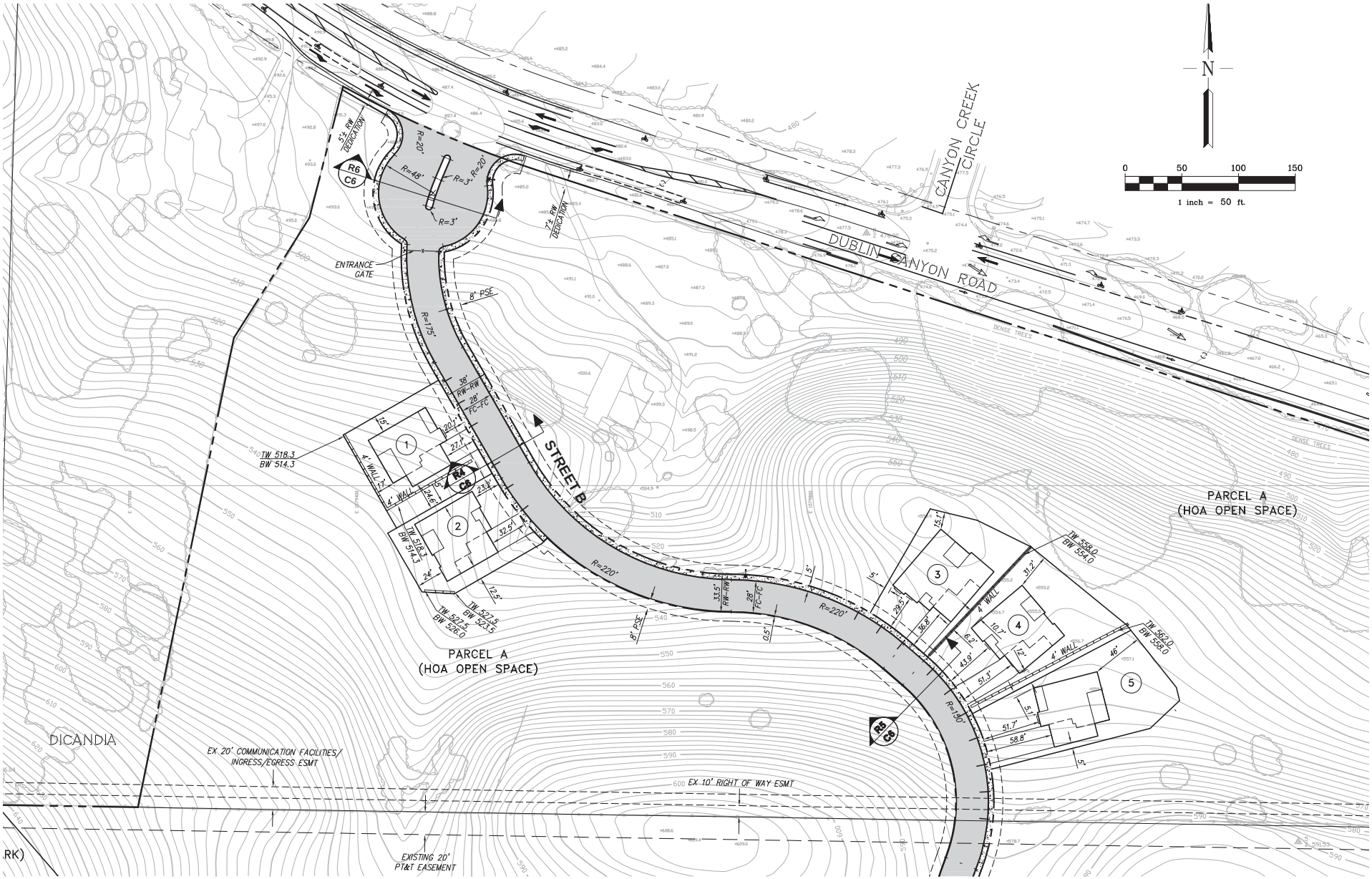
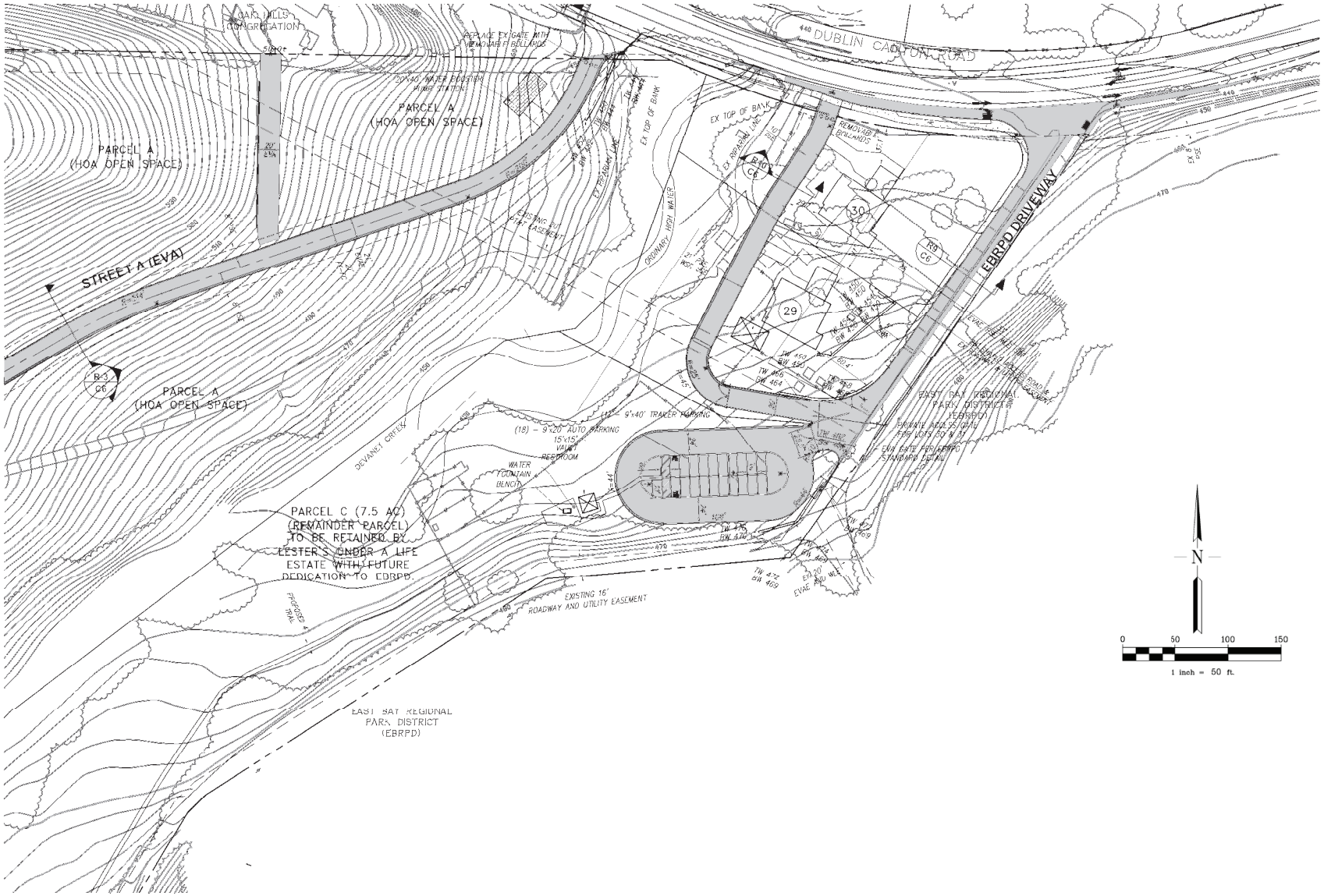


Figure 2c: Proposed Park Entrance/Exit



Impact Findings

Transportation impacts resulting from the proposed project were found to be less than significant, and, therefore no transportation mitigations would be required. The proposed project is forecast to generate an average of 407 daily vehicle trips, including 22 weekday a.m. peak hour vehicle trips (six inbound and 16 outbound), and 56 weekday p.m. peak hour vehicle trips (33 inbound and 23 outbound).

- Motor vehicle traffic impacts resulting from the proposed project were found to be less than significant based on the City's level of service (LOS) standards. The anticipated project traffic would result in roughly a three percent increase in peak-hour traffic on Dublin Canyon Road at the Canyon Meadows Drive intersection, which would not significantly affect existing conditions. All study intersections were found to operate at an acceptable LOS under all study scenarios, with and without the proposed project, and traffic conditions resulting from the proposed development would not conflict with adopted congestion management agency standards.
- Impacts to bicycle and pedestrian facilities were found to be less than significant since the proposed project is not anticipated to create or worsen a hazardous condition for bicyclists or pedestrians; or otherwise interfere with bicycle or pedestrian accessibility to the project and adjoining areas; or conflict with an existing or planned pedestrian or bicycle facility; or conflict with policies related to bicycle and pedestrian activity adopted by the City. As part of the project: existing striped shoulders bordering the site would be updated to meet Class II bicycle lane standards, including the provision of bicycle lane treatments where the project would provide an eastbound right-turn lane approaching the EBRPD Driveway.
- Impacts to transit were found to be less than significant because the project would not conflict with existing or planned transit services, or with transit policies adopted by the City, Alameda County Transit Committee (ACTC), Livermore Amador Valley Transit Authority/Wheels (LAVTA), or Bay Area Rapid Transit (BART) for their respective facilities in the study area, and the project is not anticipated to create significant demand for public transit services above capacity.
- Emergency access is anticipated to be adequate because an EVA road serving lots 1-28 would provide a secondary connection between Dublin Canyon Road and Street B within the residential portion of the site, in addition to direct access via Street A. Secondary EVA access to the EBRPD parking lot would also be provided via Lots 29 and 30.
- The project is not anticipated to substantially increase hazards due to the project design. Sight distance approaching each of the proposed project intersections was found to be adequate, based on the applicable speeds on Dublin Canyon Road. The location and design of the entrances would not affect conditions at the existing intersections of Dublin Canyon Road with Canyon Creek Circle and Canyon Meadows Drive.
- The proposed signal would improve operations at the intersection of Dublin Canyon Road and Canyon Meadows Drive. During the peak hours, the intersection would operate at LOS C or better under all "plus Project" conditions. Furthermore, the installation of the signal would improve roadway safety by limiting concurrent vehicular path conflicts between Canyon Meadows Drive and existing church driveway and provide a protected pedestrian crossing across Dublin Canyon Road for residents trying to access the nearby park.

RECOMMENDATIONS

The TIA identifies the following recommendations to improve site access and pedestrian connectivity:

EBRPD Driveway: TJKM recommends a 100-foot-long westbound left turn lane with a transition length of 120 feet, which exceeds the proposed dimensions shown on the site plan.

1.0 INTRODUCTION

This report summarizes the results of the Transportation Impact Study (TIS) for the proposed project, a residential development with proposed dedicated open space. The project site is located along Dublin Canyon Road on the western unincorporated portion of the City of Pleasanton.

1.1 Study Purpose

The purpose of the TIS is to evaluate the impacts on the transportation infrastructure due to the addition of the traffic from the proposed residential project. The report also includes evaluations and recommendations concerning project site access for motor vehicles, bicycles, and pedestrians.

1.2 Study Area

Dublin Canyon Road at the north of the project site would provide direct access to the proposed project and connect Schaeffer Ranch Road, Foothill Road, and Laurel Creek Drive. I-580 lies to the immediate north of Dublin Canyon Road and is accessible via Foothill Road. The proposed Street B would intersect Dublin Canyon Road about 300 feet east of Canyon Creek Circle and provide access for all travel modes to the residential portion of the project. Street B is intended for primary motor vehicle traffic whereas Street A would connect with both Street B and an emergency vehicle access (EVA) road that would provide secondary EVA access to/from Dublin Canyon Road. The project site is in close proximity to some existing residential developments, and a religious facility.

1.3 Study Intersections

TJKM evaluated traffic conditions at 10 study intersections during the a.m. and p.m. peak hours for a typical weekday. The peak periods observed were between 7:00-10:00 a.m. and 4:00-7:00 p.m. The study intersections and associated traffic controls are as follows:

1. Dublin Canyon Road & Schaefer Ranch Road (Side-street stop sign controlled)
2. Dublin Canyon Road & Proposed Street B (Side-street stop sign controlled)
3. Dublin Canyon Road & Canyon Meadows Drive (Side-street stop sign controlled)*
4. Dublin Canyon Road-Canyon Way & Foothill Road (Signalized)**
5. Foothill Road & I-580 Eastbound Off-ramp (Signalized)**
6. Foothill Road & I-580 Westbound Off-ramp (Signalized)**
7. Foothill Road & Stoneridge Drive (Signalized)
8. Stoneridge Drive & Stoneridge Mall Road (Signalized)
9. Stoneridge Drive & I-680 Southbound Off-ramp (Signalized)**
10. Stoneridge Drive & I-680 Northbound Off-ramp (Signalized)**

**In coordination with the City, the developer is proposing to install a traffic signal at the intersection of Dublin Canyon Road and Canyon Meadows Drive as part of the project. This is reflected in all "Plus Project" scenarios.*

***Intersections 4, 5, 6, 9 and 10 are designated as "Gateway" intersections by the Pleasanton General Plan. This applies to the intersections of Foothill Road with Dublin Canyon Road and I-580 on and off ramps; and the intersections of Stoneridge Drive with I-680 on and off and ramps.*

Figure 1 illustrates the study intersections and the vicinity map of the proposed project. **Figure 2** shows the proposed project site plan.

1.4 Analysis Scenarios

This study assesses potential impacts based on the following six scenarios:

- **Existing Conditions** – This scenario describes existing transportation conditions relevant to the study area, including characteristics of key roadways and transit service, existing conditions for walking and bicycling, a summary of report collision data near the project site.
- **Existing plus Project Conditions** – This scenario describes the anticipated effects of the proposed project on Existing Conditions, including the addition of traffic from the proposed project to study intersections.
- **Near Term No Project Conditions** – This scenario is similar to Existing Conditions (without the proposed project) but with the addition of motor vehicle traffic from approved and pending developments within the vicinity of the proposed project that would affect traffic operations at study intersections.
- **Near Term Plus Project Conditions** – This scenario evaluates the effect of the proposed project on near term transportation conditions, including the effect on LOS at each study intersection.
- **Cumulative No Project Conditions** – This scenario describes anticipated transportation conditions with buildout of General Plan land uses and transportation improvements, but without the proposed project.
- **Cumulative Plus Project Conditions** – This scenario describes anticipated transportation conditions with buildout of the General Plan land uses that includes the proposed project, and with the anticipated transportation improvements that would accompany buildout. Cumulative impacts resulting from the project are assessed based on the net change from Cumulative No Project Conditions.

2.0 STUDY METHODOLOGY

This chapter discusses the LOS analysis methodology for study intersections and criteria used to identify significant impacts.

2.1 Level of Service Analysis Methodology

LOS is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. The LOS generally describes these conditions in terms of such factors as speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. The operational LOS are given letter designations from A to F, with A representing the best operating conditions (free-flow) and F the worst (severely congested flow with high delays). Intersections generally are the capacity-controlling locations with respect to traffic operations on arterial and collector streets. **Table 1** summarizes the relationship between the control delay and LOS for signalized intersections.

Table 1: Level of Service Definitions for Signalized Intersections

Level of Service	Description
A	Very low control delay, up to 10 seconds per vehicle. Progression is extremely favorable, and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	Control delay greater than 10 and up to 20 seconds per vehicle. There is good progression or short cycle lengths or both. More vehicles stop causing higher levels of delay.
C	Control delay greater than 20 and up to 35 seconds per vehicle. Higher delays are caused by fair progression or longer cycle lengths or both. Individual cycle failures may begin to appear. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflow occurs. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	Control delay greater than 35 and up to 55 seconds per vehicle. The influence of congestions becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Control delay greater than 55 and up to 80 seconds per vehicle. The limit of acceptable delay. High delays usually indicate poor progression, long cycle lengths, and high volumes. Individual cycle failures are frequent.
F	Control delay in excess of 80 seconds per vehicle. Unacceptable to most drivers. Oversaturation, arrival flow rates exceed the capacity of the intersection. Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay.

Source: Highway Capacity Manual 6

LOS ratings for stop-sign controlled intersections are based on the average control delay expressed in seconds per vehicle. At side-street, stop-sign controlled intersections, the control delay is calculated for each movement and delay for the worst approach is recorded. For approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. The weighted average delay for the entire intersections is presented for all-way stop controlled intersections. At an unsignalized intersection, most of the major street traffic is undelayed, and by definition has acceptable conditions. The major street left-turn movements and the minor street movements are all susceptible to delay of varying degrees. Generally, the higher the major street traffic volumes, the higher the delay for the minor movements. **Table 2** summarizes the relationship between control delay and LOS for unsignalized intersections.

The study intersections were analyzed using the 6th Edition of the Highway Capacity Manual (HCM) operations methodology using SYNCHRO 10.0 analysis software.

Table 2: Level of Service Definitions for Stop-controlled Intersections

Level of Service	Description
A	Very low control delay less than 10 seconds per vehicle for each movement subject to delay.
B	Low control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay.
C	Acceptable control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay.
D	Tolerable control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay.
E	Limit of tolerable control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay.
F	Unacceptable control delay in excess of 50 seconds per vehicle for each movement subject to delay.

Source: Highway Capacity Manual 6

2.2 Significant Impact Criteria

The criteria for determining the significance of project impacts is based on City of Pleasanton performance standards identified in the *Pleasanton General Plan* and utilized in prior transportation impact studies.

Traffic Impact Criteria

City of Pleasanton LOS standard specify that the minimum acceptable operation for signalized intersections is LOS D. The following study intersections are designated as Gateway intersections:

4. Dublin Canyon Road-Canyon Way & Foothill Road (Signalized)
5. Foothill Road & I-580 Eastbound Off-ramp (Signalized)
6. Foothill Road & I-580 Westbound Off-ramp (Signalized)
9. Stoneridge Drive & I-680 Southbound Off-ramp (Signalized)
10. Stoneridge Drive & I-680 Northbound Off-ramp (Signalized)

At study intersections that are not designated as Gateway intersections, project impacts would be considered potentially significant if the Project results in:

- Deterioration of a signalized intersection form LOS D or better to LOS E or F; or
- An intersection projected to operate at LOS E or LOS F prior to the addition of project traffic, the project adds 10 or more vehicle trips; or
- Deterioration of controlled movement at an unsignalized intersection from LOS E or better to LOS F, or at unsignalized intersections where a controlled movement already operates at LOS F and results in one of the following:
    - Project traffic results in a volume that meets the peak hour traffic signal warrant; or
    - Where the peak hour signal warrant is met without the project and delay cannot be measured, project traffic increases the volume by 10 or more vehicles per lane on the controlled approach; or
    - Project traffic increases average delay to a minor movement by more than 30 seconds

At each of the Gateway intersections: The level service may be lower than LOS D if no reasonable mitigation exists or if the necessary mitigation is contrary to other goals and policies of the City. For example: the Circulation Element of the General Plan notes that road widening and elimination may result in a loss of visual character and pedestrian convenience at such intersections. The Circulation Element also notes that improvements to LOS may also encourage additional cut-through traffic, thereby reducing the LOS downstream of those intersections.

At all study intersections: project impacts would be considered potentially significant if the project were to conflict with an applicable congestion management program, including but not limited to LOS and travel demand measures, or other standards established by the Alameda County Congestion Management Agency for designated roads and highways.

Pedestrian & Bicycle Impact Criteria

The Pleasanton *General Plan* and *Pedestrian and Bicycle Master Plan* describe policies and future plans concerning pedestrian and bicycle facilities in Pleasanton. Significant impacts to pedestrian and bicycle circulation would be considered potentially significant if the project would:

- Create a hazardous condition that currently does not exist for pedestrians or bicyclists; or otherwise interferes with pedestrian accessibility to the project and adjoining areas; or
- Conflict with an existing or planned pedestrian or bicycle facility; or
- Conflict with policies related to bicycle and pedestrian activity adopted by the City of Pleasanton.

Transit Impact Criteria

Project impacts to transit would be considered potentially significant if the project:

- Conflicts with existing or planned transit services; or
- Creates demand for public transit services above the capacity that is provided or planned; or
- Conflicts with transit policies adopted by the City of Pleasanton, ACTC, Wheels (LAVTA) or BART for their respective facilities in the study area.

3.0 EXISTING CONDITIONS

This section describes existing conditions in the immediate project site vicinity, including roadway facilities, bicycle and pedestrian facilities, and available transit service. In addition, existing traffic volumes and operations are presented for the study intersections, including the results of LOS calculations.

3.1 Existing Setting and Roadway System

Regional roadway access to the proposed residential development is provided via I-580 and I-680. Access to the project site is provided via Dublin Canyon Road, a two-lane arterial street that parallels I-580 and connects with Foothill Road, Schaefer Ranch Road, and Laurel Creek Drive. Descriptions of the existing roadways are provided as follows:

Dublin Canyon Road is two lane east-west roadway parallel to I-580 that extends between Foothill Road to the east and Palo Verde Road, about five miles from the western boundary of Pleasanton, where it becomes Castro Valley Road. Bicycle lanes are provided on segments west of the project site, and to the east near Foothill road, while striped shoulders are provided on segments near the project site and on-street parking is prohibited. No sidewalks are provided on the segment of Dublin Canyon Road bordering the site. Dublin Canyon Road is frequently used as an alternate route by motorists to avoid peak period congestion on I-580, primarily westbound on weekday mornings and eastbound on weekday afternoons, and carries roughly 800 a.m. and 1,000 p.m. peak hour vehicle trips near the project site. Dublin Canyon Road is designated in the City of Pleasanton General Plan as an arterial street, including the segment bordering the project site. Dublin Canyon Road borders the north edge of the project site and connects the project site with other streets in the area including Foothill Road, Laurel Creek Drive, Canyon Meadows Drive, Canyon Creek Circle and Schaefer Ranch Road. The speed limit on Dublin Canyon Road is 55 miles per hour (mph) to the west of the project site. The speed limit changes to 45 mph near the proposed intersection with Street B, where a sign indicting the 45 mph speed limit is accompanied by a radar feedback display that displays the speeds of eastbound motorists.

Canyon Meadows Drive is a local street on the north side of Dublin Canyon Road, approximately 500 feet west of the proposed EBRPD Driveway, that provides access to an adjacent residential development. Canyon Meadows Drive serves 83 a.m. and 82 p.m. peak hour vehicle trips based on recent counts (including 69 outbound during the a.m. peak hour, and 31 outbound during the p.m. peak hour). Sidewalks are provided on both sides of Canyon Meadows Drive up to the intersection with Dublin Canyon Road.

Canyon Creek Circle is a local street on the north side of Dublin Canyon Road, approximately 300 feet east of the proposed Street B that provides access to 40 single-family residences and is estimated to serve less than 40 vehicle trips during both the a.m. and p.m. peak hours. Sidewalks are provided on both sides of Canyon Creek Circle up to the intersection with Dublin Canyon Road.

Foothill Road is a two-to-five lane arterial street extending from the City of Dublin to the north, and the town of Sunol to the south. Foothill Road is a five-to-six lane roadway, located east of the project site and

provides access to and from I-580, I-680, Stoneridge Drive and San Ramon Road. Sidewalks and bicycle lanes are provided on Foothill Road south of the intersection with Dublin Canyon Road.

Stoneridge Drive is a four-to-six lane east-west arterial street extending between Foothill Road and Laurel Creek Drive to the west, through Hacienda Business Park to El Charro Road on the eastern border of Pleasanton. Sidewalks and bicycle lanes are provided on both sides of Stoneridge Drive.

Schaefer Ranch Road is a two-lane roadway that lies about two miles from the western City boundary and connects the Schaefer Ranch residential development and Dublin Road, both located on the north side of I-580, to the project site via Dublin Canyon Road. The roadway lies to the west of the project site.

Laurel Creek Drive is a two-lane residential collector extending between Dublin Canyon Road to the west and Foothill Road on the east. The roadway provides lies to the east of the project site and provides access to residential properties and connects with Foothill Road and Stoneridge Drive. Right- and left-turn access from Dublin Canyon Road is prohibited.

I-580 is an east-west, eight-lane freeway with four mixed-flow lanes in each direction in the vicinity of the project. I-580 is located approximately 850 feet north of the project site and provides regional freeway access connecting Interstate 5 with the San Francisco-Oakland Bay Bridge, and further northwest through the City of Richmond. I-580 provides direct access to Dublin, Pleasanton and Livermore. The nearest access from I-580 to the project site is provided via on and off ramps at Foothill Road.

I-680 is a north-south, six-lane freeway with three mixed-flow lanes in each direction to the south of I-580, and eight-lane freeway with four mixed-flow lanes in each direction to the north of I-580, in the vicinity of the project. I-680 is located approximately 4,300 feet to the east of the project site and provides regional freeway access north to San Ramon, Walnut Creek and Concord, and south to Milpitas and San Jose. Access from I-680 to the project site is provided via interchanges at I-580 and Stoneridge Drive.

3.2 Existing Pedestrian Facilities

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal "walkable" community includes wide sidewalks, a mix of land uses such as residential, employment, and shopping opportunities, a limited number of conflict points with vehicle traffic, and easy access to transit facilities and services. Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access destinations such as institutions, businesses, public transportation, and recreation facilities.

There are no existing sidewalks on Dublin Canyon Road in the immediate vicinity of the project site. Sidewalks are provided on segments of Dublin Canyon Road to the west and east of the project site, but do not connect to the project site. Two intersections closest to the project site have internal sidewalks extending towards residences on Canyon Creek Circle and Canyon Meadows Drive. The intersection of Schaefer Ranch Road and Dublin Canyon Road, a side-street stop controlled intersection is equipped with sidewalks. Other study intersections lying to the east of the project site are signalized and are well equipped with marked crosswalks, push buttons, and pedestrian countdown heads. Existing sidewalk

facilities in the study area are shown in **Figure 3**. Existing peak-hour pedestrian volumes at each study intersection are provided in **Appendix B**.

3.3 Existing Bicycle Facilities

The 2018 City of Pleasanton Bicycle and Pedestrian Master Plan describes the following classes of bicycle infrastructure described below-

- **Class I Bikeways/Multi-Use Paths**: Class I bikeways are also referred to as multi-use or shared-use paths. They provide completely separated, exclusive right of way for people to walk and bike. There are 13 miles of Class I bikeways in Pleasanton, which include the Iron Horse Trail, Centennial Trail, Arroyo Mocho Trail, Pleasanton Canal Trail, and Marilyn Murphy Kane Trail.
- **Class II Bikeways/On-Street Bike Lanes**: Class II bikeways provide restricted right-of-way and are designated for the use of bicycles with a striped lane on a street or highway. These lanes are generally at least 5 feet wide (with a minimum width of four feet). The path of travel on bike lanes can be highlighted with green paint at locations of conflict zones. There are approximately 40 miles of Class II bike lanes existing in the City.
- **Class III Bikeways/Bike Routes**: Class III bikeways are signed bike routes where bicyclists share a travel lane with motorists. Marked with sharrows, bike routes often exist where there is on street parking to encourage cyclists to ride a safe distance away from parked vehicles' "door zone." Sharrows also inform drivers that cyclists should be expected on the street and given sufficient room. There are approximately seven miles of bicycle routes in the City.
- **Class III Bikeways / Bicycle Boulevards:** are similar to bicycle routes, where bicyclists and drivers share the travel lane. However, bicycle boulevards must be located on residential streets with low auto volume and low speeds. They typically include traffic calming measures to create, safe, comfortable streets, together with enhanced signage and pavement markings. There are currently no bicycle boulevards existing in the City.
- **Class IV Bikeways / Protected On-Street Bike Lane/Cycle tracks:** Class IV bikeways are bicycle lanes that are fully protected from auto traffic through raised elements, such as curbs, plastic bollards, landscaping, or parking. They are a key element of a bicycle network suitable for all ages and abilities due to their comfort and safety benefits. They are also known as protected bike lanes or cycle tracks.

The project site is well connected to adjacent areas with Class II bike lanes installed on Dublin Canyon Road to the east, near Foothill Road, and west of the project site to Schaefer Ranch Road, while existing striped shoulders accommodate bicycle travel bordering the project site. Foothill Road and Stoneridge Drive in the vicinity of the project are also equipped with Class II bike lanes. However, there are no bike lanes within the streets east of Foothill Road that provides access to the Stoneridge Shopping Center and West Dublin/Pleasanton BART Station. The project site is located roughly 1.4 miles from the West Dublin/Pleasanton BART station, within convenient cycling distance.

The existing bicycle facilities in the study area are shown in **Figure 4**. Existing peak-hour traffic bicycle volumes at each study intersection are provided in **Appendix B**.

3.5 Collision Data Review

There were a total of 30 reported collisions on Dublin Canyon Road between Schaefer Ranch Road and Foothill Road during the 5-year period from 2013 to 2017 as summarized on **Table 3.** About 40 percent of the reported collisions were found to occur due to automobile right of way violations resulting primarily in broadside collisions and some head-on collisions. Nearest the project site, the reported collisions included seven collisions near the intersection of Dublin Canyon Road with Canyon Meadow Drive as shown on **Figure 6.**

Table 3: Reported Collisions on Dublin Canyon Road (2013-17)

	Head-On	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Total
DUI					1		1
Unsafe Speed			2		1		3
Wrong Side of the Road	1		1	1			3
Unsafe Lane Change		1					1
Improper Turning		2		1	2	2	7
Automobile Right of Way	4			10			14
Other Than Driver(Or Pedestrian)	1						1
Total	**6**	**3**	**3**	**12**	**4**	**2**	**30**

Source: Statewide Integrated Traffic Records System (SWITRS)

Figure 3: Sidewalk Network

LEGEND

- X — Study Intersection
- P — Proposed EBPRD Park Driveway
- Sidewalks

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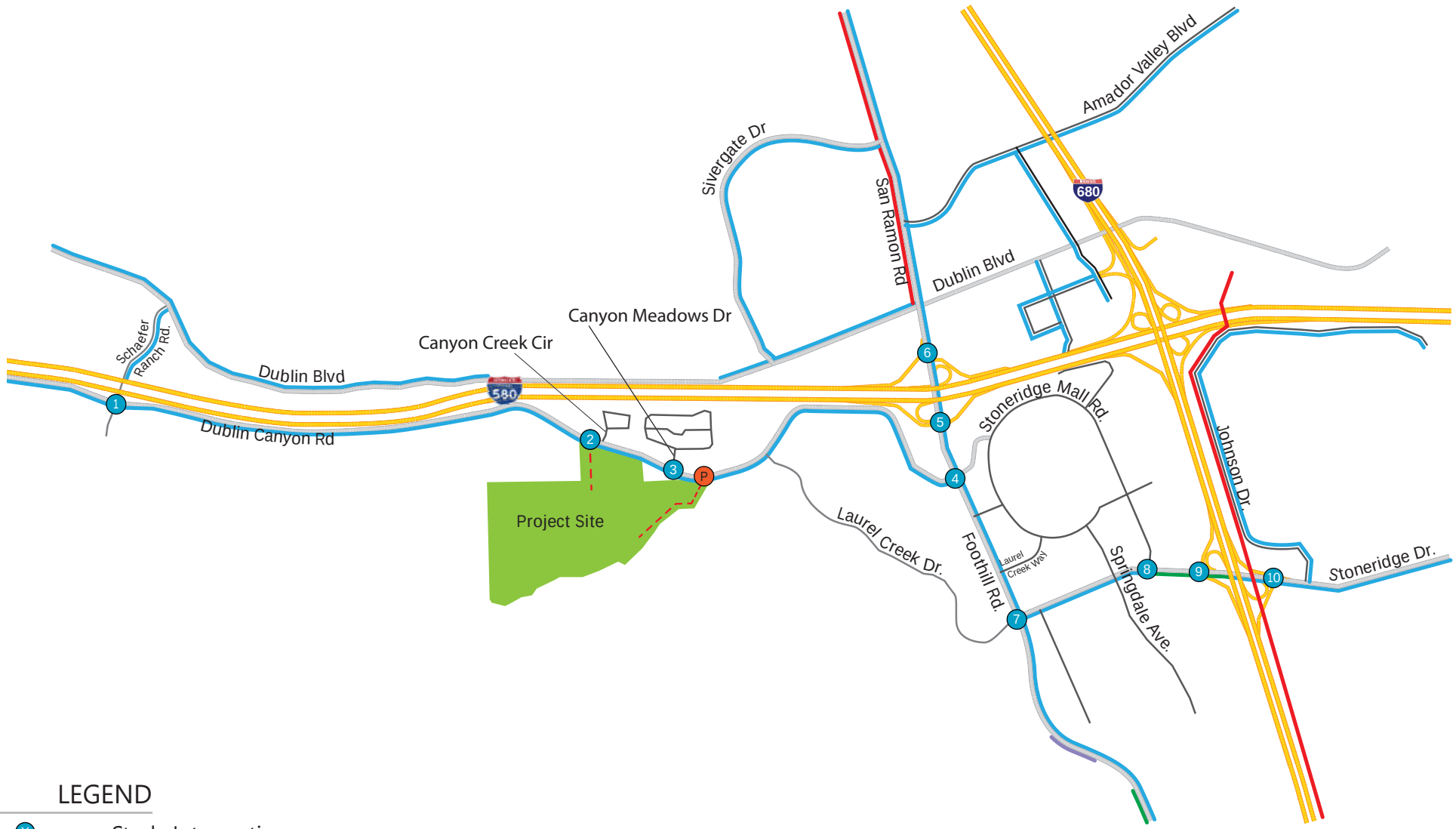
Figure 4: Bicycle Networks



LEGEND

- Study Intersection
- Proposed EBPRD Park Driveway
- Bike Lane on Both Sides of the Street
- Bike Route
- Bike Lane - One Directional
- Multi-use Trail-off Street

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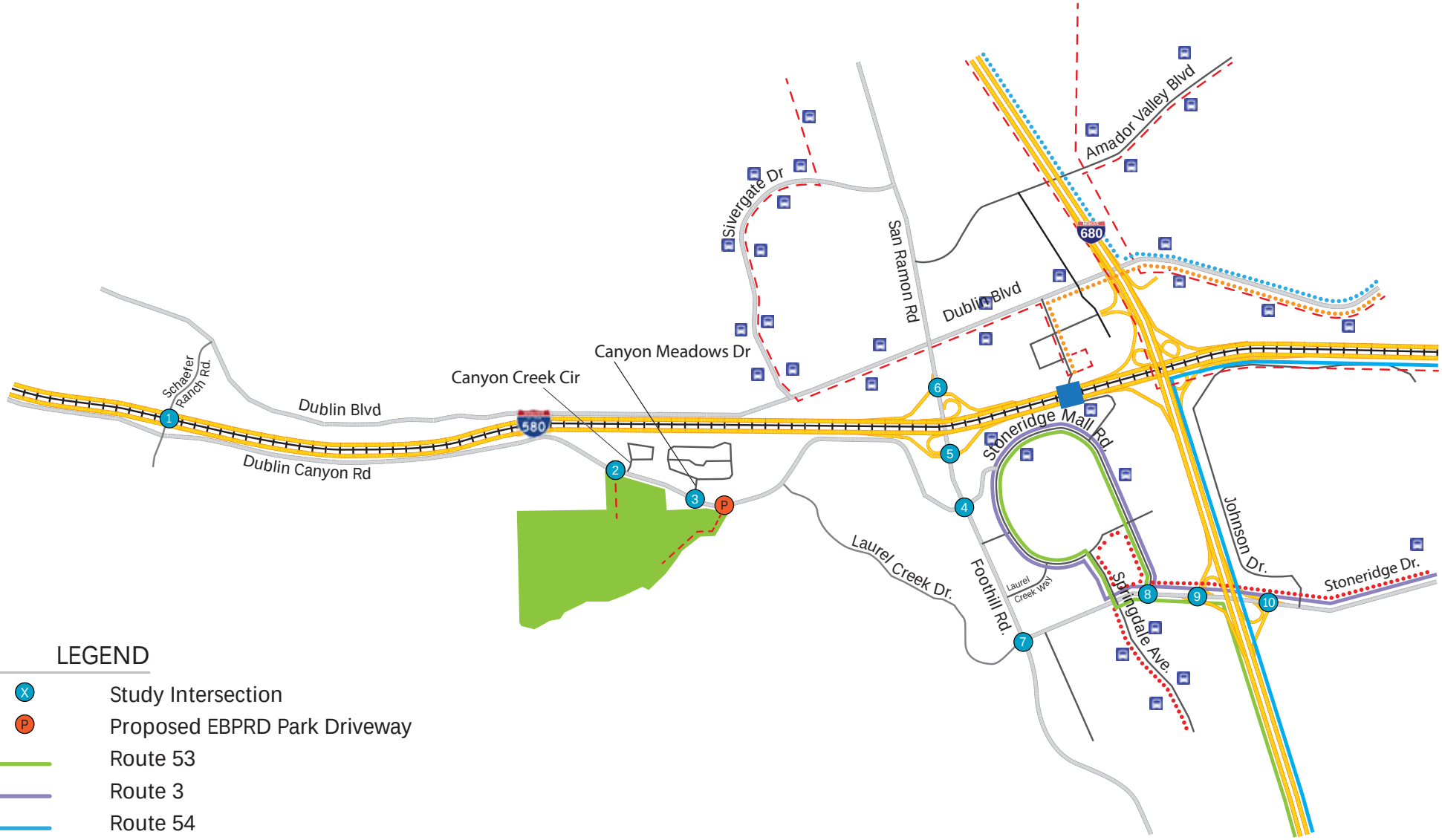
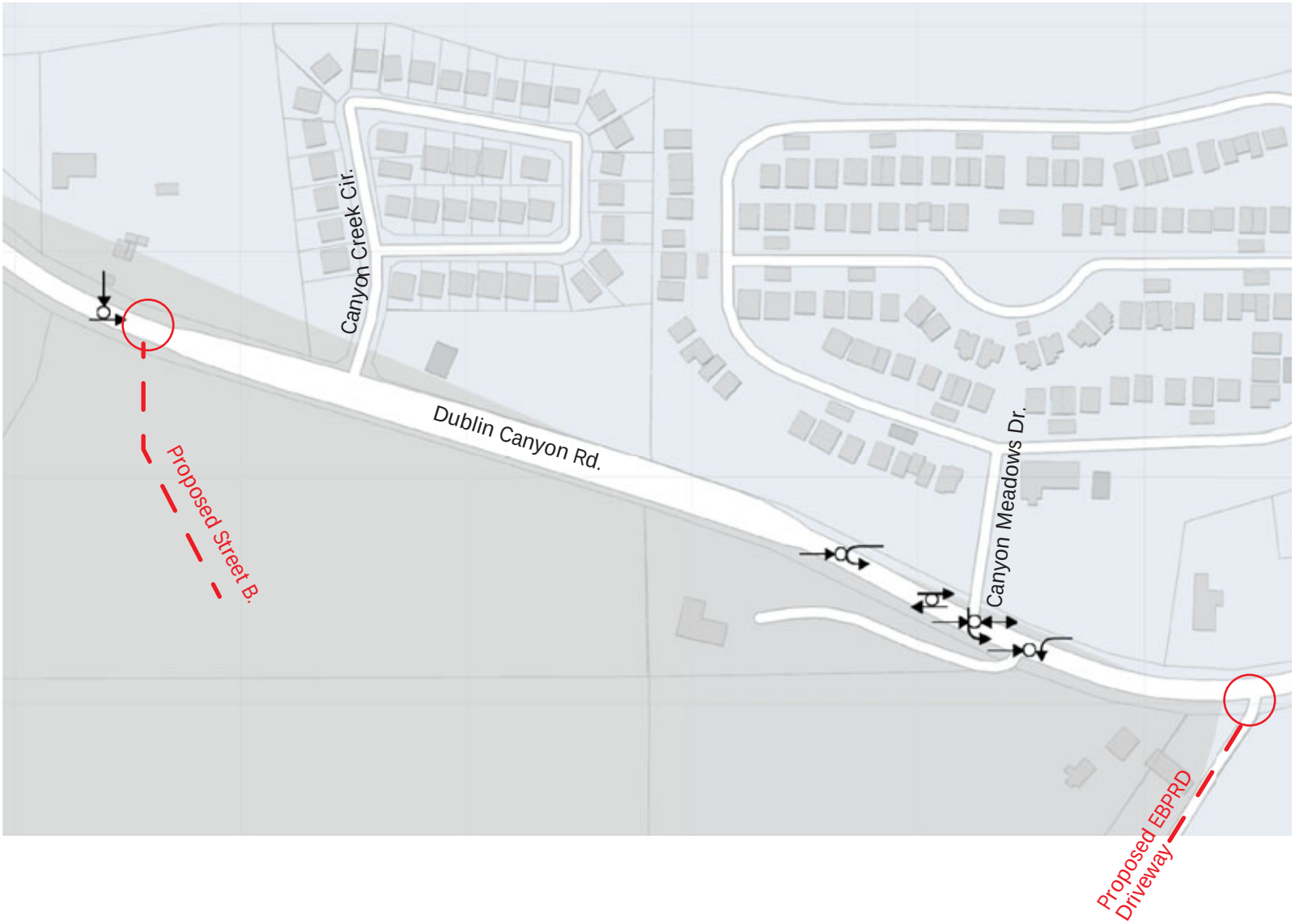
Figure 5: Transit Service



LEGEND

- Study Intersection
- Proposed EBPRD Park Driveway
- Route 53
- Route 3
- Route 54
- Route 30R
- Route 70X
- Routes 501, 502, 503,504
- Routes 601-6011
- Bus Stops
- Bart Station
- Bart Route/Rail

Figure 6: Reported Collision Locations near Proposed Project Entrances



3.7 Existing Peak Hour Traffic Volumes And Lane Configurations

The existing operations of the study intersections were evaluated for the highest one-hour volumes during weekday morning and evening peak periods. Recent turning movement counts for vehicles, bicycles, and pedestrians were conducted during the weekday a.m. peak period (7:00-9:00 a.m.) and p.m. peak period (4:00-6:00 p.m.) at the study intersections on typical weekdays during spring 2019 when local schools were in session.

Figures 7 illustrates the existing lane geometry and traffic controls at each of the study intersections. **Figure 8** illustrates the existing a.m. and p.m. peak hour vehicle turning movement volumes at the study intersections. **Appendix B** includes all data sheets and count dates for the collected vehicle, bicycle, and pedestrian counts.

3.8 Intersection Level of Service Analysis – Existing Conditions

The existing operations of the study intersections were evaluated for the highest one-hour volume during the weekday morning and evening peak periods. The a.m. and p.m. peak hour turning movement counts were conducted on typical weekdays during the spring of 2019 when local schools were in session. The a.m. and p.m. peak periods observed were between 7:00-10:00 a.m. and 4:00-7:00 p.m. Turning movement count sheets are in **Appendix B.**

Existing intersection lane configurations and peak-hour turning movement volumes were used to calculate the LOS at the study intersections during peak hours. **Figure 7** illustrates the existing lane geometry, traffic controls, and turning movement volumes at the study intersections. Existing Conditions intersection LOS worksheets are provided in **Appendix C**. The results of the LOS analysis for Existing Conditions are summarized in **Table 4**.

All of the study intersections are operating acceptably at LOS D or better during both the a.m. and p.m. peak hours. During the a.m. peak hour the stop-sign controlled intersection of Schaefer Ranch Road & Dublin Canyon Road experiences delay consistent with LOS E on the stop-sign controlled approach (southbound Schaefer Ranch Road approaching Dublin Canyon Road) but overall average delay for the intersection is consistent with LOS A.

At the unsignalized study intersections: side-street approach volumes exceed the peak-hour signal warrant at the intersection of Dublin Canyon Road with Schaefer Ranch Road.

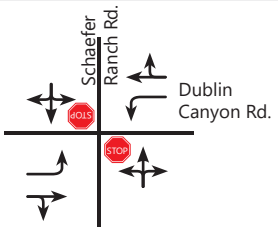
Table 4: Intersection Level of Service Analysis – Existing Conditions

ID #	Intersection	Control	Peak Hour	Existing Conditions	
				LOS[1]	Average Delay[2]
1	Schaefer Ranch Rd & Dublin Canyon Rd	Side-street stop	A.M.	A **(E)**	7.3 **(39.1)**
			P.M.	A (B)	2.6 (12.5)
2	Proposed Street B & Dublin Canyon Rd	Side-street stop	A.M.	n/a	n/a
			P.M.	n/a	n/a
3	Canyon Meadows Dr & Dublin Canyon Rd	Side-street stop	A.M.	A (C)	1.4 (18.1)
			P.M.	A (C)	0.9 (22.5)
4	Foothill Rd & Dublin Canyon Rd/Canyon Way	Signal	A.M.	C	21.9
			P.M.	D	44.0
5	Foothill Rd & I-580 EB Ramps	Signal	A.M.	B	12.3
			P.M.	B	12.8
6	Foothill Rd & I-580 WB Off-ramp	Signal	A.M.	B	11.6
			P.M.	B	17.0
7	Foothill Rd & Stoneridge Dr/Laurel Creek Dr	Signal	A.M.	B	19.5
			P.M.	B	16.7
8	Stoneridge Dr & Stoneridge Mall	Signal	A.M.	A	5.5
			P.M.	B	13.4
9	Stoneridge Dr & I-680 SB Off-ramp	Signal	A.M.	A	8.8
			P.M.	B	12.6
10	Stoneridge Dr & I-680 NB Off-ramp	Signal	A.M.	B	13.1
			P.M.	B	16.3

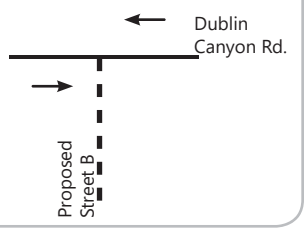
Notes:
1. LOS – Level of Service
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop-controlled intersections, delay is presented for both the intersection average (and delay to the worst approach is shown in parenthesis).

Figure 7: Intersection Configurations and Traffic Controls

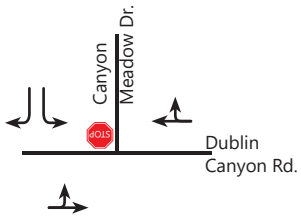
Intersection#1
Dublin Canyon Rd./ Schaefer Ranch Rd.



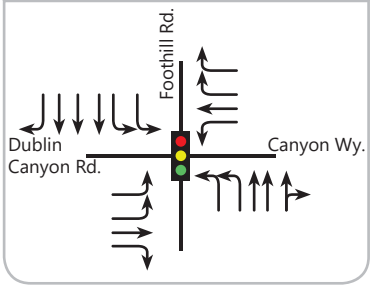
Intersection#2
Dublin Canyon Rd./ Street B



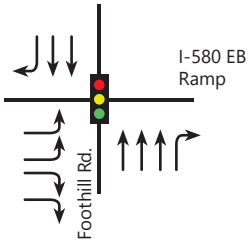
Intersection#3
Dublin Canyon Rd./ Canyon Meadow Dr.



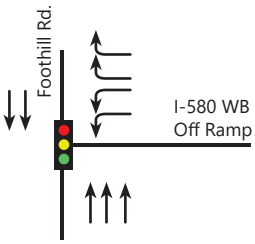
Intersection#4
Dublin Canyon Rd./ **Foothill Rd.**



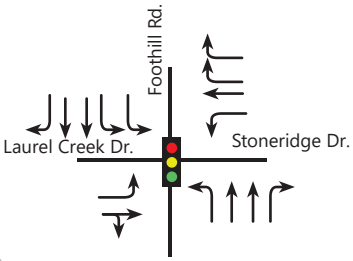
Intersection#5
Foothill Rd./ I-580 EB Ramp



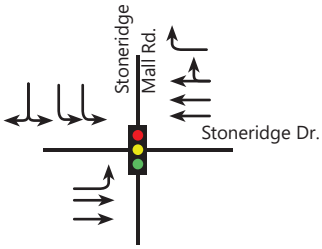
Intersection#6
Foothill Rd./ I-580 WB Off Ramp



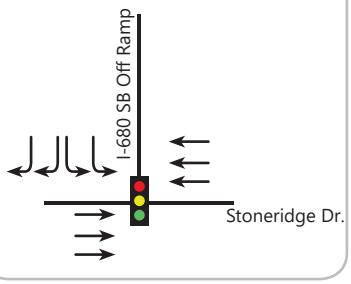
Intersection#7
Foothill Rd./ Stoneridge Dr.



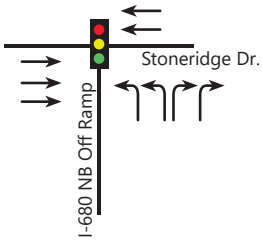
Intersection#8
Stoneridge Dr./ Stoneridge Mall Rd.



Intersection#9
Stoneridge Dr./ I-680 SB Off Ramp



Intersection#10
Stoneridge Dr./ I-680 NB Off Ramp



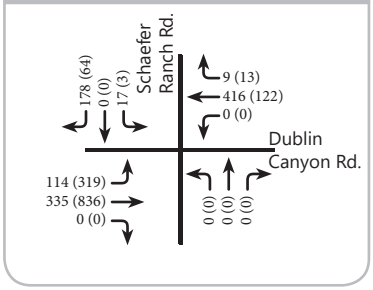
LEGEND

- Study Intersection
- Proposed EBPRD Park Driveway
- Stop Sign
- Traffic Signal

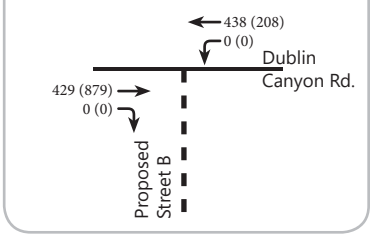
TJKM

Figure 8: Existing Peak Hour Traffic Volumes

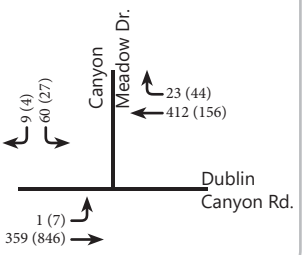
Intersection#1 Dublin Canyon Rd./ Schaefer Ranch Rd.



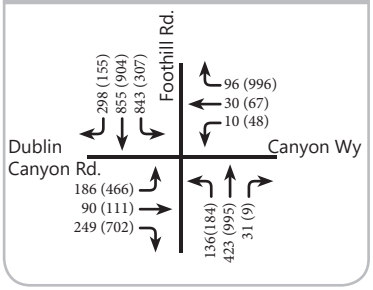
Intersection#2 Dublin Canyon Rd./ Proposed Street B



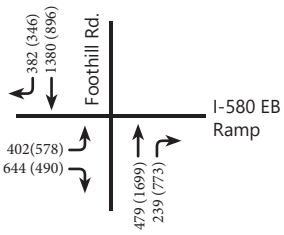
Intersection#3 Dublin Canyon Rd./ Canyon Meadow Dr.



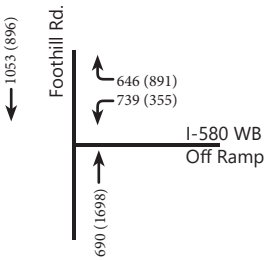
Intersection#4 Dublin Canyon Rd./ Foothill Rd.



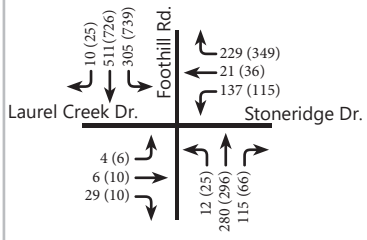
Intersection#5 Foothill Rd./ I-580 EB Ramp



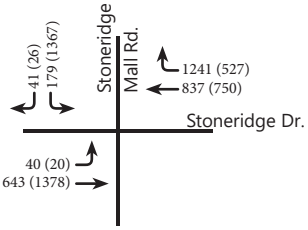
Intersection#6 Foothill Rd./ I-580 WB Off Ramp



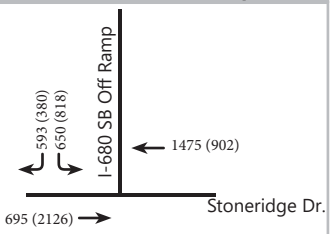
Intersection#7 Foothill Rd./ Stoneridge Dr.



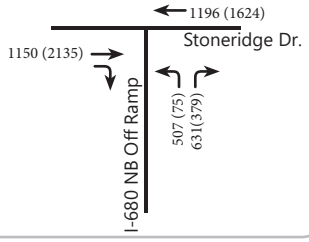
Intersection#8 Stoneridge Dr./ Stoneridge Mall Rd.



Intersection#9 Stoneridge Dr./ I-680 SB Off Ramp



Intersection#10 Stoneridge Dr./ I-680 NB Off Ramp



LEGEND

- X Study Intersection
- P Proposed EBPRD Park Driveway
- ## AM Peak Hour Project Trips
- (##) PM Peak Hour Project Trips

TJKM

4.0 PROJECT CONDITIONS

The impacts of the proposed project on the multi-modal transportation system are discussed in this chapter. Motor vehicle traffic impacts are assessed based on the volume of motor vehicle traffic generated by the project. A comparison of intersection LOS with and without the project is conducted to assess potential impacts.

The volume of peak-hour motor vehicle traffic added to the roadway system and study intersections is forecasted using a three-step process.

- Trip Generation – Forecasts the amount of traffic added to the roadway network,
- Trip Distribution – Predicts the direction of travel to and from the project site
- Trip Assignment – The new vehicle trips are assigned to specific street segments and intersection turning movements

4.1 Project Vehicle Trip Generation

Ponderosa Homes II, Inc. proposes to develop the site with 30 single-family detached houses, 28 new dwellings (lots 1 to 28) and replacement of the two existing dwellings (lots 29 and 30). Of note, previous iterations of the development program included 31 units (29 new and two existing) as opposed to the current 30 units. To be consistent with previous iterations of this TIS and thus presenting a conservative assessment, the analysis of the "plus Project" scenarios includes the additional new unit.

TJKM developed estimated project trip generation for the proposed project based on published trip generation rates from the Institute of Transportation Engineers' (ITE) *Trip Generation Manual (10th Edition)*. TJKM used published trip rates for the ITE land use Single Family Detached housing (ITE Code 210). Published trip rates from land use of Public Park (ITE Code 411) was utilized to obtain projects trips for the proposed 70-acre park.

Table 5 shows the trip generation expected to be generated by the proposed 29 net new single-family residences and 70-acre park space. The two existing lots that would be replaced would not be expected to contribute to a net increase in traffic. The proposed project is expected to generate approximately 407 daily vehicle trips including 22 weekday a.m. peak hour trips (six inbound and 16 outbound), and 56 weekday p.m. peak hour trips (33 inbound and 23 outbound).

Table 5: Project Vehicle Trip Generation Forecast

Land Use	ITE Code	Size	Weekday		AM Peak Hour					PM Peak Hour				
			Rate	Trips	Rate	In %	In	Out	Total	Rate	In %	In	Out	Total
Single Family Residential [1]	*210*	*29* dwellings	*9.44*	274	*0.74*	*25*	5	16	**21**	*0.99*	*63*	18	11	**29**
Park *(Proposed EBRPD Park-Parcel B)*	*411*	*70.3* acres	*(2)*	133	*0.02*	*59*	1	0	**1**	*(3)*	*55*	15	12	**27**
Total Vehicle Trips				**407**			6	16	**22**			33	23	**56**

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

Notes:

1. Land Use Code 210 (Single Family Detached) was used as ITE Trip Generation Manual 10th Edition does not provide a rate for Single Family Attached
2. Average weekday vehicle trips for park based on fitted curve equation: (70.3 acres x 0.64)+ 88.46 = 133 weekday vehicle trips.
3. PM Peak Hour vehicle trips for park based on fitted curve equation: (70.3 acres x 0.06) + 22.6 = 27 p.m. peak hour vehicle trips.

4.2 Project Vehicle Trip Distribution and Assignment

Trip distribution is a process that determines in what proportion vehicles would be expected to travel between the project site and various origins and destinations outside the project study area and also determines the various routes that vehicles would take from the project site to each destination using the calculated trip distribution. Trip distribution assumptions for the proposed project were developed based on existing travel patterns, knowledge of the study area, and consultation with City staff.

Figure 9 illustrates the predicted distribution of project vehicle trips and **Figure 10** illustrates the anticipated trip assignment at each study intersection, based on existing travel patterns in the area. The assigned project trips were then added to traffic volumes under Existing Conditions to generate Existing plus Project Conditions traffic volumes.

4.3 Traffic Impact Findings – Existing plus Project Conditions

The analysis of Existing plus Project LOS at study intersections is based on the addition of project vehicle trips to existing traffic volumes. The anticipated volume of motor vehicle traffic under Existing plus Project Conditions during the a.m. and p.m. peak hours at each study intersection is illustrated on **Figure 11**.

The intersection LOS analysis results for Existing plus Project Conditions are summarized in **Table 6**. Detailed calculation sheets for Existing plus Project Conditions are contained in **Appendix D**.

With the addition of traffic generated by the proposed project, all the signalized study intersections would continue to operate acceptably at LOS D or better during both the a.m. and p.m. peak hours.

During the a.m. peak hour the stop-sign controlled intersection of Schaefer Ranch Road & Dublin Canyon Road experiences would continue to experience delay consistent with LOS E on the stop-sign controlled approach (southbound Schaefer Ranch Road approaching Dublin Canyon Road), with added delay increasing by less than one second due to the project. Side-street approach volumes exceed the peak-hour signal warrant at the intersection of Dublin Canyon Road with Schaefer Ranch Road under existing conditions, though the project is not anticipated to add traffic to the stop-controlled approach. Overall average delay for the intersection would remain consistent with LOS A. The project would not result in deterioration of controlled movement at an unsignalized intersection from LOS E or better to LOS F and the project impact would be less than significant.

With installation of a traffic signal at the intersection of Dublin Canyon Road with Canyon Meadows Drive (which is being coordinated between the developer and the City to enhance traffic operations and safety), the intersection is expected to operate at LOS A during both peak hours.

Traffic impacts resulting from the project would be considered ***less than significant*** based on city standards.

Table 6: Intersection Level of Service Analysis – Existing plus Project Conditions

ID #	Intersection	Control	Peak Hour	Existing Conditions		Existing Plus Project Conditions	
				LOS[1]	Average Delay[2]	LOS[1]	Average Delay[2]
1	Schaefer Ranch Rd & Dublin Canyon Rd	Side-street stop	A.M.	A **(E)**	7.3 **(39.1)**	A **(E)**	7.4 **(40.0)**
			P.M.	A (B)	2.6 (12.5)	A (B)	2.6 (12.5)
2	Proposed Street B & Dublin Canyon Rd	Side-street stop	A.M.	n/a	n/a	A (B)	0.3 (12.1)
			P.M.	n/a	n/a	A (C)	0.4 (18.0)
3	Canyon Meadows Dr & Dublin Canyon Rd	Ex: Side-street stop Ex+P: Signal	A.M.	A (C)	1.4 (18.1)	A	8.5
			P.M.	A (C)	0.9 (22.5)	A	8.0
4	Foothill Rd & Dublin Canyon Rd/Canyon Way	Signal	A.M.	C	21.9	C	22.0
			P.M.	D	44.0	D	45.7
5	Foothill Rd & I-580 EB Ramps	Signal	A.M.	B	12.3	B	12.3
			P.M.	B	12.8	B	13.0
6	Foothill Rd & I-580 WB Off-ramp	Signal	A.M.	B	11.6	B	11.6
			P.M.	B	17.0	B	17.1
7	Foothill Rd & Stoneridge Dr/Laurel Creek Dr	Signal	A.M.	B	19.5	B	19.6
			P.M.	B	16.7	B	16.8
8	Stoneridge Dr & Stoneridge Mall Rd.	Signal	A.M.	A	5.5	A	5.5
			P.M.	B	13.4	B	13.5
9	Stoneridge Dr & I-680 SB Off-ramp	Signal	A.M.	A	8.8	A	8.8
			P.M.	B	12.6	B	12.6
10	Stoneridge Dr & I-680 NB Off-ramp	Signal	A.M.	B	13.1	B	13.1
			P.M.	B	16.3	B	16.4

Notes:
1. LOS – Level of Service
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop-controlled intersections, delay is presented for both the intersection average (and delay to the worst approach is shown in parenthesis).
3. Ex – Existing Conditions; Ex+P – Existing Plus Project Conditions

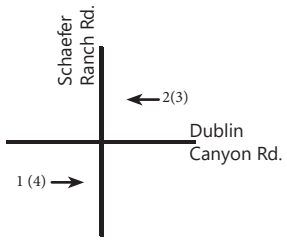
Figure 9: Trip Distribution

LEGEND

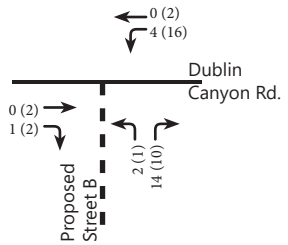
- X — Study Intersection
- P — Proposed EBPRD Park Driveway
- % — Proposed Trip Distribution

Figure 10: Project Trip Assignment

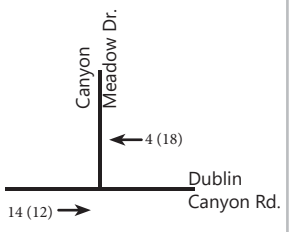
Intersection#1 Dublin Canyon Rd./ Schaefer Ranch Rd.



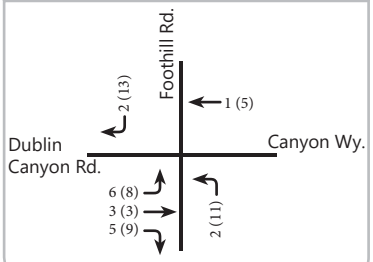
Intersection#2 Dublin Canyon Rd./ Proposed Street B



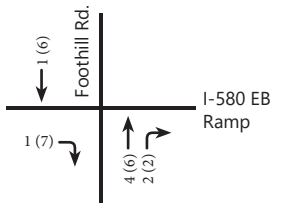
Intersection#3 Dublin Canyon Rd./ Canyon Meadow Dr.



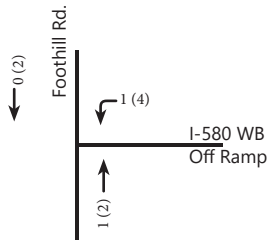
Intersection#4 Dublin Canyon Rd./ Foothill Rd.



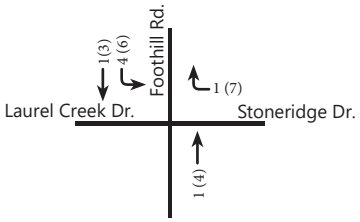
Intersection#5 Foothill Rd./ I-580 EB Ramp



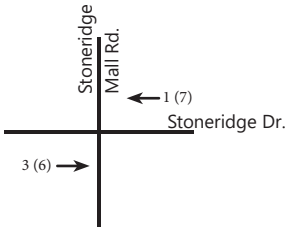
Intersection#6 Foothill Rd./ I-580 WB Off Ramp



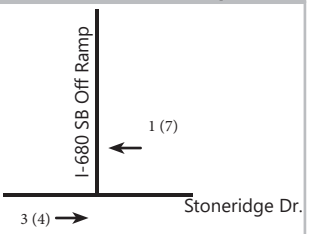
Intersection#7 Foothill Rd./ Stoneridge Dr.



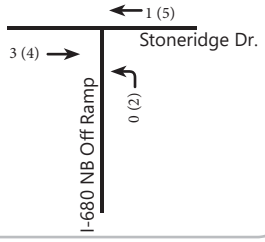
Intersection#8 Stoneridge Dr./ Stoneridge Mall Rd.



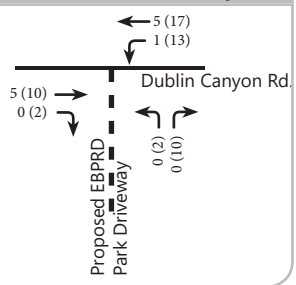
Intersection#9 Stoneridge Dr./ I-680 SB Off Ramp

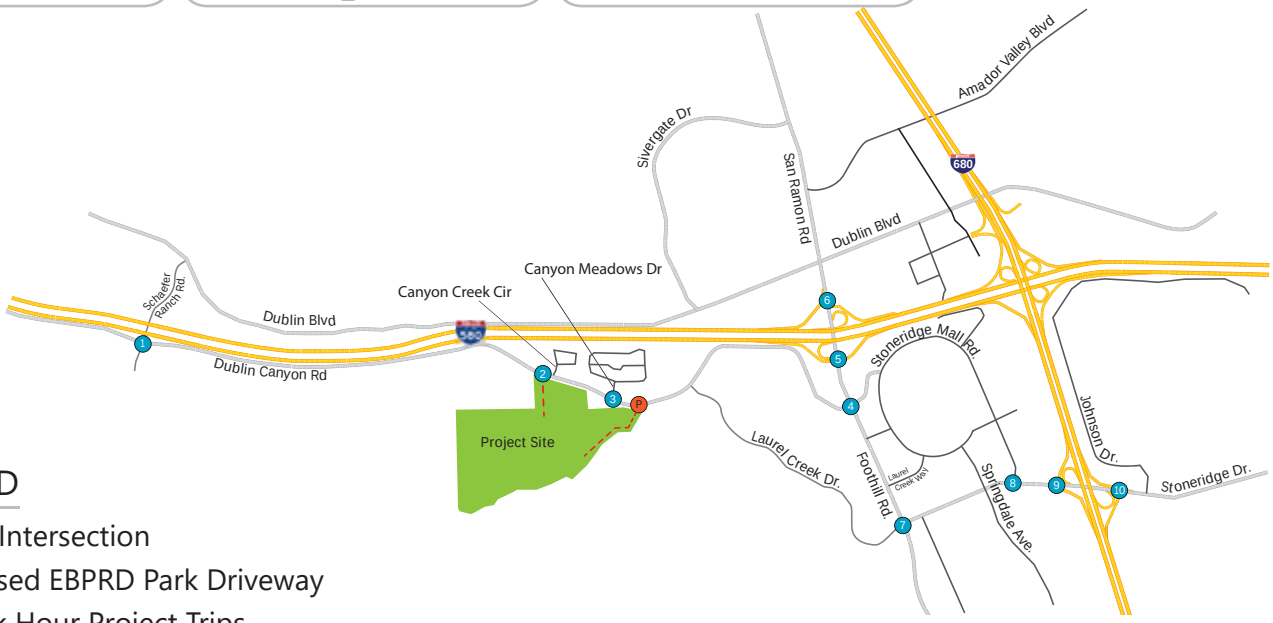


Intersection#10 Stoneridge Dr./ I-680 NB Off Ramp



Intersection#P Dublin Canyon Rd./Proposed EBPRD Park Driveway



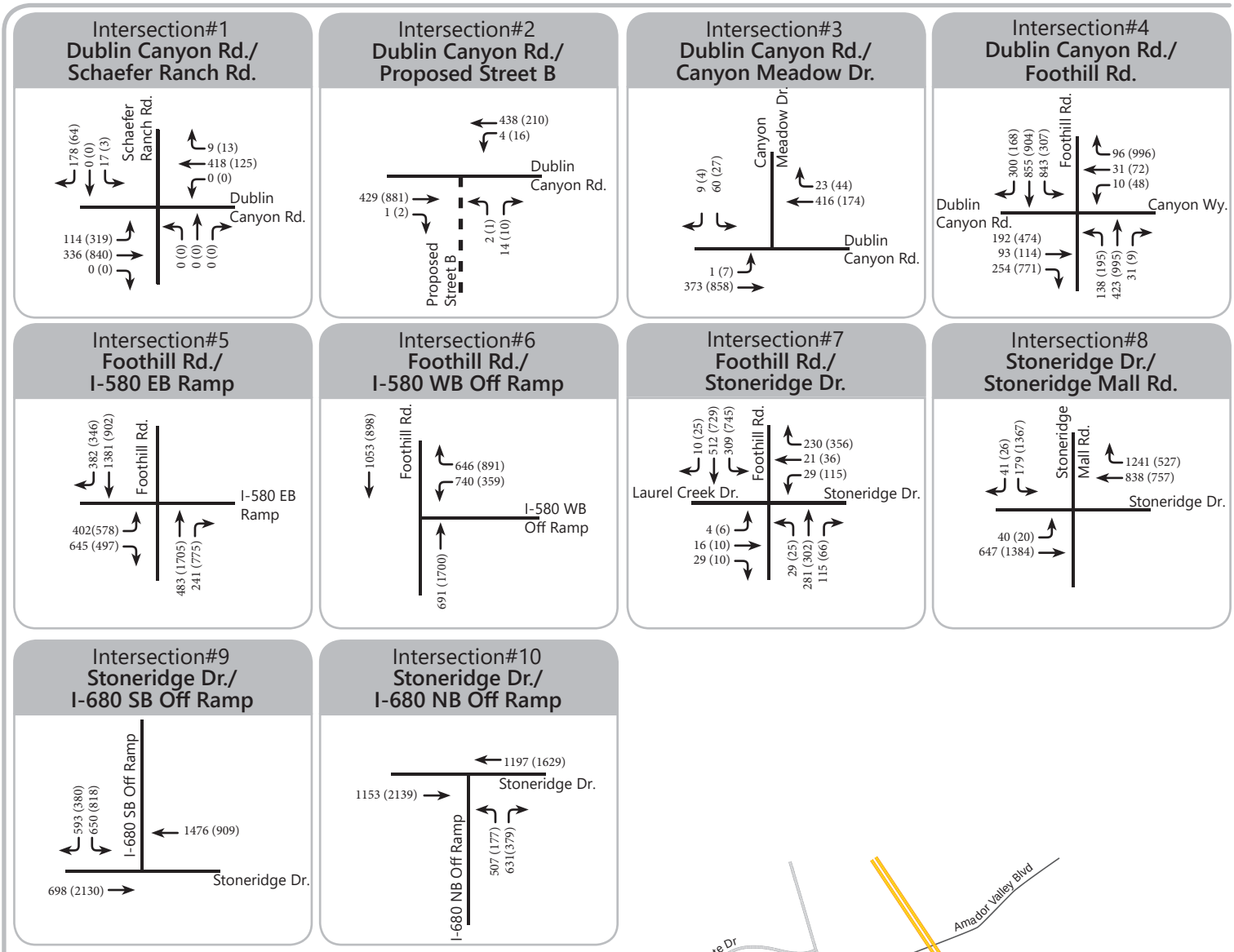


LEGEND

- X — Study Intersection
- P — Proposed EBPRD Park Driveway
- ## — AM Peak Hour Project Trips
- (##) — PM Peak Hour Project Trips

TJKM

Figure 11: Existing Plus Project Conditions Traffic Volumes



4.4 Pedestrian, Bicycle, and Transit Impact Findings

Pedestrian Impacts

Pedestrian circulation within the project site would be accommodated by 5-foot wide sidewalks on both sides of the proposed Street B, except between Lots 2 and 6 where the sidewalk would be limited to one side only. For Street A, five-foot wide sidewalks would be constructed along the frontage of residential lots only. In addition, the proposed emergency vehicle access (EVA) road will provide a direct connection for pedestrians between Street A and Dublin Canyon Road. A sidewalk is being proposed along the south side of Dublin Canyon Road between EVA and the EBRPD Driveway. Further, a sidewalk is also being proposed along the west side of the EBRPD Driveway.

The installation of the signal at Dublin Canyon Road and Canyon Meadows Drive would provide a protected pedestrian crossing across Dublin Canyon Road for residents trying to access the nearby park, thereby improving conditions for pedestrians.

The project is not anticipated to negatively interfere with pedestrian accessibility to the adjoining areas. The project would not conflict with an existing or other planned pedestrian facilities nor would the project conflict with policies related to pedestrian travel adopted by the City of Pleasanton. Therefore, the impact to pedestrian facilities is considered ***less than significant***.

Bicycle Impacts

Striped shoulders are provided on Dublin Canyon Road adjacent to the project site, while segments west of the project site – and to the east near Foothill Road – are striped with Class II bicycle lanes. As part of the project: the existing shoulders bordering the project site would be upgraded to meet Class II bicycle lane standards, and as shown on the project site plans, bicycle lanes would be provided adjacent to the proposed eastbound right-turn lane approaching the EBRPD Driveway. Bicycle access to the project site would be adequately accommodated by the proposed Street B and EBRPD Driveway, and by the proposed emergency vehicle access (EVA) road. The project is not anticipated to create a hazardous condition that currently does not exist for bicyclists; or otherwise interfere with bicycle accessibility to the project and adjoining areas; or conflict with an existing or planned pedestrian or bicycle facility; or conflict with policies related to bicycle and pedestrian activity adopted by the City of Pleasanton. Therefore, the project impact to bicycle facilities is ***less than significant***.

Transit Impacts

No public transit service is provided on Dublin Canyon Road near the project site. The project would not conflict with existing or planned transit services. The project is located within convenient bicycling distance from the West Dublin/Pleasanton BART Station located approximately 1.4 miles to the east. The project is not anticipated to create significant demand for public transit services above the capacity that is provided or planned. The project would not conflict with transit policies adopted by the City of Pleasanton, ACTC, Wheels (LAVTA) or BART for their respective facilities in the study area. Therefore, impacts to transit service are expected to be ***less than significant***.

4.5 Site Access & Stopping Sight Distance

This section analyzes site access for vehicles, pedestrians and bicycles based on the proposed site plan presented on **Figures 2, 2b and 2c** and **Appendix A**.

Main Access via Proposed Street B: This proposed roadway is forecast to have 21 a.m. peak hour vehicle trips and 29 p.m. peak hour vehicle trips traveling to/from lots 1 to 28. Most traffic is expected to travel to and from the east based on existing traffic patterns. The speed limit on Dublin Canyon Road changes at Street B. To the west, the speed limit is 55 mph; to the east, the limit is 45 mph. There is a 45-mph speed limit sign and radar feedback sign (giving eastbound motorists their speeds), at the site of the future street. Traffic approaching from the west should be legally traveling 55 mph. For traffic exiting the site from this driveway, the safe stopping distance for eastbound traffic is 500 feet. (If the available sight distance exceeds the stopping sight distance, the approaching vehicle can safely stop before reaching the vehicle exiting the site.) The clear sight distance to the west is 700 feet, which is adequate. From the east, westbound traffic is in a 45-mph speed zone with a safe stopping distance of 360 feet. The available sight distance to the east is greater than 1,000 feet, which is adequate.

The design for this driveway includes a proposed short westbound left turn lane of about 75 feet and a transition distance, also of approximately 75 feet. This is a part of two back-to-back painted left turn lanes; the other direction serves Canyon Creek Circle. The dimensions of the existing eastbound left turn lane into Canyon Creek Circle are slightly greater than that proposed for Hidden Canyon. The back-to-back left turn lanes serve more traffic for Hidden Canyon than Canyon Creek. However, because these will be painted lanes, traffic operations allow motorists some leeway in their travel paths; thus TJKM judges these two intersections to be able to operate acceptably.

Lots 29 and 30 Access: There are two existing single-family homes in this area that currently have two separate driveways accessing Dublin Canyon Road, about 275 feet east of the intersection with Canyon Meadows Drive. They will be replaced by two single-family homes that will share access to Dublin Canyon Road via the proposed EBRPD Access to the south.

EBRPD Access: This location is expected to serve only three vehicle trips during the a.m. peak (one inbound vehicle trip to the proposed park that is attributable to the project, and two existing outbound trips that would be relocated from the existing Lot 29/30 residences), and 27 p.m. peak hour vehicle trips (including two existing inbound trips that would be diverted from Lots 29/30 to, and 25 project trips to/from the proposed park). Most project trips will be to and from the east. The safe stopping distance here is 360 feet. Currently, to the west, the visibility is clear for over 450 feet; to the east it is over 700 feet, both of which are adequate. In addition, short painted turn lanes are proposed; an eastbound right turn lane and a westbound left turn lane. The proposed right turn lane dimensions are adequate. There is an existing radar feedback sign for westbound traffic directly opposite the proposed EBRPD access, which would be acceptable with the project.

Recommendation: TJKM recommends provision of a 100-foot long westbound left turn lane and a transition length of approximately 120 feet, given prevailing 45 mph speeds on Dublin Canyon Road, which is a greater dimension than shown on the proposed site plan.

5.0 NEAR TERM CONDITIONS

The analysis of potential project impacts under near-term conditions is based on the addition of additional traffic from approved and pending developments that would generate additional traffic on study area roadways.

5.1 Near Term Traffic Volumes

City staff provided the anticipated traffic volumes under Near Term No Project conditions based on outputs from the City's travel demand model. Forecasted peak-hour traffic volumes at each study intersection under Near Term No Project Conditions are shown on **Figure 12**.

Traffic volumes at each study intersection under Near Term plus Project conditions is based on the addition of project trips to each study intersection with no changes to lane configurations. Trip generation and distribution for the proposed project are identical to that assumed under Existing plus Project Conditions. **Figure 13** displays projected peak hour turning movement volumes at all of the study intersections for Near Term plus Project Conditions.

5.2 Near Term Impact Findings with Proposed Project

Detailed LOS reports for both of the near-term scenarios are contained in **Appendix D** and **Appendix E**. The intersection LOS analysis results under both Near Term No Project and Near Conditions are summarized in **Table 7**.

All intersections would operate at an acceptable LOS D or better under Near Term No Project and Near Term plus Project Conditions based on overall average delay to all approaches.

During the a.m. peak hour the stop-sign controlled intersection of Schaefer Ranch Road & Dublin Canyon Road experiences would experience delay consistent with LOS F on the stop-sign controlled approach (southbound Schaefer Ranch Road approaching Dublin Canyon Road) under both Near-Term No Project and Near-Term plus Project conditions. Side-street approach volumes on Schaefer Ranch Road exceed the peak-hour signal warrant based on volume under Existing Conditions and would continue to do so under Near-term Conditions with or without the proposed project. Average delay to the stop-sign controlled approach would increase by less than one second due to the project. Therefore, the project would not increase delay to a minor movement at an unsignalized intersection operating at LOS F by more than 30 seconds. The project is not anticipated to add traffic to the controlled approach. Overall average delay for the intersection would remain consistent with LOS A.

With installation of a traffic signal at the intersection of Dublin Canyon Road with Canyon Meadows Drive (which is being coordinated between the developer and the City to enhance traffic operations and safety), the intersection is expected to continue to operate at LOS A during both peak hours.

Near-term traffic impacts resulting from the project would be considered ***less than significant*** based on City standards.

Table 7: Intersection Level of Service Analysis – Near Term Conditions

ID #	Intersection	Control	Peak Hour	Near Term No Project Conditions		Near Term Plus Project Conditions	
				LOS[1]	Average Delay[2]	LOS[1]	Average Delay[2]
1	Schaefer Ranch Rd & Dublin Canyon Rd	Side-street stop	A.M.	A **(F)**	8.8 **(51.8)**	A **(F)**	9.0 **(52.7)**
			P.M.	A (B)	2.6 (12.7)	A (B)	2.6 (12.8)
2	Proposed Street B & Dublin Canyon Rd	Side-street stop	A.M.	n/a	n/a	A (B)	0.3 (12.5)
			P.M.	n/a	n/a	A (C)	0.4 (18.5)
3	Canyon Meadows Dr & Dublin Canyon Rd	Ex: Side-street stop Ex+P: Signal	A.M.	A (C)	1.5 (19.6)	A	8.6
			P.M.	A (C)	0.9 (23.2)	A	8.1
4	Foothill Rd & Dublin Canyon Rd/Canyon Way	Signal	A.M.	C	26.4	C	26.6
			P.M.	D	43.5	D	44.2
5	Foothill Rd & I-580 EB Ramps	Signal	A.M.	B	15.1	B	15.1
			P.M.	B	13.6	B	14.1
6	Foothill Rd & I-580 WB Off-ramp	Signal	A.M.	B	15.5	B	15.5
			P.M.	B	13.6	B	13.6
7	Foothill Rd & Stoneridge Dr/Laurel Creek Dr	Signal	A.M.	C	21.8	C	21.9
			P.M.	B	14.9	B	15.0
8	Stoneridge Dr & Stoneridge Mall Rd.	Signal	A.M.	A	5.9	A	5.9
			P.M.	B	13.4	B	13.5
9	Stoneridge Dr & I-680 SB Off-ramp	Signal	A.M.	B	11.4	B	11.4
			P.M.	B	11.3	B	11.3
10	Stoneridge Dr & I-680 NB Off-ramp	Signal	A.M.	B	16.2	B	16.2
			P.M.	B	18.7	B	19.0

Notes:
1. LOS – Level of Service
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop-controlled intersections, delay is presented for both the intersection average (and delay to the worst approach is shown in parenthesis).
3. Ex – Existing Conditions; Ex+P – Existing Plus Project Conditions

Figure 12: Near Term No Project Conditions Peak Hour Traffic Volumes

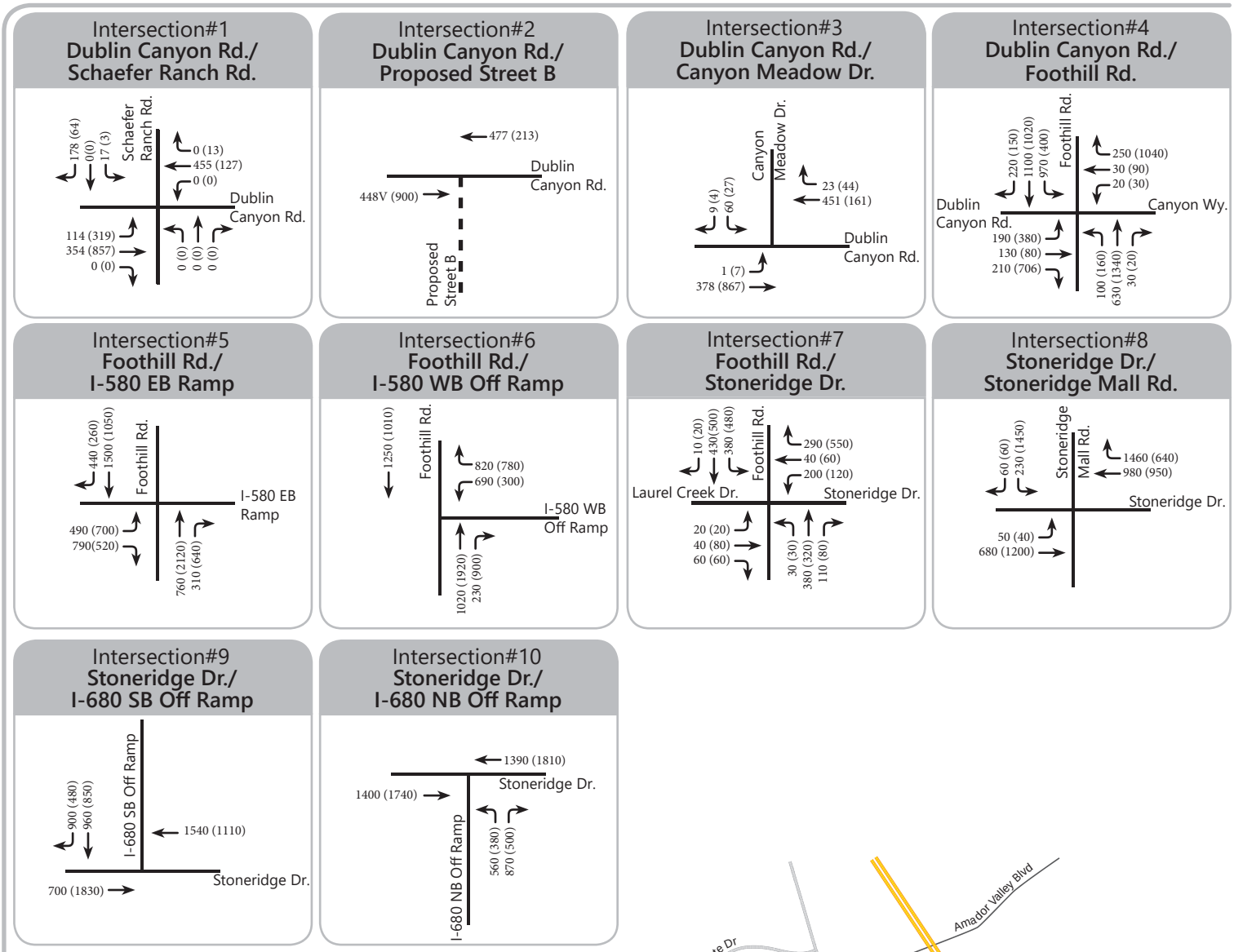
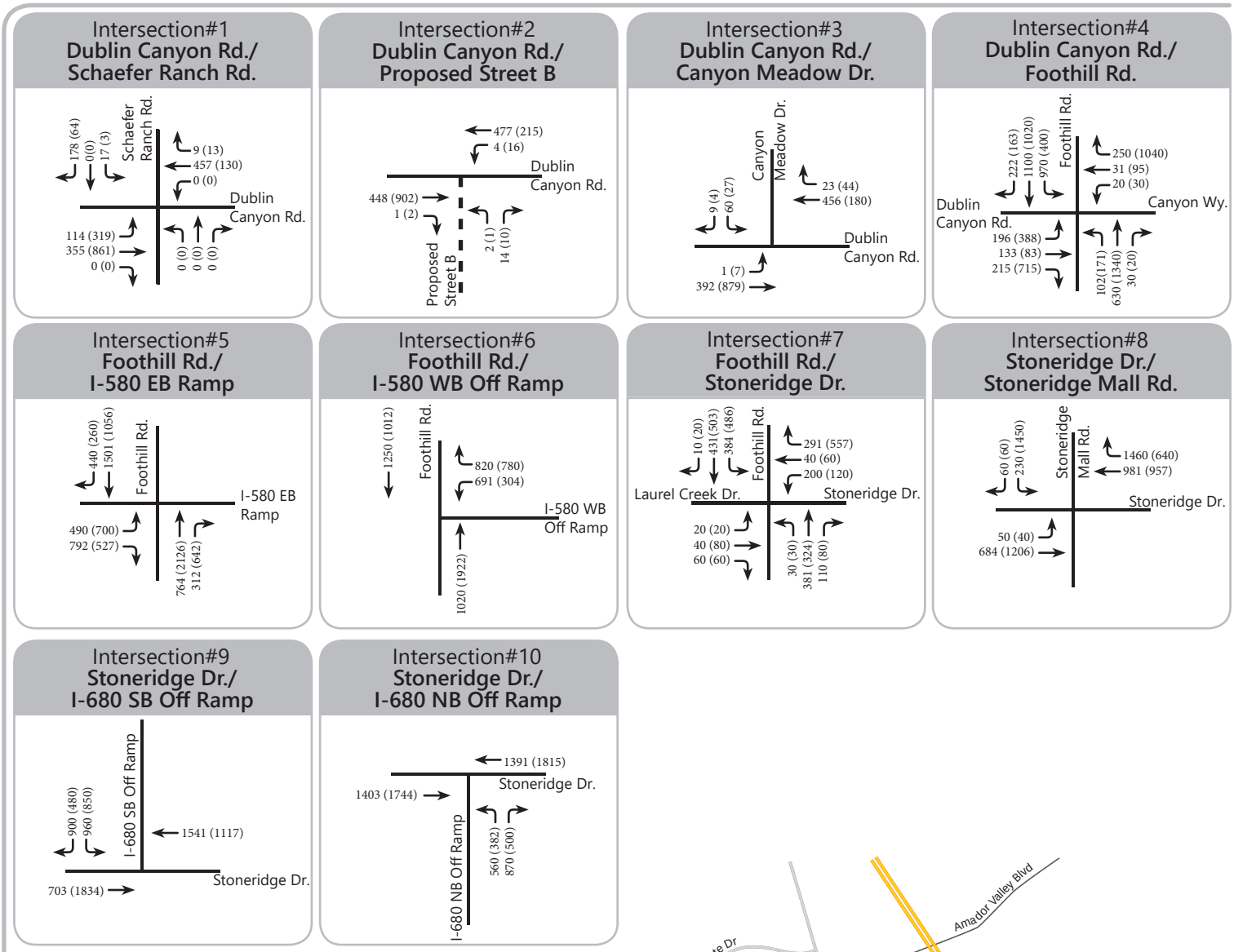


Figure 13: Near Term Plus Project Conditions Peak Hour Traffic Volumes



LEGEND

- X Study Intersection
- P Proposed EBPRD Park Driveway
- ## AM Peak Hour Project Trips
- (##) PM Peak Hour Project Trips

TJKM

6.0 CUMULATIVE CONDITIONS

This section details provides an assessment of potential cumulative transportation impacts resulting from the project. Cumulative Conditions reflects a long-term horizon with buildout of the City's General Plan.

6.1 Cumulative Traffic Volumes with General Plan Buildout

City staff provided the anticipated peak-hour traffic volumes, and planned changes to lane configurations at freeway ramp intersections on Foothill Road/I-580 and Stoneridge Drive/I-680, at study intersections under Cumulative plus Project conditions from the City's travel demand model. The forecast of Cumulative No Project traffic volumes is based on General Plan buildout that includes the proposed project. TJKM estimated the Cumulative Plus Project traffic volumes based on the trip generation, distribution and assignment applied to the analysis of Existing plus Project Conditions and Near Term plus Project Conditions. The anticipated volume of peak-hour traffic applicable to the project at each study intersection was subtracted from the Cumulative plus Project volumes to provide a forecast of Cumulative No Project.

Figure 14 shows projected peak hour turning movement volumes at all of the study intersections for Cumulative No Project Conditions. **Figure 15** displays projected turning movement volumes at all the study intersections for Cumulative plus Project Conditions.

6.2 Cumulative Impact Findings with Proposed Project

The intersection LOS analysis results for Cumulative Conditions are summarized in **Table 8**. Detailed LOS reports for Cumulative No Project Conditions are contained in **Appendix G**. Detailed LOS reports for Cumulative plus Project Conditions are contained in **Appendix H**.

The intersection LOS analysis results for Cumulative No Project and Cumulative plus Project Conditions are summarized in **Table 15**. Based on this analysis: all study intersections are forecasted to continue to operate acceptably at LOS D or better under cumulative conditions, with or without the proposed project. During the a.m. peak hour the stop-sign controlled intersection of Schaefer Ranch Road & Dublin Canyon Road experiences would experience delay consistent with LOS F on the stop-sign controlled approach (southbound Schaefer Ranch Road approaching Dublin Canyon Road) under both Cumulative No Project and Cumulative plus Project Conditions. Side-street approach volumes on Schaefer Ranch Road would exceed the peak-hour signal warrant, as is the case under Existing Conditions, with or without the proposed project. The project is not anticipated to add traffic to the controlled approach. Average delay to the stop-sign controlled approach would increase by less than two second due to the project. Therefore, the project would not increase delay to a minor movement at an unsignalized intersection operating at LOS F by more than 30 seconds. Overall average delay for the intersection would remain consistent with LOS A.

With installation of a traffic signal at the intersection of Dublin Canyon Road with Canyon Meadows Drive (which is being coordinated between the developer and the City to enhance traffic operations and safety), the intersection is expected to continue to operate at LOS A during both peak hours.

Based on the findings summarized above, cumulative traffic impacts resulting from the project would be considered ***less than significant***.

Table 8: Intersection Level of Service Analysis – Cumulative Conditions

ID #	Intersection	Control	Peak Hour	Cumulative No Project Conditions		Cumulative Plus Project Conditions	
				LOS[1]	Average Delay[2]	LOS[1]	Average Delay[2]
1	Schaefer Ranch Rd & Dublin Canyon Rd	Side-street stop	A.M.	B **(F)**	11.9 **(76.5)**	B **(F)**	12.1 **(78.3)**
			P.M.	A (B)	2.5 (13.1)	A (B)	2.5 (13.2)
2	Proposed Street B & Dublin Canyon Rd	Side-street stop	A.M.	n/a	n/a	A (C)	0.4 (19.0)
			P.M.	n/a	n/a	A (C)	0.4 (19.0)
3	Canyon Meadows Dr & Dublin Canyon Rd	Ex: Side-street stop Ex+P: Signal	A.M.	A (C)	1.5 (22.5)	A	9.6
			P.M.	A (C)	0.9 (24.8)	A	8.2
4	Foothill Rd & Dublin Canyon Rd/Canyon Way	Signal	A.M.	C	22.5	C	28.6
			P.M.	D	46.3	D	47.2
5	Foothill Rd & I-580 EB Ramps	Signal	A.M.	B	19.3	B	19.3
			P.M.	B	13.8	B	13.9
6	Foothill Rd & I-580 WB Off-ramp	Signal	A.M.	B	15.1	B	15.1
			P.M.	B	14.0	B	14.0
7	Foothill Rd & Stoneridge Dr/Laurel Creek Dr	Signal	A.M.	C	22.2	C	22.3
			P.M.	B	16.2	B	16.2
8	Stoneridge Dr & Stoneridge Mall Rd.	Signal	A.M.	A	6.3	A	6.3
			P.M.	B	15.0	B	15.1
9	Stoneridge Dr & I-680 SB Off-ramp	Signal	A.M.	B	18.0	B	17.9
			P.M.	B	11.2	B	11.2
10	Stoneridge Dr & I-680 NB Off-ramp	Signal	A.M.	C	24.4	C	24.4
			P.M.	C	31.6	C	32.1

Notes:
1. LOS – Level of Service
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop-controlled intersections, delay is presented for both the intersection average (and delay to the worst approach is shown in parenthesis).
3. Ex – Existing Conditions; Ex+P – Existing Plus Project Conditions

Figure 14: Cumulative Conditions (without Project) Peak Hour Traffic Volumes

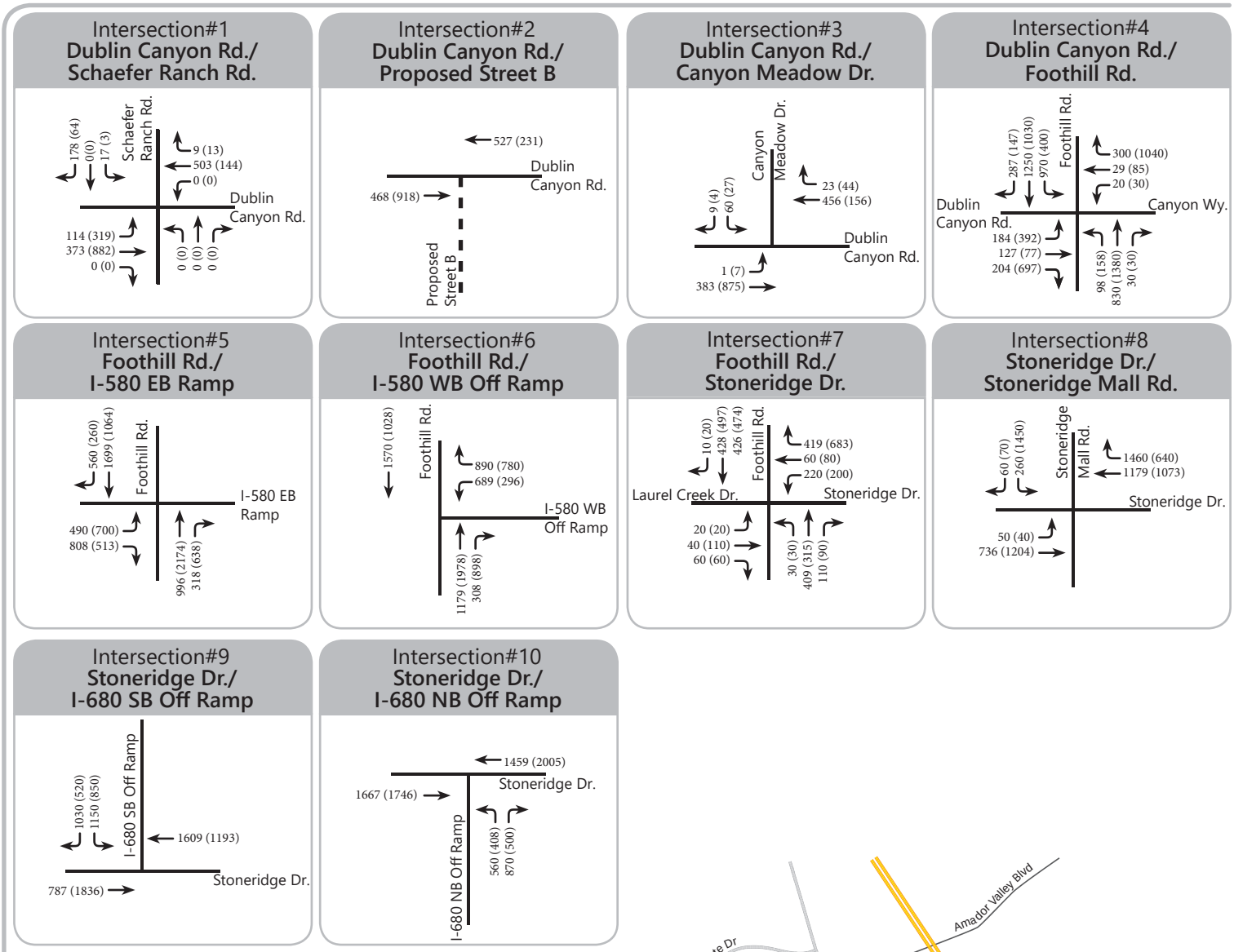
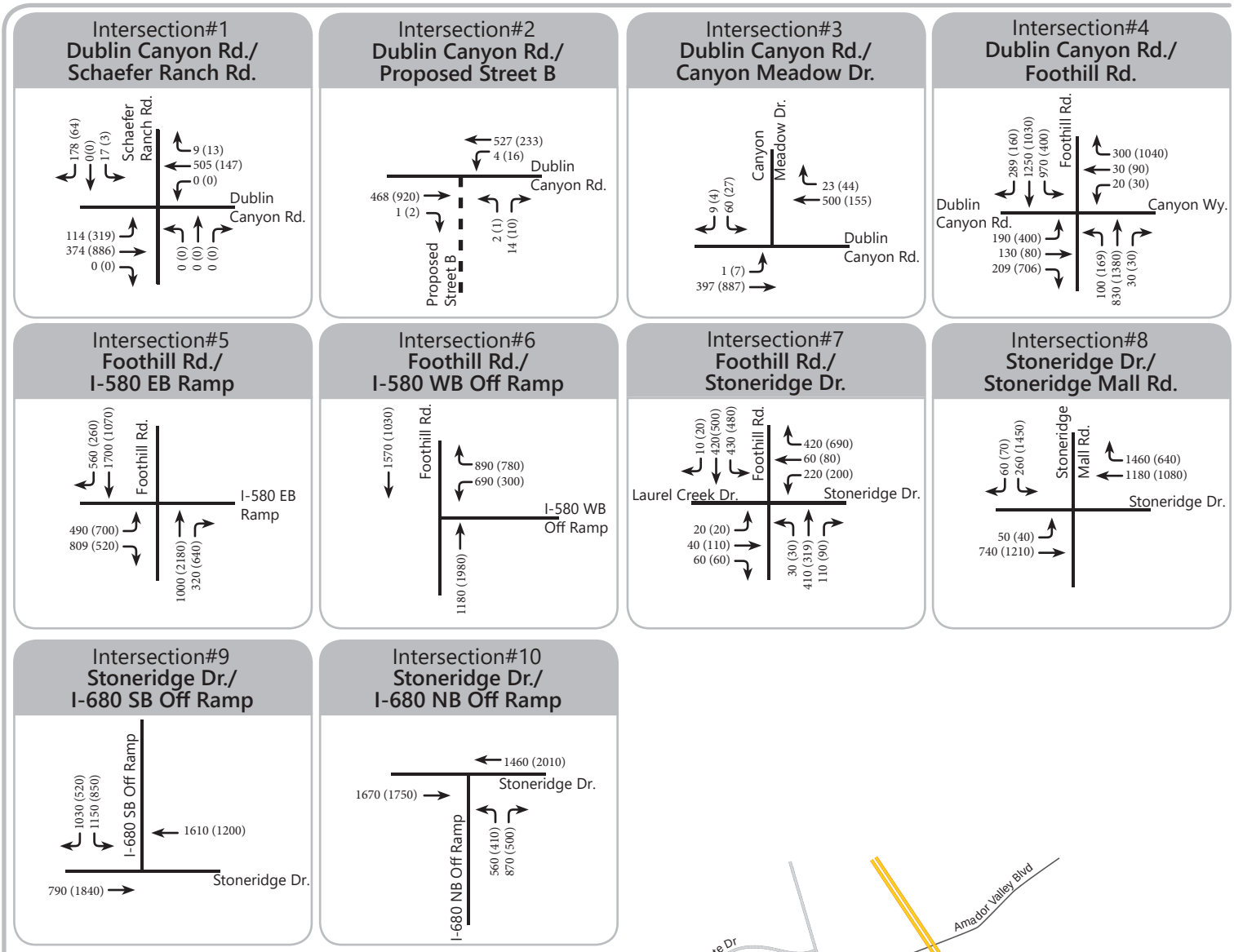


Figure 15: Cumulative Plus Project Conditions Peak Hour Traffic Volumes



LEGEND

- X Study Intersection
- P Proposed EBPRD Park Driveway
- ## AM Peak Hour Project Trips
- (##) PM Peak Hour Project Trips

TJKM

Appendix A – Project Plan Set

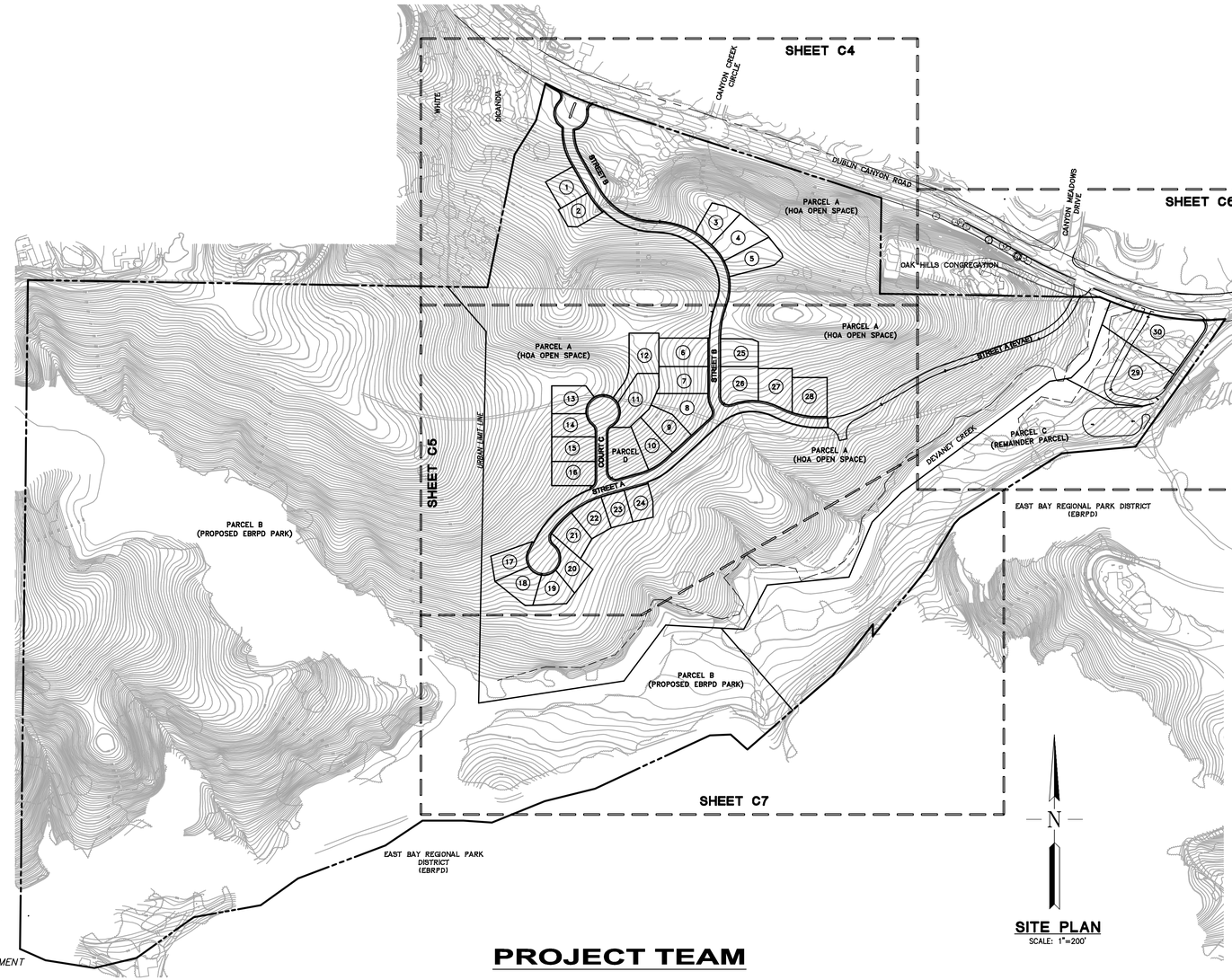
PLANNED UNIT DEVELOPMENT
HIDDEN CANYON (LESTER PROPERTY)
CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

LEGEND

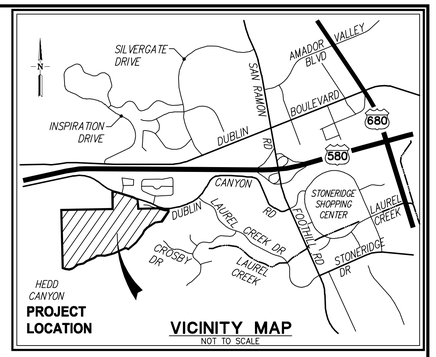
PROPOSED	DESCRIPTION	EXISTING
	TRACT BOUNDARY	
	LOT LINE	
	RIGHT OF WAY	
	CENTER LINE	
	MATCH LINE	
	RETAINING WALL	
	EASEMENT LINE	
12"SD	STORM DRAIN	EX 12"SD
8"SS	SANITARY SEWER	EX 8"SS
8"W	WATER	EX 8"W
8"W(R)	RECYCLED WATER	EX 8"W(R)
	CURB & GUTTER	EX FC
	SIDEWALK	
	OVERHEAD UTILITIES	OH
	JOINT POLE	
	EARTH OR GRASS SWALE	
	CONCRETE DITCH	
	STORM WATER INLET	
	FIELD INLET	
	AREA DRAIN	
	DIRECTION OF FLOW	
	MANHOLE	
	FIRE HYDRANT	
	BLOW OFF	
	SANITARY SEWER CLEAN OUT	
	WATER VALVE	
	STREET LIGHT	
	MONUMENT	
	TRAFFIC SIGN	
	STREET NAME SIGN	
	FENCE	
	BARRICADE	
	SLOPE	
	HANDICAP RAMP	
	SAVE TREE	20" OAK (S)
	REMOVE TREE	
130	CONTOUR ELEVATIONS	130
x 525.2	SPOT ELEVATION	x525.2
	ASPHALT PAVEMENT	
	BIORETENTION AREA	
	LIFT STATION	
	DIRECTION OF FUTURE FLOW	
	25% SLOPE LIMIT	

ABBREVIATIONS

AB	AGGREGATE BASE	LP	LOW POINT
AC	ASPHALT CONCRETE or ACRES	ME	MAINTENANCE EASEMENT
AD	AREA DRAIN	MH	MANHOLE
BC	BEGINNING OF CURVE	OH	OVERHEAD UTILITIES
BSM	BIO-TREATMENT SOIL MIX	PAE	PRIVATE ACCESS EASEMENT
BVC	BEGIN VERTICAL CURVE	PCC	POINT OF COMPOUND CURVE
BO	BLOW OFF	PL	PROPERTY LINE
BW	BOTTOM OF WALL	PRC	POINT OF REVERSE CURVE
CL	CENTER LINE	PSDE	PRIVATE STORM DRAIN EASEMENT
CMP	CORRUGATED METAL PIPE	PSE	PUBLIC SERVICE EASEMENT
CY	CUBIC YARD	PVC	POLYVINYL CHLORIDE PIPE
DWY	DRIVEWAY	PVI	POINT OF VERTICAL INTERSECTION
DIP	DUCTILE IRON PIPE	RCP	REINFORCED CONCRETE PIPE
EC	END OF CURVE	RET	CURB RETURN
EVC	END VERTICAL CURVE	RW	RIGHT-OF-WAY
EVAE	EMERGENCY VEHICLE ACCESS EASEMENT	SDE	STORM DRAIN EASEMENT
EX	EXISTING	SF	SQUARE FEET
FC	FACE OF CURB	SO	SIDE OPENING INVERT
FG	FINISHED GRADE	SSCO	SANITARY SEWER CLEAN OUT
FH	FIRE HYDRANT	STA	STATION
FI	FIELD INLET	SWI	STORM WATER INLET
FL	FLOW LINE	SWK	SIDEWALK
GB	GRADE BREAK	TC	TOP OF CURB
GR	GRATE	TD	TOP OF DITCH
HP	HIGH POINT	TW	TOP OF WALL
INV	INVERT ELEVATION	WLE	WATER LINE EASEMENT
JP	JOINT POLE	WM	WATER METER
		VC	VERTICAL CURVE



SITE PLAN
SCALE: 1"=200'



VICINITY MAP
NOT TO SCALE

SHEET INDEX

LAND USE SUMMARY

LAND USE	UNITS	ACRES	% OF SITE
MEDIUM DENSITY RESIDENTIAL (MDR) SINGLE FAMILY ATTACHED LOT SIZE: 7,224 SF TO 14,745 SF	28	6.9	5.4%
NEW LESTER RESIDENTIAL SINGLE FAMILY ATTACHED LOT SIZE: 36,188 SF TO 44,520 SF	2	1.9	1.5%
RIGHT-OF-WAY (STREETS & SIDEWALKS)	–	2.6	2.0%
HOA OPEN SPACE (PARCEL A) STREET A (EVAE INSIDE OF PARCEL A = 0.4 AC)	–	39.9	31.1%
PROPOSED EBRPD PARK (PARCEL B)	–	69.3	53.9%
PARCEL C (PRIVATE)	–	7.6	5.9%
HOA OPEN SPACE – STORMWATER TREATMENT BASIN (PARCEL D)	–	0.3	0.2%
	30	128.5	100%

PROJECT TEAM

Applicant

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WHA
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Contact: Byron Williams
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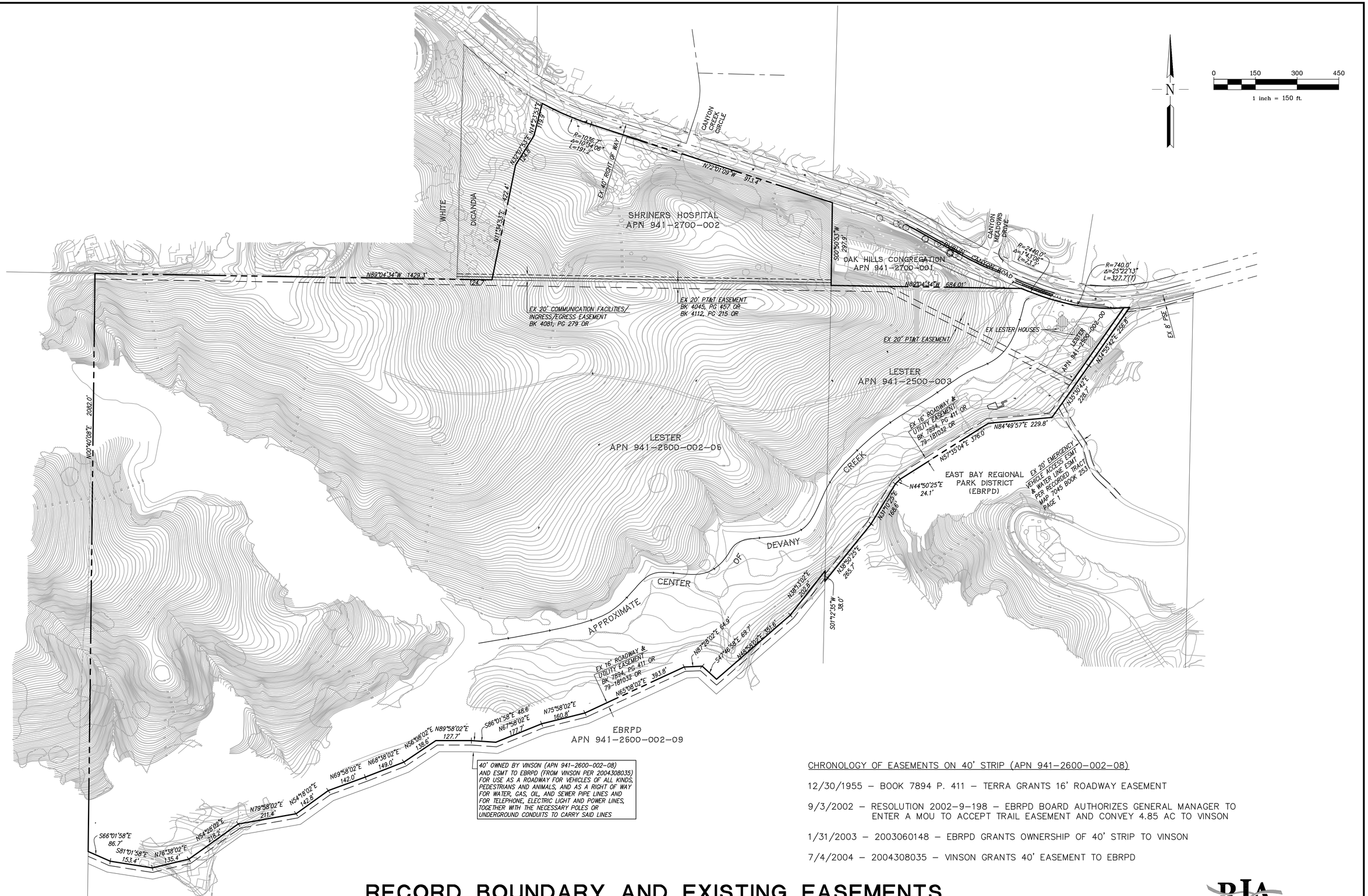

CHRONOLOGY OF EASEMENTS ON 40' STRIP (APN 941-2600-002-08)

12/30/1955 – BOOK 7894 P. 411 – TERRA GRANTS 16' ROADWAY EASEMENT

9/3/2002 – RESOLUTION 2002-9-198 – EBRPD BOARD AUTHORIZES GENERAL MANAGER TO ENTER A MOU TO ACCEPT TRAIL EASEMENT AND CONVEY 4.85 AC TO VINSON

1/31/2003 – 2003060148 – EBRPD GRANTS OWNERSHIP OF 40' STRIP TO VINSON

7/4/2004 – 2004308035 – VINSON GRANTS 40' EASEMENT TO EBRPD

RECORD BOUNDARY AND EXISTING EASEMENTS

HIDDEN CANYON (LESTER PROPERTY)

CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

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DATE: MARCH 08, 2023 JOB NO. 131074 SHEET C2 OF 59

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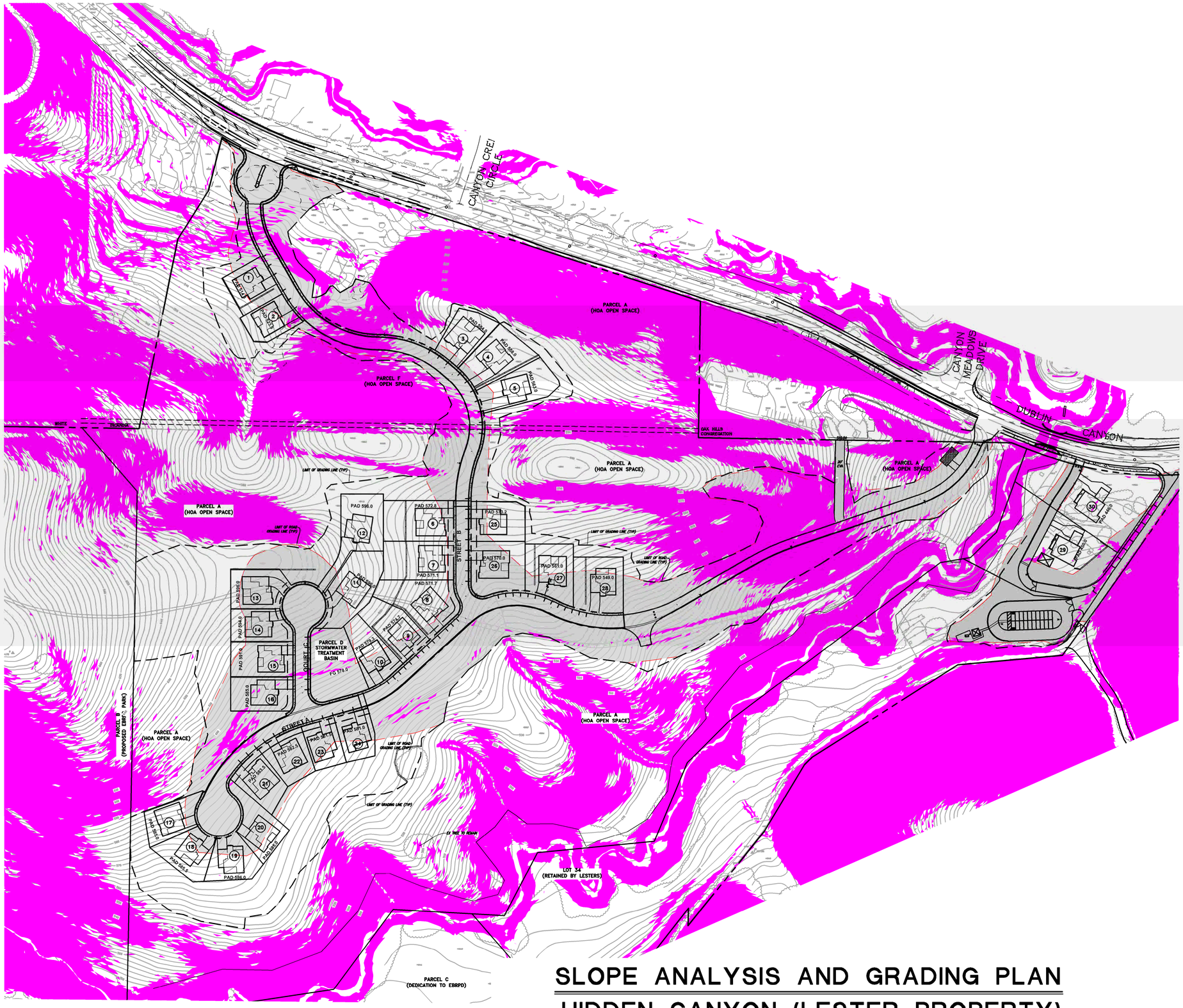

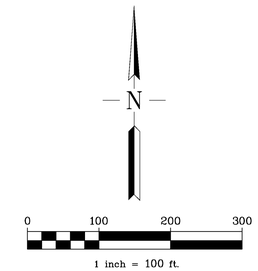

LEGEND

- SLOPE OVER 25%
- AREA AFFECTED BY ROAD ONLY GRADING USING 3:1 SLOPES
- LIMIT OF ROAD ONLY GRADING
- LIMIT OF PROJECT GRADING

SLOPE ANALYSIS IS BASE ON TOPO PROVIDED BY THE CITY OF PLEASONTON

SLOPE ANALYSIS AND GRADING PLAN
HIDDEN CANYON (LESTER PROPERTY)

CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

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RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
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DATE: MARCH 08, 2023 JOB NO. 131074 SHEET C3 OF 59

G:\JOBS2013\131074\CAD FILES\02-PLANNING\PD\0355-131074PD.DWG 3/7/2023 9:22:21 AM JACQUELINE COVARRUBIAS

FLOOR AREA RATIO TABLE

LOT NO	LOT SIZE (SF)	HOUSE MODEL	MAX HEIGHT (FT)	HOUSE SIZE (SF)	GARAGE SIZE (SF)	FAR	MIN FRONT SETBACK (PORCH/HOUSE/ DWY)	MIN REAR SETBACK	MIN SIDE SETBACK (INTERIOR/ CORNER)
1	9,188	PLAN 2	29.8	3,750	653	42%	15'/15'/20'	15'	5'/5'
2	8,016	PLAN 3	26.9	4,162	623	53%	15'/15'/20'	15'	5'/5'
3	9,359	PLAN 1	28.8	3,523	647	39%	15'/15'/20'	15'	5'/5'
4	12,505	PLAN 3	26.9	4,162	623	34%	15'/15'/20'	15'	5'/5'
5	11,813	PLAN 2	29.8	3,750	653	32%	15'/15'/20'	15'	5'/5'

NOTES:

1. *MINOR ARCHITECTURAL PROJECTIONS PER CITY OF PLEASANTON ZONING ORDINANCE ARE ALLOWED TO ENCROACH INTO SETBACKS.*
2. *THE UNIT MIX IS REPRESENTATIVE AND MAY VARY.*
3. *FOR SPECIFIC BUILDING HEIGHTS, SEE ARCHITECTURAL PLANS.*
4. *PRELIMINARY SQUARE FOOTAGES ARE APPROXIMATE.*

SETBACKS

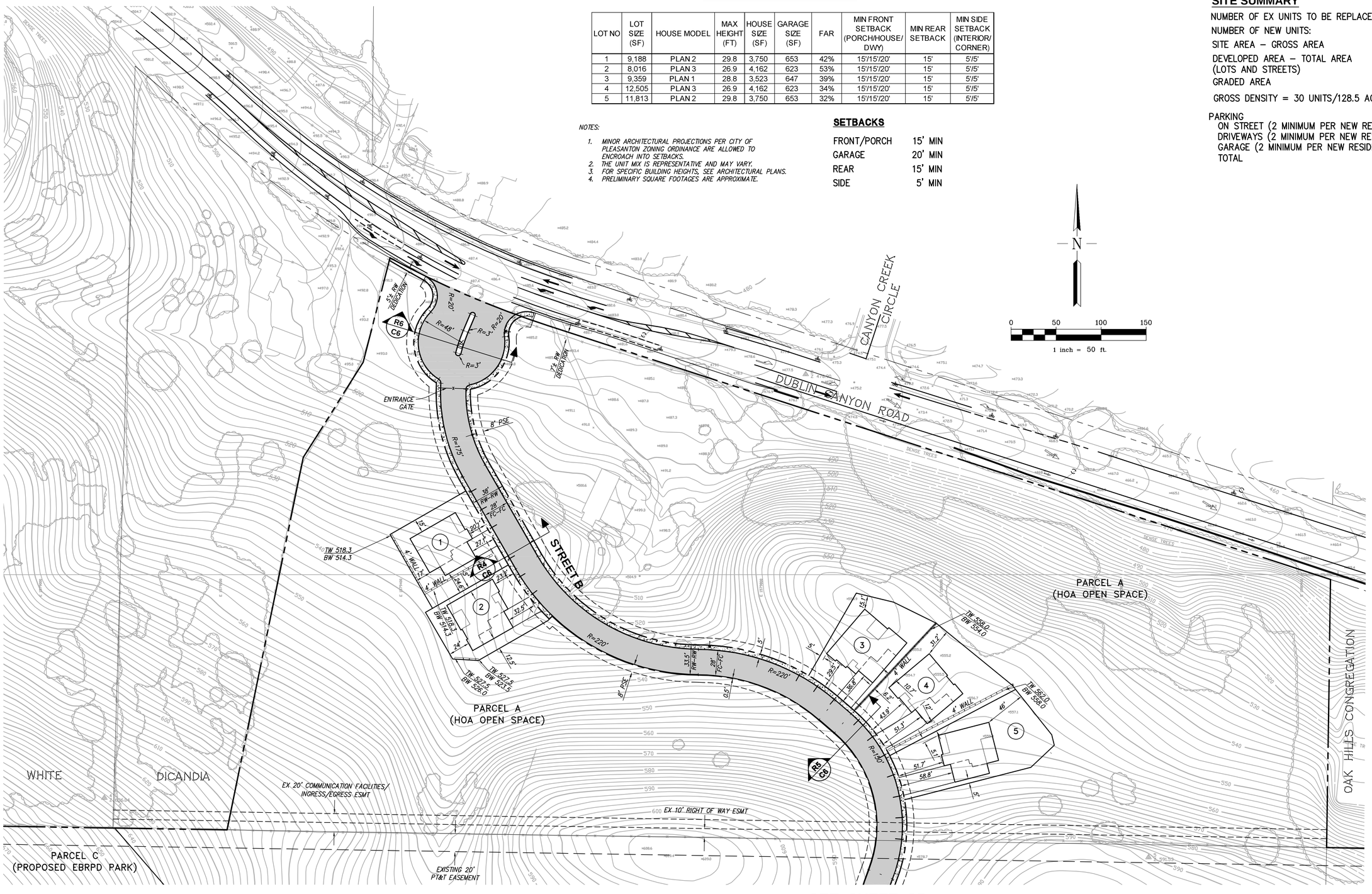
FRONT/PORCH	15' MIN
GARAGE	20' MIN
REAR	15' MIN
SIDE	5' MIN

SITE SUMMARY

NUMBER OF EX UNITS TO BE REPLACED:	2
NUMBER OF NEW UNITS:	28
SITE AREA – GROSS AREA	128.5± ACRES
DEVELOPED AREA – TOTAL AREA (LOTS AND STREETS)	11.4± ACRES
GRADED AREA	21.2± ACRES
GROSS DENSITY = 30 UNITS/128.5 AC	0.23 DU/AC

PARKING

ON STREET (2 MINIMUM PER NEW RESIDENCE)	60
DRIVEWAYS (2 MINIMUM PER NEW RESIDENCE)	60
GARAGE (2 MINIMUM PER NEW RESIDENCE)	60
TOTAL	180



SEE SHEET C5

SITE DEVELOPMENT PLAN
HIDDEN CANYON (LESTER PROPERTY)

CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

RJA
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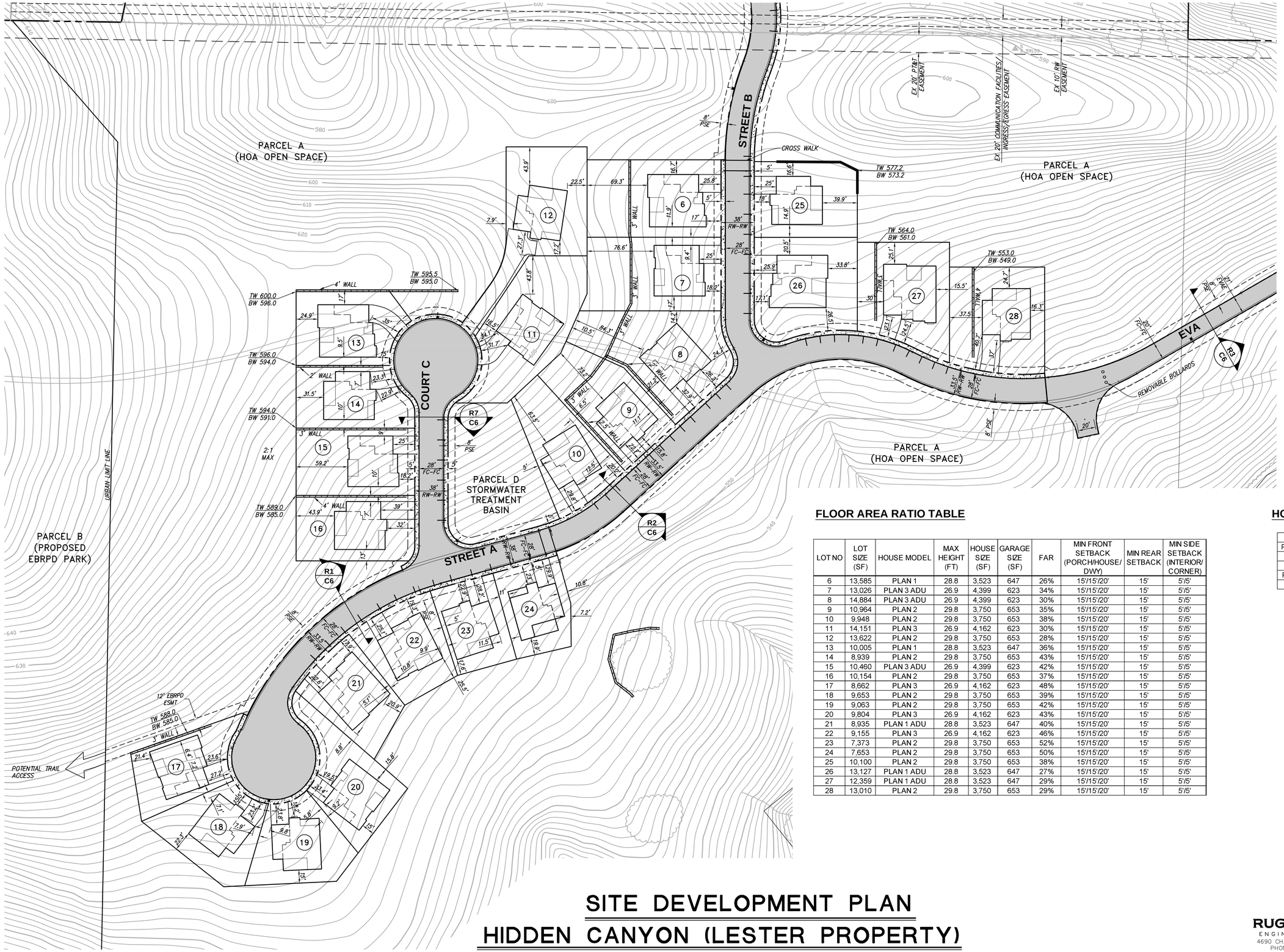
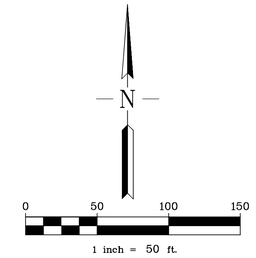
SEE SHEET C4



SEE SHEET C6



FLOOR AREA RATIO TABLE

LOT NO	LOT SIZE (SF)	HOUSE MODEL	MAX HEIGHT (FT)	HOUSE SIZE (SF)	GARAGE SIZE (SF)	FAR	MIN FRONT SETBACK (PORCH/HOUSE/ DWY)	MIN REAR SETBACK	MIN SIDE SETBACK (INTERIOR/ CORNER)
6	13,585	PLAN 1	28.8	3,523	647	26%	15'/15'/20'	15'	5'/5'
7	13,026	PLAN 3 ADU	26.9	4,399	623	34%	15'/15'/20'	15'	5'/5'
8	14,884	PLAN 3 ADU	26.9	4,399	623	30%	15'/15'/20'	15'	5'/5'
9	10,964	PLAN 2	29.8	3,750	653	35%	15'/15'/20'	15'	5'/5'
10	9,948	PLAN 2	29.8	3,750	653	38%	15'/15'/20'	15'	5'/5'
11	14,151	PLAN 3	26.9	4,162	623	30%	15'/15'/20'	15'	5'/5'
12	13,622	PLAN 2	29.8	3,750	653	28%	15'/15'/20'	15'	5'/5'
13	10,005	PLAN 1	28.8	3,523	647	36%	15'/15'/20'	15'	5'/5'
14	8,939	PLAN 2	29.8	3,750	653	43%	15'/15'/20'	15'	5'/5'
15	10,460	PLAN 3 ADU	26.9	4,399	623	42%	15'/15'/20'	15'	5'/5'
16	10,154	PLAN 2	29.8	3,750	653	37%	15'/15'/20'	15'	5'/5'
17	8,662	PLAN 3	26.9	4,162	623	48%	15'/15'/20'	15'	5'/5'
18	9,653	PLAN 2	29.8	3,750	653	39%	15'/15'/20'	15'	5'/5'
19	9,063	PLAN 2	29.8	3,750	653	42%	15'/15'/20'	15'	5'/5'
20	9,804	PLAN 3	26.9	4,162	623	43%	15'/15'/20'	15'	5'/5'
21	8,935	PLAN 1 ADU	28.8	3,523	647	40%	15'/15'/20'	15'	5'/5'
22	9,155	PLAN 3	26.9	4,162	623	46%	15'/15'/20'	15'	5'/5'
23	7,373	PLAN 2	29.8	3,750	653	52%	15'/15'/20'	15'	5'/5'
24	7,653	PLAN 2	29.8	3,750	653	50%	15'/15'/20'	15'	5'/5'
25	10,100	PLAN 2	29.8	3,750	653	38%	15'/15'/20'	15'	5'/5'
26	13,127	PLAN 1 ADU	28.8	3,523	647	27%	15'/15'/20'	15'	5'/5'
27	12,359	PLAN 1 ADU	28.8	3,523	647	29%	15'/15'/20'	15'	5'/5'
28	13,010	PLAN 2	29.8	3,750	653	29%	15'/15'/20'	15'	5'/5'

HOUSE MODEL MIX

PLAN 1	3
PLAN 1 ADU	3
PLAN 2	13
PLAN 3	6
PLAN 3 ADU	3
PLAN 4	2
	30

SITE DEVELOPMENT PLAN
HIDDEN CANYON (LESTER PROPERTY)

CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

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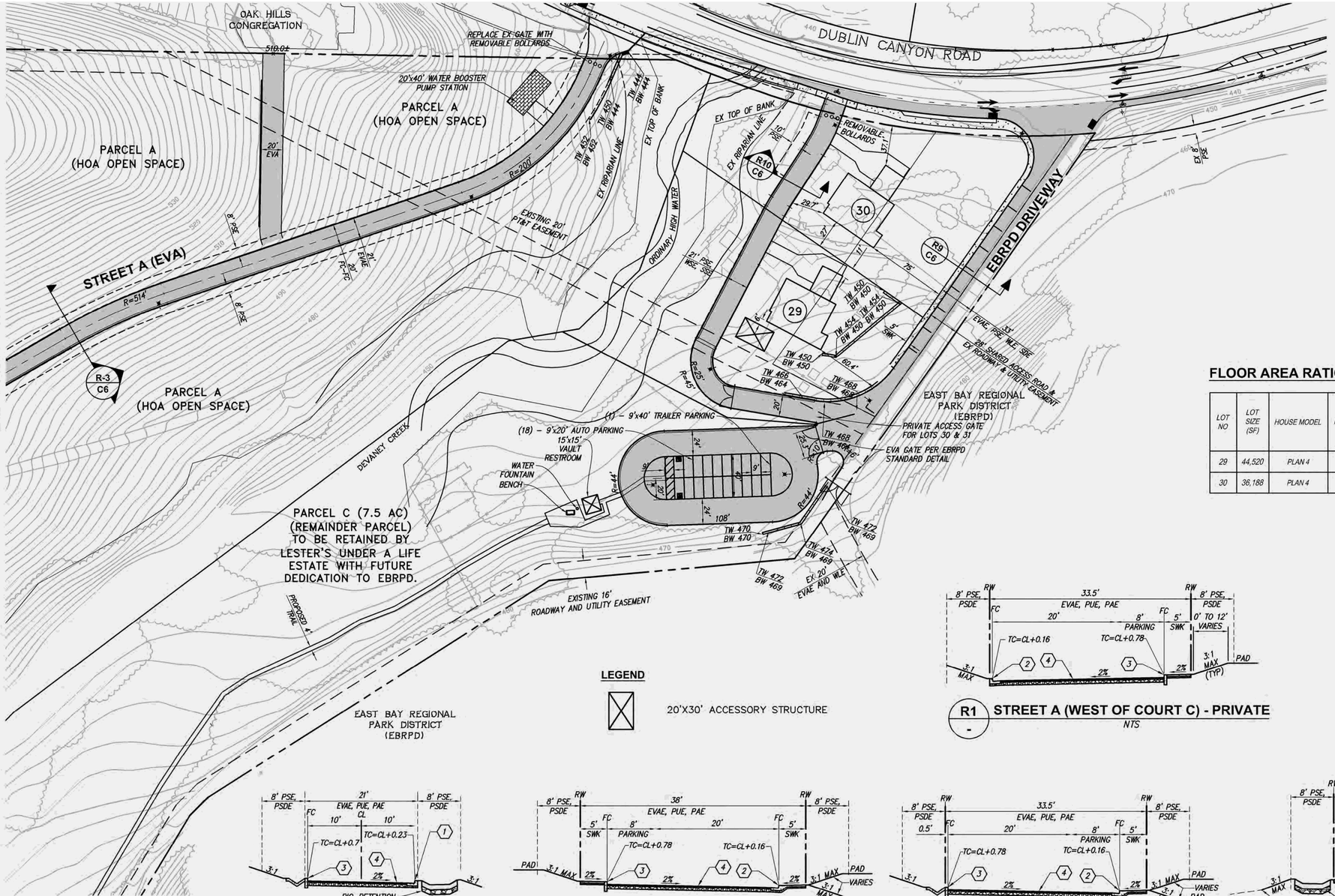


LEGEND

20'X30' ACCESSORY STRUCTURE

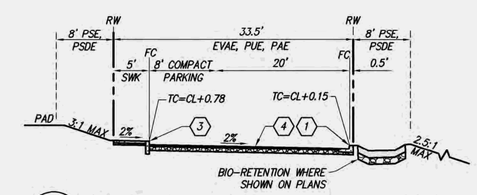
KEY NOTES FOR CROSS SECTIONS

1. TYPE "A" CURB AND GUTTER PER CITY STD DWG 101
2. TYPE "B" MONOLITHIC CURB, GUTTER AND SIDEWALK PER CITY STD DWG 102
3. 6" VERTICAL CURB PER DETAIL ON THIS SHEET
4. AC PAVEMENT

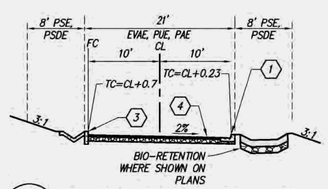
FLOOR AREA RATIO TABLE

LOT NO	LOT SIZE (SF)	HOUSE MODEL	MAX HEIGHT (FT)	HOUSE SIZE (SF)	GARAGE SIZE (SF)	FAR	MIN FRONT SETBACK (PORCH/HOUSE/DWY)	MIN REAR SETBACK	MIN SIDE SETBACK (INTERIOR/CORNER)
29	44,520	PLAN 4	22.0	2,370	546	5.3%	15'/15'/20'	15'	5'/15'
30	36,188	PLAN 4	22.0	2,370	546	6.6%	15'/15'/20'	15'	5'/15'

R1 - STREET A (WEST OF COURT C) - PRIVATE
NTS



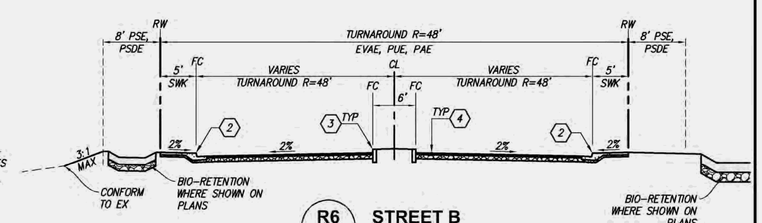
R2 - STREET A (EAST OF COURT C) - PRIVATE
NTS



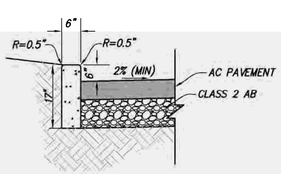
R3 - STREET A (EVA) - PRIVATE
NTS

R4 - STREET B - PRIVATE
NTS

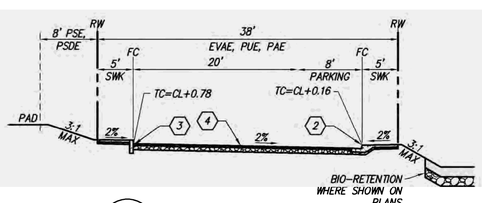
R5 - STREET B - PRIVATE
NTS



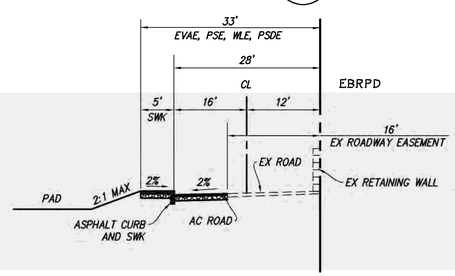
R6 - STREET B
NTS



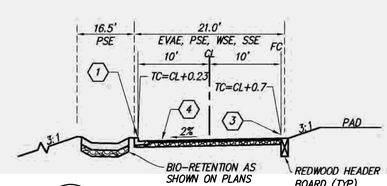
6" VERTICAL CURB
NTS



R7 - COURT C - PRIVATE
NTS



R9 - EBRPD DRIVEWAY
NTS



R10 - LOTS 29 AND 30 DRIVEWAY
NTS

SITE DEVELOPMENT PLAN

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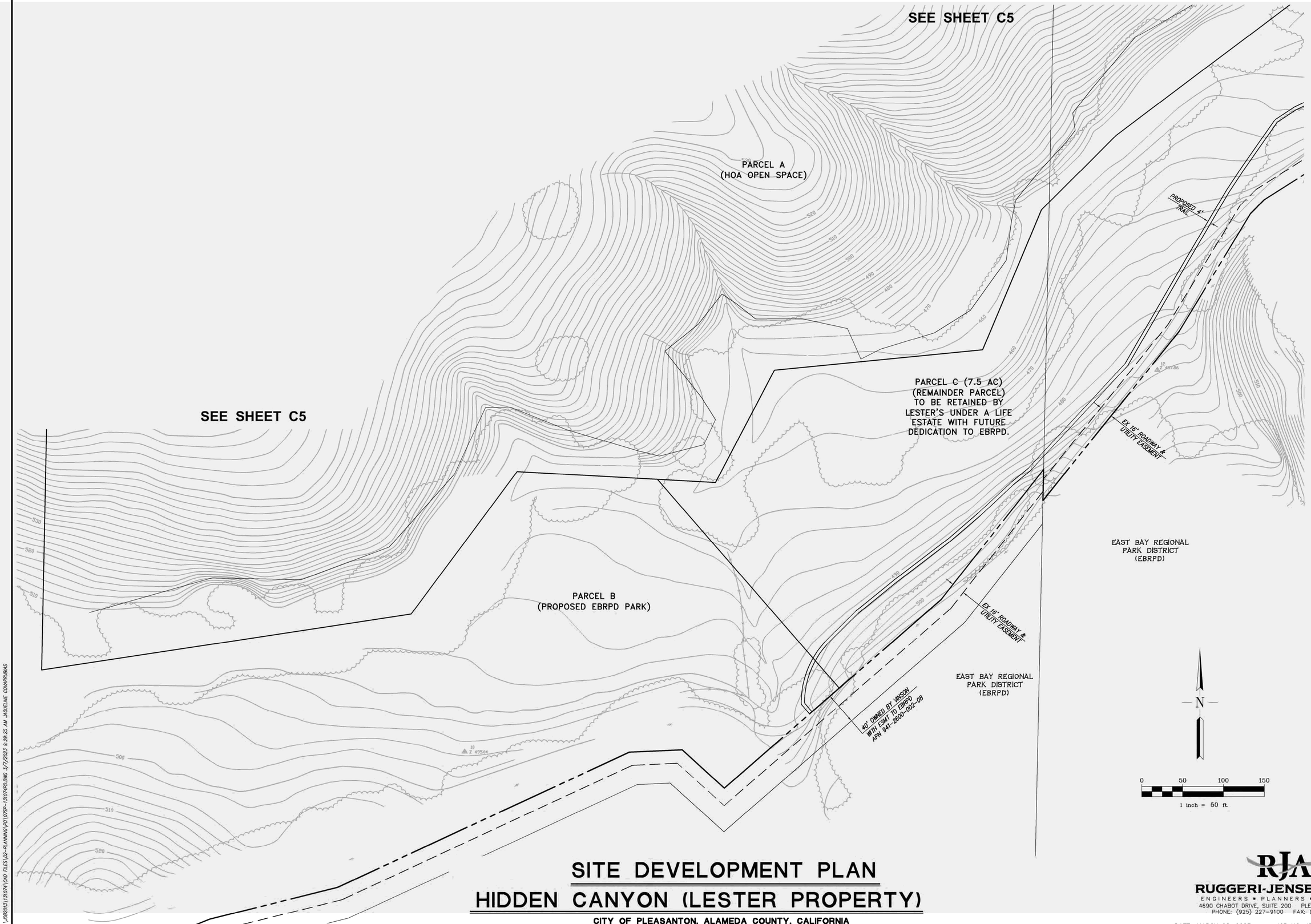
DATE: MARCH 08, 2023 JOB NO. 131074 SHEET C6 OF 59



SITE DEVELOPMENT PLAN
HIDDEN CANYON (LESTER PROPERTY)

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DATE: MARCH 08, 2023 JOB NO. 131074 SHEET C7 OF 59

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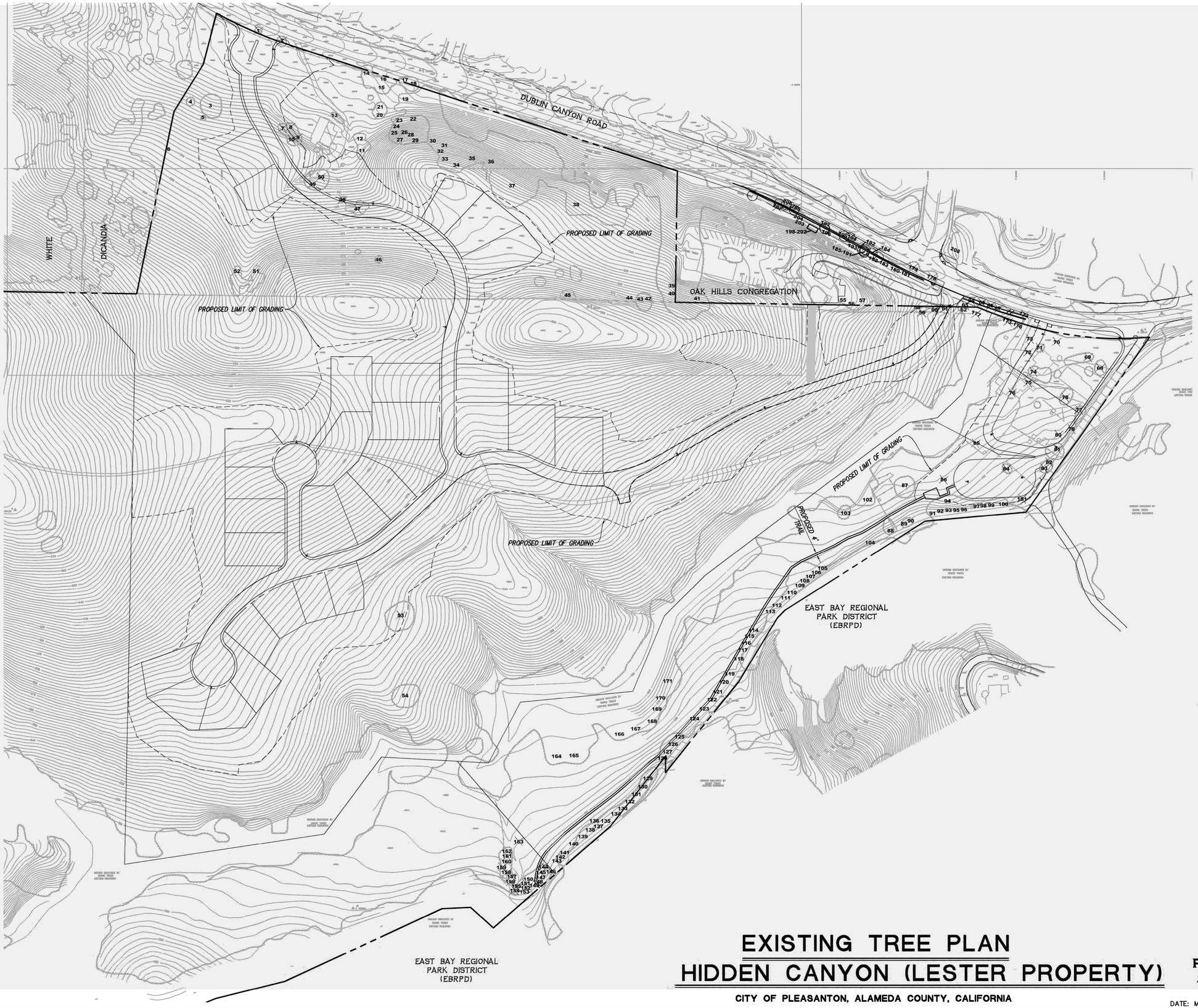

N

0 100 200 300

1 inch = 100 ft.

LEGEND

3 EXISTING TREE TO REMAIN

EXISTING TREE TO BE REMOVED

NOTE:

EXISTING TREE NUMBERS ARE FROM THE ARBORIST REPORT, DATED DECEMBER, 2015.

EXISTING TREE PLAN
HIDDEN CANYON (LESTER PROPERTY)

CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

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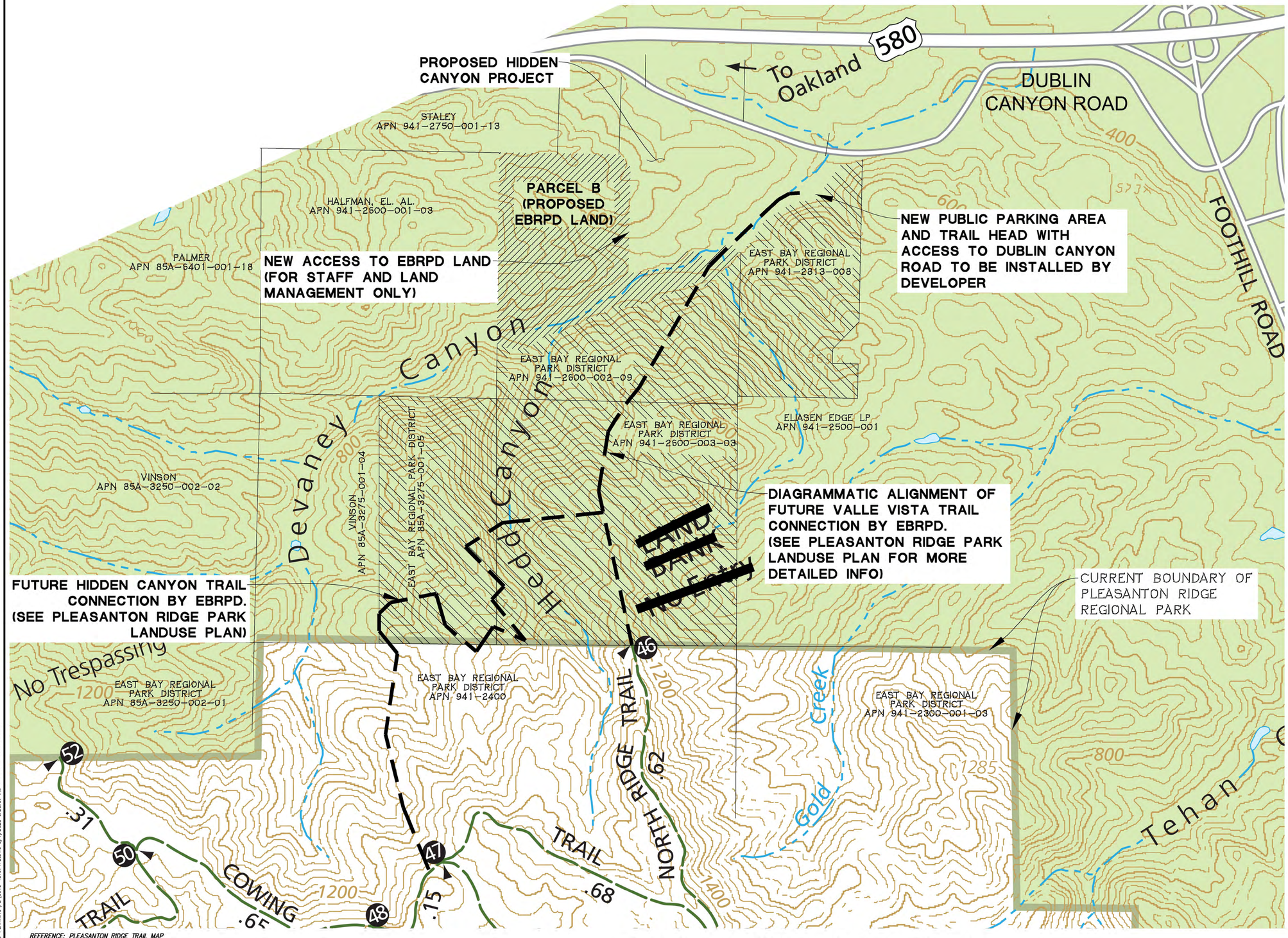
DATE: MARCH 08, 2023 JOB NO. 131074 SHEET C8 OF 59



REFERENCE: PLEASANTON RIDGE TRAIL MAP

LEGEND

- EBRPD LAND BANK (FOR FUTURE PLEASANTON RIDGE PARK EXPANSION)
- PROPOSED PARCEL B (EBRPD PARK)

TRAIL CONNECTION EXHIBIT

HIDDEN CANYON (LESTER PROPERTY)

CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

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DATE: MARCH 08, 2023 JOB NO. 131074 SHEET C9 OF 59

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Appendix B – Intersection Counts

Prepared by National Data & Surveying Services

Schaefer Ranch Rd & Dublin Canyon Rd

Peak Hour Turning Movement Count

ID: 19-08287-001
City: Pleasanton

Day: Tuesday
Date: 05/21/2019

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Schaefer Ranch Rd

SOUTHBOUND

AM	178	0	17	0	122	AM
NOON	0	0	0	0	0	NOON
PM	64	0	3	0	332	PM
	0	1	0	0		

Dublin Canyon Rd

EASTBOUND

AM	NOON	PM	
595	0	186	
1	0	0	0
113	0	319	1
335	0	836	1
0	0	0	0

AM NOON PM

WESTBOUND

Dublin Canyon Rd

	PM	NOON	AM
0	13	0	9
1	122	0	416
1	0	0	0
0	0	0	0
	839	0	352

PM NOON AM

CONTROL

2-Way Stop(NB/SB)

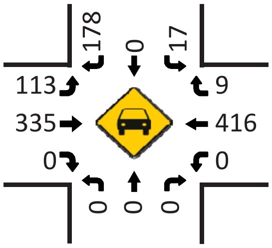
TEV	1069 AM	0 NOON	1357 PM
PHF	0.79		0.96

		0	0	1	0	
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

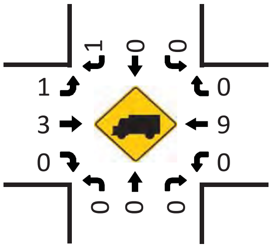
NORTHBOUND

Schaefer Ranch Rd

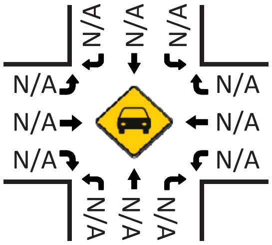
Total Vehicles (AM)



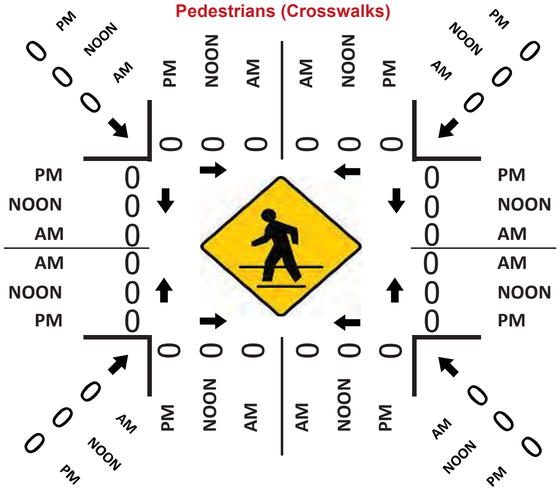
HT (AM)



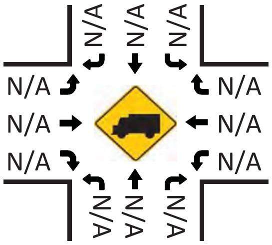
Total Vehicles (Noon)



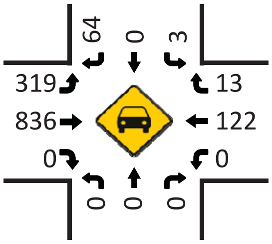
Pedestrians (Crosswalks)



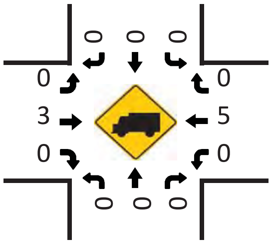
HT (NOON)



Total Vehicles (PM)



HT (PM)



Prepared by National Data & Surveying Services

Dublin Canyon Rd & E/O Canyon Meadows Dr

Peak Hour Turning Movement Count

ID: 19-08287-002
City: Pleasanton

Day: Tuesday
Date: 05/21/2019

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Dublin Canyon Rd — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

E/O Canyon Meadows Dr — EASTBOUND

AM	NOON	PM	
438	0	208	⇦
0	0	0	↶ 0
0	0	0	↱ 0
429	0	879	→ 1
0	0	0	↳ 0
AM	NOON	PM	

E/O Canyon Meadows Dr — WESTBOUND

PM	NOON	AM	
0	0	0	0 ↰
208	0	438	1 ←
0	0	0	0 ↰
0	0	0	0 ↰
879	0	429	⇨
PM	NOON	AM	

0 0 0 0

0 0 1 0

CONTROL

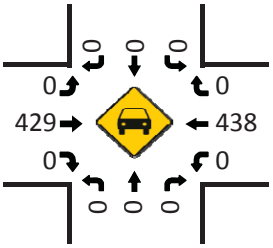
No Control

TEV	867 AM	0 NOON	1087 PM
PHF	0.80		0.94

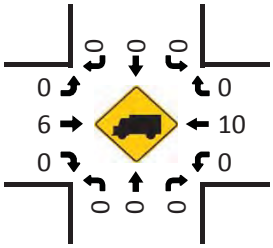
Dublin Canyon Rd — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

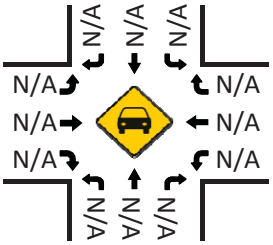
Total Vehicles (AM)



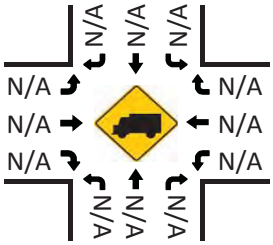
HT (AM)



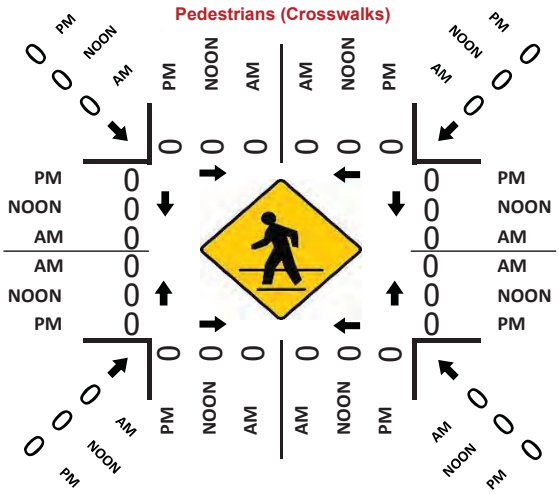
Total Vehicles (Noon)



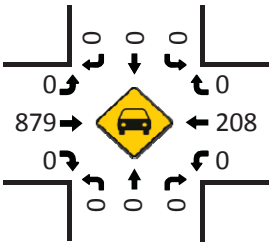
HT (NOON)



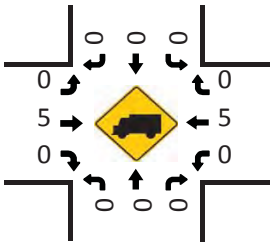
Pedestrians (Crosswalks)



Total Vehicles (PM)



HT (PM)



Prepared by National Data & Surveying Services

Canyon Meadows Dr & Dublin Canyon Rd

Peak Hour Turning Movement Count

ID: 19-08287-003
City: Pleasanton

Day: Tuesday
Date: 05/21/2019

	PEAK HOURS	COUNT PERIODS
AM	08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Canyon Meadows Dr

SOUTHBOUND

	↲	↓	↳	↶	⇧
AM	9	0	60	0	24
NOON	0	0	0	0	0
PM	4	0	27	0	51
	0.5	0.5	0	0	

Dublin Canyon Rd

EASTBOUND

		AM	NOON	PM
⇦		421	0	160
↷	0	0	0	0
↱	0	1	0	7
→	1	359	0	846
↴	0	0	0	0

Dublin Canyon Rd

WESTBOUND

		PM	NOON	AM
↰	0	44	0	23
←	1	156	0	412
↙	0	0	0	0
↶	0	0	0	0
⇨		873	0	419

CONTROL

1-Way Stop(SB)

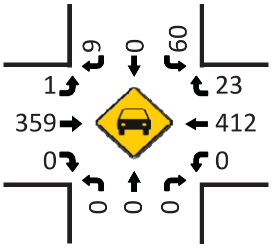
	AM	NOON	PM
TEV	864	0	1084
PHF	0.84		0.93

NORTHBOUND

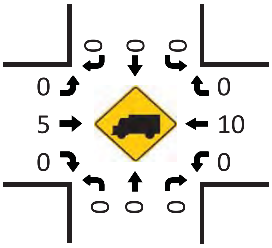
Canyon Meadows Dr

	⇩	↶	↰	↑	↱
		0	0	0	0
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

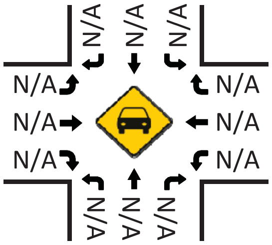
Total Vehicles (AM)



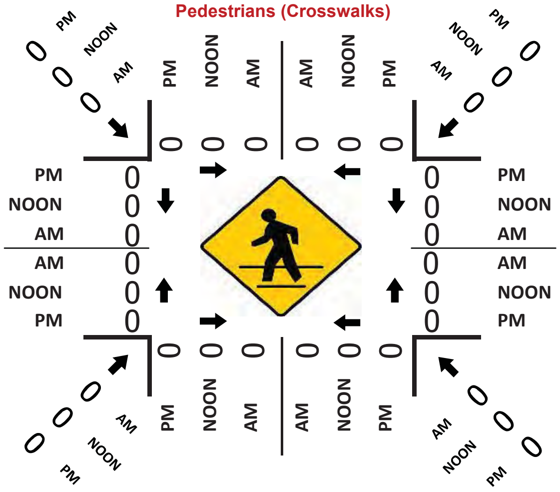
HT (AM)



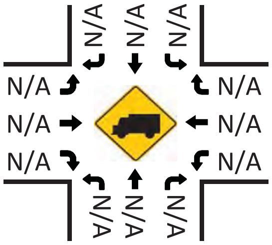
Total Vehicles (Noon)



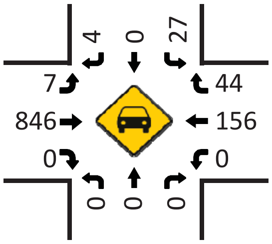
Pedestrians (Crosswalks)



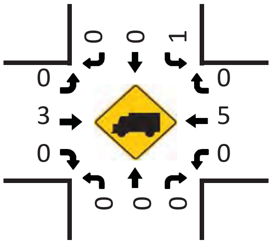
HT (NOON)



Total Vehicles (PM)

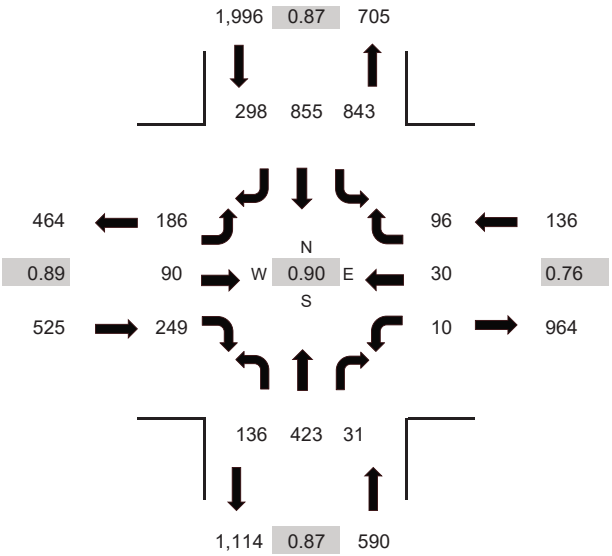


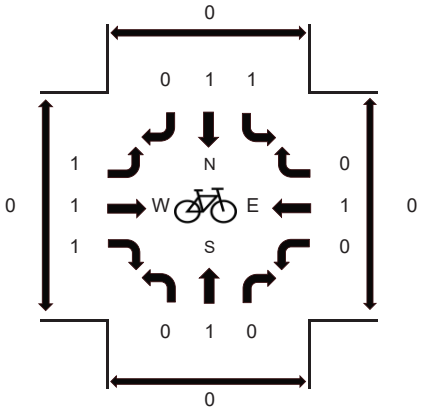
HT (PM)

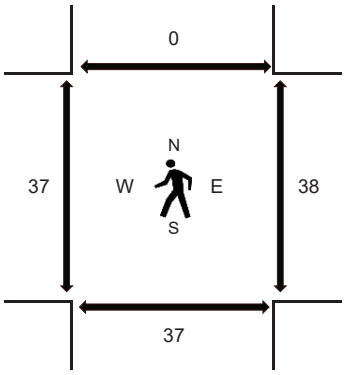


AimTD LLC **ID1** FoothillRd_at_DublinCanyonRd_CanyonWay **Date and Start Time:** April 10, 2019 Wednesday at 7:00 AM

City: Pleasanton **Peak Rolling Hour** 8:00 AM - 9:00 AM **Peak 15-Minutes** 8:45 AM - 9:00 AM



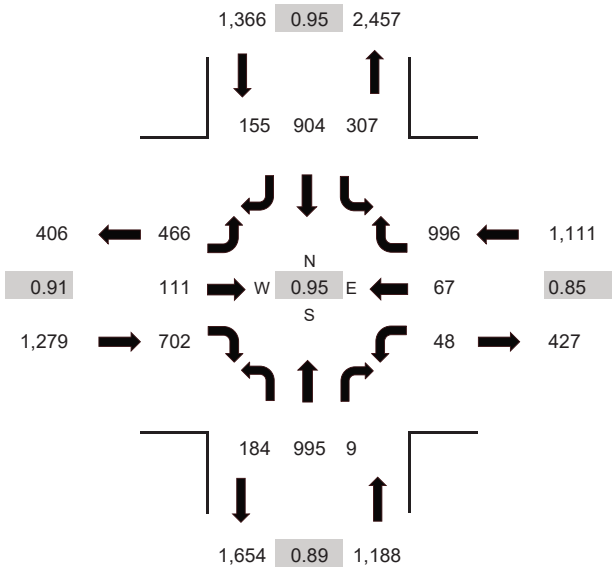


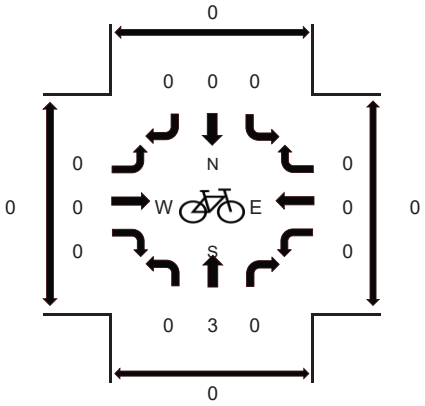


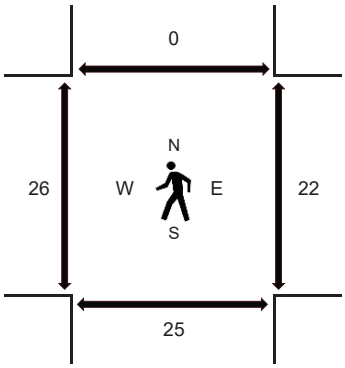
5-Minute Count	CANYON WAY Eastbound			DUBLIN CANYON RD Westbound			FOOTHILL RD Northbound			FOOTHILL RD Southbound				Rolling	Pedestrian Crossings			
Starting at:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	Hour	E	W	N	S
7:00 AM	7	3	9	0	0	3	8	13	5	22	56	7	133	133	0	0	0	0
7:05 AM	8	2	9	0	2	7	0	19	0	26	49	5	127	260	0	0	0	1
7:10 AM	15	0	13	0	0	4	6	26	0	22	50	7	143	403	0	0	0	0
7:15 AM	11	4	11	0	2	6	2	13	1	30	54	11	145	548	1	0	0	0
7:20 AM	8	3	10	0	2	9	2	30	4	24	69	4	165	713	0	3	0	3
7:25 AM	10	2	11	2	1	5	4	23	2	40	58	8	166	879	1	0	0	1
7:30 AM	21	6	14	1	1	11	7	18	3	40	48	10	180	1,059	2	1	0	2
7:35 AM	15	7	9	0	1	4	3	27	3	38	74	7	188	1,247	0	0	0	0
7:40 AM	9	2	15	0	3	4	9	36	2	59	56	11	206	1,453	3	3	0	3
7:45 AM	11	7	13	0	0	7	6	46	3	51	73	7	224	1,677	0	0	0	0
7:50 AM	15	8	25	1	2	8	9	29	1	55	75	19	247	1,924	0	2	0	1
7:55 AM	12	10	18	0	2	8	6	28	2	50	86	14	236	2,160	2	1	0	2
8:00 AM	14	7	17	1	0	8	5	38	2	52	68	21	233	2,260	1	0	0	0
8:05 AM	20	6	18	0	0	5	8	34	3	57	62	18	231	2,364	5	6	0	5
8:10 AM	17	5	30	3	1	4	6	29	2	55	70	20	242	2,463	2	2	0	4
8:15 AM	21	7	23	3	2	7	17	33	4	60	74	15	266	2,584	2	1	0	1
8:20 AM	10	3	15	0	0	9	10	40	3	75	86	28	279	2,698	6	4	0	4
8:25 AM	18	8	19	1	7	7	11	28	1	73	84	22	279	2,811	1	5	0	4
8:30 AM	20	13	20	1	1	9	5	44	3	57	72	22	267	2,898	3	1	0	2
8:35 AM	15	8	26	0	4	12	18	42	2	73	72	21	293	3,003	1	9	0	8
8:40 AM	9	6	15	1	3	10	12	35	1	77	64	23	256	3,053	7	0	0	0
8:45 AM	14	4	19	0	6	9	16	37	7	90	90	30	322	3,151	7	6	0	6
8:50 AM	15	8	19	0	0	10	13	31	1	83	60	32	272	3,176	2	3	0	3
8:55 AM	13	15	28	0	6	6	15	32	2	91	53	46	307	3,247	1	0	0	0

Peak Hour	Eastbound			Westbound			Northbound			Southbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
All Vehicles	186	90	249	10	30	96	136	423	31	843	855	298	3,247
Articulated Trucks	1	0	0	0	0	1	0	0	0	0	0	0	2
Buses	1	3	2	0	3	0	3	4	0	0	3	0	19
Single-Unit Trucks	3	0	3	0	0	5	3	9	0	7	16	2	48
Lights	181	87	244	10	27	90	130	410	31	836	836	296	3,178

AimTD LLC **ID1** FoothillRd_at_DublinCanyonRd_CanyonWay **Date and Start Time:** April 10, 2019 Wednesday at 4:30 PM
City: Pleasanton **Peak Rolling Hour** 4:50 PM - 5:50 PM **Peak 15-Minutes** 5:05 PM - 5:20 PM



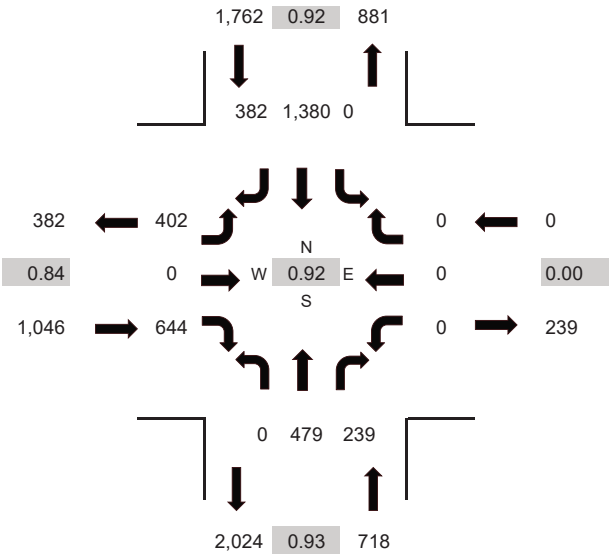


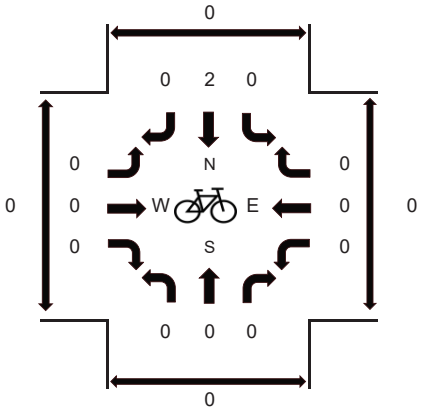


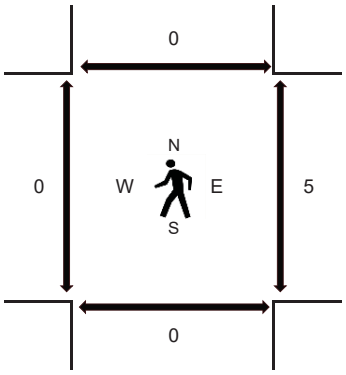
5-Minute Count Starting at:	CANYON WAY Eastbound Left	Thru	Right	DUBLIN CANYON RD Westbound Left	Thru	Right	FOOTHILL RD Northbound Left	Thru	Right	FOOTHILL RD Southbound Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings E	W	N	S
4:30 PM	25	7	70	0	4	81	7	81	0	30	81	8	394	394	0	0	0	0
4:35 PM	26	5	61	0	10	58	14	82	2	29	69	6	362	756	0	1	0	1
4:40 PM	48	11	65	5	3	62	10	65	1	18	63	10	361	1,117	0	0	0	0
4:45 PM	46	11	64	4	7	89	9	51	0	21	57	6	365	1,482	2	0	0	2
4:50 PM	33	7	52	3	7	73	13	70	2	23	100	11	394	1,876	8	6	0	4
4:55 PM	34	18	76	3	10	107	15	54	1	33	72	15	438	2,314	3	4	0	3
5:00 PM	46	22	60	8	8	80	11	73	0	13	79	13	413	2,727	1	3	0	4
5:05 PM	28	7	54	0	5	106	17	81	0	25	82	14	419	3,146	1	1	0	1
5:10 PM	42	8	70	7	6	98	11	100	3	23	73	11	452	3,598	0	1	0	1
5:15 PM	37	10	57	6	3	84	20	86	0	28	84	13	428	4,026	0	2	0	2
5:20 PM	55	6	67	2	2	72	21	82	1	16	58	13	395	4,421	1	2	0	3
5:25 PM	29	7	59	1	7	87	19	79	1	37	59	20	405	4,826	1	0	0	2
5:30 PM	36	3	52	7	6	72	11	119	0	26	90	12	434	4,866	1	3	0	1
5:35 PM	46	9	67	1	4	90	16	68	0	18	56	12	387	4,891	1	1	0	1
5:40 PM	25	6	45	0	4	81	21	82	0	42	80	5	391	4,921	3	3	0	3
5:45 PM	55	8	43	10	5	46	9	101	1	23	71	16	388	4,944	2	0	0	0
5:50 PM	35	6	48	4	7	95	19	54	2	44	63	12	389	4,939	0	0	0	0
5:55 PM	50	3	36	6	3	62	6	73	2	21	60	13	335	4,836	1	2	0	2
6:00 PM	29	9	52	6	5	78	22	53	0	42	54	12	362	4,785	0	1	0	1
6:05 PM	40	4	38	2	4	67	7	69	0	25	46	6	308	4,674	0	0	0	1
6:10 PM	26	8	33	1	4	52	13	67	1	19	65	12	301	4,523	1	2	0	1
6:15 PM	22	6	23	1	4	54	14	79	1	23	59	13	299	4,394	0	2	0	2
6:20 PM	25	4	32	4	4	81	9	45	1	23	47	11	286	4,285	1	0	0	0
6:25 PM	14	4	13	2	7	46	8	51	2	26	43	6	222	4,102	0	2	0	2

Peak Hour	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Total
All Vehicles	466	111	702	48	67	996	184	995	9	307	904	155	4,944
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	2	0	0	0	0	1	0	0	0	0	0	3
Single-Unit Trucks	10	3	9	0	0	4	2	7	0	1	18	0	54
Lights	456	106	693	48	67	992	181	988	9	306	886	155	4,887

AimTD LLC **ID119** FoothillRd_at_I580EBRamps **Date and Start Time:** March 21, 2019 Thursday at 7:00 AM
City: Pleasanton **Peak Rolling Hour** 8:00 AM - 9:00 AM **Peak 15-Minutes** 8:35 AM - 8:50 AM



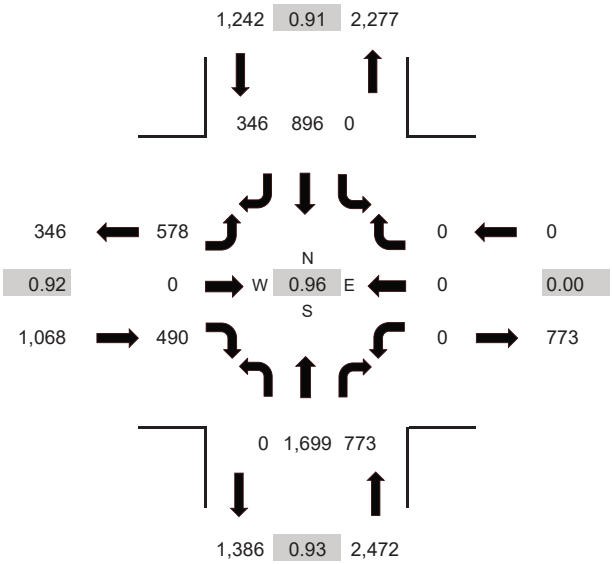


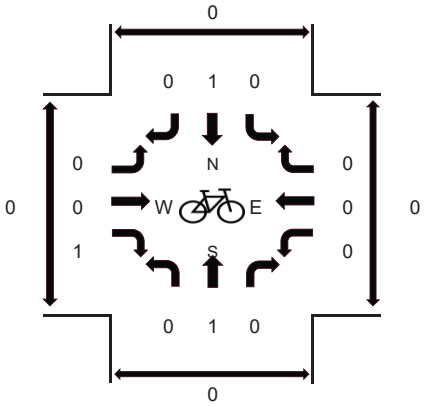


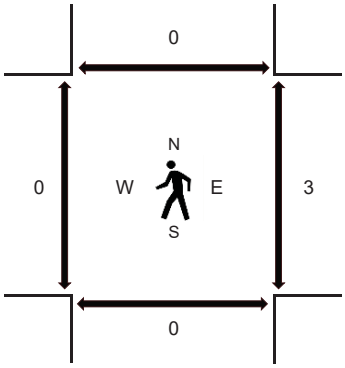
5-Minute Count Starting at:	I580 EB RAMPS Eastbound Left	Thru	Right	I580 EB RAMPS Westbound Left	Thru	Right	FOOTHILL RD Northbound Left	Thru	Right	FOOTHILL RD Southbound Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings E	W	N	S
7:00 AM	20	0	45	0	0	0	0	22	7	0	67	11	172	172	0	0	0	0
7:05 AM	21	0	47	0	0	0	0	20	12	0	58	31	189	361	0	0	0	0
7:10 AM	34	0	40	0	0	0	0	26	12	0	34	20	166	527	0	0	0	0
7:15 AM	22	0	33	0	0	0	0	23	11	0	72	24	185	712	0	0	0	0
7:20 AM	29	0	50	0	0	0	0	25	10	0	58	17	189	901	0	0	0	0
7:25 AM	24	0	41	0	0	0	0	41	11	0	59	24	200	1,101	0	0	0	0
7:30 AM	43	0	35	0	0	0	0	22	14	0	80	31	225	1,326	0	0	0	0
7:35 AM	47	0	45	0	0	0	0	35	13	0	87	31	258	1,584	0	0	0	0
7:40 AM	25	0	34	0	0	0	0	40	16	0	109	23	247	1,831	0	0	0	0
7:45 AM	38	0	29	0	0	0	0	31	16	0	84	49	247	2,078	1	0	0	0
7:50 AM	32	0	44	0	0	0	0	33	20	0	98	43	270	2,348	0	0	0	0
7:55 AM	27	0	34	0	0	0	0	42	18	0	141	33	295	2,643	0	0	0	0
8:00 AM	23	0	55	0	0	0	0	37	17	0	95	40	267	2,738	0	0	0	0
8:05 AM	30	0	45	0	0	0	0	40	18	0	104	27	264	2,813	0	0	0	0
8:10 AM	24	0	37	0	0	0	0	45	22	0	103	33	264	2,911	0	0	0	0
8:15 AM	30	0	46	0	0	0	0	37	22	0	95	29	259	2,985	1	0	0	0
8:20 AM	36	0	51	0	0	0	0	27	19	0	141	36	310	3,106	0	0	0	0
8:25 AM	27	0	63	0	0	0	0	42	19	0	132	20	303	3,209	0	0	0	0
8:30 AM	39	0	47	0	0	0	0	54	15	0	113	36	304	3,288	0	0	0	0
8:35 AM	33	0	55	0	0	0	0	36	26	0	115	40	305	3,335	3	0	0	0
8:40 AM	37	0	55	0	0	0	0	38	17	0	122	40	309	3,397	0	0	0	0
8:45 AM	47	0	71	0	0	0	0	46	25	0	119	35	343	3,493	0	0	0	0
8:50 AM	36	0	55	0	0	0	0	37	15	0	122	26	291	3,514	1	0	0	0
8:55 AM	40	0	64	0	0	0	0	40	24	0	119	20	307	3,526	0	0	0	0

Peak Hour	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Total
All Vehicles	402	0	644	0	0	0	0	479	239	0	1,380	382	3,526
Articulated Trucks	1	0	2	0	0	0	0	1	0	0	0	3	7
Buses	1	0	0	0	0	0	0	2	2	0	1	0	6
Single-Unit Trucks	5	0	4	0	0	0	0	6	5	0	3	4	27
Lights	395	0	638	0	0	0	0	470	232	0	1,376	375	3,486

AimTD LLC **ID119** FoothillRd_at_I580EBRamps **Date and Start Time:** March 21, 2019 Thursday at 4:30 PM
City: Pleasanton **Peak Rolling Hour** 4:55 PM - 5:55 PM **Peak 15-Minutes** 5:15 PM - 5:30 PM



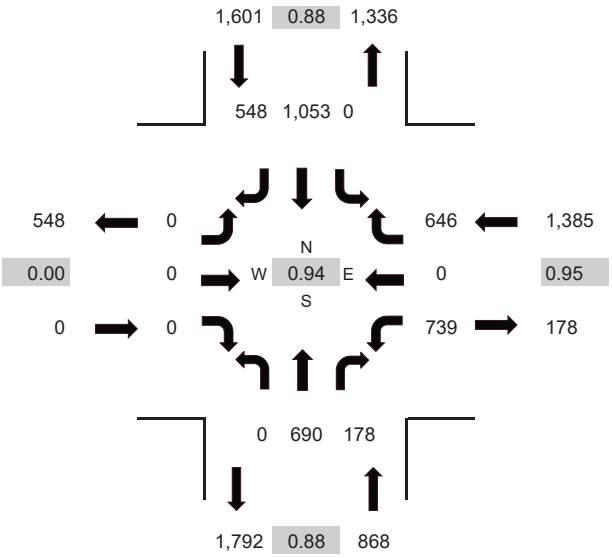


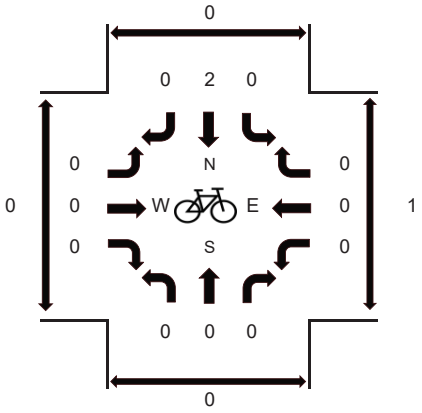


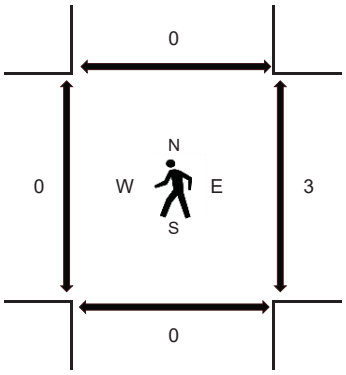
5-Minute Count Starting at:	I580 EB RAMPS Eastbound Left	Thru	Right	I580 EB RAMPS Westbound Left	Thru	Right	FOOTHILL RD Northbound Left	Thru	Right	FOOTHILL RD Southbound Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings E	W	N	S
4:30 PM	50	0	36	0	0	0	0	103	60	0	52	24	325	325	1	0	0	0
4:35 PM	43	0	33	0	0	0	0	117	66	0	63	18	340	665	0	0	0	0
4:40 PM	46	0	52	0	0	0	0	121	63	0	71	24	377	1,042	0	0	0	0
4:45 PM	40	0	40	0	0	0	0	128	52	0	75	28	363	1,405	0	0	0	0
4:50 PM	48	0	54	0	0	0	0	105	56	0	65	14	342	1,747	0	0	0	0
4:55 PM	51	0	46	0	0	0	0	130	64	0	67	28	386	2,133	0	0	0	0
5:00 PM	57	0	42	0	0	0	0	154	65	0	63	25	406	2,539	0	0	0	0
5:05 PM	33	0	60	0	0	0	0	166	66	0	76	38	439	2,978	0	0	0	0
5:10 PM	45	0	34	0	0	0	0	130	57	0	89	27	382	3,360	0	0	0	0
5:15 PM	55	0	43	0	0	0	0	148	62	0	84	28	420	3,780	0	0	0	0
5:20 PM	41	0	48	0	0	0	0	167	65	0	74	22	417	4,197	0	0	0	0
5:25 PM	47	0	41	0	0	0	0	157	68	0	63	30	406	4,603	0	0	0	0
5:30 PM	41	0	34	0	0	0	0	138	68	0	68	36	385	4,663	0	0	0	0
5:35 PM	60	0	35	0	0	0	0	147	67	0	68	29	406	4,729	0	0	0	0
5:40 PM	53	0	42	0	0	0	0	121	64	0	80	32	392	4,744	0	0	0	0
5:45 PM	44	0	35	0	0	0	0	121	63	0	92	30	385	4,766	2	0	0	0
5:50 PM	51	0	30	0	0	0	0	120	64	0	72	21	358	4,782	1	0	0	0
5:55 PM	45	0	38	0	0	0	0	117	46	0	76	35	357	4,753	1	0	0	0
6:00 PM	45	0	30	0	0	0	0	103	57	0	76	36	347	4,694	0	0	0	0
6:05 PM	52	0	43	0	0	0	0	96	54	0	83	24	352	4,607	0	0	0	0
6:10 PM	33	0	21	0	0	0	0	92	46	0	75	27	294	4,519	0	0	0	0
6:15 PM	37	0	34	0	0	0	0	87	45	0	45	26	274	4,373	2	0	0	0
6:20 PM	45	0	25	0	0	0	0	113	47	0	51	39	320	4,276	0	0	0	0
6:25 PM	42	0	24	0	0	0	0	103	46	0	53	19	287	4,157	1	0	0	0

Peak Hour	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Total
All Vehicles	578	0	490	0	0	0	0	1,699	773	0	896	346	4,782
Articulated Trucks	0	0	1	0	0	0	0	2	0	0	1	1	5
Buses	0	0	0	0	0	0	0	0	1	0	0	0	1
Single-Unit Trucks	4	0	3	0	0	0	0	7	4	0	3	1	22
Lights	574	0	486	0	0	0	0	1,690	768	0	892	344	4,754

AimTD LLC **ID120** FoothillRd_at_I580WBRamps **Date and Start Time:** March 21, 2019 Thursday at 7:00 AM
City: Pleasanton **Peak Rolling Hour** 7:50 AM - 8:50 AM **Peak 15-Minutes** 7:45 AM - 8:00 AM



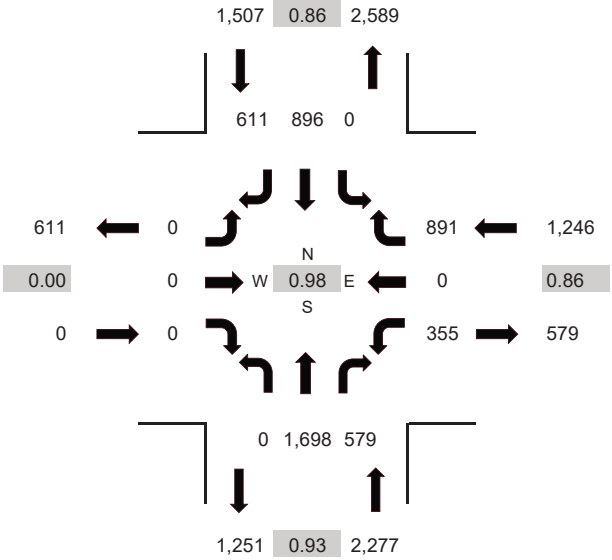


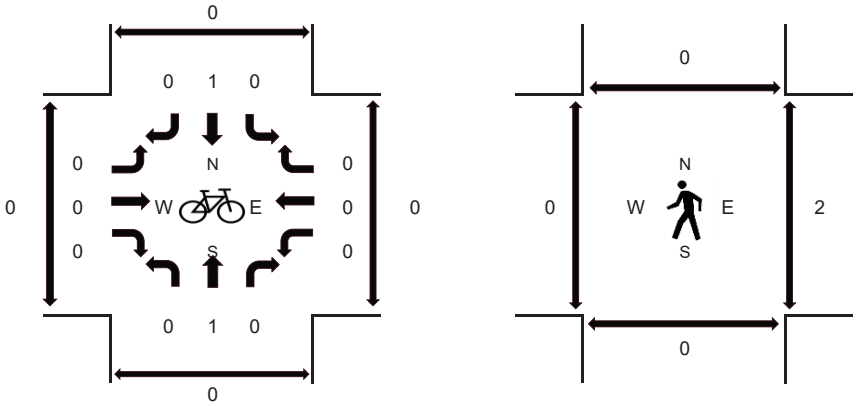


5-Minute Count	I580 WB RAMPS Eastbound			I580 WB RAMPS Westbound			SAN RAMON RD Northbound			FOOTHILL RD Southbound				Rolling	Pedestrian Crossings			
Starting at:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	Hour	E	W	N	S
7:00 AM	0	0	0	31	0	26	0	37	5	0	45	46	190	190	0	0	0	0
7:05 AM	0	0	0	31	0	34	0	29	9	0	58	57	218	408	0	0	0	0
7:10 AM	0	0	0	21	0	30	0	40	12	0	34	53	190	598	0	0	0	0
7:15 AM	0	0	0	44	0	31	0	39	15	0	51	32	212	810	0	0	0	0
7:20 AM	0	0	0	33	0	42	0	38	16	0	43	41	213	1,023	0	0	0	0
7:25 AM	0	0	0	32	0	40	0	55	10	0	50	58	245	1,268	0	0	0	0
7:30 AM	0	0	0	41	0	40	0	62	12	0	71	43	269	1,537	0	0	0	0
7:35 AM	0	0	0	41	0	57	0	63	17	0	78	49	305	1,842	0	0	0	0
7:40 AM	0	0	0	55	0	84	0	51	14	0	72	38	314	2,156	0	0	0	0
7:45 AM	0	0	0	45	0	60	0	50	15	0	89	64	323	2,479	0	0	0	0
7:50 AM	0	0	0	60	0	70	0	56	16	0	99	57	358	2,837	0	0	0	0
7:55 AM	0	0	0	64	0	79	0	54	15	0	95	44	351	3,188	0	0	0	0
8:00 AM	0	0	0	45	0	45	0	45	15	0	89	73	312	3,310	0	0	0	0
8:05 AM	0	0	0	57	0	52	0	54	16	0	74	47	300	3,392	0	0	0	0
8:10 AM	0	0	0	55	0	48	0	55	14	0	81	43	296	3,498	1	0	0	0
8:15 AM	0	0	0	61	0	51	0	49	18	0	64	42	285	3,571	0	0	0	0
8:20 AM	0	0	0	75	0	41	0	64	15	0	106	43	344	3,702	0	0	0	0
8:25 AM	0	0	0	71	0	45	0	60	12	0	83	39	310	3,767	0	0	0	0
8:30 AM	0	0	0	59	0	47	0	51	13	0	83	36	289	3,787	1	0	0	0
8:35 AM	0	0	0	60	0	57	0	69	15	0	90	45	336	3,818	0	0	0	0
8:40 AM	0	0	0	63	0	57	0	56	13	0	104	41	334	3,838	1	0	0	0
8:45 AM	0	0	0	69	0	54	0	77	16	0	85	38	339	3,854	0	0	0	0
8:50 AM	0	0	0	67	0	70	0	66	11	0	79	40	333	3,829	1	0	0	0
8:55 AM	0	0	0	78	0	54	0	60	12	0	57	31	292	3,770	0	0	0	0

Peak Hour	Eastbound			Westbound			Northbound			Southbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
All Vehicles	0	0	0	739	0	646	0	690	178	0	1,053	548	3,854
Articulated Trucks	0	0	0	0	0	1	0	1	1	0	4	0	7
Buses	0	0	0	1	0	1	0	1	0	0	3	1	7
Single-Unit Trucks	0	0	0	3	0	1	0	3	6	0	4	4	21
Lights	0	0	0	735	0	643	0	685	171	0	1,042	543	3,819

AimTD LLC **ID120** FoothillRd_at_I580WBRamps **Date and Start Time:** March 21, 2019 Thursday at 4:30 PM
City: Pleasanton **Peak Rolling Hour** 4:55 PM - 5:55 PM **Peak 15-Minutes** 5:15 PM - 5:30 PM

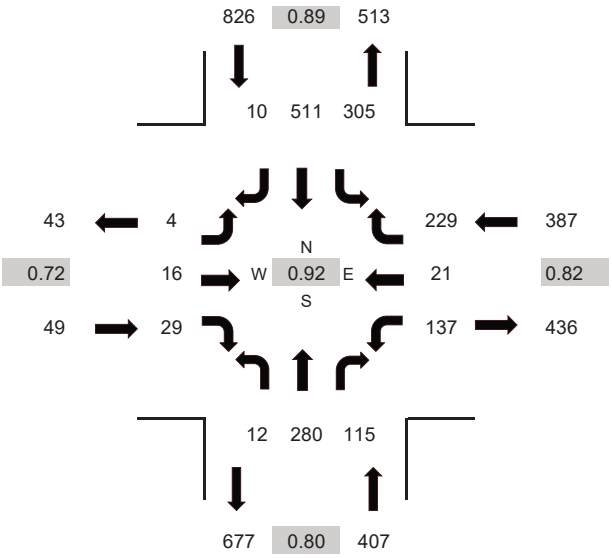


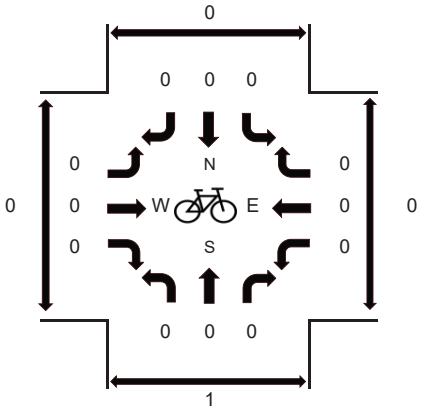


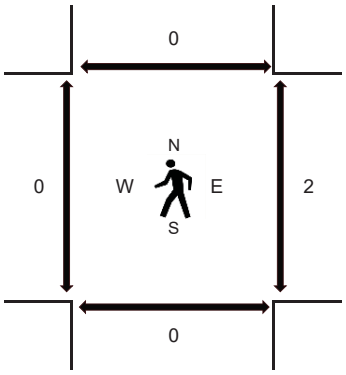
5-Minute Count Starting at:	I580 WB RAMPS Eastbound Left	Thru	Right	I580 WB RAMPS Westbound Left	Thru	Right	SAN RAMON RD Northbound Left	Thru	Right	FOOTHILL RD Southbound Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings E	W	N	S
4:30 PM	0	0	0	22	0	48	0	117	36	0	50	30	303	303	0	0	0	0
4:35 PM	0	0	0	32	0	41	0	100	50	0	54	44	321	624	1	0	0	0
4:40 PM	0	0	0	29	0	58	0	110	57	0	60	55	369	993	0	0	0	0
4:45 PM	0	0	0	18	0	57	0	119	49	0	83	45	371	1,364	0	0	0	0
4:50 PM	0	0	0	29	0	61	0	127	36	0	50	44	347	1,711	0	0	0	0
4:55 PM	0	0	0	30	0	71	0	128	53	0	65	48	395	2,106	0	0	0	0
5:00 PM	0	0	0	28	0	80	0	153	58	0	63	49	431	2,537	0	0	0	0
5:05 PM	0	0	0	17	0	62	0	149	50	0	96	55	429	2,966	0	0	0	0
5:10 PM	0	0	0	24	0	73	0	132	43	0	91	55	418	3,384	0	0	0	0
5:15 PM	0	0	0	28	0	63	0	137	66	0	86	54	434	3,818	0	0	0	0
5:20 PM	0	0	0	34	0	73	0	156	52	0	62	54	431	4,249	0	0	0	0
5:25 PM	0	0	0	20	0	82	0	148	56	0	72	44	422	4,671	0	0	0	0
5:30 PM	0	0	0	31	0	66	0	118	51	0	74	64	404	4,772	0	0	0	0
5:35 PM	0	0	0	32	0	80	0	159	48	0	65	37	421	4,872	0	0	0	0
5:40 PM	0	0	0	41	0	66	0	153	31	0	80	45	416	4,919	0	0	0	0
5:45 PM	0	0	0	43	0	99	0	119	46	0	74	47	428	4,976	1	0	0	0
5:50 PM	0	0	0	27	0	76	0	146	25	0	68	59	401	5,030	1	0	0	0
5:55 PM	0	0	0	29	0	65	0	140	22	0	78	38	372	5,007	2	0	0	0
6:00 PM	0	0	0	36	0	70	0	129	19	0	83	38	375	4,951	2	0	0	0
6:05 PM	0	0	0	35	0	51	0	116	32	0	70	43	347	4,869	1	0	0	0
6:10 PM	0	0	0	26	0	63	0	104	29	0	74	54	350	4,801	0	0	0	0
6:15 PM	0	0	0	15	0	60	0	116	31	0	58	40	320	4,687	0	0	0	0
6:20 PM	0	0	0	20	0	49	0	103	27	0	68	59	326	4,582	5	0	0	0
6:25 PM	0	0	0	17	0	70	0	101	37	0	55	49	329	4,489	0	0	0	0

Peak Hour	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Total
All Vehicles	0	0	0	355	0	891	0	1,698	579	0	896	611	5,030
Articulated Trucks	0	0	0	2	0	0	0	1	1	0	0	0	4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	0	0	3	0	0	0	7	6	0	1	3	20
Lights	0	0	0	350	0	891	0	1,690	572	0	895	608	5,006

AimTD LLC **ID4** FoothillRd_at_LaurelCreekDr_StoneridgeDr **Date and Start Time:** March 21, 2019 Thursday at 7:00 AM
City: Pleasanton **Peak Rolling Hour** 7:35 AM - 8:35 AM **Peak 15-Minutes** 7:35 AM - 7:50 AM



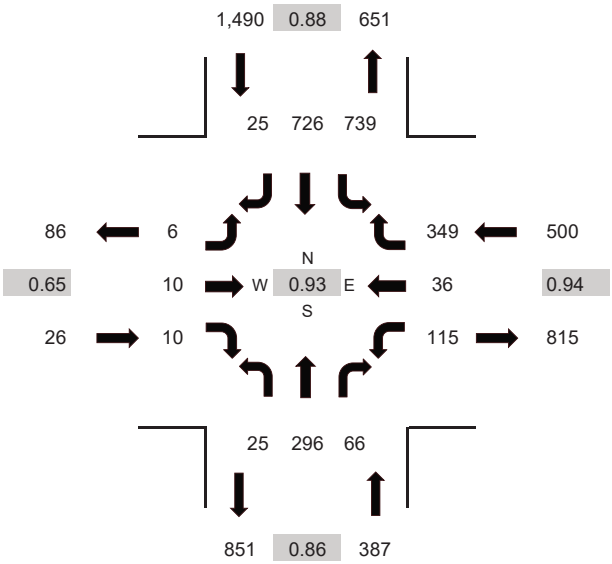


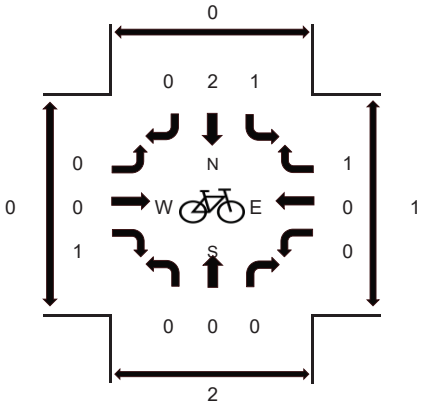


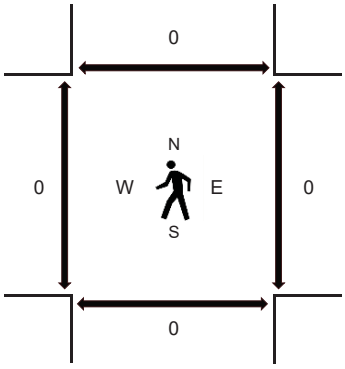
5-Minute Count Starting at:	STONERIDGE DR Eastbound Left	Thru	Right	LAUREL CREEK DR Westbound Left	Thru	Right	FOOTHILL RD Northbound Left	Thru	Right	FOOTHILL RD Southbound Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings E	W	N	S
7:00 AM	0	0	1	8	1	10	0	14	3	10	64	3	114	114	0	0	0	0
7:05 AM	0	0	1	10	1	9	1	9	6	9	52	4	102	216	0	0	0	0
7:10 AM	1	1	0	2	1	8	1	11	4	10	42	1	82	298	0	0	0	0
7:15 AM	0	3	1	5	0	15	1	11	1	15	46	0	98	396	0	0	0	0
7:20 AM	0	1	1	6	0	17	0	8	8	17	40	0	98	494	0	0	0	0
7:25 AM	0	0	2	5	0	13	0	17	6	6	46	1	96	590	0	0	0	0
7:30 AM	0	1	3	6	4	14	0	25	5	11	44	2	115	705	0	0	0	0
7:35 AM	1	2	5	20	0	16	1	21	6	21	51	2	146	851	0	0	0	0
7:40 AM	0	0	3	31	1	17	0	24	13	26	56	0	171	1,022	0	0	0	0
7:45 AM	1	2	2	11	4	18	0	18	9	24	48	2	139	1,161	0	0	0	0
7:50 AM	1	1	2	10	0	19	3	23	12	21	40	0	132	1,293	2	0	0	0
7:55 AM	0	1	0	6	3	21	2	31	11	37	53	2	167	1,460	0	0	0	0
8:00 AM	0	1	1	5	1	18	2	27	8	30	39	1	133	1,479	0	0	0	0
8:05 AM	1	1	5	9	3	19	0	34	12	23	47	0	154	1,531	0	0	0	0
8:10 AM	0	2	5	8	0	18	0	13	10	31	33	2	122	1,571	0	0	0	0
8:15 AM	0	1	2	13	1	21	0	25	9	21	28	0	121	1,594	0	0	0	0
8:20 AM	0	0	1	3	3	19	3	22	10	19	44	0	124	1,620	0	0	0	0
8:25 AM	0	4	3	7	1	25	1	23	6	24	47	0	141	1,665	0	0	0	0
8:30 AM	0	1	0	14	4	18	0	19	9	28	25	1	119	1,669	0	0	0	0
8:35 AM	3	2	0	21	3	17	0	21	6	18	48	0	139	1,662	0	0	0	0
8:40 AM	0	1	0	8	2	24	0	16	6	19	49	1	126	1,617	0	0	0	0
8:45 AM	0	1	1	9	3	32	1	16	4	20	46	1	134	1,612	0	0	0	0
8:50 AM	0	1	1	4	2	24	2	29	3	15	32	0	113	1,593	0	0	0	0
8:55 AM	1	1	1	15	2	24	1	19	5	19	31	1	120	1,546	0	0	0	0

Peak Hour	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Total
All Vehicles	4	16	29	137	21	229	12	280	115	305	511	10	1,669
Articulated Trucks	0	0	0	0	0	1	0	0	0	0	1	0	2
Buses	0	0	0	0	0	2	0	2	1	0	3	0	8
Single-Unit Trucks	0	0	0	0	1	6	0	0	1	2	4	0	14
Lights	4	16	29	137	20	220	12	278	113	303	503	10	1,645

AimTD LLC **ID4** FoothillRd_at_LaurelCreekDr_StoneridgeDr **Date and Start Time:** March 21, 2019 Thursday at 4:30 PM
City: Pleasanton **Peak Rolling Hour** 4:35 PM - 5:35 PM **Peak 15-Minutes** 5:10 PM - 5:25 PM



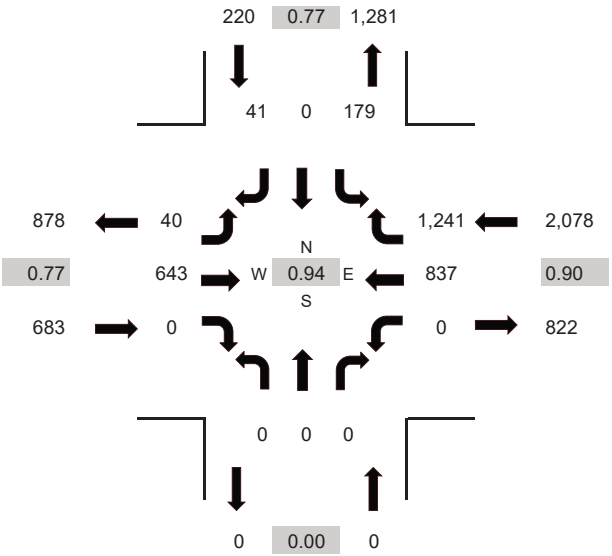


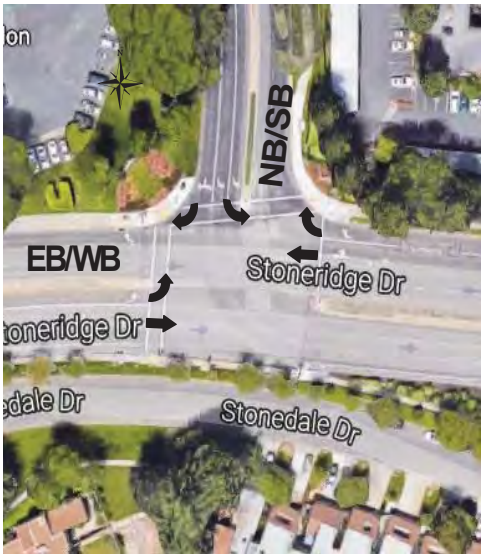


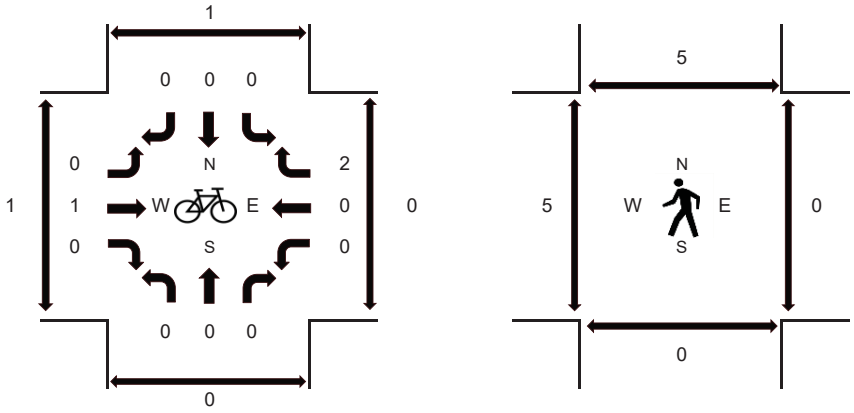
5-Minute Count Starting at:	STONERIDGE DR Eastbound Left	Thru	Right	LAUREL CREEK DR Westbound Left	Thru	Right	FOOTHILL RD Northbound Left	Thru	Right	FOOTHILL RD Southbound Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings E	W	N	S
4:30 PM	1	1	1	5	2	23	0	17	4	70	47	1	172	172	1	0	0	1
4:35 PM	2	3	1	2	4	27	2	29	3	67	40	2	182	354	0	0	0	0
4:40 PM	0	0	1	8	1	26	7	25	7	74	44	2	195	549	0	0	0	0
4:45 PM	1	1	0	8	2	29	0	29	6	64	56	5	201	750	0	0	0	0
4:50 PM	0	0	3	12	3	27	0	19	4	76	67	2	213	963	0	0	0	0
4:55 PM	0	1	1	10	3	30	3	23	3	53	43	2	172	1,135	0	0	0	0
5:00 PM	1	2	2	9	1	30	0	26	2	67	56	4	200	1,335	0	0	0	0
5:05 PM	0	0	0	10	5	33	3	23	13	59	51	2	199	1,534	0	0	0	0
5:10 PM	1	0	1	9	1	26	3	27	8	74	71	1	222	1,756	0	0	0	0
5:15 PM	0	3	1	12	4	33	1	30	4	75	52	1	216	1,972	0	0	0	0
5:20 PM	0	0	0	7	2	27	2	21	3	60	87	2	211	2,183	0	0	0	0
5:25 PM	1	1	1	12	4	32	2	15	6	41	66	3	184	2,367	0	0	0	0
5:30 PM	1	1	0	10	7	28	1	36	7	51	66	0	208	2,403	0	0	0	0
5:35 PM	1	1	0	8	3	28	3	22	3	45	67	1	182	2,403	0	0	0	0
5:40 PM	1	3	1	6	6	42	6	28	6	41	46	1	187	2,395	0	0	0	0
5:45 PM	0	5	0	5	4	24	4	29	2	56	64	4	197	2,391	0	0	0	0
5:50 PM	0	1	0	13	5	24	1	31	3	40	42	1	161	2,339	0	0	0	0
5:55 PM	1	3	1	3	3	26	2	22	6	49	44	2	162	2,329	3	0	0	3
6:00 PM	0	0	1	6	6	25	0	30	6	53	51	1	179	2,308	0	0	0	0
6:05 PM	0	1	0	14	0	18	2	24	4	51	45	1	160	2,269	3	2	0	0
6:10 PM	1	0	2	10	3	25	4	19	2	32	47	3	148	2,195	0	0	0	0
6:15 PM	1	2	0	9	2	21	1	19	6	33	38	4	136	2,115	1	0	0	1
6:20 PM	2	0	1	4	2	21	1	35	5	25	42	0	138	2,042	0	0	0	0
6:25 PM	0	1	2	2	2	20	1	28	7	29	28	2	122	1,980	0	0	0	0

Peak Hour	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Total
All Vehicles	6	10	10	115	36	349	25	296	66	739	726	25	2,403
Articulated Trucks	0	0	0	0	0	0	0	0	0	1	0	0	1
Buses	0	0	0	0	0	1	0	0	0	0	0	0	1
Single-Unit Trucks	0	0	0	0	0	7	0	4	0	4	2	0	17
Lights	7	12	11	109	37	340	24	299	66	756	697	26	2,384

AimTD LLC **ID13** StoneridgeDr_at_StoneridgeMallRd **Date and Start Time:** March 21, 2019 Thursday at 7:00 AM
City: Pleasanton **Peak Rolling Hour** 8:00 AM - 9:00 AM **Peak 15-Minutes** 8:15 AM - 8:30 AM



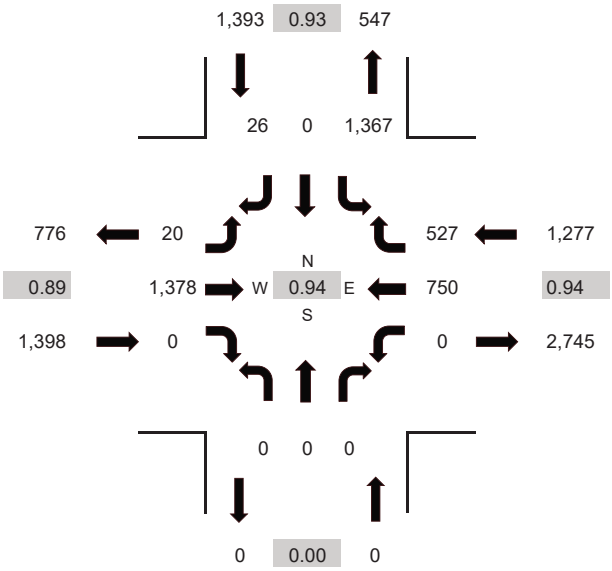


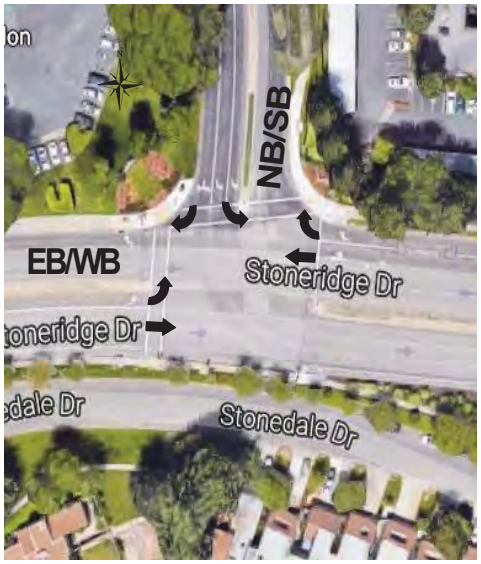


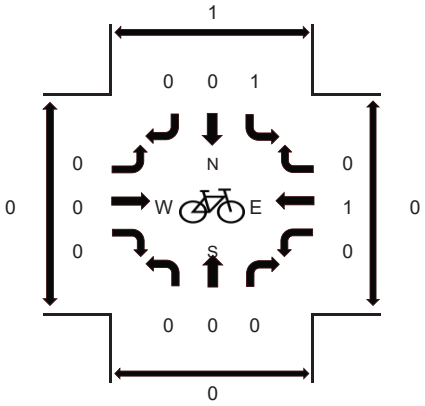
5-Minute Count Starting at:	STONERIDGE DR Eastbound Left	Thru	Right	STONERIDGE DR Westbound Left	Thru	Right	STONERIDGE MAIL RD Northbound Left	Thru	Right	STONERIDGE MAIL RD Southbound Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings E	W	N	S
7:00 AM	2	22	0	0	28	32	0	0	0	12	0	0	96	96	0	0	0	0
7:05 AM	2	26	0	0	30	26	0	0	0	5	0	0	89	185	0	0	0	0
7:10 AM	1	21	0	0	37	33	0	0	0	8	0	1	101	286	0	0	1	0
7:15 AM	1	38	0	0	36	30	0	0	0	9	0	1	115	401	0	0	0	0
7:20 AM	2	38	0	0	31	42	0	0	0	9	0	2	124	525	0	0	0	0
7:25 AM	1	29	0	0	35	40	0	0	0	10	0	0	115	640	0	1	0	0
7:30 AM	4	43	0	0	45	53	0	0	0	10	0	4	159	799	0	0	1	0
7:35 AM	0	39	0	0	65	55	0	0	0	15	0	3	177	976	0	0	0	0
7:40 AM	2	46	0	0	68	59	0	0	0	12	0	3	190	1,166	0	2	1	0
7:45 AM	1	53	0	0	62	61	0	0	0	14	0	4	195	1,361	0	0	0	0
7:50 AM	5	57	0	0	58	84	0	0	0	16	0	5	225	1,586	0	0	3	0
7:55 AM	1	64	0	0	60	89	0	0	0	21	0	5	240	1,826	0	1	1	0
8:00 AM	9	71	0	0	61	69	0	0	0	8	0	5	223	1,953	0	1	1	0
8:05 AM	0	69	0	0	59	76	0	0	0	15	0	8	227	2,091	0	3	0	0
8:10 AM	2	72	0	0	60	73	0	0	0	21	0	8	236	2,226	0	0	3	0
8:15 AM	6	65	0	0	63	109	0	0	0	15	0	4	262	2,373	0	0	0	0
8:20 AM	14	61	0	0	65	115	0	0	0	9	0	0	264	2,513	0	0	0	0
8:25 AM	3	57	0	0	80	106	0	0	0	24	0	1	271	2,669	0	0	0	0
8:30 AM	1	50	0	0	84	97	0	0	0	15	0	2	249	2,759	0	0	1	0
8:35 AM	1	40	0	0	67	113	0	0	0	17	0	2	240	2,822	0	0	0	0
8:40 AM	2	45	0	0	84	119	0	0	0	11	0	1	262	2,894	0	1	0	0
8:45 AM	0	43	0	0	61	122	0	0	0	15	0	1	242	2,941	0	0	0	0
8:50 AM	2	34	0	0	74	119	0	0	0	11	0	4	244	2,960	0	0	0	0
8:55 AM	0	36	0	0	79	123	0	0	0	18	0	5	261	2,981	0	0	0	0

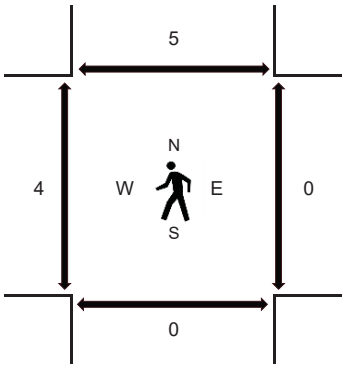
Peak Hour	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Total
All Vehicles	40	643	0	0	837	1,241	0	0	0	179	0	41	2,981
Articulated Trucks	0	0	0	0	0	1	0	0	0	1	0	0	2
Buses	0	3	0	0	2	6	0	0	0	0	0	0	11
Single-Unit Trucks	0	3	0	0	2	11	0	0	0	5	0	0	21
Lights	40	637	0	0	833	1,223	0	0	0	173	0	41	2,947

AimTD LLC **ID13** StoneridgeDr_at_StoneridgeMallRd **Date and Start Time:** March 21, 2019 Thursday at 4:30 PM
City: Pleasanton **Peak Rolling Hour** 4:40 PM - 5:40 PM **Peak 15-Minutes** 5:05 PM - 5:20 PM





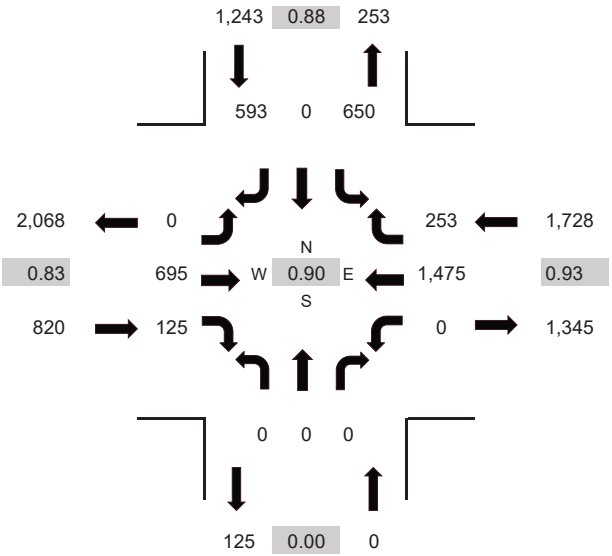


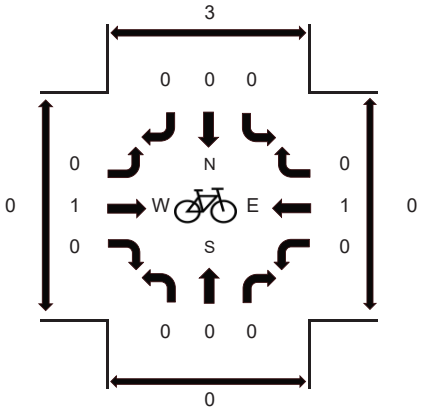


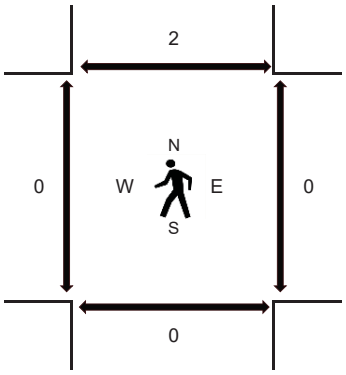
5-Minute Count Starting at:	STONERIDGE DR Eastbound Left	Thru	Right	STONERIDGE DR Westbound Left	Thru	Right	STONERIDGE MAIL RD Northbound Left	Thru	Right	STONERIDGE MAIL RD Southbound Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings E	W	N	S
4:30 PM	4	99	0	0	41	38	0	0	0	104	0	1	287	287	0	0	0	0
4:35 PM	1	114	0	0	56	44	0	0	0	86	0	1	302	589	0	0	1	0
4:40 PM	2	103	0	0	55	49	0	0	0	113	0	5	327	916	0	0	0	0
4:45 PM	1	131	0	0	71	47	0	0	0	100	0	3	353	1,269	0	0	0	0
4:50 PM	3	109	0	0	60	40	0	0	0	126	0	1	339	1,608	0	1	0	0
4:55 PM	1	118	0	0	69	43	0	0	0	105	0	1	337	1,945	0	0	0	0
5:00 PM	3	94	0	0	42	42	0	0	0	130	0	2	313	2,258	0	0	0	0
5:05 PM	2	142	0	0	71	45	0	0	0	108	0	3	371	2,629	0	1	1	0
5:10 PM	4	116	0	0	42	47	0	0	0	130	0	1	340	2,969	0	0	1	0
5:15 PM	0	129	0	0	83	52	0	0	0	110	0	0	374	3,343	0	0	2	0
5:20 PM	1	110	0	0	57	37	0	0	0	122	0	2	329	3,672	0	2	0	0
5:25 PM	1	129	0	0	70	41	0	0	0	114	0	0	355	4,027	0	0	0	0
5:30 PM	2	83	0	0	62	40	0	0	0	108	0	6	301	4,041	0	0	0	0
5:35 PM	0	114	0	0	68	44	0	0	0	101	0	2	329	4,068	0	0	1	0
5:40 PM	2	80	0	0	62	42	0	0	0	131	0	0	317	4,058	0	0	0	0
5:45 PM	3	97	0	0	70	40	0	0	0	115	0	3	328	4,033	0	0	0	0
5:50 PM	2	76	0	0	53	41	0	0	0	131	0	0	303	3,997	0	0	0	0
5:55 PM	2	86	0	0	67	39	0	0	0	87	0	4	285	3,945	0	0	0	0
6:00 PM	2	79	0	0	50	48	0	0	0	83	0	3	265	3,897	0	0	0	0
6:05 PM	1	87	0	0	67	38	0	0	0	73	0	4	270	3,796	0	0	0	0
6:10 PM	3	59	0	0	49	44	0	0	0	112	0	2	269	3,725	0	0	0	0
6:15 PM	4	68	0	0	60	37	0	0	0	75	0	0	244	3,595	0	0	2	0
6:20 PM	3	53	0	0	49	38	0	0	0	70	0	5	218	3,484	0	0	1	0
6:25 PM	1	68	0	0	52	39	0	0	0	67	0	3	230	3,359	0	2	3	0

Peak Hour	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Total
All Vehicles	20	1,378	0	0	750	527	0	0	0	1,367	0	26	4,068
Articulated Trucks	0	1	0	0	0	1	0	0	0	1	0	0	3
Buses	0	3	0	0	1	4	0	0	0	0	0	0	8
Single-Unit Trucks	1	9	0	0	3	1	0	0	0	8	0	0	22
Lights	19	1,365	0	0	746	521	0	0	0	1,358	0	26	4,035

AimTD LLC **ID14** StoneridgeDr_at_I680SBRamps **Date and Start Time:** March 21, 2019 Thursday at 7:00 AM
City: Pleasanton **Peak Rolling Hour** 8:00 AM - 9:00 AM **Peak 15-Minutes** 8:15 AM - 8:30 AM



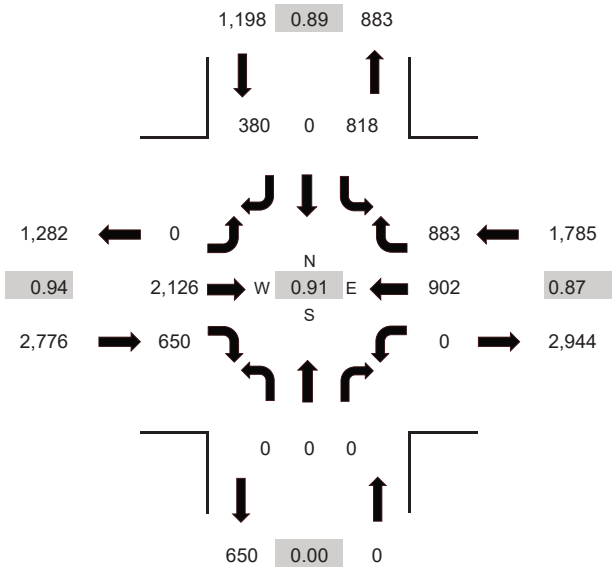


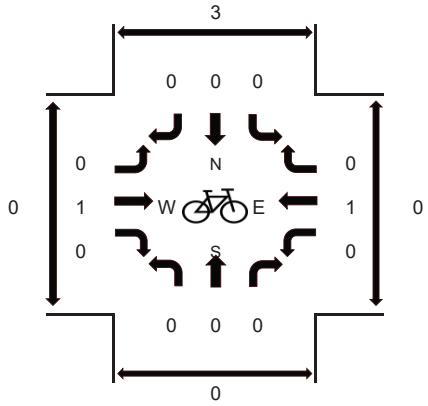


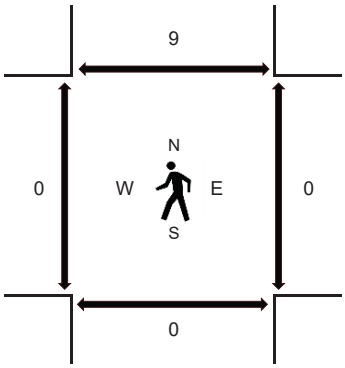
5-Minute Count	STONERIDGE DR Eastbound			STONERIDGE DR Westbound			I680 SB RAMPS Northbound			I680 SB RAMPS Southbound				Rolling	Pedestrian Crossings			
Starting at:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	Hour	E	W	N	S
7:00 AM	0	37	7	0	48	15	0	0	0	27	0	16	150	150	0	0	0	0
7:05 AM	0	25	9	0	34	19	0	0	0	30	0	18	135	285	0	0	0	0
7:10 AM	0	21	8	0	47	18	0	0	0	33	0	21	148	433	0	0	0	0
7:15 AM	0	33	10	0	45	14	0	0	0	37	0	22	161	594	0	0	0	0
7:20 AM	0	45	4	0	51	26	0	0	0	32	0	26	184	778	0	0	0	0
7:25 AM	0	36	7	0	59	24	0	0	0	44	0	21	191	969	0	0	1	0
7:30 AM	0	35	8	0	67	21	0	0	0	45	0	31	207	1,176	0	0	0	0
7:35 AM	0	50	7	0	88	18	0	0	0	41	0	31	235	1,411	0	0	0	0
7:40 AM	0	49	7	0	84	14	0	0	0	49	0	34	237	1,648	0	0	0	0
7:45 AM	0	54	12	0	97	15	0	0	0	45	0	36	259	1,907	0	0	0	0
7:50 AM	0	46	13	0	115	27	0	0	0	46	0	44	291	2,198	0	0	0	0
7:55 AM	0	65	19	0	108	21	0	0	0	64	0	31	308	2,506	0	0	0	0
8:00 AM	0	66	15	0	75	17	0	0	0	60	0	49	282	2,638	0	0	0	0
8:05 AM	0	69	14	0	120	18	0	0	0	50	0	35	306	2,809	0	0	0	0
8:10 AM	0	61	16	0	94	24	0	0	0	44	0	30	269	2,930	0	0	0	0
8:15 AM	0	78	9	0	135	31	0	0	0	70	0	52	375	3,144	0	0	0	0
8:20 AM	0	57	10	0	127	24	0	0	0	60	0	67	345	3,305	0	0	1	0
8:25 AM	0	73	8	0	129	19	0	0	0	59	0	46	334	3,448	0	0	0	0
8:30 AM	0	53	8	0	136	28	0	0	0	44	0	52	321	3,562	0	0	0	0
8:35 AM	0	51	4	0	107	28	0	0	0	54	0	62	306	3,633	0	0	0	0
8:40 AM	0	55	5	0	138	20	0	0	0	63	0	51	332	3,728	0	0	0	0
8:45 AM	0	53	17	0	135	20	0	0	0	45	0	43	313	3,782	0	0	1	0
8:50 AM	0	41	8	0	137	11	0	0	0	48	0	51	296	3,787	0	0	0	0
8:55 AM	0	38	11	0	142	13	0	0	0	53	0	55	312	3,791	0	0	0	0

Peak Hour	Eastbound			Westbound			Northbound			Southbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
All Vehicles	0	695	125	0	1,475	253	0	0	0	650	0	593	3,791
Articulated Trucks	0	1	0	0	0	1	0	0	0	0	0	1	3
Buses	0	3	1	0	5	1	0	0	0	0	0	2	12
Single-Unit Trucks	0	7	2	0	8	14	0	0	0	3	0	3	37
Lights	0	684	122	0	1,462	237	0	0	0	647	0	587	3,739

AimTD LLC **ID14** StoneridgeDr_at_I680SBRamps **Date and Start Time:** March 21, 2019 Thursday at 4:30 PM
City: Pleasanton **Peak Rolling Hour** 4:45 PM - 5:45 PM **Peak 15-Minutes** 5:10 PM - 5:25 PM



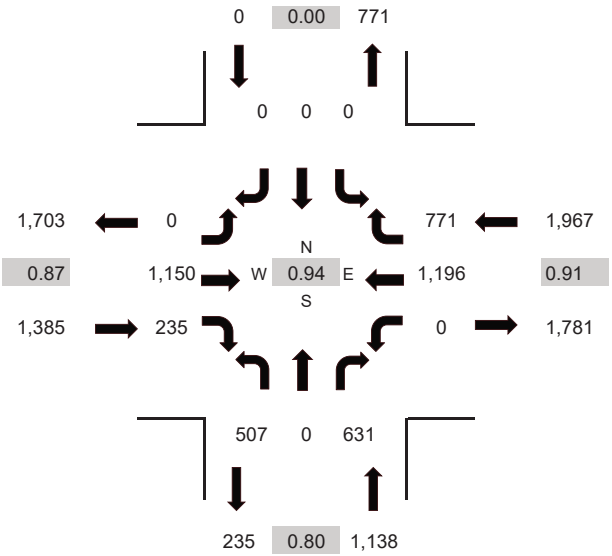


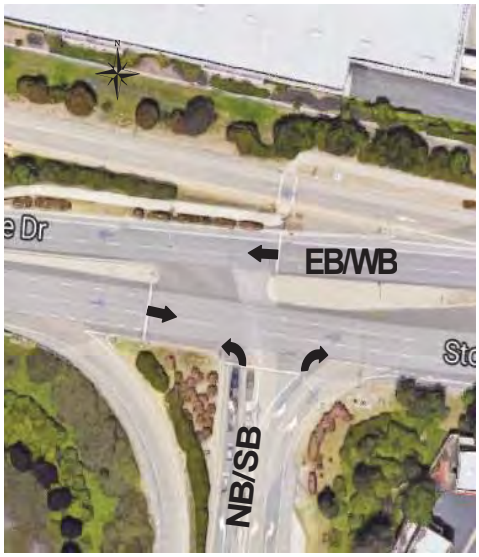


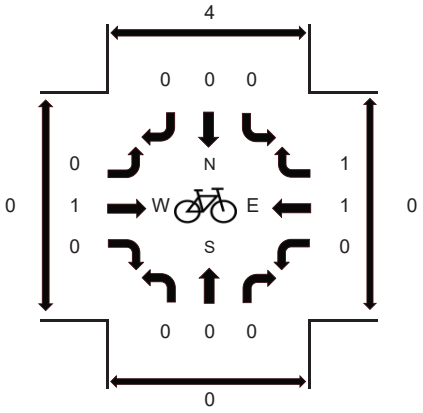
5-Minute Count Starting at:	STONERIDGE DR Eastbound Left	Thru	Right	STONERIDGE DR Westbound Left	Thru	Right	I680 SB RAMPS Northbound Left	Thru	Right	I680 SB RAMPS Southbound Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings E	W	N	S
4:30 PM	0	153	35	0	62	38	0	0	0	53	0	34	375	375	0	0	0	0
4:35 PM	0	156	40	0	56	53	0	0	0	60	0	39	404	779	0	0	1	0
4:40 PM	0	156	42	0	70	56	0	0	0	50	0	36	410	1,189	0	0	0	0
4:45 PM	0	173	47	0	58	55	0	0	0	55	0	43	431	1,620	0	0	0	0
4:50 PM	0	177	63	0	62	60	0	0	0	63	0	31	456	2,076	0	0	0	0
4:55 PM	0	187	48	0	72	53	0	0	0	56	0	35	451	2,527	0	0	0	0
5:00 PM	0	169	41	0	62	77	0	0	0	67	0	33	449	2,976	0	0	0	0
5:05 PM	0	184	58	0	86	77	0	0	0	65	0	22	492	3,468	0	0	0	0
5:10 PM	0	197	60	0	80	86	0	0	0	77	0	30	530	3,998	0	0	5	0
5:15 PM	0	172	58	0	96	84	0	0	0	86	0	32	528	4,526	0	0	0	0
5:20 PM	0	195	60	0	85	80	0	0	0	75	0	33	528	5,054	0	0	0	0
5:25 PM	0	183	53	0	68	79	0	0	0	73	0	36	492	5,546	0	0	1	0
5:30 PM	0	165	58	0	85	78	0	0	0	82	0	32	500	5,671	0	0	1	0
5:35 PM	0	163	46	0	67	79	0	0	0	60	0	27	442	5,709	0	0	1	0
5:40 PM	0	161	58	0	81	75	0	0	0	59	0	26	460	5,759	0	0	1	0
5:45 PM	0	147	57	0	78	48	0	0	0	59	0	29	418	5,746	0	0	0	0
5:50 PM	0	167	51	0	73	55	0	0	0	64	0	41	451	5,741	0	0	0	0
5:55 PM	0	147	40	0	61	50	0	0	0	61	0	32	391	5,681	0	0	0	0
6:00 PM	0	106	38	0	68	50	0	0	0	61	0	31	354	5,586	0	0	0	0
6:05 PM	0	130	40	0	74	34	0	0	0	58	0	30	366	5,460	0	0	0	0
6:10 PM	0	125	36	0	68	59	0	0	0	54	0	31	373	5,303	0	0	0	0
6:15 PM	0	125	42	0	48	40	0	0	0	58	0	29	342	5,117	0	0	1	0
6:20 PM	0	75	27	0	53	40	0	0	0	46	0	37	278	4,867	0	0	1	0
6:25 PM	0	93	34	0	57	34	0	0	0	45	0	25	288	4,663	0	0	3	0

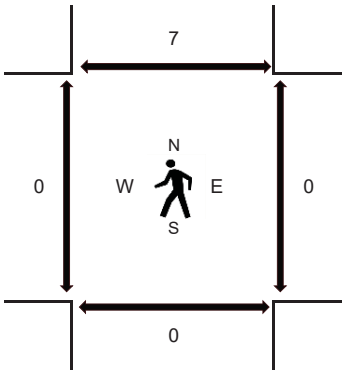
Peak Hour	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Total
All Vehicles	0	2,126	650	0	902	883	0	0	0	818	0	380	5,759
Articulated Trucks	0	1	1	0	0	0	0	0	0	1	0	1	4
Buses	0	3	1	0	4	0	0	0	0	0	0	1	9
Single-Unit Trucks	0	16	3	0	3	0	0	0	0	13	0	0	35
Lights	0	2,106	645	0	895	883	0	0	0	804	0	378	5,711

AimTD LLC **ID15** StoneridgeDr_at_I680NBRamps **Date and Start Time:** March 21, 2019 Thursday at 7:00 AM
City: Pleasanton **Peak Rolling Hour** 7:55 AM - 8:55 AM **Peak 15-Minutes** 8:15 AM - 8:30 AM





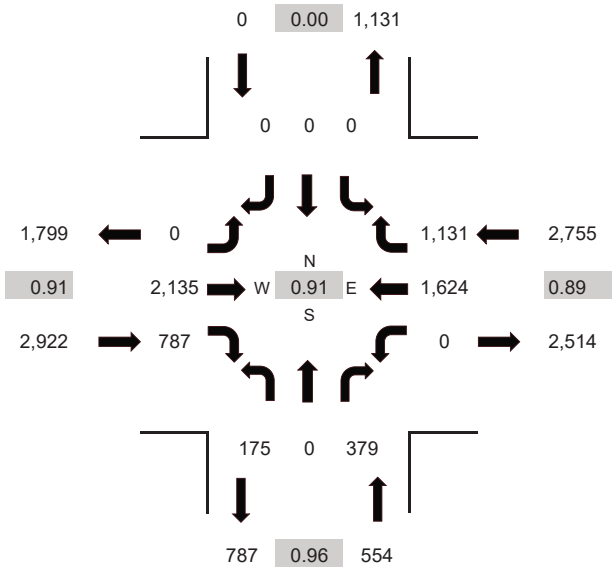


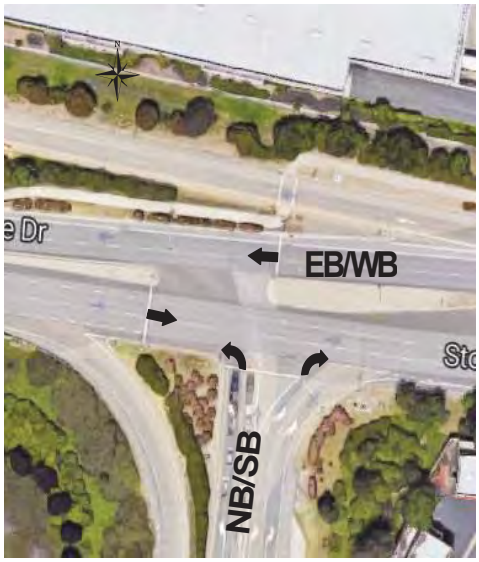


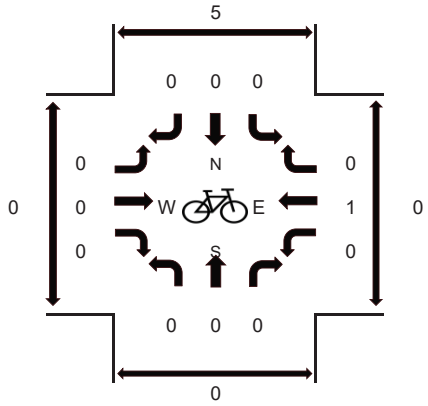
5-Minute Count Starting at:	STONERIDGE DR Eastbound Left	Thru	Right	STONERIDGE DR Westbound Left	Thru	Right	I680 NB RAMPS Northbound Left	Thru	Right	I680 NB RAMPS Southbound Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings E	W	N	S
7:00 AM	0	52	12	0	44	36	19	0	19	0	0	0	182	182	0	0	0	0
7:05 AM	0	43	12	0	34	44	19	0	29	0	0	0	181	363	0	0	0	0
7:10 AM	0	39	17	0	46	44	19	0	17	0	0	0	182	545	0	0	0	0
7:15 AM	0	58	10	0	44	49	15	0	28	0	0	0	204	749	0	0	0	0
7:20 AM	0	62	15	0	63	61	14	0	25	0	0	0	240	989	0	0	1	0
7:25 AM	0	61	19	0	61	48	22	0	44	0	0	0	255	1,244	0	0	0	0
7:30 AM	0	65	15	0	69	64	19	0	31	0	0	0	263	1,507	0	0	0	0
7:35 AM	0	66	25	0	79	57	27	0	45	0	0	0	299	1,806	0	0	0	0
7:40 AM	0	81	17	0	69	63	29	0	47	0	0	0	306	2,112	0	0	0	0
7:45 AM	0	73	26	0	89	68	23	0	37	0	0	0	316	2,428	0	0	0	0
7:50 AM	0	76	16	0	107	57	36	0	51	0	0	0	343	2,771	0	0	0	0
7:55 AM	0	108	21	0	92	52	37	0	60	0	0	0	370	3,141	0	0	0	0
8:00 AM	0	112	14	0	66	58	26	0	45	0	0	0	321	3,280	0	0	3	0
8:05 AM	0	101	18	0	96	60	42	0	41	0	0	0	358	3,457	0	0	0	0
8:10 AM	0	85	20	0	91	92	27	0	50	0	0	0	365	3,640	0	0	0	0
8:15 AM	0	124	26	0	126	55	40	0	42	0	0	0	413	3,849	0	0	1	0
8:20 AM	0	101	16	0	109	68	42	0	45	0	0	0	381	3,990	0	0	3	0
8:25 AM	0	104	28	0	108	63	41	0	53	0	0	0	397	4,132	0	0	0	0
8:30 AM	0	83	14	0	112	65	52	0	49	0	0	0	375	4,244	0	0	0	0
8:35 AM	0	87	18	0	97	80	38	0	51	0	0	0	371	4,316	0	0	0	0
8:40 AM	0	96	22	0	108	72	50	0	55	0	0	0	403	4,413	0	0	0	0
8:45 AM	0	74	24	0	93	55	62	0	64	0	0	0	372	4,469	0	0	0	0
8:50 AM	0	75	14	0	98	51	50	0	76	0	0	0	364	4,490	0	0	0	0
8:55 AM	0	80	9	0	112	47	43	0	55	0	0	0	346	4,466	0	0	0	0

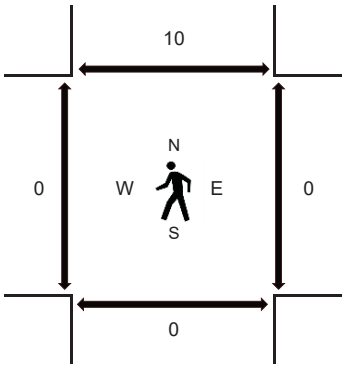
Peak Hour	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Total
All Vehicles	0	1,150	235	0	1,196	771	507	0	631	0	0	0	4,490
Articulated Trucks	0	0	1	0	1	1	0	0	1	0	0	0	4
Buses	0	2	1	0	3	0	3	0	0	0	0	0	9
Single-Unit Trucks	0	7	5	0	18	44	4	0	8	0	0	0	86
Lights	0	1,141	228	0	1,174	726	500	0	622	0	0	0	4,391

AimTD LLC **ID15** StoneridgeDr_at_I680NBRamps **Date and Start Time:** March 21, 2019 Thursday at 4:30 PM
City: Pleasanton **Peak Rolling Hour** 4:50 PM - 5:50 PM **Peak 15-Minutes** 5:10 PM - 5:25 PM









5-Minute Count Starting at:	STONERIDGE DR Eastbound Left	Thru	Right	STONERIDGE DR Westbound Left	Thru	Right	I680 NB RAMPS Northbound Left	Thru	Right	I680 NB RAMPS Southbound Left	Thru	Right	Total	Rolling Hour	Pedestrian Crossings E	W	N	S
4:30 PM	0	151	55	0	89	97	11	0	31	0	0	0	434	434	0	0	0	0
4:35 PM	0	156	64	0	99	70	10	0	10	0	0	0	409	843	0	0	0	0
4:40 PM	0	132	74	0	107	93	19	0	17	0	0	0	442	1,285	0	0	1	0
4:45 PM	0	180	50	0	103	81	10	0	16	0	0	0	440	1,725	0	0	0	0
4:50 PM	0	173	67	0	112	85	13	0	30	0	0	0	480	2,205	0	0	0	0
4:55 PM	0	183	60	0	113	67	12	0	42	0	0	0	477	2,682	0	0	0	0
5:00 PM	0	166	70	0	126	92	13	0	23	0	0	0	490	3,172	0	0	0	0
5:05 PM	0	175	74	0	142	119	21	0	28	0	0	0	559	3,731	0	0	1	0
5:10 PM	0	194	80	0	154	99	12	0	30	0	0	0	569	4,300	0	0	1	0
5:15 PM	0	186	72	0	163	98	16	0	29	0	0	0	564	4,864	0	0	4	0
5:20 PM	0	196	74	0	150	108	15	0	35	0	0	0	578	5,442	0	0	0	0
5:25 PM	0	202	54	0	136	104	11	0	33	0	0	0	540	5,982	0	0	2	0
5:30 PM	0	186	61	0	146	90	16	0	35	0	0	0	534	6,082	0	0	0	0
5:35 PM	0	157	66	0	133	97	13	0	26	0	0	0	492	6,165	0	0	1	0
5:40 PM	0	164	56	0	136	88	20	0	25	0	0	0	489	6,212	0	0	1	0
5:45 PM	0	153	53	0	113	84	13	0	43	0	0	0	459	6,231	0	0	0	0
5:50 PM	0	173	58	0	112	86	16	0	27	0	0	0	472	6,223	0	0	0	0
5:55 PM	0	155	53	0	98	72	13	0	28	0	0	0	419	6,165	0	0	0	0
6:00 PM	0	129	38	0	103	81	15	0	15	0	0	0	381	6,056	0	0	0	0
6:05 PM	0	146	42	0	93	69	15	0	20	0	0	0	385	5,882	0	0	0	0
6:10 PM	0	127	52	0	106	68	21	0	32	0	0	0	406	5,719	0	0	1	0
6:15 PM	0	124	59	0	79	55	9	0	23	0	0	0	349	5,504	0	0	1	0
6:20 PM	0	93	28	0	79	59	14	0	24	0	0	0	297	5,223	0	0	4	0
6:25 PM	0	106	32	0	77	68	15	0	21	0	0	0	319	5,002	0	0	0	0

Peak Hour	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Total
All Vehicles	0	2,135	787	0	1,624	1,131	175	0	379	0	0	0	6,231
Articulated Trucks	0	2	1	0	0	1	0	0	0	0	0	0	4
Buses	0	2	1	0	2	0	1	0	0	0	0	0	6
Single-Unit Trucks	0	22	10	0	2	9	1	0	15	0	0	0	59
Lights	0	2,109	775	0	1,620	1,121	173	0	364	0	0	0	6,162

Appendix C – Existing Conditions Intersection Level of Service Reports

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	114	335	0	0	416	9	0	0	0	17	0	178
Future Vol, veh/h	114	335	0	0	416	9	0	0	0	17	0	178
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	60	60	60	25	25	25	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	144	424	0	0	693	15	0	0	0	22	0	225

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	708	0	0	424	0	0	1525	1420	424	1413	1413	701
Stage 1	-	-	-	-	-	-	712	712	-	701	701	-
Stage 2	-	-	-	-	-	-	813	708	-	712	712	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	891	-	-	1135	-	-	96	136	630	115	138	439
Stage 1	-	-	-	-	-	-	423	436	-	429	441	-
Stage 2	-	-	-	-	-	-	372	438	-	423	436	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	891	-	-	1135	-	-	41	114	630	101	116	439
Mov Cap-2 Maneuver	-	-	-	-	-	-	41	114	-	101	116	-
Stage 1	-	-	-	-	-	-	354	365	-	360	441	-
Stage 2	-	-	-	-	-	-	181	438	-	355	365	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0	0	39.1
HCM LOS			A	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	891	-	-	1135	-	-	340
HCM Lane V/C Ratio	-	0.162	-	-	-	-	-	0.726
HCM Control Delay (s)	0	9.8	-	-	0	-	-	39.1
HCM Lane LOS	A	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	-	0.6	-	-	0	-	-	5.4

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	359	412	23	60	9
Future Vol, veh/h	1	359	412	23	60	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	35
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	399	458	26	67	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	484	0	-	0	872	471
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	401	-
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	1079	-	-	-	321	593
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	676	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1079	-	-	-	321	593
Mov Cap-2 Maneuver	-	-	-	-	321	-
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	676	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1079	-	-	-	321	593
HCM Lane V/C Ratio	0.001	-	-	-	0.208	0.017
HCM Control Delay (s)	8.3	0	-	-	19.1	11.2
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	90	249	10	30	96	136	423	31	843	855	298
Future Volume (veh/h)	186	90	249	10	30	96	136	423	31	843	855	298
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		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	192	93	257	12	36	116	149	465	34	969	983	343
Peak Hour Factor	0.97	0.97	0.97	0.83	0.83	0.83	0.91	0.91	0.91	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	515	574	53	365	1473	288	1173	85	1100	2436	704
Arrive On Green	0.11	0.26	0.26	0.03	0.19	0.19	0.08	0.23	0.20	0.31	0.46	0.43
Sat Flow, veh/h	3594	1945	1581	1853	1945	2901	3594	5040	364	3594	5310	1635
Grp Volume(v), veh/h	192	93	257	12	36	116	149	325	174	969	983	343
Grp Sat Flow(s),veh/h/ln	1797	1945	1581	1853	1945	1451	1797	1770	1864	1797	1770	1635
Q Serve(g_s), s	3.6	2.6	8.9	0.5	1.1	1.5	2.8	5.5	5.7	18.3	8.8	10.8
Cycle Q Clear(g_c), s	3.6	2.6	8.9	0.5	1.1	1.5	2.8	5.5	5.7	18.3	8.8	10.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	381	515	574	53	365	1473	288	824	434	1100	2436	704
V/C Ratio(X)	0.50	0.18	0.45	0.22	0.10	0.08	0.52	0.39	0.40	0.88	0.40	0.49
Avail Cap(c_a), veh/h	502	843	840	207	788	2105	402	1286	677	1155	3043	891
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	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	30.2	20.3	17.6	34.0	24.1	9.0	31.6	23.2	23.4	23.6	12.9	14.7
Incr Delay (d2), s/veh	0.4	0.1	0.2	0.8	0.0	0.0	0.5	0.7	1.3	7.4	0.2	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	1.5	1.1	3.0	0.2	0.5	0.4	1.2	2.2	2.4	7.9	2.9	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	20.4	17.8	34.7	24.1	9.0	32.1	23.8	24.7	31.0	13.1	15.8
LnGrp LOS	C	C	B	C	C	A	C	C	C	C	B	B
Approach Vol, veh/h		542			164			648			2295	
Approach Delay, s/veh		22.8			14.2			26.0			21.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.9	19.6	10.6	16.4	8.7	35.8	5.1	21.9
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	20.3	7.7	5.6	3.5	4.8	12.8	2.5	10.9
Green Ext Time (p_c), s	0.6	3.6	0.1	0.4	0.1	13.6	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	402	0	644	0	0	0	0	479	239	0	1380	0
Future Volume (veh/h)	402	0	644	0	0	0	0	479	239	0	1380	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	479	0	767				0	499	249	0	1394	0
Peak Hour Factor	0.84	0.84	0.84				0.96	0.96	0.96	0.99	0.99	0.99
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1391	0	1123				0	2728	841	0	1898	0
Arrive On Green	0.39	0.00	0.39				0.00	0.51	0.51	0.00	0.51	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1637	0	3890	0
Grp Volume(v), veh/h	479	0	767				0	499	249	0	1394	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1637	0	1848	0
Q Serve(g_s), s	5.7	0.0	13.3				0.0	3.0	5.3	0.0	17.8	0.0
Cycle Q Clear(g_c), s	5.7	0.0	13.3				0.0	3.0	5.3	0.0	17.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1391	0	1123				0	2728	841	0	1898	0
V/C Ratio(X)	0.34	0.00	0.68				0.00	0.18	0.30	0.00	0.73	0.00
Avail Cap(c_a), veh/h	2380	0	1921				0	4747	1464	0	3304	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	13.1	0.0	15.4				0.0	7.9	8.4	0.0	11.5	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.7				0.0	0.0	0.2	0.0	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	3.9				0.0	0.8	1.4	0.0	5.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	0.0	16.2				0.0	7.9	8.6	0.0	12.0	0.0
LnGrp LOS	B	A	B				A	A	A	A	B	A
Approach Vol, veh/h		1246						748			1394	
Approach Delay, s/veh		15.0						8.2			12.0	
Approach LOS		B						A			B	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	34.0	26.4	34.0
Change Period (Y+Rc), s	6.0	4.0	6.0
Max Green Setting (Gmax), s	51.0	39.0	51.0
Max Q Clear Time (g_c+I1), s	7.3	15.3	19.8
Green Ext Time (p_c), s	3.6	7.1	8.2

Intersection Summary	
HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	739	646	690	0	0	1053
Future Volume (veh/h)	739	646	690	0	0	1053
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	840	734	767	0	0	1197
Peak Hour Factor	0.88	0.88	0.90	0.90	0.88	0.88
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1603	1294	2352	0	0	1637
Arrive On Green	0.45	0.45	0.44	0.00	0.00	0.44
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	840	734	767	0	0	1197
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	9.1	10.2	5.1	0.0	0.0	14.4
Cycle Q Clear(g_c), s	9.1	10.2	5.1	0.0	0.0	14.4
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1603	1294	2352	0	0	1637
V/C Ratio(X)	0.52	0.57	0.33	0.00	0.00	0.73
Avail Cap(c_a), veh/h	4556	3678	4456	0	0	3101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	10.8	11.1	9.8	0.0	0.0	12.4
Incr Delay (d2), s/veh	0.3	0.4	0.1	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	2.8	2.5	1.5	0.0	0.0	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.1	11.5	9.9	0.0	0.0	13.1
LnGrp LOS	B	B	A	A	A	B
Approach Vol, veh/h	1574		767			1197
Approach Delay, s/veh	11.3		9.9			13.1
Approach LOS	B		A			B

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		27.0				27.0	27.1
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		7.1				16.4	12.2
Green Ext Time (p_c), s		3.7				6.4	10.9

Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	16	29	137	21	229	12	280	115	305	511	10
Future Volume (veh/h)	4	16	29	137	21	229	12	280	115	305	511	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	16	64	116	217	33	363	13	311	128	328	549	11
Peak Hour Factor	0.25	0.25	0.25	0.63	0.63	0.63	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	63	156	283	289	739	1551	57	1008	395	492	1401	559
Arrive On Green	0.03	0.26	0.23	0.16	0.38	0.38	0.03	0.27	0.24	0.14	0.38	0.35
Sat Flow, veh/h	1853	606	1099	1853	1945	2810	1853	3696	1624	3594	3696	1598
Grp Volume(v), veh/h	16	0	180	217	33	363	13	311	128	328	549	11
Grp Sat Flow(s),veh/h/ln	1853	0	1705	1853	1945	1405	1853	1848	1624	1797	1848	1598
Q Serve(g_s), s	0.6	0.0	6.1	7.6	0.7	4.6	0.5	4.5	4.4	5.9	7.4	0.3
Cycle Q Clear(g_c), s	0.6	0.0	6.1	7.6	0.7	4.6	0.5	4.5	4.4	5.9	7.4	0.3
Prop In Lane	1.00		0.64	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	63	0	440	289	739	1551	57	1008	395	492	1401	559
V/C Ratio(X)	0.25	0.00	0.41	0.75	0.04	0.23	0.23	0.31	0.32	0.67	0.39	0.02
Avail Cap(c_a), veh/h	218	0	702	408	1001	1928	245	1575	644	845	1955	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	21.5	27.5	13.3	8.0	32.2	19.6	21.1	27.9	15.4	14.5
Incr Delay (d2), s/veh	0.8	0.0	0.2	2.5	0.0	0.0	0.7	0.4	1.0	0.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.4	3.3	0.3	1.2	0.2	1.8	1.7	2.3	2.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	0.0	21.7	30.0	13.3	8.1	32.9	20.0	22.2	28.5	15.8	14.5
LnGrp LOS	C	A	C	C	B	A	C	C	C	C	B	B
Approach Vol, veh/h		196			613			452			888	
Approach Delay, s/veh		22.6			16.1			21.0			20.5	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	21.6	5.3	28.9	5.1	28.8	13.6	20.6
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	7.9	6.5	2.6	6.6	2.5	9.4	9.6	8.1
Green Ext Time (p_c), s	0.4	1.8	0.0	1.0	0.0	5.2	0.2	0.3

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

User approved changes to right turn type.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	643	837	1241	179	41
Future Volume (veh/h)	40	643	837	1241	179	41
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	52	835	930	1379	190	98
Peak Hour Factor	0.77	0.77	0.90	0.90	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	126	2751	2420	2474	543	215
Arrive On Green	0.07	0.74	0.62	0.60	0.15	0.13
Sat Flow, veh/h	1853	3793	3890	3297	3705	1675
Grp Volume(v), veh/h	52	835	930	1379	190	98
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1648	1853	1675
Q Serve(g_s), s	1.5	4.1	6.5	9.9	2.5	3.0
Cycle Q Clear(g_c), s	1.5	4.1	6.5	9.9	2.5	3.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	126	2751	2420	2474	543	215
V/C Ratio(X)	0.41	0.30	0.38	0.56	0.35	0.46
Avail Cap(c_a), veh/h	269	4632	4099	3897	1682	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	2.3	5.2	2.9	21.1	22.2
Incr Delay (d2), s/veh	2.2	0.1	0.1	0.2	0.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.3	1.4	3.0	1.0	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.8	2.4	5.3	3.1	21.5	23.7
LnGrp LOS	C	A	A	A	C	C
Approach Vol, veh/h		887	2309		288	
Approach Delay, s/veh		3.8	4.0		22.3	
Approach LOS		A	A		C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.7	37.2		11.1		44.0
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	3.5	11.9		5.0		6.1
Green Ext Time (p_c), s	0.0	19.4		1.2		4.3

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	695	1475	0	650	593
Future Volume (veh/h)	0	695	1475	0	650	593
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	837	1586	0	739	674
Peak Hour Factor	0.83	0.83	0.93	0.93	0.88	0.88
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1169	993
Arrive On Green	0.00	0.52	1.00	0.00	0.34	0.34
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	837	1586	0	739	674
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	5.4	0.0	0.0	10.9	11.9
Cycle Q Clear(g_c), s	0.0	5.4	0.0	0.0	10.9	11.9
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1169	993
V/C Ratio(X)	0.00	0.31	0.58	0.00	0.63	0.68
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.3	0.0	0.0	16.6	16.9
Incr Delay (d2), s/veh	0.0	0.3	0.9	0.0	0.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	0.2	0.0	3.8	3.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	8.6	0.9	0.0	17.4	18.3
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		837	1586		1413	
Approach Delay, s/veh		8.6	0.9		17.8	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		23.5		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		7.4		13.9		2.0
Green Ext Time (p_c), s		3.8		3.6		9.1

Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1150	0	0	1196	507	631
Future Volume (veh/h)	1150	0	0	1196	507	631
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	1322	0	0	1314	634	789
Peak Hour Factor	0.87	0.87	0.91	0.91	0.80	0.80
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	1236	998
Arrive On Green	0.55	0.00	0.00	0.55	0.34	0.34
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	1322	0	0	1314	634	789
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	8.9	0.0	0.0	14.9	8.4	14.7
Cycle Q Clear(g_c), s	8.9	0.0	0.0	14.9	8.4	14.7
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	1236	998
V/C Ratio(X)	0.45	0.00	0.00	0.65	0.51	0.79
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.1	0.0	0.0	9.4	15.7	17.7
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.6	0.3	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	4.5	3.1	4.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.6	0.0	0.0	11.0	16.0	22.0
LnGrp LOS	A	A	A	B	B	C
Approach Vol, veh/h	1322			1314	1423	
Approach Delay, s/veh	8.6			11.0	19.3	
Approach LOS	A			B	B	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		36.0				36.0	23.6
Change Period (Y+Rc), s		6.0				6.0	6.0
Max Green Setting (Gmax), s		30.0				30.0	18.0
Max Q Clear Time (g_c+I1), s		10.9				16.9	16.7
Green Ext Time (p_c), s		6.4				5.5	0.9

Intersection Summary	
HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	319	836	0	0	122	13	0	0	0	3	0	64
Future Vol, veh/h	319	836	0	0	122	13	0	0	0	3	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	86	86	86	25	25	25	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	332	871	0	0	142	15	0	0	0	3	0	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	157	0	0	871	0	0	1721	1692	871	1685	1685	150
Stage 1	-	-	-	-	-	-	1535	1535	-	150	150	-
Stage 2	-	-	-	-	-	-	186	157	-	1535	1535	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1423	-	-	774	-	-	70	93	350	75	94	896
Stage 1	-	-	-	-	-	-	145	178	-	853	773	-
Stage 2	-	-	-	-	-	-	816	768	-	145	178	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1423	-	-	774	-	-	53	71	350	61	72	896
Mov Cap-2 Maneuver	-	-	-	-	-	-	53	71	-	61	72	-
Stage 1	-	-	-	-	-	-	111	137	-	654	773	-
Stage 2	-	-	-	-	-	-	751	768	-	111	137	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0	0	12.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1423	-	-	774	-	-	556
HCM Lane V/C Ratio	-	0.234	-	-	-	-	-	0.135
HCM Control Delay (s)	0	8.3	-	-	0	-	-	12.5
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.9	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	846	156	44	27	4
Future Vol, veh/h	7	846	156	44	27	4
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	35
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	90	90	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	920	173	49	36	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	222	0	-	0	1134	198
Stage 1	-	-	-	-	198	-
Stage 2	-	-	-	-	936	-
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	1347	-	-	-	224	843
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	382	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1347	-	-	-	221	843
Mov Cap-2 Maneuver	-	-	-	-	221	-
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	382	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	22.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1347	-	-	-	221	843
HCM Lane V/C Ratio	0.006	-	-	-	0.163	0.006
HCM Control Delay (s)	7.7	0	-	-	24.4	9.3
HCM Lane LOS	A	A	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	466	111	702	48	67	996	184	995	9	307	904	155
Future Volume (veh/h)	466	111	702	48	67	996	184	995	9	307	904	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.96	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	512	122	771	56	79	1172	207	1118	10	323	952	163
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.89	0.89	0.89	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	411	762	800	100	645	1363	322	1575	14	456	1740	490
Arrive On Green	0.11	0.39	0.39	0.05	0.33	0.33	0.09	0.29	0.27	0.13	0.33	0.30
Sat Flow, veh/h	3594	1945	1617	1853	1945	2901	3594	5426	49	3594	5310	1606
Grp Volume(v), veh/h	512	122	771	56	79	1172	207	729	399	323	952	163
Grp Sat Flow(s),veh/h/ln	1797	1945	1617	1853	1945	1451	1797	1770	1934	1797	1770	1606
Q Serve(g_s), s	10.0	3.6	34.3	2.6	2.5	29.0	4.9	16.1	16.1	7.5	12.9	6.9
Cycle Q Clear(g_c), s	10.0	3.6	34.3	2.6	2.5	29.0	4.9	16.1	16.1	7.5	12.9	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	411	762	800	100	645	1363	322	1027	561	456	1740	490
V/C Ratio(X)	1.25	0.16	0.96	0.56	0.12	0.86	0.64	0.71	0.71	0.71	0.55	0.33
Avail Cap(c_a), veh/h	411	762	800	169	645	1363	329	1052	575	945	2488	716
HCM Platoon Ratio	1.00	1.00	1.00	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	38.8	17.3	21.5	40.4	20.4	20.6	38.5	27.8	27.8	36.6	24.1	23.5
Incr Delay (d2), s/veh	129.9	0.0	23.2	1.8	0.0	5.5	3.2	2.8	5.1	0.8	0.6	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	11.7	1.6	19.0	1.2	1.1	10.9	2.2	6.7	7.7	3.2	5.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	168.7	17.3	44.7	42.2	20.4	26.2	41.7	30.6	32.9	37.4	24.7	24.4
LnGrp LOS	F	B	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1405			1307			1335			1438	
Approach Delay, s/veh		87.5			26.5			33.0			27.5	
Approach LOS		F			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	28.4	13.0	32.0	10.8	31.7	7.7	37.3
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	9.5	18.1	12.0	31.0	6.9	14.9	4.6	36.3
Green Ext Time (p_c), s	0.6	3.4	0.0	0.0	0.0	10.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	578	0	490	0	0	0	0	1699	773	0	896	0
Future Volume (veh/h)	578	0	490	0	0	0	0	1699	773	0	896	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	628	0	533				0	1827	831	0	985	0
Peak Hour Factor	0.92	0.92	0.92				0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1022	0	825				0	3382	1026	0	2354	0
Arrive On Green	0.28	0.00	0.28				0.00	0.64	0.64	0.00	0.64	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1611	0	3890	0
Grp Volume(v), veh/h	628	0	533				0	1827	831	0	985	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1611	0	1848	0
Q Serve(g_s), s	11.6	0.0	12.3				0.0	14.5	29.5	0.0	10.1	0.0
Cycle Q Clear(g_c), s	11.6	0.0	12.3				0.0	14.5	29.5	0.0	10.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1022	0	825				0	3382	1026	0	2354	0
V/C Ratio(X)	0.61	0.00	0.65				0.00	0.54	0.81	0.00	0.42	0.00
Avail Cap(c_a), veh/h	1885	0	1522				0	3760	1141	0	2617	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	23.7	0.0	23.9				0.0	7.7	10.4	0.0	6.9	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.9				0.0	0.1	4.1	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	4.0				0.0	3.9	8.2	0.0	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	0.0	24.8				0.0	7.8	14.5	0.0	7.0	0.0
LnGrp LOS	C	A	C				A	A	B	A	A	A
Approach Vol, veh/h		1161						2658			985	
Approach Delay, s/veh		24.5						9.9			7.0	
Approach LOS		C						A			A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		51.6		24.7		51.6
Change Period (Y+Rc), s		6.0		4.0		6.0
Max Green Setting (Gmax), s		51.0		39.0		51.0
Max Q Clear Time (g_c+I1), s		31.5		14.3		12.1
Green Ext Time (p_c), s		14.1		6.4		5.1

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	355	891	1698	0	0	896
Future Volume (veh/h)	355	891	1698	0	0	896
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	413	1036	1826	0	0	1042
Peak Hour Factor	0.86	0.86	0.93	0.93	0.86	0.86
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1676	1353	2417	0	0	1682
Arrive On Green	0.47	0.47	0.46	0.00	0.00	0.46
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	413	1036	1826	0	0	1042
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	5.3	22.7	21.8	0.0	0.0	16.4
Cycle Q Clear(g_c), s	5.3	22.7	21.8	0.0	0.0	16.4
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1676	1353	2417	0	0	1682
V/C Ratio(X)	0.25	0.77	0.76	0.00	0.00	0.62
Avail Cap(c_a), veh/h	3223	2602	3151	0	0	2193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	12.3	16.9	17.3	0.0	0.0	15.8
Incr Delay (d2), s/veh	0.1	0.9	0.8	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	6.6	7.6	0.0	0.0	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.4	17.9	18.1	0.0	0.0	16.2
LnGrp LOS	B	B	B	A	A	B
Approach Vol, veh/h	1449		1826			1042
Approach Delay, s/veh	16.3		18.1			16.2
Approach LOS	B		B			B

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		37.8				37.8	38.7
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		23.8				18.4	24.7
Green Ext Time (p_c), s		9.9				5.2	9.9

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	10	10	115	36	349	25	296	66	739	726	25
Future Volume (veh/h)	6	10	10	115	36	349	25	296	66	739	726	25
Initial Q (Qb), veh	0	0	0	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	24	40	40	167	52	506	30	352	79	812	798	27
Peak Hour Factor	0.25	0.25	0.25	0.69	0.69	0.69	0.84	0.84	0.84	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	127	127	246	446	1555	94	891	332	975	1705	702
Arrive On Green	0.05	0.14	0.11	0.13	0.23	0.23	0.05	0.24	0.21	0.27	0.46	0.43
Sat Flow, veh/h	1853	892	892	1853	1945	2901	1853	3696	1615	3594	3696	1648
Grp Volume(v), veh/h	24	0	80	167	52	506	30	352	79	812	798	27
Grp Sat Flow(s),veh/h/ln	1853	0	1785	1853	1945	1451	1853	1848	1615	1797	1848	1648
Q Serve(g_s), s	0.7	0.0	2.3	4.8	1.2	5.5	0.9	4.5	2.3	12.0	8.4	0.5
Cycle Q Clear(g_c), s	0.7	0.0	2.3	4.8	1.2	5.5	0.9	4.5	2.3	12.0	8.4	0.5
Prop In Lane	1.00		0.50	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	84	0	253	246	446	1555	94	891	332	975	1705	702
V/C Ratio(X)	0.28	0.00	0.32	0.68	0.12	0.33	0.32	0.40	0.24	0.83	0.47	0.04
Avail Cap(c_a), veh/h	263	0	887	493	1208	2692	296	1902	774	1020	2361	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	22.2	23.3	17.2	7.4	25.8	17.9	18.7	19.3	10.4	9.4
Incr Delay (d2), s/veh	0.7	0.0	0.3	1.2	0.0	0.0	0.7	0.6	0.8	5.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.9	2.0	0.5	1.4	0.4	1.7	0.9	4.8	2.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	0.0	22.4	24.5	17.2	7.4	26.5	18.5	19.5	24.7	10.9	9.5
LnGrp LOS	C	A	C	C	B	A	C	B	B	C	B	A
Approach Vol, veh/h		104			725			461			1637	
Approach Delay, s/veh		23.4			12.0			19.2			17.7	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.3	16.6	5.6	15.9	5.9	29.0	10.5	11.0
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	14.0	6.5	2.7	7.5	2.9	10.4	6.8	4.3
Green Ext Time (p_c), s	0.3	2.4	0.0	1.5	0.0	7.9	0.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	1378	750	527	1367	26
Future Volume (veh/h)	20	1378	750	527	1367	26
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	22	1548	753	591	1496	0
Peak Hour Factor	0.89	0.89	0.94	0.94	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	75	2060	1835	2625	1955	564
Arrive On Green	0.04	0.56	0.47	0.46	0.35	0.00
Sat Flow, veh/h	1853	3793	3890	3211	5558	1675
Grp Volume(v), veh/h	22	1548	753	591	1496	0
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1605	1853	1675
Q Serve(g_s), s	0.8	21.0	8.4	2.9	15.8	0.0
Cycle Q Clear(g_c), s	0.8	21.0	8.4	2.9	15.8	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	75	2060	1835	2625	1955	564
V/C Ratio(X)	0.29	0.75	0.41	0.23	0.77	0.00
Avail Cap(c_a), veh/h	225	3866	3421	3934	2106	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.7	11.1	11.4	1.5	19.0	0.0
Incr Delay (d2), s/veh	2.2	0.6	0.1	0.0	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.5	2.9	2.3	6.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.9	11.7	11.6	1.5	20.6	0.0
LnGrp LOS	C	B	B	A	C	A
Approach Vol, veh/h		1570	1344		1496	
Approach Delay, s/veh		12.0	7.2		20.6	
Approach LOS		B	A		C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.7	34.1		26.2		39.8
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	2.8	10.4		17.8		23.0
Green Ext Time (p_c), s	0.0	8.0		3.4		10.7

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	2126	902	0	818	380
Future Volume (veh/h)	0	2126	902	0	818	380
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	2262	1037	0	919	427
Peak Hour Factor	0.94	0.94	0.87	0.87	0.89	0.89
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1226	1042
Arrive On Green	0.00	0.52	1.00	0.00	0.36	0.36
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	2262	1037	0	919	427
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	21.5	0.0	0.0	14.2	6.6
Cycle Q Clear(g_c), s	0.0	21.5	0.0	0.0	14.2	6.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1226	1042
V/C Ratio(X)	0.00	0.82	0.38	0.00	0.75	0.41
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.2	0.0	0.0	16.9	14.5
Incr Delay (d2), s/veh	0.0	3.0	0.4	0.0	2.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.7	0.1	0.0	5.2	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.2	0.4	0.0	19.2	14.7
LnGrp LOS	A	B	A	A	B	B
Approach Vol, veh/h		2262	1037		1346	
Approach Delay, s/veh		15.2	0.4		17.8	
Approach LOS		B	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		24.5		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		23.5		16.2		2.0
Green Ext Time (p_c), s		3.7		2.4		5.2

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2135	0	0	1624	175	379
Future Volume (veh/h)	2135	0	0	1624	175	379
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	2346	0	0	1825	182	395
Peak Hour Factor	0.91	0.91	0.89	0.89	0.96	0.96
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	849	685
Arrive On Green	0.55	0.00	0.00	0.55	0.24	0.24
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	2346	0	0	1825	182	395
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	21.4	0.0	0.0	26.3	2.4	7.2
Cycle Q Clear(g_c), s	21.4	0.0	0.0	26.3	2.4	7.2
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	849	685
V/C Ratio(X)	0.80	0.00	0.00	0.90	0.21	0.58
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	0.0	12.0	18.4	20.3
Incr Delay (d2), s/veh	2.4	0.0	0.0	6.8	0.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.0	0.0	9.0	0.9	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.3	0.0	0.0	18.8	18.6	21.0
LnGrp LOS	B	A	A	B	B	C
Approach Vol, veh/h	2346			1825	577	
Approach Delay, s/veh	13.3			18.8	20.3	
Approach LOS	B			B	C	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	36.0	36.0	17.2
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	30.0	30.0	18.0
Max Q Clear Time (g_c+I1), s	23.4	28.3	9.2
Green Ext Time (p_c), s	5.4	1.3	1.9

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Appendix D – Existing plus Project Conditions Intersection Level of Service Reports

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	114	336	0	0	418	9	0	0	0	17	0	178
Future Vol, veh/h	114	336	0	0	418	9	0	0	0	17	0	178
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	60	60	60	25	25	25	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	144	425	0	0	697	15	0	0	0	22	0	225

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	712	0	0	425	0	0	1530	1425	425	1418	1418	705
Stage 1	-	-	-	-	-	-	713	713	-	705	705	-
Stage 2	-	-	-	-	-	-	817	712	-	713	713	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	888	-	-	1134	-	-	96	136	629	114	137	436
Stage 1	-	-	-	-	-	-	423	435	-	427	439	-
Stage 2	-	-	-	-	-	-	370	436	-	423	435	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	888	-	-	1134	-	-	41	114	629	100	115	436
Mov Cap-2 Maneuver	-	-	-	-	-	-	41	114	-	100	115	-
Stage 1	-	-	-	-	-	-	354	365	-	358	439	-
Stage 2	-	-	-	-	-	-	179	436	-	354	365	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0	0	40
HCM LOS			A	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	888	-	-	1134	-	-	337
HCM Lane V/C Ratio	-	0.163	-	-	-	-	-	0.732
HCM Control Delay (s)	0	9.8	-	-	0	-	-	40
HCM Lane LOS	A	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	-	0.6	-	-	0	-	-	5.5

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	429	1	4	438	2	14
Future Vol, veh/h	429	1	4	438	2	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	50	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	477	1	4	487	2	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	478	0	972	477
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	495	-
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	-	-	1084	-	280	588
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	613	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1084	-	279	588
Mov Cap-2 Maneuver	-	-	-	-	279	-
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	611	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	279	588	-	-	1084	-
HCM Lane V/C Ratio	0.008	0.026	-	-	0.004	-
HCM Control Delay (s)	18	11.3	-	-	8.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-

HCM Signalized Intersection Capacity Analysis
3: Dublin Canyon Rd & Canyon Meadows Dr

03/17/2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	373	416	23	60	9
Future Volume (vph)	1	373	416	23	60	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8		5.8	5.8
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1829	1925	1911		1829	1636
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1829	1925	1911		1829	1636
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	414	462	26	67	10
RTOR Reduction (vph)	0	0	1	0	0	9
Lane Group Flow (vph)	1	414	487	0	67	1
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Actuated Green, G (s)	0.6	38.1	31.7		4.7	4.7
Effective Green, g (s)	0.6	38.1	31.7		4.7	4.7
Actuated g/C Ratio	0.01	0.65	0.54		0.08	0.08
Clearance Time (s)	5.8	5.8	5.8		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	18	1249	1032		146	130
v/s Ratio Prot	0.00	c0.22	c0.25		c0.04	
v/s Ratio Perm						0.00
v/c Ratio	0.06	0.33	0.47		0.46	0.01
Uniform Delay, d1	28.8	4.6	8.3		25.8	24.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.3	0.2	0.3		2.3	0.0
Delay (s)	30.1	4.8	8.7		28.1	24.9
Level of Service	C	A	A		C	C
Approach Delay (s)		4.8	8.7		27.6	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	58.7	Sum of lost time (s)	19.4
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	93	254	10	31	96	138	423	31	843	855	300
Future Volume (veh/h)	192	93	254	10	31	96	138	423	31	843	855	300
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		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	198	96	262	12	37	116	152	465	34	969	983	345
Peak Hour Factor	0.97	0.97	0.97	0.83	0.83	0.83	0.91	0.91	0.91	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	387	518	576	53	364	1471	288	1170	84	1099	2431	703
Arrive On Green	0.11	0.27	0.27	0.03	0.19	0.19	0.08	0.23	0.20	0.31	0.46	0.43
Sat Flow, veh/h	3594	1945	1582	1853	1945	2901	3594	5040	364	3594	5310	1635
Grp Volume(v), veh/h	198	96	262	12	37	116	152	325	174	969	983	345
Grp Sat Flow(s),veh/h/ln	1797	1945	1582	1853	1945	1451	1797	1770	1864	1797	1770	1635
Q Serve(g_s), s	3.7	2.7	9.1	0.5	1.1	1.5	2.9	5.6	5.7	18.4	8.8	10.9
Cycle Q Clear(g_c), s	3.7	2.7	9.1	0.5	1.1	1.5	2.9	5.6	5.7	18.4	8.8	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	387	518	576	53	364	1471	288	822	433	1099	2431	703
V/C Ratio(X)	0.51	0.19	0.45	0.23	0.10	0.08	0.53	0.40	0.40	0.88	0.40	0.49
Avail Cap(c_a), veh/h	501	840	838	206	786	2100	400	1282	675	1151	3032	888
HCM Platoon Ratio	1.00	1.00	1.00	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	30.3	20.3	17.6	34.1	24.2	9.1	31.7	23.3	23.5	23.7	13.0	14.8
Incr Delay (d2), s/veh	0.4	0.1	0.2	0.8	0.0	0.0	0.6	0.7	1.3	7.6	0.2	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	1.6	1.2	3.1	0.2	0.5	0.4	1.2	2.2	2.4	8.0	3.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	20.4	17.8	34.9	24.2	9.1	32.3	24.0	24.8	31.3	13.2	15.9
LnGrp LOS	C	C	B	C	C	A	C	C	C	C	B	B
Approach Vol, veh/h		556			165			651			2297	
Approach Delay, s/veh		22.8			14.4			26.1			21.2	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	19.7	10.7	16.5	8.8	35.9	5.1	22.1
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	20.4	7.7	5.7	3.5	4.9	12.9	2.5	11.1
Green Ext Time (p_c), s	0.6	3.6	0.1	0.4	0.1	13.6	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	402	0	645	0	0	0	0	483	241	0	1381	0
Future Volume (veh/h)	402	0	645	0	0	0	0	483	241	0	1381	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	479	0	768				0	503	251	0	1395	0
Peak Hour Factor	0.84	0.84	0.84				0.96	0.96	0.96	0.99	0.99	0.99
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1391	0	1123				0	2728	841	0	1899	0
Arrive On Green	0.39	0.00	0.39				0.00	0.51	0.51	0.00	0.51	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1637	0	3890	0
Grp Volume(v), veh/h	479	0	768				0	503	251	0	1395	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1637	0	1848	0
Q Serve(g_s), s	5.7	0.0	13.4				0.0	3.1	5.3	0.0	17.8	0.0
Cycle Q Clear(g_c), s	5.7	0.0	13.4				0.0	3.1	5.3	0.0	17.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1391	0	1123				0	2728	841	0	1899	0
V/C Ratio(X)	0.34	0.00	0.68				0.00	0.18	0.30	0.00	0.73	0.00
Avail Cap(c_a), veh/h	2376	0	1918				0	4739	1461	0	3298	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	13.1	0.0	15.5				0.0	7.9	8.5	0.0	11.5	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.7				0.0	0.0	0.2	0.0	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	3.9				0.0	0.9	1.4	0.0	5.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	0.0	16.2				0.0	7.9	8.6	0.0	12.1	0.0
LnGrp LOS	B	A	B				A	A	A	A	B	A
Approach Vol, veh/h		1247						754			1395	
Approach Delay, s/veh		15.1						8.2			12.1	
Approach LOS		B						A			B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.1		26.4		34.1
Change Period (Y+Rc), s		6.0		4.0		6.0
Max Green Setting (Gmax), s		51.0		39.0		51.0
Max Q Clear Time (g_c+I1), s		7.3		15.4		19.8
Green Ext Time (p_c), s		3.6		7.1		8.2

Intersection Summary	
HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	740	646	691	0	0	1053
Future Volume (veh/h)	740	646	691	0	0	1053
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	841	734	768	0	0	1197
Peak Hour Factor	0.88	0.88	0.90	0.90	0.88	0.88
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1604	1295	2352	0	0	1637
Arrive On Green	0.45	0.45	0.44	0.00	0.00	0.44
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	841	734	768	0	0	1197
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	9.2	10.2	5.1	0.0	0.0	14.4
Cycle Q Clear(g_c), s	9.2	10.2	5.1	0.0	0.0	14.4
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1604	1295	2352	0	0	1637
V/C Ratio(X)	0.52	0.57	0.33	0.00	0.00	0.73
Avail Cap(c_a), veh/h	4555	3677	4454	0	0	3100
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	10.8	11.1	9.8	0.0	0.0	12.4
Incr Delay (d2), s/veh	0.3	0.4	0.1	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	2.8	2.5	1.5	0.0	0.0	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.1	11.5	9.9	0.0	0.0	13.1
LnGrp LOS	B	B	A	A	A	B
Approach Vol, veh/h	1575		768			1197
Approach Delay, s/veh	11.3		9.9			13.1
Approach LOS	B		A			B

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		27.0				27.0	27.2
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		7.1				16.4	12.2
Green Ext Time (p_c), s		3.8				6.4	10.9

Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	16	29	137	21	230	12	281	115	309	512	10
Future Volume (veh/h)	4	16	29	137	21	230	12	281	115	309	512	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	16	64	116	217	33	365	13	312	128	332	551	11
Peak Hour Factor	0.25	0.25	0.25	0.63	0.63	0.63	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	63	156	283	289	739	1553	57	1006	395	496	1403	560
Arrive On Green	0.03	0.26	0.23	0.16	0.38	0.38	0.03	0.27	0.24	0.14	0.38	0.35
Sat Flow, veh/h	1853	606	1099	1853	1945	2810	1853	3696	1624	3594	3696	1598
Grp Volume(v), veh/h	16	0	180	217	33	365	13	312	128	332	551	11
Grp Sat Flow(s),veh/h/ln	1853	0	1705	1853	1945	1405	1853	1848	1624	1797	1848	1598
Q Serve(g_s), s	0.6	0.0	6.1	7.6	0.7	4.6	0.5	4.6	4.4	6.0	7.4	0.3
Cycle Q Clear(g_c), s	0.6	0.0	6.1	7.6	0.7	4.6	0.5	4.6	4.4	6.0	7.4	0.3
Prop In Lane	1.00		0.64	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	63	0	439	289	739	1553	57	1006	395	496	1403	560
V/C Ratio(X)	0.26	0.00	0.41	0.75	0.04	0.24	0.23	0.31	0.32	0.67	0.39	0.02
Avail Cap(c_a), veh/h	217	0	700	408	999	1928	245	1572	643	843	1952	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	21.6	27.5	13.3	8.0	32.3	19.7	21.2	27.9	15.4	14.5
Incr Delay (d2), s/veh	0.8	0.0	0.2	2.6	0.0	0.0	0.8	0.4	1.0	0.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.4	3.3	0.3	1.2	0.2	1.8	1.7	2.4	2.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	0.0	21.8	30.1	13.3	8.1	33.0	20.1	22.2	28.5	15.8	14.5
LnGrp LOS	C	A	C	C	B	A	C	C	C	C	B	B
Approach Vol, veh/h		196			615			453			894	
Approach Delay, s/veh		22.7			16.1			21.1			20.5	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	21.6	5.3	28.9	5.1	28.9	13.6	20.6
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	8.0	6.6	2.6	6.6	2.5	9.4	9.6	8.1
Green Ext Time (p_c), s	0.4	1.8	0.0	1.1	0.0	5.2	0.2	0.3

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

Notes

User approved changes to right turn type.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	647	838	1241	179	41
Future Volume (veh/h)	40	647	838	1241	179	41
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	52	840	931	1379	190	98
Peak Hour Factor	0.77	0.77	0.90	0.90	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	126	2751	2420	2474	543	215
Arrive On Green	0.07	0.74	0.62	0.60	0.15	0.13
Sat Flow, veh/h	1853	3793	3890	3297	3705	1675
Grp Volume(v), veh/h	52	840	931	1379	190	98
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1648	1853	1675
Q Serve(g_s), s	1.5	4.1	6.5	9.9	2.5	3.0
Cycle Q Clear(g_c), s	1.5	4.1	6.5	9.9	2.5	3.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	126	2751	2420	2474	543	215
V/C Ratio(X)	0.41	0.31	0.38	0.56	0.35	0.46
Avail Cap(c_a), veh/h	269	4631	4098	3896	1682	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	2.3	5.2	2.9	21.1	22.2
Incr Delay (d2), s/veh	2.2	0.1	0.1	0.2	0.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.3	1.4	3.0	1.0	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.8	2.4	5.3	3.1	21.5	23.7
LnGrp LOS	C	A	A	A	C	C
Approach Vol, veh/h		892	2310		288	
Approach Delay, s/veh		3.8	4.0		22.3	
Approach LOS		A	A		C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.7	37.3		11.1		44.0
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	3.5	11.9		5.0		6.1
Green Ext Time (p_c), s	0.0	19.4		1.2		4.3

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	698	1476	0	650	593
Future Volume (veh/h)	0	698	1476	0	650	593
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	841	1587	0	739	674
Peak Hour Factor	0.83	0.83	0.93	0.93	0.88	0.88
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1169	993
Arrive On Green	0.00	0.52	1.00	0.00	0.34	0.34
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	841	1587	0	739	674
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	5.5	0.0	0.0	10.9	11.9
Cycle Q Clear(g_c), s	0.0	5.5	0.0	0.0	10.9	11.9
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1169	993
V/C Ratio(X)	0.00	0.31	0.58	0.00	0.63	0.68
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.3	0.0	0.0	16.6	16.9
Incr Delay (d2), s/veh	0.0	0.3	0.9	0.0	0.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	0.2	0.0	3.8	3.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	8.6	0.9	0.0	17.4	18.3
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		841	1587		1413	
Approach Delay, s/veh		8.6	0.9		17.8	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		23.5		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		7.5		13.9		2.0
Green Ext Time (p_c), s		3.8		3.6		9.1

Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1153	0	0	1197	507	631
Future Volume (veh/h)	1153	0	0	1197	507	631
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	1325	0	0	1315	634	789
Peak Hour Factor	0.87	0.87	0.91	0.91	0.80	0.80
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	1236	998
Arrive On Green	0.55	0.00	0.00	0.55	0.34	0.34
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	1325	0	0	1315	634	789
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	9.0	0.0	0.0	14.9	8.4	14.7
Cycle Q Clear(g_c), s	9.0	0.0	0.0	14.9	8.4	14.7
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	1236	998
V/C Ratio(X)	0.45	0.00	0.00	0.65	0.51	0.79
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.1	0.0	0.0	9.4	15.7	17.7
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.6	0.3	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	4.5	3.1	4.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.6	0.0	0.0	11.0	16.0	22.0
LnGrp LOS	A	A	A	B	B	C
Approach Vol, veh/h	1325			1315	1423	
Approach Delay, s/veh	8.6			11.0	19.3	
Approach LOS	A			B	B	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	36.0	36.0	23.6
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	30.0	30.0	18.0
Max Q Clear Time (g_c+I1), s	11.0	16.9	16.7
Green Ext Time (p_c), s	6.4	5.5	0.9

Intersection Summary	
HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	319	840	0	0	125	13	0	0	0	3	0	64
Future Vol, veh/h	319	840	0	0	125	13	0	0	0	3	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	86	86	86	25	25	25	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	332	875	0	0	145	15	0	0	0	3	0	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	160	0	0	875	0	0	1728	1699	875	1692	1692	153
Stage 1	-	-	-	-	-	-	1539	1539	-	153	153	-
Stage 2	-	-	-	-	-	-	189	160	-	1539	1539	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1419	-	-	771	-	-	70	92	349	74	93	893
Stage 1	-	-	-	-	-	-	145	177	-	849	771	-
Stage 2	-	-	-	-	-	-	813	766	-	145	177	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1419	-	-	771	-	-	53	70	349	61	71	893
Mov Cap-2 Maneuver	-	-	-	-	-	-	53	70	-	61	71	-
Stage 1	-	-	-	-	-	-	111	136	-	650	771	-
Stage 2	-	-	-	-	-	-	748	766	-	111	136	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0	0	12.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1419	-	-	771	-	-	554
HCM Lane V/C Ratio	-	0.234	-	-	-	-	-	0.136
HCM Control Delay (s)	0	8.3	-	-	0	-	-	12.5
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.9	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	881	2	16	210	1	10
Future Vol, veh/h	881	2	16	210	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	50	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	979	2	18	233	1	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	981	0	1248	979
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	269	-
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	-	-	704	-	191	303
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	776	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	704	-	186	303
Mov Cap-2 Maneuver	-	-	-	-	186	-
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	756	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	18
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	186	303	-	-	704	-
HCM Lane V/C Ratio	0.007	0.044	-	-	0.025	-
HCM Control Delay (s)	24.5	17.4	-	-	10.2	-
HCM Lane LOS	C	C	-	-	B	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	858	174	44	27	4
Future Volume (vph)	7	858	174	44	27	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8		5.8	5.8
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1829	1925	1872		1829	1636
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1829	1925	1872		1829	1636
Peak-hour factor, PHF	0.92	0.92	0.90	0.90	0.75	0.75
Adj. Flow (vph)	8	933	193	49	36	5
RTOR Reduction (vph)	0	0	5	0	0	5
Lane Group Flow (vph)	8	933	237	0	36	0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Actuated Green, G (s)	3.9	51.6	41.9		4.1	4.1
Effective Green, g (s)	3.9	51.6	41.9		4.1	4.1
Actuated g/C Ratio	0.05	0.72	0.58		0.06	0.06
Clearance Time (s)	5.8	5.8	5.8		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	99	1383	1092		104	93
v/s Ratio Prot	0.00	c0.48	0.13		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.08	0.67	0.22		0.35	0.00
Uniform Delay, d1	32.2	5.5	7.1		32.6	31.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	1.3	0.1		2.0	0.0
Delay (s)	32.6	6.8	7.2		34.6	31.9
Level of Service	C	A	A		C	C
Approach Delay (s)		7.1	7.2		34.2	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	19.4
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	474	114	711	48	72	996	195	995	9	307	904	168
Future Volume (veh/h)	474	114	711	48	72	996	195	995	9	307	904	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.96	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	521	125	781	56	85	1172	219	1118	10	323	952	177
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.89	0.89	0.89	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	409	759	800	100	642	1359	327	1587	14	456	1744	491
Arrive On Green	0.11	0.39	0.39	0.05	0.33	0.33	0.09	0.29	0.27	0.13	0.33	0.31
Sat Flow, veh/h	3594	1945	1617	1853	1945	2901	3594	5426	49	3594	5310	1606
Grp Volume(v), veh/h	521	125	781	56	85	1172	219	729	399	323	952	177
Grp Sat Flow(s),veh/h/ln	1797	1945	1617	1853	1945	1451	1797	1770	1934	1797	1770	1606
Q Serve(g_s), s	10.0	3.7	34.3	2.6	2.7	29.0	5.2	16.1	16.1	7.6	12.9	7.6
Cycle Q Clear(g_c), s	10.0	3.7	34.3	2.6	2.7	29.0	5.2	16.1	16.1	7.6	12.9	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	409	759	800	100	642	1359	327	1036	566	456	1744	491
V/C Ratio(X)	1.27	0.16	0.98	0.56	0.13	0.86	0.67	0.70	0.70	0.71	0.55	0.36
Avail Cap(c_a), veh/h	409	759	800	169	642	1359	327	1048	572	941	2478	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	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	38.9	17.5	21.9	40.6	20.6	20.8	38.6	27.7	27.7	36.8	24.1	23.8
Incr Delay (d2), s/veh	140.9	0.0	25.9	1.8	0.0	5.7	4.2	2.7	4.9	0.8	0.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	1.6	20.1	1.2	1.2	11.0	2.4	6.7	7.7	3.2	5.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	179.9	17.5	47.8	42.4	20.6	26.5	42.9	30.4	32.6	37.6	24.7	24.8
LnGrp LOS	F	B	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1427			1313			1347			1452	
Approach Delay, s/veh		93.4			26.8			33.1			27.6	
Approach LOS		F			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	28.7	13.0	32.0	11.0	31.8	7.7	37.3
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	9.6	18.1	12.0	31.0	7.2	14.9	4.6	36.3
Green Ext Time (p_c), s	0.6	3.4	0.0	0.0	0.0	11.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	45.7
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	578	0	497	0	0	0	0	1705	775	0	902	0
Future Volume (veh/h)	578	0	497	0	0	0	0	1705	775	0	902	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	628	0	540				0	1833	833	0	991	0
Peak Hour Factor	0.92	0.92	0.92				0.93	0.93	0.93	0.91	0.91	0.91
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1029	0	830				0	3376	1024	0	2349	0
Arrive On Green	0.29	0.00	0.29				0.00	0.64	0.64	0.00	0.64	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1611	0	3890	0
Grp Volume(v), veh/h	628	0	540				0	1833	833	0	991	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1611	0	1848	0
Q Serve(g_s), s	11.6	0.0	12.5				0.0	14.7	30.0	0.0	10.3	0.0
Cycle Q Clear(g_c), s	11.6	0.0	12.5				0.0	14.7	30.0	0.0	10.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1029	0	830				0	3376	1024	0	2349	0
V/C Ratio(X)	0.61	0.00	0.65				0.00	0.54	0.81	0.00	0.42	0.00
Avail Cap(c_a), veh/h	1872	0	1511				0	3734	1133	0	2599	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	23.7	0.0	24.0				0.0	7.8	10.6	0.0	7.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.9				0.0	0.1	4.3	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	4.1				0.0	4.0	8.5	0.0	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	0.0	24.9				0.0	7.9	14.8	0.0	7.1	0.0
LnGrp LOS	C	A	C				A	A	B	A	A	A
Approach Vol, veh/h		1168						2666			991	
Approach Delay, s/veh		24.6						10.1			7.1	
Approach LOS		C						B			A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		51.8		25.0		51.8
Change Period (Y+Rc), s		6.0		4.0		6.0
Max Green Setting (Gmax), s		51.0		39.0		51.0
Max Q Clear Time (g_c+I1), s		32.0		14.5		12.3
Green Ext Time (p_c), s		13.8		6.4		5.2

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	359	891	1700	0	0	898
Future Volume (veh/h)	359	891	1700	0	0	898
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	417	1036	1828	0	0	1044
Peak Hour Factor	0.86	0.86	0.93	0.93	0.86	0.86
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1676	1353	2417	0	0	1683
Arrive On Green	0.47	0.47	0.46	0.00	0.00	0.46
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	417	1036	1828	0	0	1044
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	5.4	22.7	21.9	0.0	0.0	16.4
Cycle Q Clear(g_c), s	5.4	22.7	21.9	0.0	0.0	16.4
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1676	1353	2417	0	0	1683
V/C Ratio(X)	0.25	0.77	0.76	0.00	0.00	0.62
Avail Cap(c_a), veh/h	3217	2597	3145	0	0	2189
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	12.3	17.0	17.3	0.0	0.0	15.8
Incr Delay (d2), s/veh	0.1	0.9	0.8	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	6.6	7.6	0.0	0.0	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.4	17.9	18.1	0.0	0.0	16.2
LnGrp LOS	B	B	B	A	A	B
Approach Vol, veh/h	1453		1828			1044
Approach Delay, s/veh	16.3		18.1			16.2
Approach LOS	B		B			B

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		37.9				37.9	38.8
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		23.9				18.4	24.7
Green Ext Time (p_c), s		9.9				5.3	9.9

Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	10	10	115	36	356	25	302	66	745	729	25
Future Volume (veh/h)	6	10	10	115	36	356	25	302	66	745	729	25
Initial Q (Qb), veh	0	0	0	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	24	40	40	167	52	516	30	360	79	819	801	27
Peak Hour Factor	0.25	0.25	0.25	0.69	0.69	0.69	0.84	0.84	0.84	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	126	126	246	445	1557	94	889	331	980	1708	704
Arrive On Green	0.05	0.14	0.11	0.13	0.23	0.23	0.05	0.24	0.21	0.27	0.46	0.43
Sat Flow, veh/h	1853	892	892	1853	1945	2901	1853	3696	1615	3594	3696	1648
Grp Volume(v), veh/h	24	0	80	167	52	516	30	360	79	819	801	27
Grp Sat Flow(s),veh/h/ln	1853	0	1785	1853	1945	1451	1853	1848	1615	1797	1848	1648
Q Serve(g_s), s	0.7	0.0	2.3	4.9	1.2	5.7	0.9	4.6	2.3	12.1	8.4	0.5
Cycle Q Clear(g_c), s	0.7	0.0	2.3	4.9	1.2	5.7	0.9	4.6	2.3	12.1	8.4	0.5
Prop In Lane	1.00		0.50	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	84	0	253	246	445	1557	94	889	331	980	1708	704
V/C Ratio(X)	0.28	0.00	0.32	0.68	0.12	0.33	0.32	0.40	0.24	0.84	0.47	0.04
Avail Cap(c_a), veh/h	262	0	885	492	1206	2692	295	1898	772	1018	2356	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	0.0	22.2	23.3	17.3	7.4	25.9	18.0	18.8	19.4	10.4	9.4
Incr Delay (d2), s/veh	0.7	0.0	0.3	1.2	0.0	0.0	0.7	0.6	0.8	5.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.9	2.0	0.5	1.4	0.4	1.7	0.9	4.9	2.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	0.0	22.5	24.6	17.3	7.4	26.6	18.7	19.5	24.9	10.9	9.5
LnGrp LOS	C	A	C	C	B	A	C	B	B	C	B	A
Approach Vol, veh/h		104			735			469			1647	
Approach Delay, s/veh		23.5			12.0			19.3			17.8	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.4	16.6	5.6	15.9	5.9	29.1	10.5	11.0
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	14.1	6.6	2.7	7.7	2.9	10.4	6.9	4.3
Green Ext Time (p_c), s	0.3	2.5	0.0	1.5	0.0	7.9	0.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	1384	757	527	1367	26
Future Volume (veh/h)	20	1384	757	527	1367	26
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	22	1555	756	594	1496	0
Peak Hour Factor	0.89	0.89	0.94	0.94	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	74	2065	1841	2627	1949	562
Arrive On Green	0.04	0.56	0.47	0.46	0.35	0.00
Sat Flow, veh/h	1853	3793	3890	3211	5558	1675
Grp Volume(v), veh/h	22	1555	756	594	1496	0
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1605	1853	1675
Q Serve(g_s), s	0.8	21.2	8.4	2.9	15.9	0.0
Cycle Q Clear(g_c), s	0.8	21.2	8.4	2.9	15.9	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	74	2065	1841	2627	1949	562
V/C Ratio(X)	0.30	0.75	0.41	0.23	0.77	0.00
Avail Cap(c_a), veh/h	224	3847	3404	3917	2096	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.9	11.1	11.4	1.5	19.1	0.0
Incr Delay (d2), s/veh	2.2	0.6	0.1	0.0	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.6	2.9	2.4	6.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.1	11.7	11.6	1.5	20.8	0.0
LnGrp LOS	C	B	B	A	C	A
Approach Vol, veh/h		1577	1350		1496	
Approach Delay, s/veh		12.0	7.1		20.8	
Approach LOS		B	A		C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.7	34.4		26.2		40.0
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	2.8	10.4		17.9		23.2
Green Ext Time (p_c), s	0.0	8.0		3.4		10.8

Intersection Summary	
HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	2130	909	0	818	380
Future Volume (veh/h)	0	2130	909	0	818	380
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	2266	1045	0	919	427
Peak Hour Factor	0.94	0.94	0.87	0.87	0.89	0.89
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1226	1042
Arrive On Green	0.00	0.52	1.00	0.00	0.36	0.36
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	2266	1045	0	919	427
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	21.6	0.0	0.0	14.2	6.6
Cycle Q Clear(g_c), s	0.0	21.6	0.0	0.0	14.2	6.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1226	1042
V/C Ratio(X)	0.00	0.83	0.38	0.00	0.75	0.41
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.2	0.0	0.0	16.9	14.5
Incr Delay (d2), s/veh	0.0	3.0	0.4	0.0	2.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.7	0.1	0.0	5.2	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.2	0.4	0.0	19.2	14.7
LnGrp LOS	A	B	A	A	B	B
Approach Vol, veh/h		2266	1045		1346	
Approach Delay, s/veh		15.2	0.4		17.8	
Approach LOS		B	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		24.5		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		23.6		16.2		2.0
Green Ext Time (p_c), s		3.7		2.4		5.2

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2139	0	0	1629	177	379
Future Volume (veh/h)	2139	0	0	1629	177	379
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	2351	0	0	1830	184	395
Peak Hour Factor	0.91	0.91	0.89	0.89	0.96	0.96
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	849	685
Arrive On Green	0.55	0.00	0.00	0.55	0.24	0.24
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	2351	0	0	1830	184	395
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	21.4	0.0	0.0	26.5	2.5	7.2
Cycle Q Clear(g_c), s	21.4	0.0	0.0	26.5	2.5	7.2
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	849	685
V/C Ratio(X)	0.80	0.00	0.00	0.90	0.22	0.58
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	0.0	12.0	18.4	20.3
Incr Delay (d2), s/veh	2.5	0.0	0.0	6.9	0.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.0	0.0	9.1	0.9	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.4	0.0	0.0	19.0	18.6	21.0
LnGrp LOS	B	A	A	B	B	C
Approach Vol, veh/h	2351			1830	579	
Approach Delay, s/veh	13.4			19.0	20.2	
Approach LOS	B			B	C	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		36.0				36.0	17.2
Change Period (Y+Rc), s		6.0				6.0	6.0
Max Green Setting (Gmax), s		30.0				30.0	18.0
Max Q Clear Time (g_c+I1), s		23.4				28.5	9.2
Green Ext Time (p_c), s		5.4				1.2	2.0

Intersection Summary	
HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Appendix E – Near Term No Project Conditions

Intersection Level of Service Reports

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	114	354	0	0	455	9	0	0	0	17	0	178
Future Vol, veh/h	114	354	0	0	455	9	0	0	0	17	0	178
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	60	60	60	25	25	25	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	144	448	0	0	758	15	0	0	0	22	0	225

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	773	0	0	448	0	0	1614	1509	448	1502	1502	766
Stage 1	-	-	-	-	-	-	736	736	-	766	766	-
Stage 2	-	-	-	-	-	-	878	773	-	736	736	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	842	-	-	1112	-	-	84	120	611	100	122	403
Stage 1	-	-	-	-	-	-	411	425	-	395	412	-
Stage 2	-	-	-	-	-	-	343	409	-	411	425	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	842	-	-	1112	-	-	32	99	611	87	101	403
Mov Cap-2 Maneuver	-	-	-	-	-	-	32	99	-	87	101	-
Stage 1	-	-	-	-	-	-	341	352	-	327	412	-
Stage 2	-	-	-	-	-	-	151	409	-	341	352	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0	0	51.8
HCM LOS			A	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	842	-	-	1112	-	-	306
HCM Lane V/C Ratio	-	0.171	-	-	-	-	-	0.807
HCM Control Delay (s)	0	10.2	-	-	0	-	-	51.8
HCM Lane LOS	A	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	-	0.6	-	-	0	-	-	6.6

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	378	451	23	60	9
Future Vol, veh/h	1	378	451	23	60	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	35
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	420	501	26	67	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	527	0	-	0	936	514
Stage 1	-	-	-	-	514	-
Stage 2	-	-	-	-	422	-
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	1040	-	-	-	294	560
Stage 1	-	-	-	-	600	-
Stage 2	-	-	-	-	662	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1040	-	-	-	294	560
Mov Cap-2 Maneuver	-	-	-	-	294	-
Stage 1	-	-	-	-	599	-
Stage 2	-	-	-	-	662	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1040	-	-	-	294	560
HCM Lane V/C Ratio	0.001	-	-	-	0.227	0.018
HCM Control Delay (s)	8.5	0	-	-	20.8	11.5
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	130	210	20	30	250	100	630	30	970	1100	220
Future Volume (veh/h)	190	130	210	20	30	250	100	630	30	970	1100	220
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		0.97	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	207	141	228	22	33	272	109	685	33	1054	1196	239
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	385	484	533	69	349	1431	259	1326	64	1081	2574	750
Arrive On Green	0.11	0.25	0.25	0.04	0.18	0.18	0.07	0.26	0.23	0.30	0.48	0.46
Sat Flow, veh/h	3594	1945	1577	1853	1945	2901	3594	5183	248	3594	5310	1636
Grp Volume(v), veh/h	207	141	228	22	33	272	109	467	251	1054	1196	239
Grp Sat Flow(s),veh/h/ln	1797	1945	1577	1853	1945	1451	1797	1770	1891	1797	1770	1636
Q Serve(g_s), s	4.2	4.5	8.6	0.9	1.1	4.0	2.2	8.6	8.7	22.2	11.5	7.1
Cycle Q Clear(g_c), s	4.2	4.5	8.6	0.9	1.1	4.0	2.2	8.6	8.7	22.2	11.5	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	385	484	533	69	349	1431	259	906	484	1081	2574	750
V/C Ratio(X)	0.54	0.29	0.43	0.32	0.09	0.19	0.42	0.52	0.52	0.98	0.46	0.32
Avail Cap(c_a), veh/h	470	788	779	194	738	2011	376	1204	643	1081	2847	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	23.3	19.8	35.9	26.2	10.8	34.0	24.4	24.5	26.5	13.1	13.1
Incr Delay (d2), s/veh	0.4	0.1	0.2	1.0	0.0	0.0	0.4	1.0	1.8	21.4	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	1.8	2.0	3.0	0.4	0.5	1.1	0.9	3.4	3.8	11.6	3.9	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	23.4	20.0	36.8	26.2	10.9	34.4	25.4	26.4	47.9	13.4	13.7
LnGrp LOS	C	C	C	D	C	B	C	C	C	D	B	B
Approach Vol, veh/h		576			327			827			2489	
Approach Delay, s/veh		25.4			14.2			26.9			28.0	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	22.6	11.2	16.7	8.5	40.1	5.9	22.0
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	24.2	10.7	6.2	6.0	4.2	13.5	2.9	10.6
Green Ext Time (p_c), s	0.0	4.7	0.1	0.8	0.0	14.5	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	490	0	790	0	0	0	0	760	310	0	1500	0
Future Volume (veh/h)	490	0	790	0	0	0	0	760	310	0	1500	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	516	0	832				0	800	326	0	1579	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1379	0	1113				0	2844	877	0	1980	0
Arrive On Green	0.38	0.00	0.38				0.00	0.54	0.54	0.00	0.54	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1638	0	3890	0
Grp Volume(v), veh/h	516	0	832				0	800	326	0	1579	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1638	0	1848	0
Q Serve(g_s), s	7.7	0.0	18.4				0.0	6.1	8.6	0.0	25.7	0.0
Cycle Q Clear(g_c), s	7.7	0.0	18.4				0.0	6.1	8.6	0.0	25.7	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1379	0	1113				0	2844	877	0	1980	0
V/C Ratio(X)	0.37	0.00	0.75				0.00	0.28	0.37	0.00	0.80	0.00
Avail Cap(c_a), veh/h	1934	0	1561				0	3858	1190	0	2685	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	16.5	0.0	19.8				0.0	9.4	10.0	0.0	14.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.3				0.0	0.1	0.3	0.0	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.8				0.0	1.9	2.5	0.0	8.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	0.0	21.1				0.0	9.5	10.3	0.0	15.2	0.0
LnGrp LOS	B	A	C				A	A	B	A	B	A
Approach Vol, veh/h		1348						1126			1579	
Approach Delay, s/veh		19.4						9.7			15.2	
Approach LOS		B						A			B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		42.8		31.5		42.8
Change Period (Y+Rc), s		6.0		4.0		6.0
Max Green Setting (Gmax), s		51.0		39.0		51.0
Max Q Clear Time (g_c+I1), s		10.6		20.4		27.7
Green Ext Time (p_c), s		5.9		7.1		9.1

Intersection Summary		
HCM 6th Ctrl Delay		15.1
HCM 6th LOS		B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	690	820	1020	0	0	1250
Future Volume (veh/h)	690	820	1020	0	0	1250
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	758	901	1121	0	0	1374
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1635	1320	2447	0	0	1703
Arrive On Green	0.46	0.46	0.46	0.00	0.00	0.46
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	758	901	1121	0	0	1374
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	10.4	17.5	10.3	0.0	0.0	22.7
Cycle Q Clear(g_c), s	10.4	17.5	10.3	0.0	0.0	22.7
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1635	1320	2447	0	0	1703
V/C Ratio(X)	0.46	0.68	0.46	0.00	0.00	0.81
Avail Cap(c_a), veh/h	3461	2794	3384	0	0	2355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	15.3	13.1	0.0	0.0	16.5
Incr Delay (d2), s/veh	0.2	0.6	0.1	0.0	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	5.0	3.4	0.0	0.0	8.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.6	16.0	13.3	0.0	0.0	18.0
LnGrp LOS	B	B	B	A	A	B
Approach Vol, veh/h	1659		1121			1374
Approach Delay, s/veh	14.9		13.3			18.0
Approach LOS	B		B			B

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		35.8				35.8	35.4
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		12.3				24.7	19.5
Green Ext Time (p_c), s		5.9				7.0	11.8

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	40	60	200	40	290	30	380	110	380	430	10
Future Volume (veh/h)	20	40	60	200	40	290	30	380	110	380	430	10
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		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	23	47	70	233	47	337	35	442	128	442	500	12
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	158	236	301	686	1548	90	1023	405	594	1453	585
Arrive On Green	0.04	0.23	0.20	0.16	0.35	0.35	0.05	0.28	0.25	0.17	0.39	0.37
Sat Flow, veh/h	1853	689	1026	1853	1945	2803	1853	3696	1625	3594	3696	1600
Grp Volume(v), veh/h	23	0	117	233	47	337	35	442	128	442	500	12
Grp Sat Flow(s),veh/h/ln	1853	0	1716	1853	1945	1401	1853	1848	1625	1797	1848	1600
Q Serve(g_s), s	0.9	0.0	4.1	8.7	1.2	4.5	1.3	7.1	4.6	8.5	6.9	0.3
Cycle Q Clear(g_c), s	0.9	0.0	4.1	8.7	1.2	4.5	1.3	7.1	4.6	8.5	6.9	0.3
Prop In Lane	1.00		0.60	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	73	0	394	301	686	1548	90	1023	405	594	1453	585
V/C Ratio(X)	0.31	0.00	0.30	0.77	0.07	0.22	0.39	0.43	0.32	0.74	0.34	0.02
Avail Cap(c_a), veh/h	205	0	664	384	942	1917	231	1483	607	795	1840	752
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	0.0	23.5	29.0	15.5	8.5	33.3	21.5	22.1	28.7	15.4	14.7
Incr Delay (d2), s/veh	0.9	0.0	0.2	5.4	0.0	0.0	1.0	0.6	0.9	1.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.7	4.0	0.5	1.2	0.6	2.8	1.8	3.5	2.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	0.0	23.7	34.4	15.5	8.5	34.3	22.1	23.1	30.3	15.7	14.7
LnGrp LOS	C	A	C	C	B	A	C	C	C	C	B	B
Approach Vol, veh/h		140			617			605			954	
Approach Delay, s/veh		25.5			18.8			23.0			22.4	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	23.0	5.8	28.5	6.5	31.4	14.7	19.6
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	10.5	9.1	2.9	6.5	3.3	8.9	10.7	6.1
Green Ext Time (p_c), s	0.5	2.8	0.0	1.0	0.0	4.7	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

Notes

User approved changes to right turn type.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	680	980	1460	230	60
Future Volume (veh/h)	50	680	980	1460	230	60
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	53	716	1032	1537	203	104
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	120	2807	2513	2546	529	212
Arrive On Green	0.06	0.76	0.65	0.63	0.14	0.13
Sat Flow, veh/h	1853	3793	3890	3297	3705	1675
Grp Volume(v), veh/h	53	716	1032	1537	203	104
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1648	1853	1675
Q Serve(g_s), s	1.7	3.5	7.8	12.2	3.0	3.5
Cycle Q Clear(g_c), s	1.7	3.5	7.8	12.2	3.0	3.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	120	2807	2513	2546	529	212
V/C Ratio(X)	0.44	0.26	0.41	0.60	0.38	0.49
Avail Cap(c_a), veh/h	242	4157	3678	3534	1510	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	2.2	5.2	3.0	23.9	25.0
Incr Delay (d2), s/veh	2.5	0.0	0.1	0.2	0.5	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.3	1.8	4.1	1.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.2	2.2	5.3	3.2	24.3	26.7
LnGrp LOS	C	A	A	A	C	C
Approach Vol, veh/h		769	2569		307	
Approach Delay, s/veh		4.2	4.1		25.1	
Approach LOS		A	A		C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.0	42.6		11.8		49.6
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	3.7	14.2		5.5		5.5
Green Ext Time (p_c), s	0.0	22.4		1.2		3.5

Intersection Summary	
HCM 6th Ctrl Delay	5.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	700	1540	0	960	900
Future Volume (veh/h)	0	700	1540	0	960	900
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	737	1621	0	1011	947
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1308	1112
Arrive On Green	0.00	0.52	1.00	0.00	0.38	0.38
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	737	1621	0	1011	947
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	4.7	0.0	0.0	15.6	17.9
Cycle Q Clear(g_c), s	0.0	4.7	0.0	0.0	15.6	17.9
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1308	1112
V/C Ratio(X)	0.00	0.27	0.59	0.00	0.77	0.85
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.1	0.0	0.0	16.2	16.9
Incr Delay (d2), s/veh	0.0	0.2	0.9	0.0	2.9	6.5
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	1.3	0.2	0.0	5.7	6.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	8.4	0.9	0.0	19.1	23.4
LnGrp LOS	A	A	A	A	B	C
Approach Vol, veh/h		737	1621		1958	
Approach Delay, s/veh		8.4	0.9		21.2	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		26.0		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		6.7		19.9		2.0
Green Ext Time (p_c), s		3.3		0.1		9.3

Intersection Summary						
HCM 6th Ctrl Delay			11.4			
HCM 6th LOS			B			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1400	0	0	1390	560	870
Future Volume (veh/h)	1400	0	0	1390	560	870
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	1522	0	0	1511	609	946
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	1258	1015
Arrive On Green	0.55	0.00	0.00	0.55	0.35	0.35
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	1522	0	0	1511	609	946
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	10.8	0.0	0.0	18.7	8.0	18.9
Cycle Q Clear(g_c), s	10.8	0.0	0.0	18.7	8.0	18.9
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	1258	1015
V/C Ratio(X)	0.52	0.00	0.00	0.74	0.48	0.93
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.5	0.0	0.0	10.3	15.3	18.8
Incr Delay (d2), s/veh	0.7	0.0	0.0	2.5	0.3	14.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	5.7	2.9	7.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.2	0.0	0.0	12.8	15.6	33.4
LnGrp LOS	A	A	A	B	B	C
Approach Vol, veh/h	1522			1511	1555	
Approach Delay, s/veh	9.2			12.8	26.4	
Approach LOS	A			B	C	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		36.0				36.0	24.0
Change Period (Y+Rc), s		6.0				6.0	6.0
Max Green Setting (Gmax), s		30.0				30.0	18.0
Max Q Clear Time (g_c+I1), s		12.8				20.7	20.9
Green Ext Time (p_c), s		7.3				5.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	319	857	0	0	127	13	0	0	0	3	0	64
Future Vol, veh/h	319	857	0	0	127	13	0	0	0	3	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	86	86	86	25	25	25	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	332	893	0	0	148	15	0	0	0	3	0	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	163	0	0	893	0	0	1749	1720	893	1713	1713	156
Stage 1	-	-	-	-	-	-	1557	1557	-	156	156	-
Stage 2	-	-	-	-	-	-	192	163	-	1557	1557	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1416	-	-	759	-	-	67	89	340	71	90	890
Stage 1	-	-	-	-	-	-	141	174	-	846	769	-
Stage 2	-	-	-	-	-	-	810	763	-	141	174	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1416	-	-	759	-	-	50	68	340	58	69	890
Mov Cap-2 Maneuver	-	-	-	-	-	-	50	68	-	58	69	-
Stage 1	-	-	-	-	-	-	108	133	-	648	769	-
Stage 2	-	-	-	-	-	-	745	763	-	108	133	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0	0	12.7
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1416	-	-	759	-	-	542
HCM Lane V/C Ratio	-	0.235	-	-	-	-	-	0.139
HCM Control Delay (s)	0	8.3	-	-	0	-	-	12.7
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.9	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	867	161	44	27	4
Future Vol, veh/h	7	867	161	44	27	4
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	35
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	90	90	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	942	179	49	36	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	228	0	-	0	1162	204
Stage 1	-	-	-	-	204	-
Stage 2	-	-	-	-	958	-
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	1340	-	-	-	216	837
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	373	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1340	-	-	-	213	837
Mov Cap-2 Maneuver	-	-	-	-	213	-
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	373	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	23.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1340	-	-	-	213	837
HCM Lane V/C Ratio	0.006	-	-	-	0.169	0.006
HCM Control Delay (s)	7.7	0	-	-	25.3	9.3
HCM Lane LOS	A	A	-	-	D	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	80	706	30	90	1040	160	1340	20	400	1020	150
Future Volume (veh/h)	380	80	706	30	90	1040	160	1340	20	400	1020	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.96	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	418	88	776	33	99	1143	176	1473	22	440	1121	165
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	748	771	78	617	1411	286	1531	23	569	1927	549
Arrive On Green	0.11	0.38	0.38	0.04	0.32	0.32	0.08	0.28	0.26	0.16	0.36	0.34
Sat Flow, veh/h	3594	1945	1616	1853	1945	2901	3594	5387	80	3594	5310	1611
Grp Volume(v), veh/h	418	88	776	33	99	1143	176	968	527	440	1121	165
Grp Sat Flow(s),veh/h/ln	1797	1945	1616	1853	1945	1451	1797	1770	1927	1797	1770	1611
Q Serve(g_s), s	10.0	2.7	35.2	1.6	3.4	29.0	4.3	24.6	24.6	10.7	15.6	6.9
Cycle Q Clear(g_c), s	10.0	2.7	35.2	1.6	3.4	29.0	4.3	24.6	24.6	10.7	15.6	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	393	748	771	78	617	1411	286	1006	548	569	1927	549
V/C Ratio(X)	1.06	0.12	1.01	0.42	0.16	0.81	0.61	0.96	0.96	0.77	0.58	0.30
Avail Cap(c_a), veh/h	393	748	771	162	617	1411	314	1006	548	904	2380	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	18.2	24.1	42.7	22.5	19.9	40.7	32.3	32.3	36.9	23.5	22.1
Incr Delay (d2), s/veh	63.4	0.0	34.2	1.4	0.0	3.4	1.9	20.0	29.4	0.9	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	1.2	22.7	0.8	1.5	10.2	1.9	12.5	15.1	4.5	6.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.1	18.2	58.2	44.1	22.5	23.3	42.6	52.3	61.7	37.8	24.1	22.8
LnGrp LOS	F	B	F	D	C	C	D	D	E	D	C	C
Approach Vol, veh/h		1282			1275			1671			1726	
Approach Delay, s/veh		70.5			23.8			54.2			27.5	
Approach LOS		E			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	29.0	13.0	32.0	10.3	36.2	6.8	38.2
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	12.7	26.6	12.0	31.0	6.3	17.6	3.6	37.2
Green Ext Time (p_c), s	0.7	0.0	0.0	0.0	0.0	11.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	700	0	520	0	0	0	0	2120	640	0	1050	0
Future Volume (veh/h)	700	0	520	0	0	0	0	2120	640	0	1050	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	753	0	559				0	2280	688	0	1129	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1129	0	912				0	3231	980	0	2249	0
Arrive On Green	0.31	0.00	0.31				0.00	0.61	0.61	0.00	0.61	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1610	0	3890	0
Grp Volume(v), veh/h	753	0	559				0	2280	688	0	1129	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1610	0	1848	0
Q Serve(g_s), s	14.1	0.0	12.7				0.0	22.9	22.7	0.0	13.4	0.0
Cycle Q Clear(g_c), s	14.1	0.0	12.7				0.0	22.9	22.7	0.0	13.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1129	0	912				0	3231	980	0	2249	0
V/C Ratio(X)	0.67	0.00	0.61				0.00	0.71	0.70	0.00	0.50	0.00
Avail Cap(c_a), veh/h	1852	0	1495				0	3695	1121	0	2572	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	23.1	0.0	22.6				0.0	10.4	10.4	0.0	8.6	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.7				0.0	0.5	1.7	0.0	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
%ile BackOfQ(50%),veh/ln	5.7	0.0	4.1				0.0	6.6	6.3	0.0	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	0.0	23.3				0.0	11.0	12.1	0.0	8.7	0.0
LnGrp LOS	C	A	C				A	B	B	A	A	A
Approach Vol, veh/h		1312						2968			1129	
Approach Delay, s/veh		23.6						11.2			8.7	
Approach LOS		C						B			A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		50.2		27.4		50.2
Change Period (Y+Rc), s		6.0		4.0		6.0
Max Green Setting (Gmax), s		51.0		39.0		51.0
Max Q Clear Time (g_c+I1), s		24.9		16.1		15.4
Green Ext Time (p_c), s		19.4		7.3		6.1

Intersection Summary			
HCM 6th Ctrl Delay			13.7
HCM 6th LOS			B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	300	780	1920	0	0	1010
Future Volume (veh/h)	300	780	1920	0	0	1010
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	316	821	2021	0	0	1063
Peak Hour Factor	0.95	0.95	0.95	0.93	0.95	0.95
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1407	1136	2755	0	0	1917
Arrive On Green	0.39	0.39	0.52	0.00	0.00	0.52
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	316	821	2021	0	0	1063
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	3.9	16.1	19.8	0.0	0.0	13.0
Cycle Q Clear(g_c), s	3.9	16.1	19.8	0.0	0.0	13.0
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1407	1136	2755	0	0	1917
V/C Ratio(X)	0.22	0.72	0.73	0.00	0.00	0.55
Avail Cap(c_a), veh/h	3684	2974	3602	0	0	2507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	13.6	17.3	12.5	0.0	0.0	10.9
Incr Delay (d2), s/veh	0.1	0.9	0.6	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	4.7	6.0	0.0	0.0	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.7	18.2	13.1	0.0	0.0	11.1
LnGrp LOS	B	B	B	A	A	B
Approach Vol, veh/h	1137		2021			1063
Approach Delay, s/veh	16.9		13.1			11.1
Approach LOS	B		B			B

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		37.7				37.7	29.2
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		21.8				15.0	18.1
Green Ext Time (p_c), s		11.8				5.5	7.0

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	80	60	120	60	550	30	320	80	480	500	20
Future Volume (veh/h)	20	80	60	120	60	550	30	320	80	480	500	20
Initial Q (Qb), veh	0	0	0	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	23	91	68	136	68	625	34	364	91	545	568	23
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	201	150	211	511	1484	104	942	351	758	1515	614
Arrive On Green	0.05	0.19	0.16	0.11	0.26	0.26	0.06	0.25	0.22	0.21	0.41	0.37
Sat Flow, veh/h	1853	1034	772	1853	1945	2901	1853	3696	1616	3594	3696	1648
Grp Volume(v), veh/h	23	0	159	136	68	625	34	364	91	545	568	23
Grp Sat Flow(s),veh/h/ln	1853	0	1806	1853	1945	1451	1853	1848	1616	1797	1848	1648
Q Serve(g_s), s	0.6	0.0	4.2	3.7	1.4	7.1	0.9	4.3	2.5	7.5	5.7	0.5
Cycle Q Clear(g_c), s	0.6	0.0	4.2	3.7	1.4	7.1	0.9	4.3	2.5	7.5	5.7	0.5
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	85	0	351	211	511	1484	104	942	351	758	1515	614
V/C Ratio(X)	0.27	0.00	0.45	0.64	0.13	0.42	0.33	0.39	0.26	0.72	0.38	0.04
Avail Cap(c_a), veh/h	279	0	951	522	1280	2630	313	2015	820	1081	2501	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	0.0	19.3	22.5	15.0	8.1	24.2	16.4	17.3	19.5	10.9	10.6
Incr Delay (d2), s/veh	0.6	0.0	0.3	1.2	0.0	0.1	0.7	0.6	0.8	0.5	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	0.3	0.0	1.7	1.5	0.5	1.8	0.4	1.6	0.9	2.7	1.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	0.0	19.7	23.7	15.0	8.2	24.8	16.9	18.1	20.1	11.3	10.7
LnGrp LOS	C	A	B	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h		182			829			489			1136	
Approach Delay, s/veh		20.4			11.3			17.7			15.5	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	16.6	5.4	17.0	6.0	24.8	9.1	13.4
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	9.5	6.3	2.6	9.1	2.9	7.7	5.7	6.2
Green Ext Time (p_c), s	0.7	2.5	0.0	1.8	0.0	5.6	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	14.9
HCM 6th LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	1200	950	640	1450	60
Future Volume (veh/h)	40	1200	950	640	1450	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	43	1290	942	741	1620	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	106	1982	1682	2558	2057	594
Arrive On Green	0.06	0.54	0.43	0.42	0.37	0.00
Sat Flow, veh/h	1853	3793	3890	3209	5558	1675
Grp Volume(v), veh/h	43	1290	942	741	1620	0
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1604	1853	1675
Q Serve(g_s), s	1.4	16.0	11.6	4.1	16.6	0.0
Cycle Q Clear(g_c), s	1.4	16.0	11.6	4.1	16.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	106	1982	1682	2558	2057	594
V/C Ratio(X)	0.41	0.65	0.56	0.29	0.79	0.00
Avail Cap(c_a), veh/h	231	3973	3515	4070	2165	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.2	10.6	13.6	1.9	18.0	0.0
Incr Delay (d2), s/veh	2.5	0.4	0.3	0.1	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.0	4.1	3.3	6.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.7	11.0	13.9	2.0	19.9	0.0
LnGrp LOS	C	B	B	A	B	A
Approach Vol, veh/h		1333	1683		1620	
Approach Delay, s/veh		11.6	8.7		19.9	
Approach LOS		B	A		B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.7	30.8		26.8		37.4
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	3.4	13.6		18.6		18.0
Green Ext Time (p_c), s	0.0	11.1		3.1		8.0

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1830	1110	0	850	480
Future Volume (veh/h)	0	1830	1110	0	850	480
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	2011	1220	0	934	527
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1240	1054
Arrive On Green	0.00	0.52	1.00	0.00	0.36	0.36
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	2011	1220	0	934	527
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	17.7	0.0	0.0	14.4	8.5
Cycle Q Clear(g_c), s	0.0	17.7	0.0	0.0	14.4	8.5
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1240	1054
V/C Ratio(X)	0.00	0.73	0.44	0.00	0.75	0.50
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	11.3	0.0	0.0	16.8	14.9
Incr Delay (d2), s/veh	0.0	1.8	0.5	0.0	2.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.3	0.1	0.0	5.3	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	13.1	0.5	0.0	19.1	15.2
LnGrp LOS	A	B	A	A	B	B
Approach Vol, veh/h		2011	1220		1461	
Approach Delay, s/veh		13.1	0.5		17.7	
Approach LOS		B	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		24.8		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		19.7		16.4		2.0
Green Ext Time (p_c), s		5.9		2.4		6.4

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1740	0	0	1810	380	500
Future Volume (veh/h)	1740	0	0	1810	380	500
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	1891	0	0	1967	413	543
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	1042	842
Arrive On Green	0.55	0.00	0.00	0.55	0.29	0.29
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	1891	0	0	1967	413	543
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	14.9	0.0	0.0	30.7	5.5	9.8
Cycle Q Clear(g_c), s	14.9	0.0	0.0	30.7	5.5	9.8
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	1042	842
V/C Ratio(X)	0.65	0.00	0.00	0.97	0.40	0.65
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.4	0.0	0.0	13.0	17.1	18.6
Incr Delay (d2), s/veh	1.1	0.0	0.0	13.7	0.2	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	4.2	0.0	0.0	12.1	2.1	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.6	0.0	0.0	26.7	17.3	19.6
LnGrp LOS	B	A	A	C	B	B
Approach Vol, veh/h	1891			1967	956	
Approach Delay, s/veh	10.6			26.7	18.6	
Approach LOS	B			C	B	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		36.0				36.0	20.4
Change Period (Y+Rc), s		6.0				6.0	6.0
Max Green Setting (Gmax), s		30.0				30.0	18.0
Max Q Clear Time (g_c+I1), s		16.9				32.7	11.8
Green Ext Time (p_c), s		7.9				0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Appendix F – Near Term Plus Project Conditions

Intersection Level of Service Reports

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	114	355	0	0	457	9	0	0	0	17	0	178
Future Vol, veh/h	114	355	0	0	457	9	0	0	0	17	0	178
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	60	60	60	25	25	25	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	144	449	0	0	762	15	0	0	0	22	0	225

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	777	0	0	449	0	0	1619	1514	449	1507	1507	770
Stage 1	-	-	-	-	-	-	737	737	-	770	770	-
Stage 2	-	-	-	-	-	-	882	777	-	737	737	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	839	-	-	1111	-	-	83	120	610	99	121	401
Stage 1	-	-	-	-	-	-	410	425	-	393	410	-
Stage 2	-	-	-	-	-	-	341	407	-	410	425	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	839	-	-	1111	-	-	32	99	610	86	100	401
Mov Cap-2 Maneuver	-	-	-	-	-	-	32	99	-	86	100	-
Stage 1	-	-	-	-	-	-	339	352	-	325	410	-
Stage 2	-	-	-	-	-	-	149	407	-	340	352	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0	0	52.7
HCM LOS			A	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	839	-	-	1111	-	-	304
HCM Lane V/C Ratio	-	0.172	-	-	-	-	-	0.812
HCM Control Delay (s)	0	10.2	-	-	0	-	-	52.7
HCM Lane LOS	A	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	-	0.6	-	-	0	-	-	6.7

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	448	1	4	477	2	14
Future Vol, veh/h	448	1	4	477	2	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	50	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	498	1	4	530	3	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	499	0	1036	498
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	538	-
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	-	-	1065	-	256	572
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	585	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1065	-	255	572
Mov Cap-2 Maneuver	-	-	-	-	255	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	583	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	255	572	-	-	1065	-
HCM Lane V/C Ratio	0.01	0.033	-	-	0.004	-
HCM Control Delay (s)	19.3	11.5	-	-	8.4	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	392	455	23	60	9
Future Volume (vph)	1	392	455	23	60	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8		5.8	5.8
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1829	1925	1912		1829	1636
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1829	1925	1912		1829	1636
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	436	506	26	67	10
RTOR Reduction (vph)	0	0	1	0	0	9
Lane Group Flow (vph)	1	436	531	0	67	1
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Actuated Green, G (s)	0.6	39.6	33.2		4.8	4.8
Effective Green, g (s)	0.6	39.6	33.2		4.8	4.8
Actuated g/C Ratio	0.01	0.66	0.55		0.08	0.08
Clearance Time (s)	5.8	5.8	5.8		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	18	1264	1052		145	130
v/s Ratio Prot	0.00	c0.23	c0.28		c0.04	
v/s Ratio Perm						0.00
v/c Ratio	0.06	0.34	0.50		0.46	0.01
Uniform Delay, d1	29.6	4.6	8.4		26.5	25.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.3	0.2	0.4		2.3	0.0
Delay (s)	30.9	4.8	8.8		28.8	25.6
Level of Service	C	A	A		C	C
Approach Delay (s)		4.8	8.8		28.4	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.3	Sum of lost time (s)	19.4
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	133	215	20	31	250	102	630	30	970	1100	222
Future Volume (veh/h)	196	133	215	20	31	250	102	630	30	970	1100	222
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		0.97	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	213	145	234	22	34	272	111	685	33	1054	1196	241
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	390	488	536	69	350	1429	259	1324	63	1078	2566	747
Arrive On Green	0.11	0.25	0.25	0.04	0.18	0.18	0.07	0.26	0.23	0.30	0.48	0.46
Sat Flow, veh/h	3594	1945	1577	1853	1945	2901	3594	5183	248	3594	5310	1635
Grp Volume(v), veh/h	213	145	234	22	34	272	111	467	251	1054	1196	241
Grp Sat Flow(s),veh/h/ln	1797	1945	1577	1853	1945	1451	1797	1770	1891	1797	1770	1635
Q Serve(g_s), s	4.3	4.6	8.9	0.9	1.1	4.0	2.3	8.7	8.8	22.3	11.5	7.2
Cycle Q Clear(g_c), s	4.3	4.6	8.9	0.9	1.1	4.0	2.3	8.7	8.8	22.3	11.5	7.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	390	488	536	69	350	1429	259	904	483	1078	2566	747
V/C Ratio(X)	0.55	0.30	0.44	0.32	0.10	0.19	0.43	0.52	0.52	0.98	0.47	0.32
Avail Cap(c_a), veh/h	469	786	778	193	735	2005	375	1200	641	1078	2838	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	23.3	19.9	36.0	26.3	10.9	34.1	24.5	24.6	26.6	13.2	13.3
Incr Delay (d2), s/veh	0.4	0.1	0.2	1.0	0.0	0.0	0.4	1.0	1.9	22.1	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	1.8	2.0	3.1	0.4	0.5	1.2	0.9	3.4	3.8	11.8	3.9	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	23.4	20.1	36.9	26.3	10.9	34.5	25.5	26.5	48.7	13.5	13.8
LnGrp LOS	C	C	C	D	C	B	C	C	C	D	B	B
Approach Vol, veh/h		592			328			829			2491	
Approach Delay, s/veh		25.5			14.3			27.0			28.4	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	22.6	11.3	16.8	8.5	40.1	5.9	22.2
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	24.3	10.8	6.3	6.0	4.3	13.5	2.9	10.9
Green Ext Time (p_c), s	0.0	4.7	0.1	0.8	0.0	14.5	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	490	0	791	0	0	0	0	764	312	0	1501	0
Future Volume (veh/h)	490	0	791	0	0	0	0	764	312	0	1501	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	516	0	833				0	804	328	0	1580	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1379	0	1113				0	2844	877	0	1980	0
Arrive On Green	0.38	0.00	0.38				0.00	0.54	0.54	0.00	0.54	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1638	0	3890	0
Grp Volume(v), veh/h	516	0	833				0	804	328	0	1580	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1638	0	1848	0
Q Serve(g_s), s	7.7	0.0	18.5				0.0	6.2	8.7	0.0	25.8	0.0
Cycle Q Clear(g_c), s	7.7	0.0	18.5				0.0	6.2	8.7	0.0	25.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1379	0	1113				0	2844	877	0	1980	0
V/C Ratio(X)	0.37	0.00	0.75				0.00	0.28	0.37	0.00	0.80	0.00
Avail Cap(c_a), veh/h	1931	0	1559				0	3852	1188	0	2681	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	16.5	0.0	19.8				0.0	9.5	10.0	0.0	14.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.3				0.0	0.1	0.3	0.0	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.8				0.0	1.9	2.5	0.0	8.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	0.0	21.1				0.0	9.5	10.3	0.0	15.3	0.0
LnGrp LOS	B	A	C				A	A	B	A	B	A
Approach Vol, veh/h		1349						1132			1580	
Approach Delay, s/veh		19.4						9.7			15.3	
Approach LOS		B						A			B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		42.9		31.6		42.9
Change Period (Y+Rc), s		6.0		4.0		6.0
Max Green Setting (Gmax), s		51.0		39.0		51.0
Max Q Clear Time (g_c+I1), s		10.7		20.5		27.8
Green Ext Time (p_c), s		5.9		7.1		9.1

Intersection Summary		
HCM 6th Ctrl Delay		15.1
HCM 6th LOS		B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	691	820	1020	0	0	1250
Future Volume (veh/h)	691	820	1020	0	0	1250
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	759	901	1121	0	0	1374
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1636	1320	2447	0	0	1703
Arrive On Green	0.46	0.46	0.46	0.00	0.00	0.46
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	759	901	1121	0	0	1374
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	10.4	17.5	10.3	0.0	0.0	22.7
Cycle Q Clear(g_c), s	10.4	17.5	10.3	0.0	0.0	22.7
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1636	1320	2447	0	0	1703
V/C Ratio(X)	0.46	0.68	0.46	0.00	0.00	0.81
Avail Cap(c_a), veh/h	3460	2793	3383	0	0	2355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	15.3	13.1	0.0	0.0	16.5
Incr Delay (d2), s/veh	0.2	0.6	0.1	0.0	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	5.0	3.4	0.0	0.0	8.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.6	16.0	13.3	0.0	0.0	18.0
LnGrp LOS	B	B	B	A	A	B
Approach Vol, veh/h	1660		1121			1374
Approach Delay, s/veh	14.9		13.3			18.0
Approach LOS	B		B			B

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		35.8				35.8	35.4
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		12.3				24.7	19.5
Green Ext Time (p_c), s		5.9				7.0	11.8

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	40	60	200	40	291	30	381	110	384	431	10
Future Volume (veh/h)	20	40	60	200	40	291	30	381	110	384	431	10
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		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	23	47	70	233	47	338	35	443	128	447	501	12
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	158	235	301	685	1550	90	1022	404	598	1457	587
Arrive On Green	0.04	0.23	0.20	0.16	0.35	0.35	0.05	0.28	0.25	0.17	0.39	0.37
Sat Flow, veh/h	1853	689	1026	1853	1945	2802	1853	3696	1625	3594	3696	1600
Grp Volume(v), veh/h	23	0	117	233	47	338	35	443	128	447	501	12
Grp Sat Flow(s),veh/h/ln	1853	0	1716	1853	1945	1401	1853	1848	1625	1797	1848	1600
Q Serve(g_s), s	0.9	0.0	4.2	8.7	1.2	4.5	1.3	7.1	4.7	8.6	6.9	0.3
Cycle Q Clear(g_c), s	0.9	0.0	4.2	8.7	1.2	4.5	1.3	7.1	4.7	8.6	6.9	0.3
Prop In Lane	1.00		0.60	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	73	0	393	301	685	1550	90	1022	404	598	1457	587
V/C Ratio(X)	0.32	0.00	0.30	0.77	0.07	0.22	0.39	0.43	0.32	0.75	0.34	0.02
Avail Cap(c_a), veh/h	204	0	663	383	939	1916	230	1478	605	793	1835	750
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	0.0	23.6	29.1	15.6	8.5	33.4	21.6	22.2	28.8	15.4	14.7
Incr Delay (d2), s/veh	0.9	0.0	0.2	5.4	0.0	0.0	1.0	0.6	1.0	1.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.7	4.1	0.5	1.2	0.6	2.9	1.8	3.5	2.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	0.0	23.8	34.5	15.6	8.5	34.5	22.2	23.2	30.5	15.7	14.7
LnGrp LOS	C	A	C	C	B	A	C	C	C	C	B	B
Approach Vol, veh/h		140			618			606			960	
Approach Delay, s/veh		25.6			18.9			23.1			22.6	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	23.0	5.9	28.5	6.5	31.6	14.8	19.6
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	10.6	9.1	2.9	6.5	3.3	8.9	10.7	6.2
Green Ext Time (p_c), s	0.5	2.8	0.0	1.0	0.0	4.7	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

User approved changes to right turn type.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	684	981	1460	230	60
Future Volume (veh/h)	50	684	981	1460	230	60
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	53	720	1033	1537	203	104
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	120	2807	2513	2546	529	212
Arrive On Green	0.06	0.76	0.65	0.63	0.14	0.13
Sat Flow, veh/h	1853	3793	3890	3297	3705	1675
Grp Volume(v), veh/h	53	720	1033	1537	203	104
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1648	1853	1675
Q Serve(g_s), s	1.7	3.6	7.9	12.2	3.0	3.5
Cycle Q Clear(g_c), s	1.7	3.6	7.9	12.2	3.0	3.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	120	2807	2513	2546	529	212
V/C Ratio(X)	0.44	0.26	0.41	0.60	0.38	0.49
Avail Cap(c_a), veh/h	242	4156	3677	3533	1510	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	2.2	5.2	3.0	23.9	25.0
Incr Delay (d2), s/veh	2.5	0.0	0.1	0.2	0.5	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.3	1.8	4.1	1.3	3.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.2	2.3	5.3	3.2	24.3	26.7
LnGrp LOS	C	A	A	A	C	C
Approach Vol, veh/h		773	2570		307	
Approach Delay, s/veh		4.2	4.1		25.1	
Approach LOS		A	A		C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.0	42.6		11.8		49.6
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	3.7	14.2		5.5		5.6
Green Ext Time (p_c), s	0.0	22.4		1.2		3.6

Intersection Summary	
HCM 6th Ctrl Delay	5.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	703	1541	0	960	900
Future Volume (veh/h)	0	703	1541	0	960	900
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	740	1622	0	1011	947
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1308	1112
Arrive On Green	0.00	0.52	1.00	0.00	0.38	0.38
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	740	1622	0	1011	947
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	4.7	0.0	0.0	15.6	17.9
Cycle Q Clear(g_c), s	0.0	4.7	0.0	0.0	15.6	17.9
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1308	1112
V/C Ratio(X)	0.00	0.27	0.59	0.00	0.77	0.85
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.1	0.0	0.0	16.2	16.9
Incr Delay (d2), s/veh	0.0	0.2	0.9	0.0	2.9	6.5
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	1.3	0.2	0.0	5.7	6.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	8.4	0.9	0.0	19.1	23.4
LnGrp LOS	A	A	A	A	B	C
Approach Vol, veh/h		740	1622		1958	
Approach Delay, s/veh		8.4	0.9		21.2	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		26.0		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		6.7		19.9		2.0
Green Ext Time (p_c), s		3.3		0.1		9.3

Intersection Summary		
HCM 6th Ctrl Delay		11.4
HCM 6th LOS		B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1403	0	0	1391	560	870
Future Volume (veh/h)	1403	0	0	1391	560	870
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	1525	0	0	1512	609	946
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	1258	1015
Arrive On Green	0.55	0.00	0.00	0.55	0.35	0.35
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	1525	0	0	1512	609	946
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	10.9	0.0	0.0	18.7	8.0	18.9
Cycle Q Clear(g_c), s	10.9	0.0	0.0	18.7	8.0	18.9
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	1258	1015
V/C Ratio(X)	0.52	0.00	0.00	0.74	0.48	0.93
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.5	0.0	0.0	10.3	15.3	18.8
Incr Delay (d2), s/veh	0.7	0.0	0.0	2.5	0.3	14.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	5.7	2.9	7.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.2	0.0	0.0	12.8	15.6	33.4
LnGrp LOS	A	A	A	B	B	C
Approach Vol, veh/h	1525			1512	1555	
Approach Delay, s/veh	9.2			12.8	26.4	
Approach LOS	A			B	C	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		36.0				36.0	24.0
Change Period (Y+Rc), s		6.0				6.0	6.0
Max Green Setting (Gmax), s		30.0				30.0	18.0
Max Q Clear Time (g_c+I1), s		12.9				20.7	20.9
Green Ext Time (p_c), s		7.3				5.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	319	861	0	0	130	13	0	0	0	3	0	64
Future Vol, veh/h	319	861	0	0	130	13	0	0	0	3	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	86	86	86	25	25	25	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	332	897	0	0	151	15	0	0	0	3	0	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	166	0	0	897	0	0	1756	1727	897	1720	1720	159
Stage 1	-	-	-	-	-	-	1561	1561	-	159	159	-
Stage 2	-	-	-	-	-	-	195	166	-	1561	1561	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1412	-	-	757	-	-	66	89	339	70	89	886
Stage 1	-	-	-	-	-	-	140	173	-	843	766	-
Stage 2	-	-	-	-	-	-	807	761	-	140	173	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1412	-	-	757	-	-	50	68	339	57	68	886
Mov Cap-2 Maneuver	-	-	-	-	-	-	50	68	-	57	68	-
Stage 1	-	-	-	-	-	-	107	132	-	645	766	-
Stage 2	-	-	-	-	-	-	742	761	-	107	132	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0	0	12.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1412	-	-	757	-	-	537
HCM Lane V/C Ratio	-	0.235	-	-	-	-	-	0.14
HCM Control Delay (s)	0	8.3	-	-	0	-	-	12.8
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.9	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	902	2	16	215	1	10
Future Vol, veh/h	902	2	16	215	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	50	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1002	2	18	239	1	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1004	0	1277	1002
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	275	-
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	-	-	690	-	184	294
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	690	-	179	294
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	751	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	179	294	-	-	690	-
HCM Lane V/C Ratio	0.007	0.045	-	-	0.026	-
HCM Control Delay (s)	25.3	17.8	-	-	10.4	-
HCM Lane LOS	D	C	-	-	B	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	879	179	44	27	4
Future Volume (vph)	7	879	179	44	27	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8		5.8	5.8
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1829	1925	1873		1829	1636
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1829	1925	1873		1829	1636
Peak-hour factor, PHF	0.92	0.92	0.90	0.90	0.75	0.75
Adj. Flow (vph)	8	955	199	49	36	5
RTOR Reduction (vph)	0	0	5	0	0	5
Lane Group Flow (vph)	8	955	243	0	36	0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Actuated Green, G (s)	3.9	52.7	43.0		4.1	4.1
Effective Green, g (s)	3.9	52.7	43.0		4.1	4.1
Actuated g/C Ratio	0.05	0.72	0.59		0.06	0.06
Clearance Time (s)	5.8	5.8	5.8		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	97	1391	1104		102	92
v/s Ratio Prot	0.00	c0.50	0.13		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.08	0.69	0.22		0.35	0.00
Uniform Delay, d1	32.8	5.6	7.0		33.1	32.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	1.4	0.1		2.1	0.0
Delay (s)	33.2	7.0	7.1		35.2	32.5
Level of Service	C	A	A		D	C
Approach Delay (s)		7.2	7.1		34.9	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	72.9	Sum of lost time (s)	19.4
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	83	715	30	95	1040	171	1340	20	400	1020	163
Future Volume (veh/h)	388	83	715	30	95	1040	171	1340	20	400	1020	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.96	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	426	91	786	33	104	1143	188	1473	22	440	1121	179
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	748	776	78	617	1411	298	1531	23	569	1909	544
Arrive On Green	0.11	0.38	0.38	0.04	0.32	0.32	0.08	0.28	0.26	0.16	0.36	0.34
Sat Flow, veh/h	3594	1945	1616	1853	1945	2901	3594	5387	80	3594	5310	1610
Grp Volume(v), veh/h	426	91	786	33	104	1143	188	968	527	440	1121	179
Grp Sat Flow(s),veh/h/ln	1797	1945	1616	1853	1945	1451	1797	1770	1927	1797	1770	1610
Q Serve(g_s), s	10.0	2.8	35.2	1.6	3.5	29.0	4.6	24.6	24.6	10.7	15.7	7.6
Cycle Q Clear(g_c), s	10.0	2.8	35.2	1.6	3.5	29.0	4.6	24.6	24.6	10.7	15.7	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	393	748	776	78	617	1411	298	1006	548	569	1909	544
V/C Ratio(X)	1.08	0.12	1.01	0.42	0.17	0.81	0.63	0.96	0.96	0.77	0.59	0.33
Avail Cap(c_a), veh/h	393	748	776	162	617	1411	314	1006	548	904	2380	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	18.2	23.9	42.7	22.5	19.9	40.6	32.3	32.3	36.9	23.8	22.6
Incr Delay (d2), s/veh	69.9	0.0	35.5	1.4	0.0	3.4	2.6	20.0	29.4	0.9	0.6	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	1.2	23.1	0.8	1.6	10.2	2.1	12.5	15.1	4.5	6.1	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.7	18.2	59.5	44.1	22.6	23.3	43.2	52.3	61.7	37.8	24.4	23.3
LnGrp LOS	F	B	F	D	C	C	D	D	E	D	C	C
Approach Vol, veh/h		1303			1280			1683			1740	
Approach Delay, s/veh		73.3			23.8			54.2			27.7	
Approach LOS		E			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	29.0	13.0	32.0	10.6	35.9	6.8	38.2
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	12.7	26.6	12.0	31.0	6.6	17.7	3.6	37.2
Green Ext Time (p_c), s	0.7	0.0	0.0	0.0	0.0	11.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	44.2
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	700	0	527	0	0	0	0	2126	642	0	1501	0
Future Volume (veh/h)	700	0	527	0	0	0	0	2126	642	0	1501	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	753	0	567				0	2286	690	0	1614	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1130	0	912				0	3231	980	0	2249	0
Arrive On Green	0.31	0.00	0.31				0.00	0.61	0.61	0.00	0.61	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1610	0	3890	0
Grp Volume(v), veh/h	753	0	567				0	2286	690	0	1614	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1610	0	1848	0
Q Serve(g_s), s	14.1	0.0	13.0				0.0	23.0	22.8	0.0	23.6	0.0
Cycle Q Clear(g_c), s	14.1	0.0	13.0				0.0	23.0	22.8	0.0	23.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1130	0	912				0	3231	980	0	2249	0
V/C Ratio(X)	0.67	0.00	0.62				0.00	0.71	0.70	0.00	0.72	0.00
Avail Cap(c_a), veh/h	1847	0	1491				0	3685	1118	0	2565	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	23.1	0.0	22.7				0.0	10.5	10.4	0.0	10.6	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.7				0.0	0.5	1.7	0.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	4.2				0.0	6.7	6.4	0.0	7.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	0.0	23.4				0.0	11.0	12.2	0.0	11.4	0.0
LnGrp LOS	C	A	C				A	B	B	A	B	A
Approach Vol, veh/h		1320						2976			1614	
Approach Delay, s/veh		23.7						11.3			11.4	
Approach LOS		C						B			B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		50.4		27.5		50.4
Change Period (Y+Rc), s		6.0		4.0		6.0
Max Green Setting (Gmax), s		51.0		39.0		51.0
Max Q Clear Time (g_c+I1), s		25.0		16.1		25.6
Green Ext Time (p_c), s		19.3		7.3		9.7

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	304	780	1922	0	0	1012
Future Volume (veh/h)	304	780	1922	0	0	1012
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	320	821	2023	0	0	1065
Peak Hour Factor	0.95	0.95	0.95	0.93	0.95	0.95
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1408	1136	2755	0	0	1917
Arrive On Green	0.39	0.39	0.52	0.00	0.00	0.52
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	320	821	2023	0	0	1065
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	4.0	16.1	19.9	0.0	0.0	13.1
Cycle Q Clear(g_c), s	4.0	16.1	19.9	0.0	0.0	13.1
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1408	1136	2755	0	0	1917
V/C Ratio(X)	0.23	0.72	0.73	0.00	0.00	0.56
Avail Cap(c_a), veh/h	3678	2969	3596	0	0	2503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	13.6	17.3	12.5	0.0	0.0	10.9
Incr Delay (d2), s/veh	0.1	0.9	0.6	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	4.7	6.0	0.0	0.0	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.7	18.2	13.1	0.0	0.0	11.2
LnGrp LOS	B	B	B	A	A	B
Approach Vol, veh/h	1141		2023			1065
Approach Delay, s/veh	16.9		13.1			11.2
Approach LOS	B		B			B

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		37.8				37.8	29.3
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		21.9				15.1	18.1
Green Ext Time (p_c), s		11.8				5.5	7.1

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	80	60	120	60	557	30	324	80	486	503	20
Future Volume (veh/h)	20	80	60	120	60	557	30	324	80	486	503	20
Initial Q (Qb), veh	0	0	0	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	23	91	68	136	68	633	34	368	91	552	572	23
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	202	151	211	514	1491	103	937	349	764	1516	614
Arrive On Green	0.05	0.20	0.16	0.11	0.26	0.26	0.06	0.25	0.22	0.21	0.41	0.37
Sat Flow, veh/h	1853	1034	772	1853	1945	2901	1853	3696	1616	3594	3696	1648
Grp Volume(v), veh/h	23	0	159	136	68	633	34	368	91	552	572	23
Grp Sat Flow(s),veh/h/ln	1853	0	1806	1853	1945	1451	1853	1848	1616	1797	1848	1648
Q Serve(g_s), s	0.6	0.0	4.2	3.8	1.4	7.3	0.9	4.4	2.5	7.6	5.8	0.5
Cycle Q Clear(g_c), s	0.6	0.0	4.2	3.8	1.4	7.3	0.9	4.4	2.5	7.6	5.8	0.5
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	85	0	354	211	514	1491	103	937	349	764	1516	614
V/C Ratio(X)	0.27	0.00	0.45	0.64	0.13	0.42	0.33	0.39	0.26	0.72	0.38	0.04
Avail Cap(c_a), veh/h	277	0	945	519	1273	2623	312	2003	815	1075	2487	1048
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	19.4	22.7	15.0	8.1	24.3	16.6	17.4	19.6	11.0	10.7
Incr Delay (d2), s/veh	0.6	0.0	0.3	1.2	0.0	0.1	0.7	0.6	0.8	0.6	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	0.3	0.0	1.7	1.5	0.5	1.9	0.4	1.6	0.9	2.7	1.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	0.0	19.7	23.9	15.1	8.2	25.0	17.1	18.3	20.2	11.3	10.7
LnGrp LOS	C	A	B	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h		182			837			493			1147	
Approach Delay, s/veh		20.4			11.3			17.9			15.6	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	16.6	5.4	17.1	6.0	24.9	9.1	13.5
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	9.6	6.4	2.6	9.3	2.9	7.8	5.8	6.2
Green Ext Time (p_c), s	0.7	2.5	0.0	1.9	0.0	5.6	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	1206	957	640	1450	60
Future Volume (veh/h)	40	1206	957	640	1450	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	43	1297	945	744	1620	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	106	1985	1686	2559	2054	593
Arrive On Green	0.06	0.54	0.43	0.42	0.37	0.00
Sat Flow, veh/h	1853	3793	3890	3209	5558	1675
Grp Volume(v), veh/h	43	1297	945	744	1620	0
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1604	1853	1675
Q Serve(g_s), s	1.4	16.1	11.7	4.1	16.7	0.0
Cycle Q Clear(g_c), s	1.4	16.1	11.7	4.1	16.7	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	106	1985	1686	2559	2054	593
V/C Ratio(X)	0.41	0.65	0.56	0.29	0.79	0.00
Avail Cap(c_a), veh/h	230	3964	3508	4062	2160	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.3	10.6	13.6	1.9	18.0	0.0
Incr Delay (d2), s/veh	2.5	0.4	0.3	0.1	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.0	4.2	3.3	6.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.7	11.0	13.9	2.0	20.0	0.0
LnGrp LOS	C	B	B	A	B	A
Approach Vol, veh/h		1340	1689		1620	
Approach Delay, s/veh		11.7	8.7		20.0	
Approach LOS		B	A		B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.7	30.9		26.8		37.5
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	3.4	13.7		18.7		18.1
Green Ext Time (p_c), s	0.0	11.2		3.1		8.1

Intersection Summary	
HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1834	1117	0	850	480
Future Volume (veh/h)	0	1834	1117	0	850	480
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	2015	1227	0	934	527
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1240	1054
Arrive On Green	0.00	0.52	1.00	0.00	0.36	0.36
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	2015	1227	0	934	527
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	17.7	0.0	0.0	14.4	8.5
Cycle Q Clear(g_c), s	0.0	17.7	0.0	0.0	14.4	8.5
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1240	1054
V/C Ratio(X)	0.00	0.73	0.45	0.00	0.75	0.50
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	11.3	0.0	0.0	16.8	14.9
Incr Delay (d2), s/veh	0.0	1.8	0.5	0.0	2.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.3	0.1	0.0	5.3	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	13.1	0.5	0.0	19.1	15.2
LnGrp LOS	A	B	A	A	B	B
Approach Vol, veh/h		2015	1227		1461	
Approach Delay, s/veh		13.1	0.5		17.7	
Approach LOS		B	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		24.8		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		19.7		16.4		2.0
Green Ext Time (p_c), s		5.9		2.4		6.4

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1744	0	0	1815	382	500
Future Volume (veh/h)	1744	0	0	1815	382	500
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	1896	0	0	1973	415	543
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	1043	842
Arrive On Green	0.55	0.00	0.00	0.55	0.29	0.29
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	1896	0	0	1973	415	543
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	15.0	0.0	0.0	30.9	5.6	9.8
Cycle Q Clear(g_c), s	15.0	0.0	0.0	30.9	5.6	9.8
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	1043	842
V/C Ratio(X)	0.65	0.00	0.00	0.97	0.40	0.65
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.4	0.0	0.0	13.0	17.1	18.6
Incr Delay (d2), s/veh	1.1	0.0	0.0	14.1	0.2	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	4.2	0.0	0.0	12.3	2.1	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.6	0.0	0.0	27.2	17.3	19.6
LnGrp LOS	B	A	A	C	B	B
Approach Vol, veh/h	1896			1973	958	
Approach Delay, s/veh	10.6			27.2	18.6	
Approach LOS	B			C	B	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		36.0				36.0	20.4
Change Period (Y+Rc), s		6.0				6.0	6.0
Max Green Setting (Gmax), s		30.0				30.0	18.0
Max Q Clear Time (g_c+I1), s		17.0				32.9	11.8
Green Ext Time (p_c), s		7.9				0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B

Appendix G – Cumulative (No Project) Conditions Intersection Level of Service Reports

Intersection	
Int Delay, s/veh	11.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	114	373	0	0	503	9	0	0	0	17	0	178
Future Vol, veh/h	114	373	0	0	503	9	0	0	0	17	0	178
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	60	60	60	25	25	25	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	144	472	0	0	838	15	0	0	0	22	0	225

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	853	0	0	472	0	0	1718	1613	472	1606	1606	846
Stage 1	-	-	-	-	-	-	760	760	-	846	846	-
Stage 2	-	-	-	-	-	-	958	853	-	760	760	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	786	-	-	1090	-	-	71	104	592	85	105	362
Stage 1	-	-	-	-	-	-	398	414	-	357	378	-
Stage 2	-	-	-	-	-	-	309	376	-	398	414	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	786	-	-	1090	-	-	23	85	592	73	86	362
Mov Cap-2 Maneuver	-	-	-	-	-	-	23	85	-	73	86	-
Stage 1	-	-	-	-	-	-	325	338	-	292	378	-
Stage 2	-	-	-	-	-	-	117	376	-	325	338	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0	0	76.5
HCM LOS			A	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	786	-	-	1090	-	-	269
HCM Lane V/C Ratio	-	0.184	-	-	-	-	-	0.918
HCM Control Delay (s)	0	10.6	-	-	0	-	-	76.5
HCM Lane LOS	A	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	-	0.7	-	-	0	-	-	8.3

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	383	496	23	60	9
Future Vol, veh/h	1	383	496	23	60	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	35
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	426	551	26	67	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	577	0	-	0	992	564
Stage 1	-	-	-	-	564	-
Stage 2	-	-	-	-	428	-
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	996	-	-	-	272	525
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	657	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	996	-	-	-	272	525
Mov Cap-2 Maneuver	-	-	-	-	272	-
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	657	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	996	-	-	-	272	525
HCM Lane V/C Ratio	0.001	-	-	-	0.245	0.019
HCM Control Delay (s)	8.6	0	-	-	22.5	12
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	127	204	20	29	300	98	830	30	970	1250	287
Future Volume (veh/h)	184	127	204	20	29	300	98	830	30	970	1250	287
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		0.97	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	200	138	222	22	32	326	107	902	33	1054	1359	312
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	474	520	68	345	1395	251	1453	53	1046	2643	773
Arrive On Green	0.10	0.24	0.24	0.04	0.18	0.18	0.07	0.28	0.25	0.29	0.50	0.47
Sat Flow, veh/h	3594	1945	1575	1853	1945	2901	3594	5252	192	3594	5310	1636
Grp Volume(v), veh/h	200	138	222	22	32	326	107	607	328	1054	1359	312
Grp Sat Flow(s),veh/h/ln	1797	1945	1575	1853	1945	1451	1797	1770	1904	1797	1770	1636
Q Serve(g_s), s	4.2	4.6	8.7	0.9	1.1	5.2	2.3	11.8	11.9	23.0	13.7	9.8
Cycle Q Clear(g_c), s	4.2	4.6	8.7	0.9	1.1	5.2	2.3	11.8	11.9	23.0	13.7	9.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	372	474	520	68	345	1395	251	979	527	1046	2643	773
V/C Ratio(X)	0.54	0.29	0.43	0.32	0.09	0.23	0.43	0.62	0.62	1.01	0.51	0.40
Avail Cap(c_a), veh/h	455	763	754	187	714	1945	364	1164	626	1046	2754	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	24.3	20.9	37.1	27.2	12.0	35.2	25.0	25.1	28.0	13.4	13.6
Incr Delay (d2), s/veh	0.4	0.1	0.2	1.0	0.0	0.0	0.4	1.4	2.7	29.8	0.3	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	1.8	2.0	3.0	0.4	0.5	1.5	0.9	4.7	5.3	13.2	4.6	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	24.5	21.1	38.1	27.3	12.0	35.7	26.4	27.8	57.8	13.7	14.3
LnGrp LOS	C	C	C	D	C	B	D	C	C	F	B	B
Approach Vol, veh/h		560			380			1042			2725	
Approach Delay, s/veh		26.6			14.8			27.8			30.8	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	24.9	11.2	17.0	8.5	42.3	5.9	22.3
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	25.0	13.9	6.2	7.2	4.3	15.7	2.9	10.7
Green Ext Time (p_c), s	0.0	4.9	0.1	1.0	0.0	15.6	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	490	0	808	0	0	0	0	996	318	0	1699	0
Future Volume (veh/h)	490	0	808	0	0	0	0	996	318	0	1699	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	538	0	888				0	1048	335	0	1788	0
Peak Hour Factor	0.91	0.91	0.91				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1357	0	1095				0	2947	909	0	2051	0
Arrive On Green	0.38	0.00	0.38				0.00	0.56	0.56	0.00	0.56	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1638	0	3890	0
Grp Volume(v), veh/h	538	0	888				0	1048	335	0	1788	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1638	0	1848	0
Q Serve(g_s), s	9.7	0.0	24.4				0.0	9.7	10.2	0.0	37.1	0.0
Cycle Q Clear(g_c), s	9.7	0.0	24.4				0.0	9.7	10.2	0.0	37.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1357	0	1095				0	2947	909	0	2051	0
V/C Ratio(X)	0.40	0.00	0.81				0.00	0.36	0.37	0.00	0.87	0.00
Avail Cap(c_a), veh/h	1617	0	1305				0	3225	995	0	2244	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	20.3	0.0	24.8				0.0	11.0	11.1	0.0	17.1	0.0
Incr Delay (d2), s/veh	0.2	0.0	3.4				0.0	0.1	0.2	0.0	3.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	8.4				0.0	3.2	3.2	0.0	13.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	28.2				0.0	11.0	11.3	0.0	20.9	0.0
LnGrp LOS	C	A	C				A	B	B	A	C	A
Approach Vol, veh/h		1426						1383			1788	
Approach Delay, s/veh		25.3						11.1			20.9	
Approach LOS		C						B			C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		52.4		36.6		52.4
Change Period (Y+Rc), s		6.0		4.0		6.0
Max Green Setting (Gmax), s		51.0		39.0		51.0
Max Q Clear Time (g_c+I1), s		12.2		26.4		39.1
Green Ext Time (p_c), s		7.7		6.2		7.3

Intersection Summary		
HCM 6th Ctrl Delay		19.3
HCM 6th LOS		B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	689	890	1179	0	0	1570
Future Volume (veh/h)	689	890	1179	0	0	1570
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	783	1011	1310	0	0	1725
Peak Hour Factor	0.88	0.88	0.90	0.90	0.91	0.91
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1646	1329	2542	0	0	1769
Arrive On Green	0.46	0.46	0.48	0.00	0.00	0.48
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	783	1011	1310	0	0	1725
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	14.3	27.5	16.2	0.0	0.0	43.3
Cycle Q Clear(g_c), s	14.3	27.5	16.2	0.0	0.0	43.3
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1646	1329	2542	0	0	1769
V/C Ratio(X)	0.48	0.76	0.52	0.00	0.00	0.97
Avail Cap(c_a), veh/h	2600	2099	2542	0	0	1769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	17.8	21.4	17.1	0.0	0.0	24.2
Incr Delay (d2), s/veh	0.2	0.9	0.2	0.0	0.0	15.8
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	8.6	5.9	0.0	0.0	20.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.0	22.3	17.3	0.0	0.0	40.0
LnGrp LOS	B	C	B	A	A	D
Approach Vol, veh/h	1794		1310			1725
Approach Delay, s/veh	20.4		17.3			40.0
Approach LOS	C		B			D

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		48.4				48.4	46.4
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		18.2				45.3	29.5
Green Ext Time (p_c), s		7.0				0.0	12.8

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	40	60	220	60	419	30	409	110	426	428	10
Future Volume (veh/h)	20	40	60	220	60	419	30	409	110	426	428	10
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		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	22	44	67	244	67	466	33	454	122	473	476	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	152	232	310	688	1568	86	1016	403	618	1479	598
Arrive On Green	0.04	0.22	0.20	0.17	0.35	0.35	0.05	0.27	0.25	0.17	0.40	0.37
Sat Flow, veh/h	1853	679	1034	1853	1945	2803	1853	3696	1625	3594	3696	1601
Grp Volume(v), veh/h	22	0	111	244	67	466	33	454	122	473	476	11
Grp Sat Flow(s),veh/h/ln	1853	0	1713	1853	1945	1401	1853	1848	1625	1797	1848	1601
Q Serve(g_s), s	0.9	0.0	4.1	9.4	1.7	6.6	1.3	7.6	4.5	9.3	6.6	0.3
Cycle Q Clear(g_c), s	0.9	0.0	4.1	9.4	1.7	6.6	1.3	7.6	4.5	9.3	6.6	0.3
Prop In Lane	1.00		0.60	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	70	0	384	310	688	1568	86	1016	403	618	1479	598
V/C Ratio(X)	0.31	0.00	0.29	0.79	0.10	0.30	0.38	0.45	0.30	0.77	0.32	0.02
Avail Cap(c_a), veh/h	199	0	645	374	915	1896	224	1441	590	773	1789	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	0.0	24.4	29.7	16.1	8.9	34.4	22.3	22.7	29.4	15.4	14.7
Incr Delay (d2), s/veh	0.9	0.0	0.2	7.2	0.0	0.0	1.0	0.7	0.9	2.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.6	4.5	0.7	1.8	0.6	3.0	1.8	3.9	2.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	0.0	24.6	36.9	16.1	9.0	35.4	22.9	23.6	32.0	15.6	14.7
LnGrp LOS	D	A	C	D	B	A	D	C	C	C	B	B
Approach Vol, veh/h		133			777			609			960	
Approach Delay, s/veh		26.4			18.4			23.8			23.7	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.8	23.4	5.8	29.3	6.5	32.8	15.4	19.7
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	11.3	9.6	2.9	8.6	3.3	8.6	11.4	6.1
Green Ext Time (p_c), s	0.5	2.9	0.0	1.4	0.0	4.5	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

User approved changes to right turn type.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	736	1179	1460	260	60
Future Volume (veh/h)	50	736	1179	1460	260	60
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	53	775	1241	1537	225	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	117	2808	2530	2580	547	221
Arrive On Green	0.06	0.76	0.65	0.63	0.15	0.13
Sat Flow, veh/h	1853	3793	3890	3297	3705	1675
Grp Volume(v), veh/h	53	775	1241	1537	225	116
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1648	1853	1675
Q Serve(g_s), s	1.8	4.1	10.6	12.3	3.6	4.2
Cycle Q Clear(g_c), s	1.8	4.1	10.6	12.3	3.6	4.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	117	2808	2530	2580	547	221
V/C Ratio(X)	0.45	0.28	0.49	0.60	0.41	0.52
Avail Cap(c_a), veh/h	229	3943	3488	3392	1432	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	2.4	5.8	2.9	25.0	26.2
Incr Delay (d2), s/veh	2.7	0.1	0.1	0.2	0.5	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.5	2.5	4.4	1.5	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.0	2.4	6.0	3.1	25.5	28.1
LnGrp LOS	C	A	A	A	C	C
Approach Vol, veh/h		828	2778		341	
Approach Delay, s/veh		4.3	4.4		26.4	
Approach LOS		A	A		C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.1	45.1		12.5		52.1
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	3.8	14.3		6.2		6.1
Green Ext Time (p_c), s	0.0	24.8		1.4		3.9

Intersection Summary	
HCM 6th Ctrl Delay	6.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	787	1609	0	1150	1030
Future Volume (veh/h)	0	787	1609	0	1150	1030
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	828	1694	0	1211	1084
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1309	1112
Arrive On Green	0.00	0.52	1.00	0.00	0.38	0.38
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	828	1694	0	1211	1084
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	5.4	0.0	0.0	20.3	22.1
Cycle Q Clear(g_c), s	0.0	5.4	0.0	0.0	20.3	22.1
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1309	1112
V/C Ratio(X)	0.00	0.30	0.62	0.00	0.93	0.97
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.3	0.0	0.0	17.7	18.2
Incr Delay (d2), s/veh	0.0	0.3	1.1	0.0	11.3	21.0
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	1.5	0.3	0.0	8.8	9.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	8.6	1.1	0.0	28.9	39.2
LnGrp LOS	A	A	A	A	C	D
Approach Vol, veh/h		828	1694		2295	
Approach Delay, s/veh		8.6	1.1		33.8	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		26.0		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		7.4		24.1		2.0
Green Ext Time (p_c), s		3.8		0.0		9.9

Intersection Summary		
HCM 6th Ctrl Delay		18.0
HCM 6th LOS		B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1667	0	0	1459	560	870
Future Volume (veh/h)	1667	0	0	1459	560	870
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	1812	0	0	1586	700	1088
Peak Hour Factor	0.92	0.92	0.92	0.92	0.80	0.80
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	1258	1015
Arrive On Green	0.55	0.00	0.00	0.55	0.35	0.35
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	1812	0	0	1586	700	1088
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	14.0	0.0	0.0	20.3	9.4	21.0
Cycle Q Clear(g_c), s	14.0	0.0	0.0	20.3	9.4	21.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	1258	1015
V/C Ratio(X)	0.62	0.00	0.00	0.78	0.56	1.07
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.2	0.0	0.0	10.6	15.7	19.5
Incr Delay (d2), s/veh	1.0	0.0	0.0	3.0	0.5	49.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	0.0	6.3	3.4	13.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.2	0.0	0.0	13.7	16.3	68.9
LnGrp LOS	B	A	A	B	B	F
Approach Vol, veh/h	1812			1586	1788	
Approach Delay, s/veh	10.2			13.7	48.3	
Approach LOS	B			B	D	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	36.0	36.0	24.0
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	30.0	30.0	18.0
Max Q Clear Time (g_c+I1), s	16.0	22.3	23.0
Green Ext Time (p_c), s	7.9	4.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	319	882	0	0	144	13	0	0	0	3	0	64
Future Vol, veh/h	319	882	0	0	144	13	0	0	0	3	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	86	86	86	25	25	25	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	332	919	0	0	167	15	0	0	0	3	0	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	182	0	0	919	0	0	1794	1765	919	1758	1758	175
Stage 1	-	-	-	-	-	-	1583	1583	-	175	175	-
Stage 2	-	-	-	-	-	-	211	182	-	1583	1583	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1393	-	-	743	-	-	62	84	329	66	85	868
Stage 1	-	-	-	-	-	-	136	169	-	827	754	-
Stage 2	-	-	-	-	-	-	791	749	-	136	169	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1393	-	-	743	-	-	46	64	329	54	65	868
Mov Cap-2 Maneuver	-	-	-	-	-	-	46	64	-	54	65	-
Stage 1	-	-	-	-	-	-	104	129	-	630	754	-
Stage 2	-	-	-	-	-	-	725	749	-	104	129	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0	0	13.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1393	-	-	743	-	-	518
HCM Lane V/C Ratio	-	0.239	-	-	-	-	-	0.145
HCM Control Delay (s)	0	8.4	-	-	0	-	-	13.1
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.9	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	875	137	44	27	4
Future Vol, veh/h	7	875	137	44	27	4
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	35
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	90	90	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	951	152	49	36	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	201	0	-	0	1144	177
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	967	-
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	1371	-	-	-	221	866
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	369	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1371	-	-	-	218	866
Mov Cap-2 Maneuver	-	-	-	-	218	-
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	369	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	22.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1371	-	-	-	218	866
HCM Lane V/C Ratio	0.006	-	-	-	0.165	0.006
HCM Control Delay (s)	7.6	0	-	-	24.8	9.2
HCM Lane LOS	A	A	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	392	77	697	30	85	1040	158	1380	30	400	1030	147
Future Volume (veh/h)	392	77	697	30	85	1040	158	1380	30	400	1030	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.96	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	431	85	766	33	93	1143	174	1516	33	440	1132	162
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	748	770	78	617	1411	284	1518	33	569	1930	550
Arrive On Green	0.11	0.38	0.38	0.04	0.32	0.32	0.08	0.28	0.26	0.16	0.36	0.34
Sat Flow, veh/h	3594	1945	1616	1853	1945	2901	3594	5343	116	3594	5310	1611
Grp Volume(v), veh/h	431	85	766	33	93	1143	174	1005	544	440	1132	162
Grp Sat Flow(s),veh/h/ln	1797	1945	1616	1853	1945	1451	1797	1770	1919	1797	1770	1611
Q Serve(g_s), s	10.0	2.6	35.2	1.6	3.1	29.0	4.3	25.9	25.9	10.7	15.8	6.7
Cycle Q Clear(g_c), s	10.0	2.6	35.2	1.6	3.1	29.0	4.3	25.9	25.9	10.7	15.8	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	393	748	770	78	617	1411	284	1006	545	569	1930	550
V/C Ratio(X)	1.10	0.11	1.00	0.42	0.15	0.81	0.61	1.00	1.00	0.77	0.59	0.29
Avail Cap(c_a), veh/h	393	748	770	162	617	1411	314	1006	545	904	2380	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	18.1	24.0	42.7	22.4	19.9	40.8	32.7	32.8	36.9	23.6	22.0
Incr Delay (d2), s/veh	74.2	0.0	31.2	1.4	0.0	3.4	1.8	28.0	38.1	0.9	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	1.1	21.9	0.8	1.4	10.2	1.9	14.2	16.9	4.5	6.2	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	114.9	18.2	55.2	44.1	22.4	23.3	42.5	60.7	70.9	37.8	24.2	22.7
LnGrp LOS	F	B	E	D	C	C	D	E	E	D	C	C
Approach Vol, veh/h		1282			1269			1723			1734	
Approach Delay, s/veh		72.8			23.8			62.1			27.5	
Approach LOS		E			C			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	29.0	13.0	32.0	10.2	36.2	6.8	38.2
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	12.7	27.9	12.0	31.0	6.3	17.8	3.6	37.2
Green Ext Time (p_c), s	0.7	0.0	0.0	0.0	0.0	11.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.3
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	700	0	513	0	0	0	0	2174	638	0	1064	0
Future Volume (veh/h)	700	0	513	0	0	0	0	2174	638	0	1064	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	753	0	552				0	2338	686	0	1144	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1122	0	905				0	3248	985	0	2260	0
Arrive On Green	0.31	0.00	0.31				0.00	0.61	0.61	0.00	0.61	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1611	0	3890	0
Grp Volume(v), veh/h	753	0	552				0	2338	686	0	1144	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1611	0	1848	0
Q Serve(g_s), s	14.3	0.0	12.7				0.0	24.0	22.7	0.0	13.7	0.0
Cycle Q Clear(g_c), s	14.3	0.0	12.7				0.0	24.0	22.7	0.0	13.7	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1122	0	905				0	3248	985	0	2260	0
V/C Ratio(X)	0.67	0.00	0.61				0.00	0.72	0.70	0.00	0.51	0.00
Avail Cap(c_a), veh/h	1829	0	1476				0	3648	1106	0	2539	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	23.5	0.0	23.0				0.0	10.6	10.3	0.0	8.6	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.7				0.0	0.6	1.7	0.0	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
%ile BackOfQ(50%),veh/ln	5.8	0.0	4.1				0.0	7.0	6.3	0.0	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	0.0	23.6				0.0	11.2	12.0	0.0	8.8	0.0
LnGrp LOS	C	A	C				A	B	B	A	A	A
Approach Vol, veh/h		1305						3024			1144	
Approach Delay, s/veh		24.0						11.4			8.8	
Approach LOS		C						B			A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		51.1		27.5		51.1
Change Period (Y+Rc), s		6.0		4.0		6.0
Max Green Setting (Gmax), s		51.0		39.0		51.0
Max Q Clear Time (g_c+I1), s		26.0		16.3		15.7
Green Ext Time (p_c), s		19.1		7.2		6.3

Intersection Summary	
HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	296	780	1977	0	0	1028
Future Volume (veh/h)	296	780	1977	0	0	1028
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	312	821	2081	0	0	1082
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1396	1127	2785	0	0	1938
Arrive On Green	0.39	0.39	0.52	0.00	0.00	0.52
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	312	821	2081	0	0	1082
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	4.0	16.6	21.1	0.0	0.0	13.5
Cycle Q Clear(g_c), s	4.0	16.6	21.1	0.0	0.0	13.5
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1396	1127	2785	0	0	1938
V/C Ratio(X)	0.22	0.73	0.75	0.00	0.00	0.56
Avail Cap(c_a), veh/h	3586	2895	3507	0	0	2440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	14.1	17.9	12.8	0.0	0.0	11.0
Incr Delay (d2), s/veh	0.1	0.9	0.7	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	4.9	6.5	0.0	0.0	4.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.2	18.9	13.5	0.0	0.0	11.2
LnGrp LOS	B	B	B	A	A	B
Approach Vol, veh/h	1133		2081			1082
Approach Delay, s/veh	17.6		13.5			11.2
Approach LOS	B		B			B

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		39.1				39.1	29.7
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		23.1				15.5	18.6
Green Ext Time (p_c), s		11.9				5.6	7.0

Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	110	60	200	80	683	30	315	90	474	497	20
Future Volume (veh/h)	20	110	60	200	80	683	30	315	90	474	497	20
Initial Q (Qb), veh	0	0	0	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	22	122	67	222	89	759	33	350	100	527	552	22
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	221	122	305	601	1582	98	877	327	723	1424	578
Arrive On Green	0.04	0.19	0.15	0.16	0.31	0.31	0.05	0.24	0.20	0.20	0.39	0.35
Sat Flow, veh/h	1853	1180	648	1853	1945	2901	1853	3696	1615	3594	3696	1648
Grp Volume(v), veh/h	22	0	189	222	89	759	33	350	100	527	552	22
Grp Sat Flow(s),veh/h/ln	1853	0	1828	1853	1945	1451	1853	1848	1615	1797	1848	1648
Q Serve(g_s), s	0.7	0.0	5.4	6.5	1.9	9.2	1.0	4.6	3.0	7.9	6.2	0.5
Cycle Q Clear(g_c), s	0.7	0.0	5.4	6.5	1.9	9.2	1.0	4.6	3.0	7.9	6.2	0.5
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	80	0	343	305	601	1582	98	877	327	723	1424	578
V/C Ratio(X)	0.27	0.00	0.55	0.73	0.15	0.48	0.34	0.40	0.31	0.73	0.39	0.04
Avail Cap(c_a), veh/h	259	0	893	485	1188	2456	291	1870	761	1003	2321	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	21.4	22.7	14.3	8.0	26.2	18.4	19.4	21.4	12.7	12.3
Incr Delay (d2), s/veh	0.7	0.0	0.5	1.2	0.0	0.1	0.7	0.6	1.1	0.8	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	0.3	0.0	2.3	2.6	0.7	2.4	0.4	1.7	1.2	2.9	2.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	0.0	22.0	24.0	14.4	8.1	26.9	19.1	20.6	22.3	13.1	12.3
LnGrp LOS	C	A	C	C	B	A	C	B	C	C	B	B
Approach Vol, veh/h		211			1070			483			1101	
Approach Delay, s/veh		22.5			11.9			19.9			17.5	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.5	16.6	5.5	20.7	6.0	25.1	12.5	13.7
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	9.9	6.6	2.7	11.2	3.0	8.2	8.5	7.4
Green Ext Time (p_c), s	0.7	2.3	0.0	2.3	0.0	5.4	0.2	0.3

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	1204	1073	640	1450	70
Future Volume (veh/h)	40	1204	1073	640	1450	70
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	43	1295	1495	460	1629	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	103	2054	2663	1296	1980	572
Arrive On Green	0.06	0.56	0.46	0.44	0.36	0.00
Sat Flow, veh/h	1853	3793	5836	1605	5558	1675
Grp Volume(v), veh/h	43	1295	1495	460	1629	0
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1605	1853	1675
Q Serve(g_s), s	1.5	16.3	12.8	5.5	18.2	0.0
Cycle Q Clear(g_c), s	1.5	16.3	12.8	5.5	18.2	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	103	2054	2663	1296	1980	572
V/C Ratio(X)	0.42	0.63	0.56	0.35	0.82	0.00
Avail Cap(c_a), veh/h	217	3738	4961	1928	2036	589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.2	10.4	13.6	2.0	20.0	0.0
Incr Delay (d2), s/veh	2.7	0.3	0.2	0.2	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.2	4.5	4.6	7.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.8	10.7	13.7	2.1	22.8	0.0
LnGrp LOS	C	B	B	A	C	A
Approach Vol, veh/h		1338	1955		1629	
Approach Delay, s/veh		11.4	11.0		22.8	
Approach LOS		B	B		C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.8	34.1		27.3		40.9
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	3.5	14.8		20.2		18.3
Green Ext Time (p_c), s	0.0	13.4		2.1		8.0

Intersection Summary	
HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1836	1193	0	850	520
Future Volume (veh/h)	0	1836	1193	0	850	520
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	2018	1311	0	934	571
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1242	1056
Arrive On Green	0.00	0.52	1.00	0.00	0.36	0.36
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	2018	1311	0	934	571
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	17.8	0.0	0.0	14.4	9.4
Cycle Q Clear(g_c), s	0.0	17.8	0.0	0.0	14.4	9.4
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1242	1056
V/C Ratio(X)	0.00	0.74	0.48	0.00	0.75	0.54
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	11.3	0.0	0.0	16.7	15.1
Incr Delay (d2), s/veh	0.0	1.8	0.6	0.0	2.4	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	0.0	5.3	0.2	0.0	5.2	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	13.1	0.6	0.0	19.1	15.6
LnGrp LOS	A	B	A	A	B	B
Approach Vol, veh/h		2018	1311		1505	
Approach Delay, s/veh		13.1	0.6		17.8	
Approach LOS		B	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		24.8		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		19.8		16.4		2.0
Green Ext Time (p_c), s		5.9		2.5		7.0

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1746	0	0	2005	408	500
Future Volume (veh/h)	1746	0	0	2005	408	500
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	1919	0	0	2179	443	543
Peak Hour Factor	0.91	0.91	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	1046	845
Arrive On Green	0.55	0.00	0.00	0.55	0.29	0.29
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	1919	0	0	2179	443	543
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	15.3	0.0	0.0	33.0	6.0	9.8
Cycle Q Clear(g_c), s	15.3	0.0	0.0	33.0	6.0	9.8
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	1046	845
V/C Ratio(X)	0.66	0.00	0.00	1.07	0.42	0.64
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.5	0.0	0.0	13.5	17.2	18.5
Incr Delay (d2), s/veh	1.2	0.0	0.0	42.5	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	20.8	2.2	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.7	0.0	0.0	56.0	17.5	19.6
LnGrp LOS	B	A	A	F	B	B
Approach Vol, veh/h	1919			2179	986	
Approach Delay, s/veh	10.7			56.0	18.6	
Approach LOS	B			E	B	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		36.0				36.0	20.5
Change Period (Y+Rc), s		6.0				6.0	6.0
Max Green Setting (Gmax), s		30.0				30.0	18.0
Max Q Clear Time (g_c+I1), s		17.3				35.0	11.8
Green Ext Time (p_c), s		7.8				0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	31.6
HCM 6th LOS	C

Appendix H – Cumulative Conditions (with Project) Intersection Level of Service Reports

Intersection	
Int Delay, s/veh	12.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	114	374	0	0	505	9	0	0	0	17	0	178
Future Vol, veh/h	114	374	0	0	505	9	0	0	0	17	0	178
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	60	60	60	25	25	25	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	144	473	0	0	842	15	0	0	0	22	0	225

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	857	0	0	473	0	0	1723	1618	473	1611	1611	850
Stage 1	-	-	-	-	-	-	761	761	-	850	850	-
Stage 2	-	-	-	-	-	-	962	857	-	761	761	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	783	-	-	1089	-	-	70	103	591	84	104	360
Stage 1	-	-	-	-	-	-	398	414	-	355	377	-
Stage 2	-	-	-	-	-	-	308	374	-	398	414	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	783	-	-	1089	-	-	22	84	591	72	85	360
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	84	-	72	85	-
Stage 1	-	-	-	-	-	-	325	338	-	290	377	-
Stage 2	-	-	-	-	-	-	115	374	-	325	338	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0	0	78.3
HCM LOS			A	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	783	-	-	1089	-	-	267
HCM Lane V/C Ratio	-	0.184	-	-	-	-	-	0.924
HCM Control Delay (s)	0	10.6	-	-	0	-	-	78.3
HCM Lane LOS	A	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	-	0.7	-	-	0	-	-	8.4

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	468	1	4	527	2	14
Future Vol, veh/h	468	1	4	527	2	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	50	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	520	1	4	586	2	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	521	0	1114	520
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	594	-
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	-	-	1045	-	230	556
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	552	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1045	-	229	556
Mov Cap-2 Maneuver	-	-	-	-	229	-
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	550	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	229	556	-	-	1045	-
HCM Lane V/C Ratio	0.01	0.028	-	-	0.004	-
HCM Control Delay (s)	20.9	11.7	-	-	8.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	397	500	23	60	9
Future Volume (vph)	1	397	500	23	60	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8		5.8	5.8
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1829	1925	1913		1829	1636
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1829	1925	1913		1829	1636
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	441	556	26	67	10
RTOR Reduction (vph)	0	0	1	0	0	9
Lane Group Flow (vph)	1	441	581	0	67	1
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Actuated Green, G (s)	0.6	40.5	34.1		6.8	6.8
Effective Green, g (s)	0.6	40.5	34.1		6.8	6.8
Actuated g/C Ratio	0.01	0.64	0.54		0.11	0.11
Clearance Time (s)	5.8	5.8	5.8		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	17	1233	1032		196	176
v/s Ratio Prot	0.00	c0.23	c0.30		c0.04	
v/s Ratio Perm						0.00
v/c Ratio	0.06	0.36	0.56		0.34	0.01
Uniform Delay, d1	31.0	5.3	9.6		26.1	25.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.5	0.2	0.7		1.0	0.0
Delay (s)	32.5	5.5	10.3		27.2	25.2
Level of Service	C	A	B		C	C
Approach Delay (s)		5.5	10.3		26.9	
Approach LOS		A	B		C	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	19.4
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	130	209	20	30	300	100	830	30	970	1250	289
Future Volume (veh/h)	190	130	209	20	30	300	100	830	30	970	1250	289
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		0.97	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	207	141	227	22	33	326	109	902	33	1054	1359	314
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	379	477	523	68	344	1392	252	1450	53	1043	2636	771
Arrive On Green	0.11	0.25	0.25	0.04	0.18	0.18	0.07	0.28	0.25	0.29	0.50	0.47
Sat Flow, veh/h	3594	1945	1576	1853	1945	2901	3594	5252	192	3594	5310	1636
Grp Volume(v), veh/h	207	141	227	22	33	326	109	607	328	1054	1359	314
Grp Sat Flow(s),veh/h/ln	1797	1945	1576	1853	1945	1451	1797	1770	1904	1797	1770	1636
Q Serve(g_s), s	4.3	4.7	9.0	0.9	1.1	5.2	2.3	11.9	11.9	23.0	13.7	10.0
Cycle Q Clear(g_c), s	4.3	4.7	9.0	0.9	1.1	5.2	2.3	11.9	11.9	23.0	13.7	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	379	477	523	68	344	1392	252	977	526	1043	2636	771
V/C Ratio(X)	0.55	0.30	0.43	0.32	0.10	0.23	0.43	0.62	0.62	1.01	0.52	0.41
Avail Cap(c_a), veh/h	454	761	753	187	712	1941	363	1162	625	1043	2748	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	24.3	20.9	37.2	27.3	12.1	35.3	25.1	25.2	28.1	13.5	13.7
Incr Delay (d2), s/veh	0.5	0.1	0.2	1.0	0.0	0.0	0.4	1.5	2.7	30.4	0.3	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	1.8	2.1	3.1	0.4	0.5	1.5	1.0	4.7	5.3	13.3	4.7	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	24.5	21.1	38.2	27.4	12.1	35.8	26.5	27.9	58.5	13.8	14.5
LnGrp LOS	C	C	C	D	C	B	D	C	C	F	B	B
Approach Vol, veh/h		575			381			1044			2727	
Approach Delay, s/veh		26.6			14.9			27.9			31.2	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	24.9	11.3	17.0	8.5	42.3	5.9	22.4
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	25.0	13.9	6.3	7.2	4.3	15.7	2.9	11.0
Green Ext Time (p_c), s	0.0	4.9	0.1	1.0	0.0	15.6	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	490	0	809	0	0	0	0	1000	320	0	1700	0
Future Volume (veh/h)	490	0	809	0	0	0	0	1000	320	0	1700	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	538	0	889				0	1053	337	0	1789	0
Peak Hour Factor	0.91	0.91	0.91				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1357	0	1096				0	2947	909	0	2051	0
Arrive On Green	0.38	0.00	0.38				0.00	0.55	0.55	0.00	0.55	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1638	0	3890	0
Grp Volume(v), veh/h	538	0	889				0	1053	337	0	1789	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1638	0	1848	0
Q Serve(g_s), s	9.8	0.0	24.5				0.0	9.8	10.3	0.0	37.2	0.0
Cycle Q Clear(g_c), s	9.8	0.0	24.5				0.0	9.8	10.3	0.0	37.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1357	0	1096				0	2947	909	0	2051	0
V/C Ratio(X)	0.40	0.00	0.81				0.00	0.36	0.37	0.00	0.87	0.00
Avail Cap(c_a), veh/h	1615	0	1303				0	3221	994	0	2242	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	20.3	0.0	24.9				0.0	11.0	11.1	0.0	17.1	0.0
Incr Delay (d2), s/veh	0.2	0.0	3.4				0.0	0.1	0.3	0.0	3.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	8.4				0.0	3.3	3.2	0.0	14.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	28.3				0.0	11.1	11.4	0.0	20.9	0.0
LnGrp LOS	C	A	C				A	B	B	A	C	A
Approach Vol, veh/h		1427						1390			1789	
Approach Delay, s/veh		25.3						11.1			20.9	
Approach LOS		C						B			C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		52.4		36.6		52.4
Change Period (Y+Rc), s		6.0		4.0		6.0
Max Green Setting (Gmax), s		51.0		39.0		51.0
Max Q Clear Time (g_c+I1), s		12.3		26.5		39.2
Green Ext Time (p_c), s		7.8		6.1		7.2

Intersection Summary		
HCM 6th Ctrl Delay		19.3
HCM 6th LOS		B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	690	890	1180	0	0	1053
Future Volume (veh/h)	690	890	1180	0	0	1053
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	784	1011	1311	0	0	1157
Peak Hour Factor	0.88	0.88	0.90	0.90	0.91	0.91
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1825	1473	2146	0	0	1494
Arrive On Green	0.51	0.51	0.40	0.00	0.00	0.40
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	784	1011	1311	0	0	1157
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	9.3	17.9	13.3	0.0	0.0	18.5
Cycle Q Clear(g_c), s	9.3	17.9	13.3	0.0	0.0	18.5
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1825	1473	2146	0	0	1494
V/C Ratio(X)	0.43	0.69	0.61	0.00	0.00	0.77
Avail Cap(c_a), veh/h	3623	2925	3543	0	0	2466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	10.5	12.7	16.0	0.0	0.0	17.6
Incr Delay (d2), s/veh	0.2	0.6	0.3	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	3.0	4.7	4.5	0.0	0.0	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.7	13.2	16.3	0.0	0.0	18.5
LnGrp LOS	B	B	B	A	A	B
Approach Vol, veh/h	1795		1311			1157
Approach Delay, s/veh	12.1		16.3			18.5
Approach LOS	B		B			B

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		30.5				30.5	37.5
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		15.3				20.5	19.9
Green Ext Time (p_c), s		7.2				5.9	13.5

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	40	60	220	60	420	30	410	110	430	429	10
Future Volume (veh/h)	20	40	60	220	60	420	30	410	110	430	429	10
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		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	22	44	67	244	67	467	33	456	122	478	477	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	152	232	310	687	1570	86	1016	403	622	1483	600
Arrive On Green	0.04	0.22	0.20	0.17	0.35	0.35	0.05	0.27	0.25	0.17	0.40	0.37
Sat Flow, veh/h	1853	679	1034	1853	1945	2803	1853	3696	1625	3594	3696	1601
Grp Volume(v), veh/h	22	0	111	244	67	467	33	456	122	478	477	11
Grp Sat Flow(s),veh/h/ln	1853	0	1713	1853	1945	1401	1853	1848	1625	1797	1848	1601
Q Serve(g_s), s	0.9	0.0	4.1	9.4	1.7	6.7	1.3	7.6	4.6	9.5	6.6	0.3
Cycle Q Clear(g_c), s	0.9	0.0	4.1	9.4	1.7	6.7	1.3	7.6	4.6	9.5	6.6	0.3
Prop In Lane	1.00		0.60	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	70	0	384	310	687	1570	86	1016	403	622	1483	600
V/C Ratio(X)	0.31	0.00	0.29	0.79	0.10	0.30	0.38	0.45	0.30	0.77	0.32	0.02
Avail Cap(c_a), veh/h	199	0	643	372	912	1895	223	1436	588	771	1783	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	24.5	29.8	16.2	8.9	34.5	22.4	22.8	29.4	15.4	14.7
Incr Delay (d2), s/veh	0.9	0.0	0.2	7.3	0.0	0.0	1.0	0.7	0.9	2.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.6	4.5	0.7	1.9	0.6	3.1	1.8	4.0	2.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.9	0.0	24.7	37.1	16.2	9.0	35.6	23.0	23.7	32.2	15.6	14.7
LnGrp LOS	D	A	C	D	B	A	D	C	C	C	B	B
Approach Vol, veh/h		133			778			611			966	
Approach Delay, s/veh		26.5			18.4			23.9			23.8	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.9	23.5	5.8	29.4	6.5	32.9	15.5	19.7
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	11.5	9.6	2.9	8.7	3.3	8.6	11.4	6.1
Green Ext Time (p_c), s	0.5	2.9	0.0	1.4	0.0	4.5	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

Notes

User approved changes to right turn type.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	740	1180	1460	260	60
Future Volume (veh/h)	50	740	1180	1460	260	60
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	53	779	1242	1537	225	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	117	2808	2530	2580	547	221
Arrive On Green	0.06	0.76	0.65	0.63	0.15	0.13
Sat Flow, veh/h	1853	3793	3890	3297	3705	1675
Grp Volume(v), veh/h	53	779	1242	1537	225	116
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1648	1853	1675
Q Serve(g_s), s	1.8	4.2	10.6	12.3	3.6	4.2
Cycle Q Clear(g_c), s	1.8	4.2	10.6	12.3	3.6	4.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	117	2808	2530	2580	547	221
V/C Ratio(X)	0.45	0.28	0.49	0.60	0.41	0.52
Avail Cap(c_a), veh/h	229	3942	3488	3391	1432	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	2.4	5.8	2.9	25.0	26.2
Incr Delay (d2), s/veh	2.8	0.1	0.1	0.2	0.5	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.5	2.6	4.4	1.5	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.0	2.4	6.0	3.1	25.5	28.1
LnGrp LOS	C	A	A	A	C	C
Approach Vol, veh/h		832	2779		341	
Approach Delay, s/veh		4.3	4.4		26.4	
Approach LOS		A	A		C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.1	45.1		12.5		52.2
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	3.8	14.3		6.2		6.2
Green Ext Time (p_c), s	0.0	24.8		1.4		3.9

Intersection Summary	
HCM 6th Ctrl Delay	6.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	790	1610	0	1150	1030
Future Volume (veh/h)	0	790	1610	0	1150	1030
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	832	1695	0	1211	1084
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1309	1112
Arrive On Green	0.00	0.52	1.00	0.00	0.38	0.38
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	832	1695	0	1211	1084
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	5.4	0.0	0.0	20.3	22.1
Cycle Q Clear(g_c), s	0.0	5.4	0.0	0.0	20.3	22.1
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1309	1112
V/C Ratio(X)	0.00	0.30	0.62	0.00	0.93	0.97
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.3	0.0	0.0	17.7	18.2
Incr Delay (d2), s/veh	0.0	0.3	1.1	0.0	11.3	21.0
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	1.6	0.3	0.0	8.8	9.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	8.6	1.1	0.0	28.9	39.2
LnGrp LOS	A	A	A	A	C	D
Approach Vol, veh/h		832	1695		2295	
Approach Delay, s/veh		8.6	1.1		33.8	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		26.0		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		7.4		24.1		2.0
Green Ext Time (p_c), s		3.8		0.0		9.9

Intersection Summary		
HCM 6th Ctrl Delay		17.9
HCM 6th LOS		B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1670	0	0	1460	560	870
Future Volume (veh/h)	1670	0	0	1460	560	870
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	1815	0	0	1587	700	1088
Peak Hour Factor	0.92	0.92	0.92	0.92	0.80	0.80
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	1258	1015
Arrive On Green	0.55	0.00	0.00	0.55	0.35	0.35
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	1815	0	0	1587	700	1088
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	14.0	0.0	0.0	20.3	9.4	21.0
Cycle Q Clear(g_c), s	14.0	0.0	0.0	20.3	9.4	21.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	1258	1015
V/C Ratio(X)	0.62	0.00	0.00	0.78	0.56	1.07
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.2	0.0	0.0	10.6	15.7	19.5
Incr Delay (d2), s/veh	1.0	0.0	0.0	3.1	0.5	49.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	0.0	6.3	3.4	13.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.2	0.0	0.0	13.7	16.3	68.9
LnGrp LOS	B	A	A	B	B	F
Approach Vol, veh/h	1815			1587	1788	
Approach Delay, s/veh	10.2			13.7	48.3	
Approach LOS	B			B	D	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		36.0				36.0	24.0
Change Period (Y+Rc), s		6.0				6.0	6.0
Max Green Setting (Gmax), s		30.0				30.0	18.0
Max Q Clear Time (g_c+I1), s		16.0				22.3	23.0
Green Ext Time (p_c), s		7.9				4.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	319	886	0	0	147	13	0	0	0	3	0	64
Future Vol, veh/h	319	886	0	0	147	13	0	0	0	3	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	270	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	86	86	86	25	25	25	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	332	923	0	0	171	15	0	0	0	3	0	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	186	0	0	923	0	0	1802	1773	923	1766	1766	179
Stage 1	-	-	-	-	-	-	1587	1587	-	179	179	-
Stage 2	-	-	-	-	-	-	215	186	-	1587	1587	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1388	-	-	740	-	-	62	83	327	65	84	864
Stage 1	-	-	-	-	-	-	136	168	-	823	751	-
Stage 2	-	-	-	-	-	-	787	746	-	136	168	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1388	-	-	740	-	-	46	63	327	53	64	864
Mov Cap-2 Maneuver	-	-	-	-	-	-	46	63	-	53	64	-
Stage 1	-	-	-	-	-	-	103	128	-	626	751	-
Stage 2	-	-	-	-	-	-	721	746	-	103	128	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0	0	13.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1388	-	-	740	-	-	513
HCM Lane V/C Ratio	-	0.239	-	-	-	-	-	0.147
HCM Control Delay (s)	0	8.4	-	-	0	-	-	13.2
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.9	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	920	2	16	233	1	10
Future Vol, veh/h	920	2	16	233	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	50	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1022	2	18	259	1	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1024	0	1317	1022
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	295	-
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	-	-	678	-	174	287
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	678	-	169	287
Mov Cap-2 Maneuver	-	-	-	-	169	-
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	735	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	19
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	169	287	-	-	678	-
HCM Lane V/C Ratio	0.008	0.046	-	-	0.026	-
HCM Control Delay (s)	26.5	18.2	-	-	10.5	-
HCM Lane LOS	D	C	-	-	B	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	887	155	44	27	4
Future Volume (vph)	7	887	155	44	27	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8		5.8	5.8
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1829	1925	1867		1829	1636
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1829	1925	1867		1829	1636
Peak-hour factor, PHF	0.92	0.92	0.90	0.90	0.75	0.75
Adj. Flow (vph)	8	964	172	49	36	5
RTOR Reduction (vph)	0	0	6	0	0	5
Lane Group Flow (vph)	8	964	215	0	36	0
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases						8
Actuated Green, G (s)	4.2	53.2	43.2		4.1	4.1
Effective Green, g (s)	4.2	53.2	43.2		4.1	4.1
Actuated g/C Ratio	0.06	0.72	0.59		0.06	0.06
Clearance Time (s)	5.8	5.8	5.8		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	104	1395	1098		102	91
v/s Ratio Prot	0.00	c0.50	0.12		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.08	0.69	0.20		0.35	0.00
Uniform Delay, d1	32.8	5.6	7.0		33.4	32.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	1.5	0.1		2.1	0.0
Delay (s)	33.1	7.1	7.1		35.5	32.7
Level of Service	C	A	A		D	C
Approach Delay (s)		7.3	7.1		35.1	
Approach LOS		A	A		D	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	19.4
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	400	80	706	30	90	1040	169	1380	30	400	1030	160
Future Volume (veh/h)	400	80	706	30	90	1040	169	1380	30	400	1030	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.96	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	440	88	776	33	99	1143	186	1516	33	440	1132	176
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	748	775	78	617	1411	296	1518	33	569	1912	545
Arrive On Green	0.11	0.38	0.38	0.04	0.32	0.32	0.08	0.28	0.26	0.16	0.36	0.34
Sat Flow, veh/h	3594	1945	1616	1853	1945	2901	3594	5343	116	3594	5310	1610
Grp Volume(v), veh/h	440	88	776	33	99	1143	186	1005	544	440	1132	176
Grp Sat Flow(s),veh/h/ln	1797	1945	1616	1853	1945	1451	1797	1770	1919	1797	1770	1610
Q Serve(g_s), s	10.0	2.7	35.2	1.6	3.4	29.0	4.6	25.9	25.9	10.7	15.9	7.4
Cycle Q Clear(g_c), s	10.0	2.7	35.2	1.6	3.4	29.0	4.6	25.9	25.9	10.7	15.9	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	393	748	775	78	617	1411	296	1006	545	569	1912	545
V/C Ratio(X)	1.12	0.12	1.00	0.42	0.16	0.81	0.63	1.00	1.00	0.77	0.59	0.32
Avail Cap(c_a), veh/h	393	748	775	162	617	1411	314	1006	545	904	2380	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	18.2	24.0	42.7	22.5	19.9	40.6	32.7	32.8	36.9	23.8	22.5
Incr Delay (d2), s/veh	82.1	0.0	32.6	1.4	0.0	3.4	2.5	28.0	38.1	0.9	0.6	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	8.8	1.2	22.5	0.8	1.5	10.2	2.0	14.2	16.9	4.5	6.2	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.9	18.2	56.6	44.1	22.5	23.3	43.1	60.7	70.9	37.8	24.4	23.2
LnGrp LOS	F	B	F	D	C	C	D	E	E	D	C	C
Approach Vol, veh/h		1304			1275			1735			1748	
Approach Delay, s/veh		76.3			23.8			62.0			27.7	
Approach LOS		E			C			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	29.0	13.0	32.0	10.5	35.9	6.8	38.2
Change Period (Y+Rc), s	4.0	6.0	5.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	22.0	23.0	8.0	27.0	7.0	38.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	12.7	27.9	12.0	31.0	6.6	17.9	3.6	37.2
Green Ext Time (p_c), s	0.7	0.0	0.0	0.0	0.0	11.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	47.2
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	700	0	520	0	0	0	0	2180	640	0	1070	0
Future Volume (veh/h)	700	0	520	0	0	0	0	2180	640	0	1070	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	0	1945				0	1945	1945	0	1945	0
Adj Flow Rate, veh/h	753	0	559				0	2344	688	0	1151	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	0
Cap, veh/h	1122	0	906				0	3248	985	0	2260	0
Arrive On Green	0.31	0.00	0.31				0.00	0.61	0.61	0.00	0.61	0.00
Sat Flow, veh/h	3594	0	2901				0	5485	1611	0	3890	0
Grp Volume(v), veh/h	753	0	559				0	2344	688	0	1151	0
Grp Sat Flow(s),veh/h/ln	1797	0	1451				0	1770	1611	0	1848	0
Q Serve(g_s), s	14.4	0.0	12.9				0.0	24.2	22.8	0.0	13.8	0.0
Cycle Q Clear(g_c), s	14.4	0.0	12.9				0.0	24.2	22.8	0.0	13.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	1122	0	906				0	3248	985	0	2260	0
V/C Ratio(X)	0.67	0.00	0.62				0.00	0.72	0.70	0.00	0.51	0.00
Avail Cap(c_a), veh/h	1824	0	1473				0	3639	1104	0	2532	0
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	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	23.6	0.0	23.1				0.0	10.6	10.4	0.0	8.6	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.7				0.0	0.6	1.7	0.0	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
%ile BackOfQ(50%),veh/ln	5.8	0.0	4.2				0.0	7.1	6.4	0.0	4.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	0.0	23.8				0.0	11.3	12.1	0.0	8.8	0.0
LnGrp LOS	C	A	C				A	B	B	A	A	A
Approach Vol, veh/h		1312						3032			1151	
Approach Delay, s/veh		24.1						11.5			8.8	
Approach LOS		C						B			A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		51.2		27.6		51.2
Change Period (Y+Rc), s		6.0		4.0		6.0
Max Green Setting (Gmax), s		51.0		39.0		51.0
Max Q Clear Time (g_c+I1), s		26.2		16.4		15.8
Green Ext Time (p_c), s		19.0		7.2		6.3

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	300	780	1980	0	0	1030
Future Volume (veh/h)	300	780	1980	0	0	1030
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
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1945	0	0	1945
Adj Flow Rate, veh/h	316	821	2084	0	0	1084
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1396	1127	2785	0	0	1938
Arrive On Green	0.39	0.39	0.52	0.00	0.00	0.52
Sat Flow, veh/h	3594	2901	5660	0	0	3890
Grp Volume(v), veh/h	316	821	2084	0	0	1084
Grp Sat Flow(s),veh/h/ln	1797	1451	1770	0	0	1848
Q Serve(g_s), s	4.1	16.6	21.2	0.0	0.0	13.6
Cycle Q Clear(g_c), s	4.1	16.6	21.2	0.0	0.0	13.6
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1396	1127	2785	0	0	1938
V/C Ratio(X)	0.23	0.73	0.75	0.00	0.00	0.56
Avail Cap(c_a), veh/h	3579	2889	3499	0	0	2435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	14.1	18.0	12.8	0.0	0.0	11.0
Incr Delay (d2), s/veh	0.1	0.9	0.7	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.9	6.5	0.0	0.0	4.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.2	18.9	13.5	0.0	0.0	11.3
LnGrp LOS	B	B	B	A	A	B
Approach Vol, veh/h	1137		2084			1084
Approach Delay, s/veh	17.6		13.5			11.3
Approach LOS	B		B			B

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		39.1				39.1	29.8
Change Period (Y+Rc), s		4.1				4.1	4.1
Max Green Setting (Gmax), s		44.3				44.3	67.5
Max Q Clear Time (g_c+I1), s		23.2				15.6	18.6
Green Ext Time (p_c), s		11.9				5.6	7.0

Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	110	60	200	80	690	30	319	90	480	500	20
Future Volume (veh/h)	20	110	60	200	80	690	30	319	90	480	500	20
Initial Q (Qb), veh	0	0	0	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
Adj Flow Rate, veh/h	22	122	67	222	89	767	33	354	100	533	556	22
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	221	121	305	601	1585	98	874	326	728	1427	579
Arrive On Green	0.04	0.19	0.15	0.16	0.31	0.31	0.05	0.24	0.20	0.20	0.39	0.35
Sat Flow, veh/h	1853	1180	648	1853	1945	2901	1853	3696	1615	3594	3696	1648
Grp Volume(v), veh/h	22	0	189	222	89	767	33	354	100	533	556	22
Grp Sat Flow(s),veh/h/ln	1853	0	1828	1853	1945	1451	1853	1848	1615	1797	1848	1648
Q Serve(g_s), s	0.7	0.0	5.4	6.5	1.9	9.4	1.0	4.6	3.0	8.0	6.2	0.5
Cycle Q Clear(g_c), s	0.7	0.0	5.4	6.5	1.9	9.4	1.0	4.6	3.0	8.0	6.2	0.5
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	80	0	342	305	601	1585	98	874	326	728	1427	579
V/C Ratio(X)	0.28	0.00	0.55	0.73	0.15	0.48	0.34	0.40	0.31	0.73	0.39	0.04
Avail Cap(c_a), veh/h	258	0	891	484	1185	2456	290	1865	759	1001	2315	975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	21.5	22.8	14.4	8.0	26.2	18.5	19.5	21.5	12.7	12.3
Incr Delay (d2), s/veh	0.7	0.0	0.5	1.2	0.0	0.1	0.7	0.6	1.1	0.9	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	0.3	0.0	2.3	2.6	0.7	2.4	0.4	1.8	1.2	3.0	2.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	0.0	22.0	24.0	14.4	8.1	27.0	19.2	20.6	22.4	13.1	12.3
LnGrp LOS	C	A	C	C	B	A	C	B	C	C	B	B
Approach Vol, veh/h		211			1078			487			1111	
Approach Delay, s/veh		22.6			11.9			20.0			17.6	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	16.6	5.5	20.8	6.0	25.2	12.5	13.8
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	26.0	7.0	32.0	8.0	33.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	10.0	6.6	2.7	11.4	3.0	8.2	8.5	7.4
Green Ext Time (p_c), s	0.7	2.3	0.0	2.3	0.0	5.4	0.2	0.3

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	1210	1080	640	1450	70
Future Volume (veh/h)	40	1210	1080	640	1450	70
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1945	1945	1976
Adj Flow Rate, veh/h	43	1301	1500	462	1629	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	0
Cap, veh/h	103	2057	2668	1297	1977	571
Arrive On Green	0.06	0.56	0.46	0.44	0.36	0.00
Sat Flow, veh/h	1853	3793	5836	1605	5558	1675
Grp Volume(v), veh/h	43	1301	1500	462	1629	0
Grp Sat Flow(s),veh/h/ln	1853	1848	1945	1605	1853	1675
Q Serve(g_s), s	1.5	16.5	12.8	5.6	18.3	0.0
Cycle Q Clear(g_c), s	1.5	16.5	12.8	5.6	18.3	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	103	2057	2668	1297	1977	571
V/C Ratio(X)	0.42	0.63	0.56	0.36	0.82	0.00
Avail Cap(c_a), veh/h	217	3729	4949	1924	2032	588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.2	10.4	13.6	2.0	20.1	0.0
Incr Delay (d2), s/veh	2.7	0.3	0.2	0.2	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.2	4.6	4.6	7.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.9	10.7	13.7	2.1	22.9	0.0
LnGrp LOS	C	B	B	A	C	A
Approach Vol, veh/h		1344	1962		1629	
Approach Delay, s/veh		11.4	11.0		22.9	
Approach LOS		B	B		C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.8	34.3		27.3		41.1
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0
Max Green Setting (Gmax), s	7.0	55.0		23.0		66.0
Max Q Clear Time (g_c+I1), s	3.5	14.8		20.3		18.5
Green Ext Time (p_c), s	0.0	13.4		2.1		8.1

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1840	1200	0	850	520
Future Volume (veh/h)	0	1840	1200	0	850	520
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	0.95	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1945	1945	0	1945	1945
Adj Flow Rate, veh/h	0	2022	1319	0	934	571
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2744	2744	0	1242	1056
Arrive On Green	0.00	0.52	1.00	0.00	0.36	0.36
Sat Flow, veh/h	0	5660	5660	0	3414	2901
Grp Volume(v), veh/h	0	2022	1319	0	934	571
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1707	1451
Q Serve(g_s), s	0.0	17.8	0.0	0.0	14.4	9.4
Cycle Q Clear(g_c), s	0.0	17.8	0.0	0.0	14.4	9.4
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2744	2744	0	1242	1056
V/C Ratio(X)	0.00	0.74	0.48	0.00	0.75	0.54
Avail Cap(c_a), veh/h	0	2744	2744	0	1309	1112
HCM Platoon Ratio	1.00	1.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	11.3	0.0	0.0	16.7	15.1
Incr Delay (d2), s/veh	0.0	1.8	0.6	0.0	2.4	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	0.0	5.3	0.2	0.0	5.2	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	13.1	0.6	0.0	19.1	15.6
LnGrp LOS	A	B	A	A	B	B
Approach Vol, veh/h		2022	1319		1505	
Approach Delay, s/veh		13.1	0.6		17.8	
Approach LOS		B	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.0		24.8		34.0
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		20.0		28.0
Max Q Clear Time (g_c+I1), s		19.8		16.4		2.0
Green Ext Time (p_c), s		5.9		2.5		7.1

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1750	0	0	2010	410	500
Future Volume (veh/h)	1750	0	0	2010	410	500
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1945	0	0	1945	1945	1945
Adj Flow Rate, veh/h	1923	0	0	2185	446	543
Peak Hour Factor	0.91	0.91	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2921	0	0	2033	1047	845
Arrive On Green	0.55	0.00	0.00	0.55	0.29	0.29
Sat Flow, veh/h	5660	0	0	3890	3594	2901
Grp Volume(v), veh/h	1923	0	0	2185	446	543
Grp Sat Flow(s),veh/h/ln	1770	0	0	1848	1797	1451
Q Serve(g_s), s	15.3	0.0	0.0	33.0	6.0	9.8
Cycle Q Clear(g_c), s	15.3	0.0	0.0	33.0	6.0	9.8
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2921	0	0	2033	1047	845
V/C Ratio(X)	0.66	0.00	0.00	1.07	0.43	0.64
Avail Cap(c_a), veh/h	2921	0	0	2033	1258	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.5	0.0	0.0	13.5	17.2	18.5
Incr Delay (d2), s/veh	1.2	0.0	0.0	43.6	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	21.2	2.3	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.7	0.0	0.0	57.1	17.5	19.6
LnGrp LOS	B	A	A	F	B	B
Approach Vol, veh/h	1923			2185	989	
Approach Delay, s/veh	10.7			57.1	18.6	
Approach LOS	B			E	B	

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	36.0			36.0	20.5
Change Period (Y+Rc), s	6.0			6.0	6.0
Max Green Setting (Gmax), s	30.0			30.0	18.0
Max Q Clear Time (g_c+I1), s	17.3			35.0	11.8
Green Ext Time (p_c), s	7.8			0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	32.1
HCM 6th LOS	C

TECHNICAL MEMORANDUM

Date:	July 25, 2025
To:	Matt Nelson, Associate Traffic Engineer, Community Development Department, City of Pleasanton
From:	Ruta Jariwala, Project Manager Vamsee Modugula and Anjali Satheeshkumar, Modelers
Subject:	**Vehicle Mile Traveled (VMT) Analysis for Hidden Canyon Residences & Preserve Residential Development in Pleasanton, California.**

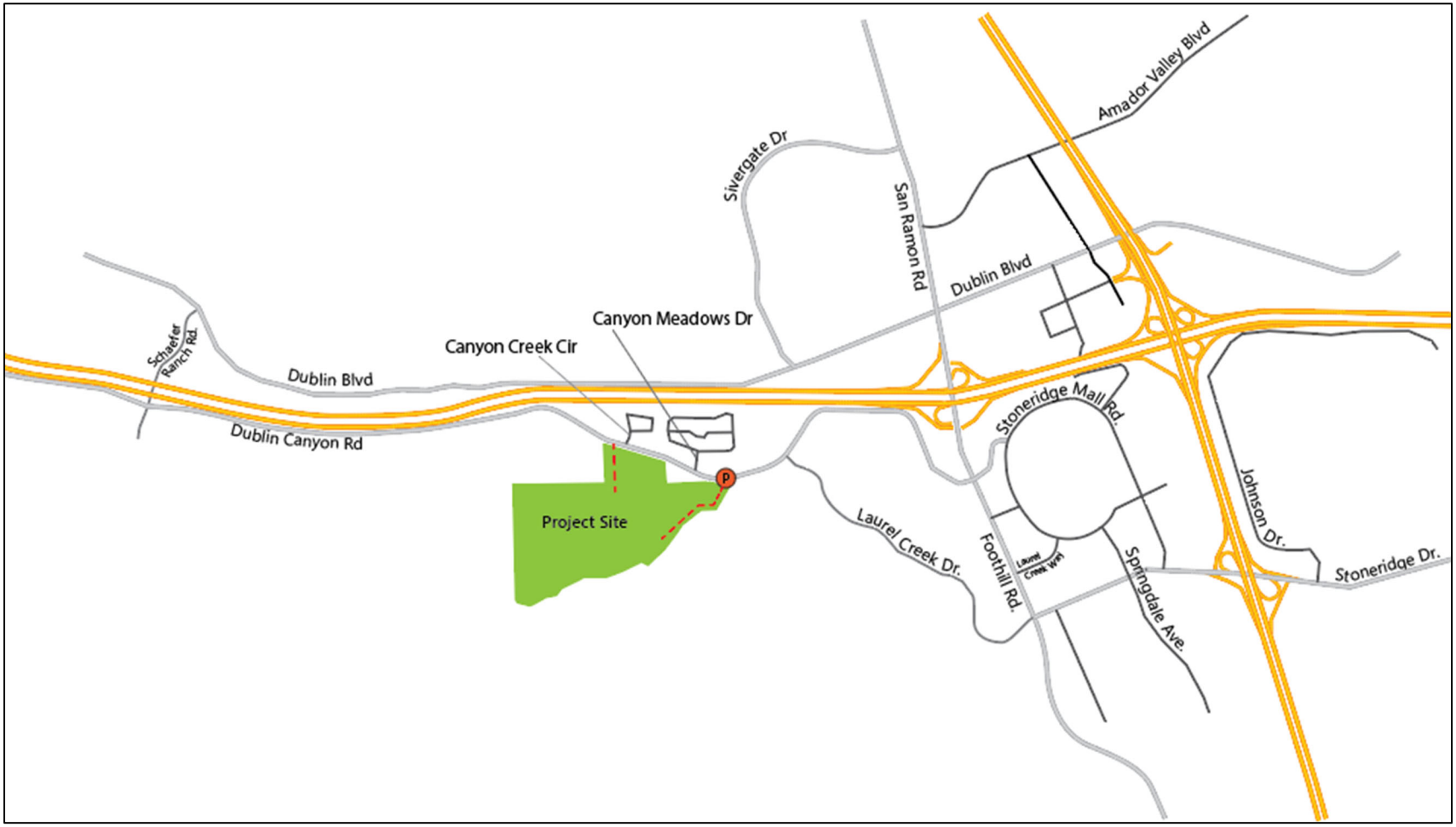
TJKM conducted a Vehicle Miles Traveled (VMT) assessment for the proposed Hidden Canyon Residences & Preserve Residential development in the City of Pleasanton, Alameda County. The project site consists of four parcels totaling approximately 128.5 acres, located along the northwestern boundary of the City of Pleasanton. Currently, two single-family homes occupy the eastern portion of the site. Ponderosa Homes II, Inc. proposes to develop the site with 30 single-family detached residences - 28 new homes (Lots 1 through 28) and the replacement of the two existing homes (Lots 29 and 30). Additionally, approximately 70 acres, representing about 55 percent of the total site area, would be dedicated to the East Bay Regional Park District (EBRPD) for use as publicly accessible open space.

Figure 1 shows the project location.

VEHICLE MILES TRAVELED

Compliance with SB 743 replaced LOS with VMT for purposes of assessing traffic impacts under the California Environmental Quality Act (CEQA) described in new Section 15064.3 of the CEQA Guidelines that were applied statewide on July 1, 2020. Lead agencies have the discretion to choose the most appropriate methodology to evaluate a project's vehicles miles traveled, including whether to express the change in absolute terms, per capita, per household or any other measure. VMT refers to the amount and distance of automobile travel "attributable to a project".

Figure 1: Project Location



BACKGROUND

This analysis was prepared in accordance with the California Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (2018) and follows the guidance established in the City of Pleasanton's 2023–2031 Housing Element Draft and Final Environmental Impact Report (EIR). VMT estimates were generated using the Alameda County Transportation Commission (ACTC) Countywide Travel Demand Model, a regional four-step model calibrated to pre-pandemic (2020) conditions and consistent with Plan Bay Area 2040 assumptions. The model was used to estimate Residential VMT per capita for the Traffic Analysis Zone (TAZ) encompassing the proposed Hidden Canyon Residences & Preserve project (TAZ #1190) under both Baseline (2020) and Cumulative (2040) scenarios for No Project and With Project conditions.

Housing Element EIR VMT Analysis

The Housing Element EIR concluded that VMT impacts from implementation of the Housing Element would be significant and unavoidable at both the project-level and cumulative level, even after the application of mitigation measures. Although the EIR disclosed that development consistent with the Housing Element Update would reduce the home-based VMT per capita to an average of 22.3 miles per resident by 2040, this value would still exceed the threshold of significance of 15.0 VMT per resident. This threshold reflects a 15 percent reduction below the Alameda County 2040 No Project average home-based VMT per capita.

To address these impacts, the Housing Element EIR includes Mitigation Measure (MM) TRANS-2, which requires that individual housing projects not screened out from VMT analysis prepare a quantitative VMT assessment consistent with the methodology used in the EIR. If the project's VMT exceeds the threshold, it must incorporate VMT reduction strategies aimed at reducing VMT.

However, the EIR determined that while MM TRANS-2 would reduce VMT to some extent, the effectiveness of these measures in reducing project-level VMT below the significance threshold could not be guaranteed. As such, VMT impacts would remain significant and unavoidable, even with the implementation of MM TRANS-2 and associated mitigation measures.

The proposed project was evaluated for consistency with the growth assumptions and cumulative impact analysis presented in the City of Pleasanton 2023–2031 Housing Element Draft and Final Environmental Impact Report (EIR). The proposed project is located on Site 1 of the Pleasanton Housing Element EIR's Table 2-1: Potential Sites for Rezoning. The EIR identified this 128.5-acre parcel with a maximum capacity of 31 units. The proposed project includes 30 units (28 new and 2 replacement units), which is consistent with the Housing Element's assumed buildout. As such, the project is consistent with the type and intensity of residential development evaluated in the Housing Element EIR, and its VMT impact has been previously disclosed at the programmatic level.

PROJECT SCREENING

Per OPR's Technical Advisory (December 2018) and consistent with Housing Element EIR, residential projects may be presumed to have a less-than-significant VMT impact if they meet certain screening

criteria, such as being located in a low-VMT area, or meeting proximity-to-transit requirements. Hidden Canyon Residences & Preserve project is not located in a low VMT Area and is not within walking distance of high-quality transit. The project does not qualify for transit or low-VMT area screening exemptions, and due to its relatively low density and limited access to active or transit modes, it does not meet the criteria for project type screening either. Therefore, a full VMT analysis was conducted.

SIGNIFICANT IMPACT CRITERIA

In accordance with Senate Bill 743 and the California Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (2018), residential projects must be evaluated based on their VMT per capita. The OPR guidance recommends that a residential project may have a significant transportation impact if it generates VMT per capita 15 percent below the existing average which equates to 85 percent of the VMT per capita. The City of Pleasanton has not adopted formal VMT thresholds of its own, but the City's 2023–2031 Housing Element Draft EIR applied the OPR-recommended 15 percent reduction standard to the Alameda County average when evaluating the significance of VMT impacts. Projects exceeding this threshold are considered to have a significant impact under CEQA.

Accordingly, this analysis uses the Alameda County average residential VMT per capita as the baseline, in alignment with the City's Housing Element EIR methodology. This ensures consistency in evaluating cumulative VMT impacts associated with residential development anticipated in the Housing Element.

The primary metric used is Residential VMT per capita (i.e., per resident), consistent with CEQA. Total Residential VMT within the project TAZ was divided by the projected population to estimate VMT per capita. This value was then compared to the Alameda County's average VMT per capita, reduced by 15 percent, which serves as the significance threshold. Further, the Alameda County VMT Reduction Estimator Tool (https://www.alamedactc.org/wp-content/uploads/2021/09/AlamedaCTC_VMT_Final_Tool_20210826.xlsx) was also used to evaluate potential VMT mitigation.

Table 1: Land Use Changes for Plus Project Scenarios

TAZ	Households	Population (Residents)	Single Family Dwelling Units
1190	+28	+78	+28

VMT IMPACT FINDINGS

Baseline Impact Findings

Table 2 shows the VMT per Capita associated with the proposed development, derived from the ACTC model outputs for TAZ #1190, which includes the proposed development. Under both Existing and Existing plus Project conditions, the VMT per Capita is higher than the significance threshold of **16.47** miles per resident that is applicable to Existing plus Project conditions. This represents a required reduction of approximately **52.70** percent to achieve compliance. As such, the residential component

of the proposed project would result in a **potentially significant VMT impact** under Existing plus Project Conditions.

Table 2: VMT per Capita (Base Year Conditions)

TAZ	County VMT/Capita	Impact Threshold	TAZ VMT per Capita under Existing Conditions	TAZ VMT per Capita under Existing Plus Project Conditions
1190	19.38	16.47	35.29	34.83

Source: ACTC Model Outputs

Cumulative VMT Impact Findings

Since the proposed project was found to result in potentially significant VMT impacts under Existing plus Project Conditions, a cumulative analysis of project VMT was also conducted using the ACTC model.

Table 3 shows the VMT per Capita associated with the proposed development under Cumulative Conditions, based on ACTC model results for TAZ #1190, which includes the proposed development. Under both Cumulative and Cumulative plus Project conditions, the VMT per Capita is higher than the significant threshold of **15.00** miles per resident. Based on the forecasted VMT per Capita of **33.26** miles per resident under Cumulative plus Project conditions, a reduction of approximately **54.91** percent would be needed to mitigate the VMT impact to less than significant levels under Cumulative plus Project conditions.

Table 3: VMT per Capita (Cumulative Year Conditions)

TAZ	County VMT/Capita	Impact Threshold	TAZ VMT per Capita under Existing Conditions	TAZ VMT per Capita under Cumulative Plus Project Conditions
1190	17.64	15.0	33.16	33.26

Source: ACTC Model Outputs

VMT MITIGATION MEASURES

When a lead agency identifies a significant CEQA impact, the agency must identify feasible mitigation measures in order to avoid or substantially reduce that impact. These measures can be incorporated as a part of plans, policies, regulations, or project designs. Project design features that encourage mode shift from automobiles to transit or non-motorized modes can therefore help reduce project VMT.

As described in the prior section, the VMT impact associated with the proposed project is potentially significant and the project would need to reduce its VMT by **54.91%** to be considered less than significant based on Cumulative plus Project conditions. As such, feasible mitigation measures may be proposed to reduce project-attributable VMT.

Similarly, as per Table 3.14-3: Home-Based VMT per Resident by Potential Site for Rezoning (2040) in the Housing Element EIR, the project site (Site 1) was found to exceed the CEQA significance threshold. The Housing Element EIR determined that the site would result in a significant and unavoidable VMT impact, even after implementation of Mitigation Measure TRANS-2. MM TRANS-2 requires individual housing developments that do not screen out from VMT analysis to provide a quantitative analysis consistent with the methodology used in the Housing Element EIR and to incorporate feasible VMT reduction strategies if impacts exceed the threshold.

The strategies mentioned below have been identified as potentially feasible mitigation measures to reduce VMT associated with the Hidden Canyon Residences & Preserve Project. The mitigation evaluation considers applicable strategies recommended by the Alameda CTC VMT Reduction Calculator Tool (VMT Tool). **Appendix A** shows the results from the VMT Tool.

The following table summarizes the applicability and VMT reduction potential of all strategies as mentioned in the VMT Tool:

Strategy ID	Strategy Name	Applicability	Max Possible VMT Reduction	VMT Reduction Achieved by Project (Based on VMT Tool)
Parking Management Strategies				
3C	Limit Parking Supply	**Partially Applicable** – Can be achieved through reduced residential parking ratios. A 6.8 % reduction can be achieved by limiting parking spaces to 1 per residence.	13.7%	TBD
3D	Provide Bike Parking	**Applicable -** The project can propose to construct bike parking and associated infrastructure for implementing this strategy.	4.4%	0.4%
Neighborhood Enhancement Strategies				
4A	Street Connectivity Improvement	**Applicable -** Addition of 4 intersections enable better internal connections or cut-throughs.	30.0%	9.6%

Strategy ID	Strategy Name	Applicability	Max Possible VMT Reduction	VMT Reduction Achieved by Project (Based on VMT Tool)
4B	Pedestrian Facility Improvement	**Applicable -** The project can propose to build sidewalks along the project frontage, which would enhance pedestrian safety and access at key entry points. However, additional sidewalks may be difficult to accommodate due to the site's steep terrain and hillside constraints.	3.4%	3.4%
4C	Bikeway Network Expansion	**Partially Applicable** - Class 2 Bike lanes are present along Dublin Canyon Road. This strategy could be feasible off-site (discussion with the City may be required).	0.5%	TBD
4H	Provide Neighborhood Traffic Calming Measures	**Applicable** – Potential inclusion of traffic calming measures along the streets and intersections in the project can result in VMT reduction.	1.0%	1.0%

The following is a description of the implementation of measures that are applicable towards the project:

1. **Strategy 3C – Limit Parking Supply -** Based on the City of Pleasanton's Off-Street Parking Facilities standards, single-family dwelling units shall have at least two off-street parking spaces and visitor parking is required at a ratio of 1 off-street parking space per 7 units. This equates to a total of 30 residential parking and approximately 5 guest parking. Limiting the provision of off-street parking to one space per dwelling and could achieve VMT reduction, depending on final site conditions and City approval. Implementation would require City review and approval of reduced off-street parking ratios as part of the entitlement or site plan approval process.

2. **Strategy 3D – Provide Bike parking –** To encourage active transportation and reduce automobile dependency, the project can incorporate bicycle parking facilities and associated infrastructure such as bike lockers and personal lockers in compliance with local zoning standards and best practices.

3. **Strategy 4A – Street Connectivity Improvement –** The project introduces four new street intersections within the project boundary, which spans approximately 0.2 square miles. This results in an average local intersection density of +4 intersections per square mile, which

exceeds the typical suburban average and contributes positively to the street network's connectivity.

4. **Strategy 4B – Pedestrian Facility Improvement –** As part of project frontage improvements, the Hidden Canyon Residences & Preserve development will construct approximately 0.2 miles of continuous sidewalk along its public access frontage.

5. **Strategy 4C – Bikeway Network Expansion -** This strategy is partially applicable. Class II bike lanes currently exist along Dublin Canyon Road and further expansions are not feasible due to the terrain. The project may coordinate with the City of Pleasanton to explore opportunities for off-site bikeway enhancements or connections to regional bicycle routes. Implementation would likely occur off-site and require City partnership or inclusion in future capital improvement planning.

6. **Strategy 4H – Provide Neighborhood Traffic Calming Measures -** Given the steep terrain, it is recommended to implementing traffic calming measures along internal roads and intersections within the site to enhance safety. The inclusion of traffic calming features such as speed humps, curb extensions, or lane narrowing etc. can help reduce vehicle speeds, encourage active transportation, and contribute to VMT reductions.

Collectively, these measures are estimated to achieve a combined VMT reduction of **14%.**

The City of Pleasanton's 2023–2031 Housing Element EIR identified a range of mitigation strategies aimed at reducing Vehicle Miles Traveled (VMT), including pedestrian facility improvements, street connectivity enhancements, bicycle infrastructure, and traffic calming. The Hidden Canyon Residences & Preserve project includes multiple feasible strategies consistent with the EIR's recommendations, including the installation of sidewalks along the public access frontage, provision of internal intersections to improve connectivity, and incorporation of neighborhood traffic calming features.

These measures reflect the types of VMT-reducing features considered in the Housing Element EIR and are consistent with its mitigation framework. Therefore, the project meets the mitigation requirements outlined in the Housing Element EIR. However, as was already acknowledged in the Housing Element EIR, implementation of these measures does not reduce VMT below the CEQA significance threshold. As a result, the project would result in a **significant and unavoidable VMT impact**, consistent with the conclusions of the certified Housing Element EIR.

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