Final Transportation Impact Study for Placer County Government Center Master Plan Update

Prepared for:
Placer County

November 2018

RS16-3434

FEHR PEERS

Table of Contents

1. Introduction 1
Project Description 1
Project Location 1
Existing On-Site Uses 3
PCGC Master Plan Update 3
Multifamily Residential 6
Health & Human Services Building 7
Study Area 10
Analysis Scenarios 13

2. Study Methodology 14
Analysis Methods 14
Roadway Operations 14
Intersection Operations 15
Traffic Forecasting 17
Regulatory Setting 20
Placer County 20
Caltrans 24
Significance Criteria 25
Roadway System 26
Bicycle & Pedestrian System 27
Transit System 27

3. Existing Conditions 28
Roadway Network 28
Existing Traffic Volumes 30
Intersection Operations 33
Bicycle and Pedestrian Network 35
Bicycle Facilities 35
Pedestrian Facilities 37
Transit Network 37

4. Multifamily Residential 40
Project Travel Characteristics 40
Proposed Access 40
Vehicle Trip Generation 40
Vehicle Trip Distribution 41
Roadway Network 44

Project Traffic Forecasts 44
Intersection Operations 47
Bicycle and Pedestrian Network 49
Transit Network 49

5. Health & Human Services Building 50
Project Travel Characteristics 50
Proposed Access 51
Vehicle Trip Generation 51
Vehicle Trip Distribution 52
Vehicle Trip Assignment 53
Roadway Network 57
Project Traffic Forecasts 57
Intersection Operations 60
Bicycle and Pedestrian Network 62
Transit Network 62

6. PCGC Master Plan Update 63
Campus Travel Characteristics 63
Proposed Access 63
Vehicle Trip Generation & Distribution 63
Roadway Network 68
Vehicle Traffic Forecasts 68
Intersection Operations 71
Bicycle and Pedestrian Network 73
Transit Network 73

7. Cumulative Conditions 75
Cumulative Setting 75
Land Use & Transportation Network Inputs 75
Cumulative No Project Conditions 78
Traffic Forecasts 78
Intersection Operations 81
Cumulative Plus Multifamily Residential 83
Traffic Forecasts 83
Intersection Operations 86
Cumulative Plus Health & Human Services 88
Traffic Forecasts 88
Intersection Operations 91
Cumulative Plus PCGC Master Plan Update 93
Traffic Forecasts 93

Intersection Operations 97

8. Impacts and Mitigation Measures 100

Existing Plus Project Impacts 100

Vehicle Travel 100

Bicycle and Pedestrian Travel 107

Transit Travel 109

Project Construction 110

Emergency Vehicle Access 112

Cumulative Impacts 114

Vehicle Travel 114

Appendices

Appendix A: Traffic Count Data

Appendix B: Existing Conditions – Technical Calculations

Appendix C: Existing Plus Multifamily Residential Conditions – Technical Calculations

Appendix D: Existing Plus Health & Human Services Building Conditions – Technical Calculations

Appendix E: Existing Plus PCGC Master Plan Update Conditions – Technical Calculations

Appendix F: Cumulative No Project Conditions – Technical Calculations

Appendix G: Cumulative Plus Multifamily Residential Conditions – Technical Calculations

Appendix H: Cumulative Plus Health & Human Services Building Conditions – Technical Calculations

Appendix I: Cumulative Plus PCGC Master Plan Update Conditions – Technical Calculations

List of Figures

Figure 1: Project Location 2
Figure 2: PCGC Master Plan Update Site Plan 4
Figure 3: Multifamily Residential & Health and Human Services Building Project Sites 9
Figure 4: Study Area 12
Figure 5: Existing Roadway Network 29
Figure 6: Peak Hour Traffic Volumes and Lane Configurations – Existing Conditions 32
Figure 7: Existing Bicycle Facilities 36
Figure 8: Existing Transit Network 39
Figure 9: Multifamily Residential Trip Distribution – AM Peak Hour 42
Figure 10: Multifamily Residential Trip Distribution – PM Peak Hour 43
Figure 11: Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Multifamily Residential 46
Figure 12: Health & Human Services Building Trip Distribution – AM Peak Hour 54
Figure 13: Health & Human Services Building Trip Distribution – PM Peak Hour 55
Figure 14: Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Health & Human Services Building 59
Figure 15: PCGC Master Plan Update – Campus-wide Trip Distribution – AM Peak Hour 66
Figure 16: PCGC Master Plan Update – Campus-wide Trip Distribution – PM Peak Hour 67
Figure 17: Peak Hour Traffic Volumes and Lane Configurations – Existing Plus PCGC Master Plan Update 70
Figure 18: Peak Hour Traffic Volumes and Lane Configurations – Cumulative No Project Conditions 80
Figure 19: Peak Hour Traffic Volumes and Lane Configurations – Cumulative Plus Multifamily Residential 85
Figure 20: Peak Hour Traffic Volumes and Lane Configurations – Cumulative Plus Health & Human Services Building 90
Figure 21: Peak Hour Traffic Volumes and Lane Configurations – Cumulative Plus PCGC Master Plan Update 96

List of Tables

Table 1: Study Roadway Segments – Level of Service Standards 10
Table 2: Study Intersections – Level of Service Standards 11
Table 3: Roadway Segment Level of Service Thresholds – Placer County 14
Table 4: Level of Service Definitions – Signalized Intersections 15
Table 5: Level of Service Criteria – Unsignalized Intersections 16
Table 6: Base Year Static Model Validation – PCGC Study Area 19
Table 7: Roadway Segment Operations – Existing Conditions 31
Table 8: Peak Hour Intersection Operations – Existing Conditions 33

Table 9: Trip Generation Estimate – Multifamily Residential 41
Table 10: Roadway Segment Operations – Existing Plus Multifamily Residential Project 44
Table 11: Peak Hour Intersection Operations – Existing Plus Multifamily Residential Project 47
Table 12: Existing Health & Human Services Divisions – Employment Levels & Location 50
Table 13: Trip Generation Estimate – Health & Human Services Building 52
Table 14: Roadway Segment Operations – Existing Plus Health & Human Services Building 57
Table 15: Peak Hour Intersection Operations – Existing Plus Health & Human Services Building Conditions 60
Table 16: Roadway Segment Operations – Existing Plus PCGC Master Plan Update 68
Table 17: Peak Hour Intersection Operations – Existing Plus PCGC Master Plan Update 71
Table 18: Roadway Segment Operations – Cumulative No Project 79
Table 19: Peak Hour Intersection Operations – Cumulative No Project 81
Table 20: Roadway Segment Operations – Cumulative Plus Multifamily Residential Project 84
Table 21: Peak Hour Intersection Operations – Cumulative Plus Multi-Family Residential Project Conditions 86
Table 22: Roadway Segment Operations – Cumulative Plus Health & Human Services Building 88
Table 23: Peak Hour Intersection Operations – Cumulative Plus Health & Human Services Building Conditions 91
Table 24: Roadway Segment Operations – Cumulative Plus PCGC Master Plan Update 94
Table 25: Peak Hour Intersection Operations – Cumulative Plus PCGC Master Plan Update 98

This page intentionally left blank.

1. Introduction

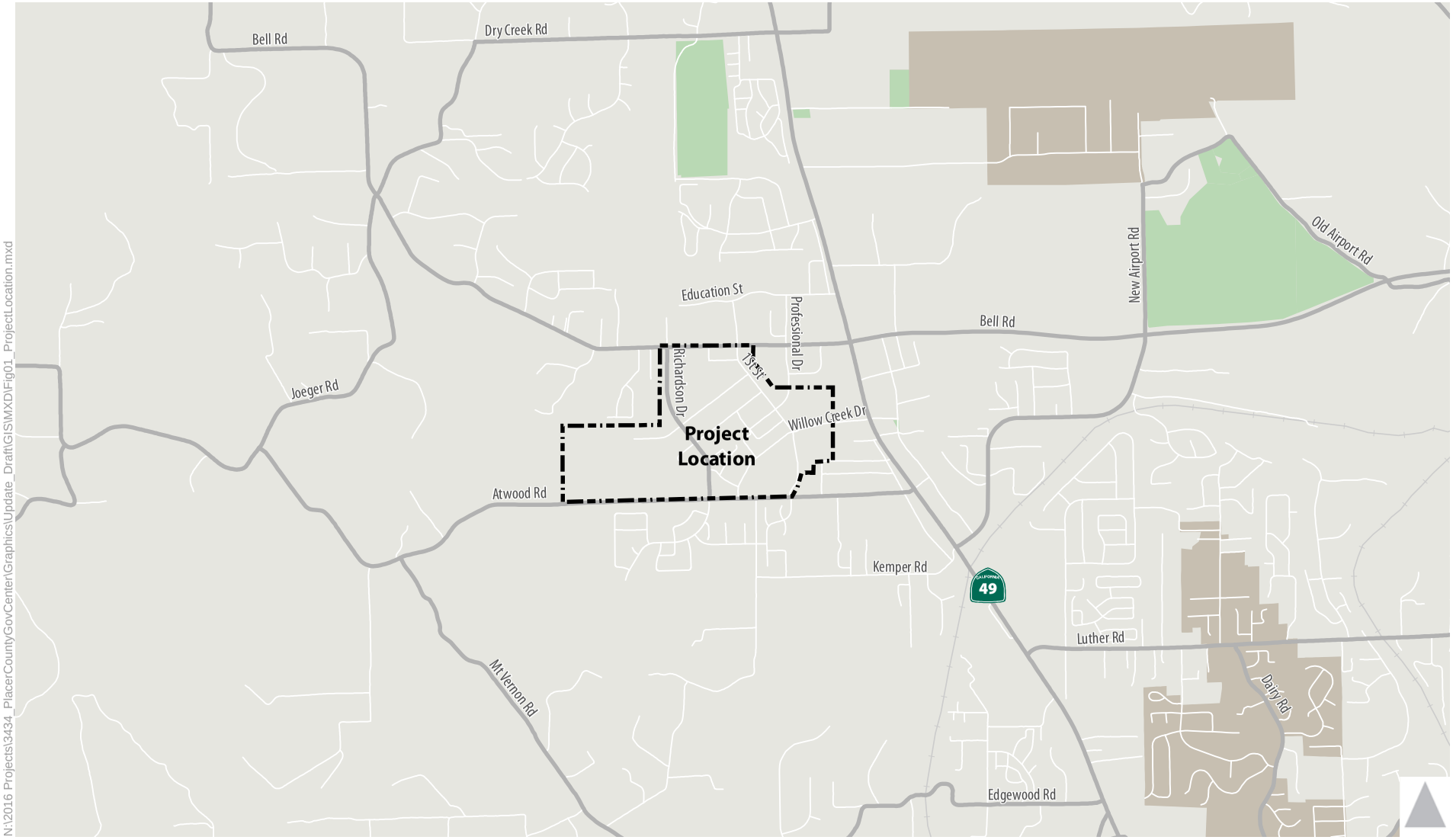
This study analyzes the transportation and traffic impacts of the Placer County Government Center (PCGC) Master Plan Update. The analysis contained in this study supports the preparation of the environmental impact report (EIR) for the PCGC Master Plan Update. This includes a programmatic analysis of the environmental effects associated with implementation of the proposed PCGC Master Plan Update and a project-level analysis of the environmental effects of two components of the proposed Master Plan Update – construction of a 100-unit multifamily residential (MFR) development in the northeastern portion of the project site and construction of a new Health & Human Services (HHS) building.

Project Description

Placer County is proposing an update of the 1993 Comprehensive Facilities Master Plan for the PCGC campus. The PCGC Master Plan Update would establish a long-term vision and facilities-planning guide for capital improvement projects at the PCGC campus with a 20-year planning horizon. The proposed plan consists of various land use types: county facilities, retail/service commercial, offices, multifamily and single-family residential units; public park facilities and trails; and open space. The plan proposes modifications to existing roadways; new roadways at certain key locations to provide greater connectivity; improvements to transit, bicycle, and pedestrian facilities; and corresponding circulation connections.

Project Location

The PCGC campus is in unincorporated Placer County (County) north and west of the City of Auburn and within the census designated area of North Auburn. The project site is located west of State Route 49 (SR 49), south of Bell Road, and north of Atwood Road, as shown in **Figure 1**. The PCGC campus is surrounded by commercial and residential development. Adjacent parcels to the north support commercial and office uses, including some medical offices. The Timberline at Auburn Project, a 119-acre continuing care facility located north of Bell Road at Richardson Drive, is currently under construction and is planned to eventually accommodate 858 residential units. To the west, northwest, and southwest are suburban residential and limited agriculture land uses, a self-storage business, a church, and a senior facility (Oakwood Village/Auburn Oaks Care Center). Southeast and south of the PCGC are suburban density single-family residences. Commercial/light industrial development lies to the east and northeast. A Home Depot store is located at the eastern side of the PCGC property, and additional commercial development is present along SR 49 east of the site.



City of Auburn City Limits

N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig01_ProjectLocation.mxd

Figure 1

Project Location

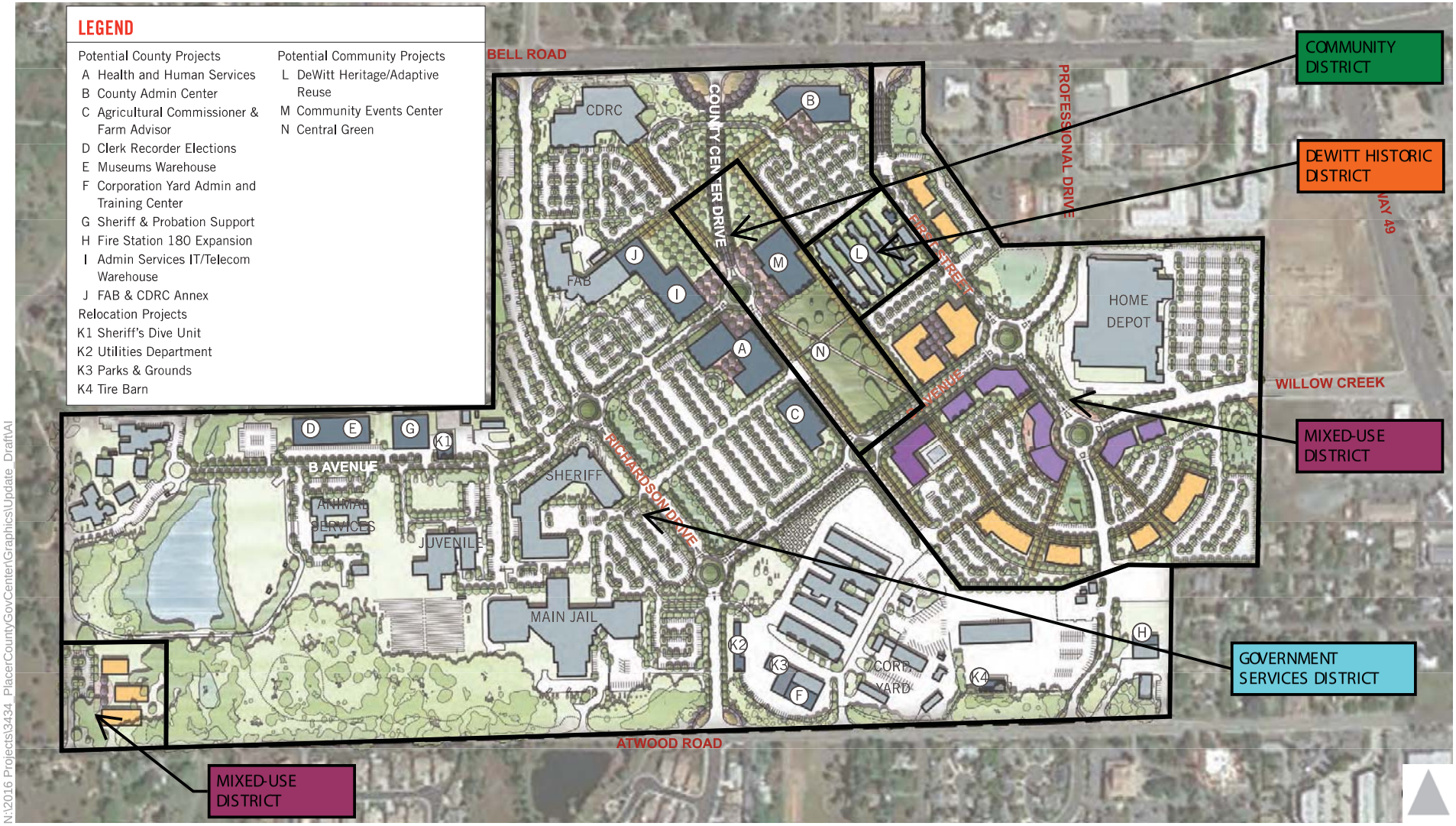
Existing On-Site Uses

The PCGC campus consists of approximately 200 acres of mostly developed land, with several undeveloped areas that are currently maintained (mowed or disked), have been developed as parks, or have been left as undeveloped open space. The campus consists primarily of one- and two-story structures, including some of the original World War II–era DeWitt General Hospital barracks-style hospital buildings and more contemporary facilities that have replaced the hospital buildings over the last several decades. Although many of the original buildings from the DeWitt General Hospital remain on site, building demolition and construction has occurred over the last 30 years, beginning with construction of the Finance and Administration Building in the late 1980s. The Auburn Main Jail and Juvenile Detention Center were constructed in the early and mid-1990s. In the early 2000s, the County demolished several of the original DeWitt General Hospital buildings to allow for the construction of the Auburn Justice Center and the Community Development Resource Center buildings. Most recently, the County constructed a new animal services center in the western portion of the campus.

The PCGC primarily supports County offices, facilities, warehouse space and functions, as well as a Home Depot home improvement store located on 10 acres of leased land at the eastern side of the campus. These facilities are a mixture of relatively new buildings that have been built within the last 10 years and old buildings with structures built as early as 1942. The existing buildings are spread over an area composed of approximately 140 acres and include more than 960,000 square feet of building space. There are a few locations leased to private enterprises and others that are currently vacant.

PCGC Master Plan Update

The PCGC Master Plan Update is intended to guide future development opportunities at the PCGC so that the campus is an attractive, accessible, sustainable, safe, and functional environment for work, recreation, and cultural opportunities for the community. The proposed PCGC Master Plan Update defines potential anticipated uses for the PCGC site, as shown on **Figure 2**. The project anticipates retention of approximately 650,000 square feet of existing building space, as well as construction of approximately 410,000 square feet of new County facilities, 30,000 square feet of community use, and approximately 510,000 square feet of new mixed use, including commercial and residential elements. This proposed mix of land uses reflects the square footage needed to support future County facility needs and the County's ability to capitalize on likely market opportunities.



N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\AI

Figure 2

PCGC Master Plan Update Site Plan

The proposed PCGC Master Plan also proposes several changes to the internal roadway and circulation system. This includes extending County Center Drive south from its current terminus into the heart of the PCGC campus terminating at a small turn-around at the current F Avenue alignment. Existing B Avenue and C Avenue would be modified to connect Richardson Drive to the newly extended County Center Drive and removing the existing connection to 1st Street. D Avenue would connect Richardson Drive to 1st Street through the center of the PCGC campus. The PCGC Master Plan Update also proposes to realign 1st Street to the east north of the current B Avenue alignment to Bell Road, resulting in a new three-leg intersection at Bell Road approximately 150 feet east of Blue Oaks Drive. Due to the proximity of this new intersection to the Bell Road / Blue Oaks Drive intersection, outbound traffic from 1st Street to Bell Road would be restricted to right-turn movements (i.e., northbound left-turns would be prohibited).

The PCGC Master Plan Update is organized into four thematic districts: the government services district, community district, historic DeWitt district, and mixed-use district.

Government Services District

This district would include the existing Community Development Resource Center, Finance Administration Building, and Auburn Justice Center, along with new buildings that would be constructed generally in the central portion of the property to house HHS and the Agricultural Commissioner and Farm Advisor. A new County Administration Center is proposed to be constructed in the northeastern portion of the site near Bell Road. This district would also include the County's Corporation Yard, which would be reconfigured and expanded within the southeastern corner of the site, where the existing buildings would be retained. The development potential of the planned County facilities in the Government Services District is approximately 1,100,000 square feet, which includes approximately 690,000 square feet of existing facilities. This district would include the Corporation Yard, which would remain in its current location and existing buildings in the southeastern portion of the campus. Building space needs to accommodate County services are documented in the Facilities Utilization Needs Assessment presented on pages 34 through 37 of the draft PCGC Master Plan Update, while the specific facilities that would be included in this district are described in the Potential County Projects discussion on pages 38 through 40 of the PCGC Master Plan Update.

Community District

This district is proposed to include approximately 10 acres in the central portion of the campus and to serve as a key organizing element. It is bordered by each of the other three districts and provides connectivity between and among all parts of the PCGC campus. It is planned to include a potential 30,000-square-foot event center surrounded by large landscaped areas to the north and south. The landscaping north of the event center would include retention of existing trees and planting of additional trees and vegetation to create an urban forest crossed by a network of pedestrian and bicycle paths. The landscaping to the south

of the event center is anticipated to consist of an approximately 3-acre turfed space that would be available for informal gathering as well as planned events. This district would also include an intermodal transit station at County Center Drive north of B Avenue.

DeWitt District

This district is planned to include five existing, original DeWitt General Hospital buildings that would be retained on site and may be partially converted to include museum space that would provide educational and interpretive exhibits regarding the history of the area. The buildings proposed to be retained within this district include the chapel located on B Avenue and the four hospital wing buildings located to the south of the chapel. As described in the Potential County Projects discussion of the PCGC Master Plan Update, this museum would include a warehouse facility of approximately 19,700 square feet that would be used for administrative office and archival storage needs for the Placer County Museums Division. Outside of museum space, other building uses could include incubator and maker spaces, art studios, and community meeting space.

Mixed-Use District

This district would be in the southeastern portion of the site, south and west of the existing Home Depot store. The district would include a mixture of multifamily residential uses and commercial and office uses. It may also include a hotel. This district also includes a small residential area in the southwest corner of the project site. Based on the economic assessment and Facility Utilization Needs Assessment, the PCGC Master Plan Update identifies that the Mixed-Use District could accommodate up to 485 dwelling units, a 101-room hotel, and 140,000 square feet of non-residential space.

Multifamily Residential

As noted in the introduction of this report, this study includes a project-level analysis of two components of the proposed PCGC Master Plan Update. The first is a multifamily residential (MFR) development located in the northeastern portion of the project site on the east side of 1st Street. **Figure 3** shows the location of this MFR site within the PCGC campus. This site consists of approximately 3 acres. Under the current CPD zoning for the site, residential density is limited to a maximum of one unit for each 2,000 square feet of lot area, which correlates to 21.78 units per acre. Under these standards, the site could accommodate a maximum of 65 dwelling units. However, the proposed modification of the zoning for this area to include the TC overlay would allow for increased density, with a maximum of 30 dwelling units per acre. This study analyzes development of 100 multifamily residential dwelling units at this site.

Coinciding with the construction of this MFR development, the County plans to realign 1st Street approximately 150 feet to the east, as proposed in the PCGC Master Plan Update. As noted above, this will result in a new three-leg intersection at Bell Road east of Blue Oaks Drive. With this realignment, northbound left-turns from 1st Street onto Bell Road would be prohibited. Westbound left-turns and eastbound right-turns onto 1st Street from Bell Road would still be permitted, as would northbound right-turns from 1st Street onto Bell Road.

Health & Human Services Building

The proposed PCGC Master Plan Update includes construction of a new HHS building near the center of the PCGC property, southwest of the proposed roundabout that would connect County Center Drive with B Avenue. It would be bounded by the existing B Avenue, C Avenue, Rustic Lane, and Richardson Drive. Under the proposed PCGC Master Plan Update, Rustic Lane would be renamed to County Center Drive and extended to the southeast. The HHS building would be placed on the eastern portion of this site, with frontages on B Avenue, County Center Drive, and C Avenue, and with parking extending westerly to Richardson Drive. **Figure 3** shows the location of the HHS building within the PCGC campus.

This building would be constructed on behalf of the County under a currently undetermined design and construction delivery process. Detailed building plans will be prepared in the future. The following description of the proposed HHS building is based on the Facility Programming Report (Dreyfuss + Blackford 2016), which defines the anticipated site; building size, usage, space types and adjacencies; and basic building systems.

The proposed new building would allow the County to respond to Placer County's increasing population and shifting demographics, which contribute to increased demands for County public services. Further, the proposed new building would allow the County to consolidate the six HHS divisions – Administration, Adult System of Care, Children's System of Care (CSOC), Environmental Health, Human Services, and Public Health – in a single location. The existing employees of these divisions are currently located at the PCGC campus in several buildings, except for CSOC, which is located on Enterprise Drive in Auburn. A small employment development office of the Human Services division is also located off campus on Grass Valley Highway in North Auburn, less than a mile away. Based on information provided by Placer County staff, the existing HHS employees are located as follows:

- Existing HHS employees at the PCGC campus: 310 employees
- Existing CSOC employees located on Enterprise Drive in Auburn: 120 employees
- Existing Human Services employees on Grass Valley Highway in North Auburn: 5 employees

The new consolidated HHS building is expected to consist of approximately 135,701 square feet. Once the building is completed, the HHS divisions will vacate their current locations, both on and off the PCGC campus, and move into the new consolidated facility. Therefore, the new HHS building would house the approximately 435 existing HHS employees that serve the Auburn service area. The new HHS building would also accommodate the anticipated employee growth over the next 20 years. Projections of staff growth for the HHS division were developed based upon "increasing population densities within the Auburn service areas of the County; expansion of services to unincorporated areas of the County; administrative conformance with new regulations; and ongoing maintenance of existing infrastructure" (Dreyfuss + Blackford 2016). Based on the staffing projections completed in preparation of the Facility Programming Report, it is expected that the HHS building would house up to approximately 577 employees in 2035 (Dreyfuss + Blackford 2016). Therefore, this study analyzes the traffic effects of consolidating the existing HHS employees into the proposed new HHS building as well as increasing the total number of HHS employees to 577 employees.

The site is anticipated to accommodate parking for 406 employees initially, with the potential to add 56 spaces in the future. Parking would also be provided for 48 visitors and 40 fleet vehicles. The parking lot would extend from the building westerly to Richardson Drive.

Multifamily Residential Project Site

Health & Human Services Building Project Site

Figure 3

Multifamily Residential & Health and Human Services Building Project Sites

Study Area

This study analyzes potential transportation and traffic impacts to study transportation facilities on and around the PCGC campus. The roadway segments and intersections analyzed in this study are in unincorporated Placer County and are under Placer County's jurisdiction except for intersections and roadway segments along SR 49, which are under Caltrans jurisdiction. **Figure 4** shows the location of the study roadway segments and intersections.

As described in the Regulatory Setting section of this report, Placer County and Caltrans apply different LOS standards and significance criteria to roadway facilities under their jurisdiction. **Table 1** and **Table 2** present the list of study roadway segments and intersections, respectively, and identify the presiding jurisdiction and LOS standard for each intersection.

Study roadway segments are analyzed based on daily traffic volumes; while study intersections are analyzed during weekday a.m. and p.m. peak hour conditions. The study roadway segments and intersections are listed below.

Study Roadway Segments

Table 1: Study Roadway Segments – Level of Service Standards

Intersection	Jurisdiction	LOS Standard	Source
1. Atwood Road: West of SR 49	Placer County	C	Placer County General Plan Policy 3.A.7
2. Bell Road: West of SR 49		C	
3. SR 49: Luther Road to New Airport Road	Caltrans[1]	D	SR 49 TCR Concept LOS – Segment 9
4. SR 49: New Airport Road to Atwood Road		D	
5. SR 49: Atwood Road to Willow Creek Drive		D	
6. SR 49: Willow Creek Drive to Bell Road		D	
7. SR 49: North of Bell Road		D	SR 49 TCR Concept LOS – Segment 10

Notes:

1. The *State Route 49 Transportation Concept Report* (2017) identifies a Concept LOS D on segments of SR 49 in the study area. By definition, the Concept LOS is the minimum acceptable LOS.

Source: *Placer County General Plan*, 2013; *State Route 49 Transportation Concept Report*, 2017.

Study Intersections

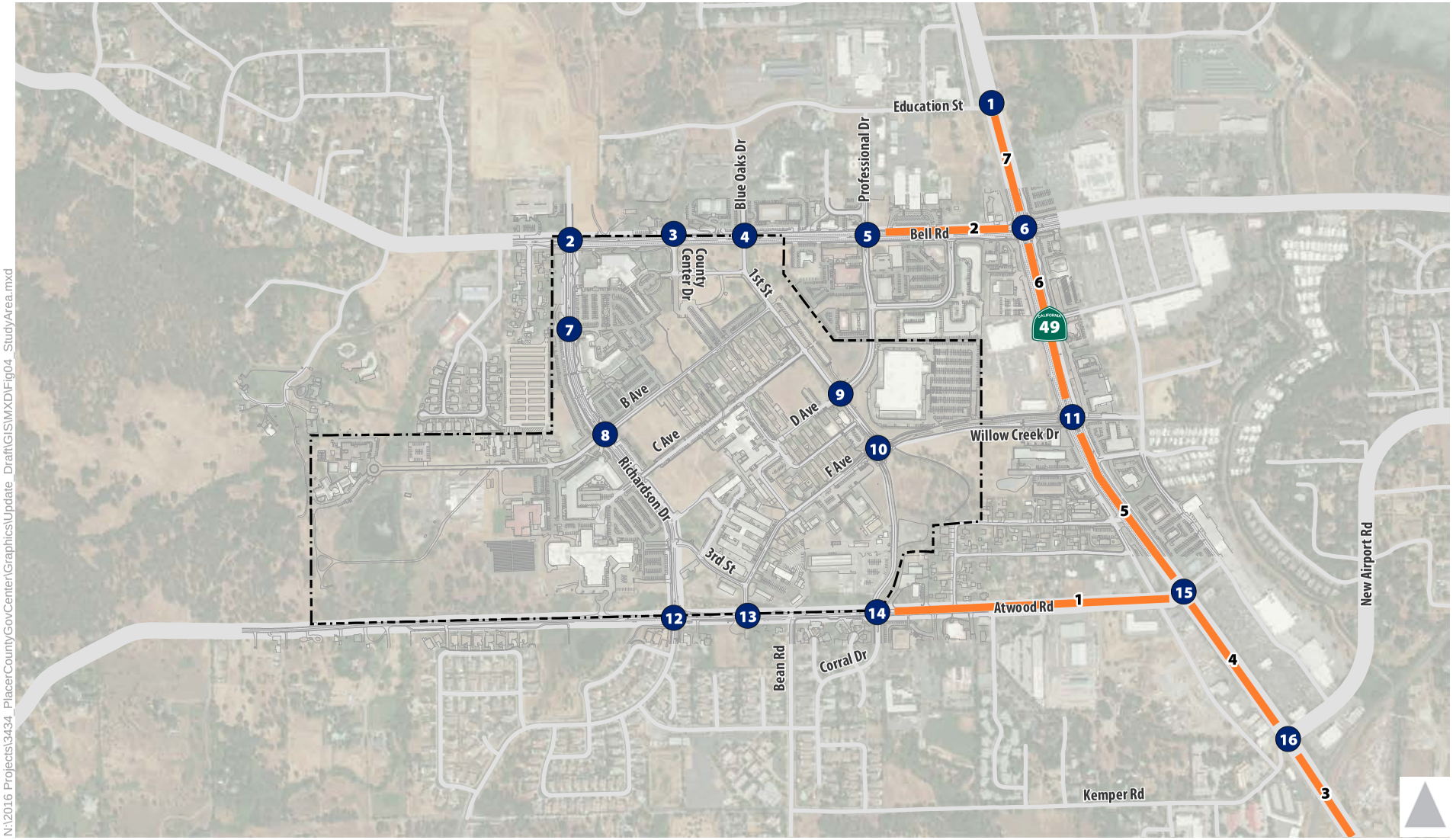
Table 2: Study Intersections – Level of Service Standards

Intersection	Jurisdiction	LOS Standard	Source
1. SR 49 / Education St.	Caltrans[1]	D	SR 49 TCR Concept LOS – Segment 10
2. Richardson Dr. / Bell Rd.	Placer County	C	Placer County General Plan Policy 3.A.7
3. County Center Dr. / Bell Rd.	Placer County	D[2]	
4. 1st St./Blue Oaks Dr. / Bell Rd.	Placer County	D[2]	
5. Professional Dr. / Bell Rd.	Placer County	D[2]	
6. SR 49 / Bell Rd.	Caltrans	D	SR 49 TCR Concept LOS – Segment 9
7. Richardson Dr. / DeWitt Ave.	Placer County	C	Placer County General Plan Policy 3.A.7
8. Richardson Dr. / B Ave.	Placer County	C	
9. 1st St. / D Ave./Professional Dr.	Placer County	C	
10. 1st St. / F Ave./Willow Creek Dr.	Placer County	D[2]	
11. SR 49 / Willow Creek Dr.	Caltrans	D	SR 49 TCR Concept LOS – Segment 9
12. Richardson Dr. / Atwood Rd.	Placer County	C	Placer County General Plan Policy 3.A.7
13. 3rd St. / Atwood Rd.	Placer County	C	
14. Coral Dr./1st St. / Atwood Rd.	Placer County	D[2]	
15. SR 49 / Atwood Rd.	Caltrans	D	SR 49 TCR Concept LOS – Segment 9
16. SR 49 / Kemper Rd./New Airport Rd.	Caltrans	D	

Notes:

1. The *State Route 49 Transportation Concept Report* (2017) identifies a Concept LOS D on segments of SR 49 in the study area. By definition, the Concept LOS is the minimum acceptable LOS.
2. Placer County intersections within one-half mile of an intersection on SR 49 have a LOS D standard per Policy 3.A.7 in the *Placer County General Plan*.

Source: *Placer County General Plan*, 2013; *State Route 49 Transportation Concept Report*, 2017.



1 Study Intersection

1 Study Roadway Segment

PCGC Boundary

N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig04_StudyArea.mxd

Figure 4

Study Area

Analysis Scenarios

As noted at the beginning of this report, this study includes a programmatic analysis of the implementation of the proposed PCGC Master Plan Update as well as project-level analysis of a new HHS building and a 100-unit MFR development. Therefore, this study analyzes traffic conditions for the following scenarios:

- Existing Conditions: represents current conditions and the existing setting upon which project-specific impacts are judged
- Existing Plus Multifamily Residential (MFR) Development: represents existing conditions plus the 100-unit multifamily residential development at the northeast corner of the PCGC campus. This includes the realignment of 1st Street 150 feet east of Blue Oaks Drive.
- Existing Plus Health & Human Services (HHS) Building: represents existing conditions plus the construction and full occupation of (i.e., 577 employees) the proposed HHS building at the center of the PCGC campus. This includes consolidation of existing HHS employees from both on and off the PCGC campus into the new proposed HHS building.
- Existing Plus PCGC Master Plan Update: represents existing conditions plus the full buildout of the proposed PCGC Master Plan Update. This includes proposed land development and proposed transportation and circulation changes on the PCGC campus.
- Cumulative No Project: represents future (i.e., 2036) conditions, including the completion of reasonably foreseeable land development projects and transportation projects. This includes land development as forecasted in the North Auburn sub-area travel forecasting model. This travel forecasting model includes regional background growth originally developed by the Sacramento Area Council of Governments (SACOG) as well as more detailed forecasts in Placer County. On the PCGC campus, this scenario assumes additional County employees to support projected population growth in Placer County, but does not assume any additional development (i.e., new non-governmental buildings or demolition and replacement of existing buildings).
- Cumulative Plus Multifamily Residential (MFR) Development: represents cumulative no project conditions plus the 100-unit multifamily residential development at the northeast corner of the PCGC campus.
- Cumulative Plus Health & Human Services (HHS) Building: represents cumulative no project conditions plus the construction and full occupation of (i.e., 577 employees) the proposed HHS building at the center of the PCGC campus. This includes consolidation of existing HHS employees from both on and off the PCGC campus into the new proposed HHS building.
- Cumulative Plus PCGC Master Plan Update: represents cumulative no project conditions plus the full buildout of the proposed PCGC Master Plan Update. This includes proposed land development and proposed transportation and circulation changes on the PCGC campus.

2. Study Methodology

This chapter presents the analysis methodology, regulatory setting, and significance criteria applied in this study.

Analysis Methods

This study analyzes traffic operations using level of service (LOS) as the primary measure of performance. Automobile LOS is a qualitative description of traffic flow from the perspective of motorists. The *Highway Capacity Manual* (HCM) defines six levels of service from LOS A representing the least congested traffic conditions to LOS F representing the most congested traffic conditions. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver.

Roadway Operations

This study analyzes roadway segments within Placer County in accordance with daily traffic volume thresholds established in the *Placer County Countywide General Plan EIR, Transportation and Circulation* (1994). **Table 3** presents these daily traffic volume LOS thresholds.

Table 3: Roadway Segment Level of Service Thresholds – Placer County

Roadway Type	Daily Two-Way Volume Thresholds				
	LOS A	LOS B	LOS C	LOS D	LOS E
2-lane Arterial – Moderate Access Control[1]	10,800	12,600	14,400	16,200	18,000
4-lane Arterial – Moderate Access Control[1]	21,600	25,200	28,800	32,400	36,000
5-lane Arterial – Moderate Access Control[1]	27,000	31,500	36,000	40,500	45,000
6-lane Arterial – Moderate Access Control[1]	32,400	37,800	43,200	48,600	54,000

Notes:

1. Moderate access controlled arterials are defined in the Countywide General Plan Final EIR as roadways with 2-4 stops per mile, moderate driveway access, and speeds of 30 to 35 mph.

Source: Countywide General Plan Final Environmental Impact Report, Placer County, 1994.

All study roadway segments most closely match the definition of a "moderate access controlled" arterial (as opposed to a "low access controlled" or "high access controlled" arterial); therefore, all study roadway segments are analyzed using the thresholds presented in **Table 3** above.

Intersection Operations

Intersection LOS is based on the control delay experienced by motorists traveling through the intersection.

Signalized Intersections

This study analyzes traffic operations at signalized intersections using the procedures described in Chapter 19 of the HCM 6th Edition. Signalized intersection LOS is based on the weighted average control delay measured in seconds per vehicle for the overall intersection. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. **Table 4** presents the delay range for each LOS for signalized intersections. Note that in addition to these delay ranges, if an intersection experiences a volume-to-capacity ratio that exceeds 1.0, it represents failure (i.e., LOS F) from a capacity perspective regardless of the delay.

Table 4: Level of Service Definitions – Signalized Intersections

Level of Service	Description	Average Control Delay[1]
A	Volume-to-capacity ratio is low and either progression is exceptionally favorable or cycle length is very short. Most vehicles arrive during the green phase and travel through the intersection without stopping.	≤ 10
B	Volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.	>10 to 20
C	Progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 to 35
D	Volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	>35 to 55
E	Volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.	>55 to 80
F	Volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	>80

Notes:
1. Average control delay presented in seconds per vehicle.

Source: *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

Unsignalized Intersections

This study analyzes traffic operations at unsignalized intersections using the procedures described in Chapters 20, 21, and 22 of HCM 6th Edition. Similar to signalized intersections, the HCM methodology for unsignalized intersections reports the LOS based on the control delay experienced by motorists traveling through the intersection. For roundabout and all-way stop-controlled intersections, this study reports the weighted average control delay for all motorists traveling through the intersections, as prescribed by the HCM 6th Edition. For side-street stop-controlled intersections, this study reports the weighted average control delay for movements that yield the right-of-way, as described in the Placer County Department of Public Works *Impact Analysis Methodology of Assessment* memorandum (2015).

The delay ranges and LOS criteria for unsignalized intersections differ somewhat from the criteria for signalized intersections, primarily because user perceptions differ between these facility types. Users expect that a signalized intersection is designed to carry higher traffic volumes and will present greater delay than an unsignalized intersection. Unsignalized intersections are also associated with more uncertainty for users as delays are less predictable than they are at signals. **Table 5** presents the delay range for each LOS for unsignalized intersections.

Table 5: Level of Service Criteria – Unsignalized Intersections

Level of Service	Control Delay[1]
A	≤ 10
B	>10 to 15
C	>15 to 25
D	>25 to 35
E	>35 to 50
F	>50

Notes:

1. Control delay presented in seconds per vehicle. Delay values are rounded to the nearest second and evaluated for LOS based on the above thresholds (i.e., 10 seconds per vehicle = LOS A)

Source: *Highway Capacity Manual, 6th Edition*, Transportation Research Board, 2016.

This study analyzes signalized and stop-controlled intersections using the Synchro software program. Synchro applies the methodologies presented in the HCM 6th Edition. This program considers traffic volumes, lane configurations, signal timings, signal coordination, and other pertinent parameters of intersection operations.

Signal Warrant Analysis

This study also analyzes peak hour signal warrants for all unsignalized study intersections for all scenarios. This analysis applies the criteria described in Section 4C.04 of the California Manual on Uniform Traffic Control Devices (MUTCD). The MUTCD criteria includes two peak hour warrant charts: a standard chart for use in most urban locations and a "70% Factor" chart that has a lower traffic volume threshold (i.e., more likely to show a traffic signal is warranted). The MUTCD states that the 70% Factor chart may be used in place of the standard chart if the posted speed limit or the 85th-percentile speed on the major street exceeds 40 miles per hour (mph). Since Bell Road has a posted speed limit of 40 mph, this study uses the 70% factor for the signal warrant analysis at unsignalized study intersections along Bell Road. All other unsignalized study intersections are located along segments of Richardson Drive, 1st Street, or Atwood Road, which have a posted speed limit of 35 mph or less. Therefore, this study uses the standard chart for the signal warrant analysis at all other unsignalized study intersections.

The peak hour signal warrant is one of nine warrants included in the MUTCD. The MUTCD states that the investigation of the need for a traffic control signal shall include the applicable factors contained in these nine warrants. As stated in the MUTCD, the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. For purposes of this study, the peak hour signal warrant is used as an indicator of whether peak hour traffic conditions may warrant a signal. However, a full engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of a specific intersection would be necessary to fully determine if a traffic signal is justified.

Traffic Forecasting

This study uses the North Auburn sub-area travel forecasting model to forecast vehicle traffic volumes in the study area. A travel forecasting model is a computer program that models land use and transportation interaction to forecast traffic levels and travel patterns for a specific geographic area. The North Auburn model is run in Citilabs Cube software and consists of input files that summarize the area's land use and roadway network. The output includes projections of traffic volumes on major roads and peak hour turning movements at key intersections.

The North Auburn travel forecasting model is based on the Placer County model, which was developed by DKS Associates. The Placer County model has an original base year of 2008 and future year of 2025. However, the model's 2025 land use forecast was comparable to SACOG's 2035 MTP land use inputs when the North Auburn model was developed in 2008, showing almost 70% more growth in residential units and slightly less non-residential development than the SACOG 2035 MTP forecast. Furthermore, these original 2025 forecasts were developed prior to the Great Recession of 2008-09, which resulted in a significant downturn in land development in the late 2000's and early 2010's. Therefore, the "2025" land use forecast

more closely corresponds with, or in some cases may exceed, the 2036 forecasts reflected in SACOG's current 2016 MTP/SCS for the study area. Since the North Auburn travel forecasting model is based on the Placer County model, which itself includes regional inputs for the SACOG region, the future year model reflects approved and planned development throughout the SACOG region.

The North Auburn model uses the following four-step process to assign traffic to the transportation network:

1. Trip Generation: estimates the amount of traffic generated by land development based on the type and quantity of land use, as entered through a land use input file

2. Trip Distribution: distributes trips within the region based on the pairing of productions (i.e., households where trips are produced, or beginning of a trip between two non-residential uses) and attractions (destination of a household-based trip or a trip between two non-residential uses). This distribution considers opportunities presented by complimentary land uses (e.g., housing and jobs; housing and retail/services; etc.), trip purpose (e.g., commute trips, shopping trips, school trips, etc.), and travel distance.

3. Mode Choice: determines mode of travel (auto – single occupancy, auto – high occupancy, freight, etc.). The North Auburn travel forecasting model is limited to vehicle trips; and the trip generation rates in Step 1 above only reflect vehicular trip generation.

4. Trip Assignment: assigns trips to the roadway network based on trip generation, trip distribution, and travel mode. The trip assignment considers congested roadway segment speeds, distance, and access restrictions (e.g., intersection turn restrictions) to determine the lowest travel time paths.

As part of reviewing the North Auburn model's applicability for this project, this study reviewed static validation results for study area roadways. The static validation process reviews the model outputs and compares them to actual traffic counts to determine how well the model matches observed travel patterns. Four different statistics, as identified by the California Transportation Commission (CTC) in the *2017 California Regional Transportation Plan Guidelines* (2017), were reviewed as part of this process, including:

- Model-to-count ratio: computed by dividing the volume assigned by the model and the actual traffic count for individual roadways area-wide. The *Guidelines* set a standard that the two-way sum of all study link model volumes should be within 10 percent of the counts.

- Deviation: difference between the model volume and the actual count divided by the actual count. Maximum desirable deviations range from approximately 14 to 68 percent depending on the total volume. The *Guidelines* standard is that 75 percent or more of links studied are within the maximum deviation.

- Percent root mean square error (RMSE): square root of the model volume minus the actual count squared divided by the number of counts. It is a measure similar to the standard deviation in that it assesses the accuracy of the model. The *Guidelines* standard is that the percent RMSE is less than or equal to 30 percent for the links studied in the model.

- Correlation Coefficient: estimates the correlation between actual traffic counts and the estimated travel volumes from the model. The *Guidelines* standard is that the correlation coefficient be greater than or equal to 0.88 for links studied in the model.

Table 6 presents the static validation statistics of the North Auburn base year sub-area travel forecasting model for study area roadways as compared to traffic counts collected in 2016. As shown, this static validation tests were conducted during the a.m. and p.m. peak hours only, since these were the primary study time periods for the traffic analysis and the time periods during which most data were collected.

As shown in **Table 6**, the roadway links in the PCGC study area generally meet the criterion targets identified in the *California Regional Transportation Plan Guidelines* during the a.m. and p.m. peak hours, except for the model-to-count ratio during the a.m. peak hour, which is slightly below the ±10% criterion target.

Table 6: Base Year Static Model Validation – PCGC Study Area

Validation Statistic	Criterion Targets[1]	North Auburn Travel Forecasting Model	
		AM Peak Hour	PM Peak Hour
Model-to-Count Ratio	± 0.10	**0.88**	1.04
Percent of Links within Maximum Deviation	> 75%	94%	100%
Percent RMSE	≤ 30%	15%	9%
Correlation Coefficient	> 0.88	1.00	1.00

Notes:
1. Criterion targets obtained from *2017 California Regional Transportation Plan Guidelines* (CTC, January 2017)
Bold text indicates where results do not meet CTC acceptance criterion.
Source: Fehr & Peers, 2018.

Regulatory Setting

This section summarizes the local transportation policies and regulations that are applied as part of this study. This information provides context for the impact discussion related to the proposed project's consistency with applicable regulatory conditions. Further, this study analyzes impacts to traffic operations by comparing the LOS analysis results against LOS policies and standards established by Placer County and Caltrans.

Placer County

Placer County General Plan

The *Placer County General Plan* (Placer County, 2013) provides long-range direction and policies for the use of land within Placer County. For the transportation and circulation system serving the project, the Placer County General Plan establishes an overall roadway system including a roadway functional classification system and designates a series of transit development corridors generally along I-80 and SR 65. In addition, six modal goals are presented that are supported by numerous policies and implementation programs. For the purposes of this study, the goals and policies of the Placer County General Plan are used in developing the impact significance criteria.

The following transportation policies in the Placer County General Plan are relevant for this study:

Policy 3.A.5. Through-traffic shall be accommodated in a manner that discourages the use of neighborhood roadways, particularly local streets. This through-traffic, including through truck traffic, shall be directed to appropriate routes in order to maintain public safety and local quality of life.

Policy 3.A.7. The County shall develop and manage its roadway system to maintain the following minimum levels of service (LOS), or as otherwise specified in a community or specific plan.

a. LOS "C" on rural roadways, except within one-half mile of state highways where the standard shall be LOS "D".
b. LOS "C" on urban/suburban roadways except within one-half mile of state highways where the standard shall be LOS "D".
c. An LOS no worse than specified in the Placer County Congestion Management Program (CMP) for the state highway system.

Temporary slippage in LOS C may be acceptable at specific locations until adequate funding has been collected for the construction of programmed improvements.

The County may allow exceptions to the level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.
- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.
- Environmental impacts including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- The impacts on general safety.
- The impacts of the required construction phasing and traffic maintenance.
- The impacts on quality of life as perceived by residents.
- Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards.

Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.

Policy 3.A.11. The County shall require an analysis of the effects of traffic from all land development projects. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project consistent with Policy 3.A.7. Such improvements may include a fair share of improvements that provide benefits to others.

Auburn/Bowman Community Plan

The Auburn/Bowman Community Plan is a community plan that sets forth goals, policies, assumptions, guidelines, standards, plan proposals, and implementation measures to guide future growth of the Auburn/Bowman area. The Auburn/Bowman Community Plan encompasses an area of approximately 40 square miles generally west of the Meadow Vista and Clipper Gap, south of the Bear River, east of Ophir, and north of Horseshoe Bar/Penryn.

While Policy 3.A.7 of the Placer County General Plan establishes a general LOS minimum for the County, it also allows community or specific plans to include policies that establish a minimum LOS standard that differs from the Countywide LOS minimums identified in Policy 3.A.7. To that end, Policy V.C.5 in the Auburn/Bowman Community Plan states the following:

Policy V.C.5 The level of service (LOS) minimum standard for roadways and intersections throughout the Plan area shall generally be LOS C. Exceptions to this standard are listed in Table 17. Land development improvement requirements shall be set to sustain LOS C at all roadway and intersection locations for as long as possible.

Table 17: Exceptions to Level of Service (LOS) C Standard within Auburn/Bowman Community Plan Area

Location	LOS Standard
Roadways	
1a) SR 49 – Nevada County line to Joeger Road line	F
1b) SR 49 – Joeger Road to Dry Creek Road	E
1c) SR 49 – Dry Creek Road to Bypass	F
1d) SR 49 – Bell Road to Atwood Road	D
1e) SR 49 – Atwood Road to Edgewood Road	E
1f) SR 49 – Edgewood Road to Auburn city limits	F
1g) SR 49 – Auburn city limits to El Dorado County line	F
2a) I-80 – Newcastle to Auburn city limits	F
2b) I-80 – Auburn city limits to Auburn Ravine interchange	F
2c) I-80 – Auburn Ravine interchange to Bowman interchange	E
3) SR 49 Bypass – I-80 to Bell Road	D/E
4) Auburn Ravine Road – I-80 overcrossing	E
5) Lincoln Way – Sylvan Vista to Bowman	D
Intersections	
1) SR 49/Florence Drive	E
2) SR 49/Bell Road	D
3) SR 49/Luther Road	E
4) SR 49/Nevada Street	E
5) I-80 (Eastbound)/SR 49 Bypass	D
6) Bowman Road/SR 49 Bypass	D
7) Bell Road/Bypass	D
8) SR 49/Bypass	F

NOTE: This list does not include LOS deficiencies for the City of Auburn.

The Auburn/Bowman Community Plan also contains the following transportation policies, which are relevant for this study:

Policy V.C.6 Land development projects shall be approved only if the identified LOS standards can be sustained on the Plan area road network and intersections after: a) traffic from approved projects has been added to the system, and b) improvements funded by this program are in place.

NOTE: This will sometimes result in temporary violation of level of service (LOS) standards until adequate funding has been collected for the construction of program improvements.

Policy V.C.8 Any part of a CIP-listed improvement which is "on-site" or "frontage" to a land development project, shall be constructed by that project. Such construction shall be required by conditions of approval placed on that project.

Policy V.C.10 Traffic mitigation fee programs and ordinances shall be based on peak-period road network usage by traffic from proposed projects. Such road network usage shall be estimated using standard reference sources, such as the Institute for Transportation Engineers (ITE). Fees shall be collected when building permits are issued. The fee program shall be implemented by County ordinance.

Policy V.C.11 The road network within the Plan area shall be coordinated with road networks of adjacent jurisdictions, particularly the City of Auburn.

Policy V.C.12 "Through" traffic which must pass through this Plan area shall be accommodated in a manner which will not encourage the use of neighborhood roadways. This through traffic shall be directed to appropriate routes in order to maintain public safety and local quality of life in outlying sections of the Plan area.

Policy V.C.13 As development of the Plan area occurs, dedication of public rights-of-way shall be required for the roads, trails, and bikeways identified in the Plan. Dedication of right-of-way as well as construction of such roads, trails, and bikeways shall be required as conditions of approval placed on land development projects.

Policy V.C.15 Transit stops, turnouts, and shelters shall be required at appropriate locations as conditions of approval for land development projects.

Placer County Impact Analysis Methodology of Assessment

The *Placer County Impact Analysis Methodology of Assessment* memorandum (Placer County, 2015) identifies the general procedures for traffic impact analyses in the County. The Placer County Department of Public Works and Facilities prepared the memorandum to ensure that project associated mitigation(s) are proportionate to the level of impact a specific project has on an intersection or roadway. This Draft EIR uses the traffic impact assessment criteria outlined in the *Impact Analysis Methodology of Assessment* memorandum to assess the significance of project traffic impacts for Placer County facilities.

Placer County Regional Bikeway Plan

The Placer County General Plan calls for the development of a comprehensive bikeway system that would provide connections between the major urban areas of the county, with linkages to bikeway systems in other jurisdictions. At the time this study was prepared, the Placer County Transportation Planning Agency (PCTPA) was updating the Placer County Regional Bikeway Plan adopted by the County in 2002. The Regional Bikeway Plan provides guidelines for the development of a countywide network of bicycle facilities and design standards (based on Caltrans standards) for new bicycle facilities. The updated Placer County Regional Bikeway Plan was recently adopted by the Placer County Board of Supervisors (BOS) in October 2018.

Caltrans

The California Department of Transportation (Caltrans) has primary responsibility for the State Highway System (SHS) in California. This includes the study area's state highways, which includes SR 49 and its intersections with local streets. As such, the following Caltrans planning and policy documents provide guidance on expectations for these routes related to traffic operations relevant to this analysis and the potential effects of the proposed project.

Transportation Concept Report (TCR)

Caltrans Transportation Concept Reports (TCR) are part of Caltrans system planning process, which fulfills Caltrans' statutory responsibility as the owner/operator of the SHS by evaluating conditions and proposing enhancements to the SHS. The purpose of the TCR is to evaluate current and projected conditions along state highway routes and communicate the vision for the development of each route in each Caltrans District during a 20-year planning horizon. The TCR is developed with the following goals to meet community and environmental needs along the corridor through integrated management of the

transportation network, including highway, transit, pedestrian, bicycle, freight, operational improvements and travel demand management strategies:

- Safety and Health
- Stewardship and Efficiency
- Sustainability, Livability and Economy
- System Performance
- Organizational Excellence

Transportation Concept Report, State Route 49

The SR 49 TCR (Caltrans, 2017) documents existing operations on SR 49 at LOS E south of Bell Road and LOS D north of Bell Road within the study area. The TCR identifies a Concept LOS of LOS D for SR 49 within the study area (from I-80 to Nevada County Line). By definition, the Concept LOS is the minimum acceptable LOS over the next 20 years.

Guide for the Preparation of Traffic Impact Studies

Caltrans's *Guide for the Preparation of Traffic Impact Studies* (Caltrans 2002) provides general guidance regarding the preparation of traffic impacts studies for projects that may have an impact on the State Highway System. The guidance identifies when a traffic study should be prepared and the methodology to use when evaluating operating conditions on the State highway system.

The *Guide for the Preparation of Traffic Impact Studies* also states that where "an existing State highway facility is operating at less than the appropriate target LOS, the existing measure of effectiveness (MOE) should be maintained." For intersection operations, the MOE is average control delay. Therefore, this study uses this threshold in the significance criteria for Caltrans facilities, as described below.

Significance Criteria

The following thresholds of significance have been used to determine whether implementing the proposed project would result in a significant transportation impact. These thresholds of significance are derived from questions posed in Appendix G of the CEQA Guidelines, thresholds of significance from applicable general plans and previous environmental documents, and professional judgment. A description of the significance criteria for each jurisdiction is provided.

Roadway System

Placer County

As noted above, Policy 3.A.7 in the Placer County *General Plan* (May 2013) establishes a minimum LOS C standard for County roadways and intersections, except within one-half mile of state highways where the standard shall be LOS D. Policy 3.A.7 also acknowledges that a community or specific plan may specify a different minimum LOS standard. To that end, the Auburn/Bowman Community Plan LOS policy establishes a LOS C standard for roadways and intersections throughout the Plan area, with specific exceptions and standards for eight intersections and 12 roadway segments.

The Placer County Department of Public Works *Impact Analysis Methodology of Assessment* memorandum (2015) identifies the use of a 0.05 increase in the volume-to-capacity (v/c) ratio or an increase in ADT of 100 or more project generated trips per lane as the threshold as the significance criteria for determining impacts to roadway segments that already operate unacceptably. Similarly, the *Impact Analysis Methodology of Assessment* memorandum identifies a four-second threshold for signalized intersections and 2.5-second threshold for unsignalized intersections as the significance criteria for determining impacts to intersections that already operate unacceptably.

The project would have a significant impact if it would:

1. Cause a signalized intersection or roadway in Placer County to worsen from an acceptable LOS to an unacceptable LOS during the a.m. or p.m. peak hours.
2. Cause an unsignalized intersection in Placer County to worsen from an acceptable LOS to an unacceptable LOS during the a.m. or p.m. peak hours and cause the intersection to meet the MUTCD peak hour traffic signal warrant.
3. Cause a roadway in Placer County that is currently (or projected to be) operating at an unacceptable LOS on a daily basis to experience an increase in v/c ratio of 0.05 or greater.
4. Increase the average daily traffic (ADT) volume by 100 or more project generated trips per lane on a roadway segment in Placer County that is currently (or projected to be) operating at an unacceptable LOS.
5. Cause a signalized intersection in Placer County that is currently (or projected to be) operating at an unacceptable LOS during the a.m. or p.m. peak hours to experience an increase in the overall average intersection delay of 4 seconds or greater.
6. Cause an unsignalized intersection in Placer County that is currently (or projected to be) operating at an unacceptable LOS during the a.m. or p.m. peak hours and meets the MUTCD peak hour traffic signal warrant to experience a 2.5-second or greater increase in delay.

Caltrans

As noted above, the SR 49 TCR identifies a Concept LOS of LOS D for SR 49 within the study area. The SR 49 TCR defines the Concept LOS D as the minimum acceptable LOS over the next 20 years. Per Caltrans's *Guide for the Preparation of Traffic Impact Studies*, where an existing State highway facility is operating at less than the Concept LOS, the existing measure of effectiveness (MOE) should be maintained." For intersection operations, the MOE is average control delay; and for roadway segments, the MOE is volume-to-capacity (v/c) ratio.

The project would have a significant impact if it would:

1. Cause an intersection or roadway under Caltrans jurisdiction to worsen from an acceptable LOS D or better to an unacceptable LOS E or F during the a.m. or p.m. peak hours.
2. Cause an intersection under Caltrans jurisdiction that is currently (or projected to be) operating at an unacceptable LOS E or F during the a.m. or p.m. peak hours to experience an increase in overall average intersection delay of 1 second or greater.
3. Cause a roadway under Caltrans jurisdiction that is currently (or projected to be) operating at an unacceptable LOS on a daily basis to experience an increase in v/c ratio of 0.01 or greater.

Bicycle & Pedestrian System

The project would have a significant impact on the bicycle and pedestrian system if it would:

- Not meet the policies related to bicycle or pedestrian travel outlined in the *Placer County General Plan*
- Interfere with the operation of an existing bicycle facility or preclude the construction of a planned bicycle facility in the *Placer County General Plan* or *Placer County Regional Bikeway Plan*
- Interfere with the operation of an existing pedestrian facility or preclude the construction of a planned pedestrian facility

Transit System

The project would have a significant impact on the pedestrian system if it would:

- Not meet the policies related to pedestrian travel outlined in the *Placer County General Plan*
- Interfere with the operation of an existing transit facility or preclude the construction of a planned transit facility
- Have a negative impact on transit operations, travel times, and/or circulation

3. Existing Conditions

This chapter describes the existing transportation system and traffic conditions within the study area. This includes the existing roadway network, transit service, bicycle facilities, and pedestrian facilities near the project site.

Roadway Network

Figure 5 displays the existing roadway network near the project, including the existing number of travel lanes on major roadways. Key roadway facilities within the study area are described below.

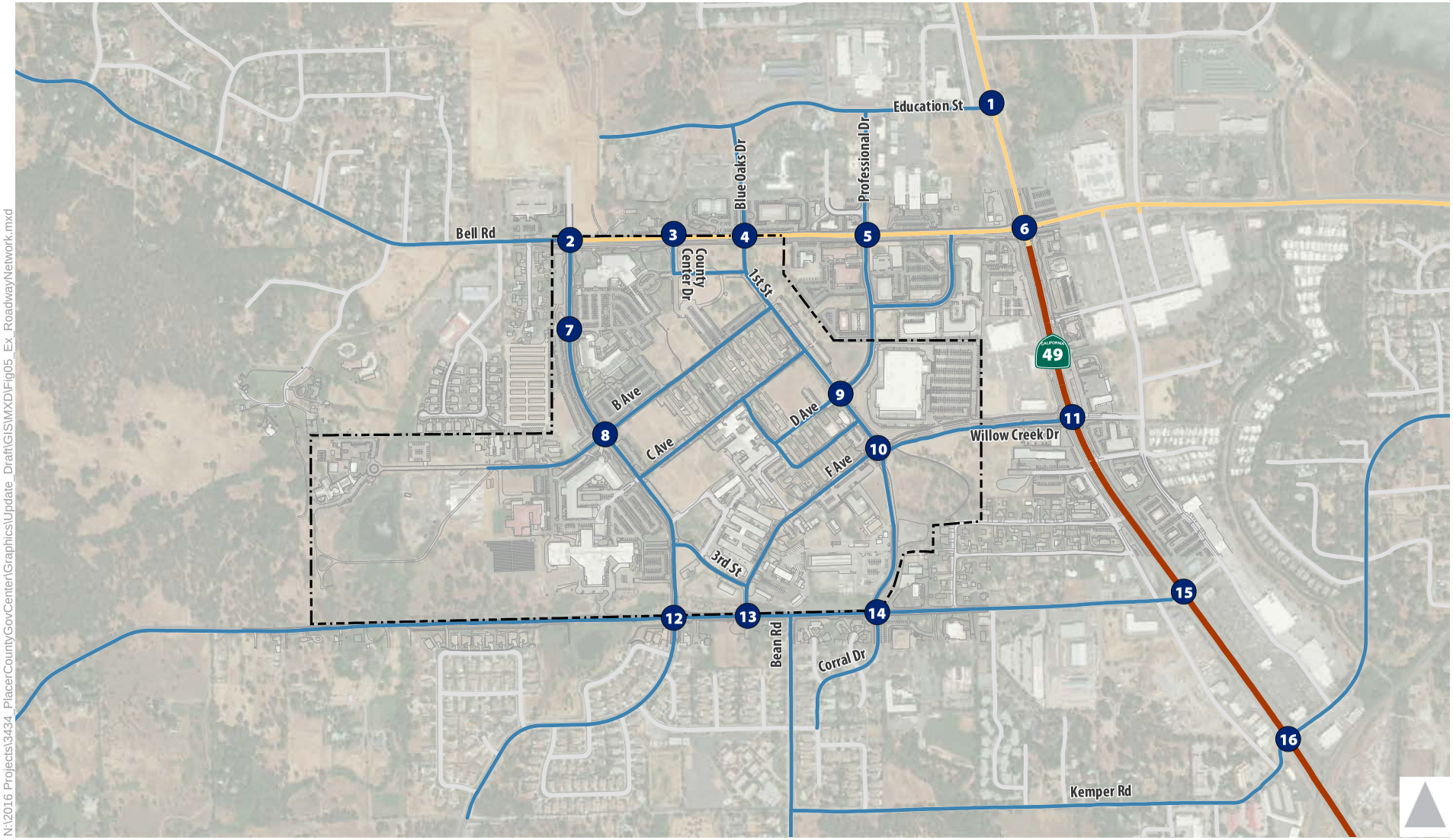
Regional access to and from the project site is provided by SR 49. SR 49 is a California state highway that runs north-south through the Auburn area. SR 49 links the PCGC campus with Grass Valley and Nevada City to the north and Interstate 80 (I-80) to the south. SR 49 is generally a four- to six-lane conventional highway with a continuous center two-way left-turn lane (TWLTL) or median. The posted speed limit is 45 miles per hour in the study area. Traffic flow on the corridor is influenced by the operation of several major signalized intersections located along SR 49 as it passes just east of the PCGC campus.

The following local roadways provide direct access to and through the PCGC campus.

- **Bell Road**, an east-west arterial in North Auburn, forms the northern edge of the PCGC campus. Bell Road is a four-lane arterial from Richardson Drive east to its terminus at an interchange with I-80. Bell Road transitions into a two-lane rural road as it meanders west into rural residential areas. Access into the project site from Bell Road is available via Richardson Drive, County Center Drive, 1st Street, Professional Drive, and Heritage Oak Place.

- **Atwood Road** is a two-lane arterial that forms the southern edge of the project site. Atwood Road begins at Mount Vernon Road and travels east to its terminus at SR 49 at the Auburn Village Shopping Center. Atwood Road has a two-way left-turn lane from SR 49 to the western edge of the PCGC campus. Access into the project site from Atwood Road is available via Richardson Drive, 3rd Street, 1st Street, and several driveways.

- **Willow Creek Drive** is a two-lane collector providing access to the eastern portion of the PCGC campus. From SR 49, Willow Creek Drive travels west into the roundabout at 1st Street located within the project site.



N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig05_Ex_RoadwayNetwork.mxd

1 Study Intersection

PCGC Boundary

Number of Lanes

2

4

6

Figure 5

Existing Roadway Network

- **Richardson Drive** is a two-lane local street that runs north-south through the PCGC campus from Kemper Road to just north of Bell Road. Richardson Drive is the main access route for many existing facilities within the PCGC campus, including the Community Development Center, the Clerk Offices, the Probation Department, and the Auburn Main Jail.

- **1st Street** is a two-lane local street that runs north-south through the PCGC campus from Atwood Road to Bell Road. 1st Street provides access to many facilities within the project site, including the Health & Human Services Department, Capital Improvements Department, and the Placer County Transit offices.

- **New Airport Road/Kemper Road** is a two-lane collector that generally runs northeast-southwest between Auburn Municipal Airport and the residential neighborhood south of the PCGC campus, with major intersections at SR 49 and Bell Road.

- **Education Street** is a two-lane east-west collector street that parallels Bell Road approximately 800 feet north of the PCGC campus. It extends approximately ½-mile west of SR 49 and dead-ends just west of Blue Oaks Drive. In the future, Education Street is planned to be continued easterly to Quartz Drive and westerly to intersect a northerly extension of Richardson Drive, which is currently under construction.

Existing Traffic Volumes

Roadway Segments

This study obtained daily roadway segment counts for all seven study roadway segments. For the Atwood Road and Bell Road locations, 48-hour roadway segment counts were collected on Wednesday, April 27 and Thursday, April 28, 2016. This study averages the two days of counts to represent an average daily traffic (ADT) level. The remaining roadway segment ADT count data was obtained from Caltrans Traffic Census Program, published in 2016. Refer to Appendix A for traffic count data.

Table 7 presents the roadway classification, average daily traffic (ADT) volume, volume-to-capacity (v/c) ratio, and LOS for the seven study roadway segments. As shown, the study roadway segments operate at an acceptable LOS C or better, except for SR 49 north of Bell Road, which operates unacceptably at LOS E.

Table 7: Roadway Segment Operations – Existing Conditions

Segment	Classification	Existing Conditions		
		ADT[1]	V/C[2]	LOS
Atwood Road: west of SR 49	2-lane Moderate Access Arterial	9,750	0.54	A
Bell Road: west of SR 49	4-lane Moderate Access Arterial	15,300	0.42	A
SR 49: Luther Road to New Airport Road	6-lane Moderate Access Arterial	42,000	0.78	C
SR 49: New Airport Road to Atwood Road	6-lane Moderate Access Arterial	40,000	0.74	C
SR 49: Atwood Road to Willow Creek Drive	6-lane Moderate Access Arterial	40,500	0.75	C
SR 49: Willow Creek Drive to Bell Road	6-lane Moderate Access Arterial	37,700	0.70	B
SR 49: north of Bell Road	4-lane Moderate Access Arterial	34,700	**0.96**	**E**

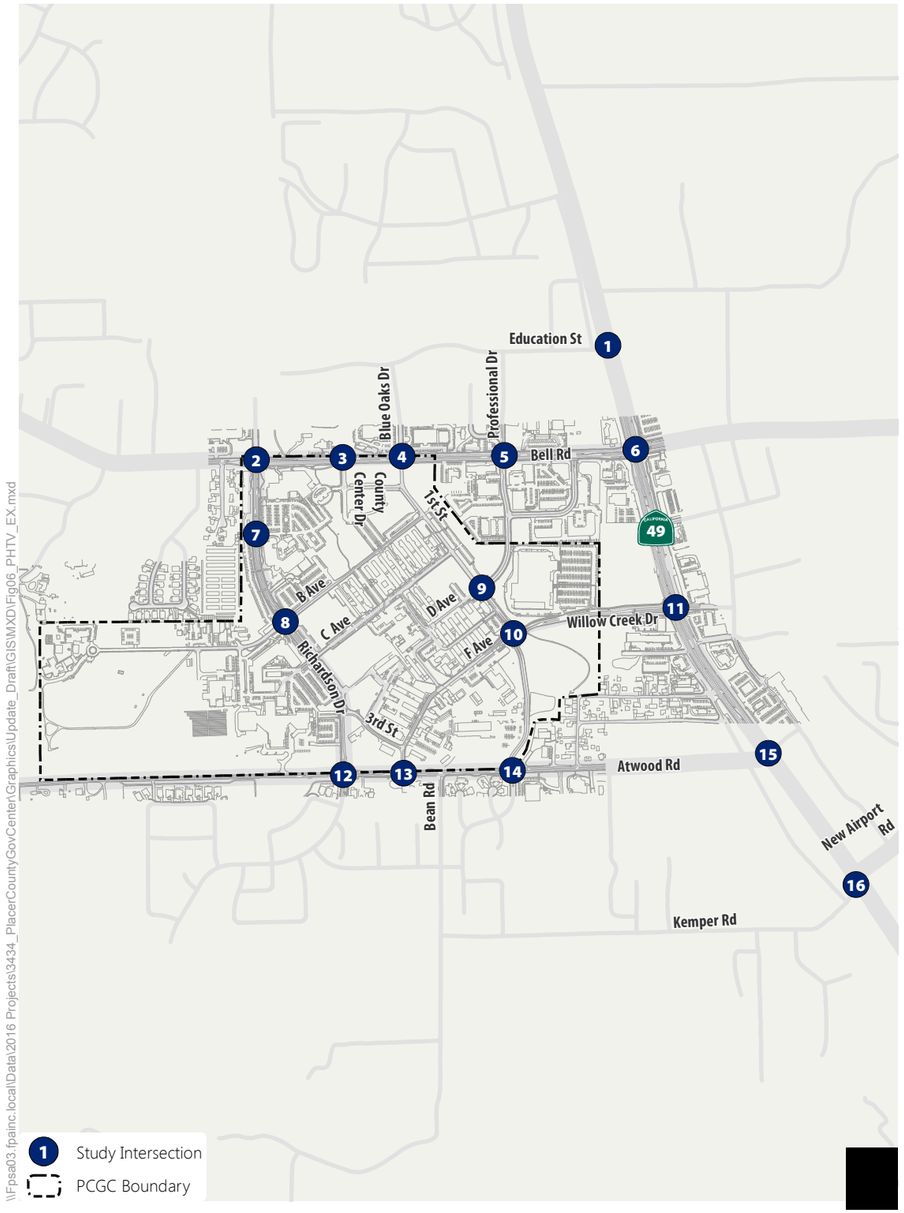
Notes:
Bold text indicates unacceptable operations.
1. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
2. V/C = volume-to-capacity ratio

Source: Fehr & Peers, 2018.

Intersection Turning Movement Counts

Intersection turning movement counts were collected at all study intersections on Thursday, April 28, 2016 during the weekday a.m. (i.e., 7:00 to 9:00 a.m.) and p.m. (i.e., 4:00 to 6:00 p.m.) peak periods. Due to the recent opening of a new retail center at the northwest corner of SR 49 / Willow Creek Drive that was only partially completed in April 2016, additional weekday a.m. and p.m. peak period turning movement counts were collected at 1st Street / E Avenue/Willow Creek Drive and SR 49 / Willow Creek Drive on Thursday, January 11, 2018.

Figure 6 presents the intersection turning lane geometrics, traffic control, and existing a.m. and p.m. peak hour traffic volumes for the 16 study intersections. The a.m. peak hour is defined as the one-hour of peak traffic flow (which is the highest total volume count over four consecutive 15-minute count periods) counted between 7:00 a.m. and 9:00 a.m. on a typical weekday. The p.m. peak hour is defined as the one-hour of peak traffic flow counted between 4:00 p.m. and 6:00 p.m. on a typical weekday.



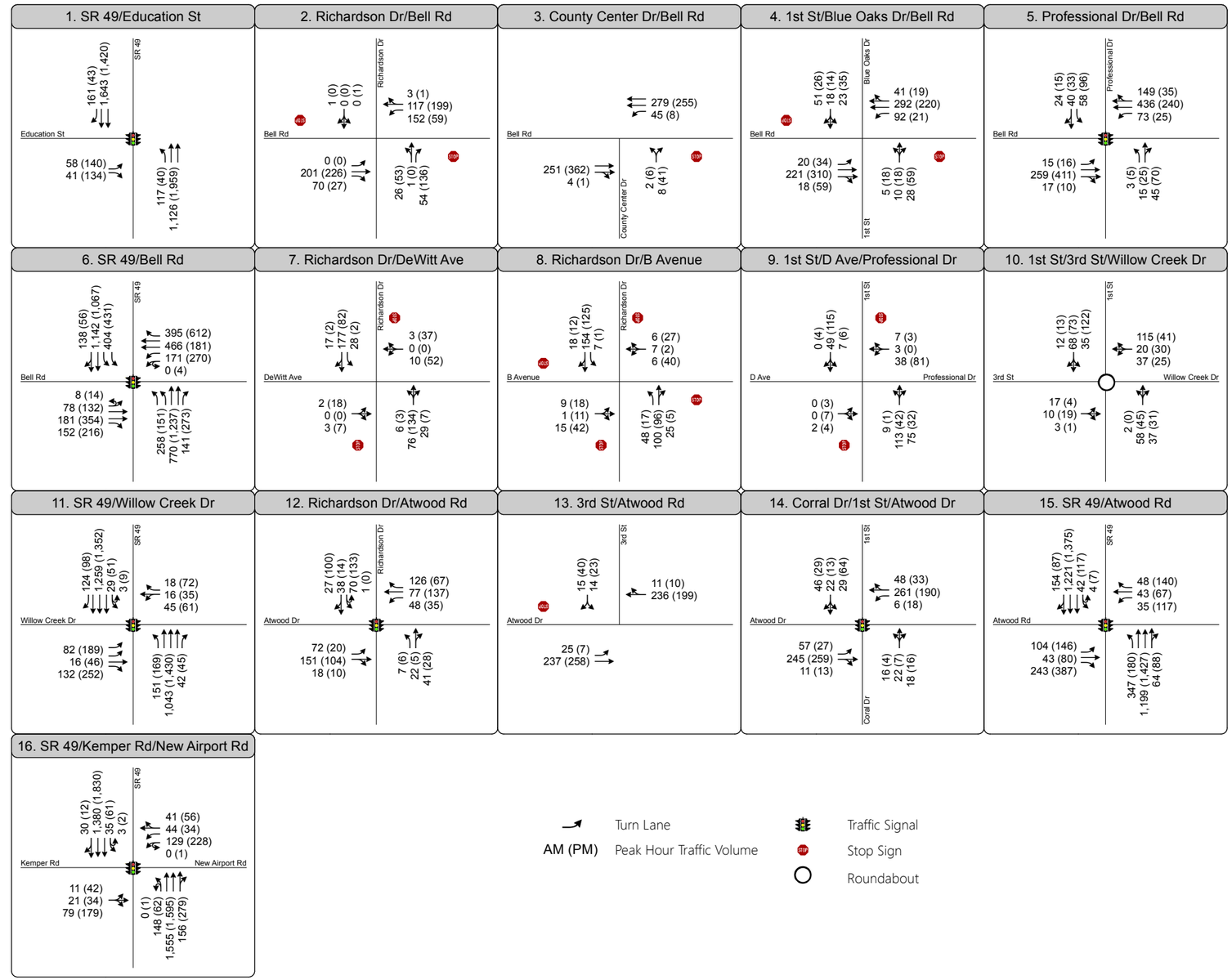


Figure 6

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

[redacted]

[redacted]

Intersection Operations

Table 8 presents the existing weekday a.m. and p.m. peak hour traffic operations analysis results at the 16 study intersections (refer to Appendix B for technical calculations). As shown, the study intersections operate at an acceptable LOS under existing conditions except the following two intersections, which operate at an unacceptable LOS E or F under existing conditions:

- SR 49 / Bell Road (#6) – LOS E during the a.m. and p.m. peak hour
- SR 49 / Kemper Road/New Airport Road (#16) – LOS F during the p.m. peak hour

Table 8: Peak Hour Intersection Operations – Existing Conditions

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions	
			Delay[2]	LOS[3]
1. SR 49 / Education St.	Signal	A.M.	9.1	A
		P.M.	9.5	A
2. Richardson Dr. / Bell Rd.	SSSC	A.M.	9.9	A
		P.M.	12.3	B
3. County Center Dr. / Bell Rd.	SSSC	A.M.	8.6	A
		P.M.	10.6	B
4. 1st St./Blue Oaks Dr. / Bell Rd.	SSSC	A.M.	15.0	B
		P.M.	16.5	C
5. Professional Dr. / Bell Rd.	Signal	A.M.	9.0	A
		P.M.	9.5	A
6. SR 49 / Bell Rd.	Signal	A.M.	**57.8**	**E**
		P.M.	**68.8**	**E**
7. Richardson Dr. / DeWitt Ave.	SSSC	A.M.	9.0	A
		P.M.	12.7	B
8. Richardson Dr. / B Ave.	AWSC	A.M.	8.6	A
		P.M.	9.7	A
9. 1st St. / D Ave./Professional Dr.	SSSC	A.M.	9.9	A
		P.M.	11.4	B
10. 1st St. / F Ave./Willow Creek Dr.	Roundabout	A.M.	3.9	A
		P.M.	4.3	A
11. SR 49 / Willow Creek Dr.	Signal	A.M.	28.2	C
		P.M.	32.9	C

Table 8: Peak Hour Intersection Operations – Existing Conditions

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions	
			Delay[2]	LOS[3]
12. Richardson Dr. / Atwood Rd.	Signal	A.M.	11.2	B
		P.M.	11.6	B
13. 3rd St. / Atwood Rd.	SSSC	A.M.	9.7	A
		P.M.	11.0	B
14. Coral Dr./1st St. / Atwood Rd.	Signal	A.M.	9.7	A
		P.M.	10.0	B
15. SR 49 / Atwood Rd.	Signal	A.M.	42.2	D
		P.M.	49.2	D
16. SR 49 / Kemper Rd./New Airport Rd.	Signal	A.M.	54.1	D
		P.M.	**81.2**	**F**

Notes:

1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized, AWSC, and roundabout intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.

Bold text indicates unacceptable operations.

All intersections are analyzed in Synchro 10.

Source: Fehr & Peers, 2018.

Peak Hour Signal Warrant Analysis

This study includes a peak hour signal warrant analysis for all side-street stop-controlled (SSSC) and all-way stop-controlled (AWSC) study intersections shown above. As described in the Analysis Methods section, this peak hour signal warrant analysis applies the standards described in Section 4C.04 of the California Manual on Uniform Traffic Control Devices (MUTCD). Based on this analysis, none of the unsignalized study intersections meet the peak hour signal warrant (Warrant 3A or 3B) under existing conditions (refer to Appendix B for signal warrant spreadsheets).

Bicycle and Pedestrian Network

Bicycle Facilities

The California Highway Design Manual (Caltrans, 2017) identifies four primary types of bicycle facilities: Class I bike paths (including shared use paths), Class II bike lanes, Class III bike routes, and Class IV separated bikeways.

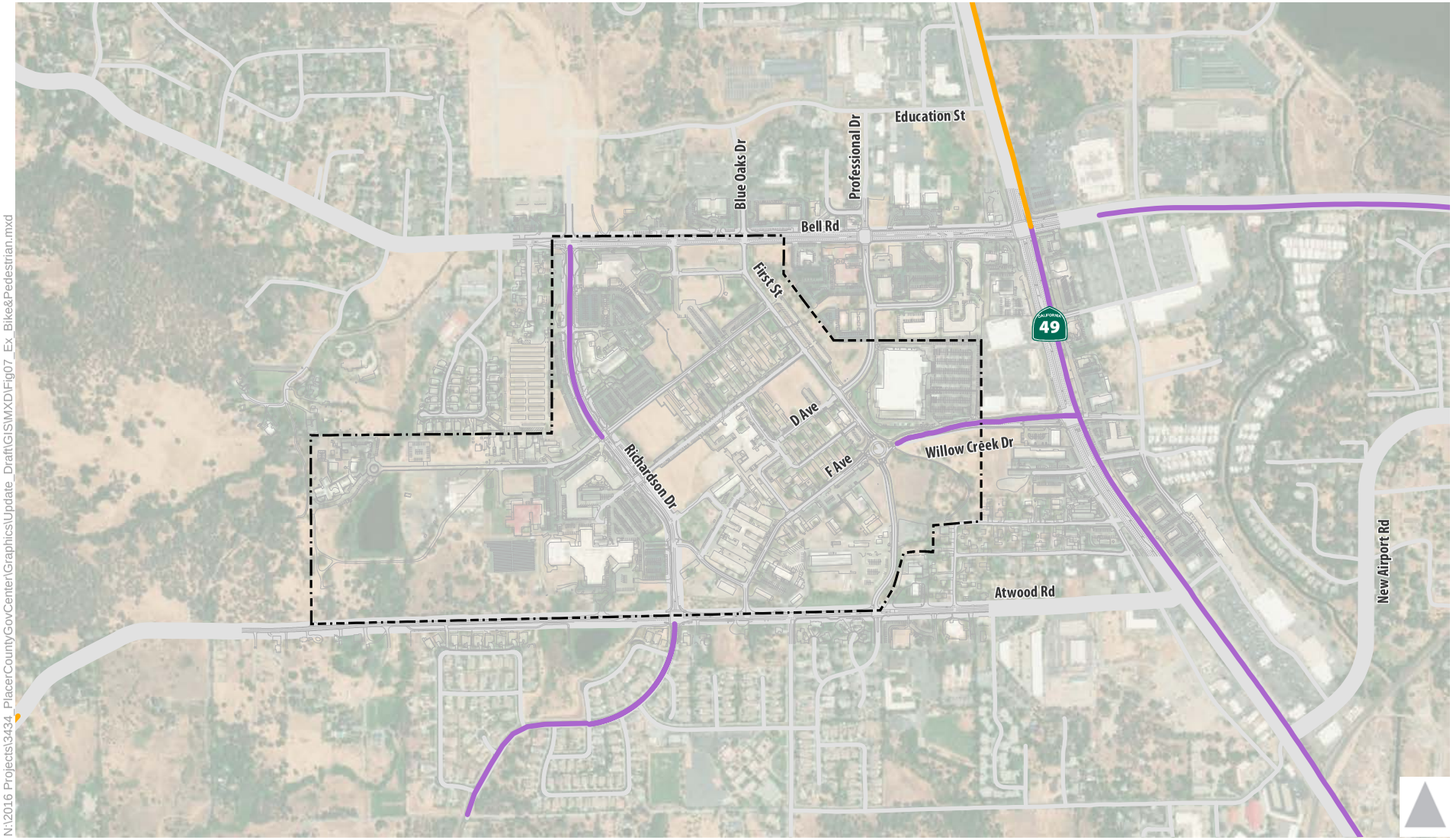
- Class I (Bike Path): A facility with exclusive right-of-way with cross flows by vehicles minimized. Motor vehicles are prohibited from bike paths. Unless adjacent to an adequate pedestrian facility, Class I facilities are for the exclusive use of bicycles and pedestrians.

- Class II (Bike Lane): A dedicated facility for bicyclists adjacent to motor vehicle traffic on streets. They are identified with striping, pavement markings, and signage. The striping on Class II bike lanes are intended to delineate the right of way assigned to bicyclists and motorist and to provide for more predictable movements by each.

- Class III (Bike Route): On-street bicycle routes where bicycles and motor vehicles share the road. They are identified with signage and may be also indicated with pavement markings (e.g.., sharrows). Class III facilities are intended to provide continuity to other bicycle facilities (usually Class II bikeways) or designate preferred routes through high demand corridors. are typically assigned to low-volume and/or low-speed streets,

- Class IV (Separated Bikeway): A facility for the exclusive use of bicycles that is separated from adjacent vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible barriers, or on-street parking. Also referred to as protected bicycle lanes or cycle tracks.

Figure 7 displays the existing bicycle facilities near the project site. As shown, Class II bike lanes are present on SR 49, Bell Road, Willow Creek Drive, and Richardson Drive. A Class III bike route is present on SR 49 north of Bell Road.



N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig07_Ex_Bike&Pedestrian.mxd

Bike Facilities

Class II - Bike Lane

Class III - Bike Route

PCGC Boundary

Figure 7

Exisiting Bicycle Facilities

Pedestrian Facilities

Sidewalks exist on both sides of many roadway segments within the study area, including Bell Road from SR 49 to 1st Street and from County Center Drive to Richardson Drive, Richardson Drive from DeWitt Avenue to 3rd Street, 1st Street from D Avenue to Willow Creek Drive, Professional Drive from Bell Road to 1st Street, Willow Creek Drive from SR 49 to Home Depot, and residential streets north, south, and east of the project site.

In some locations, however, sidewalks are only present on one side of the street, including Richardson Drive from Bell Road to DeWitt Avenue and from 3rd Street to Atwood Road, 1st Street from Bell Road to D Avenue, and Bell Road from 1st Street to County Center Drive. Sidewalks are not consistently present on either side of SR 49, with no sidewalks south of New Airport Road. SR 49 from Bell Road to Willow Creek Drive contains sidewalks on the eastern side, and some sidewalks on the western side from Willow Creek Drive to Atwood Road. Sidewalks were recently added to the east side of SR 49 from Education Street to just north of Bell Road and from Willow Creek Drive to New Airport Road. This now provides a continuous sidewalk along the east side of SR 49 from New Airport Road to Education Street.

Crosswalks exist at major intersections within the study area but are lacking or minimal at some intersections abutting the project site, including 1st Street / Bell Road. The 1st Street / Atwood Road intersection has a crosswalk on the south leg and a protected pedestrian phase (without crosswalk pavement marking) on the west. Crosswalks are available at most intersections within the project site, including those located along 1st Street and Richardson Drive, which has an unprotected striped crossing at C Avenue.

Transit Network

Placer County Transit

Placer County Transit (PCT) provides bus service throughout Placer County, including the cities of Lincoln, Roseville, Rocklin, Auburn, and Colfax, and the Town of Loomis. PCT operates one fixed-route line near the project and a dial-a-ride service for the Auburn area.

The Highway 49 route provides access to the SR 49 area, starting at the Auburn Station Transfer Center (near the junction of I-80 / SR 49) and traveling north along SR 49 to access roadways near the project site, including Atwood Road, Richardson Drive, and Bell Road. From there, it continues north to Dry Creek Road before circulating back to its south terminus.

The Highway 49 route runs Monday through Friday from 6:00 a.m. to 7:00 p.m. on one-hour headways. Two southbound express routes operate at 4:35 a.m. and 5:35 a.m., making stops at Atwood Park and Ride Lot

and Southbound Highway 49 at Luther Road before continuing to Auburn Station. Additionally, there are two Monday through Friday northbound runs at 8:00 p.m. and 9:00 p.m. which operate on a drop-off only route.

On Saturdays, the Highway 49 route runs southbound on approximately one-hour headways from 9:00 a.m. to 4:00 p.m. Two express routes operate at 7:30 a.m. and 8:30 p.m., making stops at Atwood Park and Ride Lot and Southbound Highway 49 at Luther Road before continuing to Auburn Station. In the northbound direction, the Highway 49 route runs on approximately one-hour headways from 10:00 a.m. to 5:00 p.m. Additionally, there are two northbound runs at 6:00 p.m. and 7:00 p.m., which operate on a drop-off only route.

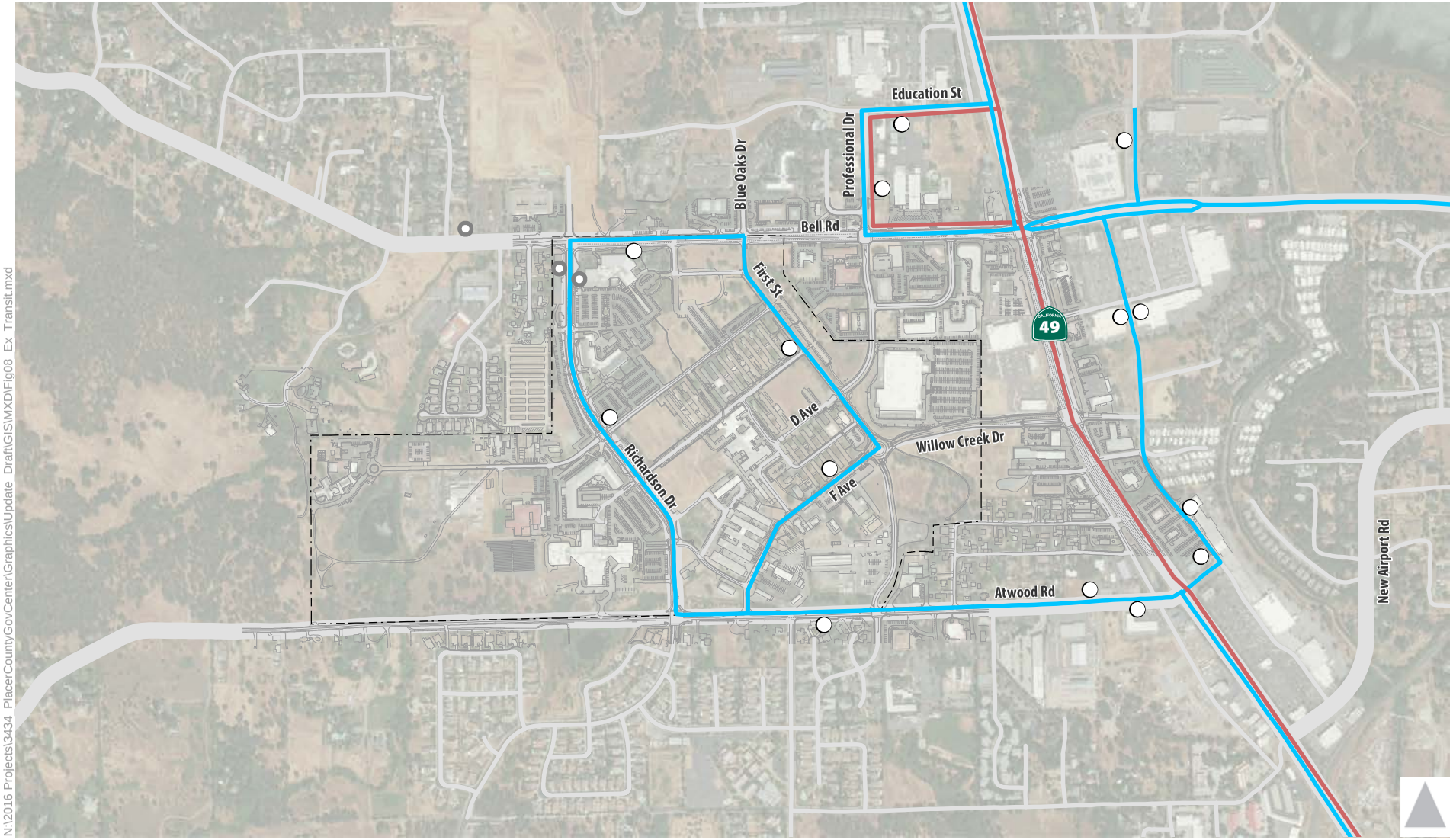
Nevada County Transit

The Nevada County Transit system operates the Gold County Stage service, which travels north-south along SR 49 from Grass Valley City Hall to the Auburn Station Transfer Center. This route runs from 6:00 a.m. to 11:00 a.m. and 1:00 p.m. to 6:00 p.m. on one-hour headways, operating Monday through Friday and Sunday. The route has one stop north of the project site at the intersection of Fortune Court / Professional Drive.

Figure 8 shows the existing fixed-route transit lines and bus stops near the project.

Other Transit Services

Other transit services in the area include the Placer Commuter Express, the Auburn Transit Service, and the Auburn Light Rail Express Route. However, none of these systems provide direct service to the project site, with the closest stops being at the Auburn Station Transfer Center. A Dial-A-Ride system is also available as a demand-response transportation system providing curb-to-curb service six days a week (excluding Sunday) in the Auburn community.



PCGC Boundary

Transit Service

Nevada County Transit

Placer County Transit

Bus Stop

Bus Stop - No Current Service

Figure 8

Existing Transit Network

4. Multifamily Residential

This chapter presents the project-level transportation and traffic analysis of the proposed 100-unit multifamily residential (MFR) development located in the portion of the project site on the east side of 1st Street and south of Bell Road.

Project Travel Characteristics

The following describes the methodology used to forecast travel demand associated with the proposed 100-unit MFR development.

Proposed Access

Project driveways on 1st Street near B Avenue and C Avenue would provide access to the proposed MFR development. The proposed residential buildings and supporting community buildings would front 1st Street with parking provided along the eastern edge of the site.

As noted in the introduction of this study, the County plans to realign 1st Street approximately 150 feet to the east coinciding with the construction of the proposed MFR development. This will result in a new three-leg intersection at 1st Street / Bell Road approximately 150 feet east of the existing Blue Oaks Drive / Bell Road intersection. With this realignment, northbound left-turns from 1st Street onto Bell Road would be prohibited. Westbound left-turns and eastbound right-turns onto 1st Street from Bell Road would still be permitted, as would northbound right-turns from 1st Street onto Bell Road.

Vehicle Trip Generation

This study estimates the vehicle trip generation for the proposed MFR development using trip generation data contained in *Trip Generation Manual, 9th Edition* (Institute of Transportation Engineers, 2012). While the Institute of Transportation Engineers (ITE) recently published a new 10th Edition of *Trip Generation Manual*, Placer County uses the trip generation rates in the 9th Edition for its traffic impact fee program. Therefore, this study uses 9th Edition trip generation data for the MFR development to remain consistent with the County's adopted fee program.

The proposed MFR development is consistent with the land use description for apartments in *Trip Generation Manual, 9th Edition*. Based on the guidance contained in the *Trip Generation Manual*, this study uses the fitted curve trip generation equations for apartments in the *Trip Generation Manual* to estimate

the MFR trip generation. **Table 9** presents the MFR project's daily, a.m., and p.m. peak hour trip generation estimates.

Table 9: Trip Generation Estimate – Multifamily Residential

Project	Dwelling Units	Trip Generation Estimate[1]						
		Daily	A.M. Peak Hour			P.M. Peak Hour		
		Total	Total	In	Out	Total	In	Out
Multifamily Residential	100	730	53	11	42	73	47	26

Notes:

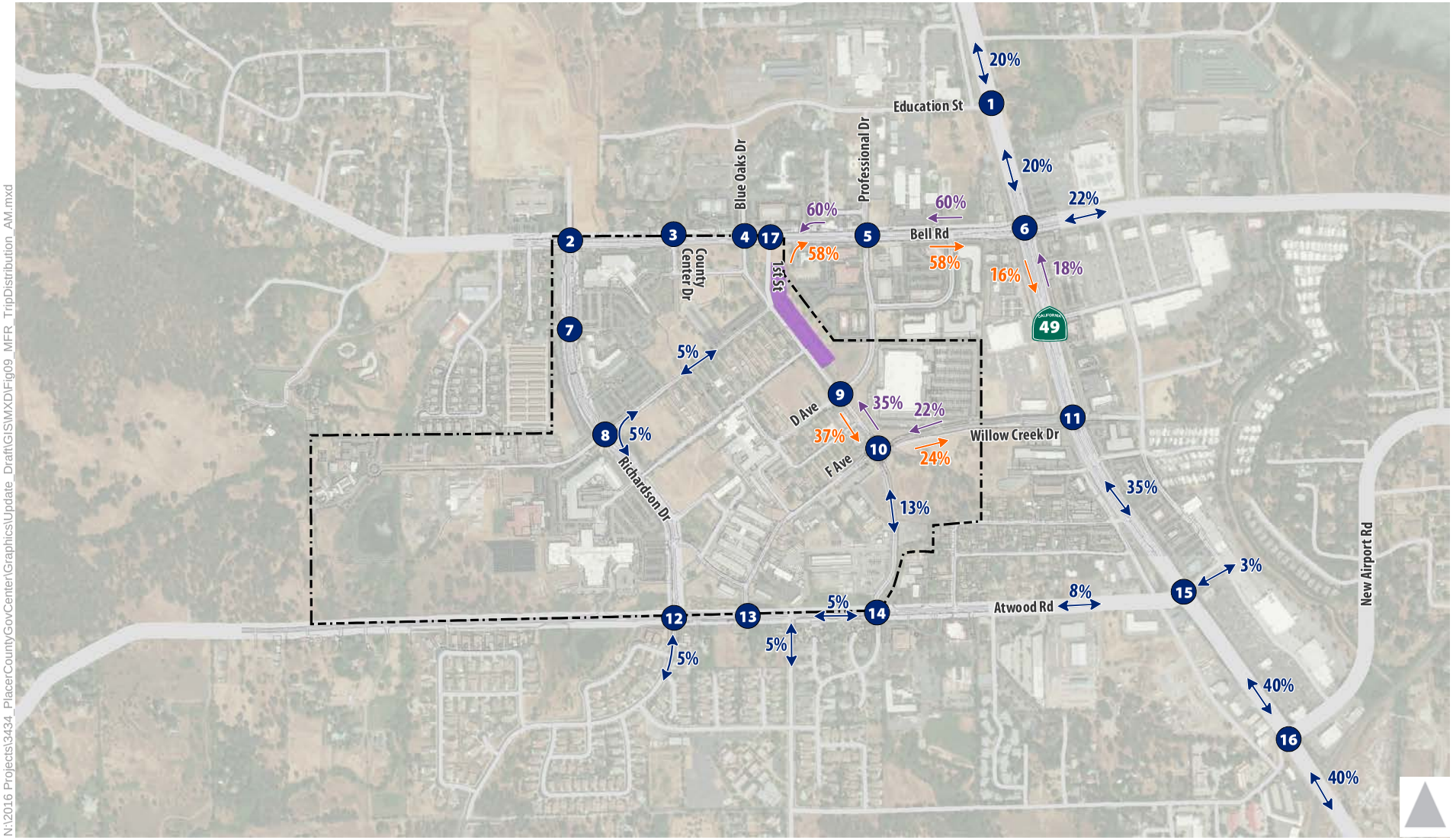
1. Trip generation estimate calculated using fitted curve equations obtained from Trip Generation Manual, 9th Edition (Institute of Transportation Engineers, 2012) for apartments (land use code 220).

Source: Fehr & Peers, 2018.

Vehicle Trip Distribution

The MFR project vehicle trip distribution is based on a review of existing traffic counts, Auburn Union Elementary School District boundaries for school trips, and a select zone analysis of the North Auburn travel forecasting model. The select zone analysis isolates and tracks the trips generated by the MFR project.

Due to differences in trip activity and trip purposes between the a.m. and p.m. peak hour (i.e., a.m. peak hour trips to/from Auburn Elementary School; higher frequency of commercial/shopping trips during the p.m. peak hour; etc.), this study uses one trip distribution for the a.m. peak hour and another for the p.m. peak hour. **Figure 9** presents the a.m. peak hour vehicle trip distribution for the MFR project; while **Figure 10** presents the p.m. peak hour vehicle trip distribution.



Study Intersection

PCGC Boundary

Multifamily Residential Project Site

x% Inbound/Outbound Trip Distribution

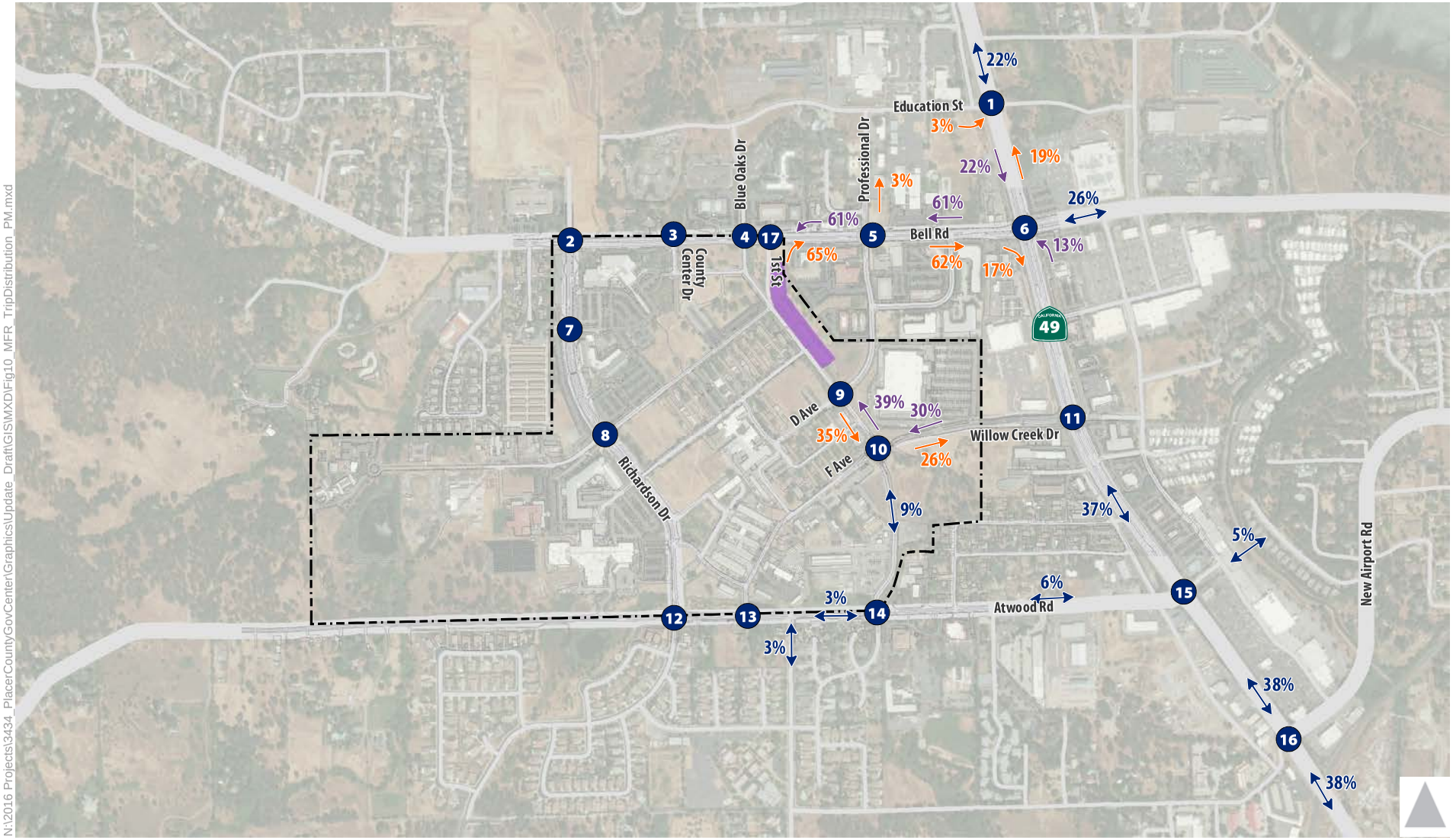
x% Inbound Trip Distribution

x% Outbound Trip Distribution

N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig09_MFR_TripDistribution_AM.mxd

Figure 9

Mulitfamily Residential Trip Distribution - AM Peak Hour



N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig10_MFR_TripDistribution_PM.mxd

1 Study Intersection

PCGC Boundary

Multifamily Residential Project Site

x% Inbound/Outbound Trip Distribution

x% Inbound Trip Distribution

x% Outbound Trip Distribution

Figure 10

Mulitfamily Residential Trip Distribution - PM Peak Hour

Roadway Network

Project Traffic Forecasts

Vehicle trips generated by the proposed MFR project are assigned to the roadway network based on the vehicle trip distribution shown in **Figure 9** and **Figure 10** for the a.m. peak hour and p.m. peak hour, respectively. These project trips are added to existing traffic counts to forecast existing plus MFR traffic volumes.

Roadway Segment Forecasts

Table 10 presents the ADT forecasts for the seven study roadway segments under existing plus MFR conditions, along with the roadway classification and resulting volume-to-capacity ratio and LOS. As shown, the study roadway segments would continue to operate at an acceptable LOS C or better, except for SR 49 north of Bell Road, which operates unacceptably at LOS E. Since the MFR project would increase the v/c ratio by 0.01, this is considered a significant impact, per Caltrans significance criteria.

Table 10: Roadway Segment Operations – Existing Plus Multifamily Residential Project

Segment	Classification[1]	Existing Conditions			Existing + MFR		
		ADT[2]	V/C[3]	LOS	ADT[2]	V/C[3]	LOS
Atwood Road: west of SR 49	2-lane Arterial	9,750	0.54	A	9,800	0.54	A
Bell Road: west of SR 49	4-lane Arterial	15,300	0.42	A	15,700	0.44	A
SR 49: Luther Rd. to New Airport Rd.	6-lane Arterial	42,000	0.78	C	42,300	0.78	C
SR 49: New Airport Rd. to Atwood Rd.	6-lane Arterial	40,000	0.74	C	40,300	0.75	C
SR 49: Atwood Rd. to Willow Creek Dr.	6-lane Arterial	40,500	0.75	C	40,800	0.76	C
SR 49: Willow Creek Dr. to Bell Rd.	6-lane Arterial	37,700	0.70	B	37,800	0.70	B
SR 49: north of Bell Rd.	4-lane Arterial	34,700	**0.96**	**E**	34,900	**0.97**	**E**

Notes:

1. All study roadway segments are moderate access controlled arterials, based on the definition contained in the *Placer County Countywide General Plan EIR*.
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio

Bold text indicates unacceptable operations. **Bold and highlighted** text indicates significant impacts.

Source: Fehr & Peers, 2018.

Intersection Turning Movement Forecasts

Figure 11 presents the weekday a.m. and p.m. peak hour turning movement forecasts at study intersections under exiting plus MFR conditions. These turning movement forecasts represent the addition of vehicle trips generated by the proposed MFR project to existing traffic counts.

As noted earlier in this study, these forecasts include changes in traffic caused by realigning 1st Street. This realignment results in a new three-leg intersection at 1st Street / Bell Road (#17) approximately 150 feet east of the existing Blue Oaks Drive / Bell Road intersection. With this realignment, northbound left-turns from 1st Street onto Bell Road would be prohibited. Westbound left-turns and eastbound right-turns onto 1st Street from Bell Road would still be permitted, as would northbound right-turns from 1st Street onto Bell Road. To address this, existing northbound left-turn and through movements that occur at the existing 1st Street/Blue Oaks Drive / Bell Road intersection are shifted to County Center Drive / Bell Road or Professional Drive / Bell Road.

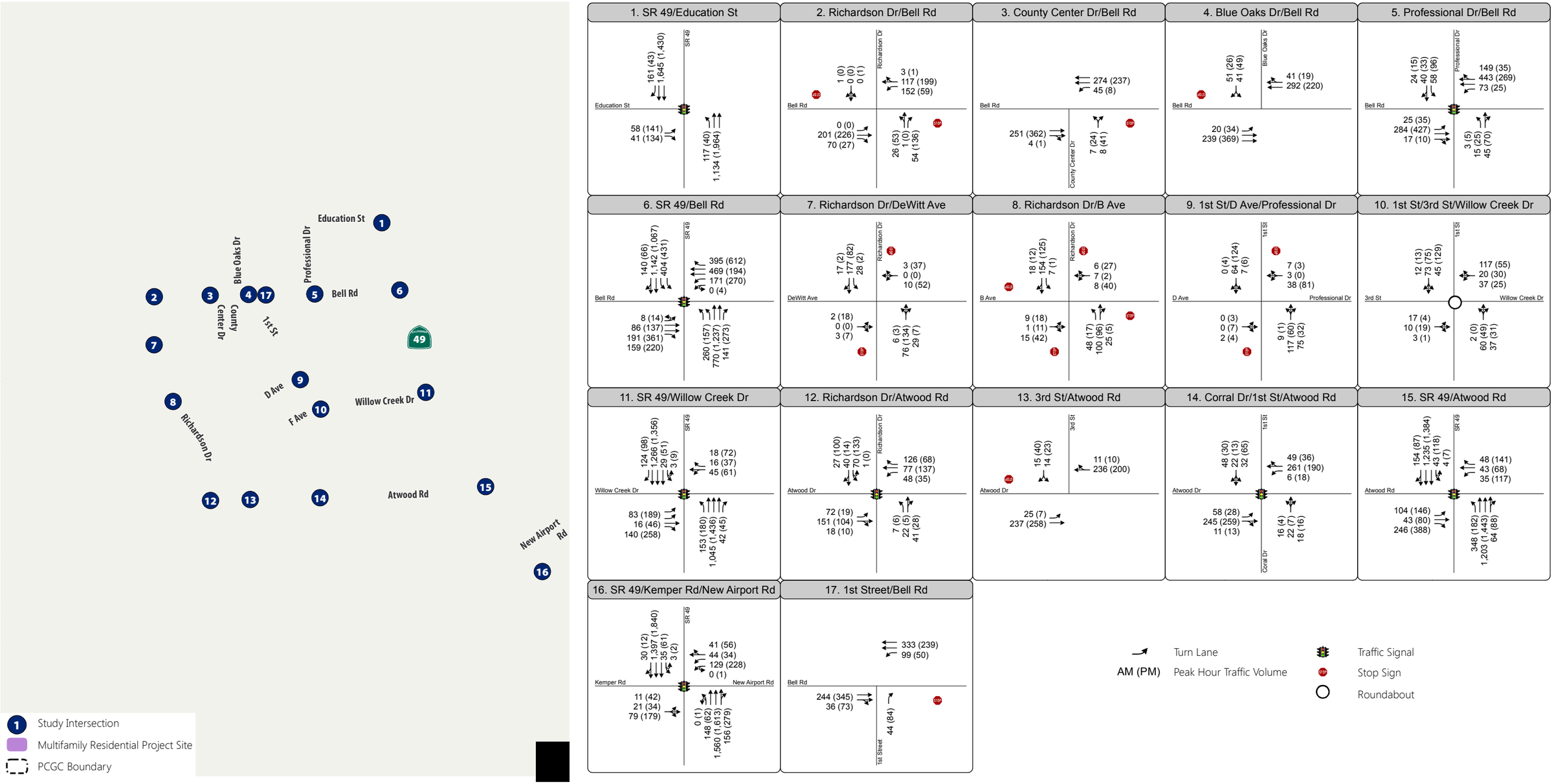


Figure 11

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Multifamily Residential

[redacted]

[redacted]

\\Fpsa03.fpainc.local\Data\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig11_PHTV_EP_MFR.mxd

Intersection Operations

Table 11 presents the average delay and LOS at the study intersections under existing plus MFR conditions during the weekday a.m. and p.m. peak hours (refer to Appendix C for technical calculations). As shown, the study intersections would continue to operate at an acceptable LOS under existing plus MFR project conditions except the following two intersections, which operate at an unacceptable LOS E or F under existing plus MFR project conditions:

- SR 49 / Bell Road (#6) – LOS E during the a.m. and p.m. peak hour
- SR 49 / Kemper Road/New Airport Road (#16) – LOS F during the p.m. peak hour

The proposed MFR project would increase the average control delay at the SR 49 / Bell Road intersection by less than one second. Therefore, this is a less than significant impact. However, the proposed MFR project would increase the average control delay by 2 seconds at the SR 49 / Kemper Road/New Airport Road during the p.m. peak hour. This is considered a significant impact, per Caltrans significance criteria.

Table 11: Peak Hour Intersection Operations – Existing Plus Multifamily Residential Project

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions		Existing + MFR	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. SR 49 / Education St.	Signal	A.M.	9.1	A	9.1	A
		P.M.	9.5	A	9.6	A
2. Richardson Dr. / Bell Rd.	SSSC	A.M.	9.9	A	9.9	A
		P.M.	12.3	B	12.3	B
3. County Center Dr. / Bell Rd.	SSSC	A.M.	8.6	A	9.2	A
		P.M.	10.6	B	12.3	A
4. Blue Oaks Dr. / Bell Rd.[4]	SSSC	A.M.	15.0	B	12.8	B
		P.M.	16.5	C	12.8	B
5. Professional Dr. / Bell Rd.	Signal	A.M.	9.0	A	9.7	A
		P.M.	9.5	A	10.3	B
6. SR 49 / Bell Rd.[5]	Signal	A.M.	**57.8**	**E**	**58.0**	**E**
		P.M.	**68.8**	**E**	**69.0**	**E**
7. Richardson Dr. / DeWitt Ave.	SSSC	A.M.	9.0	A	9.0	A
		P.M.	12.7	B	12.7	B
8. Richardson Dr. / B Ave.	AWSC	A.M.	8.6	A	8.7	A
		P.M.	9.7	A	9.6	A

Table 11: Peak Hour Intersection Operations – Existing Plus Multifamily Residential Project

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions		Existing + MFR	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
9. 1st St. / D Ave./Professional Dr.	SSSC	A.M.	9.9	A	9.3	A
		P.M.	11.4	B	12.0	B
10. 1st St. / F Ave./Willow Creek Dr.	Roundabout	A.M.	3.9	A	3.9	A
		P.M.	4.3	A	4.4	A
11. SR 49 / Willow Creek Dr.	Signal	A.M.	28.2	C	28.3	C
		P.M.	32.9	C	33.0	C
12. Richardson Dr. / Atwood Rd.	Signal	A.M.	11.2	B	11.8	B
		P.M.	11.6	B	11.1	B
13. 3rd St. / Atwood Rd.	SSSC	A.M.	9.7	A	9.7	A
		P.M.	11.0	B	11.0	B
14. Coral Dr./1st St. / Atwood Rd.	Signal	A.M.	9.7	A	9.8	A
		P.M.	10.0	B	9.6	A
15. SR 49 / Atwood Rd.	Signal	A.M.	42.2	D	42.3	D
		P.M.	49.2	D	49.3	D
16. SR 49 / Kemper Rd./New Airport Rd.	Signal	A.M.	54.1	D	54.6	D
		P.M.	**81.2**	**F**	**83.3**	**F**
17. 1st St. / Bell Rd.[4]	SSSC	A.M.			8.9	A
		P.M.			10.3	B

Notes:

1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized, AWSC, and roundabout intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.
4. 1st Street is realigned to the east under Existing Plus Multi-Family Residential Project conditions, resulting in a new intersection approximately 150 feet east of the existing 1st Street/Blue Oaks Drive / Bell Road intersection. Intersection 4 presents the results at the existing Blue Oaks Drive / Bell Road intersection. Intersection 17 presents the results for the new realigned 1st Street / Bell Road intersection.
5. The proposed MFR project would increase the average control delay at the SR 49 / Bell Road intersection by less than one second. Therefore, this is a less than significant impact.

Bold text indicates unacceptable operations. **Bold and highlighted** text indicates significant impacts.

All intersections are analyzed in Synchro 10.

Source: Fehr & Peers, 2018.

Peak Hour Signal Warrant Analysis

The peak hour signal warrant analysis shows that none of the unsignalized study intersections meet the peak hour signal warrant (Warrant 3A or 3B) under existing plus MFR project conditions (refer to Appendix C for signal warrant spreadsheets).

Bicycle and Pedestrian Network

The PCGC Master Plan Update proposes new class II bike lanes on 1st Street from Atwood Road to Bell Road, including along the project frontage. The proposed realignment of 1st Street, which the County plans to construct concurrently with the proposed MFR development, would also include the provision of these new bike lanes along the project frontage. The proposed MFR development would also include bicycle parking in accordance with Placer County standards.

Pedestrian access to the proposed MFR development site would be provided via new sidewalks on the east side of 1st Street. No sidewalks exist on the east side of 1st Street north or south of the proposed MFR site. Therefore, these new sidewalks would not connect to other sidewalks or provide a pedestrian facility to destinations north or south of the site. However, an existing crosswalk between B Avenue and C Avenue would provide a connection from the proposed MFR site to existing sidewalks on the west side of 1st Street, which run from Bell Road to Willow Creek Drive.

Since the gap between the proposed MFR development site and Bell Road to the north is only approximately 100 feet, it is recommended that the County as part of the 1st Street realignment project or the project applicant of the proposed MFR development construct the sidewalk along the east side of 1st Street between Bell Road and the proposed MFR project to provide a safe and comfortable route for walking consistent with Policy 3.D.12 in the *Placer County General Plan*.

Transit Network

An existing bus stop on the west side of 1st Street north of C Avenue would provide transit access to the proposed MFR project site. The existing crosswalk between B Avenue and C Avenue would provide a pedestrian connection from the proposed MFR project site to the bus stop. This bus stop provides access to Placer County Transit's Highway 49 route, which connects the project site to destinations along the SR 49 corridor and the Auburn Station Transfer Center.

5. Health & Human Services Building

This chapter presents the project-level transportation and traffic analysis of the proposed Health & Human Services (HHS) building planned at the center of the PCGC campus, southwest of the existing B Avenue / Rustic Lane intersection. The proposed HHS building would replace several existing buildings at this site and allow the County to consolidate approximately 435 existing HHS employees from six HHS divisions in a single location. It would also accommodate the anticipated employee growth by providing space for up to 577 employees.

Project Travel Characteristics

For the proposed HHS building, this study analyzes the effect of consolidating 435 existing employees into the proposed HHS building, increasing the total number of employees in the building to 577 employees, and trips generated by existing and future visitors.

Table 12 shows the existing location and employment levels for the six HHS divisions that would be consolidated in the new facility.

Table 12: Existing Health & Human Services Divisions – Employment Levels & Location

Division	Location	Number of Employees[1]
Located at PCGC Campus		
Executive/Administration	CDRC Building	60
Environmental Health	CDRC Building	21
Public Health	Buildings 107, 108, and 109	58
Adult System of Care	Buildings 110, 111, and 112	94
Human Services	Buildings 113, 114, and 115	77
	PCGC Campus Sub-Total	***310***
Located off the PCGC Campus		
Human Services (Employment Center)	1919 Grass Valley Highway, Auburn	5
Children's System of Care (CSOC)	11716 Enterprise Drive, Auburn	120
	Off-PCGC Campus Sub-Total	***125***
	Total Existing HHS Employees	**435**

Notes:

1. All employment values are approximations as of July 2018.

Source: Placer County, 2018.

Due to the placement of the proposed HHS building and the need to demolish Buildings 107-109, the Public Health division is planned to temporarily move to Buildings 116 and 117. Buildings 110-113 are planned to be subsequently left vacant and demolished in the future. Buildings 114-117 are planned to be repurposed as part of the PCGC Master Plan Update.

The following describes the travel characteristics associated with the consolidation of the existing employees of the six HHS divisions, increased level of employment to 577 employees, and existing and future visitor trip generation.

Proposed Access

The proposed building would be located immediately west of existing Rustic Lane between B Avenue and C Avenue. Rustic Lane would be improved and renamed County Center Drive. The parking lot would extend from the building westerly towards Richardson Drive. Vehicular access to the parking lot would be provided via B Avenue and C Avenue between Richardson Drive and County Center Drive.

Vehicle Trip Generation

This study estimates the vehicle trip generation for the proposed HHS building using trip generation data contained in *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017). Although Placer County uses the trip generation rates in the *Trip Generation Manual, 9th Edition* for its traffic impact fee program, as noted earlier, the 9th Edition has only one data point for the government office land use category, whereas the 10th Edition has seven data points. The guidance contained in the *Trip Generation Manual*, cautions against using trip rates based on fewer than three data points. Therefore, in consultation with County staff, this study uses trip generation data from the 10th Edition.

The proposed HHS building most closely matches the land use description for government office in *Trip Generation Manual, 10th Edition*. This study uses the weighted average rate for government office in the *Trip Generation Manual* to estimate the HHS building trip generation.

Since the existing HHS employees currently work in existing buildings both on and off the PCGC campus, this trip generation analysis looks at the net increase in trips to the PCGC campus that would be generated by the consolidation of existing off-campus employees to the proposed new HHS building at the PCGC campus as well as the additional employees the proposed HHS building could accommodate. The effects of consolidating the existing on-campus HHS employees into a single location on the PCGC campus are primarily considered in the vehicle trip distribution and assignment, as described below.

This trip generation analysis uses employees as the independent variable for purposes of calculating trip generation. Employees are a more appropriate independent variable than building floor area for the following reasons:

- Since the existing HHS divisions that would be consolidated into the proposed HHS building are spread out over multiple buildings and in some cases share building space with other departments, it is difficult to isolate the amount of building space that the existing HHS divisions occupy today
- The proposed HHS building would allow for more efficient use of space and resources by consolidating the six divisions in a single building, resulting in a potentially higher employment yield (and therefore a higher trip rate) per square foot than existing buildings
- Since trips are generated by people, trip generation rates based on number of employees for employment uses where employment data and forecasts are available are more appropriate.

Table 13 presents the existing, future buildout, and net growth in vehicle trip generation for the proposed HHS building. **Table 13** includes daily, a.m., and p.m. peak hour trip generation estimates.

Table 13: Trip Generation Estimate – Health & Human Services Building

Conditions	Employees	Trip Generation Estimate[1]						
		Daily	A.M. Peak Hour			P.M. Peak Hour		
		Total	Total	In	Out	Total	In	Out
Existing HHS employees at PCGC campus	310	2,310	341	256	85	220	44	176
Existing HHS employees off PCGC campus	125	931	138	103	35	89	18	71
Proposed HHS Building – Full Occupancy	577	4,299	635	476	159	410	82	328
Net Change at PCGC campus[2]	267	1,989	294	220	74	190	38	152

Notes:

1. Vehicle trip generation estimate calculated using weighted average rates obtained from obtained from *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017) for government office (land use code 730).
2. Net change in trip generation at the PCGC campus calculated by subtracting the trip generation estimate for the proposed HHS building – full occupancy from the existing HHS employees at the PCGC campus.

Source: Fehr & Peers, 2018.

Vehicle Trip Distribution

The HHS building vehicle trip distribution is based on a review of existing traffic counts and a select zone analysis of the North Auburn travel forecasting model. The select zone analysis isolates and tracks the trips generated by the HHS project.

Due to differences in trip activity, trip purposes, and background traffic congestion between the a.m. and p.m. peak hour (i.e., majority of a.m. peak hour trips being commute trips; higher frequency of commercial/shopping trips on the evening commute home during the p.m. peak hour; etc.), this study uses one trip distribution for the a.m. peak hour and another for the p.m. peak hour. **Figure 12** presents the a.m. peak hour vehicle trip distribution for trips associated with the HHS building project; while **Figure 13** presents the p.m. peak hour vehicle trip distribution.

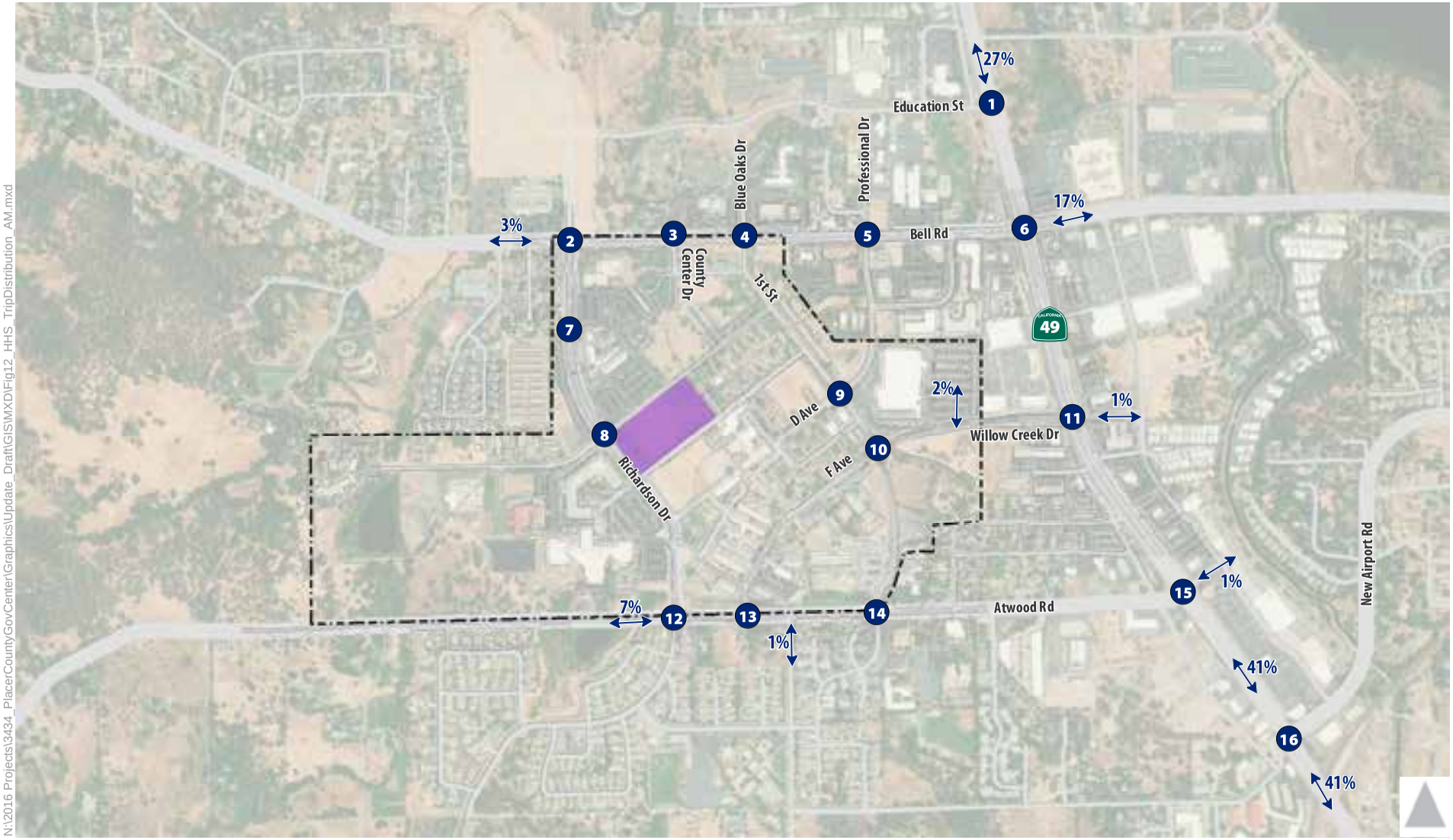
Vehicle Trip Assignment

Existing HHS Trips

Most of the existing HHS employees at the PCGC campus are in buildings northeast of the proposed HHS building along B Avenue and C Avenue west of 1st Street. 1st Street provides the most convenient travel route to the parking areas for these existing buildings, while County Center Drive and Richardson Drive also provide logical secondary routes to these existing buildings. Some existing HHS employees are also located in the Community Development Resource Center (CDRC) building located north of the proposed HHS building site. The CDRC parking lot is accessed via Richardson Drive and County Center Drive.

Changes with Proposed HHS Building

Trips to and from the proposed HHS building parking lot would use a variety of routes given the proposed HHS building's central location on the PCGC campus. This includes Richardson Drive from Bell Road to the north and Atwood Road to the south, as well as 1st Street from Bell Road to the north and Willow Creek Drive to the east and south. Richardson Drive is likely to become the primary route to access the new parking lot for the HHS building since the parking lot would front Richardson Drive. Therefore, some existing employees are likely to shift their travel route from 1st Street to Richardson Drive to access the new parking lot.



1 Study Intersection

Health & Human Services Building Project Site

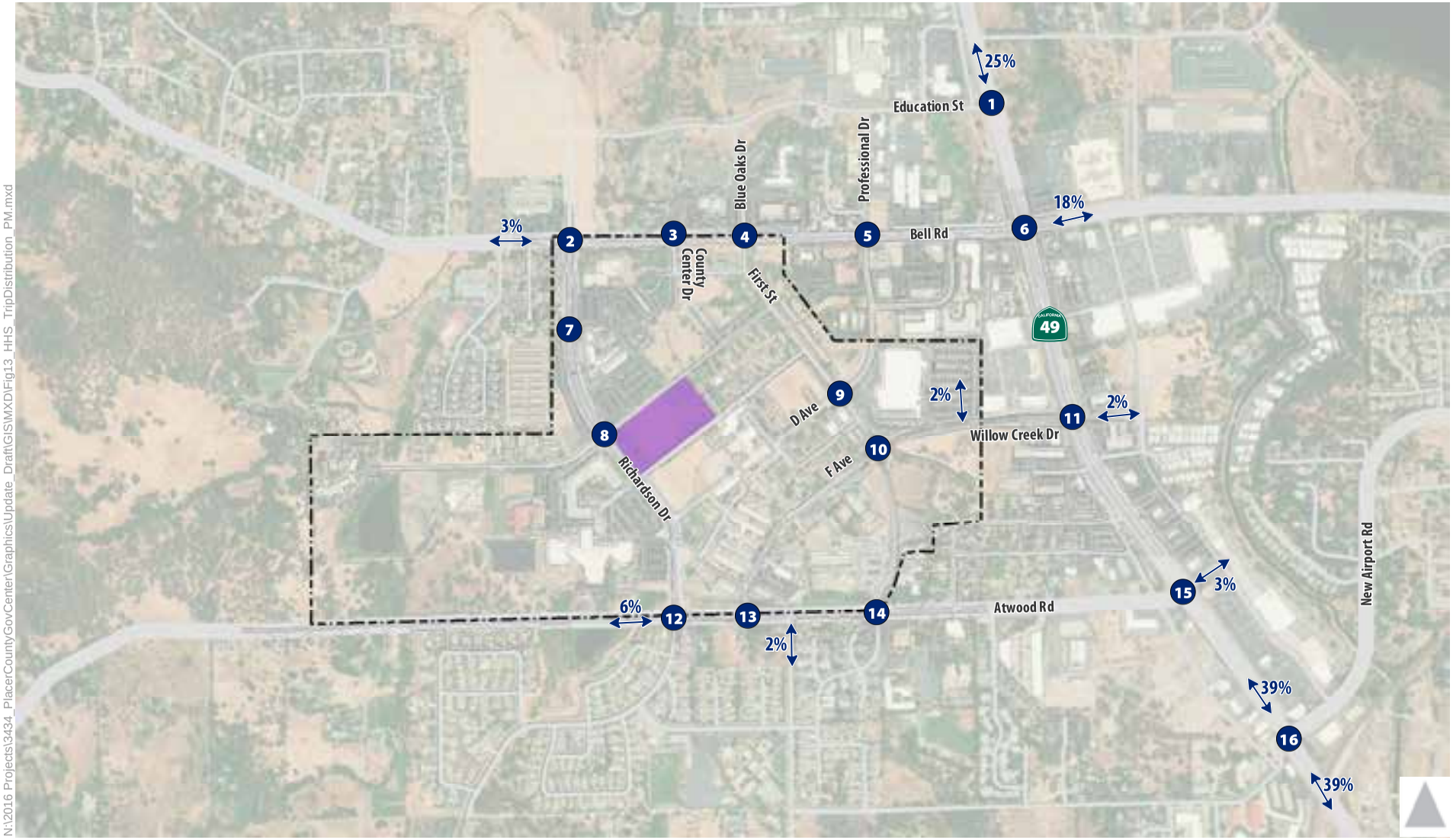
PCGC Boundary

x% Inbound/Outbound Trip Distribution

N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig12_HHS_TripDistribution_AM.mxd

Figure 12

Human & Health Services Building Trip Distribution - AM Peak Hour



N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig13_HHS_TripDistribution_PM.mxd

1 Study Intersection

Health & Human Services Building Project Site

PCGC Boundary

x% Inbound/Outbound Trip Distribution

Figure 13

Human & Health Services Building Trip Distribution - PM Peak Hour

Net Effect on Trip Assignment

This study calculates the net change in traffic at study roadways and intersections caused by the proposed new HHS building by performing a multi-step process that includes:

Step 1. Estimating the trip assignment for existing HHS employees at the PCGC campus

Step 2. Forecasting the trip assignment for the new proposed HHS building, including the effect of consolidating the six HHS divisions into a single building at the PCGC campus and additional trips generated by the increase in HHS employees

Step 3. Determine the change in traffic associated with the new HHS building by calculating the net change in HHS trips at study roadways and intersections

Step 4. Add the net change in Step 3 to no project traffic counts to forecast the plus HHS project traffic levels.

The first step assigns vehicle trips generated by existing HHS employees at the PCGC campus to the study roadway network and intersections based on the trip distribution shown in **Figure 12** and **Figure 13**, and the routing of existing HHS trips described above.

The second step assigns vehicle trips generated by the new proposed HHS building to the roadway network and intersections using the same trip distribution shown in **Figure 12** and **Figure 13**, but with the routing changes associated with the proposed HHS building described above. This second step reflects both the consolidation of existing HHS divisions (i.e., additional trips to PCGC that result from moving existing HHS employees from off-campus to the new HHS building; and trip route changes for HHS employees already on the PCGC campus) as well as new trips generated by the increase in HHS employees.

The third step calculates the net change in HHS trips at study roadways and intersections by subtracting the estimated existing trips in Step 1 from the forecasted project traffic volumes with the proposed HHS building in Step 2, using the following formula:

Net Change in HHS Project Trips =
Forecasted Trips Generated by Proposed HHS Building – Trips Generated by Existing HHS Employees

Lastly, this net change in traffic that results from the proposed HHS project are added to existing traffic counts to forecast the existing plus HHS building project traffic volumes.

Roadway Network

Project Traffic Forecasts

The net increase in vehicle trips generated by the proposed HHS building project are assigned to the roadway network as described in the trip assignment discussion above. These project trips are added to existing traffic counts to forecast existing plus HHS traffic volumes.

Roadway Segment Forecasts

Table 14 presents the ADT forecasts for the seven study roadway segments under existing plus HHS conditions, along with the roadway classification and resulting volume-to-capacity ratio and LOS. As shown, the study roadway segments would continue to operate at an acceptable LOS C or better, except for SR 49 north of Bell Road, which operates unacceptably at LOS E. Since the HHS project would increase the v/c ratio by 0.02, this is considered a significant impact, per Caltrans significance criteria.

Table 14: Roadway Segment Operations – Existing Plus Health & Human Services Building

Segment	Classification[1]	Existing Conditions			Existing + HHS		
		ADT[2]	V/C[3]	LOS	ADT[2]	V/C[3]	LOS
Atwood Road: west of SR 49	2-lane Arterial	9,750	0.54	A	10,300	0.57	A
Bell Road: west of SR 49	4-lane Arterial	15,300	0.42	A	16,200	0.45	A
SR 49: Luther Rd. to New Airport Rd.	6-lane Arterial	42,000	0.78	C	42,800	0.79	C
SR 49: New Airport Rd. to Atwood Rd.	6-lane Arterial	40,000	0.74	C	40,800	0.76	C
SR 49: Atwood Rd. to Willow Creek Dr.	6-lane Arterial	40,500	0.75	C	40,800	0.76	C
SR 49: Willow Creek Dr. to Bell Rd.	6-lane Arterial	37,700	0.70	B	37,700	0.70	B
SR 49: north of Bell Rd.	4-lane Arterial	34,700	**0.96**	**E**	35,200	**0.98**	**E**

Notes:

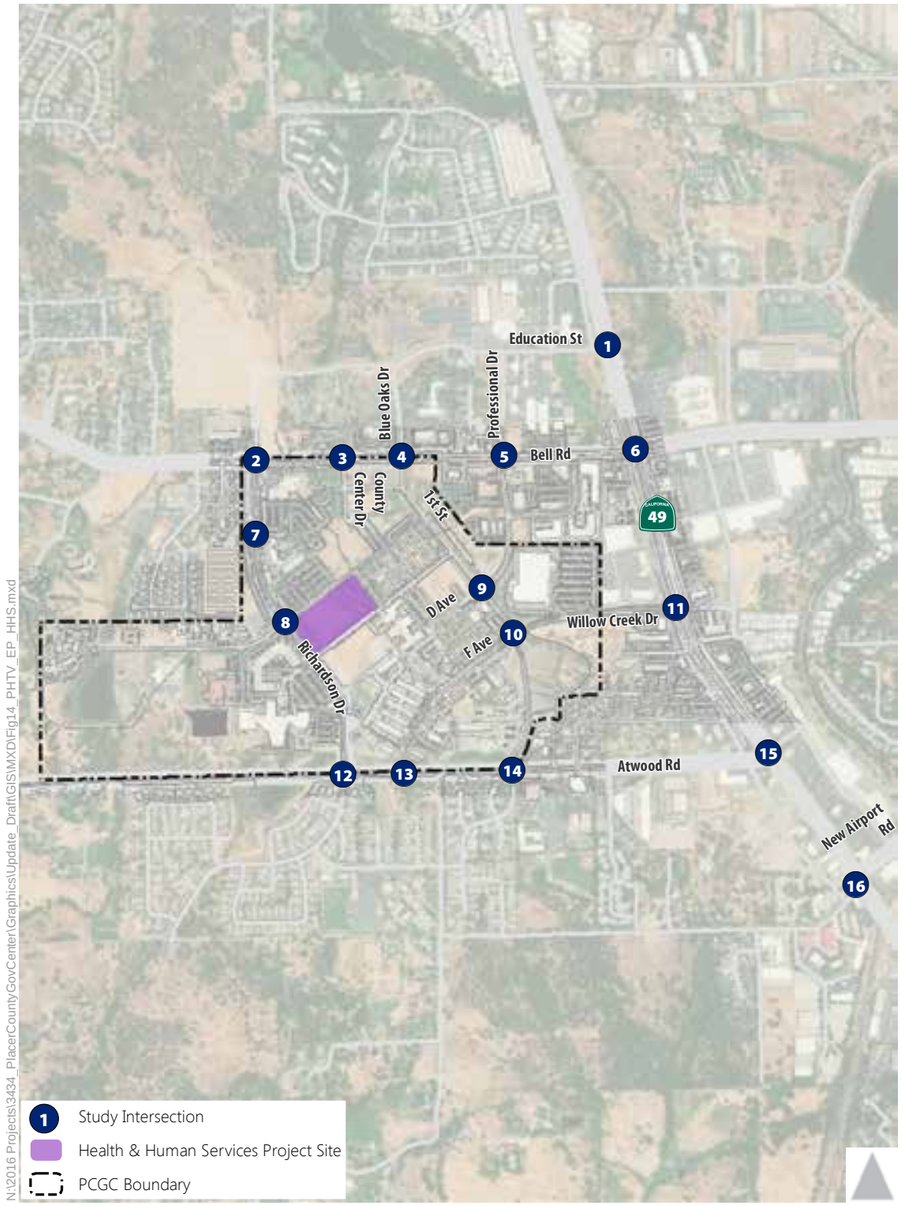
1. All study roadway segments are moderate access controlled arterials, based on the definition contained in the *Placer County Countywide General Plan EIR*.
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio

Bold text indicates unacceptable operations. **Bold and highlighted** text indicates significant impacts.

Source: Fehr & Peers, 2018.

Intersection Turning Movement Forecasts

Figure 14 presents the weekday a.m. and p.m. peak hour turning movement forecasts at study intersections under exiting plus HHS conditions. These turning movement forecasts represent the net increase in vehicle trips generated by the proposed HHS building project to existing traffic counts.



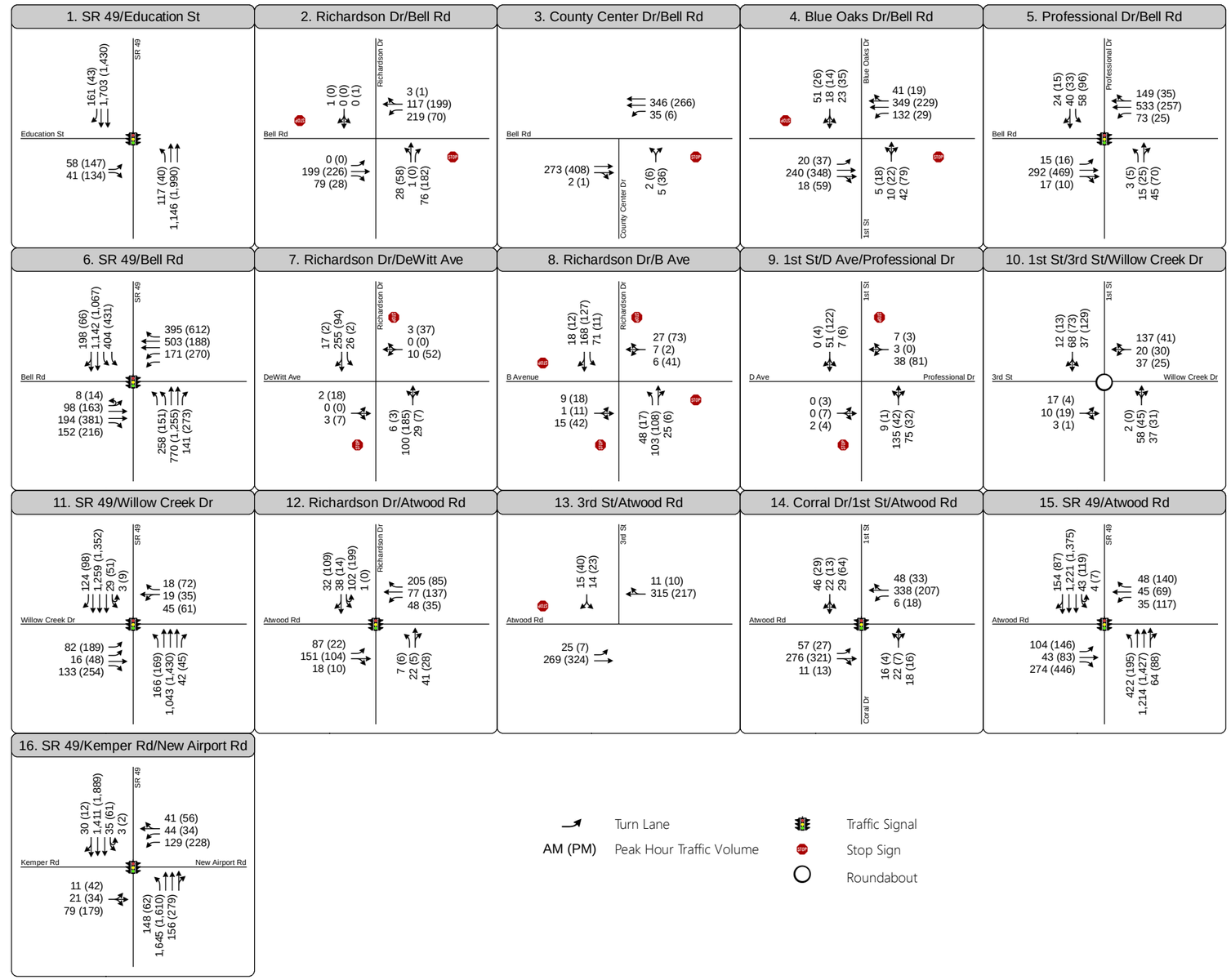


Figure 14

Peak Hour Traffic Volumes
and Lane Configurations -
Existing Plus Health & Human Services Building

Intersection Operations

Table 15 presents the average delay and LOS at the study intersections under existing plus HHS conditions during the weekday a.m. and p.m. peak hours (refer to Appendix D for technical calculations). As shown, the study intersections would continue to operate at an acceptable LOS under existing plus HHS project conditions except the following two intersections, which operate at an unacceptable LOS E or F under existing plus HHS project conditions:

- SR 49 / Bell Road (#6) – LOS E during the a.m. and p.m. peak hour
- SR 49 / Kemper Road/New Airport Road (#16) – LOS E during the a.m. peak hour and LOS F during the p.m. peak hour

The proposed HHS project would degrade operations at the SR 49 / Kemper Road/New Airport Road intersection from an acceptable LOS D to an unacceptable LOS E during the a.m. peak hour. It would also increase the average control delay by one second or more at the SR 49 / Bell Road intersection during the a.m. and p.m. peak hours; and the SR 49 / Kemper Road/New Airport Road intersection during the p.m. peak hour, which operate at an unacceptable LOS under existing conditions. This is considered a significant impact, per Caltrans significance criteria.

Table 15: Peak Hour Intersection Operations – Existing Plus Health & Human Services Building Conditions

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions		Existing + HHS	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. SR 49 / Education St.	Signal	A.M.	9.1	A	9.2	A
		P.M.	9.5	A	9.7	A
2. Richardson Dr. / Bell Rd.	SSSC	A.M.	9.9	A	10.3	B
		P.M.	12.3	B	12.9	B
3. County Center Dr. / Bell Rd.	SSSC	A.M.	8.6	A	8.7	A
		P.M.	10.6	B	11.1	B
4. 1st St./Blue Oaks Dr. / Bell Rd.	SSSC	A.M.	15.0	B	19.0	C
		P.M.	16.5	C	19.2	C
5. Professional Dr. / Bell Rd.	Signal	A.M.	9.0	A	8.9	A
		P.M.	9.5	A	9.4	A
6. SR 49 / Bell Rd.	Signal	A.M.	**57.8**	**E**	**63.3**	**E**
		P.M.	**68.8**	**E**	**69.8**	**E**

Table 15: Peak Hour Intersection Operations – Existing Plus Health & Human Services Building Conditions

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions		Existing + HHS	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
7. Richardson Dr. / DeWitt Ave.	SSSC	A.M.	9.0	A	9.6	A
		P.M.	12.7	B	14.3	B
8. Richardson Dr. / B Ave.	AWSC	A.M.	8.6	A	8.9	A
		P.M.	9.7	A	10.2	B
9. 1st St. / D Ave./Professional Dr.	SSSC	A.M.	9.9	A	10.1	B
		P.M.	11.4	B	11.6	B
10. 1st St. / F Ave./Willow Creek Dr.	Roundabout	A.M.	3.9	A	3.9	A
		P.M.	4.3	A	4.4	A
11. SR 49 / Willow Creek Dr.	Signal	A.M.	28.2	C	28.2	C
		P.M.	32.9	C	32.8	C
12. Richardson Dr. / Atwood Rd.	Signal	A.M.	11.2	B	11.9	B
		P.M.	11.6	B	11.9	B
13. 3rd St. / Atwood Rd.	SSSC	A.M.	9.7	A	10.4	B
		P.M.	11.0	B	11.6	B
14. Coral Dr./1st St. / Atwood Rd.	Signal	A.M.	9.7	A	9.8	A
		P.M.	10.0	B	9.7	A
15. SR 49 / Atwood Rd.	Signal	A.M.	42.2	D	42.7	D
		P.M.	49.2	D	49.0	D
16. SR 49 / Kemper Rd./New Airport Rd.	Signal	A.M.	54.1	D	**61.0**	**E**
		P.M.	**81.2**	**F**	**86.9**	**F**

Notes:

1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized, AWSC, and roundabout intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.
4. 1st Street is realigned to the east with the proposed PCGC Master Plan Update, resulting in a new intersection approximately 150 feet east of the existing 1st Street/Blue Oaks Drive / Bell Road intersection. Intersection 4 presents the results at the existing Blue Oaks Drive / Bell Road intersection. Intersection 17 presents the results for the new realigned 1st Street / Bell Road intersection.
5. 1st Street / Willow Creek Dr. is a four-leg roundabout under Existing Conditions with F Ave. serving as the fourth leg; and a three-leg roundabout with the proposed PCGC Master Plan Update.

Bold indicates unacceptable operations. **Bold and highlighted** indicates significant impacts.

All intersections are analyzed in Synchro 10.

Source: Fehr & Peers, 2018.

Peak Hour Signal Warrant Analysis

The peak hour signal warrant analysis shows that none of the unsignalized study intersections meet the peak hour signal warrant (Warrant 3A or 3B) under existing plus HHS project conditions (refer to Appendix D for signal warrant spreadsheets).

Bicycle and Pedestrian Network

Bicycle access to the proposed HHS building site would be provided via existing class II bike lanes on Richardson Drive. As noted in the project description, as part of the proposed HHS building project, the existing Rustic Lane along the project frontage would be improved and renamed County Center Drive. As part of these improvements, class II bike lanes would be added to the new County Center Drive consistent with the proposed PCGC Master Plan Update. In addition, the PCGC Master Plan Update proposes new class II bike lanes on B Avenue from Richardson Drive to County Center Drive (existing Rustic Lane). These new bike lanes would provide bicycle facilities surrounding the HHS building site.

The proposed HHS building would also include bicycle racks, lockers, bike rooms, and bike cages for bicycle parking and storage in accordance with Placer County standards. In addition, the proposed HHS building would include end of trip support facilities, including lockers and showers.

Pedestrian access to the proposed HHS building site would be provided via sidewalks along Richardson Drive, B Avenue, and C Avenue. An existing pedestrian trail also would connect the proposed HHS building site to the existing Community Development Resource Center building located north of the proposed HHS building within the PCGC campus.

Transit Network

An existing bus stop on the east side of Richardson Drive north of B Avenue would provide transit access to the proposed HHS building project site. This bus stop provides access to Placer County Transit's Highway 49 route, which connects the project site to destinations along the SR 49 corridor and the Auburn Station Transfer Center.

6. PCGC Master Plan Update

This chapter presents the transportation and traffic analysis for buildout of the proposed Placer County Government Center (PCGC) Master Plan Update. This transportation and traffic analysis is intended to support a programmatic-level environmental analysis of the effects associated with implementation of the proposed PCGC Master Plan Update.

The land use inputs for the PCGC Master Plan Update are based on data provided by Placer County, which reflect current estimates for future buildings that would be constructed over the life of the Master Plan Update.

Campus Travel Characteristics

The following describes the methodology used to forecast travel demand associated with buildout of the proposed PCGC Master Plan Update.

Proposed Access

Access to the PCGC campus is provided by the following roadways:

- Bell Road: forms the northern edge of the PCGC campus and provides access into the PCGC campus via Richardson Drive, County Center Drive, 1st Street, Professional Drive, and Heritage Oak Place.
- Atwood Road: forms the southern edge of the PCGC campus and provides access into the PCGC campus via Richardson Drive, 3rd Street, and 1st Street.
- Willow Creek Drive: provides access onto the PCGC campus from SR 49 to the east of the campus

Vehicle Trip Generation & Distribution

This study uses the North Auburn travel forecasting model to forecast vehicle traffic volumes on study roadways and at study intersections with buildout of the proposed PCGC Master Plan Update. The North

Auburn model was updated to reflect the proposed changes to the PCGC internal campus roadway network. This includes:

- Extending County Center Drive southerly passed D Avenue
- Modifying B Avenue and C Avenue to end at the newly extended County Center Drive, removing their existing connection to 1st Street
- Connecting D Avenue between Richardson Drive and 1st Street
- Removing F Avenue between the new County Center Drive alignment and 1st Street
- Realigning 1st Street 150 feet easterly from the existing B Avenue alignment to Bell Road

Additionally, land use inputs reflecting buildout of the proposed PCGC Master Plan Update were entered into the land use input file for the travel analysis zones (TAZ) that correspond to the PCGC campus. This includes removal of some existing buildings, repurposing of existing buildings, as well as construction of new buildings, as proposed in the PCGC Master Plan Update.

The North Auburn sub-area travel forecasting model uses the land use inputs and local trip generation rates associated with the proposed PCGC Master Plan Update to generate vehicle trips within the model. The model then distributes the project trips based on the pairing of productions and attractions. As noted in the methodology section, the model's distribution considers complimentary land uses (e.g., housing and jobs; housing and retail/services; etc.), trip purpose (e.g., commute trips, shopping trips, school trips, etc.), and travel distance. Lastly, the model assigns the project vehicle trips to the roadway network.

This study applies a forecasting procedure known as the "difference method" to develop traffic forecasts for existing plus PCGC Master Plan Update conditions. The difference method takes the difference between with project (i.e., plus PCGC Master Plan Update) and baseline traffic volumes from the model and adds them to existing traffic volumes at the study intersections to develop the plus project forecasts. This method corrects any potential anomalies within the model. This forecasting procedure is calculated as follows:

Existing Plus PCGC Master Plan Update Forecast = Existing Traffic Count +
("Existing Plus PCGC Master Plan Update" Raw Model Volume – Base Year Raw Model Volume)

These initial forecasts were reviewed for reasonableness and adjusted based on engineering judgment to correct for any remaining anomalies in the forecasts (i.e., imbalances between study intersections, illogical decreases or increases in the incremental project trips between study intersections, etc.).

Due to differences in the background roadway network, the trip distribution of the proposed PCGC Master Plan Update vehicle trips has slight differences between the existing plus PCGC Master Plan Update

conditions and cumulative plus PCGC Master Plan Update conditions. Specifically, under cumulative conditions, Richardson Drive is connected between Bell Road and Dry Creek Road, creating a parallel north-south alternative to SR 49 for trips to/from the north. **Figure 15** presents the PCGC Master Plan Update vehicle trip distribution under existing plus PCGC Master Plan Update conditions; while **Figure 16** presents the PCGC Master Plan Update vehicle trip distribution under cumulative plus PCGC Master Plan Update conditions.

1 Study Intersection

PCGC Boundary

x% Inbound/Outbound Trip Distribution

N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig15_PCGC_TripDistribution_EPMP.mxd

Figure 15

PCGC Master Plan Update Trip Distribution - Existing Plus PCGC Master Plan Update

1 Study Intersection

PCGC Boundary

x% Inbound/Outbound Trip Distribution

N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig16_PCGC_TripDistribution_CPMP.mxd

Figure 16

PCGC Master Plan Update Trip Distribution - Cumulative Plus PCGC Master Plan Update

Roadway Network

Vehicle Traffic Forecasts

Vehicle trip forecasts with the proposed PCGC Master Plan Update are developed for study roadway segments and intersections, as described in the vehicle trip generation and distribution discussion above.

Roadway Segment Forecasts

Table 16 presents the ADT forecasts for the seven study roadway segments under existing plus PCGC Master Plan Update conditions, along with the roadway classification and resulting volume-to-capacity ratio and LOS. As shown, the Placer County study roadway segments would continue to operate at an acceptable LOS C or better. The Caltrans (i.e., SR 49) segments would operate at an acceptable LOS D or better, except for SR 49 north of Bell Road, which operates unacceptably at LOS F. Since the traffic generated by the PCGC Master Plan Update would increase the v/c ratio by 0.07 and degrade operations from LOS E, this is considered a significant impact, per Caltrans significance criteria.

Table 16: Roadway Segment Operations – Existing Plus PCGC Master Plan Update

Segment	Classification[1]	Existing Conditions			Existing + MPU		
		ADT[2]	V/C[3]	LOS	ADT[2]	V/C[3]	LOS
Atwood Road: west of SR 49	2-lane Arterial	9,750	0.54	A	12,100	0.67	B
Bell Road: west of SR 49	4-lane Arterial	15,300	0.42	A	21,300	0.59	A
SR 49: Luther Rd. to New Airport Rd.	6-lane Arterial	42,000	0.78	C	47,800	0.89	D
SR 49: New Airport Rd. to Atwood Rd.	6-lane Arterial	40,000	0.74	C	45,900	0.85	D
SR 49: Atwood Rd. to Willow Creek Dr.	6-lane Arterial	40,500	0.75	C	44,100	0.82	D
SR 49: Willow Creek Dr. to Bell Rd.	6-lane Arterial	37,700	0.70	B	39,500	0.73	C
SR 49: north of Bell Rd.	4-lane Arterial	34,700	**0.96**	**E**	37,000	**1.03**	**F**

Notes:

1. All study roadway segments are moderate access controlled arterials, based on the definition contained in the *Placer County Countywide General Plan EIR*.
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio

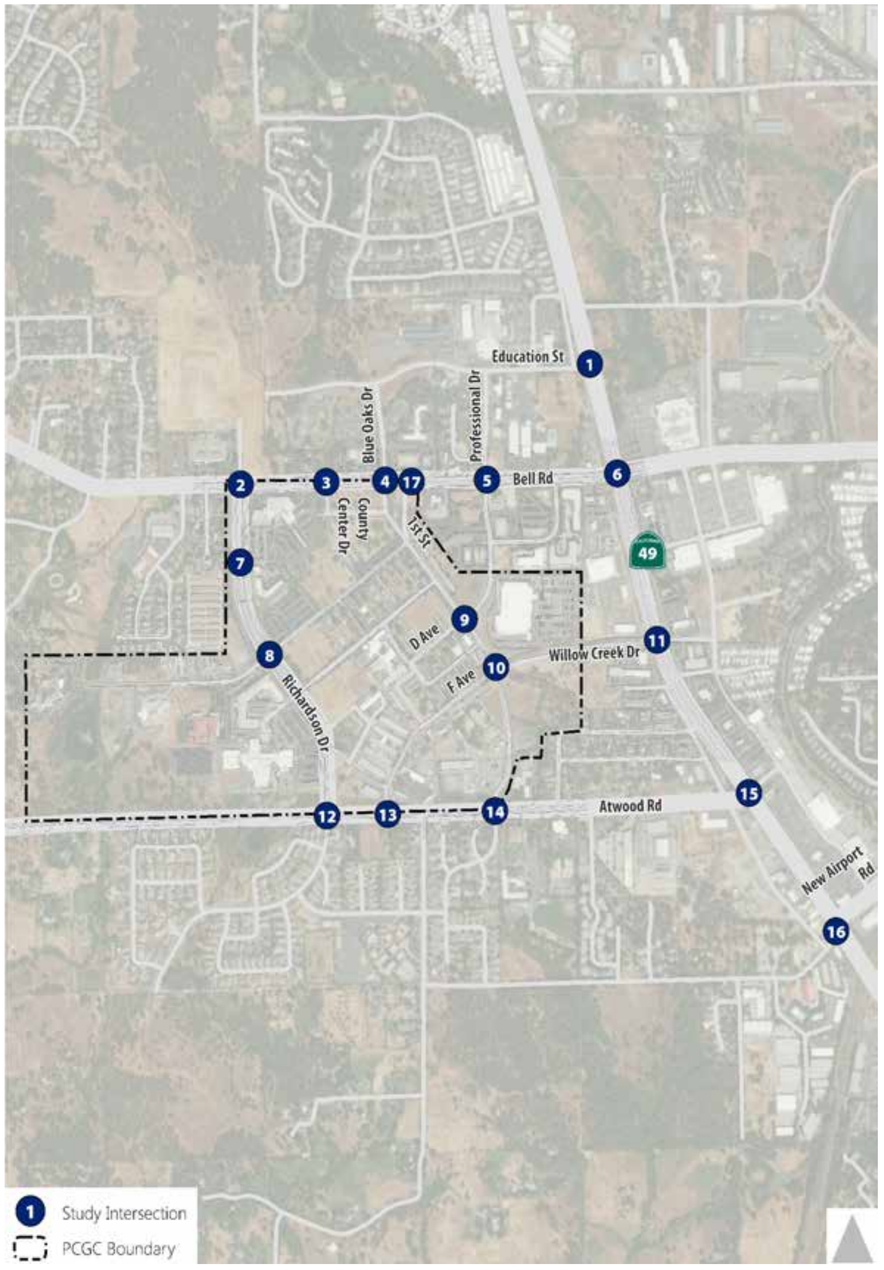
Bold text indicates unacceptable operations. **Bold and highlighted** text indicates significant impacts.

Source: Fehr & Peers, 2018.

Intersection Turning Movement Forecasts

Figure 17 presents the weekday a.m. and p.m. peak hour turning movement forecasts at study intersections under exiting plus PCGC Master Plan Update conditions. These turning movement forecasts represent the increase in vehicle traffic caused by implementation of the proposed PCGC Master Plan Update on existing conditions.

These forecasts also reflect changes in traffic flow caused by realigning 1st Street. This realignment results in a new three-leg intersection at 1st Street / Bell Road (#17) approximately 150 feet east of the existing Blue Oaks Drive / Bell Road intersection. With this realignment, northbound left-turns from 1st Street onto Bell Road would be prohibited. Westbound left-turns and eastbound right-turns onto 1st Street from Bell Road would still be permitted, as would northbound right-turns from 1st Street onto Bell Road. To address this, existing northbound left-turn and through movements that occur at the 1st Street/Blue Oaks Drive / Bell Road intersection are shifted to County Center Drive / Bell Road or Professional Drive / Bell Road.



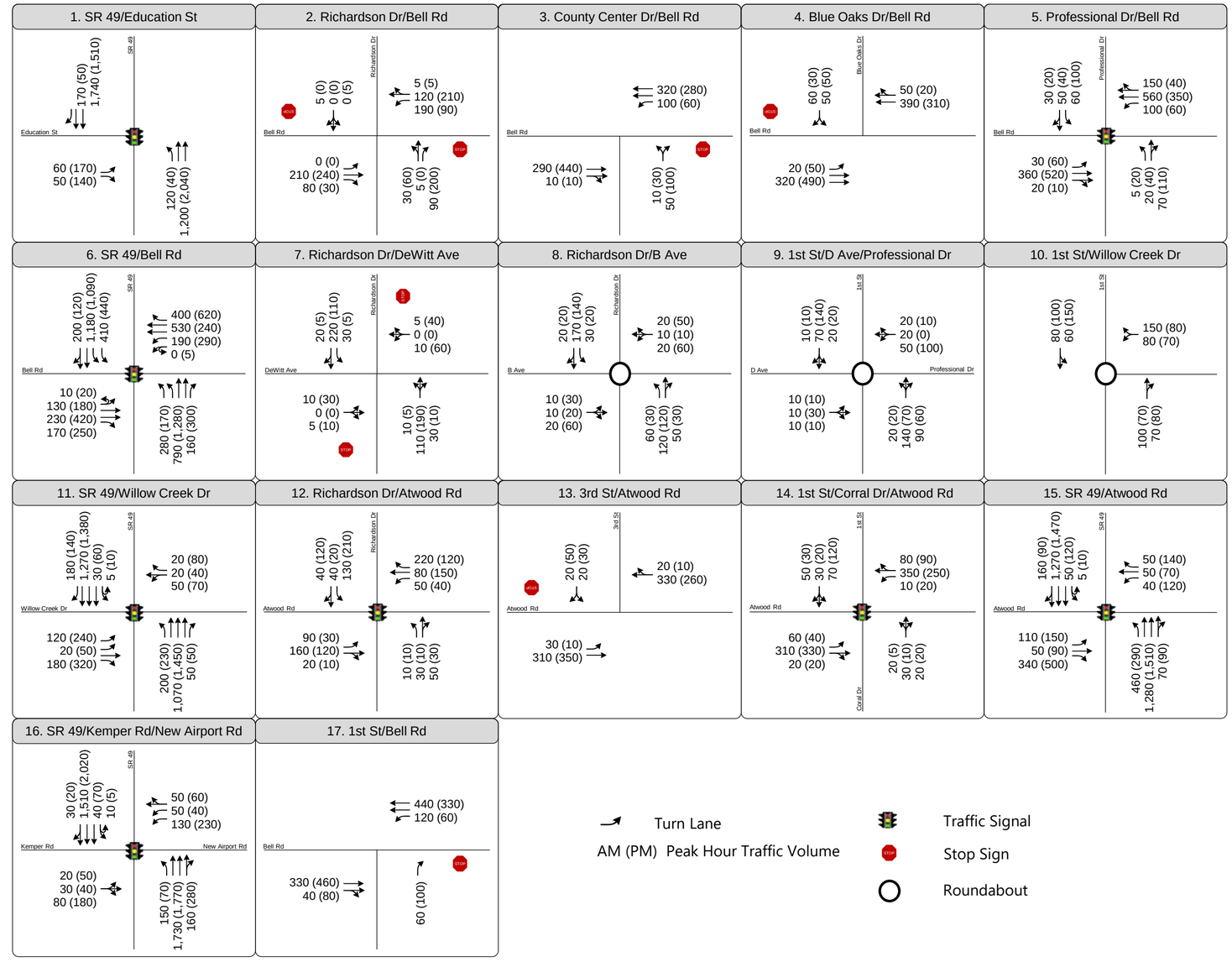


Figure 17

Peak Hour Traffic Volumes and Lane Configurations
Existing Plus Master Plan Conditions

Intersection Operations

Table 17 presents the average delay and LOS at the study intersections under existing plus PCGC Master Plan Update conditions during the weekday a.m. and p.m. peak hours (refer to Appendix E for technical calculations). As shown, the study intersections would continue to operate at an acceptable LOS under existing plus PCGC Master Plan Update conditions except the following two intersections, which operate at an unacceptable LOS E or F under existing plus PCGC Master Plan Update conditions:

- SR 49 / Bell Road (#6) – LOS E during the a.m. and p.m. peak hour
- SR 49 / Kemper Road/New Airport Road (#16) – LOS E during the a.m. peak hour and LOS F during the p.m. peak hour

The proposed PCGC Master Plan Update would degrade operations at the SR 49 / Kemper Road/New Airport Road intersection from an acceptable LOS D to an unacceptable LOS E during the a.m. peak hour. It would also increase the average control delay by more than 5 seconds at both the SR 49 / Bell Road intersection and the SR 49 / Kemper Road/New Airport Road intersection, which operate at an unacceptable LOS under existing conditions. This is considered a significant impact, per Caltrans significance criteria.

Table 17: Peak Hour Intersection Operations – Existing Plus PCGC Master Plan Update

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions		Existing + MPU	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. SR 49 / Education St.	Signal	A.M.	9.1	A	9.4	A
		P.M.	9.5	A	11.2	B
2. Richardson Dr. / Bell Rd.	SSSC	A.M.	9.9	A	10.5	B
		P.M.	12.3	B	13.8	B
3. County Center Dr. / Bell Rd.	SSSC	A.M.	8.6	A	10.0	A
		P.M.	10.6	B	14.6	B
4. Blue Oaks Dr. / Bell Rd.[4]	SSSC	A.M.	15.0	B	16.7	C
		P.M.	16.5	C	16.0	C
5. Professional Dr. / Bell Rd.	Signal	A.M.	9.0	A	10.1	B
		P.M.	9.5	A	12.3	B
6. SR 49 / Bell Rd.	Signal	A.M.	**57.8**	**E**	**67.6**	**E**
		P.M.	**68.8**	**E**	**74.9**	**E**
7. Richardson Dr. / DeWitt Ave.	SSSC	A.M.	9.0	A	10.0	A
		P.M.	12.7	B	15.6	C

Table 17: Peak Hour Intersection Operations – Existing Plus PCGC Master Plan Update

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions		Existing + MPU	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
8. Richardson Dr. / B Ave.	Roundabout	A.M.	8.6	A	4.0	A
		P.M.	9.7	A	4.9	A
9. 1st St. / D Ave./Professional Dr.	Roundabout	A.M.	9.9	A	4.4	A
		P.M.	11.4	B	4.8	A
10. 1st St. / Willow Creek Dr.[5]	Roundabout	A.M.	3.9	A	4.4	A
		P.M.	4.3	A	4.9	A
11. SR 49 / Willow Creek Dr.	Signal	A.M.	28.2	C	34.8	C
		P.M.	32.9	C	42.8	D
12. Richardson Dr. / Atwood Rd.	Signal	A.M.	11.2	B	12.2	B
		P.M.	11.6	B	12.7	B
13. 3rd St. / Atwood Rd.	SSSC	A.M.	9.7	A	11.1	B
		P.M.	11.0	B	12.6	B
14. Coral Dr./1st St. / Atwood Rd.	Signal	A.M.	9.7	A	11.7	B
		P.M.	10.0	B	11.5	B
15. SR 49 / Atwood Rd.	Signal	A.M.	42.2	D	44.0	D
		P.M.	49.2	D	50.9	D
16. SR 49 / Kemper Rd./New Airport Rd.	Signal	A.M.	54.1	D	**69.8**	**E**
		P.M.	**81.2**	**F**	**115.3**	**F**
17. 1st St. / Bell Rd.[4]	SSSC	A.M.			9.6	A
		P.M.			11.4	B

Notes:

1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized, AWSC, and roundabout intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.
4. 1st Street is realigned to the east with the proposed PCGC Master Plan Update, resulting in a new intersection approximately 150 feet east of the existing 1st Street/Blue Oaks Drive / Bell Road intersection. Intersection 4 presents the results at the existing Blue Oaks Drive / Bell Road intersection. Intersection 17 presents the results for the new realigned 1st Street / Bell Road intersection.
5. 1st Street / Willow Creek Dr. is a four-leg roundabout under Existing Conditions with F Ave. serving as the fourth leg; and a three-leg roundabout with the proposed PCGC Master Plan Update.

Bold indicates unacceptable operations. **Bold and highlighted** indicates significant impacts.

All intersections are analyzed in Synchro 10.

Source: Fehr & Peers, 2018.

Peak Hour Signal Warrant Analysis

The peak hour signal warrant analysis shows that none of the unsignalized study intersections meet the peak hour signal warrant (Warrant 3A or 3B) under existing plus PCGC Master Plan Update conditions (refer to Appendix E for signal warrant spreadsheets).

Bicycle and Pedestrian Network

The proposed PCGC Master Plan Update proposes a comprehensive network of bicycle and pedestrian facilities on the PCGC campus. This includes class II bike lanes on most streets, including Richardson Drive, 1st Street, County Center Drive, B Avenue, and D Avenue. A class III bike route is planned for D Avenue between County Center Drive and 1st Street in the mixed-use Community District. These bicycle facilities would connect to existing bicycle facilities along the periphery of the PCGC campus, including Bell Road and Willow Creek Drive.

Additionally, shared-use bicycle/pedestrian paths would be provided on the PCGC campus, connecting the various activity centers on the PCGC campus, including the proposed Community Events Center, Central Green, transit center, and the mixed-use core of the Community District. These bicycle/pedestrian paths would also provide pedestrian connections between the various government office buildings on the PCGC campus. Sidewalks are proposed along all streets on the PCGC campus, including Richardson Drive, County Center Drive, 1st Street, B Avenue, ad D Avenue. These would connect to existing sidewalks on Bell Road and Willow Creek Drive, as well as crosswalks across Atwood Road.

The proposed sidewalks along 1st Street south of Willow Creek Drive would provide an important pedestrian connection between the proposed residential uses in the Community District of the PCGC campus and Auburn Elementary School south of Atwood Road. Since this will be an important walking route for potential students, it would be important for sidewalks along this segment of 1st Street be in place once the proposed residential development on the PCGC campus is constructed. Furthermore, new crosswalks should be provided across Atwood Road at the 1st Street/Corral Drive intersection.

Transit Network

The PCGC campus would continue to be served by Placer County Transit's Highway 49 route. As shown on **Figure 8**, there are five existing bus stops within or along the periphery of the PCGC campus that provide transit service to the campus.

The PCGC Master Plan offers guidance for future development opportunities, which are intended to enrich the campus and surrounding community as an attractive, accessible, sustainable, safe and functional environment for work, recreation. The PCGC Master Plan supports the reduction of single-occupant vehicle trips by creating a dense pattern of walking and biking paths and support of public transit.

Additionally, the PCGC Master Plan Update proposes to locate a new transit center near the center of the PCGC campus along County Center Drive north of B Avenue. As part of the new transit center, the existing Highway 49 route on 1st Street would be re-routed to County Center Drive. Instead of traveling on 1st Street south of Bell Road, the Highway 49 route would travel south along County Center Drive and then east along D Avenue back to 1st Street. As part of this re-routing, the existing stop at 1st Street / C Avenue would no longer be used.

Sidewalks and shared-use trails would radiate from the proposed transit center at County Center Drive and B Avenue, providing convenient pedestrian access from government office buildings and community spaces on the campus. In addition, a new bus stop is proposed near the mixed-use core of the Community District on 1st Street near Willow Creek Drive.

7. Cumulative Conditions

This chapter presents the traffic forecasts and operations analysis of cumulative conditions. The cumulative conditions scenarios represent projected future conditions based on proposed land developments and planned roadway improvements. To conduct a programmatic analysis of the implementation of the proposed PCGC Master Plan Update and a project-level analysis of a new HHS building and a 100-unit MFR development, these scenarios include:

- Cumulative No Project
- Cumulative Plus Multifamily Residential (MFR) Development
- Cumulative Plus Health & Human Services (HHS) Building
- Cumulative Plus PCGC Master Plan Update

The cumulative conditions analysis is conducted to assess the proposed projects' incremental contribution to future transportation and traffic conditions. This study determines whether the proposed projects' contribution is cumulatively considerable by comparing the cumulative transportation and traffic conditions with the proposed project against the cumulative transportation and traffic conditions without the proposed projects.

Cumulative Setting

As noted in the Study Methodology chapter, this study uses the North Auburn sub-area travel forecasting model to forecast future traffic volumes in the study area. The Traffic Forecasting section of the Study Methodology chapter includes background information on the North Auburn sub-area travel forecasting model.

Land Use & Transportation Network Inputs

The land use and transportation inputs for the North Auburn sub-area travel forecasting model are based on land development projections and funded transportation improvements that are reasonably anticipated to occur over the next 20 years. While the original model's land use projections had a "2025" horizon year, the forecasted growth in development actually exceeded SACOG's "2035" forecast for residential unit growth by almost 70% and contained just slightly less non-residential development. Furthermore, the original "2025" forecasts were developed prior to the Great Recession of 2008-09, which resulted in a

significant downturn in land development in the late 2000's and early 2010's. Therefore, the "2025" land use forecast more closely corresponds with, or in some cases may exceed, the 2036 forecasts reflected in SACOG's current 2016 MTP/SCS for the study area. Furthermore, the land development projections in the study area were reviewed to verify that they reflect reasonably foreseeable developments. This is described in further detail in the land use inputs section below.

The transportation improvements within the study area were further refined in collaboration with County staff to reflect funded and reasonably foreseeable projects in the study area. This included a review of the current 2016 SACOG MTP/SCS Tier 1 project list and improvements that are identified in the Auburn/Bowman Benefit District of the Placer Countywide Capital Improvement Program (CIP).

Additional details regarding the cumulative travel forecasting model land use inputs and transportation network inputs are described below.

Land Use Inputs

As noted above, the land use inputs for the cumulative conditions analysis generally reflect reasonably foreseeable growth over the next 20 years. This includes new land development throughout the Sacramento metropolitan region in accordance with regional population and employment growth projections. Within North Auburn, this study reviewed approved, pending, and known projects in the study area to verify that the cumulative land use inputs reflect the construction of these projects. The list of approved, pending, recently completed, and known projects in the study area include:

- Atwood 80
- Auburn Creekside Center commercial
- Briar Meadows Estates
- Ceronix
- Hidden Creek (Atwood 20)
- Lakeside Oaks Business Park
- Mcguire Pacific Buildings
- Timberline

Transportation Network Inputs

The future changes to the transportation network are primarily based on the SACOG 2016 MTP/SCS Tier 1 project list. The Tier 1 project list is a financially constrained list of funded transportation enhancements and expansions to the roadway, transit, and bicycle and pedestrian facilities in the SACOG region that are expected to occur over the life of the plan (i.e., by 2036).

In addition to the SACOG 2016 MTP/SCS Tier 1 project list, this study incorporates improvements that are identified in the Auburn/Bowman Benefit District of the Placer Countywide Capital Improvement Program (CIP) and the SR 49 TCR.

Roadway improvements identified in the SACOG 2016 MTP/SCS Tier 1 project list and the SR 49 TCR for the North Auburn study area include:

- SR 49: widen to 6 lanes from Luther Road to Nevada Street
- SR 49 / Willow Creek Drive: add dual left-turn lanes on SR 49
- SR 49: Signalization and signal coordination improvements in Auburn and North Auburn
- SR 49: install signal at Locksley Lane and Shale Ridge Road; and coordinate signals from Bell Road to Dry Creek Road
- SR 49: construct Class II bike lanes from Bell Road to Dry Creek Road
- SR 49: construct Class II bike lanes from Luther Road to Lincoln Way

While the above projects are either included in the SACOG 2016 MTP/SCS Tier 1 project list or identified for near-term implementation in the SR 49 TCR, in discussions with County staff, the County has determined that the SR 49 widening from Luther Road to Nevada Street and the dual left-turn lanes at Willow Creek Drive may not occur over the next 20 years. Therefore, these improvements are excluded from the cumulative conditions scenarios.

The Auburn/Bowman Benefit District of the Placer Countywide CIP includes the following improvements:

- Widen SR 49 from Bell Road to Rock Creek Road from 4 lanes to 5 lanes (3 lanes northbound and 2 lanes southbound) in conjunction with the proposed Auburn Creekside Center commercial development
- Improve the SR 49 / Bell Road intersection to accommodate a third northbound through lane
- Extend Education Street east from SR 49 to Quartz Drive
- Extend Education Street west from its current terminus to the future Richardson Drive
- Galena Drive: construct new 2-lane roadway between Quartz Drive and Education Street
- Parallel Road: construct a new 2-lane north-south roadway approximately 1,000 feet east of SR 49 between Dry Creek Road and Rock Creek Road connecting to the existing Quartz Drive
- Richardson Drive: construct new 2-lane roadway between Dry Creek Road and Bell Road
- Richardson Extension: construct new 2-lane roadway between Kemper Road near Wildberry Lane to Vineyard Drive

- Richardson Drive / Bell Road: install new signal
- Blue Oaks Drive/1st Street / Bell Road: install new signal
- Masters Court: extend west and north to Willow Creek Drive

These improvements are incorporated into the cumulative conditions scenarios. A few of these improvements, including the extension of Richardson Drive north of Bell Road, extension of Education Street west to Richardson Drive, and a new signal at Richardson Drive / Bell Road are currently under construction as part of the Timberline project.

In discussions with County staff, the widening of SR 49 to 6 lanes from Dry Creek Road to Bell Road and from Luther Road to Nevada Street may not occur over the next 20 years, although they are identified as project in the Auburn/Bowman Benefit District of the Placer Countywide CIP. Therefore, they are excluded from the cumulative conditions scenarios.

Cumulative No Project Conditions

The cumulative no project conditions scenario reflects future conditions without the proposed PCGC Master Plan Update or the associated MFR or HHS projects. This scenario includes reasonably foreseeable growth in the region as well as funded transportation improvements as described in the land use and transportation inputs section of the Cumulative Setting above.

Traffic Forecasts

The North Auburn sub-area travel forecasting model is used to forecast cumulative no project traffic levels at study roadway segments and intersections. Like the existing plus PCGC Master Plan Update scenario, this study applies the "difference method" to develop cumulative no project forecasts. The difference method takes the difference between future year and base year traffic volumes from the model and adds them to existing traffic volumes at the study intersections to develop future year forecasts. This method corrects any potential anomalies within the model. This forecasting procedure is calculated as follows:

Cumulative No Project Forecast = Existing Traffic Count +
("Cumulative No Project" Raw Model Volume – Base Year Raw Model Volume)

In instances where a roadway currently does not exist, the Cumulative No Project raw model volume is used directly.

Roadway Segment Forecasts

Table 18 presents the ADT forecasts for the seven study roadway segments under cumulative no project conditions, along with the roadway classification and resulting volume-to-capacity ratio and LOS. As shown, the Placer County study roadway segments would operate at an acceptable LOS C or better. All Caltrans (i.e., SR 49) segments would operate at an acceptable LOS D or better. The segment of SR 49 north of Bell Road improves from LOS E under existing conditions to LOS C under cumulative no project conditions due to widening northbound SR 49 to three lanes, creating a five-lane arterial along this segment. This widening corresponds to frontage improvements that would be constructed by the approved Auburn Creekside Center development.

Table 18: Roadway Segment Operations – Cumulative No Project

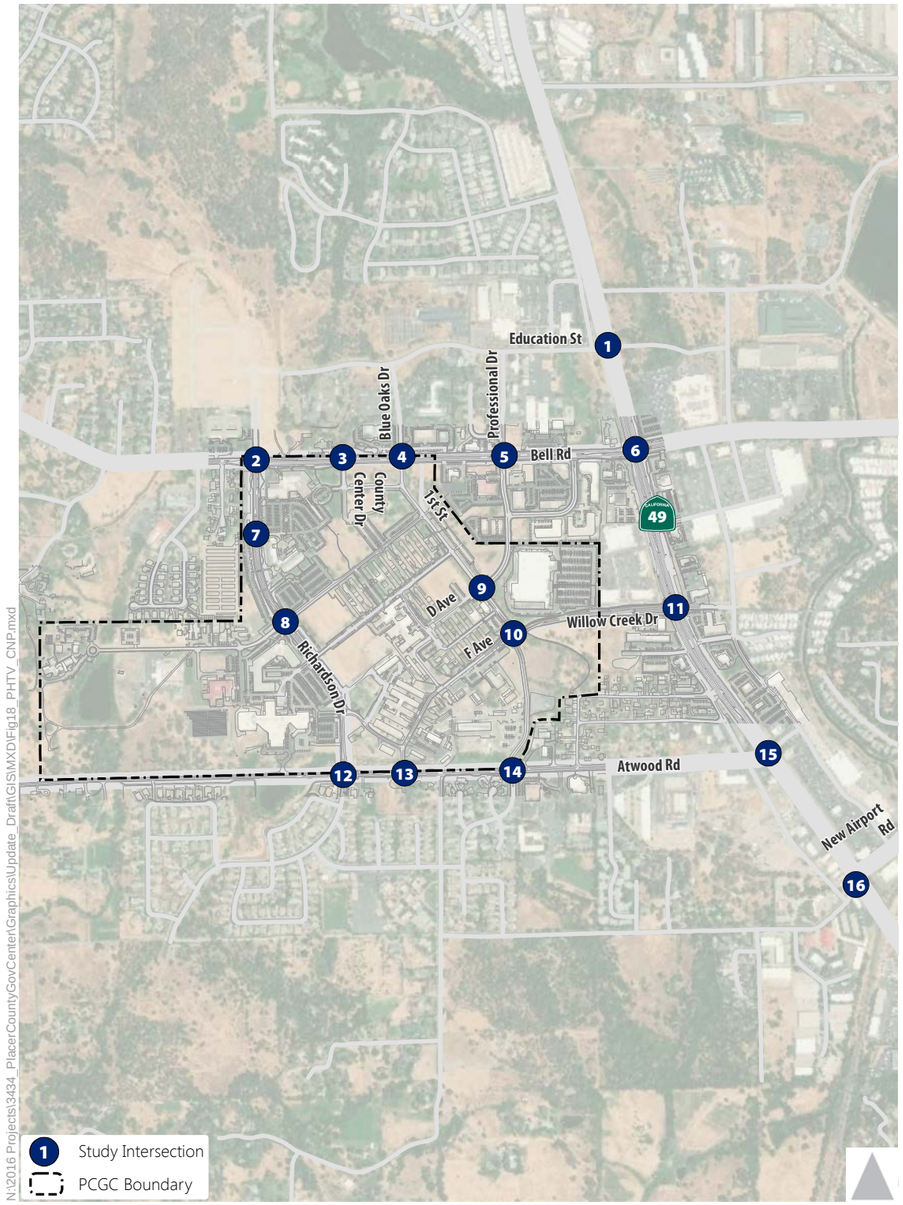
Segment	Classification	Cumulative No Project		
		ADT[1]	V/C[2]	LOS
Atwood Road: west of SR 49	2-lane Moderate Access Arterial	11,900	0.66	B
Bell Road: west of SR 49	4-lane Moderate Access Arterial	19,400	0.54	A
SR 49: Luther Road to New Airport Road	6-lane Moderate Access Arterial	47,700	0.88	D
SR 49: New Airport Road to Atwood Road	6-lane Moderate Access Arterial	45,200	0.84	D
SR 49: Atwood Road to Willow Creek Drive	6-lane Moderate Access Arterial	45,100	0.84	D
SR 49: Willow Creek Drive to Bell Road	6-lane Moderate Access Arterial	44,900	0.83	D
SR 49: north of Bell Road	5-lane Moderate Access Arterial[3]	35,000	0.78	C

Notes:
1. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
2. V/C = volume-to-capacity ratio
3. 5-lane roadway cross-section based on frontage improvement to be constructed by the Auburn Creekside Center development in NB direction.

Source: Fehr & Peers, 2018.

Intersection Turning Movement Forecasts

Figure 18 presents the intersection turning lane geometrics, traffic control, and cumulative no project a.m. and p.m. peak hour traffic forecasts for the 16 study intersections.



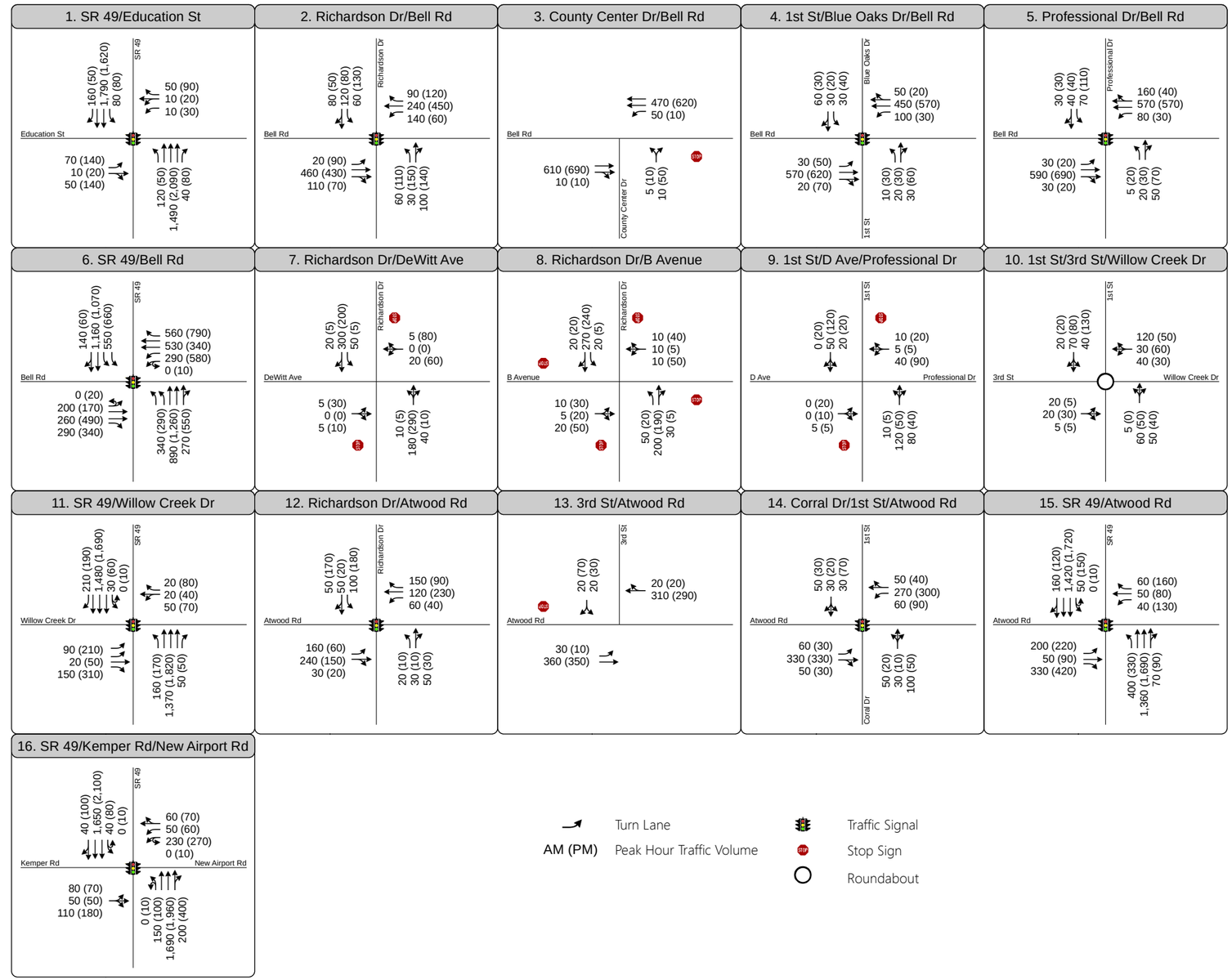


Figure 18

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions

N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig18_PHTV_CNP.mxd

As shown in **Figure 18** and consistent with the list of cumulative transportation/roadway improvements, several intersections have changes from existing conditions, including:

- SR 49 / Education Street (#1): east leg added; third northbound lane added to SR 49
- Richardson Drive / Bell Road (#2): signal added
- 1st Street/Blue Oaks Drive / Bell Road (#4): signal added
- SR 49 / Bell Road (#6): northbound right-turn lane converted to shared through-right turn lane

These changes are also reflected in the intersection operations analysis presented below.

Intersection Operations

Table 19 presents the average delay and LOS at the study intersections under cumulative no project conditions during the weekday a.m. and p.m. peak hours (refer to Appendix F for technical calculations). As shown, most study intersections would operate at an acceptable LOS under cumulative no project conditions except the following three intersections:

- SR 49 / Bell Road (#6) – LOS F during the p.m. peak hour
- SR 49 / Atwood Road (#15) – LOS E during the p.m. peak hour
- SR 49 / Kemper Road/New Airport Road (#16) – LOS E during the p.m. peak hour

Table 19: Peak Hour Intersection Operations – Cumulative No Project

Intersection	Traffic Control[1]	Peak Hour	Cumulative No Project	
			Delay[2]	LOS[3]
1. SR 49 / Education St.	Signal	A.M.	34.4	C
		P.M.	24.7	C
2. Richardson Dr. / Bell Rd.	Signal	A.M.	19.2	B
		P.M.	34.0	C
3. County Center Dr. / Bell Rd.	SSSC	A.M.	12.0	B
		P.M.	17.3	C
4. 1st St./Blue Oaks Dr. / Bell Rd.	Signal	A.M.	13.6	B
		P.M.	14.2	B
5. Professional Dr. / Bell Rd.	Signal	A.M.	9.7	A
		P.M.	10.3	B

Table 19: Peak Hour Intersection Operations – Cumulative No Project

Intersection	Traffic Control[1]	Peak Hour	Cumulative No Project	
			Delay[2]	LOS[3]
6. SR 49 / Bell Rd.	Signal	A.M.	45.7	D
		P.M.	**84.6**	**F**
7. Richardson Dr. / DeWitt Ave.[4]	SSSC	A.M.	11.5	B
		P.M.	29.0	D
8. Richardson Dr. / B Ave.	AWSC	A.M.	10.6	B
		P.M.	16.5	C
9. 1st St. / D Ave./Professional Dr.	SSSC	A.M.	9.9	A
		P.M.	12.6	B
10. 1st St. / F Ave./Willow Creek Dr.	Roundabout	A.M.	4.0	A
		P.M.	4.7	A
11. SR 49 / Willow Creek Dr.	Signal	A.M.	27.1	C
		P.M.	32.3	C
12. Richardson Dr. / Atwood Rd.	Signal	A.M.	12.3	B
		P.M.	13.2	B
13. 3rd St. / Atwood Rd.	SSSC	A.M.	11.2	B
		P.M.	13.2	B
14. Coral Dr./1st St. / Atwood Rd.	Signal	A.M.	12.2	B
		P.M.	11.6	B
15. SR 49 / Atwood Rd.	Signal	A.M.	43.6	D
		P.M.	**66.9**	**E**
16. SR 49 / Kemper Rd./New Airport Rd.	Signal	A.M.	51.7	D
		P.M.	**56.5**	**E**

Notes:

1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized, AWSC, and roundabout intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.
4. The Dewitt Avenue approaches are driveways. Therefore, they are not subject to the County's LOS significance criteria.

Bold text indicates unacceptable operations.

All intersections are analyzed in Synchro 10.

Source: Fehr & Peers, 2018.

The 1st Street/Blue Oaks Drive / Bell Road intersection improves in operations (i.e., has reduced delay) from existing conditions due to installing a traffic signal under cumulative conditions.

Peak Hour Signal Warrant Analysis

The peak hour signal warrant analysis shows that none of the unsignalized study intersections meet the peak hour signal warrant (Warrant 3A or 3B) under cumulative no project conditions (refer to Appendix F for signal warrant spreadsheets).

Cumulative Plus Multifamily Residential

The following presents the traffic operations analysis results for cumulative plus multifamily residential (MFR) development conditions. This scenario assesses the incremental cumulative traffic effects of the MFR development when viewed along with reasonably foreseeable land development and transportation projects.

Traffic Forecasts

Vehicle trips generated by the proposed MFR project are assigned to the roadway network based on the vehicle trip distribution shown in **Figure 9** and **Figure 10** for the a.m. peak hour and p.m. peak hour, respectively. These project trips are added to cumulative no project traffic forecasts to develop cumulative plus MFR traffic volumes.

Roadway Segment Forecasts

Table 20 presents the ADT forecasts for the seven study roadway segments under cumulative plus MFR conditions, along with the roadway classification and resulting volume-to-capacity ratio and LOS. As shown, all study roadway segments would continue to operate at an acceptable LOS. Placer County segments would operate at an acceptable C or better, and Caltrans (i.e., SR 49) segments would operate an acceptable LOS D or better.

Table 20: Roadway Segment Operations – Cumulative Plus Multifamily Residential Project

Segment	Classification[1]	Cumulative No Project			Cumulative + MFR		
		ADT[2]	V/C[3]	LOS	ADT[2]	V/C[3]	LOS
Atwood Road: west of SR 49	2-lane Arterial	11,900	0.66	B	12,000	0.67	B
Bell Road: west of SR 49	4-lane Arterial	19,400	0.54	A	19,800	0.55	A
SR 49: Luther Rd. to New Airport Rd.	6-lane Arterial	47,700	0.88	D	48,000	0.89	D
SR 49: New Airport Rd. to Atwood Rd.	6-lane Arterial	45,200	0.84	D	45,500	0.84	D
SR 49: Atwood Rd. to Willow Creek Dr.	6-lane Arterial	45,100	0.84	D	45,400	0.84	D
SR 49: Willow Creek Dr. to Bell Rd.	6-lane Arterial	44,900	0.83	D	45,000	0.83	D
SR 49: north of Bell Rd.	5-lane Arterial[4]	35,000	0.78	C	35,200	0.78	C

Notes:

1. All study roadway segments are moderate access controlled arterials, based on the definition contained in the *Placer County Countywide General Plan EIR*.
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio
4. 5-lane roadway cross-section based on frontage improvement to be constructed by the Auburn Creekside Center development in NB direction.

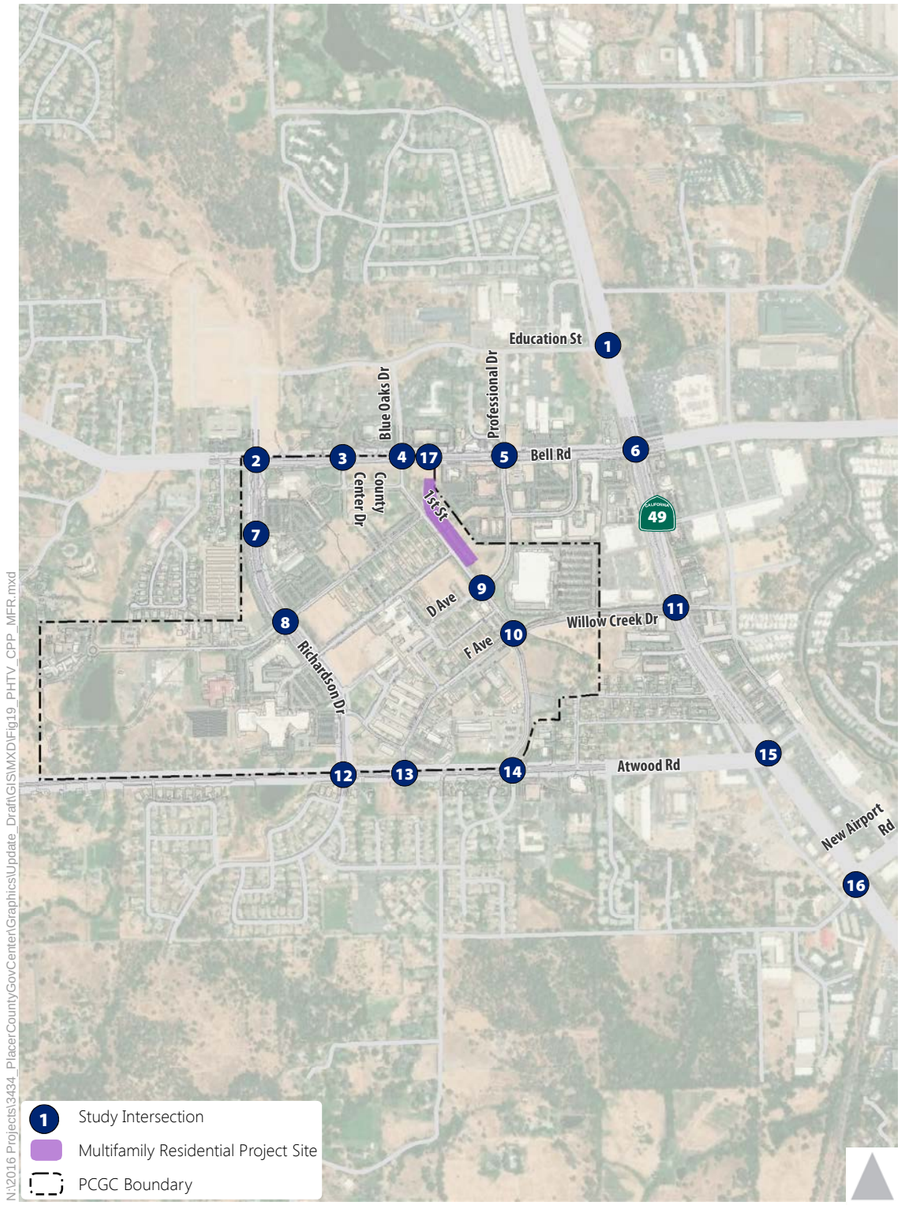
Bold text indicates unacceptable operations.

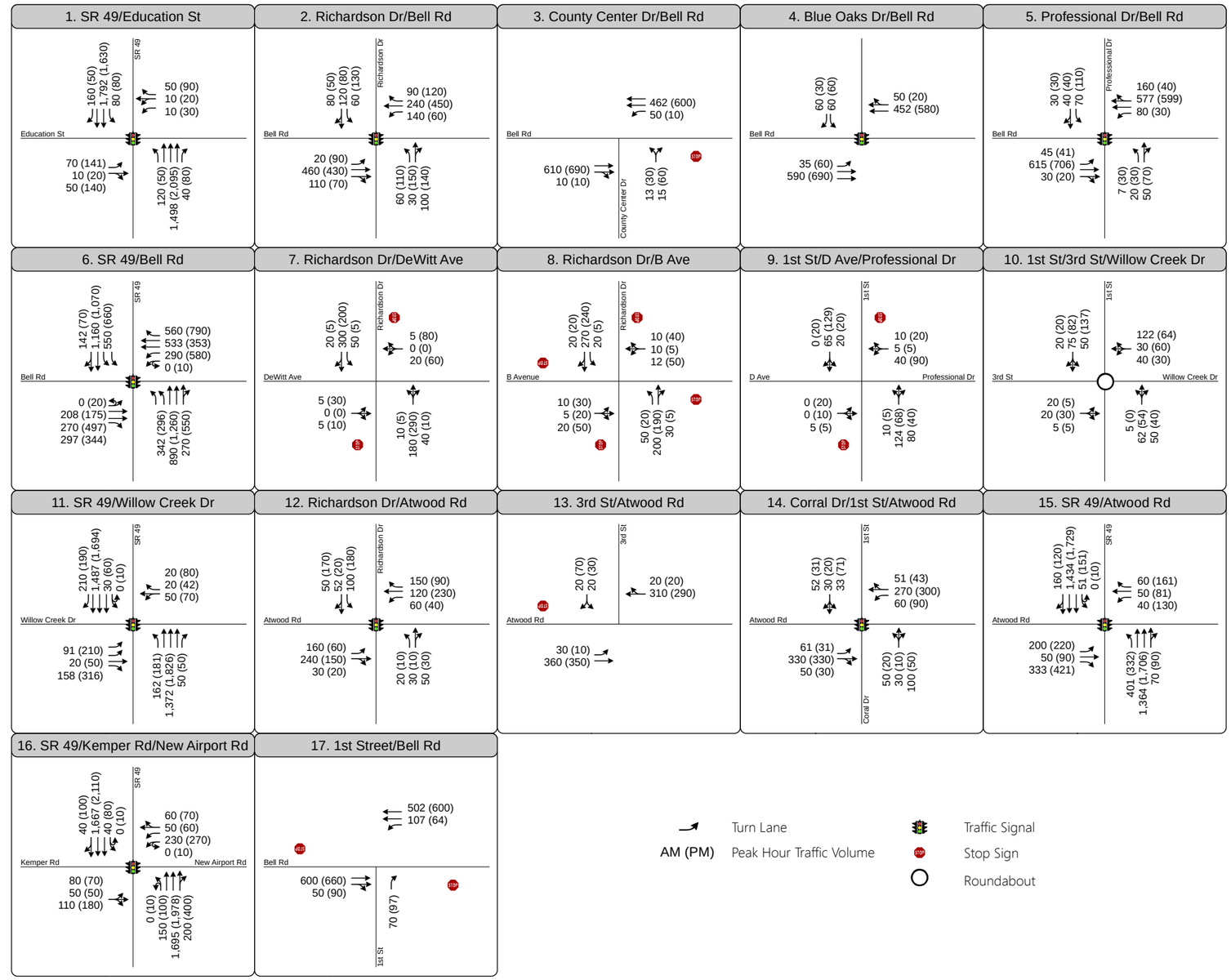
Source: Fehr & Peers, 2018.

Intersection Turning Movement Forecasts

Figure 19 presents the weekday a.m. and p.m. peak hour turning movement forecasts at study intersections under cumulative plus MFR conditions. These turning movement forecasts represent the addition of vehicle trips generated by the proposed MFR project to cumulative no project forecasts.

These forecasts also reflect changes in traffic flow caused by realigning 1st Street. This realignment results in a new three-leg intersection at 1st Street / Bell Road (#17) approximately 150 feet east of the existing Blue Oaks Drive / Bell Road intersection. With this realignment, northbound left-turns from 1st Street onto Bell Road would be prohibited. Westbound left-turns and eastbound right-turns onto 1st Street from Bell Road would still be permitted, as would northbound right-turns from 1st Street onto Bell Road. To address this, cumulative no project northbound left-turn and through movements that occur at the 1st Street/Blue Oaks Drive / Bell Road intersection are shifted to County Center Drive / Bell Road or Professional Drive / Bell Road.





N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig19_PHTV_CPP_MFR.mxd

Figure 19

Peak Hour Traffic Volumes
and Lane Configurations -
Cumulative Plus Multifamily Residential Conditions

Intersection Operations

Table 21 presents the average delay and LOS at the study intersections under cumulative plus MFR conditions during the weekday a.m. and p.m. peak hours (refer to Appendix G for technical calculations). As shown, the following three intersections would continue to operate at an unacceptable LOS under cumulative plus MFR project conditions:

- SR 49 / Bell Road (#6) – LOS F during the p.m. peak hour
- SR 49 / Atwood Road (#15) – LOS E during the p.m. peak hour
- SR 49 / Kemper Road/New Airport Road (#16) – LOS E during the p.m. peak hour

The proposed MFR project would increase the average control delay by less than one second at SR 49 / Kemper Road/New Airport Road from cumulative no project conditions during the p.m. peak hour. This is a less than significant impact per Caltrans significance criteria. However, the trips generated by the proposed MFR project would increase the average control delay by 1 second or more from cumulative no project conditions at the SR 49 / Bell Road and SR 49 / Atwood Road intersections during the p.m. peak hour. This incremental increase in delay is considered a significant cumulative impact per Caltrans significance criteria.

Table 21: Peak Hour Intersection Operations – Cumulative Plus Multi-Family Residential Project Conditions

Intersection	Traffic Control[1]	Peak Hour	Cumulative NP		Cumulative + MFR	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. SR 49 / Education St.	Signal	A.M.	34.4	C	33.4	C
		P.M.	24.7	C	25.0	C
2. Richardson Dr. / Bell Rd.	Signal	A.M.	19.2	B	20.4	B
		P.M.	34.0	C	34.0	C
3. County Center Dr. / Bell Rd.	SSSC	A.M.	12.0	B	14.6	B
		P.M.	17.3	C	27.8	D
4. Blue Oaks Dr. / Bell Rd.[4]	Signal	A.M.	13.6	B	6.0	A
		P.M.	14.2	B	6.5	A
5. Professional Dr. / Bell Rd.	Signal	A.M.	9.7	A	9.9	A
		P.M.	10.3	B	13.8	B
6. SR 49 / Bell Rd.	Signal	A.M.	45.7	D	47.0	D
		P.M.	**84.6**	**F**	**87.0**	**F**
7. Richardson Dr. / DeWitt Ave.[5]	SSSC	A.M.	11.5	B	11.5	B
		P.M.	29.0	D	29.0	D

Table 21: Peak Hour Intersection Operations – Cumulative Plus Multi-Family Residential Project Conditions

Intersection	Traffic Control[1]	Peak Hour	Cumulative NP		Cumulative + MFR	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
8. Richardson Dr. / B Ave.	AWSC	A.M.	10.6	B	10.6	B
		P.M.	16.5	C	16.5	C
9. 1st St. / D Ave./Professional Dr.	SSSC	A.M.	9.9	A	10.1	B
		P.M.	12.6	B	13.2	B
10. 1st St. / F Ave./Willow Creek Dr.	Roundabout	A.M.	4.0	A	4.0	A
		P.M.	4.7	A	4.8	A
11. SR 49 / Willow Creek Dr.	Signal	A.M.	27.1	C	27.0	C
		P.M.	32.3	C	32.5	C
12. Richardson Dr. / Atwood Rd.	Signal	A.M.	12.3	B	12.4	B
		P.M.	13.2	B	13.2	B
13. 3rd St. / Atwood Rd.	SSSC	A.M.	11.2	B	11.2	B
		P.M.	13.2	B	13.2	B
14. Coral Dr./1st St. / Atwood Rd.	Signal	A.M.	12.2	B	12.3	B
		P.M.	11.6	B	11.6	B
15. SR 49 / Atwood Rd.	Signal	A.M.	43.6	D	43.5	D
		P.M.	**66.9**	**E**	**68.0**	**E**
16. SR 49 / Kemper Rd./New Airport Rd.	Signal	A.M.	51.7	D	51.5	D
		P.M.	**56.5**	**E**	**57.0**	**E**
17. 1st St. / Bell Rd.[4]	SSSC	A.M.			12.7	B
		P.M.			14.7	B

Notes:

1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized, AWSC, and roundabout intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.
4. 1st Street is realigned to the east under existing plus multifamily residential project conditions, resulting in a new intersection approximately 150 feet east of the existing 1st Street/Blue Oaks Drive / Bell Road intersection. Intersection 4 presents the results at the existing Blue Oaks Drive / Bell Road intersection. Intersection 17 presents the results for the new realigned 1st Street / Bell Road intersection.
5. The Dewitt Avenue approaches are driveways. Therefore, they are not subject to the County's LOS significance criteria.

Bold indicates unacceptable operations. **Bold and highlighted** indicates significant impacts.

All intersections are analyzed in Synchro 10.

Source: Fehr & Peers, 2018.

Peak Hour Signal Warrant Analysis

The peak hour signal warrant analysis shows that none of the unsignalized study intersections meet the peak hour signal warrant (Warrant 3A or 3B) under cumulative plus MFR project conditions (refer to Appendix G for signal warrant spreadsheets).

Cumulative Plus Health & Human Services

The following presents the traffic operations analysis results for cumulative plus Health & Human Services (HHS) building conditions. This scenario assesses the incremental cumulative traffic effects of the HHS building when viewed along with reasonably foreseeable land development and transportation projects.

Traffic Forecasts

The net increase in vehicle trips generated by the proposed HHS building project are assigned to the roadway network based on the vehicle trip distribution shown in **Figure 12** and **Figure 13** for the a.m. peak hour and p.m. peak hour, respectively. These project trips are added to cumulative no project traffic forecasts to develop cumulative plus HHS traffic volumes.

Roadway Segment Forecasts

Table 22 presents the ADT forecasts for the seven study roadway segments under cumulative plus HHS conditions, along with the roadway classification and resulting volume-to-capacity ratio and LOS. As shown, all study roadway segments would continue to operate at an acceptable LOS. Placer County segments would operate at an acceptable C or better, and Caltrans (i.e., SR 49) segments would operate an acceptable LOS D or better.

Table 22: Roadway Segment Operations – Cumulative Plus Health & Human Services Building

Segment	Classification[1]	Cumulative No Project			Cumulative + HHS		
		ADT[2]	V/C[3]	LOS	ADT[2]	V/C[3]	LOS
Atwood Road: west of SR 49	2-lane Arterial	11,900	0.66	B	12,400	0.69	B
Bell Road: west of SR 49	4-lane Arterial	19,400	0.54	A	20,300	0.56	A
SR 49: Luther Rd. to New Airport Rd.	6-lane Arterial	47,700	0.88	D	48,500	0.90	D
SR 49: New Airport Rd. to Atwood Rd.	6-lane Arterial	45,200	0.84	D	46,000	0.85	D
SR 49: Atwood Rd. to Willow Creek Dr.	6-lane Arterial	45,100	0.84	D	45,400	0.84	D

Table 22: Roadway Segment Operations – Cumulative Plus Health & Human Services Building

Segment	Classification[1]	Cumulative No Project			Cumulative + HHS		
		ADT[2]	V/C[3]	LOS	ADT[2]	V/C[3]	LOS
SR 49: Willow Creek Dr. to Bell Rd.	6-lane Arterial	44,900	0.83	D	44,900	0.83	D
SR 49: north of Bell Rd.	5-lane Arterial[4]	35,000	0.78	C	35,500	0.79	C

Notes:

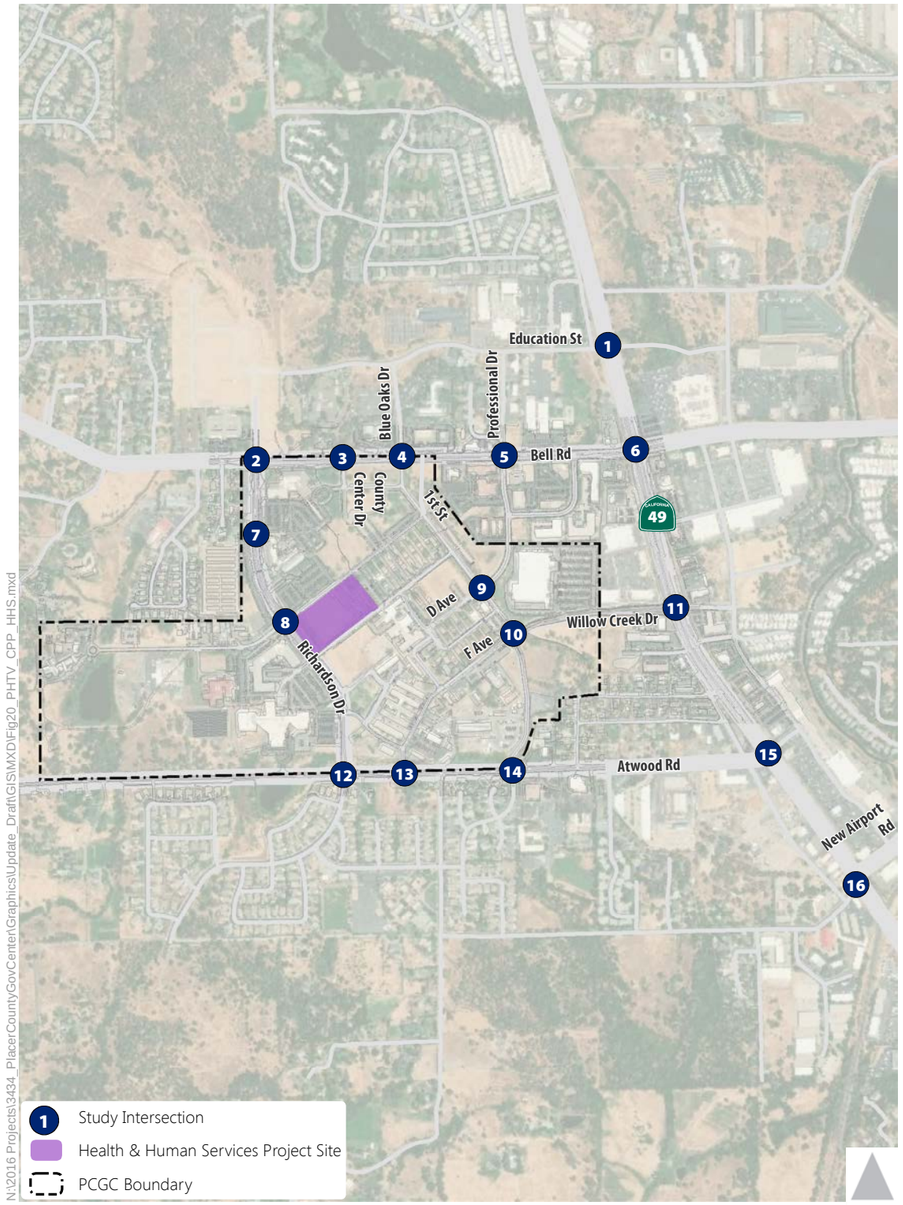
1. All study roadway segments are moderate access controlled arterials, based on the definition contained in the *Placer County Countywide General Plan EIR*.
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio
4. 5-lane roadway cross-section based on frontage improvement to be constructed by the Auburn Creekside Center development in NB direction.

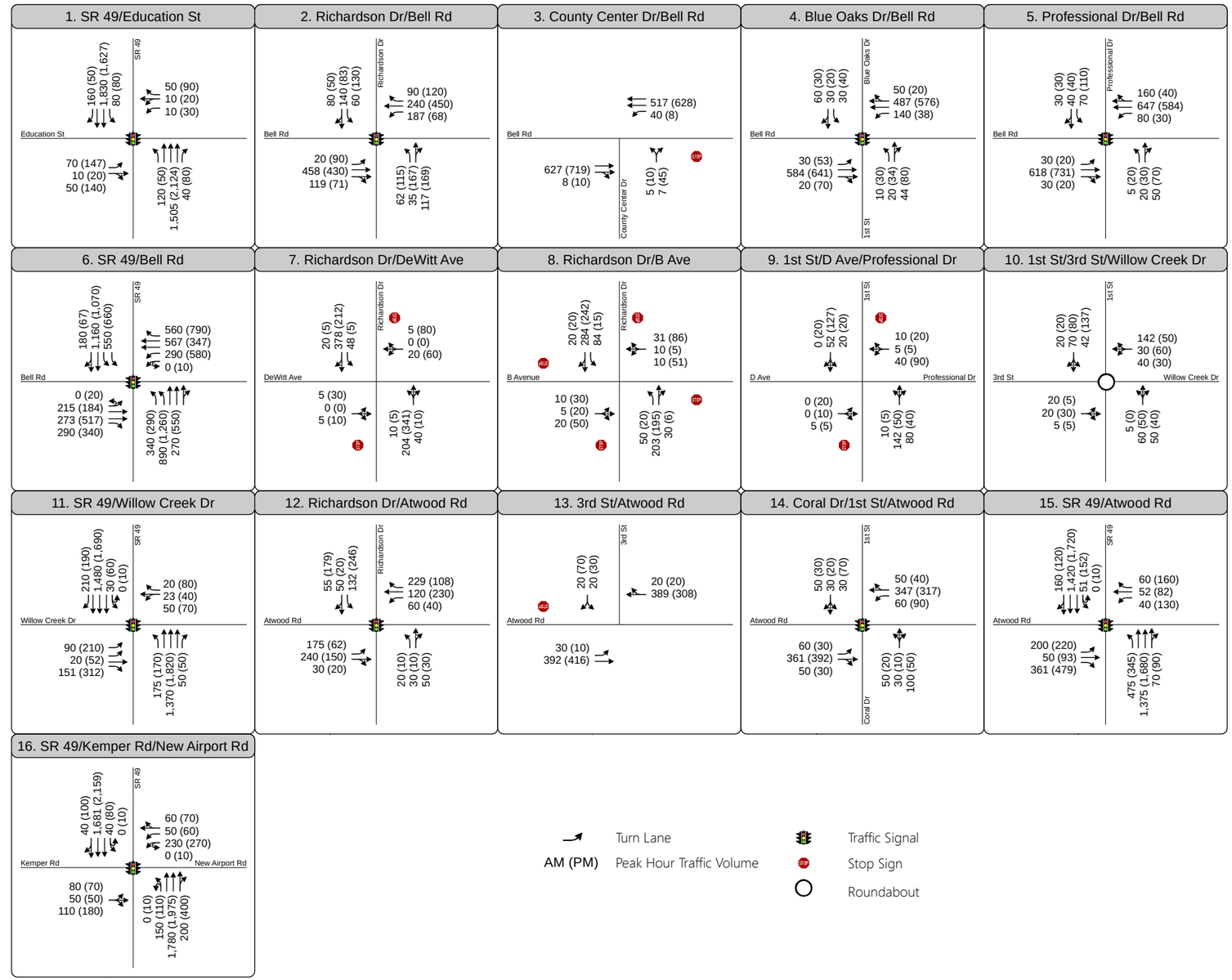
Bold text indicates unacceptable operations.

Source: Fehr & Peers, 2018.

Intersection Turning Movement Forecasts

Figure 20 presents the weekday a.m. and p.m. peak hour turning movement forecasts at study intersections under cumulative plus HHS conditions. These turning movement forecasts represent the net increase in vehicle trips generated by the proposed HHS building project to cumulative no project forecasts.





N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Fig20_PHTV_CPP_HHS.mxd

Figure 20

Peak Hour Traffic Volumes
and Lane Configurations -
Cumulative Plus Health & Human Services Building Conditions

Intersection Operations

Table 23 presents the average delay and LOS at the study intersections under cumulative plus HHS conditions during the weekday a.m. and p.m. peak hours (refer to Appendix H for technical calculations). As shown, the following four intersections would operate at an unacceptable LOS under cumulative plus HHS project conditions:

- Richardson Drive / Bell Road (#2) – LOS D during the p.m. peak hour
- SR 49 / Bell Road (#6) – LOS F during the p.m. peak hour
- SR 49 / Atwood Road (#15) – LOS E during the p.m. peak hour
- SR 49 / Kemper Road/New Airport Road (#16) – LOS E during the p.m. peak hour

The proposed HHS project would degrade operations at the Richardson Drive / Bell Road intersection from an acceptable LOS C under cumulative no project conditions to an unacceptable LOS D during the p.m. peak hour. This is considered a significant cumulative impact per Placer County's *Impact Analysis Methodology of Assessment* memorandum. Trips generated by the proposed HHS project would also increase the average control delay by more than one second from cumulative no project conditions at the SR 49 / Bell Road, SR 49 / Atwood Road, and SR 49 / Kemper Road/New Airport Road intersections during the p.m. peak hour. This incremental increase in delay is considered a significant cumulative impact, per Caltrans significance criteria.

Table 23: Peak Hour Intersection Operations – Cumulative Plus Health & Human Services Building Conditions

Intersection	Traffic Control[1]	Peak Hour	Cumulative NP		Cumulative + HHS	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. SR 49 / Education St.	Signal	A.M.	34.4	C	37.7	D
		P.M.	24.7	C	25.1	C
2. Richardson Dr. / Bell Rd.	Signal	A.M.	19.2	B	22.2	C
		P.M.	34.0	C	**39.8**	**D**
3. County Center Dr. / Bell Rd.	SSSC	A.M.	12.0	B	12.5	B
		P.M.	17.3	C	18.2	C
4. 1st St./Blue Oaks Dr. / Bell Rd.	Signal	A.M.	13.6	B	14.2	B
		P.M.	14.2	B	14.4	B
5. Professional Dr. / Bell Rd.	Signal	A.M.	9.7	A	9.8	A
		P.M.	10.3	B	10.4	B

Table 23: Peak Hour Intersection Operations – Cumulative Plus Health & Human Services Building Conditions

Intersection	Traffic Control[1]	Peak Hour	Cumulative NP		Cumulative + HHS	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
6. SR 49 / Bell Rd.	Signal	A.M.	45.7	D	48.1	D
		P.M.	**84.6**	**F**	**86.3**	**F**
7. Richardson Dr. / DeWitt Ave.[4]	SSSC	A.M.	11.5	B	12.8	B
		P.M.	29.0	D	38.9	E
8. Richardson Dr. / B Ave.	AWSC	A.M.	10.6	B	11.0	B
		P.M.	16.5	C	19.0	C
9. 1st St. / D Ave./Professional Dr.	SSSC	A.M.	9.9	A	10.1	B
		P.M.	12.6	B	13.3	B
10. 1st St. / F Ave./Willow Creek Dr.	Roundabout	A.M.	4.0	A	4.1	A
		P.M.	4.7	A	4.7	A
11. SR 49 / Willow Creek Dr.	Signal	A.M.	27.1	C	27.2	C
		P.M.	32.3	C	32.3	C
12. Richardson Dr. / Atwood Rd.	Signal	A.M.	12.3	B	12.7	B
		P.M.	13.2	B	14.3	B
13. 3rd St. / Atwood Rd.	SSSC	A.M.	11.2	B	12.1	B
		P.M.	13.2	B	14.0	B
14. Coral Dr./1st St. / Atwood Rd.	Signal	A.M.	12.2	B	12.4	B
		P.M.	11.6	B	11.8	B
15. SR 49 / Atwood Rd.	Signal	A.M.	43.6	D	43.0	D
		P.M.	**66.9**	**E**	**72.9**	**E**
16. SR 49 / Kemper Rd./New Airport Rd.	Signal	A.M.	51.7	D	53.5	D
		P.M.	**56.5**	**E**	**59.4**	**E**

Notes:

1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized, AWSC, and roundabout intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.
4. The Dewitt Avenue approaches are driveways. Therefore, they are not subject to the County's LOS significance criteria.

Bold indicates unacceptable operations. **Bold and highlighted** indicates significant impacts.

All intersections are analyzed in Synchro 10.

Source: Fehr & Peers, 2018.

Peak Hour Signal Warrant Analysis

The peak hour signal warrant analysis shows that none of the unsignalized study intersections meet the peak hour signal warrant (Warrant 3A or 3B) under cumulative plus HHS project conditions (refer to Appendix H for signal warrant spreadsheets).

Cumulative Plus PCGC Master Plan Update

The following presents the traffic operations analysis results for cumulative plus PCGC Master Plan Update conditions. This scenario assesses the incremental cumulative traffic effects of the implementation of the proposed PCGC Master Plan Update when viewed along with reasonably foreseeable land development and transportation projects.

Traffic Forecasts

This study uses the North Auburn travel forecasting model to forecast vehicle traffic volumes on study roadways and at study intersections with buildout of the proposed PCGC Master Plan Update under cumulative conditions. The North Auburn model was updated to reflect the proposed changes to the PCGC internal campus roadway network. This includes:

- Extending County Center Drive southerly passed D Avenue
- Modifying B Avenue and C Avenue to end at the newly extended County Center Drive, removing their existing connection to 1st Street
- Connecting D Avenue between Richardson Drive and 1st Street
- Removing F Avenue between the new County Center Drive alignment and 1st Street
- Realigning 1st Street 150 feet easterly from the existing B Avenue alignment to Bell Road

Additionally, land use inputs reflecting buildout of the proposed PCGC Master Plan Update were entered into the land use input file for the travel analysis zones (TAZ) that correspond to the PCGC campus. This includes removal of some existing buildings, repurposing of existing buildings, as well as construction of new buildings, as proposed in the PCGC Master Plan Update.

Like the existing plus PCGC Master Plan Update scenario, this study applies the "difference method" to develop cumulative plus PCGC Master Plan Update forecasts. The difference method takes the difference between the cumulative plus PCGC Master Plan Update model volumes and base year model volumes and

adds them to existing traffic volumes at the study intersections to develop cumulative plus PCGC Master Plan Update forecasts. This method corrects any potential anomalies within the model. This forecasting procedure is calculated as follows:

Cumulative Plus PCGC Master Plan Update Forecast = Existing Traffic Count +
("Cumulative Plus PCGC Master Plan Update" Raw Model Volume – Base Year Raw Model Volume)

These initial forecasts were reviewed for reasonableness and adjusted based on engineering judgment to correct for any remaining anomalies in the forecasts (i.e., imbalances between study intersections, illogical decreases or increases in the incremental project trips between study intersections, etc.).

Roadway Segment Forecasts

Table 24 presents the ADT forecasts for the seven study roadway segments under cumulative plus PCGC Master Plan Update conditions, along with the roadway classification and resulting volume-to-capacity ratio and LOS. As shown, the Placer County study roadway segments would continue to operate at an acceptable LOS C or better. The Caltrans (i.e., SR 49) segments would continue to operate at an acceptable LOS D or better, except for SR 49 from Luther Road to Atwood Road, which would operate at LOS E. Since the traffic generated by the PCGC Master Plan Update would degrade operations from an acceptable LOS D to LOS E, this is considered a significant impact, per Caltrans significance criteria.

Table 24: Roadway Segment Operations – Cumulative Plus PCGC Master Plan Update

Segment	Classification[1]	Cumulative No Project			Cumulative + MPU		
		ADT[2]	V/C[3]	LOS	ADT[2]	V/C[3]	LOS
Atwood Road: west of SR 49	2-lane Arterial	11,900	0.66	B	14,300	0.79	C
Bell Road: west of SR 49	4-lane Arterial	19,400	0.54	A	23,600	0.66	B
SR 49: Luther Rd. to New Airport Rd.	6-lane Arterial	47,700	0.88	D	**52,700**	**0.98**	**E**
SR 49: New Airport Rd. to Atwood Rd.	6-lane Arterial	45,200	0.84	D	**50,200**	**0.93**	**E**
SR 49: Atwood Rd. to Willow Creek Dr.	6-lane Arterial	45,100	0.84	D	47,400	0.88	D

Table 24: Roadway Segment Operations – Cumulative Plus PCGC Master Plan Update

Segment	Classification[1]	Cumulative No Project			Cumulative + MPU		
		ADT[2]	V/C[3]	LOS	ADT[2]	V/C[3]	LOS
SR 49: Willow Creek Dr. to Bell Rd.	6-lane Arterial	44,900	0.83	D	46,600	0.86	D
SR 49: north of Bell Rd.	5-lane Arterial[4]	35,000	0.78	C	37,100	0.82	D

Notes:

1. All study roadway segments are moderate access controlled arterials, based on the definition contained in the *Placer County Countywide General Plan EIR*.
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio
4. 5-lane roadway cross-section based on frontage improvement to be constructed by the Auburn Creekside Center development in NB direction.

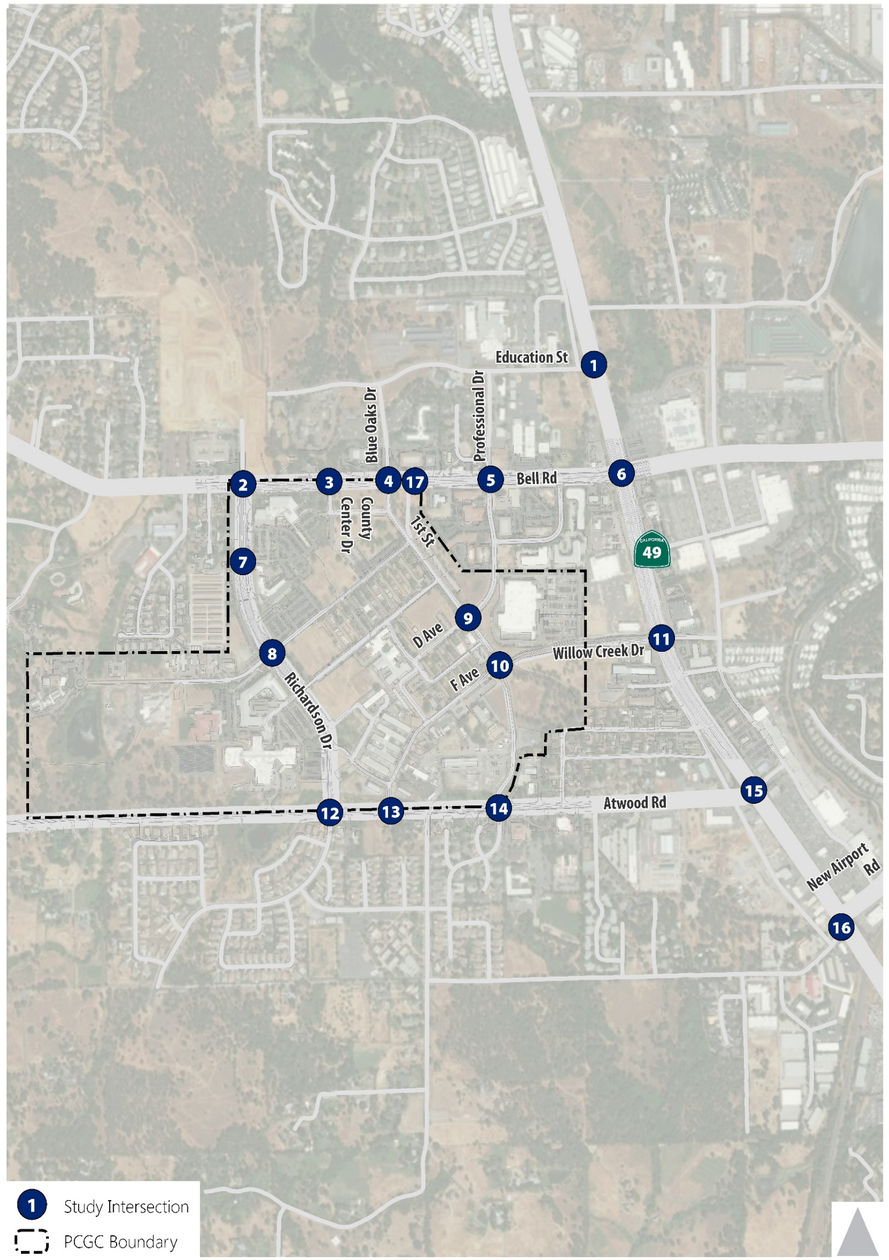
Bold text indicates unacceptable operations. **Bold and highlighted** text indicates significant impacts.

Source: Fehr & Peers, 2018.

Intersection Turning Movement Forecasts

Figure 21 presents the weekday a.m. and p.m. peak hour turning movement forecasts at study intersections under cumulative plus PCGC Master Plan Update conditions. These turning movement forecasts represent the addition of vehicle trips generated by the buildout of the PCGC Master Plan Update to cumulative no project forecasts.

These forecasts also reflect changes in traffic flow caused by realigning 1st Street. This realignment results in a new three-leg intersection at 1st Street / Bell Road (#17) approximately 150 feet east of the existing Blue Oaks Drive / Bell Road intersection. With this realignment, northbound left-turns from 1st Street onto Bell Road would be prohibited. Westbound left-turns and eastbound right-turns onto 1st Street from Bell Road would still be permitted, as would northbound right-turns from 1st Street onto Bell Road. To address this, cumulative no project northbound left-turn and through movements that occur at the 1st Street/Blue Oaks Drive / Bell Road intersection are shifted to County Center Drive / Bell Road or Professional Drive / Bell Road.



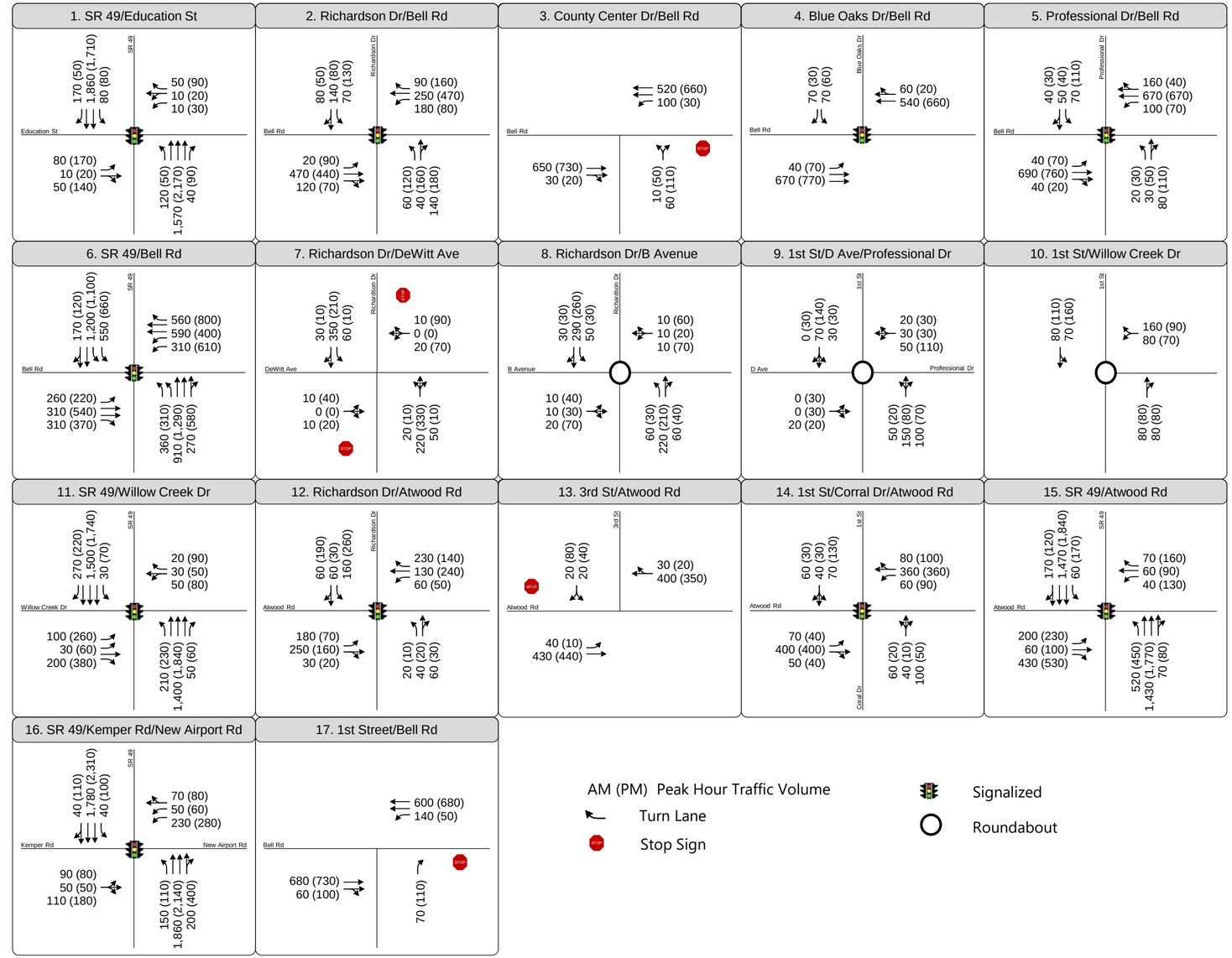


Figure 21

Peak Hour Traffic Volumes and Lane Configurations
Cumulative Plus Master Plan Conditions

Intersection Operations

Table 25 presents the average delay and LOS at the study intersections under cumulative plus PCGC Master Plan Update conditions during the weekday a.m. and p.m. peak hours (refer to Appendix I for technical calculations). As shown, the following five intersections would operate at an unacceptable LOS under cumulative plus PCGC Master Plan Update conditions:

- Richardson Drive / Bell Road (#2) – LOS D during the p.m. peak hour
- County Center Drive / Bell Road (#3) – LOS F during the p.m. peak hour
- SR 49 / Bell Road (#6) – LOS F during the p.m. peak hour
- SR 49 / Atwood Road (#15) – LOS F during the p.m. peak hour
- SR 49 / Kemper Road/New Airport Road (#16) – LOS E during the a.m. and p.m. peak hours

The proposed PCGC Master Plan Update would degrade operations from an acceptable LOS C under cumulative no project conditions to an unacceptable LOS F at the County Center Drive / Bell Road intersection. This intersection would also meet the peak hour signal warrant (Warrant 3A and 3B) under cumulative plus PCGC Master Plan Update conditions during the p.m. peak hour. Since the proposed project causes this intersection to degrade to an unacceptable LOS and meet the MUTCD traffic signal warrant, this is considered a significant impact per the significance criteria for unsignalized intersections in the Placer County *Impact Analysis Methodology of Assessment* memorandum.

Similarly, the proposed PCGC Master Plan Update would degrade operations from an acceptable LOS C under cumulative no project conditions to an unacceptable LOS D at the Richardson Drive / Bell Road intersection during the p.m. peak hour. This is considered a significant cumulative impact per Placer County's *Impact Analysis Methodology of Assessment* memorandum.

The proposed PCGC Master Plan Update would degrade operations at the SR 49 / Kemper Road/New Airport Road intersection from an acceptable LOS D under cumulative no project conditions to an unacceptable LOS E during the a.m. peak hour. The proposed PCGC Master Plan Update would also increase the average control delay by more than 12 seconds at the following Caltrans intersections during the p.m. peak hour, which operate at an unacceptable LOS under cumulative no project conditions:

- SR 49 / Bell Road
- SR 49 / Atwood Road
- SR 49 / Kemper Road/New Airport Road

This incremental increase in delay is considered a significant cumulative impact, per the significance criteria presented in Chapter 1.

Table 25: Peak Hour Intersection Operations – Cumulative Plus PCGC Master Plan Update

Intersection	Traffic Control[1]	Peak Hour	Cumulative NP		Cumulative + MPU	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. SR 49 / Education St.	Signal	A.M.	34.4	C	38.7	D
		P.M.	24.7	C	29.0	C
2. Richardson Dr. / Bell Rd.	Signal	A.M.	19.2	B	20.6	C
		P.M.	34.0	C	**41.8**	**D**
3. County Center Dr. / Bell Rd.	SSSC	A.M.	12.0	B	15.2	C
		P.M.	17.3	C	**86.9**	**F**
4. Blue Oaks Dr. / Bell Rd.[4]	Signal	A.M.	13.6	B	6.5	A
		P.M.	14.2	B	6.7	A
5. Professional Dr. / Bell Rd.	Signal	A.M.	9.7	A	12.0	B
		P.M.	10.3	B	18.4	B
6. SR 49 / Bell Rd.	Signal	A.M.	45.7	D	53.5	D
		P.M.	**84.6**	**F**	**97.9**	**F**
7. Richardson Dr. / DeWitt Ave.[5]	SSSC	A.M.	11.5	B	13.2	B
		P.M.	29.0	D	53.8	F
8. Richardson Dr. / B Ave.	Roundabout	A.M.	10.6	B	4.8	A
		P.M.	16.5	C	6.9	A
9. 1st St. / D Ave./Professional Dr.	Roundabout	A.M.	9.9	A	4.7	A
		P.M.	12.6	B	5.6	A
10. 1st St. / Willow Creek Dr.[6]	Roundabout	A.M.	4.0	A	4.3	A
		P.M.	4.7	A	5.1	A
11. SR 49 / Willow Creek Dr.	Signal	A.M.	27.1	C	27.7	C
		P.M.	32.3	C	34.4	C
12. Richardson Dr. / Atwood Rd.	Signal	A.M.	12.3	B	13.4	B
		P.M.	13.2	B	14.9	B
13. 3rd St. / Atwood Rd.	SSSC	A.M.	11.2	B	12.2	B
		P.M.	13.2	B	16.4	C
14. Coral Dr./1st St. / Atwood Rd.	Signal	A.M.	12.2	B	14.8	B
		P.M.	11.6	B	15.0	B
15. SR 49 / Atwood Rd.	Signal	A.M.	43.6	D	45.6	D
		P.M.	**66.9**	**E**	**99.4**	**F**

Table 25: Peak Hour Intersection Operations – Cumulative Plus PCGC Master Plan Update

Intersection	Traffic Control[1]	Peak Hour	Cumulative NP		Cumulative + MPU	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
16. SR 49 / Kemper Rd./New Airport Rd.	Signal	A.M.	51.7	D	**56.9**	**E**
		P.M.	**56.5**	**E**	**72.1**	**E**
17. 1st St. / Bell Rd.[4]	SSSC	A.M.			12.4	B
		P.M.			16.5	C

Notes:

1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized, AWSC, and roundabout intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.
4. 1st Street is realigned to the east with the proposed PCGC Master Plan Update, resulting in a new intersection approximately 150 feet east of the existing 1st Street/Blue Oaks Drive / Bell Road intersection. Intersection 4 presents the results at the existing Blue Oaks Drive / Bell Road intersection. Intersection 17 presents the results for the new realigned 1st Street / Bell Road intersection.
5. The Dewitt Avenue approaches are driveways. Therefore, they are not subject to the County's LOS significance criteria.
6. 1st Street / Willow Creek Dr. is a four-leg roundabout under Cumulative No Project Conditions with F Ave. serving as the fourth leg; and a three-leg roundabout with the proposed PCGC Master Plan Update.

Bold indicates unacceptable operations. **Bold and highlighted** indicates significant impacts.

All intersections are analyzed in Synchro 10.

Source: Fehr & Peers, 2018.

Peak Hour Signal Warrant Analysis

The peak hour signal warrant analysis shows that both the County Center Drive / Bell Road and 1st Street / Bell Road intersections meet the peak hour signal warrant under cumulative plus PCGC Master Plan Update conditions during the p.m. peak hour (refer to Appendix I for signal warrant spreadsheets).

8. Impacts and Mitigation Measures

This chapter summarizes the significance of transportation and traffic impacts (both project-specific and cumulatively considerable) using the criteria described in Chapter 1. Where impacts are deemed significant, mitigation measures are recommended to lessen their significance. This study identifies the transportation and traffic impacts of the PCGC Master Plan Update as well as the impacts of the individual multifamily residential (MFR) development and Health & Human Services (HHS) building. In some cases, the transportation/traffic effects of the PCGC Master Plan Update, MFR development, and HHS building would be similar or the same. In these cases, a single impact statement is provided that applies to all plus project scenarios (PCGC Master Plan Update, MFR development, and HHS building).

Existing Plus Project Impacts

Vehicle Travel

Vehicle trips generated by the proposed project would increase traffic volumes on study roadway segments and intersections, as described below.

Roadway Operations

Multifamily Residential

<u>Impact-1 – MFR</u>: Vehicle trips generated by the proposed multifamily residential development would increase traffic volumes on study roadway segments. These project trips would increase the volume-to-capacity ratio by 0.01 on the segment of SR 49 north of Bell Road, which currently operates at an unacceptable LOS. This is considered a significant impact.

The proposed multifamily residential project would add vehicle trips to the segment of SR 49 north of Bell Road, which currently operates at an unacceptable LOS E. These project trips would increase the volume-to-capacity ratio by 0.01, which per Caltrans significance criteria, is considered a **significant** impact. All other study roadway segments would continue to operate at an acceptable LOS C or better. Therefore, the proposed multifamily residential project would have a less-than-significant impact on these other roadways.

Mitigation Measures

Mitigation Measure-1: Widen SR 49 north of Bell Road to five lanes.

This measure would add a third northbound lane on SR 49 from Bell Road to north of Education Street. This improvement is planned as part of the proposed Auburn Creekside Center. The Auburn/Bowman Benefit District of the Placer County Countywide CIP (August 2017) includes funding for widening SR 49 to six lanes from Bell Road to Dry Creek Road. However, part of the improvement has been identified to be funded by private development on undeveloped properties through frontage improvement requirements. The Auburn Creekside Center property is one such property. Therefore, the project applicant for the multifamily residential development shall be required to construct the Highway 49 widening. The County may agree to accept a security for the improvements if at the time of improvement plan approval, the Auburn Creekside Center project is determined to be active and progressing with their frontage improvements. If the County requires the project applicant for the multifamily residential development to ultimately construct this improvement, the County should consider incorporation of this funding into the traffic mitigation fee program; allowing for fee credits associated with the applicable countywide traffic impact fees, as applicable.

Significance after Mitigation

With five lanes on this segment, the LOS on this segment would be improved to an acceptable LOS C. However, this improvement would require approval from and implementation by Caltrans. Since this improvement is not within Placer County's jurisdiction to control, it cannot be guaranteed that this improvement will be implemented. Therefore, this impact remains **significant and unavoidable**.

Health & Human Services Building

Impact-2 – HHS: Vehicle trips generated by the proposed Health & Human Services building would increase traffic volumes on study roadway segments. These project trips would increase the volume-to-capacity ratio by 0.02 on the segment of SR 49 north of Bell Road, which currently operates at an unacceptable LOS. This is considered a significant impact.

The proposed Health & Human Services building project would add vehicle trips to the segment of SR 49 north of Bell Road, which currently operates at an unacceptable LOS E. These project trips would increase the volume-to-capacity ratio by 0.02, which per Caltrans significance criteria, is considered a **significant** impact. All other study roadway segments would continue to operate at an acceptable LOS C or better. Therefore, the proposed Health & Human Services building project would have a less-than-significant impact on these other roadways.

Mitigation Measures

Mitigation Measure-2: Implement Mitigation Measure-1: widen SR 49 north of Bell Road to five lanes.

This measure would add a third northbound lane on SR 49 from Bell Road to north of Education Street. This improvement is planned as part of the proposed Auburn Creekside Center. The Auburn/Bowman Benefit District of the Placer County Countywide CIP (August 2017) includes funding for widening SR 49 to six lanes from Bell Road to Dry Creek Road. However, part of the improvement has been identified to be funded by private development on undeveloped properties through frontage improvement requirements. The Auburn Creekside Center property is one such property. Therefore, the County shall be required to construct the Highway 49 widening north of Bell Road if the Auburn Creekside Center project is determined to be inactive and not progressing with their frontage improvements. The County should consider incorporation of this funding into the traffic mitigation fee program; allowing for fee credits associated with the applicable countywide traffic impact fees, as applicable.

Significance after Mitigation

With five lanes on this segment, the LOS on this segment would be improved to an acceptable LOS C. However, this improvement would require approval from and implementation by Caltrans. Since this improvement is not within Placer County's jurisdiction to control, it cannot be guaranteed that this improvement will be implemented. Therefore, this impact remains **significant and unavoidable**.

PCGC Master Plan Update

Impact-3 – PCGC MPU: Vehicle trips generated by the implementation of the PCGC Master Plan Update would increase traffic volumes on study roadway segments. These project trips would increase the volume-to-capacity ratio by 0.07 on the segment of SR 49 north of Bell Road, which currently operates at an unacceptable LOS. This is considered a significant impact.

The proposed PCGC Master Plan Update would add vehicle trips to the segment of SR 49 north of Bell Road, which currently operates at an unacceptable LOS E. These project trips would increase the volume-to-capacity ratio by 0.07 and degrade operations to LOS F, which per Caltrans significance criteria, is considered a **significant** impact. All other study roadway segments would continue to operate at an acceptable LOS. Therefore, the proposed PCGC Master Plan Update would have a less-than-significant impact on these other roadways.

Mitigation Measures

Mitigation Measure-3: Implement Mitigation Measure-1: widen SR 49 north of Bell Road to five lanes.

This measure would add a third northbound lane on SR 49 from Bell Road to north of Education Street. This improvement is planned as part of the proposed Auburn Creekside Center. The Auburn/Bowman Benefit District of the Placer County Countywide CIP (August 2017) includes funding for widening SR 49 to six lanes from Bell Road to Dry Creek Road. However, part of the improvement has been identified to be funded by private development on undeveloped properties through frontage improvement requirements. The Auburn Creekside Center property is one such property. The County should consider incorporation of this funding into the traffic mitigation fee program; allowing for fee credits associated with the applicable countywide traffic impact fees, as applicable. Project proponents of individual development proposals on the PCGC campus shall pay the applicable countywide traffic impact fees, which will provide funding for this improvement. If the County requires a project proponent to construct this improvement, the constructing party shall be subject to fee credits for the applicable countywide traffic impact fees, as applicable.

Significance after Mitigation

With five lanes on this segment, the LOS on this segment would be improved to an acceptable LOS D. However, this improvement would require approval from and implementation by Caltrans. Since this improvement is not within Placer County's jurisdiction to control, it cannot be guaranteed that this improvement will be implemented. Therefore, this impact remains **significant and unavoidable**.

Intersection Operations

Multifamily Residential

Impact-4 – MFR: Vehicle trips generated by the proposed multifamily residential development would increase traffic volumes at study intersections. These project trips would cause the average control delay to increase by 2 seconds during the p.m. peak hour at the SR 49 / Kemper Road/New Airport Road intersection, which currently operates at an unacceptable LOS. This is considered a significant impact.

The proposed multifamily residential project would add vehicle trips to study intersections. Most study intersections would continue to operate at an acceptable LOS under existing plus MFR project conditions, which is a less-than-significant impact. The proposed multifamily residential project would increase the average control delay by less than one second at the SR 49 / Bell Road intersection, which operates at an unacceptable LOS E under existing conditions. This is also a less-than-significant impact.

However, the proposed multifamily residential project would increase the average control delay by 2 seconds at the SR 49 / Kemper Road/New Airport Road during the p.m. peak hour. This is considered a **significant** impact, per Caltrans significance criteria.

Mitigation Measures

Mitigation Measure-4: Optimize the signal timings at the SR 49 / Kemper Road/New Airport Road intersection.

This measure would optimize the existing signal operations to provide additional green time to the northbound and southbound through movements. This modification to the signal timing would improve operations to LOS D. This improvement would occur through Caltrans regular maintenance of its traffic signals. Therefore, this mitigation would require implementation by other agencies.

Significance after Mitigation

As noted above, this measure would improve the LOS at this intersection to an acceptable LOS D. However, this measure would require implementation by Caltrans. Since this change is not within Placer County's jurisdiction to control, it cannot be guaranteed that this measure will be implemented. Therefore, this impact remains **significant and unavoidable**.

Health & Human Services Building

Impact-5 – HHS: Vehicle trips generated by the proposed Health & Human Services building would increase traffic volumes at study intersections. These project trips would cause operations to degrade from an acceptable LOS to an unacceptable LOS at the SR 49 / Kemper Road/New Airport Road intersection during the a.m. peak hour. It would also increase the average control delay by one second or more at both the SR 49 / Bell Road and the SR 49 / Kemper Road/New Airport Road intersections. Both intersections currently operate at an unacceptable LOS. Therefore, this is considered a significant impact.

The proposed Health & Human Services building project would add vehicle trips to study intersections. Most study intersections would continue to operate at an acceptable LOS under existing plus HHS project conditions, which is a less-than-significant impact.

However, the proposed Health & Human Services building project would degrade operations at the SR 49 / Kemper Road/New Airport Road intersection from an acceptable LOS D to an unacceptable LOS E during the a.m. peak hour. It would also increase the average control delay by one second or more at the SR 49 / Bell Road intersection during the a.m. and p.m. peak hours; and the SR 49 / Kemper Road/New Airport Road

intersection during the p.m. peak hour. This is considered a **significant** impact since both of these intersections operate at an unacceptable LOS under existing conditions, per Caltrans significance criteria.

Mitigation Measures

Mitigation Measure-5a: Optimize the signal timings at the SR 49 / Bell Road intersection.

This measure would optimize the existing signal operations to provide additional green time to the northbound and southbound through, southbound left-turn, and westbound through movements. This modification to the signal timing would improve operations to LOS D during the a.m. peak hour. This improvement would occur through Caltrans regular maintenance of its traffic signals. Therefore, this mitigation would require implementation by other agencies.

Mitigation Measure-5b: Implement Mitigation Measure 4: optimize the signal timings at the SR 49 / Kemper Road/New Airport Road intersection.

This measure would optimize the existing signal operations to provide additional green time to the northbound and southbound through and northbound left-turn movements. This modification to the signal timing would improve operations to LOS D during the a.m. and p.m. peak hours. This improvement would occur through Caltrans regular maintenance of its traffic signals. Therefore, this mitigation would require implementation by other agencies.

Significance after Mitigation

As noted above, these mitigation measures would improve the LOS at these intersections to an acceptable LOS D. However, these measures would require implementation by Caltrans. Since this change is not within Placer County's jurisdiction to control, it cannot be guaranteed that these measures will be implemented. Therefore, this impact remains **significant and unavoidable**.

PCGC Master Plan Update

<u>Impact-6 – PCGC MPU</u>: Vehicle trips generated by the implementation of the PCGC Master Plan Update would increase traffic volumes at study intersections. These project trips would cause operations to degrade from an acceptable LOS to an unacceptable LOS at the SR 49 / Kemper Road/New Airport Road intersection during the a.m. peak hour. It would also increase the average control delay by more than 5 seconds at both the SR 49 / Bell Road and the SR 49 / Kemper Road/New Airport Road intersections. Both intersections currently operate at an unacceptable LOS. Therefore, this is considered a significant impact.

The proposed PCGC Master Plan Update would add vehicle trips to study intersections. Most study intersections would continue to operate at an acceptable LOS under existing plus PCGC Master Plan Update conditions, which is a less-than-significant impact. However, the proposed PCGC Master Plan Update would degrade operations at the SR 49 / Kemper Road/New Airport Road intersection from an acceptable LOS D to an unacceptable LOS E during the a.m. peak hour. It would also increase the average control delay by more than 5 seconds at both the SR 49 / Bell Road intersection during the a.m. and p.m. peak hours and the SR 49 / Kemper Road/New Airport Road intersection during the p.m. peak hour. Since both intersections operate at an unacceptable LOS under existing conditions, this is considered a **significant** impact, per Caltrans significance criteria.

<u>Mitigation Measures</u>

<u>Mitigation Measure-6a</u>: Implement Mitigation Measure 5a: optimize the signal timings at the SR 49 / Bell Road intersection.

This measure would optimize the existing signal operations to provide additional green time to the northbound and southbound through, southbound left-turn, and westbound through movements during the a.m. peak hour; and the northbound, southbound, eastbound, and westbound through movements during the p.m. peak hour (reduced green time for left-turn movements). These modifications to the signal timing would improve operations to LOS D during the a.m. peak hour and reduce average control delay to 58 seconds, which is less than existing conditions, during the p.m. peak hour. This improvement would occur through Caltrans regular maintenance of its traffic signals. Therefore, this mitigation would require implementation by other agencies.

Mitigation Measure-6b: Implement Mitigation Measure 4: optimize the signal timings at the SR 49 / Kemper Road/New Airport Road intersection.

This measure would optimize the existing signal operations to provide additional green time to the northbound and southbound through and northbound left-turn movements. This modification to the signal timing would restore operations to LOS D during the a.m. peak hour and improve operations to LOS E during the p.m. peak hour. This improvement would occur through Caltrans regular maintenance of its traffic signals. Therefore, this mitigation would require implementation by other agencies.

Significance after Mitigation

As noted above, these mitigation measures would improve the LOS at these intersections and/or reduce the average control delay to levels less than existing conditions. However, these measures would require implementation by Caltrans. Since this change is not within Placer County's jurisdiction to control, it cannot be guaranteed that these measures will be implemented. Therefore, this impact remains **significant and unavoidable**.

Bicycle and Pedestrian Travel

The proposed project would provide bicycle and pedestrian facilities, as outlined in Chapter 4 (Multifamily Residential), Chapter 5 (Health & Human Services Building), and Chapter 6 (PCGC Master Plan Update) of this report. The following describes the potential effect of the proposed project on the bicycle and pedestrian transportation system.

Multifamily Residential

Impact-7 – MFR: The proposed multifamily residential development project is consistent with *Placer County General Plan* and PCTPA Bikeway Plan policies related to bicycle and pedestrian travel and would not interfere with existing or preclude the implementation of planned future bicycle facilities. Therefore, this is a less-than-significant impact.

The proposed multifamily residential project would provide new sidewalks on the east side of 1st Street and connect to an existing crosswalk across 1st Street between B Avenue and C Avenue. This would provide a safe and comfortable route for walking to existing pedestrian facilities, consistent with Policy 3.D.12 in the *Placer County General Plan*.

The proposed realignment of 1st Street, which runs along the frontage of the project and that the County plans to construct concurrently with the proposed MFR development, would include new class II bike lanes that are proposed as part of the PCGC Master Plan Update. These class II bike lanes would connect to

existing bike lanes on Bell Road and Willow Creek Drive and would ultimately connect to future planned bicycle facilities on the PCGC campus as part of the proposed PCGC Master Plan Update.

Lastly, by connecting to existing facilities and allowing for future connections to planned bicycle and pedestrian facilities, the project does not interfere with existing bicycle and pedestrian facilities, nor does it preclude the implementation of future bicycle and pedestrian facilities.

Mitigation Measures

No mitigation is required.

Health & Human Services Building

Impact-8 – HHS: The proposed Health & Human Services building project is consistent with *Placer County General Plan* policies related to bicycle and pedestrian travel and would not interfere with existing or preclude the implementation of planned future bicycle facilities. Therefore, this is a less-than-significant impact.

Existing sidewalks along Richardson Drive, B Avenue, and C Avenue would provide pedestrian access to the proposed Health & Human Services building project. An existing pedestrian trail also would connect the proposed HHS building site to the existing Community Development Resource Center providing a pedestrian connection between these buildings on the PCGC campus. These facilities would provide a safe and comfortable route for walking to existing pedestrian facilities, consistent with Policy 3.D.12 in the *Placer County General Plan*.

Existing bike lanes on Richardson Drive would provide access to the proposed HHS building. These bike lanes travel towards Bell Road to the north and Atwood Road to the south. The proposed HHS building would also include bicycle parking and storage facilities as well as end of trip support facilities in accordance with Placer County standards.

By connecting to existing facilities and allowing for future connections to planned bicycle and pedestrian facilities, the project does not interfere with existing bicycle and pedestrian facilities, nor does it preclude the implementation of future bicycle and pedestrian facilities. Furthermore, the provision of bicycle parking and end-of-trip facilities would be in accordance with Placer County standards, and the proposed project would be consistent with *Placer County General Plan* policies related to bicycle and pedestrian travel.

Mitigation Measures

No mitigation is required.

PCGC Master Plan Update

Impact-9 – PCGC MPU: The development associated with implementation of the PCGC Master Plan Update would be consistent with *Placer County General Plan* policies related to bicycle and pedestrian travel and would not interfere with existing or preclude the implementation of planned future bicycle facilities. Therefore, this is a less-than-significant impact.

As noted in Chapter 6, the proposed PCGC Master Plan Update proposes a comprehensive network of bicycle and pedestrian facilities on the PCGC campus. This includes Class II bike lanes, Class III bike routes, shared-use bicycle/pedestrian trails, and sidewalks throughout the PCGC campus. These facilities would provide a safe and comfortable route for walking and bicycling, consistent with Policy 3.D.12 in the *Placer County General Plan*. These facilities would also connect to existing facilities or allow for future connections to planned bicycle and pedestrian facilities. Therefore, the project does not interfere with existing bicycle and pedestrian facilities, nor does it preclude the implementation of future bicycle and pedestrian facilities.

Mitigation Measures

No mitigation is required.

Transit Travel

Both the proposed multifamily residential development and Health & Human Services building projects, as well as development associated with implementation of the PCGC Master Plan Update, would have similar effects on transit travel. Therefore, a single impact statement on transit travel is provided below.

Impact-10 – MFR, HHS, & PCGC MPU: The development of the proposed multifamily residential and Health & Human Services building projects, as well as development associated with implementation of the PCGC Master Plan Update, would be consistent with *Placer County General Plan* policies related to transit travel, would not interfere with the operation of an existing transit facility, would not preclude the implementation of a planned future transit facility, or have a negative impact on transit operations. Therefore, this is a less-than-significant impact.

The PCGC campus would continue to be served by Placer County Transit's Highway 49 route. As shown on **Figure 8**, there are five existing bus stops within or along the periphery of the PCGC campus that provide transit service to the campus. This includes a bus stop on 1st Street north of C Avenue across the street from the proposed MFR development and a stop on Richardson Drive north of B Avenue near the proposed HHS building.

The potential transit ridership demand generated by the proposed multifamily residential development and Health & Human Services building projects, as well as development associated with implementation of the PCGC Master Plan Update would be sufficiently served by the existing transit service in the study area.

Consistent with Policy 3.B.3 and 3.D.12 in the *Placer County General Plan*, the proposed PCGC Master Plan Update would provide a new transit center near the center of the PCGC campus along County Center Drive north of B Avenue. This centrally-located transit center would facilitate the use of transit and provide for future transit needs.

Mitigation Measures

No mitigation is required.

Project Construction

Both the proposed multifamily residential development and Health & Human Services building projects would have similar transportation and traffic effects during their construction. Similarly, development associated with implementation of the PCGC Master Plan Update would generate transportation and traffic effects during construction activity on the PCGC campus. Therefore, a single impact statement on construction traffic impacts is provided below.

Impact-11 – MFR, HHS, & PCGC MPU: The development of the proposed multifamily residential and HHS building projects, as well as development associated with implementation of the PCGC Master Plan Update, would involve construction activities that could cause temporary impacts on transportation facilities, including degrading roadway pavement conditions, traffic operations, and causing conflicts with bicyclists and pedestrians. It could also require temporary traffic controls and lane closures when transporting certain building materials or constructing street improvements within the public right-of-way. This is considered a significant impact.

Construction of the MFR and HHS projects would occur over approximately a 24-month period. Construction access to the proposed project sites would occur from 1st Street for the MFR development and from Richardson Drive, B Avenue, and C Avenue for the proposed HHS project. Construction of development associated with implementation of the PCGC Master Plan Update would occur in phases based on funding and department needs for Placer County and market forces for private development.

Construction trips would include construction employee trips to and from the project sites as well as delivery trucks for materials and equipment. In addition to construction activity on the project sites, certain construction activities would involve improvements to roadways on the periphery of the PCGC campus, including Bell Road to accommodate the realignment of 1st Street.

Mitigation Measures

Mitigation Measure-11: Prior to the issuance of any grading or building permits, the project applicant shall prepare a Construction Traffic Management Plan (TMP) to the satisfaction of the Placer County Department of Public Works and Engineering / Surveying Division.

The Construction TMP shall include, but not be limited to, items such as:

- approved truck circulation routes/patterns;
- monitoring for roadbed damage and timing for completing repairs;
- preservation of safe and convenient passage for bicyclists and pedestrians through/around construction areas;
- methods for partial (i.e., single lane)/complete street closures (e.g., timing, signage, location and duration restrictions), if necessary;
- identification of detour routes for roadways subject to partial/complete street closures
- criteria for use of flaggers and other traffic controls;
- provide a point of contact for nearby residents to obtain construction information and have questions answered.

The Construction TMP should be developed such that the following performance standards are achieved throughout project construction.

1. Construction traffic should be minimized during a.m. and p.m. peak periods in which the street traffic on Bell Road and SR 49 is at its highest.
2. Any construction-related partial/complete closures of Bell Road should occur during off-peak periods and be accompanied with appropriate construction signage including detour routing.
3. Detour routing should be limited to County-maintained collector and arterial roadways
4. Roadways, sidewalks, crosswalks, and bicycle facilities shall be maintained clear of debris (e.g., rocks) that could otherwise impede travel and impact public safety

Significance after Mitigation

With the implementation of the Construction TMP (including the performance standards that must be achieved), the severity of construction-related transportation and traffic impacts would be mitigated to a **less-than-significant** level after mitigation.

Emergency Vehicle Access

Both the proposed multifamily residential development and Health & Human Services building projects, as well as development associated with implementation of the PCGC Master Plan Update, would generally have similar effects on emergency vehicle access to their proposed project sites. However, the proposed realignment of 1st Street that is proposed as part of the PCGC Master Plan Update and would also be implemented with the multifamily residential development, could affect existing routing of responding vehicles from the Placer County Fire (PCF) Atwood Station (PCF – 180). Therefore, separate impact statements are provided for Health & Human Services (HHS) and multifamily residential (MFR)/PCGC Master Plan Update below.

Health & Human Services Building

Impact-12 – HHS: The development of the proposed Health & Human Services building project would provide sufficient access for emergency vehicles and would not significantly affect emergency vehicle travel times due to implementation. Therefore, this is a less-than-significant impact.

The proposed HHS building project would provide multiple vehicle access points to the proposed HHS parking lot and adjacent curb space for potential emergency responders to the site. As noted in the traffic operations analysis, the proposed HHS building project would generally maintain existing levels of delay and LOS at study roadways and intersections; and the few locations that are significantly impacted, per Caltrans significance criteria, experience a less than 5 second increase in delay. Therefore, emergency vehicle travel times would not be significantly affected.

Mitigation Measures

No mitigation is required.

Multifamily Residential & PCGC Master Plan Update

<u>Impact-13 – MFR & PCGC MPU</u>: The development of the proposed multifamily residential project, as well as development associated with implementation of the PCGC Master Plan Update, would provide sufficient access for emergency vehicles. The PCGC Master Plan Update proposes realigning 1st Street, which would cause some existing movements at Bell Road to be prohibited with its implementation. This 1st Street realignment is also reflected with the development of the proposed multifamily residential project. Since this realignment would potentially affect existing routes used by emergency responders from the Placer County Fire Atwood Station. Therefore, this is considered a potentially significant impact.

The proposed multifamily residential project would include multiple vehicle access points to 1st Street, which will provide sufficient access for potential emergency responders to the site. Similarly, the proposed PCGC Master Plan Update would continue to provide multiple routes onto and off the PCGC campus, providing multiple route options for emergency responders. Therefore, this is a less-than-significant impact.

As noted in in the traffic operations analysis, the proposed multifamily residential project would generally maintain existing levels of delay and LOS at study roadways and intersections; and the one intersection that is significantly impacted, per Caltrans significance criteria, experiences a 2-second increase in delay. Therefore, emergency vehicle travel times would not be significantly affected. Similarly, buildout of the proposed development associated with implementation of the PCGC Master Plan Update would generally maintain existing levels of delay and LOS at study roadways and intersections. Of the few locations that are significantly impacted, the greatest increase in delay occurs at the SR 49 / Kemper Road/New Airport Road intersection. However, the delay at this intersection would be reduced through the implementation of Mitigation Measure 4.

The proposed realignment of 1st Street included in the PCGC Master Plan Update has the potential to have the most substantial effect on emergency vehicle travel routes. The realignment would result in a new three-leg intersection at 1st Street / Bell Road approximately 150 feet east of the existing Blue Oaks Drive / Bell Road intersection. With this realignment, northbound left-turns from 1st Street onto Bell Road would be prohibited. Given the realignment and prohibition on northbound left-turns, the existing emergency responders from the PCF Atwood Station may no longer be able to turn left onto Bell Road or continue north on Blue Oaks Drive from 1st Street. This change is a potentially **significant** impact.

<u>Mitigation Measures</u>

<u>Mitigation Measure-13</u>: Prior to the realignment of 1st Street, Placer County shall work with Placer County Fire to identify appropriate and effective countermeasures that would allow emergency

response vehicles to continue to travel through the PCGC campus and maintain adequate response times from the PCF Atwood station. These countermeasures may include, but need not be limited to:

1. **Identifying alternate routes for emergency response vehicles through the PGCG campus towards Bell Road that provide equivalent access with minimal effect on travel time**
2. **Designing physical improvements at the proposed 1st Street / Bell Road intersection that would allow emergency vehicles to make a northbound left-turn from 1st Street while continuing to prohibit personal vehicles from making the same movement**
3. **Once the Blue Oaks Drive / Bell Road is signalized, as identified in the cumulative transportation improvements, allow emergency vehicles to preempt the signal so that emergency vehicles can safely access Bell Road, in combination with the design measures identified in #2 above.**

Alternate routes shall be sufficient to accommodate emergency response vehicles. Some potential route options include:

- 1st Street to Professional Drive to Bell Road
- 1st Street to A Avenue to County Center Drive to Bell Road
- Atwood Road to Richardson Drive to Bell Road

These routes provide similar travel times from the PCF Atwood Station to Bell Road northwest of the PCGC campus as well as Blue Oaks Drive north of the PCGC campus.

Significance after Mitigation

With the implementation of Mitigation Measure-13, the effect of realigning 1st Street on emergency response vehicles from PCF Atwood Station would be reduced in magnitude and emergency response times would be similar to existing conditions. Therefore, this impact would be mitigated to a **less-than-significant** level after mitigation.

Cumulative Impacts

Vehicle Travel

Vehicle trips generated by the proposed project in combination with reasonably foreseeable projects would increase traffic volumes on study roadway segments and intersections under cumulative conditions, as described below.

Roadway Operations

Multifamily Residential

Impact-14 – MFR: Vehicle trips generated by the proposed multifamily residential development in combination with background traffic from reasonably foreseeable projects would increase traffic volumes on study roadway segments. However, all study roadway segments would continue to operate at an acceptable LOS. Therefore, this is a less-than-significant impact.

The proposed multifamily residential project would add vehicle trips to study roadway segments under cumulative conditions. However, all study roadway segments would continue to operate at an acceptable LOS. Placer County segments would operate at an acceptable C or better, and Caltrans (i.e., SR 49) segments would operate an acceptable LOS D or better. Therefore, this is a **less-than-significant** cumulative impact.

Mitigation Measures

No mitigation is required.

Health & Human Services Building

Impact-15 – HHS: Vehicle trips generated by the proposed Health & Human Services building in combination with background traffic from reasonably foreseeable projects would increase traffic volumes on study roadway segments. However, all study roadway segments would continue to operate at an acceptable LOS. Therefore, this is a less-than-significant impact.

The proposed Health & Human Services building project would add vehicle trips to study roadway segments under cumulative conditions. However, all study roadway segments would continue to operate at an acceptable LOS. Placer County segments would operate at an acceptable C or better, and Caltrans (i.e., SR 49) segments would operate an acceptable LOS D or better. Therefore, this is a **less-than-significant** cumulative impact.

Mitigation Measures

No mitigation is required.

PCGC Master Plan Update

<u>Impact-16 – PCGC MPU</u>: Vehicle trips generated by the implementation of the PCGC Master Plan Update in combination with background traffic from reasonably foreseeable projects would increase traffic volumes on study roadway segments. These project trips would cause operations on the segment of SR 49 from Luther Road to Atwood Road to degrade from an acceptable LOS to an unacceptable LOS. This is considered a significant impact.

The proposed PCGC Master Plan Update would add vehicle trips to study roadway segments under cumulative conditions. These project trips would cause operations on SR 49 from Luther Road to Atwood Road to degrade from an acceptable LOS D to an unacceptable LOS E, which per Caltrans significance criteria, is considered a **significant** cumulative impact. All other study roadway segments would continue to operate at an acceptable LOS. Therefore, the proposed PCGC Master Plan Update would have a less-than-significant cumulative impact on these other roadways.

Mitigation Measures

Mitigation Measure-16: Incorporate Transportation Demand Management (TDM) strategies, consistent with the Placer County Trip Reduction Program.

Transportation Demand Management is a set of strategies aimed at maximizing mobility options to improve travel options and reduce vehicle travel. Consistent with this definition, the purpose of the Placer County Trip Reduction Program is to reduce total vehicle emissions in Placer County by implementing strategies to reduce home-to-work commuting, traffic congestion, and Vehicle Miles Traveled. Strategies may include alternative work schedules and telecommuting, vanpool/shuttle, ride share programs, and bike share programs. Effectiveness of TDM measures at reducing VMT depends on many factors like whether strategies are required or voluntary and the availability and cost of parking.

Significance after Mitigation

SR 49 is already constructed to its maximum cross-section of 6 lanes from Luther Road to Atwood Road; and neither Caltrans nor Placer County have any plans to widen SR 49 beyond its current 6 lanes. The implementation of TDM strategies would reduce the impact to the segment of SR 49 between Luther Road and Atwood Road, by reducing the volume of traffic added to the segment by PCGC. However, even with implementation of the mitigation measure, the addition of project traffic would result is a significant impact based on Level of Service thresholds. Therefore, this impact remains **significant and unavoidable**.

Intersection Operations

Multifamily Residential

Impact-17 – MFR: Vehicle trips generated by the proposed multifamily residential development in combination with background traffic from reasonably foreseeable projects would increase traffic volumes at study intersections. These project trips would cause the average control delay to increase by 1 second or more at Caltrans intersections which operate at an unacceptable LOS under cumulative no project conditions. This is considered a significant impact.

The proposed multifamily residential project would add vehicle trips to study intersections. Most study intersections would continue to operate at an acceptable LOS under cumulative plus MFR conditions, which is a less-than-significant impact. Vehicle trips generated by the proposed multifamily residential project would not change the average control delay at the Richardson Drive / DeWitt Avenue intersection, which is a less-than-significant impact. The vehicle trips generated by the proposed multifamily residential project would increase the average control delay by less than 2 seconds from cumulative no project conditions at the Richardson Drive / Bell Road intersection during the p.m. peak hour. This is a less-than-significant impact since it is less than the 4-second threshold for signalized Placer County intersections operating at an unacceptable LOS. Similarly, the proposed multifamily residential project would increase the average control delay by less than one second from cumulative no project conditions at the SR 49 / Kemper Road/New Airport Road intersection during the p.m. peak hour. This is also a less-than-significant impact since it is less than the 1-second threshold for Caltrans intersections operating at an unacceptable LOS.

However, the proposed multifamily residential project would increase the average control delay by 1 second or more from cumulative no project conditions at the SR 49 / Bell Road and SR 49 / Atwood Road intersections during the p.m. peak hour. This incremental increase in delay is considered a **significant** cumulative impact, per Caltrans significance criteria.

Mitigation Measures

Mitigation Measure-17a: Pay a fair share cost towards widening the SR 49 / Bell Road intersection to accommodate a third southbound through lane and a third southbound receiving lane.

This measure would result in two southbound through lanes and a southbound shared through-right turn lane on SR 49. To allow the three southbound through lanes, the existing third southbound lane that begins just south of Bell Road would need to be extended north to Bell Road. Curb, gutter, and traffic signal infrastructure would need to be moved to accommodate this improvement.

The Auburn/Bowman Benefit District of the Placer County Countywide CIP (August 2017) includes funding for widening SR 49 to six lanes from Bell Road to Dry Creek Road. Since this improvement would construct part of the overall widening that is proposed, this improvement is considered feasible. The project applicants for the multifamily residential development shall pay the applicable countywide traffic impact fees, which will provide funding for this improvement. This widening would reduce delay to 81 seconds during the p.m. peak hour, which is less than cumulative no project conditions. As a co-benefit, it would reduce delay to 48 seconds during the a.m. peak hour.

Mitigation Measure-17b: Coordinate with Caltrans to explore options to optimize the signal timings at the SR 49 / Atwood Road intersection.

This measure would optimize the signal operations to provide additional green time to the northbound through movement. This modification to the signal timing would restore delay to cumulative no project conditions. This improvement would occur through Caltrans regular maintenance of its traffic signals. Therefore, this mitigation would require implementation by other agencies.

Significance after Mitigation

As noted above, these measures would improve the LOS at these intersections and/or reduce the average control delay to levels equal to or less than cumulative no project conditions. However, these measures would require implementation by Caltrans. Since these improvements are not within Placer County's jurisdiction to control, it cannot be guaranteed that this measure will be implemented. Therefore, this impact remains **significant and unavoidable**.

Health & Human Services Building

Impact-18 – HHS: Vehicle trips generated by the proposed Health & Human Services building in combination with background traffic from reasonably foreseeable projects would increase traffic volumes at study intersections. These project trips would cause operations to degrade from an acceptable LOS to an unacceptable LOS at the Richardson Drive / Bell Road intersection. It would also cause the average control delay to increase by 1 second or more at Caltrans intersections which operate at an unacceptable LOS under cumulative no project conditions. This is considered a significant impact.

The proposed Health & Human Services building project would add vehicle trips to study intersections. Most study intersections would continue to operate at an acceptable LOS under cumulative plus HHS project conditions, which is a less-than-significant impact. Vehicle trips generated by the proposed HHS building project would degrade operations at the Richardson Drive / Bell Road intersection from an acceptable LOS C under cumulative no project conditions to an unacceptable LOS D during the p.m. peak

hour. This is considered a significant cumulative impact per Placer County's *Impact Analysis Methodology of Assessment* memorandum.

The proposed HHS building project would increase the average control delay by more than one second from cumulative no project conditions at the SR 49 / Bell Road, SR 49 / Atwood Road, and SR 49 / Kemper Road/New Airport Road intersections during the p.m. peak hour. This incremental increase in delay is considered a **significant** cumulative impact per Caltrans significance criteria.

Mitigation Measures

Mitigation Measure-18a: Pay a fair share cost towards widening the Richardson Drive / Bell Road intersection to provide a northbound right-turn pocket.

This measure would restore operations to an acceptable LOS C during the p.m. peak hour. This improvement is currently not included in any known fee program. Complete funding of the right-turn pocket will need to be identified prior to construction. Placer County should consider addition of the full improvement cost in the Auburn/Bowman Benefit District of the Placer County Countywide CIP.

Mitigation Measure-18b: Implement Mitigation Measure-17a: Pay a fair share cost towards widening the SR 49 / Bell Road intersection to accommodate a third southbound through lane and a third southbound receiving lane.

This measure would result in two southbound through lanes and a southbound shared through-right turn lane on SR 49. To allow the three southbound through lanes, the existing third southbound lane that begins just south of Bell Road would need to be extended north to Bell Road. Curb, gutter, and traffic signal infrastructure would need to be moved to accommodate this improvement.

The Auburn/Bowman Benefit District of the Placer County Countywide CIP (August 2017) includes funding for widening SR 49 to six lanes from Bell Road to Dry Creek Road. Since this improvement would construct part of the overall widening that is proposed, this improvement is considered feasible. The project applicants for the multifamily residential development shall pay the applicable countywide traffic impact fees, which will provide funding for this improvement. This widening would reduce delay to 80 seconds during the p.m. peak hour, which is less than cumulative no project conditions. As a co-benefit, it would reduce delay to 48 seconds during the a.m. peak hour.

<u>Mitigation Measure-18c</u>: Implement Mitigation Measure 16: Incorporate Transportation Demand Management (TDM) strategies, consistent with the Placer County Trip Reduction Program.

Transportation Demand Management is a set of strategies aimed at maximizing mobility options to improve travel options and reduce vehicle travel. Consistent with this definition, the purpose of the Placer County Trip Reduction Program is to reduce total vehicle emissions in Placer County by implementing strategies to reduce home-to-work commuting, traffic congestion, and Vehicle Miles Traveled. Strategies may include alternative work schedules and telecommuting, vanpool/shuttle, ride share programs, and bike share programs. Effectiveness of TDM measures at reducing VMT depends on many factors like whether strategies are required or voluntary and the availability and cost of parking.

Caltrans identified the potential need for the second northbound left-turn lane at the SR 49 / Atwood Road intersection in its comment letter on the Notice of Preparation (NOP). However, Caltrans acknowledged several constraints for this improvement, including:

- Widening SR 49 to provide the additional tum lane would be difficult and costly
- There are existing safety and operational concerns at the Atwood Road/Drive-In Way intersection, which is very close to the SR 49/Atwood Road intersection. Providing two westbound lane through this intersection might exacerbate the condition.
- Atwood Road has only one westbound lane west of Drive-In Way, and widening would be costly and disruptive to existing development.

Widening the SR 49 / Atwood Road intersection to provide a second northbound left-turn lane and a second westbound receiving lane would reduce delay to 59 seconds during the p.m. peak hour, which is less than cumulative no project conditions. As a co-benefit, it would improve operations to LOS C during the a.m. peak hour. Since these improvements are not included any known fee program, there is no assurance that funds necessary for construction will be collected. This combined with the constraints identified by Caltrans would make this improvement infeasible.

<u>Mitigation Measure-18d</u>: Coordinate with Caltrans to explore options to optimize the signal timings at the SR 49 / Kemper Road/New Airport Road intersection.

This measure would optimize the signal operations to provide additional green time to the northbound left-turn and southbound through movements. This modification to the signal timing would restore delay to cumulative no project conditions. This improvement would occur through Caltrans regular maintenance of its traffic signals. Therefore, this mitigation would require implementation by other agencies.

Significance after Mitigation

As noted above, these measures would improve the LOS at these intersections and/or reduce the average control delay to levels equal to or less than cumulative no project conditions. However, Mitigation Measure-18a is not included in any known fee program at this time, and there is no assurance that the remaining funds necessary for construction will be collected. Furthermore, the intersection of SR 49 / Atwood Road is already constructed to its maximum right-of-way; and neither Caltrans nor Placer County have any plans to widen SR 49 in this location due to limitations outlined above. The implementation of TDM strategies would reduce the impact to the intersection, by reducing the volume of traffic added to by PCGC. However, even with implementation of the Mitigation Measure-18c, the addition of project traffic would result is a significant impact based on Level of Service thresholds. Mitigation Measures-18b and 18d would require implementation by Caltrans. Since these improvements are not within Placer County's jurisdiction to control, it cannot be guaranteed that this measure will be implemented. Therefore, this impact remains **significant and unavoidable**.

PCGC Master Plan Update

Impact-19 – PCGC MPU: Vehicle trips generated by the implementation of the PCGC Master Plan Update in combination with background traffic from reasonably foreseeable projects would increase traffic volumes at study intersections. These project trips would cause operations to degrade from an acceptable LOS to an unacceptable LOS at the unsignalized intersection of County Center Drive / Bell Road, which meets the MUTCD peak hour signal warrant. It would also degrade operations from an acceptable LOS to an unacceptable LOS at the Richardson Drive / Bell Road intersection during the p.m. peak hour and the SR 49 / Kemper Road/New Airport Road intersection during the a.m. peak hour. It would also cause the average control delay to increase by more than 12 seconds at Caltrans intersections which operate at an unacceptable LOS under cumulative no project conditions. This is considered a significant impact.

The proposed PCGC Master Plan Update would add vehicle trips to study intersections. Most study intersections would continue to operate at an acceptable LOS under cumulative plus PCGC Master Plan Update conditions, which is a less-than-significant impact.

The proposed PCGC Master Plan Update in combination with background traffic from reasonably foreseeable projects would cause the following significant degradations in intersection traffic operations. Operations at the Richardson Drive / Bell Road intersection would degrade from an acceptable LOS C to an unacceptable LOS D during the p.m. peak hour. Similarly, the County Center Drive / Bell Road intersection would degrade from an acceptable LOS C to an unacceptable LOS E, while also meeting the peak hour

signal warrant (Warrant 3A and 3B) under cumulative plus PCGC Master Plan Update conditions during the p.m. peak hour. This is considered a significant impact.

The proposed PCGC Master Plan Update would degrade operations at the SR 49 / Kemper Road/New Airport Road intersection from an acceptable LOS D under cumulative no project conditions to an unacceptable LOS E during the a.m. peak hour. The proposed PCGC Master Plan Update would also increase the average control delay by 14 seconds at Richardson Drive / Bell Road during the p.m. peak hour and by more than 12 seconds at the following Caltrans intersections during the p.m. peak hour, which operate at an unacceptable LOS under cumulative no project conditions:

- SR 49 / Bell Road
- SR 49 / Atwood Road
- SR 49 / Kemper Road/New Airport Road

This incremental increase in delay is considered a **significant** cumulative impact, per Caltrans significance criteria.

Mitigation Measures

Mitigation Measure-19a: Implement Mitigation Measure-18a: Pay fair share cost towards the widening of the Richardson Drive / Bell Road intersection to provide a northbound right-turn pocket.

This measure would restore operations to LOS C during the p.m. peak hour. This improvement is currently not included in any known fee program. Complete funding of the right-turn pocket will need to be identified prior to construction. Placer County should consider addition of the full improvement cost in the Auburn/Bowman Benefit District of the Placer County Countywide CIP.

Mitigation Measure-19b: Modify the County Center Drive / Bell Road intersection to either:

- **Provide a separate northbound left-turn lane and right-turn lane while modifying Bell Road to include a westbound receiving lane in the center two-way left-turn lane for northbound left-turn movements; or**
- **Prohibit northbound left-turn movements from County Center Drive**

The first option would facilitate northbound right-turning traffic exiting the PCGC campus by allowing this traffic to queue separate from the northbound left-turning traffic, which experiences greater delay. The westbound receiving lane will also facilitate northbound left-turning traffic by allowing vehicles to conduct

a "two-stage gap-acceptance" maneuver. These changes would improve operations to LOS B during the p.m. peak hour. As a co-benefit, it would improve operations to LOS B during the a.m. peak hour.

The second option would eliminate the northbound left-turn from this intersection, resulting in a greatly reduced weighted average control delay at the intersection. These trips would re-route to alternative access points where left-turns are possible, such as Richardson Drive at Bell Road, or turn right onto Bell Road and make a U-turn at a downstream intersection. While this would marginally increase the delay at these adjacent intersections, the effect of this re-routing of trips would not cause a significant secondary effect.

These improvements should be added to and constructed as part of the PCGC Master Plan.

Mitigation Measure-19c: Pay fair share cost towards the implementation of Mitigation Measure-17a: widen the SR 49 / Bell Road intersection to accommodate a third southbound through lane and a third southbound receiving lane. Also widen the northbound approach to provide a northbound right-turn lane.

This measure would result in two southbound through lanes and a southbound shared through-right turn lane on SR 49. To allow the three southbound through lanes, the existing third southbound lane that begins just south of Bell Road would need to be extended north to Bell Road. In addition, a northbound right-turn lane would separate right-turns from the through movement in the outside through lane, resulting in three dedicated northbound through lanes. Both the improvements on the southbound and northbound sides of SR 49 would require curb, gutter, and traffic signal infrastructure to be relocated to accommodate these improvements.

The Auburn/Bowman Benefit District of the Placer County Countywide CIP (August 2017) includes funding for widening SR 49 to six lanes from Bell Road to Dry Creek Road. Since this improvement would construct part of the overall widening that is proposed, this improvement is considered feasible. The project applicants for development within the PGCC shall pay the applicable countywide traffic impact fees, which will provide funding for this improvement. This widening would improve operations to LOS E during the p.m. peak hour, which is better than cumulative no project conditions. As a co-benefit, it would reduce delay to 50 seconds during the a.m. peak hour.

Mitigation Measure-19d: Implement Mitigation Measure-18c: Incorporate Transportation Demand Management (TDM) strategies, consistent with the Placer County Trip Reduction Program.

Transportation Demand Management is a set of strategies aimed at maximizing mobility options to improve travel options and reduce vehicle travel. Consistent with this definition, the purpose of the Placer County Trip Reduction Program is to reduce total vehicle emissions in Placer County by implementing strategies to reduce home-to-work commuting, traffic congestion, and Vehicle Miles Traveled. Strategies may include

alternative work schedules and telecommuting, vanpool/shuttle, ride share programs, and bike share programs. Effectiveness of TDM measures at reducing VMT depends on many factors like whether strategies are required or voluntary and the availability and cost of parking.

Caltrans identified the potential need for the second northbound left-turn lane at the SR 49 / Atwood Road intersection in its comment letter on the Notice of Preparation (NOP). However, Caltrans acknowledged several constraints for this improvement, including:

- Widening SR 49 to provide the additional tum lane would be difficult and costly
- There are existing safety and operational concerns at the Atwood Road/Drive-In Way intersection, which is very close to the SR 49/Atwood Road intersection. Providing two westbound lane through this intersection might exacerbate the condition.
- Atwood Road has only one westbound lane west of Drive-In Way, and widening would be costly and disruptive to existing development.

Widening the SR 49 / Atwood Road intersection to provide a second northbound left-turn lane and a second westbound receiving lane would restore operations to LOS E during the p.m. peak hour. As a co-benefit, it would reduce delay to 35 seconds during the a.m. peak hour.

Since these improvements are not included any known fee program, there is no assurance that funds necessary for construction will be collected. This combined with the constraints identified by Caltrans would make this improvement infeasible.

Mitigation Measure-19e: Pay fair share cost towards the widening the SR 49 / Kemper Road/New Airport Road intersection to provide a northbound right-turn pocket and an eastbound left-turn lane.

These improvements would improve operations to LOS D during the a.m. and p.m. peak hours. However, implementing the eastbound left-turn lane may not be feasible given the tight angle of the intersection, space necessary to accommodate the northbound left-turning vehicles, and the steep grade of Kemper Road as it approaches SR 49.

Providing the northbound right-turn pocket only would restore operations to LOS D during the a.m. peak hour; and reduce delay to 63 seconds during the p.m. peak hour. However, the 63 seconds of delay during the p.m. peak hour would still exceed the 57 seconds of delay during cumulative no project delay.

These improvements should be added to the Auburn/Bowman Benefit District of the Placer County Countywide CIP (August 2017). However, even if they are added, there is no assurance that the remaining funds necessary for construction will be collected.

Significance after Mitigation

As noted above, these measures would improve the LOS at these intersections and/or reduce the average control delay to levels equal to or less than cumulative no project conditions. However, Mitigation Measure-19a and 19e are not included in any known fee program at this time, and there is no assurance that the remaining funds necessary for construction will be collected. The implementation of TDM strategies would reduce the impact to the intersection of SR 49 / Atwood Road, by reducing the volume of traffic added to by PCGC. However, even with implementation of the Mitigation Measure 19d, the addition of project traffic would result is a significant impact based on Level of Service thresholds. The intersection of SR 49 / Atwood Road is already constructed to its maximum right-of-way; and neither Caltrans nor Placer County have any plans to widen SR 49 in this location due to limitations outlined above. Mitigation Measures-19c, and 19e would require implementation by Caltrans. Since these improvements are either not fully funded and/or not within Placer County's jurisdiction to control, it cannot be guaranteed that these measures will be implemented. Therefore, this impact remains **significant and unavoidable**.

Implementation of Mitigation Measures 19b would provide acceptable operations, based on the modifications made to the PCGC Master Plan. Therefore, this impact would be **less than significant** with the proposed mitigation.

Appendix A:
Traffic Count Data

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-001 SR-49 & Atwood Road
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	SR-49 Southbound					Atwood Road Westbound					SR-49 Northbound					Atwood Road Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	7	260	16	0	283	7	4	3	0	14	38	169	8	0	215	14	3	43	0	60	572	0
7:15	8	308	21	0	337	9	4	5	0	18	72	223	1	0	296	19	2	42	0	63	714	0
7:30	7	382	25	0	414	4	8	9	0	21	71	244	8	0	323	23	6	68	0	97	855	0
7:45	8	322	47	0	377	5	12	6	0	23	106	294	15	0	415	28	8	63	0	99	914	0
Total	30	1272	109	0	1411	25	28	23	0	76	287	930	32	0	1249	84	19	216	0	319	3055	0
8:00	10	283	35	1	329	8	11	8	0	27	75	302	12	0	389	22	10	75	0	107	852	1
8:15	11	299	39	0	349	11	11	15	0	37	90	305	21	0	416	20	17	48	0	85	887	0
8:30	13	295	33	3	344	11	9	19	0	39	76	289	16	0	381	34	8	57	0	99	863	3
8:45	17	333	33	0	383	12	4	14	0	30	51	244	15	0	310	37	16	65	0	118	841	0
Total	51	1210	140	4	1405	42	35	56	0	133	292	1140	64	0	1496	113	51	245	0	409	3443	4
16:00	30	362	13	3	408	26	10	34	0	70	56	345	31	0	432	38	21	89	0	148	1058	3
16:15	38	348	26	0	412	27	13	27	0	67	50	357	31	0	438	36	16	72	0	124	1041	0
16:30	24	358	21	2	405	30	19	43	0	92	30	349	20	0	399	36	22	100	0	158	1054	2
16:45	32	337	19	3	391	32	16	32	0	80	61	349	17	0	427	29	15	89	0	133	1031	3
Total	124	1405	79	8	1616	115	58	136	0	309	197	1400	99	0	1696	139	74	350	0	563	4184	8
17:00	23	332	21	2	378	28	19	38	0	85	39	335	20	0	394	45	27	126	0	198	1055	2
17:15	23	344	22	3	392	17	18	26	0	61	54	422	26	0	502	22	22	90	0	134	1089	3
17:30	15	362	20	3	400	21	23	33	0	77	46	306	14	0	366	29	14	62	0	105	948	3
17:45	22	285	21	2	330	12	13	17	0	42	42	318	24	0	384	28	15	56	0	99	855	2
Total	83	1323	84	10	1500	78	73	114	0	265	181	1381	84	0	1646	124	78	334	0	536	3947	10
Grand Total	288	5210	412	22	5932	260	194	329	0	783	957	4851	279	0	6087	460	222	1145	0	1827	14629	22
Apprch %	4.9%	87.8%	6.9%	0.4%		33.2%	24.8%	42.0%	0.0%		15.7%	79.7%	4.6%	0.0%		25.2%	12.2%	62.7%	0.0%			
Total %	2.0%	35.6%	2.8%	0.2%	40.5%	1.8%	1.3%	2.2%	0.0%	5.4%	6.5%	33.2%	1.9%	0.0%	41.6%	3.1%	1.5%	7.8%	0.0%	12.5%	100.0%	

AM PEAK HOUR	SR-49 Southbound					Atwood Road Westbound					SR-49 Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	8	322	47	0	377	5	12	6	0	23	106	294	15	0	415	28	8	63	0	99	914
8:00	10	283	35	1	329	8	11	8	0	27	75	302	12	0	389	22	10	75	0	107	852
8:15	11	299	39	0	349	11	11	15	0	37	90	305	21	0	416	20	17	48	0	85	887
8:30	13	295	33	3	344	11	9	19	0	39	76	289	16	0	381	34	8	57	0	99	863
Total Volume	42	1199	154	4	1399	35	43	48	0	126	347	1190	64	0	1601	104	43	243	0	390	3516
% App Total	3.0%	85.7%	11.0%	0.3%		27.8%	34.1%	38.1%	0.0%		21.7%	74.3%	4.0%	0.0%		26.7%	11.0%	62.3%	0.0%		
PHF	.808	.931	.819	.333	.928	.795	.896	.632	.000	.808	.818	.975	.762	.000	.962	.765	.632	.810	.000	.911	.962

PM PEAK HOUR	SR-49 Southbound					Atwood Road Westbound					SR-49 Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	38	348	26	0	412	27	13	27	0	67	50	357	31	0	438	36	16	72	0	124	1041
16:30	24	358	21	2	405	30	19	43	0	92	30	349	20	0	399	36	22	100	0	158	1054
16:45	32	337	19	3	391	32	16	32	0	80	61	349	17	0	427	29	15	89	0	133	1031
17:00	23	332	21	2	378	28	19	38	0	85	39	335	20	0	394	45	27	126	0	198	1055
Total Volume	117	1375	87	7	1586	117	67	140	0	324	180	1390	88	0	1658	146	80	387	0	613	4181
% App Total	7.4%	86.7%	5.5%	0.4%		36.1%	20.7%	43.2%	0.0%		10.9%	83.8%	5.3%	0.0%		23.8%	13.1%	63.1%	0.0%		
PHF	.770	.960	.837	.583	.962	.914	.882	.814	.000	.880	.738	.973	.710	.000	.946	.811	.741	.768	.000	.774	.991

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-001 SR-49 & Atwood Road
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	SR-49 Southbound					Atwood Road Westbound					SR-49 Northbound					Atwood Road Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
7:15	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	3
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	0	1	0	1	1	0	0	0	1	0	0	0	0	3	0	0	0	0	1	0	1	6
8:00	0	0	0	3	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	6
8:15	0	0	0	1	0	0	0	0	0	0	0	1	0	2	1	0	0	0	1	0	1	4
8:30	0	0	0	1	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	2
8:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Total	0	1	0	5	1	0	1	0	1	1	0	1	0	5	1	0	0	0	1	0	3	12
16:00	0	1	0	2	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	4
16:15	0	0	0	1	0	0	0	0	1	0	0	0	0	4	0	0	0	0	2	0	0	8
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	0	0	0	0	0	1	2
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	3	1	0	0	0	1	0	0	1	0	7	1	0	0	0	3	0	2	14
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	1
17:15	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
17:30	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3
17:45	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	0	0	0	1	0	1	3
Total	0	0	0	1	0	0	1	0	1	1	0	0	0	6	0	0	1	0	1	1	2	9
Grand Total	0	3	0	10	3	0	2	0	4	2	0	2	0	21	2	0	1	0	6	1	8	41
Apprch %	0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%				
Total %	0.0%	37.5%	0.0%		37.5%	0.0%	25.0%	0.0%		25.0%	0.0%	25.0%	0.0%		25.0%	0.0%	12.5%	0.0%		12.5%	100.0%	

AM PEAK HOUR	SR-49 Southbound					Atwood Road Westbound					SR-49 Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:00	0	0	0	3	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0
8:15	0	0	0	1	0	0	0	0	0	0	0	1	0	2	1	0	0	0	1	0	1
8:30	0	0	0	1	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Total Volume	0	0	0	5	0	0	1	0	1	1	0	1	0	5	1	0	0	0	2	0	2
% App Total	0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.250	.000		.250	.000	.250	.000		.250	.000	.000	.000		.000	.500

PM PEAK HOUR	SR-49 Southbound					Atwood Road Westbound					SR-49 Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	1	0	0	0	0	1	0	0	0	0	4	0	0	0	0	2	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1
Total Volume	0	0	0	1	0	0	0	0	1	0	0	1	0	7	1	0	1	0	2	1	2
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.250	.000		.250	.000	.250	.000		.250	.500

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-002 SR-49 & Willow Creek
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	SR-49 Southbound					Willow Creek Westbound					SR-49 Northbound					Willow Creek Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	1	238	16	1	256	11	2	1	0	14	23	161	6	0	190	6	1	16	0	23	483	1
7:15	7	319	19	0	345	17	2	4	0	23	36	193	8	0	237	16	2	15	0	33	638	0
7:30	3	395	30	0	428	7	2	2	0	11	51	230	5	0	286	15	2	22	0	39	764	0
7:45	5	338	19	2	364	6	5	6	0	17	50	251	12	0	313	17	2	22	0	41	735	2
Total	16	1290	84	3	1393	41	11	13	0	65	160	835	31	0	1026	54	7	75	0	136	2620	3
8:00	8	311	39	1	359	15	3	10	0	28	44	281	11	0	336	12	1	30	0	43	766	1
8:15	3	298	33	0	334	17	7	6	0	30	41	273	9	0	323	32	3	27	0	62	749	0
8:30	3	315	36	2	356	5	10	2	0	17	46	280	8	0	334	29	4	36	0	69	776	2
8:45	8	346	39	0	393	9	6	3	0	18	29	241	11	0	281	32	9	39	0	80	772	0
Total	22	1270	147	3	1442	46	26	21	0	93	160	1075	39	0	1274	105	17	132	0	254	3063	3
16:00	17	364	37	2	420	16	10	13	0	39	43	338	18	0	399	48	11	52	0	111	969	2
16:15	17	348	34	3	402	18	12	13	0	43	42	349	19	0	410	61	10	46	0	117	972	3
16:30	9	339	33	1	382	18	11	12	0	41	37	356	12	0	405	48	9	58	0	115	943	1
16:45	17	322	29	2	370	20	8	20	0	48	36	347	8	0	391	51	11	54	0	116	925	2
Total	60	1373	133	8	1574	72	41	58	0	171	158	1390	57	0	1605	208	41	210	0	459	3809	8
17:00	13	319	22	0	354	12	6	16	0	34	38	353	14	0	405	44	9	80	0	133	926	0
17:15	14	317	21	5	357	18	5	12	0	35	51	383	10	0	444	52	13	47	0	112	948	5
17:30	12	322	15	2	351	16	9	16	0	41	36	338	12	0	386	40	3	58	0	101	879	2
17:45	13	278	21	8	320	15	5	14	0	34	22	312	13	0	347	51	5	39	0	95	796	8
Total	52	1236	79	15	1382	61	25	58	0	144	147	1386	49	0	1582	187	30	224	0	441	3549	15
Grand Total	150	5169	443	29	5791	220	103	150	0	473	625	4686	176	0	5487	554	95	641	0	1290	13041	29
Apprch %	2.6%	89.3%	7.6%	0.5%		46.5%	21.8%	31.7%	0.0%		11.4%	85.4%	3.2%	0.0%		42.9%	7.4%	49.7%	0.0%			
Total %	1.2%	39.6%	3.4%	0.2%	44.4%	1.7%	0.8%	1.2%	0.0%	3.6%	4.8%	35.9%	1.3%	0.0%	42.1%	4.2%	0.7%	4.9%	0.0%	9.9%	100.0%	

AM PEAK HOUR	SR-49 Southbound					Willow Creek Westbound					SR-49 Northbound					Willow Creek Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	5	338	19	2	364	6	5	6	0	17	50	251	12	0	313	17	2	22	0	41	735
8:00	8	311	39	1	359	15	3	10	0	28	44	281	11	0	336	12	1	30	0	43	766
8:15	3	298	33	0	334	17	7	6	0	30	41	273	9	0	323	32	3	27	0	62	749
8:30	3	315	36	2	356	5	10	2	0	17	46	280	8	0	334	29	4	36	0	69	776
Total Volume	19	1262	127	5	1413	43	25	24	0	92	181	1085	40	0	1306	90	10	115	0	215	3026
% App Total	1.3%	89.3%	9.0%	0.4%		46.7%	27.2%	26.1%	0.0%		13.9%	83.1%	3.1%	0.0%		41.9%	4.7%	53.5%	0.0%		
PHF	.594	.933	.814	.625	.970	.632	.625	.600	.000	.767	.905	.965	.833	.000	.972	.703	.625	.799	.000	.779	.975

PM PEAK HOUR	SR-49 Southbound					Willow Creek Westbound					SR-49 Northbound					Willow Creek Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	17	348	34	3	402	18	12	13	0	43	42	349	19	0	410	61	10	46	0	117	972
16:30	9	339	33	1	382	18	11	12	0	41	37	356	12	0	405	48	9	58	0	115	943
16:45	17	322	29	2	370	20	8	20	0	48	36	347	8	0	391	51	11	54	0	116	925
17:00	13	319	22	0	354	12	6	16	0	34	38	353	14	0	405	44	9	80	0	133	926
Total Volume	56	1328	118	6	1508	68	37	61	0	166	153	1405	53	0	1611	204	39	238	0	481	3766
% App Total	3.7%	88.1%	7.8%	0.4%		41.0%	22.3%	36.7%	0.0%		9.5%	87.2%	3.3%	0.0%		42.4%	8.1%	49.5%	0.0%		
PHF	.824	.954	.868	.500	.938	.850	.771	.763	.000	.865	.911	.987	.697	.000	.982	.836	.886	.744	.000	.904	.969

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-002 SR-49 & Willow Creek
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	SR-49 Southbound					Willow Creek Westbound					SR-49 Northbound					Willow Creek Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	1	2
7:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	2	1	2	3
8:00	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	0	0	0	0	0	1	2
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Total	0	0	0	0	0	0	1	0	0	1	1	0	0	2	1	0	0	0	2	0	2	4
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	1	0	1	1	1	4
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	4	0	1	5
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	5	1	0	1	0	6	1	2	12
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	1	1	4
17:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
17:30	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	3	0	0	5
17:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	3	0	1	3
Total	0	0	0	0	0	0	0	0	1	0	1	1	0	1	2	0	1	0	10	1	3	12
Grand Total	0	1	0	0	1	0	1	0	2	1	2	2	0	9	4	0	3	0	20	3	9	31
Apprch %	0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			50.0%	50.0%	0.0%			0.0%	100.0%	0.0%				
Total %	0.0%	11.1%	0.0%		11.1%	0.0%	11.1%	0.0%		11.1%	22.2%	22.2%	0.0%		44.4%	0.0%	33.3%	0.0%		33.3%	100.0%	

AM PEAK HOUR	SR-49 Southbound					Willow Creek Westbound					SR-49 Northbound					Willow Creek Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	0	0	0	0	0	1
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	1	0	0	1	1	0	0	2	1	0	0	0	1	0	3
% App Total	0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			100.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.250	.000		.250	.000	.250	.000		.250	.250	.000	.000		.250	.000	.000	.000		.000	.750

PM PEAK HOUR	SR-49 Southbound					Willow Creek Westbound					SR-49 Northbound					Willow Creek Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	1	0	1	1	1
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	4	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	1	1
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	4	1	0	2	0	10	2	3
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.250	.000		.250	.000	.500	.000		.500	.750

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-003 SR-49 & Bell Road
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	SR-49 Southbound					Bell Road Westbound					SR-49 Northbound					Bell Road Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	77	224	16	0	317	18	48	55	1	122	29	126	8	0	163	9	18	33	0	60	662	1
7:15	74	308	17	0	399	19	82	62	0	163	50	150	24	0	224	10	32	29	1	72	858	1
7:30	106	367	15	0	488	32	96	70	0	198	64	168	24	0	256	8	26	41	1	76	1018	1
7:45	114	285	35	0	434	50	143	85	0	278	84	146	43	0	273	16	59	33	2	110	1095	2
Total	371	1184	83	0	1638	119	369	272	1	761	227	590	99	0	916	43	135	136	4	318	3633	5
8:00	107	284	27	0	418	44	129	105	0	278	61	206	27	0	294	20	33	39	3	95	1085	3
8:15	84	282	32	0	398	39	111	108	0	258	54	207	29	0	290	20	43	33	0	96	1042	0
8:30	99	269	44	0	412	38	83	96	0	217	59	202	42	0	303	22	46	47	3	118	1050	3
8:45	95	301	35	0	431	40	102	90	0	232	46	168	32	0	246	31	84	55	1	171	1080	1
Total	385	1136	138	0	1659	161	425	399	0	985	220	783	130	0	1133	93	206	174	7	480	4257	7
16:00	108	287	22	0	417	69	72	107	1	249	55	308	52	0	415	40	88	64	5	197	1278	6
16:15	106	270	16	0	392	81	37	150	1	269	45	284	64	0	393	35	58	59	5	157	1211	6
16:30	100	277	11	0	388	62	56	163	1	282	33	316	57	0	406	34	76	57	3	170	1246	4
16:45	109	250	10	0	369	65	39	156	1	261	33	318	74	0	425	28	74	48	2	152	1207	3
Total	423	1084	59	0	1566	277	204	576	4	1061	166	1226	247	0	1639	137	296	228	15	676	4942	19
17:00	116	270	19	0	405	62	49	143	1	255	40	300	78	0	418	35	146	52	4	237	1315	5
17:15	90	244	16	0	350	48	48	164	0	260	27	318	74	0	419	28	66	67	2	163	1192	2
17:30	107	251	11	0	369	52	39	126	0	217	35	279	64	0	378	32	75	55	4	166	1130	4
17:45	102	224	9	0	335	58	37	161	0	256	32	274	56	0	362	16	51	32	2	101	1054	2
Total	415	989	55	0	1459	220	173	594	1	988	134	1171	272	0	1577	111	338	206	12	667	4691	13
Grand Total	1594	4393	335	0	6322	777	1171	1841	6	3795	747	3770	748	0	5265	384	975	744	38	2141	17523	44
Apprch %	25.2%	69.5%	5.3%	0.0%		20.5%	30.9%	48.5%	0.2%		14.2%	71.6%	14.2%	0.0%		17.9%	45.5%	34.8%	1.8%			
Total %	9.1%	25.1%	1.9%	0.0%	36.1%	4.4%	6.7%	10.5%	0.0%	21.7%	4.3%	21.5%	4.3%	0.0%	30.0%	2.2%	5.6%	4.2%	0.2%	12.2%	100.0%	

AM PEAK HOUR	SR-49 Southbound					Bell Road Westbound					SR-49 Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	114	285	35	0	434	50	143	85	0	278	84	146	43	0	273	16	59	33	2	110	1095
8:00	107	284	27	0	418	44	129	105	0	278	61	206	27	0	294	20	33	39	3	95	1085
8:15	84	282	32	0	398	39	111	108	0	258	54	207	29	0	290	20	43	33	0	96	1042
8:30	99	269	44	0	412	38	83	96	0	217	59	202	42	0	303	22	46	47	3	118	1050
Total Volume	404	1120	138	0	1662	171	466	394	0	1031	258	761	141	0	1160	78	181	152	8	419	4272
% App Total	24.3%	67.4%	8.3%	0.0%		16.6%	45.2%	38.2%	0.0%		22.2%	65.6%	12.2%	0.0%		18.6%	43.2%	36.3%	1.9%		
PHF	.886	.982	.784	.000	.957	.855	.815	.912	.000	.927	.768	.919	.820	.000	.957	.886	.767	.809	.667	.888	.975

PM PEAK HOUR	SR-49 Southbound					Bell Road Westbound					SR-49 Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	106	270	16	0	392	81	37	150	1	269	45	284	64	0	393	35	58	59	5	157	1211
16:30	100	277	11	0	388	62	56	163	1	282	33	316	57	0	406	34	76	57	3	170	1246
16:45	109	250	10	0	369	65	39	156	1	261	33	318	74	0	425	28	74	48	2	152	1207
17:00	116	270	19	0	405	62	49	143	1	255	40	300	78	0	418	35	146	52	4	237	1315
Total Volume	431	1067	56	0	1554	270	181	612	4	1067	151	1218	273	0	1642	132	354	216	14	716	4979
% App Total	27.7%	68.7%	3.6%	0.0%		25.3%	17.0%	57.4%	0.4%		9.2%	74.2%	16.6%	0.0%		18.4%	49.4%	30.2%	2.0%		
PHF	.929	.963	.737	.000	.959	.833	.808	.939	1.000	.946	.839	.958	.875	.000	.966	.943	.606	.915	.700	.755	.947

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-003 SR-49 & Bell Road
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	SR-49 Southbound					Bell Road Westbound					SR-49 Northbound					Bell Road Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	1	0	1	1	1	4
7:45	0	1	0	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	1	0	2	2
Total	0	1	0	1	1	0	1	0	2	1	0	0	0	2	0	0	1	0	3	1	3	8
8:00	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	4
8:15	0	0	0	1	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	2
8:30	0	0	0	1	0	0	0	0	2	0	0	0	0	6	0	0	0	0	1	0	0	10
8:45	0	0	0	0	0	1	0	0	1	1	0	0	0	2	0	0	0	0	2	0	1	5
Total	0	0	0	3	0	1	1	0	5	2	0	0	0	9	0	0	0	0	4	0	2	21
16:00	0	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0	6
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	12
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
16:45	0	1	0	1	1	0	0	0	4	0	0	1	0	4	1	0	0	0	4	0	2	13
Total	0	1	0	2	1	0	0	0	7	0	0	1	0	10	1	0	0	0	13	0	2	32
17:00	0	1	0	1	1	0	0	0	2	0	0	0	0	1	0	0	1	0	2	1	2	6
17:15	0	0	0	0	0	0	1	0	1	1	0	1	0	8	1	0	0	0	4	0	2	13
17:30	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	4	0	0	7
17:45	0	0	0	3	0	0	0	0	3	0	0	0	0	2	0	0	0	0	0	0	0	8
Total	0	1	0	4	1	0	1	0	7	1	0	1	0	13	1	0	1	0	10	1	4	34
Grand Total	0	3	0	10	3	1	3	0	21	4	0	2	0	34	2	0	2	0	30	2	11	95
Apprch %	0.0%	100.0%	0.0%			25.0%	75.0%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%				
Total %	0.0%	27.3%	0.0%		27.3%	9.1%	27.3%	0.0%		36.4%	0.0%	18.2%	0.0%		18.2%	0.0%	18.2%	0.0%		18.2%	100.0%	

AM PEAK HOUR	SR-49 Southbound					Bell Road Westbound					SR-49 Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	1	0	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	1	0	2
8:00	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
8:15	0	0	0	1	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1
8:30	0	0	0	1	0	0	0	0	2	0	0	0	0	6	0	0	0	0	1	0	0
Total Volume	0	1	0	3	1	0	2	0	5	2	0	0	0	7	0	0	0	0	3	0	3
% App Total	0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.250	.000		.250	.000	.500	.000		.500	.000	.000	.000		.000	.000	.000	.000		.000	.375

PM PEAK HOUR	SR-49 Southbound					Bell Road Westbound					SR-49 Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
16:45	0	1	0	1	1	0	0	0	4	0	0	1	0	4	1	0	0	0	4	0	2
17:00	0	1	0	1	1	0	0	0	2	0	0	0	0	1	0	0	1	0	2	1	2
Total Volume	0	2	0	2	2	0	0	0	6	0	0	1	0	11	1	0	1	0	13	1	4
% App Total	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			
PHF	.000	.500	.000		.500	.000	.000	.000		.000	.000	.250	.000		.250	.000	.250	.000		.250	.500

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-004 SR-49 & Education Street
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	SR-49 Southbound					Education Street Westbound					SR-49 Northbound					Education Street Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	310	15	0	325	0	0	0	0	0	11	178	0	0	189	6	0	10	0	16	530	0
7:15	0	397	30	0	427	0	0	0	0	0	17	212	0	0	229	6	0	12	0	18	674	0
7:30	0	474	39	0	513	0	0	0	0	0	29	212	0	0	241	6	0	6	0	12	766	0
7:45	0	436	71	0	507	0	0	0	0	0	32	219	0	0	251	7	0	9	0	16	774	0
Total	0	1617	155	0	1772	0	0	0	0	0	89	821	0	0	910	25	0	37	0	62	2744	0
8:00	0	395	30	0	425	0	0	0	0	0	29	288	0	0	317	5	0	8	0	13	755	0
8:15	0	407	30	0	437	0	0	0	0	0	24	325	0	0	349	12	0	10	0	22	808	0
8:30	0	405	30	0	435	0	0	0	0	0	32	294	0	0	326	34	0	14	0	48	809	0
8:45	0	408	33	0	441	0	0	0	0	0	22	266	0	0	288	49	0	17	0	66	795	0
Total	0	1615	123	0	1738	0	0	0	0	0	107	1173	0	0	1280	100	0	49	0	149	3167	0
16:00	0	376	12	0	388	0	0	0	0	0	12	458	0	0	470	21	0	50	0	71	929	0
16:15	0	357	11	0	368	0	0	0	0	0	10	466	0	0	476	19	0	25	0	44	888	0
16:30	0	368	9	0	377	0	0	0	0	0	10	493	0	0	503	28	0	33	0	61	941	0
16:45	0	318	13	0	331	0	0	0	0	0	5	508	0	0	513	32	0	36	0	68	912	0
Total	0	1419	45	0	1464	0	0	0	0	0	37	1925	0	0	1962	100	0	144	0	244	3670	0
17:00	0	352	10	0	362	0	0	0	0	0	15	447	0	0	462	61	0	40	0	101	925	0
17:15	0	336	3	0	339	0	0	0	0	0	6	518	0	0	524	29	0	33	0	62	925	0
17:30	0	327	7	0	334	0	0	0	0	0	8	425	0	0	433	18	0	25	0	43	810	0
17:45	0	350	7	0	357	0	0	0	0	0	2	460	0	0	462	22	0	18	0	40	859	0
Total	0	1365	27	0	1392	0	0	0	0	0	31	1850	0	0	1881	130	0	116	0	246	3519	0
Grand Total	0	6016	350	0	6366	0	0	0	0	0	264	5769	0	0	6033	355	0	346	0	701	13100	0
Apprch %	0.0%	94.5%	5.5%	0.0%		0.0%	0.0%	0.0%	0.0%		4.4%	95.6%	0.0%	0.0%		50.6%	0.0%	49.4%	0.0%			
Total %	0.0%	45.9%	2.7%	0.0%	48.6%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	44.0%	0.0%	0.0%	46.1%	2.7%	0.0%	2.6%	0.0%	5.4%	100.0%	

AM PEAK HOUR	SR-49 Southbound					Education Street Westbound					SR-49 Northbound					Education Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	436	71	0	507	0	0	0	0	0	32	219	0	0	251	7	0	9	0	16	774
8:00	0	395	30	0	425	0	0	0	0	0	29	288	0	0	317	5	0	8	0	13	755
8:15	0	407	30	0	437	0	0	0	0	0	24	325	0	0	349	12	0	10	0	22	808
8:30	0	405	30	0	435	0	0	0	0	0	32	294	0	0	326	34	0	14	0	48	809
Total Volume	0	1643	161	0	1804	0	0	0	0	0	117	1126	0	0	1243	58	0	41	0	99	3146
% App Total	0.0%	91.1%	8.9%	0.0%		0.0%	0.0%	0.0%	0.0%		9.4%	90.6%	0.0%	0.0%		58.6%	0.0%	41.4%	0.0%		
PHF	.000	.942	.567	.000	.890	.000	.000	.000	.000	.000	.914	.866	.000	.000	.890	.426	.000	.732	.000	.516	.972

PM PEAK HOUR	SR-49 Southbound					Education Street Westbound					SR-49 Northbound					Education Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	357	11	0	368	0	0	0	0	0	10	466	0	0	476	19	0	25	0	44	888
16:30	0	368	9	0	377	0	0	0	0	0	10	493	0	0	503	28	0	33	0	61	941
16:45	0	318	13	0	331	0	0	0	0	0	5	508	0	0	513	32	0	36	0	68	912
17:00	0	352	10	0	362	0	0	0	0	0	15	447	0	0	462	61	0	40	0	101	925
Total Volume	0	1395	43	0	1438	0	0	0	0	0	40	1914	0	0	1954	140	0	134	0	274	3666
% App Total	0.0%	97.0%	3.0%	0.0%		0.0%	0.0%	0.0%	0.0%		2.0%	98.0%	0.0%	0.0%		51.1%	0.0%	48.9%	0.0%		
PHF	.000	.948	.827	.000	.954	.000	.000	.000	.000	.000	.667	.942	.000	.000	.952	.574	.000	.838	.000	.678	.974

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-004 SR-49 & Education Street
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	SR-49 Southbound					Education Street Westbound					SR-49 Northbound					Education Street Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	2	1	1	4
8:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	4
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	0	0	5
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	6	0	0	0	0	4	0	1	10
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	4	1	1	7
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	1	5	1	1	11
17:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2	3	0
17:15	0	0	0	0	0	0	0	0	0	0	1	0	0	7	1	0	0	0	2	0	1	9
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	4	0	0	7
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	2	0	0	5
Total	0	0	0	0	0	0	0	0	0	0	2	0	0	13	2	0	0	2	8	2	4	21
Grand Total	0	1	0	0	1	0	0	0	0	0	2	0	0	27	2	0	0	4	19	4	7	46
Apprch %	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			100.0%	0.0%	0.0%			0.0%	0.0%	100.0%				
Total %	0.0%	14.3%	0.0%		14.3%	0.0%	0.0%	0.0%		0.0%	28.6%	0.0%	0.0%		28.6%	0.0%	0.0%	57.1%		57.1%	100.0%	

AM PEAK HOUR	SR-49 Southbound					Education Street Westbound					SR-49 Northbound					Education Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1
8:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	1	3	1	2
% App Total	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	100.0%			
PHF	.000	.250	.000		.250	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.250		.250	.500

PM PEAK HOUR	SR-49 Southbound					Education Street Westbound					SR-49 Northbound					Education Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	4	1	1
17:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2	3
Total Volume	0	0	0	0	0	0	0	0	0	0	1	0	0	6	1	0	0	3	5	3	4
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			100.0%	0.0%	0.0%			0.0%	0.0%	100.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.250	.000	.000		.250	.000	.000	.375		.375	.333

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-005 SR-49 & New Airport Road/Kemper Road
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	SR-49 Southbound					New Airport Road/Kemper Road Westbound					SR-49 Northbound					New Airport Road/Kemper Road Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	4	303	2	0	309	17	1	5	0	23	9	212	22	0	243	2	1	27	0	30	605	0
7:15	3	355	3	0	361	31	6	4	0	41	12	313	21	0	346	0	3	18	0	21	769	0
7:30	4	461	4	0	469	32	12	4	0	48	31	316	32	0	379	2	3	19	0	24	920	0
7:45	7	364	7	1	379	28	12	10	0	50	35	420	42	0	497	2	4	15	0	21	947	1
Total	18	1483	16	1	1518	108	31	23	0	162	87	1261	117	0	1465	6	11	79	0	96	3241	1
8:00	5	359	10	2	376	27	10	13	0	50	29	391	40	0	460	0	5	14	0	19	905	2
8:15	8	336	5	0	349	28	14	8	0	50	42	387	34	0	463	4	2	14	0	20	882	0
8:30	15	299	8	0	322	46	8	10	0	64	42	357	40	0	439	5	10	36	0	51	876	0
8:45	16	404	8	1	429	37	6	8	0	51	21	298	34	0	353	6	12	56	0	74	907	1
Total	44	1398	31	3	1476	138	38	39	0	215	134	1433	148	0	1715	15	29	120	0	164	3570	3
16:00	14	474	3	0	491	64	6	27	0	97	17	424	61	1	503	7	9	39	0	55	1146	1
16:15	18	431	3	0	452	54	9	15	0	78	13	414	62	0	489	4	5	25	0	34	1053	0
16:30	15	464	2	0	481	62	9	14	1	86	14	383	85	0	482	20	6	74	0	100	1149	1
16:45	13	446	5	1	465	57	6	16	0	79	14	393	70	0	477	6	10	38	0	54	1075	1
Total	60	1815	13	1	1889	237	30	72	1	340	58	1614	278	1	1951	37	30	176	0	243	4423	3
17:00	15	489	2	1	507	55	10	11	0	76	21	405	62	1	489	12	13	42	0	67	1139	2
17:15	10	434	4	0	448	56	2	19	0	77	27	449	57	0	533	9	13	30	0	52	1110	0
17:30	17	420	4	1	442	58	8	10	0	76	14	373	55	0	442	7	10	36	0	53	1013	1
17:45	11	344	2	0	357	50	5	11	0	66	12	341	56	0	409	4	2	18	0	24	856	0
Total	53	1687	12	2	1754	219	25	51	0	295	74	1568	230	1	1873	32	38	126	0	196	4118	3
Grand Total	175	6383	72	7	6637	702	124	185	1	1012	353	5876	773	2	7004	90	108	501	0	699	15352	10
Apprch %	2.6%	96.2%	1.1%	0.1%		69.4%	12.3%	18.3%	0.1%		5.0%	83.9%	11.0%	0.0%		12.9%	15.5%	71.7%	0.0%			
Total %	1.1%	41.6%	0.5%	0.0%	43.2%	4.6%	0.8%	1.2%	0.0%	6.6%	2.3%	38.3%	5.0%	0.0%	45.6%	0.6%	0.7%	3.3%	0.0%	4.6%	100.0%	

AM PEAK HOUR	SR-49 Southbound					New Airport Road/Kemper Road Westbound					SR-49 Northbound					New Airport Road/Kemper Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	7	364	7	1	379	28	12	10	0	50	35	420	42	0	497	2	4	15	0	21	947
8:00	5	359	10	2	376	27	10	13	0	50	29	391	40	0	460	0	5	14	0	19	905
8:15	8	336	5	0	349	28	14	8	0	50	42	387	34	0	463	4	2	14	0	20	882
8:30	15	299	8	0	322	46	8	10	0	64	42	357	40	0	439	5	10	36	0	51	876
Total Volume	35	1358	30	3	1426	129	44	41	0	214	148	1555	156	0	1859	11	21	79	0	111	3610
% App Total	2.5%	95.2%	2.1%	0.2%		60.3%	20.6%	19.2%	0.0%		8.0%	83.6%	8.4%	0.0%		9.9%	18.9%	71.2%	0.0%		
PHF	.583	.933	.750	.375	.941	.701	.786	.788	.000	.836	.881	.926	.929	.000	.935	.550	.525	.549	.000	.544	.953

PM PEAK HOUR	SR-49 Southbound					New Airport Road/Kemper Road Westbound					SR-49 Northbound					New Airport Road/Kemper Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	18	431	3	0	452	54	9	15	0	78	13	414	62	0	489	4	5	25	0	34	1053
16:30	15	464	2	0	481	62	9	14	1	86	14	383	85	0	482	20	6	74	0	100	1149
16:45	13	446	5	1	465	57	6	16	0	79	14	393	70	0	477	6	10	38	0	54	1075
17:00	15	489	2	1	507	55	10	11	0	76	21	405	62	1	489	12	13	42	0	67	1139
Total Volume	61	1830	12	2	1905	228	34	56	1	319	62	1595	279	1	1937	42	34	179	0	255	4416
% App Total	3.2%	96.1%	0.6%	0.1%		71.5%	10.7%	17.6%	0.3%		3.2%	82.3%	14.4%	0.1%		16.5%	13.3%	70.2%	0.0%		
PHF	.847	.936	.600	.500	.939	.919	.850	.875	.250	.927	.738	.963	.821	.250	.990	.525	.654	.605	.000	.638	.961

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-005 SR-49 & New Airport Road/Kemper Road
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	SR-49 Southbound					New Airport Road/Kemper Road Westbound					SR-49 Northbound					New Airport Road/Kemper Road Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	1
Total	0	1	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	1	0	2	2
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0
16:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
16:30	0	0	0	2	0	0	0	0	1	0	0	1	0	0	1	0	0	0	3	0	1	6
16:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
Total	0	1	0	3	1	0	0	0	1	0	0	1	0	0	1	1	1	0	3	2	4	7
17:00	0	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	2
17:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17:45	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Total	0	0	0	2	0	1	0	0	1	1	1	0	0	0	1	0	0	0	1	0	2	4
Grand Total	0	2	0	5	2	1	1	0	3	2	1	2	1	0	4	1	1	0	5	2	10	13
Apprch %	0.0%	100.0%	0.0%			50.0%	50.0%	0.0%			25.0%	50.0%	25.0%			50.0%	50.0%	0.0%				
Total %	0.0%	20.0%	0.0%		20.0%	10.0%	10.0%	0.0%		20.0%	10.0%	20.0%	10.0%		40.0%	10.0%	10.0%	0.0%		20.0%	100.0%	

AM PEAK HOUR	SR-49 Southbound					New Airport Road/Kemper Road Westbound					SR-49 Northbound					New Airport Road/Kemper Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	0	0	0	1	0	3
% App Total	0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	50.0%	50.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.250	.000		.250	.000	.250	.250		.500	.000	.000	.000		.000	.375

PM PEAK HOUR	SR-49 Southbound					New Airport Road/Kemper Road Westbound					SR-49 Northbound					New Airport Road/Kemper Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	2	0	0	0	0	1	0	0	1	0	0	1	0	0	0	3	0	1
16:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
17:00	0	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total Volume	0	1	0	5	1	0	0	0	1	0	1	1	0	0	2	0	1	0	3	1	4
% App Total	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			50.0%	50.0%	0.0%			0.0%	100.0%	0.0%			
PHF	.000	.250	.000		.250	.000	.000	.000		.000	.250	.250	.000		.500	.000	.250	.000		.250	1.000

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-006 1st Street & Willow Creek
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	1st Street Southbound					Willow Creek Westbound					1st Street Northbound					Willow Creek Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	4	3	3	0	10	5	2	6	0	13	0	4	3	0	7	2	4	1	0	7	37	0
7:15	4	4	1	0	9	1	5	22	0	28	0	10	0	0	10	0	0	2	0	2	49	0
7:30	4	6	6	0	16	5	4	28	0	37	0	16	8	0	24	5	2	0	0	7	84	0
7:45	2	14	4	0	20	7	7	39	0	53	0	15	8	0	23	8	7	0	0	15	111	0
Total	14	27	14	0	55	18	18	95	0	131	0	45	19	0	64	15	13	3	0	31	281	0
8:00	8	15	6	0	29	7	9	20	0	36	0	23	9	0	32	4	4	2	0	10	107	0
8:15	2	9	3	1	15	7	7	27	0	41	2	23	13	0	38	2	7	0	0	9	103	1
8:30	2	27	5	0	34	7	4	15	0	26	0	16	12	0	28	1	3	0	0	4	92	0
8:45	13	17	3	0	33	4	3	15	0	22	0	20	14	0	34	2	9	0	0	11	100	0
Total	25	68	17	1	111	25	23	77	0	125	2	82	48	0	132	9	23	2	0	34	402	1
16:00	20	19	8	0	47	5	3	7	0	15	0	9	6	0	15	1	4	3	0	8	85	0
16:15	17	13	3	0	33	7	10	9	0	26	0	9	4	0	13	4	6	2	0	12	84	0
16:30	27	24	7	0	58	5	7	10	0	22	0	9	10	0	19	1	7	1	0	9	108	0
16:45	21	14	0	0	35	3	9	6	0	18	0	7	5	0	12	0	2	1	0	3	68	0
Total	85	70	18	0	173	20	29	32	0	81	0	34	25	0	59	6	19	7	0	32	345	0
17:00	51	27	3	0	81	2	3	5	0	10	0	10	13	0	23	4	4	0	0	8	122	0
17:15	24	10	1	0	35	1	4	9	0	14	0	10	6	0	16	1	4	0	0	5	70	0
17:30	22	8	3	0	33	4	10	10	0	24	0	9	6	0	15	3	4	0	0	7	79	0
17:45	7	9	2	0	18	4	5	5	0	14	0	6	5	0	11	1	3	0	0	4	47	0
Total	104	54	9	0	167	11	22	29	0	62	0	35	30	0	65	9	15	0	0	24	318	0
Grand Total	228	219	58	1	506	74	92	233	0	399	2	196	122	0	320	39	70	12	0	121	1346	1
Apprch %	45.1%	43.3%	11.5%	0.2%		18.5%	23.1%	58.4%	0.0%		0.6%	61.3%	38.1%	0.0%		32.2%	57.9%	9.9%	0.0%			
Total %	16.9%	16.3%	4.3%	0.1%	37.6%	5.5%	6.8%	17.3%	0.0%	29.6%	0.1%	14.6%	9.1%	0.0%	23.8%	2.9%	5.2%	0.9%	0.0%	9.0%	100.0%	

AM PEAK HOUR	1st Street Southbound					Willow Creek Westbound					1st Street Northbound					Willow Creek Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	2	14	4	0	20	7	7	39	0	53	0	15	8	0	23	8	7	0	0	15	111
8:00	8	15	6	0	29	7	9	20	0	36	0	23	9	0	32	4	4	2	0	10	107
8:15	2	9	3	1	15	7	7	27	0	41	2	23	13	0	38	2	7	0	0	9	103
8:30	2	27	5	0	34	7	4	15	0	26	0	16	12	0	28	1	3	0	0	4	92
Total Volume	14	65	18	1	98	28	27	101	0	156	2	77	42	0	121	15	21	2	0	38	413
% App Total	14.3%	66.3%	18.4%	1.0%		17.9%	17.3%	64.7%	0.0%		1.7%	63.6%	34.7%	0.0%		39.5%	55.3%	5.3%	0.0%		
PHF	.438	.602	.750	.250	.721	1.000	.750	.647	.000	.736	.250	.837	.808	.000	.796	.469	.750	.250	.000	.633	.930

PM PEAK HOUR	1st Street Southbound					Willow Creek Westbound					1st Street Northbound					Willow Creek Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	17	13	3	0	33	7	10	9	0	26	0	9	4	0	13	4	6	2	0	12	84
16:30	27	24	7	0	58	5	7	10	0	22	0	9	10	0	19	1	7	1	0	9	108
16:45	21	14	0	0	35	3	9	6	0	18	0	7	5	0	12	0	2	1	0	3	68
17:00	51	27	3	0	81	2	3	5	0	10	0	10	13	0	23	4	4	0	0	8	122
Total Volume	116	78	13	0	207	17	29	30	0	76	0	35	32	0	67	9	19	4	0	32	382
% App Total	56.0%	37.7%	6.3%	0.0%		22.4%	38.2%	39.5%	0.0%		0.0%	52.2%	47.8%	0.0%		28.1%	59.4%	12.5%	0.0%		
PHF	.569	.722	.464	.000	.639	.607	.725	.750	.000	.731	.000	.875	.615	.000	.728	.563	.679	.500	.000	.667	.783

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-006 1st Street & Willow Creek
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	1st Street Southbound					Willow Creek Westbound					1st Street Northbound					Willow Creek Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0
7:45	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	1	0	2	1	0	0	0	4	0	0	0	0	0	0	0	1	0	0	1	2	6
8:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	2	1
16:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
16:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
16:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	2
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
17:15	0	0	0	2	0	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	1	5
17:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	3	0	0	1	0	1	1	0	0	0	1	0	0	1	0	2	1	2	7
Grand Total	2	1	1	6	4	0	1	1	6	2	0	0	0	1	0	0	2	0	3	2	8	16
Apprch %	50.0%	25.0%	25.0%			0.0%	50.0%	50.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%				
Total %	25.0%	12.5%	12.5%		50.0%	0.0%	12.5%	12.5%		25.0%	0.0%	0.0%	0.0%		0.0%	0.0%	25.0%	0.0%		25.0%	100.0%	

AM PEAK HOUR	1st Street Southbound					Willow Creek Westbound					1st Street Northbound					Willow Creek Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	0	1	0	0	1	5	1	0	0	0	0	0	0	0	0	0	0	2
% App Total	0.0%	0.0%	100.0%			0.0%	0.0%	100.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.250		.250	.000	.000	.250		.250	.000	.000	.000		.000	.000	.000	.000		.000	.500

PM PEAK HOUR	1st Street Southbound					Willow Creek Westbound					1st Street Northbound					Willow Creek Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
16:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
Total Volume	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	2
% App Total	100.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			
PHF	.250	.000	.000		.250	.000	.000	.000		.000	.000	.000	.000		.000	.000	.250	.000		.250	.500

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-007 Richardson Drive & Atwood Road
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	Richardson Drive Southbound					Atwood Road Westbound					Richardson Drive Northbound					Atwood Road Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	16	3	10	0	29	1	11	25	0	37	0	3	13	0	16	14	19	0	0	33	115	0
7:15	8	4	4	0	16	3	18	29	0	50	2	3	12	0	17	17	25	0	0	42	125	0
7:30	12	3	5	0	20	3	13	25	0	41	2	2	10	0	14	12	42	1	0	55	130	0
7:45	18	3	10	0	31	3	16	38	0	57	0	5	11	0	16	25	40	1	0	66	170	0
Total	54	13	29	0	96	10	58	117	0	185	4	13	46	0	63	68	126	2	0	196	540	0
8:00	17	3	5	1	26	13	15	27	0	55	0	1	14	0	15	19	44	3	0	66	162	1
8:15	11	10	5	0	26	17	26	37	0	80	2	6	6	0	14	18	39	4	0	61	181	0
8:30	24	22	7	0	53	15	18	24	0	57	5	10	10	0	25	10	28	10	0	48	183	0
8:45	16	6	8	0	30	6	20	19	0	45	4	6	8	0	18	12	37	4	0	53	146	0
Total	68	41	25	1	135	51	79	107	0	237	11	23	38	0	72	59	148	21	0	228	672	1
16:00	32	4	15	0	51	10	25	16	0	51	3	4	4	0	11	12	28	4	0	44	157	0
16:15	22	4	13	0	39	14	23	18	0	55	3	3	8	0	14	1	24	3	0	28	136	0
16:30	35	2	26	0	63	11	39	15	0	65	2	1	5	0	8	6	29	2	0	37	173	0
16:45	23	5	13	0	41	4	35	18	0	57	0	1	6	0	7	5	22	4	0	31	136	0
Total	112	15	67	0	194	39	122	67	0	228	8	9	23	0	40	24	103	13	0	140	602	0
17:00	53	3	48	0	104	6	40	17	0	63	1	0	9	0	10	7	28	1	0	36	213	0
17:15	28	2	14	0	44	10	25	13	0	48	2	5	3	0	10	3	25	2	0	30	132	0
17:30	23	6	19	0	48	13	37	15	0	65	2	2	10	0	14	3	25	2	0	30	157	0
17:45	11	1	7	0	19	6	39	18	1	64	0	3	3	0	6	4	29	1	0	34	123	1
Total	115	12	88	0	215	35	141	63	1	240	5	10	25	0	40	17	107	6	0	130	625	1
Grand Total	349	81	209	1	640	135	400	354	1	890	28	55	132	0	215	168	484	42	0	694	2439	2
Apprch %	54.5%	12.7%	32.7%	0.2%		15.2%	44.9%	39.8%	0.1%		13.0%	25.6%	61.4%	0.0%		24.2%	69.7%	6.1%	0.0%			
Total %	14.3%	3.3%	8.6%	0.0%	26.2%	5.5%	16.4%	14.5%	0.0%	36.5%	1.1%	2.3%	5.4%	0.0%	8.8%	6.9%	19.8%	1.7%	0.0%	28.5%	100.0%	

AM PEAK HOUR	Richardson Drive Southbound					Atwood Road Westbound					Richardson Drive Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	18	3	10	0	31	3	16	38	0	57	0	5	11	0	16	25	40	1	0	66	170
8:00	17	3	5	1	26	13	15	27	0	55	0	1	14	0	15	19	44	3	0	66	162
8:15	11	10	5	0	26	17	26	37	0	80	2	6	6	0	14	18	39	4	0	61	181
8:30	24	22	7	0	53	15	18	24	0	57	5	10	10	0	25	10	28	10	0	48	183
Total Volume	70	38	27	1	136	48	75	126	0	249	7	22	41	0	70	72	151	18	0	241	696
% App Total	51.5%	27.9%	19.9%	0.7%		19.3%	30.1%	50.6%	0.0%		10.0%	31.4%	58.6%	0.0%		29.9%	62.7%	7.5%	0.0%		
PHF	.729	.432	.675	.250	.642	.706	.721	.829	.000	.778	.350	.550	.732	.000	.700	.720	.858	.450	.000	.913	.951

PM PEAK HOUR	Richardson Drive Southbound					Atwood Road Westbound					Richardson Drive Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	22	4	13	0	39	14	23	18	0	55	3	3	8	0	14	1	24	3	0	28	136
16:30	35	2	26	0	63	11	39	15	0	65	2	1	5	0	8	6	29	2	0	37	173
16:45	23	5	13	0	41	4	35	18	0	57	0	1	6	0	7	5	22	4	0	31	136
17:00	53	3	48	0	104	6	40	17	0	63	1	0	9	0	10	7	28	1	0	36	213
Total Volume	133	14	100	0	247	35	137	68	0	240	6	5	28	0	39	19	103	10	0	132	658
% App Total	53.8%	5.7%	40.5%	0.0%		14.6%	57.1%	28.3%	0.0%		15.4%	12.8%	71.8%	0.0%		14.4%	78.0%	7.6%	0.0%		
PHF	.627	.700	.521	.000	.594	.625	.856	.944	.000	.923	.500	.417	.778	.000	.696	.679	.888	.625	.000	.892	.772

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-007 Richardson Drive & Atwood Road
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	Richardson Drive Southbound					Atwood Road Westbound					Richardson Drive Northbound					Atwood Road Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	1	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	2	0	2	3
16:00	0	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	1	4
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
16:45	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Total	0	0	1	1	1	0	0	0	0	0	0	0	0	3	0	0	0	0	4	0	1	8
Grand Total	1	0	1	1	2	0	1	0	0	1	0	0	0	6	0	0	0	0	6	0	3	13
Apprch %	50.0%	0.0%	50.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%				
Total %	33.3%	0.0%	33.3%		66.7%	0.0%	33.3%	0.0%		33.3%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	

AM PEAK HOUR	Richardson Drive Southbound					Atwood Road Westbound					Richardson Drive Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	0	0	0	1	0	1
% App Total	0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.250	.000		.250	.000	.000	.000		.000	.000	.000	.000		.000	.250

PM PEAK HOUR	Richardson Drive Southbound					Atwood Road Westbound					Richardson Drive Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
16:45	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-008 1st Street & Atwood Road
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	1st Street Southbound					Atwood Road Westbound					1st Street Northbound					Atwood Road Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	2	2	2	0	6	1	40	3	0	44	0	0	0	0	0	3	44	0	0	47	97	0
7:15	6	0	1	0	7	1	55	7	0	63	1	0	1	0	2	3	46	3	0	52	124	0
7:30	5	4	1	1	11	0	53	11	0	64	1	6	4	0	11	8	67	2	0	77	163	1
7:45	8	9	4	0	21	2	47	13	0	62	7	5	7	0	19	8	57	2	0	67	169	0
Total	21	15	8	1	45	4	195	34	0	233	9	11	12	0	32	22	214	7	0	243	553	1
8:00	10	8	3	0	21	2	51	15	0	68	8	10	3	0	21	13	55	8	0	76	186	0
8:15	5	3	11	0	19	1	86	12	0	99	1	6	5	0	12	15	55	1	0	71	201	0
8:30	6	2	28	0	36	1	77	8	0	86	0	1	3	0	4	21	78	0	0	99	225	0
8:45	13	2	7	0	22	0	45	11	0	56	0	1	6	0	7	20	80	0	0	100	185	0
Total	34	15	49	0	98	4	259	46	0	309	9	18	17	0	44	69	268	9	0	346	797	0
16:00	16	2	11	0	29	2	39	9	0	50	2	1	1	0	4	8	71	2	0	81	164	0
16:15	13	1	6	0	20	2	52	7	0	61	1	2	2	0	5	4	50	4	0	58	144	0
16:30	20	6	8	0	34	3	46	11	0	60	1	0	5	0	6	5	76	2	0	83	183	0
16:45	10	1	6	0	17	6	43	6	0	55	1	0	2	0	3	5	51	2	0	58	133	0
Total	59	10	31	0	100	13	180	33	0	226	5	3	10	0	18	22	248	10	0	280	624	0
17:00	21	5	9	0	35	7	49	9	0	65	1	5	7	0	13	13	82	5	0	100	213	0
17:15	5	4	4	0	13	1	55	7	0	63	1	2	1	0	4	7	59	0	0	66	146	0
17:30	5	3	6	0	14	1	61	5	0	67	0	4	3	0	7	8	52	0	0	60	148	0
17:45	3	2	7	0	12	2	55	1	0	58	0	0	2	0	2	9	44	1	0	54	126	0
Total	34	14	26	0	74	11	220	22	0	253	2	11	13	0	26	37	237	6	0	280	633	0
Grand Total	148	54	114	1	317	32	854	135	0	1021	25	43	52	0	120	150	967	32	0	1149	2607	1
Apprch %	46.7%	17.0%	36.0%	0.3%		3.1%	83.6%	13.2%	0.0%		20.8%	35.8%	43.3%	0.0%		13.1%	84.2%	2.8%	0.0%			
Total %	5.7%	2.1%	4.4%	0.0%	12.2%	1.2%	32.8%	5.2%	0.0%	39.2%	1.0%	1.6%	2.0%	0.0%	4.6%	5.8%	37.1%	1.2%	0.0%	44.1%	100.0%	

AM PEAK HOUR	1st Street Southbound					Atwood Road Westbound					1st Street Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	8	9	4	0	21	2	47	13	0	62	7	5	7	0	19	8	57	2	0	67	169
8:00	10	8	3	0	21	2	51	15	0	68	8	10	3	0	21	13	55	8	0	76	186
8:15	5	3	11	0	19	1	86	12	0	99	1	6	5	0	12	15	55	1	0	71	201
8:30	6	2	28	0	36	1	77	8	0	86	0	1	3	0	4	21	78	0	0	99	225
Total Volume	29	22	46	0	97	6	261	48	0	315	16	22	18	0	56	57	245	11	0	313	781
% App Total	29.9%	22.7%	47.4%	0.0%		1.9%	82.9%	15.2%	0.0%		28.6%	39.3%	32.1%	0.0%		18.2%	78.3%	3.5%	0.0%		
PHF	.725	.611	.411	.000	.674	.750	.759	.800	.000	.795	.500	.550	.643	.000	.667	.679	.785	.344	.000	.790	.868

PM PEAK HOUR	1st Street Southbound					Atwood Road Westbound					1st Street Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	13	1	6	0	20	2	52	7	0	61	1	2	2	0	5	4	50	4	0	58	144
16:30	20	6	8	0	34	3	46	11	0	60	1	0	5	0	6	5	76	2	0	83	183
16:45	10	1	6	0	17	6	43	6	0	55	1	0	2	0	3	5	51	2	0	58	133
17:00	21	5	9	0	35	7	49	9	0	65	1	5	7	0	13	13	82	5	0	100	213
Total Volume	64	13	29	0	106	18	190	33	0	241	4	7	16	0	27	27	259	13	0	299	673
% App Total	60.4%	12.3%	27.4%	0.0%		7.5%	78.8%	13.7%	0.0%		14.8%	25.9%	59.3%	0.0%		9.0%	86.6%	4.3%	0.0%		
PHF	.762	.542	.806	.000	.757	.643	.913	.750	.000	.927	1.000	.350	.571	.000	.519	.519	.790	.650	.000	.748	.790

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-008 1st Street & Atwood Road
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	1st Street Southbound					Atwood Road Westbound					1st Street Northbound					Atwood Road Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0
7:30	0	0	1	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	4
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	1	0	0	0	4	0	0	0	0	0	0	0	1	0	0	1	2	5
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30	0	0	0	4	0	0	0	0	0	0	0	0	0	3	0	0	0	0	4	0	0	11
8:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2
Total	0	0	0	6	0	0	0	0	0	0	0	0	0	3	0	0	1	0	5	1	1	14
16:00	0	0	0	0	0	0	1	0	0	1	0	0	0	3	0	0	1	0	0	1	2	3
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2
16:45	1	0	0	2	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	2
Total	1	0	0	2	1	0	1	0	0	1	0	0	1	5	1	0	1	0	1	1	4	8
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	1	2
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	1	0	0	2	0	0	2	0	0	0	1	0	0	0	0	1	0	2	3
Grand Total	1	0	1	10	2	0	3	0	4	3	0	0	1	9	1	0	3	0	7	3	9	30
Apprch %	50.0%	0.0%	50.0%			0.0%	100.0%	0.0%			0.0%	0.0%	100.0%			0.0%	100.0%	0.0%				
Total %	11.1%	0.0%	11.1%		22.2%	0.0%	33.3%	0.0%		33.3%	0.0%	0.0%	11.1%		11.1%	0.0%	33.3%	0.0%		33.3%	100.0%	

AM PEAK HOUR	1st Street Southbound					Atwood Road Westbound					1st Street Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	4	0	0	0	0	0	0	0	0	0	3	0	0	0	0	4	0	0
Total Volume	0	0	0	5	0	0	0	0	0	0	0	0	0	3	0	0	0	0	4	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

PM PEAK HOUR	1st Street Southbound					Atwood Road Westbound					1st Street Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
16:45	1	0	0	2	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	2	1	0	0	0	0	0	0	0	1	2	1	0	0	0	1	0	2
% App Total	100.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	100.0%			0.0%	0.0%	0.0%			
PHF	.250	.000	.000		.250	.000	.000	.000		.000	.000	.000	.250		.250	.000	.000	.000		.000	.250

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-009 F Avenue & Atwood Road
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	F Avenue Southbound					Atwood Road Westbound					F Avenue Northbound					Atwood Road Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	4	0	0	0	4	0	36	8	0	44	0	0	0	0	0	5	43	0	0	48	96	0
7:15	3	0	0	0	3	0	51	7	0	58	0	0	0	0	0	0	46	0	0	46	107	0
7:30	7	0	1	0	8	0	38	11	0	49	0	0	0	0	0	6	57	0	0	63	120	0
7:45	2	0	2	0	4	0	56	5	0	61	0	0	0	0	0	9	60	0	0	69	134	0
Total	16	0	3	0	19	0	181	31	0	212	0	0	0	0	0	20	206	0	0	226	457	0
8:00	5	0	4	0	9	0	51	4	0	55	0	0	0	0	0	5	70	0	0	75	139	0
8:15	3	0	6	0	9	0	75	2	0	77	0	0	0	0	0	7	50	0	0	57	143	0
8:30	4	0	3	0	7	0	54	0	0	54	0	0	0	0	0	4	57	0	0	61	122	0
8:45	3	0	2	0	5	0	45	7	0	52	0	0	0	0	0	4	57	0	0	61	118	0
Total	15	0	15	0	30	0	225	13	0	238	0	0	0	0	0	20	234	0	0	254	522	0
16:00	18	0	7	0	25	0	43	3	0	46	0	0	0	0	0	2	61	0	0	63	134	0
16:15	2	0	10	0	12	0	47	5	0	52	0	0	0	0	0	2	52	0	0	54	118	0
16:30	12	0	12	0	24	0	53	3	0	56	0	0	0	0	0	1	71	0	0	72	152	0
16:45	1	0	9	0	10	0	47	2	0	49	0	0	0	0	0	3	46	0	0	49	108	0
Total	33	0	38	0	71	0	190	13	0	203	0	0	0	0	0	8	230	0	0	238	512	0
17:00	8	0	9	0	17	0	52	0	0	52	0	0	0	0	0	1	89	0	0	90	159	0
17:15	2	0	3	0	5	0	45	3	0	48	0	0	0	0	0	1	57	0	0	58	111	0
17:30	1	0	7	0	8	0	59	4	0	63	0	0	0	0	0	4	55	0	0	59	130	0
17:45	2	0	6	0	8	0	56	4	0	60	0	0	0	0	0	2	42	0	0	44	112	0
Total	13	0	25	0	38	0	212	11	0	223	0	0	0	0	0	8	243	0	0	251	512	0
Grand Total	77	0	81	0	158	0	808	68	0	876	0	0	0	0	0	56	913	0	0	969	2003	0
Apprch %	48.7%	0.0%	51.3%	0.0%		0.0%	92.2%	7.8%	0.0%		0.0%	0.0%	0.0%	0.0%		5.8%	94.2%	0.0%	0.0%			
Total %	3.8%	0.0%	4.0%	0.0%	7.9%	0.0%	40.3%	3.4%	0.0%	43.7%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	45.6%	0.0%	0.0%	48.4%	100.0%	

AM PEAK HOUR	F Avenue Southbound					Atwood Road Westbound					F Avenue Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	2	0	2	0	4	0	56	5	0	61	0	0	0	0	0	9	60	0	0	69	134
8:00	5	0	4	0	9	0	51	4	0	55	0	0	0	0	0	5	70	0	0	75	139
8:15	3	0	6	0	9	0	75	2	0	77	0	0	0	0	0	7	50	0	0	57	143
8:30	4	0	3	0	7	0	54	0	0	54	0	0	0	0	0	4	57	0	0	61	122
Total Volume	14	0	15	0	29	0	236	11	0	247	0	0	0	0	0	25	237	0	0	262	538
% App Total	48.3%	0.0%	51.7%	0.0%		0.0%	95.5%	4.5%	0.0%		0.0%	0.0%	0.0%	0.0%		9.5%	90.5%	0.0%	0.0%		
PHF	.700	.000	.625	.000	.806	.000	.787	.550	.000	.802	.000	.000	.000	.000	.000	.694	.846	.000	.000	.873	.941

PM PEAK HOUR	F Avenue Southbound					Atwood Road Westbound					F Avenue Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	2	0	10	0	12	0	47	5	0	52	0	0	0	0	0	2	52	0	0	54	118
16:30	12	0	12	0	24	0	53	3	0	56	0	0	0	0	0	1	71	0	0	72	152
16:45	1	0	9	0	10	0	47	2	0	49	0	0	0	0	0	3	46	0	0	49	108
17:00	8	0	9	0	17	0	52	0	0	52	0	0	0	0	0	1	89	0	0	90	159
Total Volume	23	0	40	0	63	0	199	10	0	209	0	0	0	0	0	7	258	0	0	265	537
% App Total	36.5%	0.0%	63.5%	0.0%		0.0%	95.2%	4.8%	0.0%		0.0%	0.0%	0.0%	0.0%		2.6%	97.4%	0.0%	0.0%		
PHF	.479	.000	.833	.000	.656	.000	.939	.500	.000	.933	.000	.000	.000	.000	.000	.583	.725	.000	.000	.736	.844

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-009 F Avenue & Atwood Road
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	F Avenue Southbound					Atwood Road Westbound					F Avenue Northbound					Atwood Road Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2	0
16:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	2	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	2
Grand Total	1	0	0	2	1	0	1	3	0	4	0	0	0	0	0	0	1	0	0	1	6	2
Apprch %	100.0%	0.0%	0.0%			0.0%	25.0%	75.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%				
Total %	16.7%	0.0%	0.0%		16.7%	0.0%	16.7%	50.0%		66.7%	0.0%	0.0%	0.0%		0.0%	0.0%	16.7%	0.0%		16.7%	100.0%	

AM PEAK HOUR	F Avenue Southbound					Atwood Road Westbound					F Avenue Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% App Total	0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.250	.000		.250	.000	.000	.000		.000	.000	.000	.000		.000	.250

PM PEAK HOUR	F Avenue Southbound					Atwood Road Westbound					F Avenue Northbound					Atwood Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-010 Professional Drive & Bell Road
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	Professional Drive Southbound					Bell Road Westbound					Professional Drive Northbound					Bell Road Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	5	2	2	0	9	5	57	8	0	70	0	0	7	0	7	2	56	0	0	58	144	0
7:15	5	4	6	0	15	13	95	21	0	129	2	2	1	0	5	1	59	2	0	62	211	0
7:30	1	5	4	0	10	12	106	30	0	148	2	4	6	0	12	0	66	0	0	66	236	0
7:45	8	14	13	0	35	20	151	43	0	214	0	4	10	0	14	1	77	2	0	80	343	0
Total	19	25	25	0	69	50	409	102	0	561	4	10	24	0	38	4	258	4	0	266	934	0
8:00	9	7	2	0	18	26	123	29	0	178	2	2	9	0	13	5	63	4	0	72	281	0
8:15	14	8	5	0	27	15	79	40	0	134	1	4	13	0	18	6	55	4	0	65	244	0
8:30	27	11	4	0	42	12	83	37	0	132	0	5	13	0	18	3	54	7	0	64	256	0
8:45	37	10	3	0	50	21	74	48	0	143	4	13	23	0	40	5	66	2	0	73	306	0
Total	87	36	14	0	137	74	359	154	0	587	7	24	58	0	89	19	238	17	0	274	1087	0
16:00	21	5	4	0	30	9	66	19	0	94	6	2	24	0	32	3	101	3	0	107	263	0
16:15	24	6	3	0	33	7	52	10	0	69	1	7	17	0	25	1	73	2	0	76	203	0
16:30	24	6	4	0	34	8	68	10	0	86	1	7	19	0	27	6	109	3	0	118	265	0
16:45	21	9	4	0	34	6	47	6	0	59	3	2	14	0	19	4	81	3	0	88	200	0
Total	90	26	15	0	131	30	233	45	0	308	11	18	74	0	103	14	364	11	0	389	931	0
17:00	27	12	4	0	43	4	73	9	0	86	0	9	20	0	29	5	148	2	0	155	313	0
17:15	16	3	2	0	21	8	54	9	0	71	3	2	14	0	19	0	85	2	0	87	198	0
17:30	16	6	2	0	24	5	65	10	0	80	1	2	11	0	14	1	88	1	0	90	208	0
17:45	5	5	2	0	12	6	44	5	0	55	1	5	4	0	10	3	67	2	0	72	149	0
Total	64	26	10	0	100	23	236	33	0	292	5	18	49	0	72	9	388	7	0	404	868	0
Grand Total	260	113	64	0	437	177	1237	334	0	1748	27	70	205	0	302	46	1248	39	0	1333	3820	0
Apprch %	59.5%	25.9%	14.6%	0.0%		10.1%	70.8%	19.1%	0.0%		8.9%	23.2%	67.9%	0.0%		3.5%	93.6%	2.9%	0.0%			
Total %	6.8%	3.0%	1.7%	0.0%	11.4%	4.6%	32.4%	8.7%	0.0%	45.8%	0.7%	1.8%	5.4%	0.0%	7.9%	1.2%	32.7%	1.0%	0.0%	34.9%	100.0%	

AM PEAK HOUR	Professional Drive Southbound					Bell Road Westbound					Professional Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	8	14	13	0	35	20	151	43	0	214	0	4	10	0	14	1	77	2	0	80	343
8:00	9	7	2	0	18	26	123	29	0	178	2	2	9	0	13	5	63	4	0	72	281
8:15	14	8	5	0	27	15	79	40	0	134	1	4	13	0	18	6	55	4	0	65	244
8:30	27	11	4	0	42	12	83	37	0	132	0	5	13	0	18	3	54	7	0	64	256
Total Volume	58	40	24	0	122	73	436	149	0	658	3	15	45	0	63	15	249	17	0	281	1124
% App Total	47.5%	32.8%	19.7%	0.0%		11.1%	66.3%	22.6%	0.0%		4.8%	23.8%	71.4%	0.0%		5.3%	88.6%	6.0%	0.0%		
PHF	.537	.714	.462	.000	.726	.702	.722	.866	.000	.769	.375	.750	.865	.000	.875	.625	.808	.607	.000	.878	.819

PM PEAK HOUR	Professional Drive Southbound					Bell Road Westbound					Professional Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	24	6	3	0	33	7	52	10	0	69	1	7	17	0	25	1	73	2	0	76	203
16:30	24	6	4	0	34	8	68	10	0	86	1	7	19	0	27	6	109	3	0	118	265
16:45	21	9	4	0	34	6	47	6	0	59	3	2	14	0	19	4	81	3	0	88	200
17:00	27	12	4	0	43	4	73	9	0	86	0	9	20	0	29	5	148	2	0	155	313
Total Volume	96	33	15	0	144	25	240	35	0	300	5	25	70	0	100	16	411	10	0	437	981
% App Total	66.7%	22.9%	10.4%	0.0%		8.3%	80.0%	11.7%	0.0%		5.0%	25.0%	70.0%	0.0%		3.7%	94.1%	2.3%	0.0%		
PHF	.889	.688	.938	.000	.837	.781	.822	.875	.000	.872	.417	.694	.875	.000	.862	.667	.694	.833	.000	.705	.784

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-010 Professional Drive & Bell Road
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	Professional Drive Southbound					Bell Road Westbound					Professional Drive Northbound					Bell Road Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1
8:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1
8:15	0	1	0	1	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	2	3
8:30	0	0	0	2	0	0	0	0	0	0	0	0	1	1	1	0	0	0	3	0	1	6
8:45	0	0	0	0	0	1	0	0	1	1	0	0	1	1	1	0	1	0	1	1	3	3
Total	0	1	0	3	1	1	2	0	1	3	0	0	2	3	2	0	1	0	6	1	7	13
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
16:15	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
16:30	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	3
16:45	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	1	2
Total	0	0	0	2	0	1	0	0	1	1	0	0	0	3	0	0	0	0	3	0	1	9
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	3
Grand Total	1	2	0	5	3	2	2	0	2	4	0	0	2	8	2	0	1	0	11	1	10	26
Apprch %	33.3%	66.7%	0.0%			50.0%	50.0%	0.0%			0.0%	0.0%	100.0%			0.0%	100.0%	0.0%				
Total %	10.0%	20.0%	0.0%		30.0%	20.0%	20.0%	0.0%		40.0%	0.0%	0.0%	20.0%		20.0%	0.0%	10.0%	0.0%		10.0%	100.0%	

AM PEAK HOUR	Professional Drive Southbound					Bell Road Westbound					Professional Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1
8:15	0	1	0	1	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	2
8:30	0	0	0	2	0	0	0	0	0	0	0	0	1	1	1	0	0	0	3	0	1
Total Volume	0	1	0	3	1	0	2	0	0	2	0	0	1	2	1	0	0	0	5	0	4
% App Total	0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	100.0%			0.0%	0.0%	0.0%			
PHF	.000	.250	.000		.250	.000	.500	.000		.500	.000	.000	.250		.250	.000	.000	.000		.000	.500

PM PEAK HOUR	Professional Drive Southbound					Bell Road Westbound					Professional Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
16:30	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0
16:45	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	2	0	1	0	0	1	1	0	0	0	3	0	0	0	0	2	0	1
% App Total	0.0%	0.0%	0.0%			100.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.250	.000	.000		.250	.000	.000	.000		.000	.000	.000	.000		.000	.250

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-011 Blue Oaks Drive/1st Street & Bell Road
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	Blue Oaks Drive/1st Street Southbound					Bell Road Westbound					Blue Oaks Drive/1st Street Northbound					Bell Road Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	2	1	2	0	5	8	46	1	0	55	0	1	1	0	2	3	54	3	0	60	122	0
7:15	2	0	9	0	11	26	63	7	0	96	1	1	1	0	3	4	58	4	0	66	176	0
7:30	1	3	9	0	13	21	64	13	0	98	1	4	1	0	6	4	60	1	0	65	182	0
7:45	6	5	22	0	33	43	93	17	0	153	1	0	5	0	6	11	70	6	0	87	279	0
Total	11	9	42	0	62	98	266	38	0	402	3	6	8	0	17	22	242	14	0	278	759	0
8:00	5	3	9	0	17	25	84	9	0	118	2	1	9	0	12	2	58	5	0	65	212	0
8:15	6	4	5	0	15	12	57	8	0	77	1	5	7	0	13	5	45	3	0	53	158	0
8:30	6	6	15	0	27	12	58	7	0	77	1	4	7	0	12	2	48	4	0	54	170	0
8:45	2	3	3	0	8	9	55	6	0	70	5	3	5	0	13	6	57	4	0	67	158	0
Total	19	16	32	0	67	58	254	30	0	342	9	13	28	0	50	15	208	16	0	239	698	0
16:00	4	3	8	0	15	7	61	6	0	74	3	4	13	0	20	6	81	3	0	90	199	0
16:15	7	3	5	0	15	3	46	6	0	55	4	2	6	0	12	2	52	4	0	58	140	0
16:30	10	5	8	0	23	6	61	6	0	73	7	4	11	0	22	5	90	3	0	98	216	0
16:45	8	3	4	0	15	6	46	1	0	53	4	5	10	0	19	5	66	2	0	73	160	0
Total	29	14	25	0	68	22	214	19	0	255	18	15	40	0	73	18	289	12	0	319	715	0
17:00	10	3	9	0	22	6	67	6	0	79	3	7	32	0	42	22	102	2	0	126	269	0
17:15	10	0	7	0	17	6	53	0	0	59	7	2	10	0	19	8	66	3	0	77	172	0
17:30	4	0	5	0	9	0	64	1	0	65	6	4	18	0	28	3	60	4	0	67	169	0
17:45	4	0	5	0	9	6	41	1	0	48	4	3	5	0	12	3	57	1	0	61	130	0
Total	28	3	26	0	57	18	225	8	0	251	20	16	65	0	101	36	285	10	0	331	740	0
Grand Total	87	42	125	0	254	196	959	95	0	1250	50	50	141	0	241	91	1024	52	0	1167	2912	0
Apprch %	34.3%	16.5%	49.2%	0.0%		15.7%	76.7%	7.6%	0.0%		20.7%	20.7%	58.5%	0.0%		7.8%	87.7%	4.5%	0.0%			
Total %	3.0%	1.4%	4.3%	0.0%	8.7%	6.7%	32.9%	3.3%	0.0%	42.9%	1.7%	1.7%	4.8%	0.0%	8.3%	3.1%	35.2%	1.8%	0.0%	40.1%	100.0%	

AM PEAK HOUR	Blue Oaks Drive/1st Street Southbound					Bell Road Westbound					Blue Oaks Drive/1st Street Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	6	5	22	0	33	43	93	17	0	153	1	0	5	0	6	11	70	6	0	87	279
8:00	5	3	9	0	17	25	84	9	0	118	2	1	9	0	12	2	58	5	0	65	212
8:15	6	4	5	0	15	12	57	8	0	77	1	5	7	0	13	5	45	3	0	53	158
8:30	6	6	15	0	27	12	58	7	0	77	1	4	7	0	12	2	48	4	0	54	170
Total Volume	23	18	51	0	92	92	292	41	0	425	5	10	28	0	43	20	221	18	0	259	819
% App Total	25.0%	19.6%	55.4%	0.0%		21.6%	68.7%	9.6%	0.0%		11.6%	23.3%	65.1%	0.0%		7.7%	85.3%	6.9%	0.0%		
PHF	.958	.750	.580	.000	.697	.535	.785	.603	.000	.694	.625	.500	.778	.000	.827	.455	.789	.750	.000	.744	.734

PM PEAK HOUR	Blue Oaks Drive/1st Street Southbound					Bell Road Westbound					Blue Oaks Drive/1st Street Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	7	3	5	0	15	3	46	6	0	55	4	2	6	0	12	2	52	4	0	58	140
16:30	10	5	8	0	23	6	61	6	0	73	7	4	11	0	22	5	90	3	0	98	216
16:45	8	3	4	0	15	6	46	1	0	53	4	5	10	0	19	5	66	2	0	73	160
17:00	10	3	9	0	22	6	67	6	0	79	3	7	32	0	42	22	102	2	0	126	269
Total Volume	35	14	26	0	75	21	220	19	0	260	18	18	59	0	95	34	310	11	0	355	785
% App Total	46.7%	18.7%	34.7%	0.0%		8.1%	84.6%	7.3%	0.0%		18.9%	18.9%	62.1%	0.0%		9.6%	87.3%	3.1%	0.0%		
PHF	.875	.700	.722	.000	.815	.875	.821	.792	.000	.823	.643	.643	.461	.000	.565	.386	.760	.688	.000	.704	.730

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-011 Blue Oaks Drive/1st Street & Bell Road
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	Blue Oaks Drive/1st Street Southbound					Bell Road Westbound					Blue Oaks Drive/1st Street Northbound					Bell Road Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
8:00	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	2
8:15	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
8:45	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	2
Total	0	0	0	2	0	2	0	0	0	2	0	0	1	2	1	0	0	0	2	0	3	6
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
16:30	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3
16:45	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Total	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	0	0	7
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	3
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	2	0	0	5
Grand Total	0	0	0	4	0	2	0	0	0	2	0	0	1	9	1	0	0	0	7	0	3	20
Apprch %	0.0%	0.0%	0.0%			100.0%	0.0%	0.0%			0.0%	0.0%	100.0%			0.0%	0.0%	0.0%				
Total %	0.0%	0.0%	0.0%		0.0%	66.7%	0.0%	0.0%		66.7%	0.0%	0.0%	33.3%		33.3%	0.0%	0.0%	0.0%		0.0%	100.0%	

AM PEAK HOUR	Blue Oaks Drive/1st Street Southbound					Bell Road Westbound					Blue Oaks Drive/1st Street Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:00	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1
8:15	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	2	0	0	0	2	0	0	0	2	0	0	0	0	2	0	2
% App Total	0.0%	0.0%	0.0%			100.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.500	.000	.000		.500	.000	.000	.000		.000	.000	.000	.000		.000	.500

PM PEAK HOUR	Blue Oaks Drive/1st Street Southbound					Bell Road Westbound					Blue Oaks Drive/1st Street Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
16:30	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
16:45	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0
Total Volume	0	0	0	2	0	0	0	0	0	0	0	0	0	5	0	0	0	0	2	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-012 County Center Drive & Bell Road
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	County Center Drive Southbound					Bell Road Westbound					County Center Drive Northbound					Bell Road Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	0	0	0	0	15	31	0	0	46	0	0	0	0	0	0	61	1	0	62	108	0
7:15	0	0	0	0	0	14	55	0	0	69	1	0	1	0	2	0	66	1	0	67	138	0
7:30	0	0	0	0	0	8	63	0	0	71	0	0	2	0	2	0	63	0	0	63	136	0
7:45	0	0	0	0	0	20	87	0	0	107	2	0	2	0	4	0	86	3	0	89	200	0
Total	0	0	0	0	0	57	236	0	0	293	3	0	5	0	8	0	276	5	0	281	582	0
8:00	0	0	0	0	0	10	77	0	0	87	0	0	2	0	2	0	63	0	0	63	152	0
8:15	0	0	0	0	0	8	50	0	0	58	0	0	2	0	2	0	50	1	0	51	111	0
8:30	0	0	0	0	0	7	65	0	0	72	0	0	2	0	2	0	51	0	0	51	125	0
8:45	0	0	0	0	0	4	58	0	0	62	0	0	0	0	0	0	67	1	0	68	130	0
Total	0	0	0	0	0	29	250	0	0	279	0	0	6	0	6	0	231	2	0	233	518	0
16:00	0	0	0	0	0	1	76	0	0	77	1	0	6	0	7	0	84	1	0	85	169	0
16:15	0	0	0	0	0	2	53	0	0	55	0	0	4	0	4	0	52	1	0	53	112	0
16:30	0	0	0	0	0	3	70	0	0	73	1	0	8	0	9	0	87	0	0	87	169	0
16:45	0	0	0	0	0	3	52	0	0	55	2	0	8	0	10	0	60	0	0	60	125	0
Total	0	0	0	0	0	9	251	0	0	260	4	0	26	0	30	0	283	2	0	285	575	0
17:00	0	0	0	0	0	0	80	0	0	80	3	0	21	0	24	0	105	0	0	105	209	0
17:15	0	0	0	0	0	0	69	0	0	69	0	0	8	0	8	0	65	0	0	65	142	0
17:30	0	0	0	0	0	0	74	0	0	74	0	0	12	0	12	0	59	0	0	59	145	0
17:45	0	0	0	0	0	1	48	0	0	49	0	0	6	0	6	0	53	0	0	53	108	0
Total	0	0	0	0	0	1	271	0	0	272	3	0	47	0	50	0	282	0	0	282	604	0
Grand Total	0	0	0	0	0	96	1008	0	0	1104	10	0	84	0	94	0	1072	9	0	1081	2279	0
Apprch %	0.0%	0.0%	0.0%	0.0%		8.7%	91.3%	0.0%	0.0%		10.6%	0.0%	89.4%	0.0%		0.0%	99.2%	0.8%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	44.2%	0.0%	0.0%	48.4%	0.4%	0.0%	3.7%	0.0%	4.1%	0.0%	47.0%	0.4%	0.0%	47.4%	100.0%	

AM PEAK HOUR	County Center Drive Southbound					Bell Road Westbound					County Center Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	20	87	0	0	107	2	0	2	0	4	0	86	3	0	89	200
8:00	0	0	0	0	0	10	77	0	0	87	0	0	2	0	2	0	63	0	0	63	152
8:15	0	0	0	0	0	8	50	0	0	58	0	0	2	0	2	0	50	1	0	51	111
8:30	0	0	0	0	0	7	65	0	0	72	0	0	2	0	2	0	51	0	0	51	125
Total Volume	0	0	0	0	0	45	279	0	0	324	2	0	8	0	10	0	250	4	0	254	588
% App Total	0.0%	0.0%	0.0%	0.0%		13.9%	86.1%	0.0%	0.0%		20.0%	0.0%	80.0%	0.0%		0.0%	98.4%	1.6%	0.0%		
PHF	.000	.000	.000	.000	.000	.563	.802	.000	.000	.757	.250	.000	1.000	.000	.625	.000	.727	.333	.000	.713	.735

PM PEAK HOUR	County Center Drive Southbound					Bell Road Westbound					County Center Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	2	53	0	0	55	0	0	4	0	4	0	52	1	0	53	112
16:30	0	0	0	0	0	3	70	0	0	73	1	0	8	0	9	0	87	0	0	87	169
16:45	0	0	0	0	0	3	52	0	0	55	2	0	8	0	10	0	60	0	0	60	125
17:00	0	0	0	0	0	0	80	0	0	80	3	0	21	0	24	0	105	0	0	105	209
Total Volume	0	0	0	0	0	8	255	0	0	263	6	0	41	0	47	0	304	1	0	305	615
% App Total	0.0%	0.0%	0.0%	0.0%		3.0%	97.0%	0.0%	0.0%		12.8%	0.0%	87.2%	0.0%		0.0%	99.7%	0.3%	0.0%		
PHF	.000	.000	.000	.000	.000	.667	.797	.000	.000	.822	.500	.000	.488	.000	.490	.000	.724	.250	.000	.726	.736

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-012 County Center Drive & Bell Road
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	County Center Drive Southbound					Bell Road Westbound					County Center Drive Northbound					Bell Road Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
16:30	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	3
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	0	0	0	0	0	0	5
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	0	0	0	0	1	0	0	0	0	10	0	0	0	0	0	0	0	11
Apprch %	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%				
Total %	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	

AM PEAK HOUR	County Center Drive Southbound					Bell Road Westbound					County Center Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

PM PEAK HOUR	County Center Drive Southbound					Bell Road Westbound					County Center Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-013 Richardson Drive & Bell Road
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	Richardson Drive Southbound					Bell Road Westbound					Richardson Drive Northbound					Bell Road Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	0	0	0	0	19	11	0	0	30	3	0	13	0	16	0	48	9	0	57	103	0
7:15	0	0	0	0	0	38	17	0	0	55	5	0	6	0	11	0	64	9	0	73	139	0
7:30	0	0	0	0	0	39	23	0	0	62	2	0	8	0	10	2	58	7	0	67	139	0
7:45	0	0	1	0	1	65	17	1	0	83	3	0	15	0	18	0	72	17	0	89	191	0
Total	0	0	1	0	1	161	68	1	0	230	13	0	42	0	55	2	242	42	0	286	572	0
8:00	0	0	0	0	0	32	42	1	0	75	5	1	6	0	12	0	57	10	0	67	154	0
8:15	0	0	0	0	0	28	22	0	0	50	7	0	12	1	20	0	35	17	0	52	122	1
8:30	0	0	0	0	0	27	36	1	0	64	9	0	21	1	31	0	36	25	0	61	156	1
8:45	2	0	0	0	2	18	40	0	0	58	3	0	16	0	19	0	42	4	0	46	125	0
Total	2	0	0	0	2	105	140	2	0	247	24	1	55	2	82	0	170	56	0	226	557	2
16:00	1	0	0	0	1	18	57	0	0	75	12	0	32	0	44	0	46	8	0	54	174	0
16:15	0	0	0	0	0	17	36	0	0	53	14	0	9	0	23	0	43	7	0	50	126	0
16:30	1	0	0	0	1	12	56	0	0	68	9	0	40	0	49	0	42	6	0	48	166	0
16:45	0	0	0	0	0	12	42	0	0	54	15	0	18	0	33	0	43	6	0	49	136	0
Total	2	0	0	0	2	59	191	0	0	250	50	0	99	0	149	0	174	27	0	201	602	0
17:00	0	0	0	0	0	18	65	1	0	84	15	0	69	0	84	0	36	8	0	44	212	0
17:15	1	1	0	0	2	14	54	0	1	69	6	0	19	0	25	0	45	6	0	51	147	1
17:30	0	0	0	0	0	15	59	0	1	75	9	0	18	0	27	0	35	5	0	40	142	1
17:45	0	0	0	0	0	9	38	1	0	48	10	0	18	0	28	0	37	2	0	39	115	0
Total	1	1	0	0	2	56	216	2	2	276	40	0	124	0	164	0	153	21	0	174	616	2
Grand Total	5	1	1	0	7	381	615	5	2	1003	127	1	320	2	450	2	739	146	0	887	2347	4
Apprch %	71.4%	14.3%	14.3%	0.0%		38.0%	61.3%	0.5%	0.2%		28.2%	0.2%	71.1%	0.4%		0.2%	83.3%	16.5%	0.0%			
Total %	0.2%	0.0%	0.0%	0.0%	0.3%	16.2%	26.2%	0.2%	0.1%	42.7%	5.4%	0.0%	13.6%	0.1%	19.2%	0.1%	31.5%	6.2%	0.0%	37.8%	100.0%	

AM PEAK HOUR	Richardson Drive Southbound					Bell Road Westbound					Richardson Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	0	0	0	0	0	38	17	0	0	55	5	0	6	0	11	0	64	9	0	73	139
7:30	0	0	0	0	0	39	23	0	0	62	2	0	8	0	10	2	58	7	0	67	139
7:45	0	0	1	0	1	65	17	1	0	83	3	0	15	0	18	0	72	17	0	89	191
8:00	0	0	0	0	0	32	42	1	0	75	5	1	6	0	12	0	57	10	0	67	154
Total Volume	0	0	1	0	1	174	99	2	0	275	15	1	35	0	51	2	251	43	0	296	623
% App Total	0.0%	0.0%	100.0%	0.0%		63.3%	36.0%	0.7%	0.0%		29.4%	2.0%	68.6%	0.0%		0.7%	84.8%	14.5%	0.0%		
PHF	.000	.000	.250	.000	.250	.669	.589	.500	.000	.828	.750	.250	.583	.000	.708	.250	.872	.632	.000	.831	.815

PM PEAK HOUR	Richardson Drive Southbound					Bell Road Westbound					Richardson Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	1	0	0	0	1	12	56	0	0	68	9	0	40	0	49	0	42	6	0	48	166
16:45	0	0	0	0	0	12	42	0	0	54	15	0	18	0	33	0	43	6	0	49	136
17:00	0	0	0	0	0	18	65	1	0	84	15	0	69	0	84	0	36	8	0	44	212
17:15	1	1	0	0	2	14	54	0	1	69	6	0	19	0	25	0	45	6	0	51	147
Total Volume	2	1	0	0	3	56	217	1	1	275	45	0	146	0	191	0	166	26	0	192	661
% App Total	66.7%	33.3%	0.0%	0.0%		20.4%	78.9%	0.4%	0.4%		23.6%	0.0%	76.4%	0.0%		0.0%	86.5%	13.5%	0.0%		
PHF	.500	.250	.000	.000	.375	.778	.835	.250	.250	.818	.750	.000	.529	.000	.568	.000	.922	.813	.000	.941	.779

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-013 Richardson Drive & Bell Road
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	Richardson Drive Southbound					Bell Road Westbound					Richardson Drive Northbound					Bell Road Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	3
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	4
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	1	1	3
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
Grand Total	0	0	0	1	0	0	0	0	1	0	0	0	0	8	0	0	0	1	2	1	1	12
Apprch %	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	100.0%				
Total %	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	100.0%		100.0%	100.0%	

AM PEAK HOUR	Richardson Drive Southbound					Bell Road Westbound					Richardson Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

PM PEAK HOUR	Richardson Drive Southbound					Bell Road Westbound					Richardson Drive Northbound					Bell Road Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	1	1	1
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	100.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.250		.250	.250

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-014 Richardson Drive & DeWitt Drive
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	Richardson Drive Southbound					DeWitt Drive Westbound					Richardson Drive Northbound					DeWitt Drive Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	5	22	2	0	29	1	0	0	0	1	1	15	3	0	19	1	0	0	0	1	50	0
7:15	10	33	2	0	45	0	0	0	0	0	0	11	7	0	18	0	0	0	0	0	63	0
7:30	12	34	2	0	48	1	0	0	0	1	1	10	7	0	18	0	0	1	0	1	68	0
7:45	22	50	9	0	81	4	0	0	0	4	3	13	14	0	30	1	0	1	0	2	117	0
Total	49	139	15	0	203	6	0	0	0	6	5	49	31	0	85	2	0	2	0	4	298	0
8:00	1	39	4	0	44	2	0	0	0	2	1	14	5	0	20	1	0	0	0	1	67	0
8:15	3	40	2	0	45	1	0	2	0	3	1	20	4	0	25	0	0	1	0	1	74	0
8:30	2	48	2	0	52	3	0	1	0	4	1	29	6	0	36	0	0	1	0	1	93	0
8:45	3	18	3	0	24	2	0	1	0	3	0	18	5	0	23	2	0	3	0	5	55	0
Total	9	145	11	0	165	8	0	4	0	12	3	81	20	0	104	3	0	5	0	8	289	0
16:00	1	26	0	0	27	4	0	5	0	9	1	37	5	0	43	1	0	2	0	3	82	0
16:15	1	22	1	0	24	8	0	1	0	9	1	21	3	0	25	1	0	2	0	3	61	0
16:30	0	17	1	0	18	11	0	9	0	20	2	39	1	0	42	1	0	1	0	2	82	0
16:45	0	18	0	0	18	8	0	5	0	13	0	24	3	0	27	4	0	1	0	5	63	0
Total	2	83	2	0	87	31	0	20	0	51	4	121	12	0	137	7	0	6	0	13	288	0
17:00	1	23	0	0	24	25	0	22	0	47	0	50	0	0	50	12	0	3	0	15	136	0
17:15	0	21	0	0	21	9	0	6	0	15	0	20	4	0	24	0	0	2	0	2	62	0
17:30	0	20	1	0	21	11	0	3	0	14	0	23	0	0	23	0	0	1	0	1	59	0
17:45	0	12	1	0	13	2	0	3	0	5	0	26	0	0	26	1	0	0	0	1	45	0
Total	1	76	2	0	79	47	0	34	0	81	0	119	4	0	123	13	0	6	0	19	302	0
Grand Total	61	443	30	0	534	92	0	58	0	150	12	370	67	0	449	25	0	19	0	44	1177	0
Apprch %	11.4%	83.0%	5.6%	0.0%		61.3%	0.0%	38.7%	0.0%		2.7%	82.4%	14.9%	0.0%		56.8%	0.0%	43.2%	0.0%			
Total %	5.2%	37.6%	2.5%	0.0%	45.4%	7.8%	0.0%	4.9%	0.0%	12.7%	1.0%	31.4%	5.7%	0.0%	38.1%	2.1%	0.0%	1.6%	0.0%	3.7%	100.0%	

AM PEAK HOUR	Richardson Drive Southbound					DeWitt Drive Westbound					Richardson Drive Northbound					DeWitt Drive Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	22	50	9	0	81	4	0	0	0	4	3	13	14	0	30	1	0	1	0	2	117
8:00	1	39	4	0	44	2	0	0	0	2	1	14	5	0	20	1	0	0	0	1	67
8:15	3	40	2	0	45	1	0	2	0	3	1	20	4	0	25	0	0	1	0	1	74
8:30	2	48	2	0	52	3	0	1	0	4	1	29	6	0	36	0	0	1	0	1	93
Total Volume	28	177	17	0	222	10	0	3	0	13	6	76	29	0	111	2	0	3	0	5	351
% App Total	12.6%	79.7%	7.7%	0.0%		76.9%	0.0%	23.1%	0.0%		5.4%	68.5%	26.1%	0.0%		40.0%	0.0%	60.0%	0.0%		
PHF	.318	.885	.472	.000	.685	.625	.000	.375	.000	.813	.500	.655	.518	.000	.771	.500	.000	.750	.000	.625	.750

PM PEAK HOUR	Richardson Drive Southbound					DeWitt Drive Westbound					Richardson Drive Northbound					DeWitt Drive Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	1	22	1	0	24	8	0	1	0	9	1	21	3	0	25	1	0	2	0	3	61
16:30	0	17	1	0	18	11	0	9	0	20	2	39	1	0	42	1	0	1	0	2	82
16:45	0	18	0	0	18	8	0	5	0	13	0	24	3	0	27	4	0	1	0	5	63
17:00	1	23	0	0	24	25	0	22	0	47	0	50	0	0	50	12	0	3	0	15	136
Total Volume	2	80	2	0	84	52	0	37	0	89	3	134	7	0	144	18	0	7	0	25	342
% App Total	2.4%	95.2%	2.4%	0.0%		58.4%	0.0%	41.6%	0.0%		2.1%	93.1%	4.9%	0.0%		72.0%	0.0%	28.0%	0.0%		
PHF	.500	.870	.500	.000	.875	.520	.000	.420	.000	.473	.375	.670	.583	.000	.720	.375	.000	.583	.000	.417	.629

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-014 Richardson Drive & DeWitt Drive
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	Richardson Drive Southbound					DeWitt Drive Westbound					Richardson Drive Northbound					DeWitt Drive Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
7:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
7:45	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	6	0	0	0	0	2	0	0	0	0	0	0	0	8
8:00	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	3
8:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	0	0	5
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6
Total	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	13	0	0	17
16:00	0	0	0	0	0	1	0	0	6	1	0	0	0	1	0	0	0	0	0	0	1	7
16:15	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
16:30	0	0	0	0	0	0	0	0	9	0	0	0	0	4	0	0	0	0	0	0	0	13
16:45	0	1	0	0	1	0	0	0	6	0	0	0	0	2	0	0	0	0	1	0	1	9
Total	0	1	0	0	1	1	0	0	28	1	0	0	0	7	0	0	0	0	1	0	2	36
17:00	0	0	0	0	0	0	0	0	28	0	0	0	0	2	0	0	0	0	1	0	0	31
17:15	0	0	0	0	0	0	0	0	9	0	0	0	0	1	0	0	0	0	0	0	0	10
17:30	0	0	0	0	0	0	0	0	5	0	0	0	0	1	0	0	0	0	0	0	0	6
17:45	0	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	5
Total	0	0	0	1	0	0	0	0	45	0	0	0	0	4	0	0	0	0	2	0	0	52
Grand Total	0	1	0	1	1	1	0	0	82	1	0	0	0	14	0	0	0	0	16	0	2	113
Apprch %	0.0%	100.0%	0.0%			100.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%				
Total %	0.0%	50.0%	0.0%		50.0%	50.0%	0.0%	0.0%		50.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	

AM PEAK HOUR	Richardson Drive Southbound					DeWitt Drive Westbound					Richardson Drive Northbound					DeWitt Drive Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
Total Volume	0	0	0	0	0	0	0	0	4	0	0	0	0	2	0	0	0	0	7	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

PM PEAK HOUR	Richardson Drive Southbound					DeWitt Drive Westbound					Richardson Drive Northbound					DeWitt Drive Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	9	0	0	0	0	4	0	0	0	0	0	0	0
16:45	0	1	0	0	1	0	0	0	6	0	0	0	0	2	0	0	0	0	1	0	1
17:00	0	0	0	0	0	0	0	0	28	0	0	0	0	2	0	0	0	0	1	0	0
Total Volume	0	1	0	0	1	0	0	0	50	0	0	0	0	8	0	0	0	0	2	0	1
% App Total	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.250	.000		.250	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.250

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-015 Richardson Drive & B Avenue
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	Richardson Drive Southbound					B Avenue Westbound					Richardson Drive Northbound					B Avenue Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	18	2	0	20	2	0	0	0	2	12	18	2	0	32	4	1	2	0	7	61	0
7:15	1	18	6	0	25	2	0	0	0	2	9	20	6	0	35	0	0	2	0	2	64	0
7:30	1	23	8	0	32	2	0	1	0	3	10	17	4	0	31	2	1	5	0	8	74	0
7:45	3	38	5	0	46	0	3	3	0	6	17	22	4	0	43	1	0	4	0	5	100	0
Total	5	97	21	0	123	6	3	4	0	13	48	77	16	0	141	7	2	13	0	22	299	0
8:00	1	28	6	0	35	0	1	1	0	2	11	20	5	0	36	2	0	3	0	5	78	0
8:15	2	36	5	0	43	4	0	1	0	5	14	27	11	0	52	3	0	4	0	7	107	0
8:30	1	52	2	0	55	2	3	1	0	6	6	31	5	1	43	3	1	4	0	8	112	1
8:45	0	20	1	0	21	5	3	0	0	8	6	23	5	0	34	2	1	5	0	8	71	0
Total	4	136	14	0	154	11	7	3	0	21	37	101	26	1	165	10	2	16	0	28	368	1
16:00	1	22	5	0	28	12	1	8	0	21	10	31	2	0	43	4	3	14	0	21	113	0
16:15	1	25	3	0	29	2	0	2	0	4	7	22	2	0	31	6	2	6	0	14	78	0
16:30	0	27	2	0	29	10	0	8	0	18	2	23	2	0	27	4	3	10	0	17	91	0
16:45	0	25	3	0	28	4	0	3	0	7	3	21	0	0	24	4	1	5	0	10	69	0
Total	2	99	13	0	114	28	1	21	0	50	22	97	6	0	125	18	9	35	0	62	351	0
17:00	0	48	4	0	52	24	2	14	0	40	5	30	1	0	36	4	5	21	0	30	158	0
17:15	1	28	4	0	33	4	0	0	0	4	9	21	1	0	31	2	0	4	0	6	74	0
17:30	0	29	4	0	33	5	0	2	0	7	6	21	1	0	28	1	0	6	0	7	75	0
17:45	0	9	5	0	14	1	0	0	0	1	7	18	0	0	25	5	0	4	0	9	49	0
Total	1	114	17	0	132	34	2	16	0	52	27	90	3	0	120	12	5	35	0	52	356	0
Grand Total	12	446	65	0	523	79	13	44	0	136	134	365	51	1	551	47	18	99	0	164	1374	1
Apprch %	2.3%	85.3%	12.4%	0.0%		58.1%	9.6%	32.4%	0.0%		24.3%	66.2%	9.3%	0.2%		28.7%	11.0%	60.4%	0.0%			
Total %	0.9%	32.5%	4.7%	0.0%	38.1%	5.7%	0.9%	3.2%	0.0%	9.9%	9.8%	26.6%	3.7%	0.1%	40.1%	3.4%	1.3%	7.2%	0.0%	11.9%	100.0%	

AM PEAK HOUR	Richardson Drive Southbound					B Avenue Westbound					Richardson Drive Northbound					B Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	3	38	5	0	46	0	3	3	0	6	17	22	4	0	43	1	0	4	0	5	100
8:00	1	28	6	0	35	0	1	1	0	2	11	20	5	0	36	2	0	3	0	5	78
8:15	2	36	5	0	43	4	0	1	0	5	14	27	11	0	52	3	0	4	0	7	107
8:30	1	52	2	0	55	2	3	1	0	6	6	31	5	1	43	3	1	4	0	8	112
Total Volume	7	154	18	0	179	6	7	6	0	19	48	100	25	1	174	9	1	15	0	25	397
% App Total	3.9%	86.0%	10.1%	0.0%		31.6%	36.8%	31.6%	0.0%		27.6%	57.5%	14.4%	0.6%		36.0%	4.0%	60.0%	0.0%		
PHF	.583	.740	.750	.000	.814	.375	.583	.500	.000	.792	.706	.806	.568	.250	.837	.750	.250	.938	.000	.781	.886

PM PEAK HOUR	Richardson Drive Southbound					B Avenue Westbound					Richardson Drive Northbound					B Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	1	25	3	0	29	2	0	2	0	4	7	22	2	0	31	6	2	6	0	14	78
16:30	0	27	2	0	29	10	0	8	0	18	2	23	2	0	27	4	3	10	0	17	91
16:45	0	25	3	0	28	4	0	3	0	7	3	21	0	0	24	4	1	5	0	10	69
17:00	0	48	4	0	52	24	2	14	0	40	5	30	1	0	36	4	5	21	0	30	158
Total Volume	1	125	12	0	138	40	2	27	0	69	17	96	5	0	118	18	11	42	0	71	396
% App Total	0.7%	90.6%	8.7%	0.0%		58.0%	2.9%	39.1%	0.0%		14.4%	81.4%	4.2%	0.0%		25.4%	15.5%	59.2%	0.0%		
PHF	.250	.651	.750	.000	.663	.417	.250	.482	.000	.431	.607	.800	.625	.000	.819	.750	.550	.500	.000	.592	.627

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-015 Richardson Drive & B Avenue
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	Richardson Drive Southbound					B Avenue Westbound					Richardson Drive Northbound					B Avenue Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	4
7:45	0	0	0	4	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	7
Total	0	0	0	4	0	0	0	0	3	0	0	0	0	1	0	0	0	0	3	0	0	11
8:00	0	0	0	3	0	0	0	0	2	0	0	0	0	1	0	0	0	0	4	0	0	10
8:15	0	0	0	1	0	0	0	0	3	0	0	0	0	3	0	0	0	0	5	0	0	12
8:30	0	0	0	0	0	1	0	0	2	1	1	0	0	1	1	0	0	0	1	0	2	4
8:45	0	0	0	1	0	0	0	0	1	0	0	0	1	1	1	0	0	1	0	1	2	3
Total	0	0	0	5	0	1	0	0	8	1	1	0	1	6	2	0	0	1	10	1	4	29
16:00	0	1	0	1	1	0	0	0	6	0	0	0	0	0	0	0	0	0	3	0	1	10
16:15	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	3
16:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3
16:45	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	1	4
Total	0	2	0	3	2	0	0	0	7	0	0	0	0	3	0	0	0	0	7	0	2	20
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17:30	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	6	0	0	9
17:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	4
Total	0	0	0	1	0	0	0	0	3	0	0	0	0	1	0	0	0	0	12	0	0	17
Grand Total	0	2	0	13	2	1	0	0	21	1	1	0	1	11	2	0	0	1	32	1	6	77
Apprch %	0.0%	100.0%	0.0%			100.0%	0.0%	0.0%			50.0%	0.0%	50.0%			0.0%	0.0%	100.0%				
Total %	0.0%	33.3%	0.0%		33.3%	16.7%	0.0%	0.0%		16.7%	16.7%	0.0%	16.7%		33.3%	0.0%	0.0%	16.7%		16.7%	100.0%	

AM PEAK HOUR	Richardson Drive Southbound					B Avenue Westbound					Richardson Drive Northbound					B Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	4	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0
8:00	0	0	0	3	0	0	0	0	2	0	0	0	0	1	0	0	0	0	4	0	0
8:15	0	0	0	1	0	0	0	0	3	0	0	0	0	3	0	0	0	0	5	0	0
8:30	0	0	0	0	0	1	0	0	2	1	1	0	0	1	1	0	0	0	1	0	2
Total Volume	0	0	0	8	0	1	0	0	9	1	1	0	0	6	1	0	0	0	10	0	2
% App Total	0.0%	0.0%	0.0%			100.0%	0.0%	0.0%			100.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.250	.000	.000		.250	.250	.000	.000		.250	.000	.000	.000		.000	.250

PM PEAK HOUR	Richardson Drive Southbound					B Avenue Westbound					Richardson Drive Northbound					B Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
16:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
16:45	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
Total Volume	0	1	0	2	1	0	0	0	1	0	0	0	0	3	0	0	0	0	7	0	1
% App Total	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.250	.000		.250	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.250

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-016 1st Street & D Avenue/Professional Drive
Date : 4/28/2016

Unshifted Count = All Vehicles & Uturns

	1st Street Southbound					D Avenue/Professional Drive Westbound					1st Street Northbound					D Avenue/Professional Drive Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	2	6	1	0	9	2	0	0	0	2	1	7	5	0	13	0	0	0	0	0	24	0
7:15	0	3	0	0	3	6	0	0	0	6	2	19	9	0	30	0	0	0	0	0	39	0
7:30	0	15	1	0	16	3	0	2	0	5	1	32	16	0	49	0	1	0	0	1	71	0
7:45	1	11	0	0	12	6	2	1	0	9	6	44	16	0	66	0	0	1	0	1	88	0
Total	3	35	2	0	40	17	2	3	0	22	10	102	46	0	158	0	1	1	0	2	222	0
8:00	1	15	0	0	16	11	1	3	0	15	2	29	18	0	49	0	0	0	0	0	80	0
8:15	4	8	0	0	12	8	0	3	0	11	1	24	26	0	51	0	0	0	0	0	74	0
8:30	1	15	0	0	16	13	0	0	0	13	0	16	15	0	31	0	0	1	0	1	61	0
8:45	2	17	1	0	20	14	1	0	0	15	0	19	19	0	38	0	1	0	0	1	74	0
Total	8	55	1	0	64	46	2	6	0	54	3	88	78	0	169	0	1	1	0	2	289	0
16:00	1	24	0	0	25	20	0	1	0	21	1	11	6	0	18	0	4	0	0	4	68	0
16:15	0	19	0	0	19	12	0	1	0	13	0	11	10	0	21	0	1	0	0	1	54	0
16:30	2	34	1	0	37	19	0	0	0	19	0	14	7	0	21	1	2	1	0	4	81	0
16:45	2	13	1	0	16	22	0	1	0	23	1	5	7	0	13	0	0	0	0	0	52	0
Total	5	90	2	0	97	73	0	3	0	76	2	41	30	0	73	1	7	1	0	9	255	0
17:00	2	49	2	0	53	28	0	1	0	29	0	12	8	0	20	2	4	3	0	9	111	0
17:15	0	22	0	0	22	11	0	0	0	11	1	14	3	0	18	0	0	1	0	1	52	0
17:30	2	20	0	0	22	11	0	0	0	11	0	14	8	0	22	1	0	2	0	3	58	0
17:45	2	11	0	0	13	7	0	2	0	9	0	8	5	0	13	0	0	0	0	0	35	0
Total	6	102	2	0	110	57	0	3	0	60	1	48	24	0	73	3	4	6	0	13	256	0
Grand Total	22	282	7	0	311	193	4	15	0	212	16	279	178	0	473	4	13	9	0	26	1022	0
Apprch %	7.1%	90.7%	2.3%	0.0%		91.0%	1.9%	7.1%	0.0%		3.4%	59.0%	37.6%	0.0%		15.4%	50.0%	34.6%	0.0%			
Total %	2.2%	27.6%	0.7%	0.0%	30.4%	18.9%	0.4%	1.5%	0.0%	20.7%	1.6%	27.3%	17.4%	0.0%	46.3%	0.4%	1.3%	0.9%	0.0%	2.5%	100.0%	

AM PEAK HOUR	1st Street Southbound					D Avenue/Professional Drive Westbound					1st Street Northbound					D Avenue/Professional Drive Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	1	11	0	0	12	6	2	1	0	9	6	44	16	0	66	0	0	1	0	1	88
8:00	1	15	0	0	16	11	1	3	0	15	2	29	18	0	49	0	0	0	0	0	80
8:15	4	8	0	0	12	8	0	3	0	11	1	24	26	0	51	0	0	0	0	0	74
8:30	1	15	0	0	16	13	0	0	0	13	0	16	15	0	31	0	0	1	0	1	61
Total Volume	7	49	0	0	56	38	3	7	0	48	9	113	75	0	197	0	0	2	0	2	303
% App Total	12.5%	87.5%	0.0%	0.0%		79.2%	6.3%	14.6%	0.0%		4.6%	57.4%	38.1%	0.0%		0.0%	0.0%	100.0%	0.0%		
PHF	.438	.817	.000	.000	.875	.731	.375	.583	.000	.800	.375	.642	.721	.000	.746	.000	.000	.500	.000	.500	.861

PM PEAK HOUR	1st Street Southbound					D Avenue/Professional Drive Westbound					1st Street Northbound					D Avenue/Professional Drive Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	19	0	0	19	12	0	1	0	13	0	11	10	0	21	0	1	0	0	1	54
16:30	2	34	1	0	37	19	0	0	0	19	0	14	7	0	21	1	2	1	0	4	81
16:45	2	13	1	0	16	22	0	1	0	23	1	5	7	0	13	0	0	0	0	0	52
17:00	2	49	2	0	53	28	0	1	0	29	0	12	8	0	20	2	4	3	0	9	111
Total Volume	6	115	4	0	125	81	0	3	0	84	1	42	32	0	75	3	7	4	0	14	298
% App Total	4.8%	92.0%	3.2%	0.0%		96.4%	0.0%	3.6%	0.0%		1.3%	56.0%	42.7%	0.0%		21.4%	50.0%	28.6%	0.0%		
PHF	.750	.587	.500	.000	.590	.723	.000	.750	.000	.724	.250	.750	.800	.000	.893	.375	.438	.333	.000	.389	.671

ALL TRAFFIC DATA

City of Auburn
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7305-016 1st Street & D Avenue/Professional Drive
Date : 4/28/2016

Bank 1 Count = Bikes & Peds

	1st Street Southbound					D Avenue/Professional Drive Westbound					1st Street Northbound					D Avenue/Professional Drive Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	4
7:30	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	1	2
7:45	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	0	0	0	0	1	0	0	5	1	0	0	0	0	0	0	0	0	5	0	1	10
8:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
8:15	0	0	0	3	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	5
8:30	0	1	0	1	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3	1
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	4	1	1	0	0	2	1	0	2	0	0	2	0	0	0	0	0	4	6
16:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
16:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
16:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3
16:45	0	1	0	0	1	0	0	0	1	0	0	0	0	2	0	0	0	0	6	0	1	9
Total	0	3	0	1	3	0	0	0	1	0	0	0	0	2	0	0	0	0	10	0	3	14
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	4
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	0	0	6
Grand Total	0	4	0	6	4	2	0	0	9	2	0	2	0	2	2	0	0	0	19	0	8	36
Apprch %	0.0%	100.0%	0.0%			100.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%				
Total %	0.0%	50.0%	0.0%		50.0%	25.0%	0.0%	0.0%		25.0%	0.0%	25.0%	0.0%		25.0%	0.0%	0.0%	0.0%		0.0%	100.0%	

AM PEAK HOUR	1st Street Southbound					D Avenue/Professional Drive Westbound					1st Street Northbound					D Avenue/Professional Drive Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:15	0	0	0	3	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	1	0	1	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
Total Volume	0	1	0	4	1	1	0	0	6	1	0	2	0	0	2	0	0	0	0	0	4
% App Total	0.0%	100.0%	0.0%			100.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.250	.000		.250	.250	.000	.000		.250	.000	.500	.000		.500	.000	.000	.000		.000	.333

PM PEAK HOUR	1st Street Southbound					D Avenue/Professional Drive Westbound					1st Street Northbound					D Avenue/Professional Drive Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
16:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
16:45	0	1	0	0	1	0	0	0	1	0	0	0	0	2	0	0	0	0	6	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	1	2	0	0	0	1	0	0	0	0	2	0	0	0	0	9	0	2
% App Total	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.500	.000		.500	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.500

Prepared by NDS/ATD

VOLUME

Atwood Drive west of SR-49

Day: Wednesday
Date: 4/27/2016

City: Auburn
Project #: 16-7306-001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,995	4,598	9,593

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	2		5		7		12:00	0	0	126		52		178	
00:15	0	0	3		5		8		12:15	0	0	93		79		172	
00:30	0	0	2		2		4		12:30	0	0	80		71		151	
00:45	0	0	3	10	0	12	3	22	12:45	0	0	83	382	91	293	174	675
01:00	0	0	4		3		7		13:00	0	0	93		94		187	
01:15	0	0	1		3		4		13:15	0	0	67		138		205	
01:30	0	0	2		1		3		13:30	0	0	75		96		171	
01:45	0	0	3	10	0	7	3	17	13:45	0	0	98	333	101	429	199	762
02:00	0	0	0		1		1		14:00	0	0	90		93		183	
02:15	0	0	2		0		2		14:15	0	0	96		72		168	
02:30	0	0	1		0		1		14:30	0	0	100		62		162	
02:45	0	0	1	4	0	1	1	5	14:45	0	0	93	379	67	294	160	673
03:00	0	0	1		0		1		15:00	0	0	161		68		229	
03:15	0	0	0		0		0		15:15	0	0	110		130		240	
03:30	0	0	2		2		4		15:30	0	0	87		102		189	
03:45	0	0	4	7	3	5	7	12	15:45	0	0	83	441	103	403	186	844
04:00	0	0	4		0		4		16:00	0	0	109		87		196	
04:15	0	0	12		0		12		16:15	0	0	100		84		184	
04:30	0	0	6		2		8		16:30	0	0	123		60		183	
04:45	0	0	10	32	5	7	15	39	16:45	0	0	125	457	75	306	200	763
05:00	0	0	11		3		14		17:00	0	0	193		70		263	
05:15	0	0	11		3		14		17:15	0	0	127		79		206	
05:30	0	0	12		3		15		17:30	0	0	117		82		199	
05:45	0	0	12	46	8	17	20	63	17:45	0	0	75	512	83	314	158	826
06:00	0	0	25		24		49		18:00	0	0	40		72		112	
06:15	0	0	19		32		51		18:15	0	0	45		42		87	
06:30	0	0	51		19		70		18:30	0	0	41		64		105	
06:45	0	0	34	129	41	116	75	245	18:45	0	0	43	169	52	230	95	399
07:00	0	0	71		42		113		19:00	0	0	37		51		88	
07:15	0	0	84		68		152		19:15	0	0	31		44		75	
07:30	0	0	82		64		146		19:30	0	0	26		29		55	
07:45	0	0	96	333	93	267	189	600	19:45	0	0	29	123	37	161	66	284
08:00	0	0	88		103		191		20:00	0	0	31		35		66	
08:15	0	0	83		192		275		20:15	0	0	15		36		51	
08:30	0	0	88		131		219		20:30	0	0	13		32		45	
08:45	0	0	93	352	112	538	205	890	20:45	0	0	17	76	32	135	49	211
09:00	0	0	74		120		194		21:00	0	0	22		24		46	
09:15	0	0	83		87		170		21:15	0	0	48		27		75	
09:30	0	0	85		72		157		21:30	0	0	21		17		38	
09:45	0	0	77	319	49	328	126	647	21:45	0	0	17	108	29	97	46	205
10:00	0	0	81		83		164		22:00	0	0	24		24		48	
10:15	0	0	92		82		174		22:15	0	0	8		7		15	
10:30	0	0	71		67		138		22:30	0	0	16		9		25	
10:45	0	0	74	318	75	307	149	625	22:45	0	0	3	51	5	45	8	96
11:00	0	0	92		65		157		23:00	0	0	3		7		10	
11:15	0	0	76		57		133		23:15	0	0	5		7		12	
11:30	0	0	119		71		190		23:30	0	0	5		5		10	
11:45	0	0	101	388	70	263	171	651	23:45	0	0	3	16	4	23	7	39
TOTALS				1948		1868		**3816**	**TOTALS**				3047		2730		**5777**
SPLIT %				51.0%		49.0%		**39.8%**	**SPLIT %**				52.7%		47.3%		**60.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,995	4,598	9,593

AM Peak Hour			11:30	08:15	**08:15**	**PM Peak Hour**			16:30	13:00	**16:45**
AM Pk Volume			439	555	**893**	**PM Pk Volume**			568	429	**868**
Pk Hr Factor			0.871	0.723	**0.812**	**Pk Hr Factor**			0.736	0.777	**0.825**
7 - 9 Volume	0	0	685	805	**1490**	**4 - 6 Volume**	0	0	969	620	**1589**
7 - 9 Peak Hour			07:45	08:00	**08:00**	**4 - 6 Peak Hour**			16:30	17:00	**16:45**
7 - 9 Pk Volume	0	0	355	538	**890**	**4 - 6 Pk Volume**	0	0	568	314	**868**
Pk Hr Factor	0.000	0.000	0.924	0.701	**0.809**	**Pk Hr Factor**	0.000	0.000	0.736	0.946	**0.825**

Prepared by NDS/ATD

VOLUME

Atwood Drive west of SR-49

Day: Thursday
Date: 4/28/2016

City: Auburn
Project #: 16-7306-001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,200	4,704	9,904

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	3		2		5		12:00	0	0	138		59		197	
00:15	0	0	6		7		13		12:15	0	0	110		70		180	
00:30	0	0	3		1		4		12:30	0	0	90		86		176	
00:45	0	0	3	15	1	11	4	26	12:45	0	0	106	444	88	303	194	747
01:00	0	0	5		6		11		13:00	0	0	91		91		182	
01:15	0	0	3		0		3		13:15	0	0	91		136		227	
01:30	0	0	1		1		2		13:30	0	0	82		95		177	
01:45	0	0	0	9	1	8	1	17	13:45	0	0	100	364	108	430	208	794
02:00	0	0	0		0		0		14:00	0	0	122		90		212	
02:15	0	0	0		1		1		14:15	0	0	106		111		217	
02:30	0	0	2		3		5		14:30	0	0	110		78		188	
02:45	0	0	4	6	1	5	5	11	14:45	0	0	94	432	82	361	176	793
03:00	0	0	3		0		3		15:00	0	0	158		107		265	
03:15	0	0	1		1		2		15:15	0	0	113		117		230	
03:30	0	0	1		0		1		15:30	0	0	94		107		201	
03:45	0	0	5	10	2	3	7	13	15:45	0	0	88	453	85	416	173	869
04:00	0	0	2		4		6		16:00	0	0	135		90		225	
04:15	0	0	6		1		7		16:15	0	0	103		77		180	
04:30	0	0	3		1		4		16:30	0	0	153		64		217	
04:45	0	0	11	22	2	8	13	30	16:45	0	0	111	502	79	310	190	812
05:00	0	0	9		7		16		17:00	0	0	169		65		234	
05:15	0	0	8		1		9		17:15	0	0	121		93		214	
05:30	0	0	14		2		16		17:30	0	0	89		82		171	
05:45	0	0	12	43	10	20	22	63	17:45	0	0	76	455	69	309	145	764
06:00	0	0	23		20		43		18:00	0	0	58		81		139	
06:15	0	0	23		35		58		18:15	0	0	40		70		110	
06:30	0	0	34		24		58		18:30	0	0	40		59		99	
06:45	0	0	56	136	37	116	93	252	18:45	0	0	47	185	45	255	92	440
07:00	0	0	49		44		93		19:00	0	0	66		44		110	
07:15	0	0	69		68		137		19:15	0	0	43		34		77	
07:30	0	0	89		62		151		19:30	0	0	30		33		63	
07:45	0	0	100	307	98	272	198	579	19:45	0	0	27	166	34	145	61	311
08:00	0	0	115		90		205		20:00	0	0	21		29		50	
08:15	0	0	74		169		243		20:15	0	0	23		34		57	
08:30	0	0	94		147		241		20:30	0	0	19		29		48	
08:45	0	0	115	398	127	533	242	931	20:45	0	0	29	92	27	119	56	211
09:00	0	0	97		119		216		21:00	0	0	31		26		57	
09:15	0	0	84		83		167		21:15	0	0	13		26		39	
09:30	0	0	85		60		145		21:30	0	0	11		30		41	
09:45	0	0	89	355	64	326	153	681	21:45	0	0	6	61	24	106	30	167
10:00	0	0	70		80		150		22:00	0	0	7		22		29	
10:15	0	0	94		77		171		22:15	0	0	2		13		15	
10:30	0	0	67		70		137		22:30	0	0	1		9		10	
10:45	0	0	79	310	63	290	142	600	22:45	0	0	2	12	2	46	4	58
11:00	0	0	72		83		155		23:00	0	0	4		6		10	
11:15	0	0	113		67		180		23:15	0	0	2		5		7	
11:30	0	0	109		76		185		23:30	0	0	7		5		12	
11:45	0	0	112	406	67	293	179	699	23:45	0	0	4	17	3	19	7	36
TOTALS				2017		1885		**3902**	**TOTALS**				3183		2819		**6002**
SPLIT %				51.7%		48.3%		**39.4%**	**SPLIT %**				53.0%		47.0%		**60.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,200	4,704	9,904

AM Peak Hour			11:15	08:15	**08:15**	**PM Peak Hour**			16:30	13:00	**14:45**
AM Pk Volume			472	562	**942**	**PM Pk Volume**			554	430	**872**
Pk Hr Factor			0.855	0.831	**0.969**	**Pk Hr Factor**			0.820	0.790	**0.823**
7 - 9 Volume	0	0	705	805	**1510**	**4 - 6 Volume**	0	0	957	619	**1576**
7 - 9 Peak Hour			08:00	08:00	**08:00**	**4 - 6 Peak Hour**			16:30	16:45	**16:30**
7 - 9 Pk Volume	0	0	398	533	**931**	**4 - 6 Pk Volume**	0	0	554	319	**855**
Pk Hr Factor	0.000	0.000	0.865	0.788	**0.958**	**Pk Hr Factor**	0.000	0.000	0.820	0.858	**0.913**

Prepared by NDS/ATD

VOLUME

Bell Road west of SR-49

Day: Wednesday
Date: 4/27/2016

City: Auburn
Project #: 16-7306-002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,883	7,544	15,427

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	5		5		10		12:00	0	0	169		130		299	
00:15	0	0	6		3		9		12:15	0	0	202		127		329	
00:30	0	0	7		5		12		12:30	0	0	236		96		332	
00:45	0	0	3	21	4	17	7	38	12:45	0	0	149	756	138	491	287	1247
01:00	0	0	0		3		3		13:00	0	0	133		161		294	
01:15	0	0	3		4		7		13:15	0	0	158		202		360	
01:30	0	0	3		4		7		13:30	0	0	148		162		310	
01:45	0	0	3	9	2	13	5	22	13:45	0	0	157	596	159	684	316	1280
02:00	0	0	2		2		4		14:00	0	0	143		160		303	
02:15	0	0	1		0		1		14:15	0	0	163		183		346	
02:30	0	0	1		1		2		14:30	0	0	184		144		328	
02:45	0	0	0	4	2	5	2	9	14:45	0	0	159	649	153	640	312	1289
03:00	0	0	3		3		6		15:00	0	0	161		147		308	
03:15	0	0	0		2		2		15:15	0	0	165		172		337	
03:30	0	0	1		6		7		15:30	0	0	187		169		356	
03:45	0	0	4	8	0	11	4	19	15:45	0	0	192	705	153	641	345	1346
04:00	0	0	0		3		3		16:00	0	0	182		146		328	
04:15	0	0	1		4		5		16:15	0	0	152		128		280	
04:30	0	0	2		1		3		16:30	0	0	222		123		345	
04:45	0	0	7	10	4	12	11	22	16:45	0	0	146	702	118	515	264	1217
05:00	0	0	9		5		14		17:00	0	0	227		105		332	
05:15	0	0	5		5		10		17:15	0	0	183		112		295	
05:30	0	0	8		4		12		17:30	0	0	257		121		378	
05:45	0	0	7	29	7	21	14	50	17:45	0	0	168	835	102	440	270	1275
06:00	0	0	20		20		40		18:00	0	0	174		110		284	
06:15	0	0	20		30		50		18:15	0	0	100		92		192	
06:30	0	0	28		33		61		18:30	0	0	101		71		172	
06:45	0	0	20	88	55	138	75	226	18:45	0	0	78	453	78	351	156	804
07:00	0	0	39		45		84		19:00	0	0	79		75		154	
07:15	0	0	46		123		169		19:15	0	0	65		61		126	
07:30	0	0	78		107		185		19:30	0	0	53		56		109	
07:45	0	0	84	247	154	429	238	676	19:45	0	0	58	255	64	256	122	511
08:00	0	0	90		160		250		20:00	0	0	35		37		72	
08:15	0	0	103		252		355		20:15	0	0	40		38		78	
08:30	0	0	83		177		260		20:30	0	0	66		40		106	
08:45	0	0	84	360	191	780	275	1140	20:45	0	0	76	217	40	155	116	372
09:00	0	0	133		176		309		21:00	0	0	49		38		87	
09:15	0	0	177		193		370		21:15	0	0	26		34		60	
09:30	0	0	143		129		272		21:30	0	0	25		24		49	
09:45	0	0	137	590	144	642	281	1232	21:45	0	0	23	123	27	123	50	246
10:00	0	0	112		133		245		22:00	0	0	20		27		47	
10:15	0	0	116		143		259		22:15	0	0	11		22		33	
10:30	0	0	141		136		277		22:30	0	0	21		22		43	
10:45	0	0	167	536	127	539	294	1075	22:45	0	0	10	62	17	88	27	150
11:00	0	0	133		135		268		23:00	0	0	9		11		20	
11:15	0	0	142		141		283		23:15	0	0	9		9		18	
11:30	0	0	147		101		248		23:30	0	0	21		10		31	
11:45	0	0	155	577	139	516	294	1093	23:45	0	0	12	51	7	37	19	88
TOTALS				2479		3123		5602	TOTALS				5404		4421		9825
SPLIT %				44.3%		55.7%		36.3%	SPLIT %				55.0%		45.0%		63.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,883	7,544	15,427

AM Peak Hour			11:45	08:15	11:45	PM Peak Hour			17:00	13:00	15:15
AM Pk Volume			762	796	1254	PM Pk Volume			835	684	1366
Pk Hr Factor			0.807	0.790	0.944	Pk Hr Factor			0.812	0.847	0.959
7 - 9 Volume	0	0	607	1209	1816	4 - 6 Volume	0	0	1537	955	2492
7 - 9 Peak Hour			07:45	08:00	08:00	4 - 6 Peak Hour			17:00	16:00	17:00
7 - 9 Pk Volume	0	0	360	780	1140	4 - 6 Pk Volume	0	0	835	515	1275
Pk Hr Factor	0.000	0.000	0.874	0.774	0.803	Pk Hr Factor	0.000	0.000	0.812	0.882	0.843

Prepared by NDS/ATD

VOLUME

Bell Road west of SR-49

Day: Thursday
Date: 4/28/2016

City: Auburn
Project #: 16-7306-002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,782	7,384	15,166

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	5		6		11		12:00	0	0	179		120		299	
00:15	0	0	9		11		20		12:15	0	0	180		124		304	
00:30	0	0	5		4		9		12:30	0	0	224		113		337	
00:45	0	0	6	25	7	28	13	53	12:45	0	0	173	756	119	476	292	1232
01:00	0	0	1		2		3		13:00	0	0	163		125		288	
01:15	0	0	3		3		6		13:15	0	0	131		160		291	
01:30	0	0	1		1		2		13:30	0	0	157		154		311	
01:45	0	0	5	10	0	6	5	16	13:45	0	0	121	572	154	593	275	1165
02:00	0	0	6		2		8		14:00	0	0	142		139		281	
02:15	0	0	0		0		0		14:15	0	0	151		192		343	
02:30	0	0	0		0		0		14:30	0	0	206		135		341	
02:45	0	0	2	8	3	5	5	13	14:45	0	0	154	653	156	622	310	1275
03:00	0	0	1		2		3		15:00	0	0	153		150		303	
03:15	0	0	1		0		1		15:15	0	0	170		188		358	
03:30	0	0	1		2		3		15:30	0	0	203		155		358	
03:45	0	0	0	3	1	5	1	8	15:45	0	0	185	711	165	658	350	1369
04:00	0	0	0		1		1		16:00	0	0	168		120		288	
04:15	0	0	5		1		6		16:15	0	0	146		137		283	
04:30	0	0	4		0		4		16:30	0	0	210		129		339	
04:45	0	0	2	11	4	6	6	17	16:45	0	0	153	677	99	485	252	1162
05:00	0	0	5		4		9		17:00	0	0	190		104		294	
05:15	0	0	12		8		20		17:15	0	0	149		86		235	
05:30	0	0	5		5		10		17:30	0	0	229		110		339	
05:45	0	0	15	37	11	28	26	65	17:45	0	0	155	723	88	388	243	1111
06:00	0	0	17		19		36		18:00	0	0	152		101		253	
06:15	0	0	20		33		53		18:15	0	0	100		73		173	
06:30	0	0	37		46		83		18:30	0	0	86		86		172	
06:45	0	0	38	112	52	150	90	262	18:45	0	0	87	425	93	353	180	778
07:00	0	0	36		51		87		19:00	0	0	73		73		146	
07:15	0	0	48		100		148		19:15	0	0	75		80		155	
07:30	0	0	73		94		167		19:30	0	0	79		57		136	
07:45	0	0	73	230	150	395	223	625	19:45	0	0	55	282	61	271	116	553
08:00	0	0	80		177		257		20:00	0	0	54		37		91	
08:15	0	0	108		245		353		20:15	0	0	41		61		102	
08:30	0	0	109		219		328		20:30	0	0	46		37		83	
08:45	0	0	89	386	195	836	284	1222	20:45	0	0	45	186	33	168	78	354
09:00	0	0	126		192		318		21:00	0	0	57		44		101	
09:15	0	0	180		173		353		21:15	0	0	36		38		74	
09:30	0	0	118		131		249		21:30	0	0	41		22		63	
09:45	0	0	136	560	144	640	280	1200	21:45	0	0	23	157	27	131	50	288
10:00	0	0	128		135		263		22:00	0	0	16		29		45	
10:15	0	0	121		129		250		22:15	0	0	9		15		24	
10:30	0	0	138		132		270		22:30	0	0	12		11		23	
10:45	0	0	139	526	121	517	260	1043	22:45	0	0	12	49	13	68	25	117
11:00	0	0	160		125		285		23:00	0	0	16		10		26	
11:15	0	0	187		142		329		23:15	0	0	7		7		14	
11:30	0	0	149		121		270		23:30	0	0	4		6		10	
11:45	0	0	155	651	140	528	295	1179	23:45	0	0	5	32	4	27	9	59
TOTALS				2559		3144		**5703**	**TOTALS**				5223		4240		**9463**
SPLIT %				44.9%		55.1%		**37.6%**	**SPLIT %**				55.2%		44.8%		**62.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,782	7,384	15,166

AM Peak Hour			11:45	08:15	**08:15**	**PM Peak Hour**			12:00	15:00	**15:00**
AM Pk Volume			738	851	**1283**	**PM Pk Volume**			756	658	**1369**
Pk Hr Factor			0.824	0.868	**0.909**	**Pk Hr Factor**			0.844	0.875	**0.956**
7 - 9 Volume	0	0	616	1231	**1847**	**4 - 6 Volume**	0	0	1400	873	**2273**
7 - 9 Peak Hour			08:00	08:00	**08:00**	**4 - 6 Peak Hour**			17:00	16:00	**16:15**
7 - 9 Pk Volume	0	0	386	836	**1222**	**4 - 6 Pk Volume**	0	0	723	485	**1168**
Pk Hr Factor	0.000	0.000	0.885	0.853	**0.865**	**Pk Hr Factor**	0.000	0.000	0.789	0.885	**0.861**

Appendix B:
Existing Conditions – Technical Calculations

Daily Roadway Segment LOS - Existing Conditions									
Placer_ID	Roadway	Segment	Direction	Roadway Capacity Class	Lanes	Daily Roadway Volume	Daily Roadway Volume / Lane	Daily Roadway LOS	Daily Roadway V/C Ratio
1	Atwood Road	West of SR 49	E/W	Arterial - Moderate Access Control	2	9,749	4,874	A	0.54
2	Bell Road	West of SR 49	E/W	Arterial - Moderate Access Control	4	15,297	3,824	A	0.42
3	SR 49	Luther Rd. to New Airport Rd.	N/S	Arterial - Moderate Access Control	6	42,000	7,000	C	0.78
4	SR 49	New Airport Rd. to Atwood Rd.	N/S	Arterial - Moderate Access Control	6	40,000	6,667	C	0.74
5	SR 49	Atwood Rd. to Willow Creek Dr.	N/S	Arterial - Moderate Access Control	6	40,500	6,750	C	0.75
6	SR 49	Willow Creek Dr. to Bell Rd.	N/S	Arterial - Moderate Access Control	6	37,700	6,283	B	0.70
7	SR 49	North of Bell Rd.	N/S	Arterial - Moderate Access Control	4	34,700	8,675	E	0.96

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	41	117	1134	1643	161
Future Volume (veh/h)	58	41	117	1134	1643	161
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	59	3	119	1157	1677	115
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	97	86	145	3066	2667	1163
Arrive On Green	0.05	0.05	0.08	0.87	0.76	0.76
Sat Flow, veh/h	1767	1572	1767	3618	3618	1537
Grp Volume(v), veh/h	59	3	119	1157	1677	115
Grp Sat Flow(s),veh/h/ln	1767	1572	1767	1763	1763	1537
Q Serve(g_s), s	4.2	0.2	8.6	8.3	28.7	2.6
Cycle Q Clear(g_c), s	4.2	0.2	8.6	8.3	28.7	2.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	97	86	145	3066	2667	1163
V/C Ratio(X)	0.61	0.03	0.82	0.38	0.63	0.10
Avail Cap(c_a), veh/h	367	327	272	3066	2667	1163
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	60.1	58.2	58.7	1.6	7.3	4.2
Incr Delay (d2), s/veh	2.3	0.1	4.3	0.4	1.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.2	3.9	1.1	8.8	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	62.3	58.2	62.9	2.0	8.5	4.3
LnGrp LOS	E	E	E	A	A	A
Approach Vol, veh/h	62			1276	1792	
Approach Delay, s/veh	62.1			7.7	8.2	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		118.8		11.2	14.7	104.1
Change Period (Y+Rc), s		5.7		4.1	4.0	5.7
Max Green Setting (Gmax), s		93.2		27.0	20.0	69.2
Max Q Clear Time (g_c+I1), s		10.3		6.2	10.6	30.7
Green Ext Time (p_c), s		5.9		0.1	0.1	10.8

Intersection Summary	
HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	201	70	152	117	3	26	1	54	0	0	1
Future Vol, veh/h	0	201	70	152	117	3	26	1	54	0	0	1
Conflicting Peds, #/hr	0	0	3	0	0	1	0	0	1	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	100	-	125	0	-	-	225	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	245	85	185	143	4	32	1	66	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	148	0	-	245	0	0	762	763	246	796	761	147
Stage 1	-	-	-	-	-	-	245	245	-	516	516	-
Stage 2	-	-	-	-	-	-	517	518	-	280	245	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1427	-	0	1315	-	-	320	333	790	304	334	897
Stage 1	-	-	0	-	-	-	756	702	-	540	533	-
Stage 2	-	-	0	-	-	-	539	532	-	725	702	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1426	-	-	1315	-	-	285	286	789	247	287	895
Mov Cap-2 Maneuver	-	-	-	-	-	-	285	286	-	247	287	-
Stage 1	-	-	-	-	-	-	756	702	-	539	457	-
Stage 2	-	-	-	-	-	-	462	456	-	663	702	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.6	13.1	9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	285	789	1426	-	1315	-	-	895
HCM Lane V/C Ratio	0.116	0.083	-	-	0.141	-	-	0.001
HCM Control Delay (s)	19.3	10	0	-	8.2	-	-	9
HCM Lane LOS	C	B	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.4	0.3	0	-	0.5	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	251	4	45	279	2	8
Future Vol, veh/h	251	4	45	279	2	8
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	339	5	61	377	3	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	347	0	656	175
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	311	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1201	-	396	835
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1198	-	375	833
Mov Cap-2 Maneuver	-	-	-	-	375	-
Stage 1	-	-	-	-	649	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	669	-	-	1198	-
HCM Lane V/C Ratio	0.02	-	-	0.051	-
HCM Control Delay (s)	10.5	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	221	18	92	292	41	5	10	28	23	18	51
Future Vol, veh/h	20	221	18	92	292	41	5	10	28	23	18	51
Conflicting Peds, #/hr	0	0	2	0	0	1	0	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	27	303	25	126	400	56	7	14	38	32	25	70

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	457	0	0	330	0	0	839	1081	166	894	1065	231
Stage 1	-	-	-	-	-	-	372	372	-	681	681	-
Stage 2	-	-	-	-	-	-	467	709	-	213	384	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	1093	-	-	1219	-	-	257	215	846	234	220	768
Stage 1	-	-	-	-	-	-	618	615	-	404	446	-
Stage 2	-	-	-	-	-	-	543	433	-	767	607	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1092	-	-	1217	-	-	190	187	844	191	192	766
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	187	-	191	192	-
Stage 1	-	-	-	-	-	-	601	598	-	393	399	-
Stage 2	-	-	-	-	-	-	414	388	-	698	591	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1.8	16.2	22.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	381	1092	-	-	1217	-	-	328
HCM Lane V/C Ratio	0.155	0.025	-	-	0.104	-	-	0.384
HCM Control Delay (s)	16.2	8.4	-	-	8.3	-	-	22.7
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.3	-	-	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	259	17	73	436	149	3	15	45	58	40	24
Future Volume (veh/h)	15	259	17	73	436	149	3	15	45	58	40	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	18	316	16	89	532	156	4	18	0	71	49	7
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	25	1316	66	108	1164	340	30	31	0	174	156	22
Arrive On Green	0.01	0.39	0.39	0.06	0.43	0.43	0.02	0.02	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1767	3415	172	1767	2689	785	1767	1856	0	1767	1584	226
Grp Volume(v), veh/h	18	163	169	89	348	340	4	18	0	71	0	56
Grp Sat Flow(s),veh/h/ln	1767	1763	1824	1767	1763	1711	1767	1856	0	1767	0	1811
Q Serve(g_s), s	0.3	1.9	1.9	1.5	4.1	4.2	0.1	0.3	0.0	1.1	0.0	0.9
Cycle Q Clear(g_c), s	0.3	1.9	1.9	1.5	4.1	4.2	0.1	0.3	0.0	1.1	0.0	0.9
Prop In Lane	1.00		0.09	1.00		0.46	1.00		0.00	1.00		0.13
Lane Grp Cap(c), veh/h	25	679	703	108	763	741	30	31	0	174	0	179
V/C Ratio(X)	0.73	0.24	0.24	0.82	0.46	0.46	0.14	0.58	0.00	0.41	0.00	0.31
Avail Cap(c_a), veh/h	1190	2375	2458	1190	2375	2305	1488	1563	0	1488	0	1525
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	6.2	6.2	13.8	5.9	6.0	14.4	14.5	0.0	12.6	0.0	12.4
Incr Delay (d2), s/veh	14.2	0.3	0.3	5.7	0.6	0.6	2.9	21.9	0.0	2.2	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.4	0.4	0.6	0.7	0.7	0.0	0.3	0.0	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	6.4	6.4	19.5	6.6	6.6	17.3	36.4	0.0	14.7	0.0	13.9
LnGrp LOS	C	A	A	B	A	A	B	D	A	B	A	B
Approach Vol, veh/h		350			777			22			127	
Approach Delay, s/veh		7.6			8.1			32.9			14.3	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	15.4		5.9	3.4	16.8		3.5
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0
Max Q Clear Time (g_c+I1), s	3.5	3.9		3.1	2.3	6.2		2.3
Green Ext Time (p_c), s	0.0	2.8		0.7	0.0	6.6		0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	181	152	171	466	395	258	770	141	404	1142	138
Future Volume (veh/h)	86	181	152	171	466	395	258	770	141	404	1142	138
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	88	185	34	174	476	0	263	786	56	412	1165	135
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	114	331	592	443	559		976	1131	503	1108	1143	132
Arrive On Green	0.06	0.09	0.09	0.13	0.16	0.00	0.28	0.32	0.32	0.32	0.36	0.36
Sat Flow, veh/h	1767	3526	1537	3428	3526	1572	3428	3526	1570	3428	3183	368
Grp Volume(v), veh/h	88	185	34	174	476	0	263	786	56	412	644	656
Grp Sat Flow(s),veh/h/ln	1767	1763	1537	1714	1763	1572	1714	1763	1570	1714	1763	1788
Q Serve(g_s), s	6.4	6.5	0.0	6.1	17.1	0.0	7.7	25.3	3.3	12.0	46.7	46.7
Cycle Q Clear(g_c), s	6.4	6.5	0.0	6.1	17.1	0.0	7.7	25.3	3.3	12.0	46.7	46.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	114	331	592	443	559		976	1131	503	1108	633	642
V/C Ratio(X)	0.77	0.56	0.06	0.39	0.85		0.27	0.70	0.11	0.37	1.02	1.02
Avail Cap(c_a), veh/h	231	976	873	443	868		976	1131	503	1108	633	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.9	56.3	25.7	51.9	53.2	0.0	36.0	38.6	31.1	33.8	41.6	41.7
Incr Delay (d2), s/veh	4.1	0.6	0.0	0.2	3.0	0.0	0.1	3.5	0.4	0.1	40.1	41.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.9	0.7	2.6	7.6	0.0	3.2	11.2	1.3	4.9	26.4	26.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	56.9	25.7	52.1	56.2	0.0	36.1	42.1	31.5	33.9	81.7	82.6
LnGrp LOS	E	E	C	D	E		D	D	C	C	F	F
Approach Vol, veh/h		307			650	A		1105			1712	
Approach Delay, s/veh		55.5			55.1			40.2			70.6	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	46.1	47.0	20.3	16.6	41.1	52.0	11.9	25.0
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	22.0	41.7	13.0	36.0	17.0	46.7	17.0	32.0
Max Q Clear Time (g_c+I1), s	14.0	27.3	8.1	8.5	9.7	48.7	8.4	19.1
Green Ext Time (p_c), s	0.2	1.6	0.0	0.4	0.1	0.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	57.8
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	3	10	0	3	6	76	29	28	177	17
Future Vol, veh/h	2	0	3	10	0	3	6	76	29	28	177	17
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	4	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	3	0	4	13	0	4	8	101	39	37	236	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	468	489	257	467	481	125	266	0	0	144	0	0
Stage 1	329	329	-	141	141	-	-	-	-	-	-	-
Stage 2	139	160	-	326	340	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	504	478	779	504	483	923	1292	-	-	1432	-	-
Stage 1	682	645	-	860	778	-	-	-	-	-	-	-
Stage 2	862	764	-	684	637	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	486	457	772	486	462	919	1283	-	-	1427	-	-
Mov Cap-2 Maneuver	486	457	-	486	462	-	-	-	-	-	-	-
Stage 1	672	624	-	851	769	-	-	-	-	-	-	-
Stage 2	852	756	-	662	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	11.8	0.4	1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1283	-	-	625	545	1427	-	-
HCM Lane V/C Ratio	0.006	-	-	0.011	0.032	0.026	-	-
HCM Control Delay (s)	7.8	0	-	10.8	11.8	7.6	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	1	15	6	7	6	48	100	25	7	154	18
Future Vol, veh/h	9	1	15	6	7	6	48	100	25	7	154	18
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	10	1	17	7	8	7	54	112	28	8	173	20
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	7.8	7.9	8.4	9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	36%	32%	100%	0%
Vol Thru, %	0%	80%	4%	37%	0%	90%
Vol Right, %	0%	20%	60%	32%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	125	25	19	7	172
LT Vol	48	0	9	6	7	0
Through Vol	0	100	1	7	0	154
RT Vol	0	25	15	6	0	18
Lane Flow Rate	54	140	28	21	8	193
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.078	0.179	0.036	0.028	0.011	0.25
Departure Headway (Hd)	5.239	4.598	4.611	4.782	5.239	4.664
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	676	770	781	753	675	760
Service Time	3.03	2.388	2.613	2.784	3.034	2.459
HCM Lane V/C Ratio	0.08	0.182	0.036	0.028	0.012	0.254
HCM Control Delay	8.5	8.4	7.8	7.9	8.1	9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0.1	0.1	0	1

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	2	38	3	7	9	113	75	7	49	0
Future Vol, veh/h	0	0	2	38	3	7	9	113	75	7	49	0
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	6	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	2	44	3	8	10	131	87	8	57	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	277	317	57	275	274	185	57	0	0	224	0	0
Stage 1	73	73	-	201	201	-	-	-	-	-	-	-
Stage 2	204	244	-	74	73	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	673	597	1006	675	631	855	1541	-	-	1339	-	-
Stage 1	934	832	-	799	733	-	-	-	-	-	-	-
Stage 2	796	702	-	933	832	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	655	586	1006	663	619	847	1541	-	-	1331	-	-
Mov Cap-2 Maneuver	655	586	-	663	619	-	-	-	-	-	-	-
Stage 1	927	827	-	789	723	-	-	-	-	-	-	-
Stage 2	776	693	-	925	827	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	10.7	0.3	1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1541	-	-	1006	682	1331	-	-
HCM Lane V/C Ratio	0.007	-	-	0.002	0.082	0.006	-	-
HCM Control Delay (s)	7.4	0	-	8.6	10.7	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	3.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	32	186	104	124
Demand Flow Rate, veh/h	33	192	107	127
Vehicles Circulating, veh/h	155	85	69	66
Vehicles Exiting, veh/h	38	91	119	211
Ped Vol Crossing Leg, #/h	0	5	0	0
Ped Cap Adj	1.000	0.999	1.000	1.000
Approach Delay, s/veh	3.4	4.2	3.6	3.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	33	192	107	127
Cap Entry Lane, veh/h	1178	1265	1286	1290
Entry HV Adj Factor	0.960	0.970	0.973	0.975
Flow Entry, veh/h	32	186	104	124
Cap Entry, veh/h	1131	1227	1252	1258
V/C Ratio	0.028	0.152	0.083	0.098
Control Delay, s/veh	3.4	4.2	3.6	3.7
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	16	132	45	16	18	151	1043	42	32	1259	124
Future Volume (veh/h)	82	16	132	45	16	18	151	1043	42	32	1259	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	84	16	39	46	16	1	154	1064	27	33	1285	77
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	239	129	759	73	25	87	731	2007	623	600	1633	506
Arrive On Green	0.07	0.07	0.07	0.06	0.06	0.06	0.41	0.40	0.40	0.68	0.64	0.64
Sat Flow, veh/h	3428	1856	1559	1327	462	1572	1767	5066	1572	1767	5066	1570
Grp Volume(v), veh/h	84	16	39	62	0	1	154	1064	27	33	1285	77
Grp Sat Flow(s),veh/h/ln	1714	1856	1559	1789	0	1572	1767	1689	1572	1767	1689	1570
Q Serve(g_s), s	3.0	1.1	0.0	4.4	0.0	0.1	7.3	20.9	1.4	0.8	23.8	2.5
Cycle Q Clear(g_c), s	3.0	1.1	0.0	4.4	0.0	0.1	7.3	20.9	1.4	0.8	23.8	2.5
Prop In Lane	1.00		1.00	0.74		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	129	759	99	0	87	731	2007	623	600	1633	506
V/C Ratio(X)	0.35	0.12	0.05	0.63	0.00	0.01	0.21	0.53	0.04	0.05	0.79	0.15
Avail Cap(c_a), veh/h	1028	557	1118	151	0	133	731	2007	623	600	1633	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	56.7	17.8	60.1	0.0	58.1	24.5	30.0	24.1	13.9	19.9	16.1
Incr Delay (d2), s/veh	0.3	0.2	0.0	2.4	0.0	0.0	0.1	1.0	0.1	0.0	3.9	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.5	0.6	2.1	0.0	0.0	3.0	8.4	0.5	0.3	6.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.0	56.9	17.8	62.5	0.0	58.1	24.5	31.0	24.2	13.9	23.8	16.7
LnGrp LOS	E	E	B	E	A	E	C	C	C	B	C	B
Approach Vol, veh/h		139			63			1245			1395	
Approach Delay, s/veh		46.6			62.5			30.1			23.2	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	48.3	56.8		13.7	57.9	47.2		11.3
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	11.9	* 52		39.0	20.0	41.9		11.0
Max Q Clear Time (g_c+I1), s	12.8	22.9		5.0	9.3	25.8		6.4
Green Ext Time (p_c), s	0.0	7.9		0.3	0.1	7.9		0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	151	18	48	77	126	7	22	41	71	38	27
Future Volume (veh/h)	72	151	18	48	77	126	7	22	41	71	38	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	159	14	51	81	24	7	23	0	75	40	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	184	417	37	63	333	283	53	56	0	168	133	37
Arrive On Green	0.10	0.25	0.25	0.04	0.18	0.18	0.03	0.03	0.00	0.09	0.09	0.09
Sat Flow, veh/h	1767	1680	148	1767	1856	1572	1767	1856	0	1767	1400	385
Grp Volume(v), veh/h	76	0	173	51	81	24	7	23	0	75	0	51
Grp Sat Flow(s),veh/h/ln	1767	0	1828	1767	1856	1572	1767	1856	0	1767	0	1785
Q Serve(g_s), s	1.1	0.0	2.1	0.8	1.0	0.3	0.1	0.3	0.0	1.1	0.0	0.7
Cycle Q Clear(g_c), s	1.1	0.0	2.1	0.8	1.0	0.3	0.1	0.3	0.0	1.1	0.0	0.7
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.00	1.00		0.22
Lane Grp Cap(c), veh/h	184	0	454	63	333	283	53	56	0	168	0	169
V/C Ratio(X)	0.41	0.00	0.38	0.81	0.24	0.08	0.13	0.41	0.00	0.45	0.00	0.30
Avail Cap(c_a), veh/h	1348	0	2092	1011	2124	1800	1011	1062	0	1686	0	1702
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.0	0.0	8.2	12.6	9.2	9.0	12.4	12.5	0.0	11.2	0.0	11.1
Incr Delay (d2), s/veh	0.5	0.0	0.2	9.0	0.1	0.0	0.4	1.8	0.0	0.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.5	0.4	0.3	0.1	0.0	0.1	0.0	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	0.0	8.4	21.6	9.4	9.0	12.8	14.3	0.0	11.9	0.0	11.4
LnGrp LOS	B	A	A	C	A	A	B	B	A	B	A	B
Approach Vol, veh/h		249			156			30			126	
Approach Delay, s/veh		9.3			13.3			14.0			11.7	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.9	11.8		6.0	5.7	10.0		4.5
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	15.0	30.0		25.0	20.0	30.0		15.0
Max Q Clear Time (g_c+I1), s	2.8	4.1		3.1	3.1	3.0		2.3
Green Ext Time (p_c), s	0.0	0.3		0.0	0.0	0.1		0.0

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

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	237	236	11	14	15
Future Vol, veh/h	25	237	236	11	14	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	27	252	251	12	15	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	263	0	-	0	563	257
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	306	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1295	-	-	-	486	779
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1295	-	-	-	476	779
Mov Cap-2 Maneuver	-	-	-	-	476	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1295	-	-	-	596
HCM Lane V/C Ratio	0.021	-	-	-	0.052
HCM Control Delay (s)	7.8	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	245	11	6	261	48	16	22	18	29	22	46
Future Volume (veh/h)	57	245	11	6	261	48	16	22	18	29	22	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	66	282	12	7	300	49	18	25	0	33	25	12
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	102	593	25	13	443	72	31	43	0	59	44	21
Arrive On Green	0.06	0.34	0.34	0.01	0.29	0.29	0.04	0.04	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1767	1766	75	1767	1553	254	761	1057	0	827	627	301
Grp Volume(v), veh/h	66	0	294	7	0	349	43	0	0	70	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1842	1767	0	1807	1817	0	0	1755	0	0
Q Serve(g_s), s	1.0	0.0	3.4	0.1	0.0	4.6	0.6	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	3.4	0.1	0.0	4.6	0.6	0.0	0.0	1.0	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.14	0.42		0.00	0.47		0.17
Lane Grp Cap(c), veh/h	102	0	618	13	0	516	74	0	0	125	0	0
V/C Ratio(X)	0.64	0.00	0.48	0.52	0.00	0.68	0.58	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	989	0	2062	989	0	2023	1356	0	0	1310	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	7.0	13.2	0.0	8.5	12.6	0.0	0.0	12.0	0.0	0.0
Incr Delay (d2), s/veh	2.5	0.0	0.2	11.2	0.0	0.6	2.6	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.7	0.1	0.0	1.0	0.3	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	0.0	7.2	24.4	0.0	9.1	15.2	0.0	0.0	13.5	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		360			356			43			70	
Approach Delay, s/veh		8.6			9.4			15.2			13.5	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.2	13.6		5.4	4.6	12.2		4.6
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	15.0	30.0		20.0	15.0	30.0		20.0
Max Q Clear Time (g_c+I1), s	2.1	5.4		3.0	3.0	6.6		2.6
Green Ext Time (p_c), s	0.0	0.5		0.1	0.0	0.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	43	243	35	43	48	347	1196	64	46	1221	154
Future Volume (veh/h)	104	43	243	35	43	48	347	1196	64	46	1221	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	106	44	168	36	44	4	354	1220	62	47	1246	145
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	133	149	682	106	130	108	627	1959	100	578	1698	198
Arrive On Green	0.08	0.08	0.08	0.06	0.07	0.07	0.24	0.27	0.27	0.33	0.37	0.37
Sat Flow, veh/h	1767	1856	1543	1767	1856	1539	1767	4936	251	1767	4599	535
Grp Volume(v), veh/h	106	44	168	36	44	4	354	835	447	47	915	476
Grp Sat Flow(s),veh/h/ln	1767	1856	1543	1767	1856	1539	1767	1689	1810	1767	1689	1757
Q Serve(g_s), s	7.7	2.9	0.0	2.5	2.9	0.3	22.9	28.3	28.3	2.4	30.5	30.5
Cycle Q Clear(g_c), s	7.7	2.9	0.0	2.5	2.9	0.3	22.9	28.3	28.3	2.4	30.5	30.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.30
Lane Grp Cap(c), veh/h	133	149	682	106	130	108	627	1340	718	578	1247	649
V/C Ratio(X)	0.80	0.29	0.25	0.34	0.34	0.04	0.56	0.62	0.62	0.08	0.73	0.73
Avail Cap(c_a), veh/h	163	514	985	150	500	414	627	1340	718	578	1247	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	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	59.1	56.3	23.2	58.6	57.6	56.4	40.7	39.1	39.2	30.2	35.5	35.5
Incr Delay (d2), s/veh	25.9	0.4	0.1	0.7	3.3	0.3	0.7	2.2	4.0	0.0	3.9	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	1.4	3.3	1.2	1.5	0.1	10.4	12.5	13.7	1.0	12.7	13.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.1	56.7	23.3	59.3	60.9	56.7	41.4	41.3	43.2	30.2	39.3	42.7
LnGrp LOS	F	E	C	E	E	E	D	D	D	C	D	D
Approach Vol, veh/h		318			84			1636			1438	
Approach Delay, s/veh		48.5			60.0			41.9			40.1	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	47.1	56.9	11.4	14.6	50.7	53.3	13.4	12.6
Change Period (Y+Rc), s	4.6	* 5.3	3.6	* 4.1	4.6	5.3	3.6	3.5
Max Green Setting (Gmax), s	15.0	* 52	11.0	* 36	18.0	48.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	14.4	30.3	4.5	4.9	24.9	32.5	9.7	4.9
Green Ext Time (p_c), s	0.0	5.3	0.0	0.2	0.0	5.3	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	21	79	129	44	41	148	1555	156	38	1380	30
Future Volume (veh/h)	11	21	79	129	44	41	148	1555	156	38	1380	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	11	21	7	132	45	10	151	1587	152	39	1408	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	23	44	15	211	90	20	720	1635	156	734	1815	37
Arrive On Green	0.05	0.05	0.05	0.06	0.06	0.06	0.41	0.35	0.35	0.42	0.36	0.36
Sat Flow, veh/h	500	955	318	3428	1470	327	1767	4702	450	1767	5108	105
Grp Volume(v), veh/h	39	0	0	132	0	55	151	1139	600	39	931	506
Grp Sat Flow(s),veh/h/ln	1773	0	0	1714	0	1797	1767	1689	1775	1767	1689	1836
Q Serve(g_s), s	2.8	0.0	0.0	4.9	0.0	3.9	7.2	43.2	43.3	1.7	31.9	31.9
Cycle Q Clear(g_c), s	2.8	0.0	0.0	4.9	0.0	3.9	7.2	43.2	43.3	1.7	31.9	31.9
Prop In Lane	0.28		0.18	1.00		0.18	1.00		0.25	1.00		0.06
Lane Grp Cap(c), veh/h	82	0	0	211	0	110	720	1174	617	734	1200	653
V/C Ratio(X)	0.47	0.00	0.00	0.63	0.00	0.50	0.21	0.97	0.97	0.05	0.78	0.78
Avail Cap(c_a), veh/h	218	0	0	949	0	498	720	1174	617	734	1200	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.4	0.0	0.0	59.5	0.0	59.1	25.0	41.7	41.8	22.7	37.3	37.3
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.1	0.0	1.3	0.1	20.0	29.9	0.0	4.9	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.2	0.0	1.8	3.0	20.4	23.2	0.7	13.5	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	0.0	0.0	60.7	0.0	60.4	25.0	61.8	71.7	22.7	42.2	46.1
LnGrp LOS	E	A	A	E	A	E	C	E	E	C	D	D
Approach Vol, veh/h		39			187			1890			1476	
Approach Delay, s/veh		62.0			60.6			62.0			43.0	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	57.5	50.5		10.0	56.5	51.5		12.0
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	16.0	45.2		16.0	15.0	46.2		36.0
Max Q Clear Time (g_c+I1), s	11.3	45.3		4.8	9.2	33.9		6.9
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	5.9		0.4

Intersection Summary	
HCM 6th Ctrl Delay	54.1
HCM 6th LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	140	134	40	1955	1420	43
Future Volume (veh/h)	140	134	40	1955	1420	43
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	143	15	41	1995	1449	32
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	170	151	82	2921	2650	1154
Arrive On Green	0.10	0.10	0.05	0.83	0.75	0.75
Sat Flow, veh/h	1767	1572	1767	3618	3618	1535
Grp Volume(v), veh/h	143	15	41	1995	1449	32
Grp Sat Flow(s),veh/h/ln	1767	1572	1767	1763	1763	1535
Q Serve(g_s), s	10.3	1.1	2.9	29.1	22.5	0.7
Cycle Q Clear(g_c), s	10.3	1.1	2.9	29.1	22.5	0.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	170	151	82	2921	2650	1154
V/C Ratio(X)	0.84	0.10	0.50	0.68	0.55	0.03
Avail Cap(c_a), veh/h	367	327	272	2921	2650	1154
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	57.8	53.6	60.5	4.4	6.8	4.1
Incr Delay (d2), s/veh	4.3	0.1	1.8	1.3	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	1.0	1.3	6.6	6.9	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	62.1	53.7	62.3	5.7	7.6	4.1
LnGrp LOS	E	D	E	A	A	A
Approach Vol, veh/h	158			2036	1481	
Approach Delay, s/veh	61.3			6.9	7.5	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		113.4		16.6	10.0	103.4
Change Period (Y+Rc), s		5.7		4.1	4.0	5.7
Max Green Setting (Gmax), s		93.2		27.0	20.0	69.2
Max Q Clear Time (g_c+I1), s		31.1		12.3	4.9	24.5
Green Ext Time (p_c), s		16.0		0.2	0.0	8.4

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	226	27	59	199	1	53	0	136	1	0	0
Future Vol, veh/h	0	226	27	59	199	1	53	0	136	1	0	0
Conflicting Peds, #/hr	0	0	4	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	100	-	125	0	-	-	225	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	297	36	78	262	1	70	0	179	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	263	0	-	297	0	0	717	716	297	806	716	264
Stage 1	-	-	-	-	-	-	297	297	-	419	419	-
Stage 2	-	-	-	-	-	-	420	419	-	387	297	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1295	-	0	1259	-	-	343	355	740	299	355	772
Stage 1	-	-	0	-	-	-	709	666	-	610	588	-
Stage 2	-	-	0	-	-	-	609	588	-	635	666	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1295	-	-	1259	-	-	327	333	740	216	333	771
Mov Cap-2 Maneuver	-	-	-	-	-	-	327	333	-	216	333	-
Stage 1	-	-	-	-	-	-	709	666	-	610	552	-
Stage 2	-	-	-	-	-	-	571	552	-	481	666	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.8	13.5	21.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	327	740	1295	-	1259	-	-	216
HCM Lane V/C Ratio	0.213	0.242	-	-	0.062	-	-	0.006
HCM Control Delay (s)	19	11.4	0	-	8	-	-	21.8
HCM Lane LOS	C	B	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0.9	0	-	0.2	-	-	0

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	362	1	8	255	6	41
Future Vol, veh/h	362	1	8	255	6	41
Conflicting Peds, #/hr	0	4	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	489	1	11	345	8	55

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	494	0	689	250
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	195	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1059	-	377	747
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1055	-	372	743
Mov Cap-2 Maneuver	-	-	-	-	372	-
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	816	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	659	-	-	1055	-
HCM Lane V/C Ratio	0.096	-	-	0.01	-
HCM Control Delay (s)	11	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	310	59	21	220	19	18	18	59	35	14	26
Future Vol, veh/h	34	310	59	21	220	19	18	18	59	35	14	26
Conflicting Peds, #/hr	0	0	5	0	0	2	0	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	47	425	81	29	301	26	25	25	81	48	19	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	329	0	0	511	0	0	785	952	258	693	979	168
Stage 1	-	-	-	-	-	-	565	565	-	374	374	-
Stage 2	-	-	-	-	-	-	220	387	-	319	605	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	1220	-	-	1043	-	-	281	256	738	328	247	844
Stage 1	-	-	-	-	-	-	474	504	-	616	614	-
Stage 2	-	-	-	-	-	-	759	605	-	664	483	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1218	-	-	1038	-	-	238	238	734	255	229	841
Mov Cap-2 Maneuver	-	-	-	-	-	-	238	238	-	255	229	-
Stage 1	-	-	-	-	-	-	454	482	-	591	596	-
Stage 2	-	-	-	-	-	-	683	587	-	539	462	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.7	17.8	21
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	410	1218	-	-	1038	-	-	327
HCM Lane V/C Ratio	0.317	0.038	-	-	0.028	-	-	0.314
HCM Control Delay (s)	17.8	8.1	-	-	8.6	-	-	21
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.1	-	-	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	411	10	25	240	35	5	25	70	96	33	15
Future Volume (veh/h)	16	411	10	25	240	35	5	25	70	96	33	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	21	527	12	32	308	35	6	32	0	123	42	1
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	29	1263	29	42	1168	132	54	56	0	223	228	5
Arrive On Green	0.02	0.36	0.36	0.02	0.37	0.37	0.03	0.03	0.00	0.13	0.13	0.13
Sat Flow, veh/h	1767	3523	80	1767	3193	360	1767	1856	0	1767	1805	43
Grp Volume(v), veh/h	21	263	276	32	169	174	6	32	0	123	0	43
Grp Sat Flow(s),veh/h/ln	1767	1763	1841	1767	1763	1790	1767	1856	0	1767	0	1848
Q Serve(g_s), s	0.3	3.2	3.2	0.5	1.9	1.9	0.1	0.5	0.0	1.8	0.0	0.6
Cycle Q Clear(g_c), s	0.3	3.2	3.2	0.5	1.9	1.9	0.1	0.5	0.0	1.8	0.0	0.6
Prop In Lane	1.00		0.04	1.00		0.20	1.00		0.00	1.00		0.02
Lane Grp Cap(c), veh/h	29	632	660	42	645	655	54	56	0	223	0	234
V/C Ratio(X)	0.74	0.42	0.42	0.77	0.26	0.27	0.11	0.57	0.00	0.55	0.00	0.18
Avail Cap(c_a), veh/h	1254	2501	2611	1254	2501	2539	1567	1645	0	1567	0	1638
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.8	6.8	6.8	13.7	6.3	6.3	13.3	13.5	0.0	11.6	0.0	11.0
Incr Delay (d2), s/veh	12.7	0.6	0.6	10.4	0.3	0.3	1.3	12.1	0.0	3.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.6	0.7	0.3	0.4	0.4	0.0	0.4	0.0	0.7	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	7.4	7.4	24.1	6.6	6.6	14.6	25.6	0.0	14.6	0.0	11.5
LnGrp LOS	C	A	A	C	A	A	B	C	A	B	A	B
Approach Vol, veh/h		560			375			38			166	
Approach Delay, s/veh		8.2			8.1			23.9			13.8	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.7	14.1		6.6	3.5	14.3		3.9
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0
Max Q Clear Time (g_c+I1), s	2.5	5.2		3.8	2.3	3.9		2.5
Green Ext Time (p_c), s	0.0	4.8		0.8	0.0	2.9		0.2

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	354	216	274	181	612	151	1237	273	431	1067	56
Future Volume (veh/h)	146	354	216	274	181	612	151	1237	273	431	1067	56
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		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	149	361	57	280	185	0	154	1262	153	440	1089	54
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	297	521	642	329	266		905	1131	502	1037	1227	61
Arrive On Green	0.17	0.15	0.15	0.10	0.08	0.00	0.26	0.32	0.32	0.30	0.36	0.36
Sat Flow, veh/h	1767	3526	1537	3428	3526	1572	3428	3526	1564	3428	3416	169
Grp Volume(v), veh/h	149	361	57	280	185	0	154	1262	153	440	562	581
Grp Sat Flow(s),veh/h/ln	1767	1763	1537	1714	1763	1572	1714	1763	1564	1714	1763	1823
Q Serve(g_s), s	10.0	12.6	0.0	10.5	6.7	0.0	4.5	41.7	9.6	13.3	39.0	39.0
Cycle Q Clear(g_c), s	10.0	12.6	0.0	10.5	6.7	0.0	4.5	41.7	9.6	13.3	39.0	39.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	297	521	642	329	266		905	1131	502	1037	633	655
V/C Ratio(X)	0.50	0.69	0.09	0.85	0.69		0.17	1.12	0.31	0.42	0.89	0.89
Avail Cap(c_a), veh/h	297	976	841	343	868		905	1131	502	1037	633	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	52.6	23.3	57.9	58.6	0.0	36.9	44.1	33.2	36.3	39.2	39.2
Incr Delay (d2), s/veh	0.5	0.6	0.0	16.7	1.2	0.0	0.0	64.6	1.6	0.1	16.8	16.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	5.6	1.0	5.2	3.0	0.0	1.9	27.6	3.8	5.5	19.1	19.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	53.2	23.4	74.5	59.9	0.0	36.9	108.7	34.8	36.4	56.0	55.6
LnGrp LOS	D	D	C	E	E		D	F	C	D	E	E
Approach Vol, veh/h		567			465	A		1569			1583	
Approach Delay, s/veh		49.3			68.7			94.5			50.4	
Approach LOS		D			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.4	47.0	16.0	23.6	38.4	52.0	25.3	14.2
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	22.6	41.7	13.0	36.0	17.0	46.7	17.0	32.0
Max Q Clear Time (g_c+I1), s	15.3	43.7	12.5	14.6	6.5	41.0	12.0	8.7
Green Ext Time (p_c), s	0.2	0.0	0.0	0.8	0.1	1.4	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	68.8
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	0	7	52	0	37	3	134	7	2	82	2
Future Vol, veh/h	18	0	7	52	0	37	3	134	7	2	82	2
Conflicting Peds, #/hr	0	0	8	0	0	0	0	0	50	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	0	11	83	0	59	5	213	11	3	130	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	398	424	142	430	420	269	135	0	0	274	0	0
Stage 1	140	140	-	279	279	-	-	-	-	-	-	-
Stage 2	258	284	-	151	141	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	560	520	903	534	523	767	1443	-	-	1283	-	-
Stage 1	861	779	-	725	678	-	-	-	-	-	-	-
Stage 2	744	675	-	849	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	511	491	894	496	494	730	1440	-	-	1222	-	-
Mov Cap-2 Maneuver	511	491	-	496	494	-	-	-	-	-	-	-
Stage 1	856	776	-	688	643	-	-	-	-	-	-	-
Stage 2	681	640	-	830	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	13.3	0.2	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1440	-	-	581	572	1222	-	-
HCM Lane V/C Ratio	0.003	-	-	0.068	0.247	0.003	-	-
HCM Control Delay (s)	7.5	0	-	11.7	13.3	8	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1	0	-	-

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	11	42	40	2	27	17	103	5	1	125	12
Future Vol, veh/h	18	11	42	40	2	27	17	103	5	1	125	12
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	17	67	63	3	43	27	163	8	2	198	19
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.8	9	9.7	10.4
HCM LOS	A	A	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	25%	58%	100%	0%
Vol Thru, %	0%	95%	15%	3%	0%	91%
Vol Right, %	0%	5%	59%	39%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	108	71	69	1	137
LT Vol	17	0	18	40	1	0
Through Vol	0	103	11	2	0	125
RT Vol	0	5	42	27	0	12
Lane Flow Rate	27	171	113	110	2	217
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.044	0.252	0.152	0.153	0.003	0.317
Departure Headway (Hd)	5.82	5.283	4.859	5.044	5.806	5.24
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	612	675	733	705	613	683
Service Time	3.588	3.051	2.927	3.112	3.571	3.005
HCM Lane V/C Ratio	0.044	0.253	0.154	0.156	0.003	0.318
HCM Control Delay	8.9	9.8	8.8	9	8.6	10.4
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0.1	1	0.5	0.5	0	1.4

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	7	4	81	0	3	1	42	32	6	115	4
Future Vol, veh/h	3	7	4	81	0	3	1	42	32	6	115	4
Conflicting Peds, #/hr	0	0	2	0	0	1	0	0	2	0	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	4	10	6	121	0	4	1	63	48	9	172	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	294	317	186	294	296	90	187	0	0	113	0	0
Stage 1	202	202	-	91	91	-	-	-	-	-	-	-
Stage 2	92	115	-	203	205	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	656	597	854	656	614	965	1381	-	-	1470	-	-
Stage 1	798	732	-	914	818	-	-	-	-	-	-	-
Stage 2	913	798	-	797	730	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	643	586	845	636	602	962	1369	-	-	1467	-	-
Mov Cap-2 Maneuver	643	586	-	636	602	-	-	-	-	-	-	-
Stage 1	790	720	-	911	816	-	-	-	-	-	-	-
Stage 2	907	796	-	773	718	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	11.9	0.1	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1369	-	-	656	644	1467	-	-
HCM Lane V/C Ratio	0.001	-	-	0.032	0.195	0.006	-	-
HCM Control Delay (s)	7.6	0	-	10.7	11.9	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.7	0	-	-

Intersection	
Intersection Delay, s/veh	4.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	30	123	98	267
Demand Flow Rate, veh/h	31	127	101	276
Vehicles Circulating, veh/h	291	65	191	72
Vehicles Exiting, veh/h	57	227	131	120
Ped Vol Crossing Leg, #/h	2	0	0	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.9	3.7	4.0	4.8
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	31	127	101	276
Cap Entry Lane, veh/h	1026	1291	1136	1282
Entry HV Adj Factor	0.977	0.967	0.973	0.968
Flow Entry, veh/h	30	123	98	267
Cap Entry, veh/h	1001	1249	1105	1241
V/C Ratio	0.030	0.098	0.089	0.215
Control Delay, s/veh	3.9	3.7	4.0	4.8
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	46	252	61	35	72	169	1430	45	60	1352	98
Future Volume (veh/h)	189	46	252	61	35	72	169	1430	45	60	1352	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	193	47	185	62	36	5	172	1459	23	61	1380	51
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	315	171	738	77	45	107	669	2007	622	539	1633	499
Arrive On Green	0.09	0.09	0.09	0.07	0.07	0.07	0.38	0.40	0.40	0.61	0.64	0.64
Sat Flow, veh/h	3428	1856	1552	1138	661	1572	1767	5066	1571	1767	5066	1548
Grp Volume(v), veh/h	193	47	185	98	0	5	172	1459	23	61	1380	51
Grp Sat Flow(s),veh/h/ln	1714	1856	1552	1799	0	1572	1767	1689	1571	1767	1689	1548
Q Serve(g_s), s	7.0	3.1	0.0	7.0	0.0	0.4	8.7	31.8	1.2	1.9	27.7	1.6
Cycle Q Clear(g_c), s	7.0	3.1	0.0	7.0	0.0	0.4	8.7	31.8	1.2	1.9	27.7	1.6
Prop In Lane	1.00		1.00	0.63		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	171	738	122	0	107	669	2007	622	539	1633	499
V/C Ratio(X)	0.61	0.28	0.25	0.80	0.00	0.05	0.26	0.73	0.04	0.11	0.85	0.10
Avail Cap(c_a), veh/h	1028	557	1061	152	0	133	669	2007	622	539	1633	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	55.0	20.6	59.7	0.0	56.7	27.8	33.3	24.1	18.0	20.6	15.9
Incr Delay (d2), s/veh	0.7	0.3	0.1	17.4	0.0	0.1	0.1	2.3	0.1	0.0	5.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.5	3.4	3.8	0.0	0.2	3.6	12.9	0.4	0.8	6.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	55.3	20.7	77.2	0.0	56.7	27.9	35.6	24.2	18.0	26.1	16.4
LnGrp LOS	E	E	C	E	A	E	C	D	C	B	C	B
Approach Vol, veh/h		425			103			1654			1492	
Approach Delay, s/veh		41.2			76.2			34.7			25.5	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	43.7	56.8		16.6	53.3	47.2		12.9
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	41.6	* 52		39.0	20.0	41.9		11.0
Max Q Clear Time (g_c+I1), s	13.9	33.8		9.0	10.7	29.7		9.0
Green Ext Time (p_c), s	0.0	9.3		0.9	0.1	7.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	104	10	35	137	67	6	5	28	133	14	100
Future Volume (veh/h)	20	104	10	35	137	67	6	5	28	133	14	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	26	135	9	45	178	13	8	6	0	173	18	1
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	158	412	27	56	338	285	26	27	0	239	236	13
Arrive On Green	0.09	0.24	0.24	0.03	0.18	0.18	0.01	0.01	0.00	0.14	0.14	0.14
Sat Flow, veh/h	1767	1720	115	1767	1856	1568	1767	1856	0	1767	1741	97
Grp Volume(v), veh/h	26	0	144	45	178	13	8	6	0	173	0	19
Grp Sat Flow(s),veh/h/ln	1767	0	1835	1767	1856	1568	1767	1856	0	1767	0	1837
Q Serve(g_s), s	0.4	0.0	1.7	0.7	2.3	0.2	0.1	0.1	0.0	2.5	0.0	0.2
Cycle Q Clear(g_c), s	0.4	0.0	1.7	0.7	2.3	0.2	0.1	0.1	0.0	2.5	0.0	0.2
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.00	1.00		0.05
Lane Grp Cap(c), veh/h	158	0	439	56	338	285	26	27	0	239	0	249
V/C Ratio(X)	0.16	0.00	0.33	0.80	0.53	0.05	0.31	0.22	0.00	0.72	0.00	0.08
Avail Cap(c_a), veh/h	1319	0	2054	989	2078	1756	989	1039	0	1649	0	1715
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.3	0.0	8.4	12.9	9.9	9.0	13.1	13.0	0.0	11.1	0.0	10.1
Incr Delay (d2), s/veh	0.2	0.0	0.2	9.2	0.5	0.0	2.4	1.5	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.4	0.3	0.6	0.0	0.1	0.0	0.0	0.7	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	0.0	8.6	22.1	10.4	9.1	15.5	14.5	0.0	12.7	0.0	10.2
LnGrp LOS	B	A	A	C	B	A	B	B	A	B	A	B
Approach Vol, veh/h		170			236			14			192	
Approach Delay, s/veh		9.0			12.6			15.1			12.4	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.9	11.7		7.1	5.4	10.2		4.1
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	15.0	30.0		25.0	20.0	30.0		15.0
Max Q Clear Time (g_c+I1), s	2.7	3.7		4.5	2.4	4.3		2.1
Green Ext Time (p_c), s	0.0	0.2		0.0	0.0	0.3		0.0

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

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	258	199	10	23	40
Future Vol, veh/h	7	258	199	10	23	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	8	307	237	12	27	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	249	0	-	0	566	243
Stage 1	-	-	-	-	243	-
Stage 2	-	-	-	-	323	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1311	-	-	-	484	793
Stage 1	-	-	-	-	795	-
Stage 2	-	-	-	-	732	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1311	-	-	-	481	793
Mov Cap-2 Maneuver	-	-	-	-	481	-
Stage 1	-	-	-	-	790	-
Stage 2	-	-	-	-	732	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1311	-	-	-	641
HCM Lane V/C Ratio	0.006	-	-	-	0.117
HCM Control Delay (s)	7.8	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	259	13	18	190	33	4	7	16	64	13	29
Future Volume (veh/h)	27	259	13	18	190	33	4	7	16	64	13	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	34	328	0	23	241	0	5	9	12	81	16	32
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	59	535	0	42	517	0	9	15	21	107	21	42
Arrive On Green	0.03	0.29	0.00	0.02	0.28	0.00	0.03	0.03	0.03	0.10	0.10	0.10
Sat Flow, veh/h	1767	1856	0	1767	1856	0	327	588	784	1082	214	427
Grp Volume(v), veh/h	34	328	0	23	241	0	26	0	0	129	0	0
Grp Sat Flow(s),veh/h/ln	1767	1856	0	1767	1856	0	1698	0	0	1723	0	0
Q Serve(g_s), s	0.5	4.0	0.0	0.3	2.8	0.0	0.4	0.0	0.0	1.9	0.0	0.0
Cycle Q Clear(g_c), s	0.5	4.0	0.0	0.3	2.8	0.0	0.4	0.0	0.0	1.9	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	0.19		0.46	0.63		0.25
Lane Grp Cap(c), veh/h	59	535	0	42	517	0	45	0	0	170	0	0
V/C Ratio(X)	0.57	0.61	0.00	0.55	0.47	0.00	0.58	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	1022	2147	0	1022	2147	0	1310	0	0	1329	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.3	8.0	0.0	12.5	7.8	0.0	12.5	0.0	0.0	11.4	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.4	0.0	4.2	0.2	0.0	4.4	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.9	0.0	0.1	0.6	0.0	0.2	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	8.4	0.0	16.7	8.0	0.0	16.8	0.0	0.0	14.0	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		362			264			26			129	
Approach Delay, s/veh		9.1			8.8			16.8			14.0	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.6	12.1		6.1	3.9	11.8		4.2
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	15.0	30.0		20.0	15.0	30.0		20.0
Max Q Clear Time (g_c+I1), s	2.3	6.0		3.9	2.5	4.8		2.4
Green Ext Time (p_c), s	0.0	0.6		0.2	0.0	0.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	10.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	80	387	117	67	140	180	1425	88	124	1375	87
Future Volume (veh/h)	146	80	387	117	67	140	180	1425	88	124	1375	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	149	82	360	119	68	16	184	1454	90	127	1403	89
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	197	163	647	144	116	98	576	1935	120	527	1797	114
Arrive On Green	0.11	0.09	0.09	0.08	0.06	0.06	0.11	0.13	0.13	0.30	0.37	0.37
Sat Flow, veh/h	1767	1856	1535	1767	1856	1565	1767	4876	302	1767	4867	309
Grp Volume(v), veh/h	149	82	360	119	68	16	184	1007	537	127	973	519
Grp Sat Flow(s),veh/h/ln	1767	1856	1535	1767	1856	1565	1767	1689	1801	1767	1689	1799
Q Serve(g_s), s	10.6	5.5	0.0	8.6	4.6	1.3	12.5	37.4	37.4	7.1	33.2	33.2
Cycle Q Clear(g_c), s	10.6	5.5	0.0	8.6	4.6	1.3	12.5	37.4	37.4	7.1	33.2	33.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.17
Lane Grp Cap(c), veh/h	197	163	647	144	116	98	576	1340	715	527	1247	664
V/C Ratio(X)	0.76	0.50	0.56	0.82	0.59	0.16	0.32	0.75	0.75	0.24	0.78	0.78
Avail Cap(c_a), veh/h	197	514	938	150	500	421	576	1340	715	527	1247	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	56.6	29.0	58.8	59.3	57.7	44.7	50.3	50.3	34.5	36.3	36.3
Incr Delay (d2), s/veh	18.0	0.9	0.3	27.2	9.7	1.7	0.1	3.9	7.2	0.1	4.9	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	2.6	8.5	4.9	2.5	0.5	5.9	17.6	19.4	3.0	14.0	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.0	57.5	29.3	85.9	69.0	59.4	44.8	54.2	57.5	34.6	41.2	45.2
LnGrp LOS	E	E	C	F	E	E	D	D	E	C	D	D
Approach Vol, veh/h		591			203			1728			1619	
Approach Delay, s/veh		44.5			78.2			54.2			42.0	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.4	56.9	14.2	15.5	47.0	53.3	18.1	11.6
Change Period (Y+Rc), s	4.6	* 5.3	3.6	* 4.1	4.6	5.3	3.6	3.5
Max Green Setting (Gmax), s	15.0	* 52	11.0	* 36	18.0	48.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	19.1	39.4	10.6	7.5	14.5	35.2	12.6	6.6
Green Ext Time (p_c), s	0.0	5.3	0.0	0.4	0.0	5.3	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	49.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	34	179	229	34	56	63	1595	279	63	1830	12
Future Volume (veh/h)	42	34	179	229	34	56	63	1595	279	63	1830	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	43	35	118	234	35	8	64	1628	268	64	1867	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	45	36	123	352	149	34	512	1524	250	526	1847	11
Arrive On Green	0.12	0.12	0.12	0.10	0.10	0.10	0.29	0.35	0.35	0.30	0.36	0.36
Sat Flow, veh/h	364	296	998	3428	1457	333	1767	4384	718	1767	5196	31
Grp Volume(v), veh/h	196	0	0	234	0	43	64	1252	644	64	1213	665
Grp Sat Flow(s),veh/h/ln	1658	0	0	1714	0	1790	1767	1689	1725	1767	1689	1850
Q Serve(g_s), s	15.3	0.0	0.0	8.5	0.0	2.9	3.5	45.2	45.2	3.4	46.2	46.2
Cycle Q Clear(g_c), s	15.3	0.0	0.0	8.5	0.0	2.9	3.5	45.2	45.2	3.4	46.2	46.2
Prop In Lane	0.22		0.60	1.00		0.19	1.00		0.42	1.00		0.02
Lane Grp Cap(c), veh/h	204	0	0	352	0	184	512	1174	600	526	1200	657
V/C Ratio(X)	0.96	0.00	0.00	0.67	0.00	0.23	0.12	1.07	1.07	0.12	1.01	1.01
Avail Cap(c_a), veh/h	204	0	0	949	0	496	512	1174	600	526	1200	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.7	0.0	0.0	56.2	0.0	53.6	34.0	42.4	42.4	33.3	41.9	41.9
Incr Delay (d2), s/veh	51.3	0.0	0.0	0.8	0.0	0.2	0.0	45.9	58.0	0.0	28.7	37.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	0.0	0.0	3.8	0.0	1.3	1.5	25.5	28.0	1.5	23.1	27.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.0	0.0	0.0	57.0	0.0	53.9	34.1	88.3	100.4	33.3	70.6	79.8
LnGrp LOS	F	A	A	E	A	D	C	F	F	C	F	F
Approach Vol, veh/h		196			277			1960			1942	
Approach Delay, s/veh		108.0			56.5			90.5			72.5	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	42.2	50.5		20.0	41.2	51.5		17.3
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	16.8	45.2		16.0	15.0	46.2		36.0
Max Q Clear Time (g_c+I1), s	17.5	47.2		17.3	5.5	48.2		10.5
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.6

Intersection Summary	
HCM 6th Ctrl Delay	81.2
HCM 6th LOS	F

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	2. Richardson Dr / Bell Rd
Scenario	Existing

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*
AM Peak Hour Volume	26	1	54	0	0	1	0	201	70	152	117	3
AM Peak Hour Delay (s)	19.3	10	10	9	9	9	0	0	0	8.2	0	0
PM Peak Hour Volume	53	0	136	1	0	0	0	226	27	59	199	1
PM Peak Hour Delay (s)	19	11.4	11.4	21.8	21.8	21.8	0	0	0	8	0	0

AM Delay	**9.9**
AM LOS	**A**

PM Delay	**12.3**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	3. County Center Dr / Bell Rd
Scenario	Existing

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yield*	*Free*	
AM Peak Hour Volume	2		8					251	4	45	279	
AM Peak Hour Delay (s)	10.5		10.5					0	0	8.2	0	
PM Peak Hour Volume	6		41					362	1	8	255	
PM Peak Hour Delay (s)	11		11					0	0	8.4	0	

AM Delay	**8.6**
AM LOS	**A**

PM Delay	**10.6**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	4. 1st St / Blue Oaks Dr
Scenario	Existing

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*
AM Peak Hour Volume	5	10	28	23	18	51	20	221	18	92	292	41
AM Peak Hour Delay (s)	16.2	16.2	16.2	22.7	22.7	22.7	8.4	0	0	8.3	0	0
PM Peak Hour Volume	18	18	59	35	14	26	34	310	59	21	220	19
PM Peak Hour Delay (s)	17.8	17.8	17.8	21	21	21	8.1	0	0	8.6	0	0

AM Delay	**15.0**
AM LOS	**C**

PM Delay	**16.5**
PM LOS	**C**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	7. Richardson Dr / DeWitt Av
Scenario	Existing

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	6	76	29	28	177	17	2	0	3	10	0	3
AM Peak Hour Delay (s)	7.8	0	0	7.6	0	0	10.8	10.8	10.8	11.8	11.8	11.8
PM Peak Hour Volume	3	134	7	2	82	2	18	0	7	52	0	37
PM Peak Hour Delay (s)	7.5	0	0	8	0	0	11.7	11.7	11.7	13.3	13.3	13.3

AM Delay	**9.0**
AM LOS	**A**

PM Delay	**12.7**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	9. 1st St / D Av / Professional Dr
Scenario	Existing

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	9	113	75	7	49	0	0	0	2	38	3	7
AM Peak Hour Delay (s)	7.4	0	0	7.7	0	0	8.6	8.6	8.6	10.7	10.7	10.7
PM Peak Hour Volume	1	42	32	6	115	4	3	7	4	81	0	3
PM Peak Hour Delay (s)	7.6	0	0	7.5	0	0	10.7	10.7	10.7	11.9	11.9	11.9

AM Delay	**9.9**
AM LOS	**A**

PM Delay	**11.4**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	13. Atwood Rd / 3rd St
Scenario	Existing

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control				*Stop*		*Stop*	*Yield*	*Free*			*Free*	*Free*
AM Peak Hour Volume				14		15	25	237			236	11
AM Peak Hour Delay (s)				11.4		11.4	7.8	0			0	0
PM Peak Hour Volume				23		40	7	258			199	10
PM Peak Hour Delay (s)				11.4		11.4	7.8	0			0	0

AM Delay	**9.7**
AM LOS	**A**

PM Delay	**11.0**
PM LOS	**B**

FEHR PEERS

Major Street	Bell Rd
Minor Street	Richardson Dr

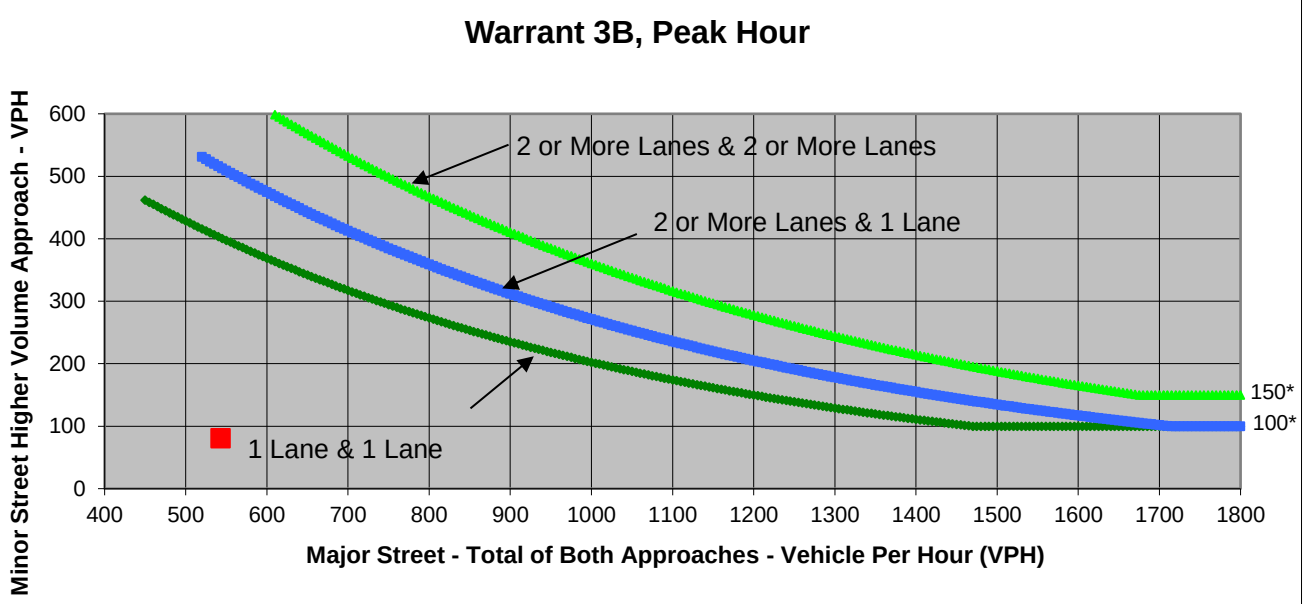
Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	26	0	0	152
Through	1	0	201	117
Right	54	1	70	3
Total	81	1	271	272

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Rd	Richardson Dr	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**543**	**81**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM

Major Street	Richardson Dr
Minor Street	Bell Road

Turn Movement Volumes

	NB	SB	EB	WB
Left	26	0	0	152
Through	1	0	201	117
Right	54	1	70	3
Total	81	1	271	272

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.1
Approach with Worst Case Delay	NB
Total Vehicles on Approach	81

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Conditions	**0.3**	**81**	**625**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Road
Minor Street	Richardson Drive

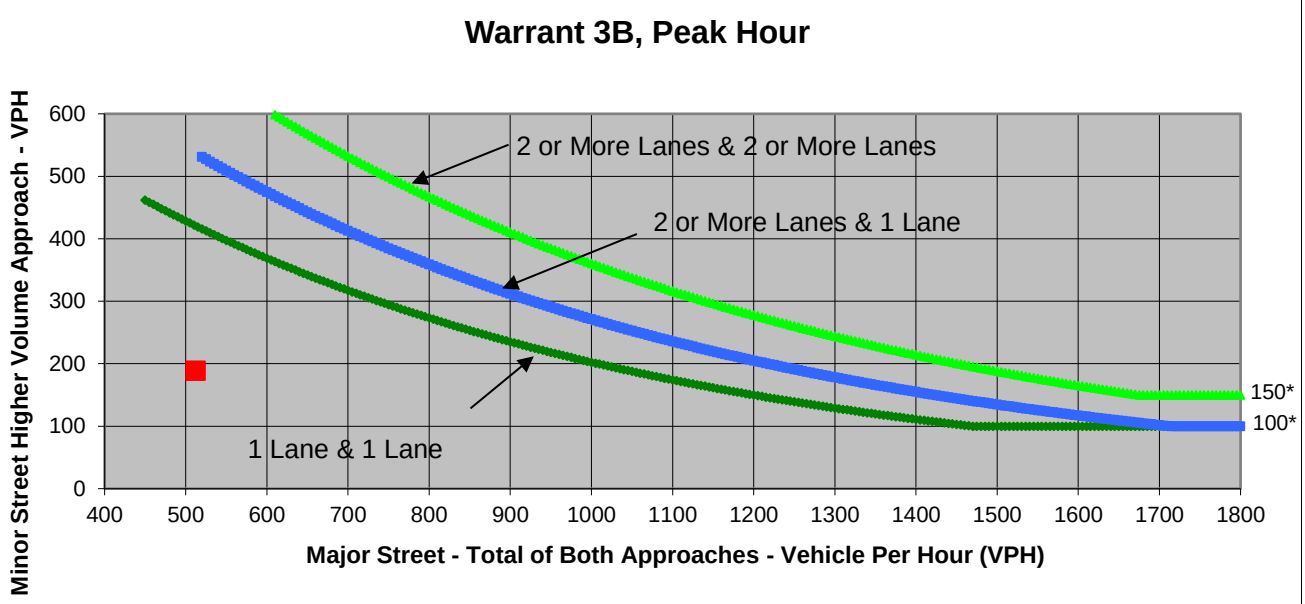
Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	53	1	0	59
Through	0	0	226	199
Right	136	0	27	1
Total	189	1	253	259

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Richardson Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**512**	**189**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	Richardson Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	53	1	0	59
Through	0	0	226	199
Right	136	0	27	1
Total	189	1	253	259

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	19.6
Approach with Worst Case Delay	SB
Total Vehicles on Approach	1

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Conditions	**0**	**189**	**702**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

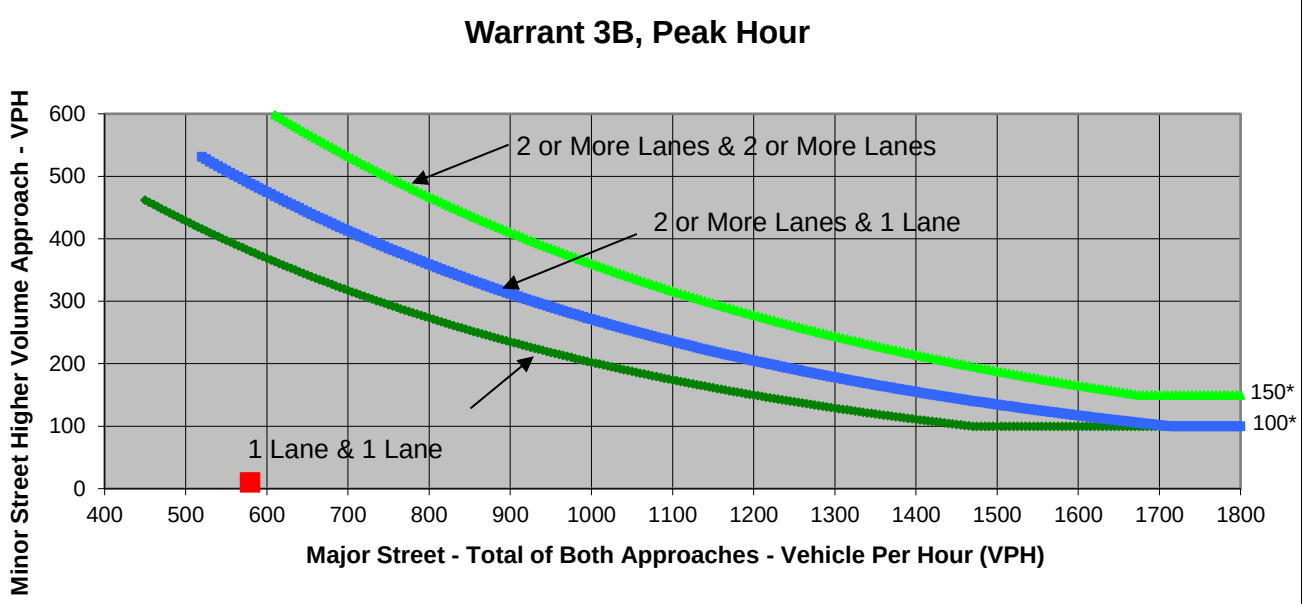
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	County Center Drive	Scenario	Existing Conditions
		Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	2			45
Through	0		251	279
Right	8		4	
Total	10	0	255	324

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	County Center Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**579**	**10**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	County Center Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	0	0	45
Through	0	0	251	279
Right	8	0	4	0
Total	10	0	255	324

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	10.5
Approach with Worst Case Delay	NB
Total Vehicles on Approach	10

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Conditions	**0**	**10**	**589**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

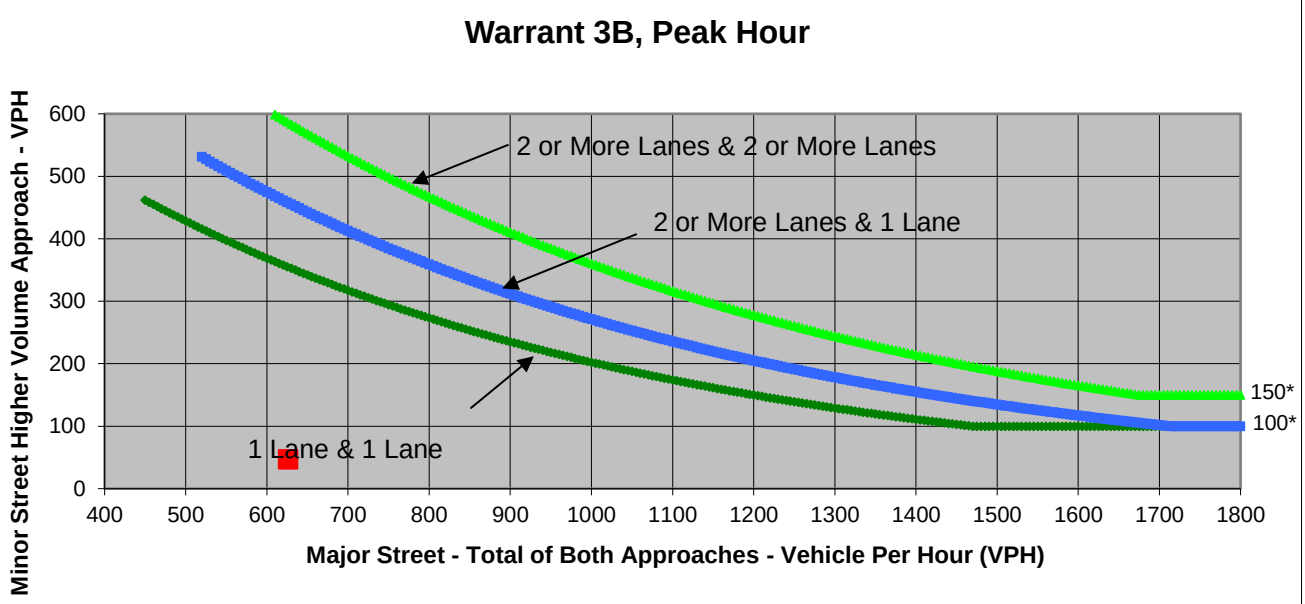
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	County Center Drive	Scenario	Existing Conditions
		Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	6		0	8
Through	0		362	255
Right	41		1	
Total	47	0	363	263

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	County Center Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**626**	**47**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	County Center Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	6	0	0	8
Through	0	0	362	255
Right	41	0	1	0
Total	47	0	363	263

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11
Approach with Worst Case Delay	NB
Total Vehicles on Approach	47

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Conditions	**0.1**	**47**	**673**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Road
Minor Street	Blue Oaks Drive

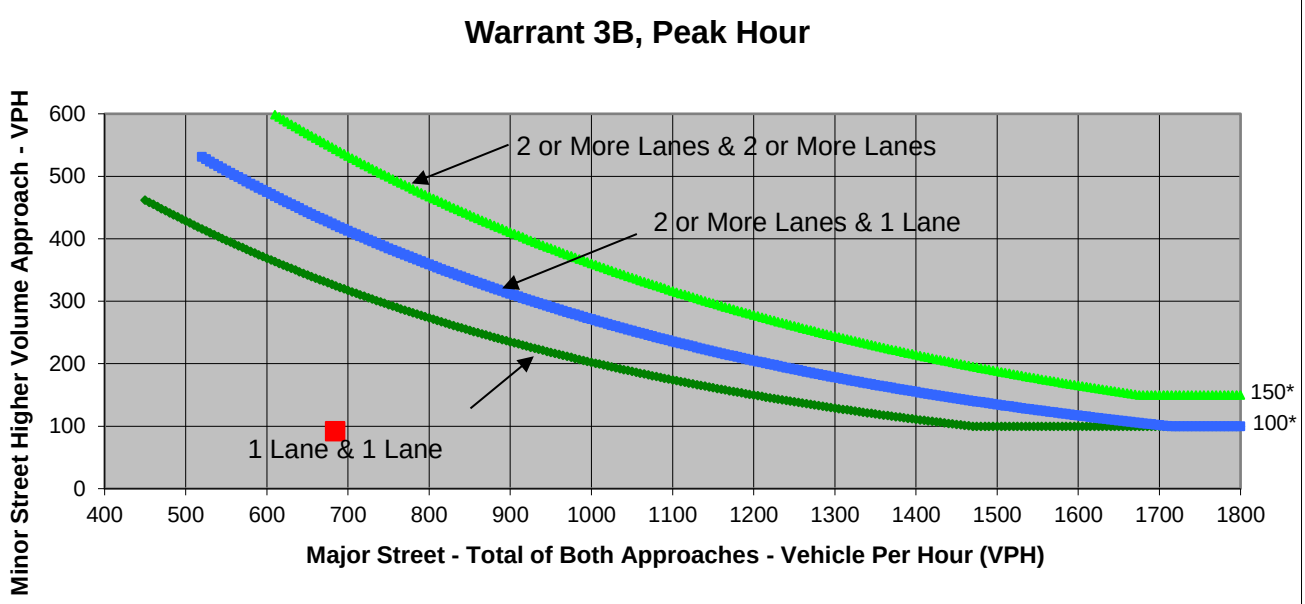
Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	23	20	92
Through	10	18	221	292
Right	28	51	18	41
Total	43	92	259	425

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Blue Oaks Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**684**	**92**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	Blue Oaks Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	23	20	92
Through	10	18	221	292
Right	28	51	18	41
Total	43	92	259	425

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	22.7
Approach with Worst Case Delay	SB
Total Vehicles on Approach	92

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Conditions	**0.6**	**92**	**819**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

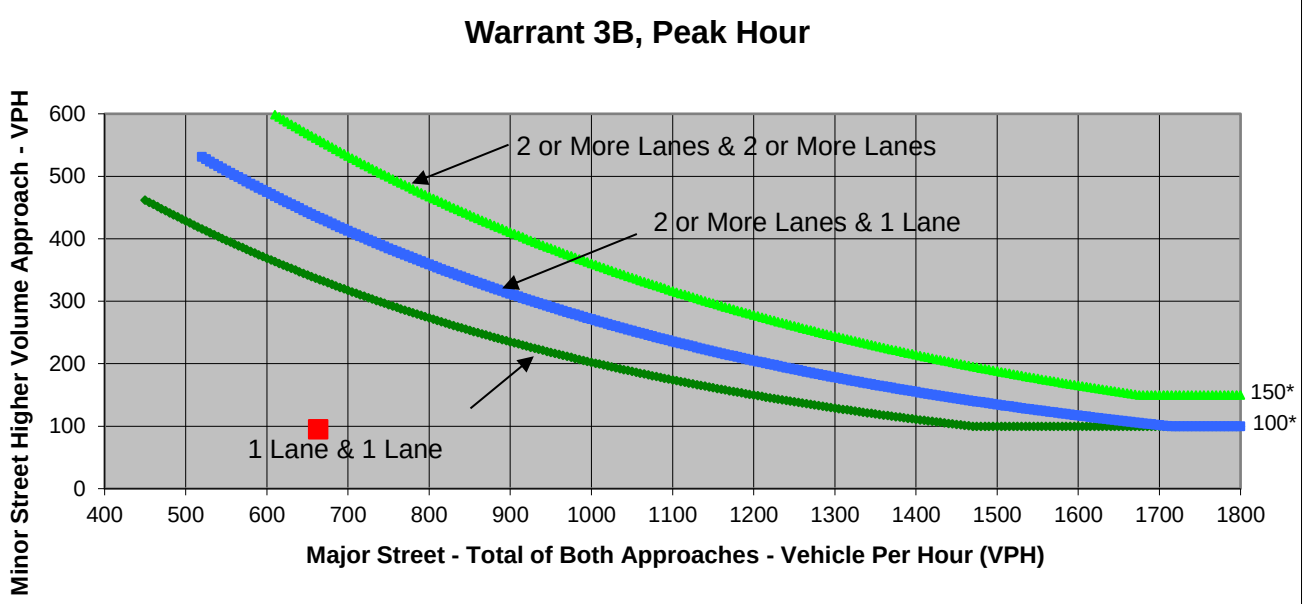
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	Blue Oaks Drive	Scenario	Existing Conditions
		Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	18	35	21	34
Through	18	14	220	310
Right	59	26	19	59
Total	95	75	260	403

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Blue Oaks Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**663**	**95**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	Blue Oaks Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	18	35	21	34
Through	18	14	220	310
Right	59	26	19	59
Total	95	75	260	403

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	17.8
Approach with Worst Case Delay	NB
Total Vehicles on Approach	95

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Conditions	**0.5**	**95**	**833**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Drive
Minor Street	DeWitt Ave

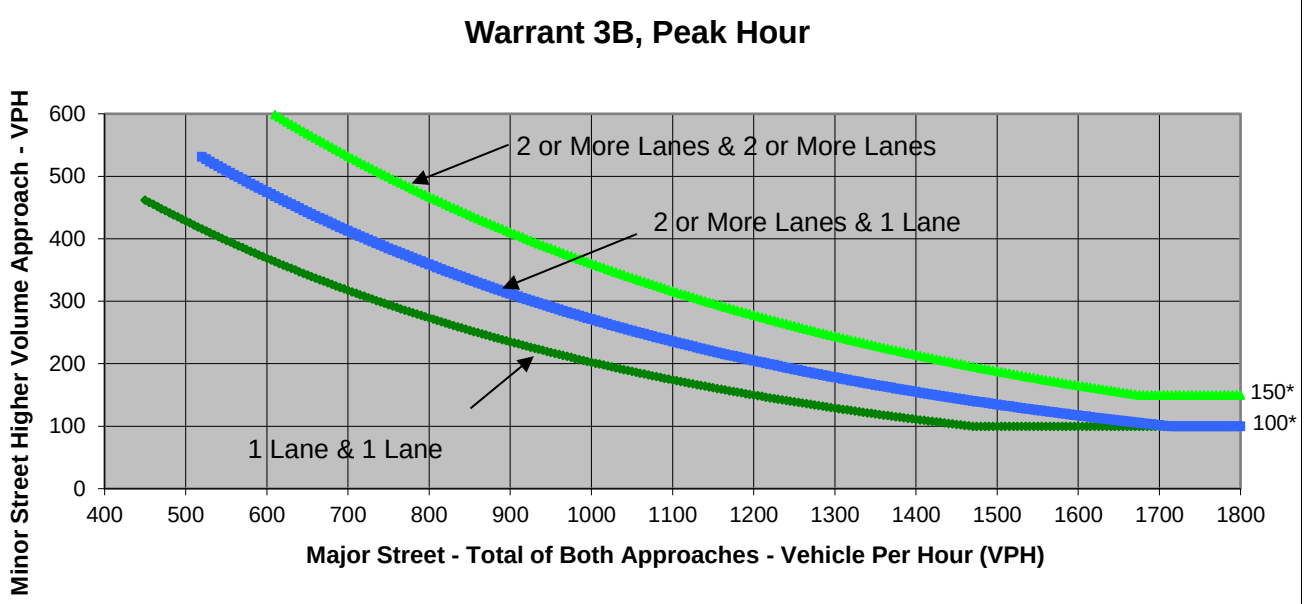
Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	6	28	2	10
Through	76	177	0	0
Right	29	17	3	3
Total	111	222	5	13

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**333**	**13**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Major Street	Richardson Drive
Minor Street	DeWitt Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	6	28	2	10
Through	76	177	0	0
Right	29	17	3	3
Total	111	222	5	13

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	13

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Conditions	**0**	**13**	**351**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Drive
Minor Street	DeWitt Ave

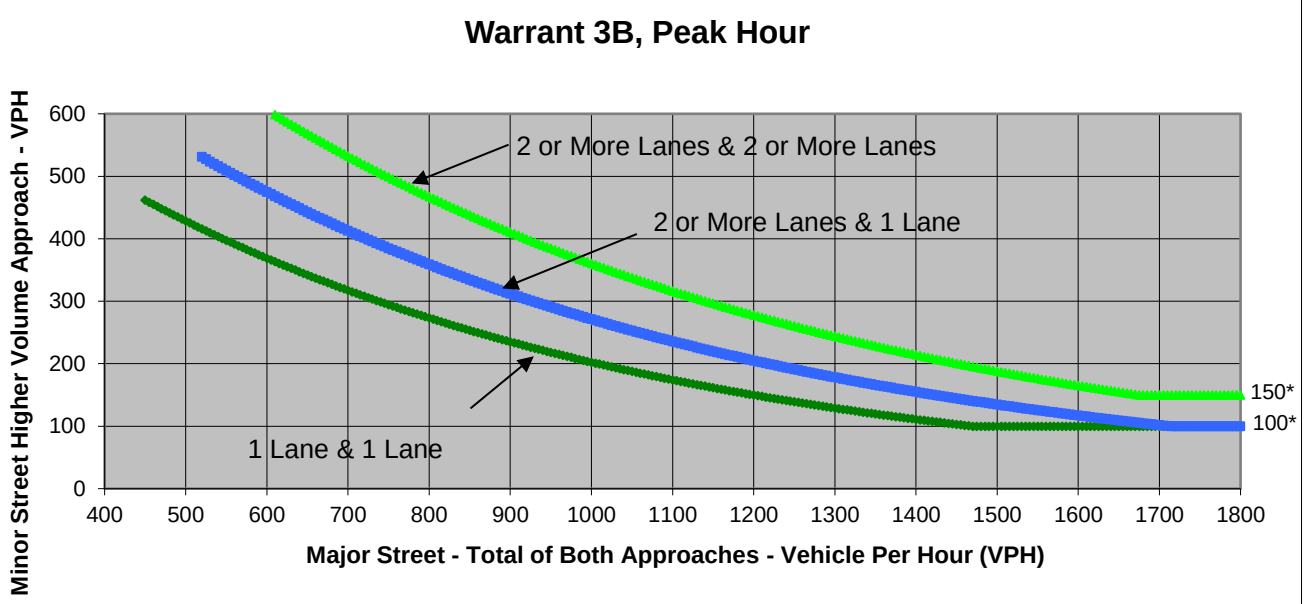
Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	3	2	18	52
Through	134	82	0	0
Right	7	2	7	37
Total	144	86	25	89

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**230**	**89**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Major Street	Richardson Drive
Minor Street	DeWitt Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	3	2	18	52
Through	134	82	0	0
Right	7	2	7	37
Total	144	86	25	89

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	89

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Conditions	**0.3**	**89**	**344**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

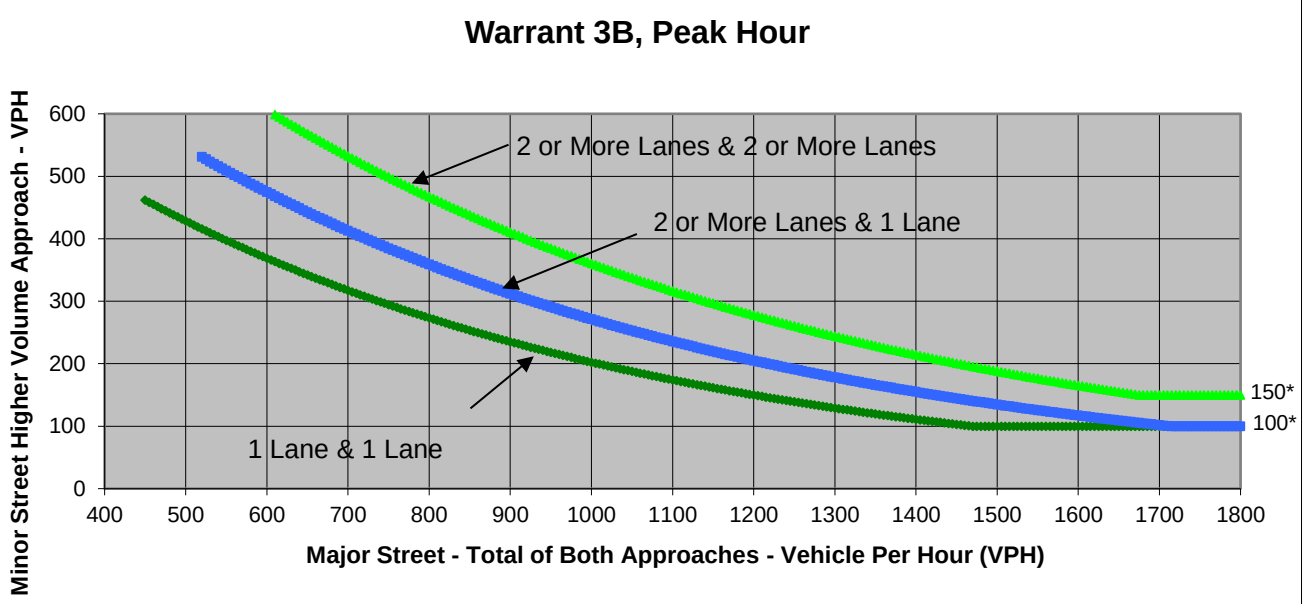
Major Street	Richardson Drive	Project	PCGC Master Plan Update EIR
Minor Street	B Ave	Scenario	Existing Conditions
		Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	48	7	9	6
Through	100	154	1	7
Right	25	18	15	6
Total	173	179	25	19

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**352**	**25**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Drive
Minor Street	B Ave

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	48	7	9	6
Through	100	154	1	7
Right	25	18	15	6
Total	173	179	25	19

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	8.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	19

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Conditions	**0**	**25**	**396**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

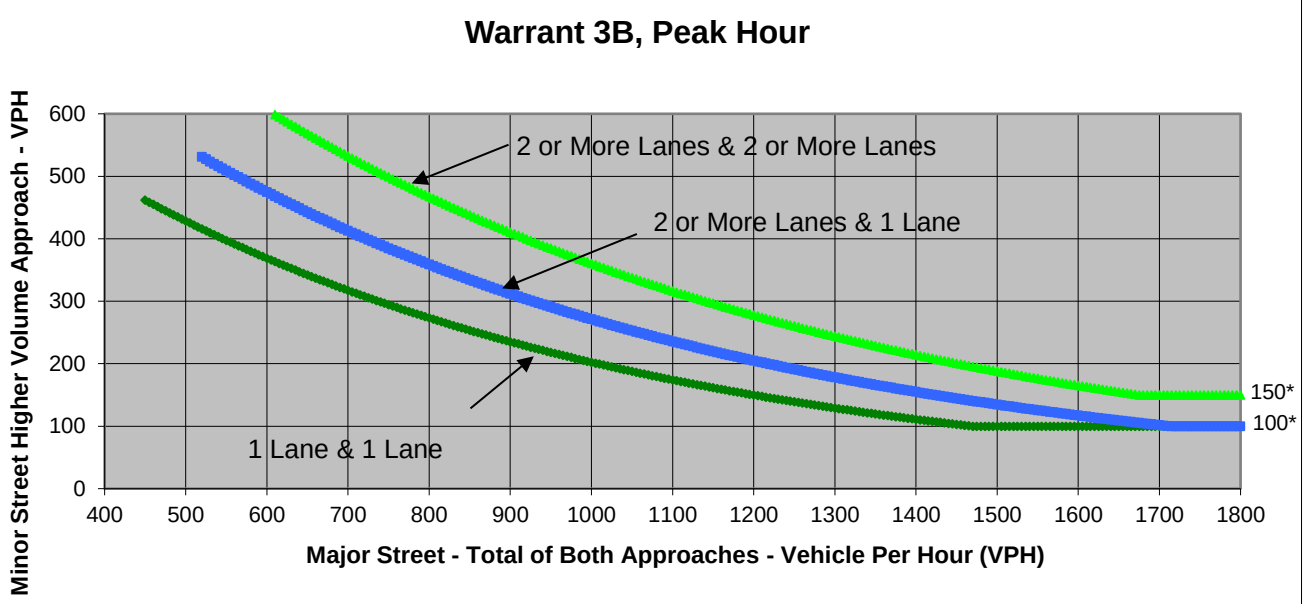
Major Street	Richardson Drive	Project	PCGC Master Plan Update EIR
Minor Street	B Ave	Scenario	Existing Conditions
		Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	17	1	18	40
Through	103	125	11	2
Right	5	12	42	27
Total	125	138	71	69

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**263**	**71**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Drive
Minor Street	B Ave

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	17	1	18	40
Through	103	125	11	2
Right	5	12	42	27
Total	125	138	71	69

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	69

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Conditions	**0.2**	**71**	**403**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Dr

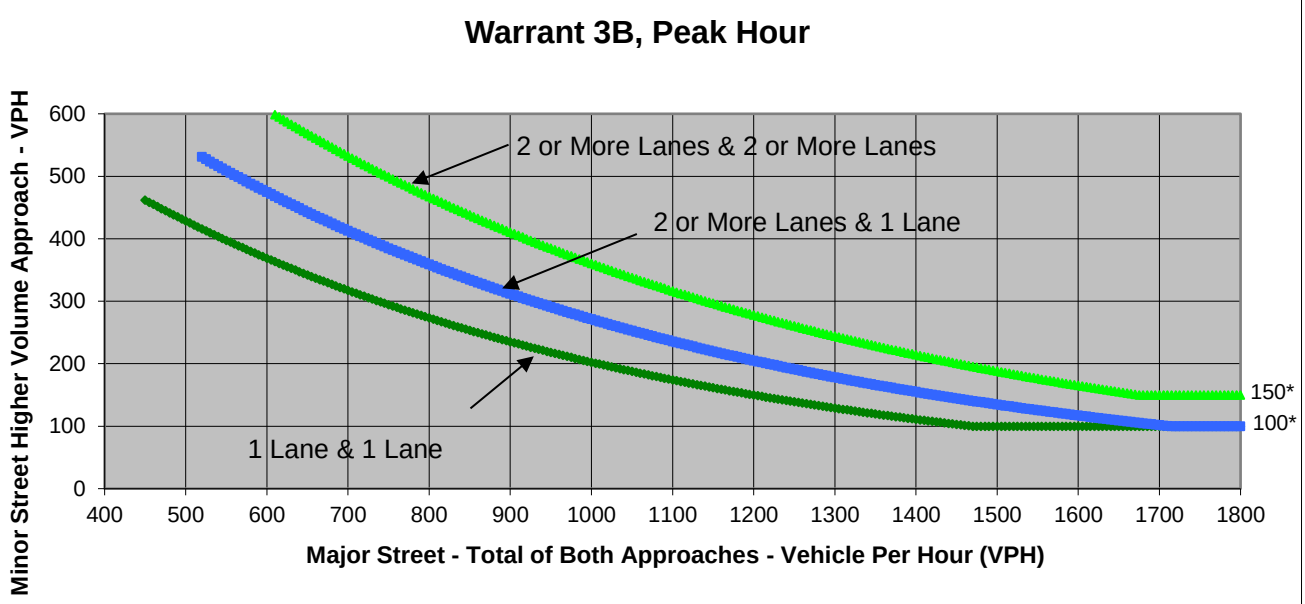
Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	9	7	0	38
Through	113	49	0	3
Right	75	0	2	7
Total	197	56	2	48

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Dr	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**253**	**48**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Major Street	1st Street
Minor Street	D Ave / Professional Dr

Turn Movement Volumes

	NB	SB	EB	WB
Left	9	7	0	38
Through	113	49	0	3
Right	75	0	2	7
Total	197	56	2	48

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	10.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	48

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Conditions	**0.1**	**48**	**303**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

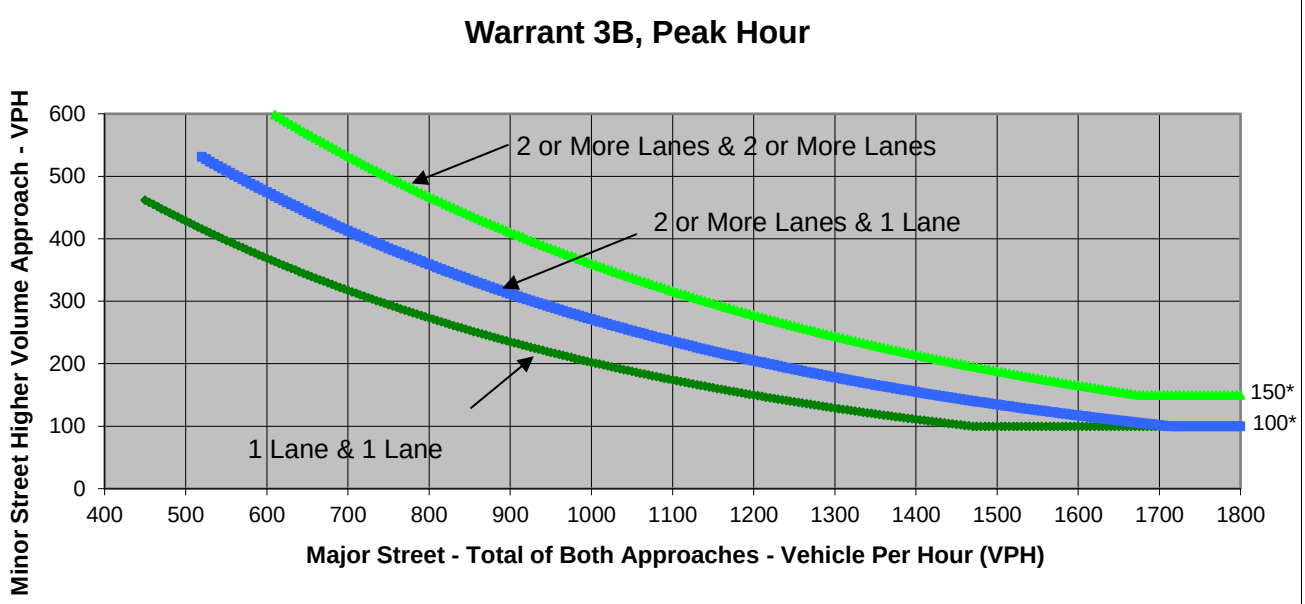
Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	6	3	91
Through	42	115	7	0
Right	32	4	4	3
Total	75	125	14	94

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**200**	**94**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	6	3	91
Through	42	115	7	0
Right	32	4	4	3
Total	75	125	14	94

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	10.7
Approach with Worst Case Delay	EB
Total Vehicles on Approach	14

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Conditions	**0**	**94**	**308**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Willow Creek Drive / 3rd St
Minor Street	1st Street

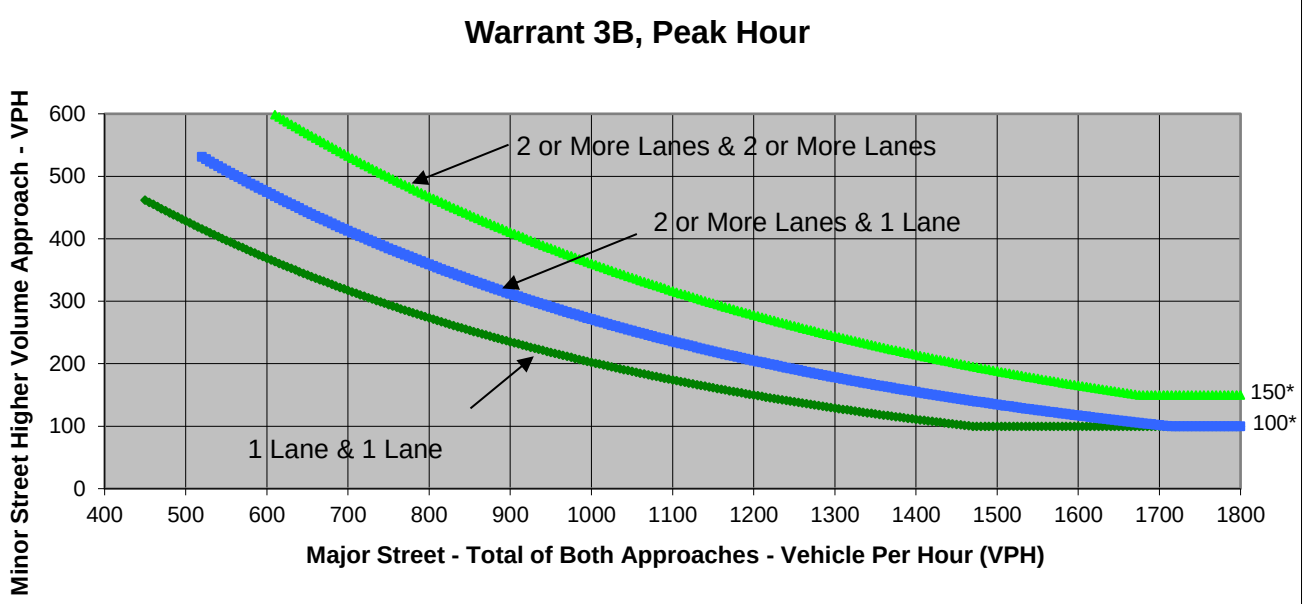
Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	35	17	37
Through	58	68	10	20
Right	37	12	3	115
Total	97	115	30	172

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Drive / 3rd St	1st Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**202**	**115**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Major Street	Willow Creek Drive / 3rd St
Minor Street	1st Street

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	35	17	37
Through	58	68	10	20
Right	37	12	3	115
Total	97	115	30	172

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	4.6
Approach with Worst Case Delay	SB
Total Vehicles on Approach	115

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Conditions	**0.1**	**115**	**414**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Willow Creek Drive / 3rd Street
Minor Street	1st Street

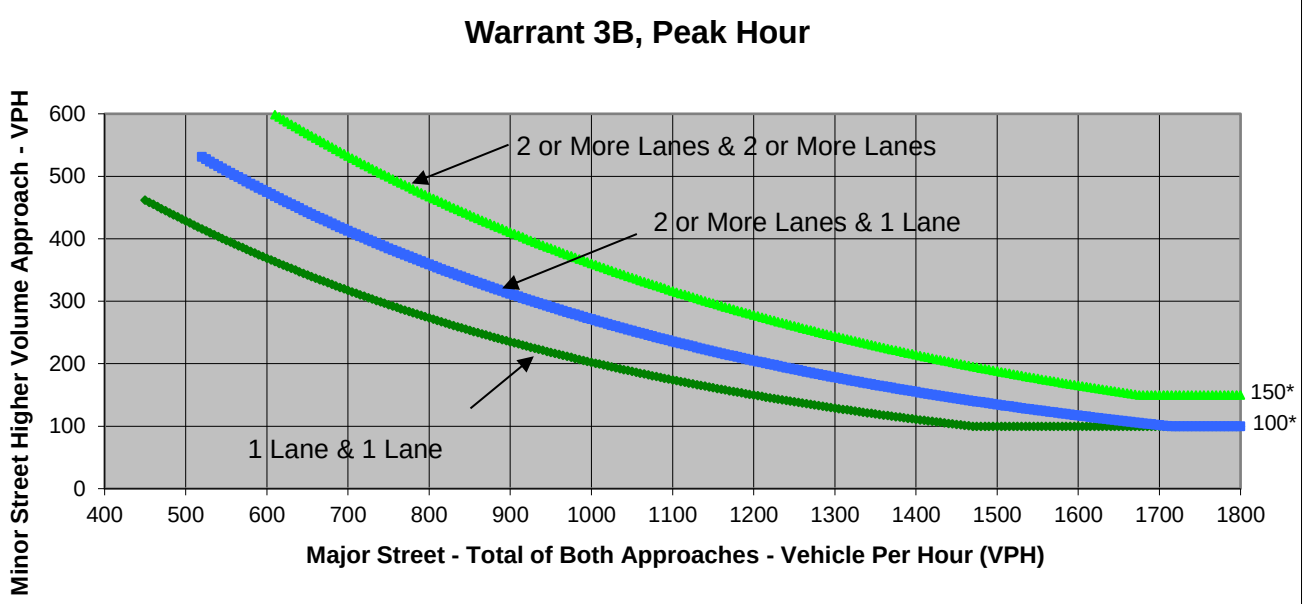
Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	122	4	25
Through	45	73	19	30
Right	31	13	1	41
Total	76	208	24	96

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Drive / 3rd Street	1st Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**120**	**208**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Willow Creek Drive / 3rd Street
Minor Street	1st Street

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	122	4	25
Through	45	73	19	30
Right	31	13	1	41
Total	76	208	24	96

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	6.1
Approach with Worst Case Delay	SB
Total Vehicles on Approach	208

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Conditions	**0.4**	**208**	**404**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Atwood Drive
Minor Street	3rd Street

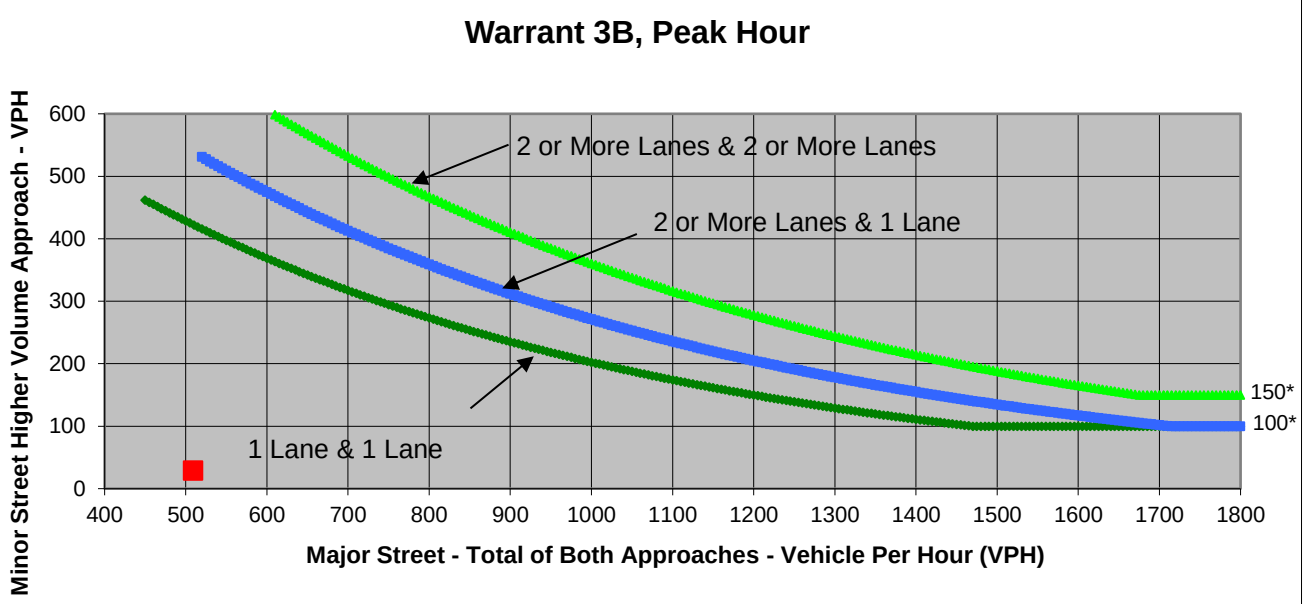
Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left		14	25	11
Through		0	237	236
Right		15		
Total	0	29	262	247

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Drive	3rd Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**509**	**29**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	AM Peak Hour

Major Street	Atwood Drive
Minor Street	3rd Street

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	14	25	11
Through	0	0	237	236
Right	0	15	0	0
Total	0	29	262	247

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.4
Approach with Worst Case Delay	SB
Total Vehicles on Approach	29

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Conditions	**0.1**	**29**	**538**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

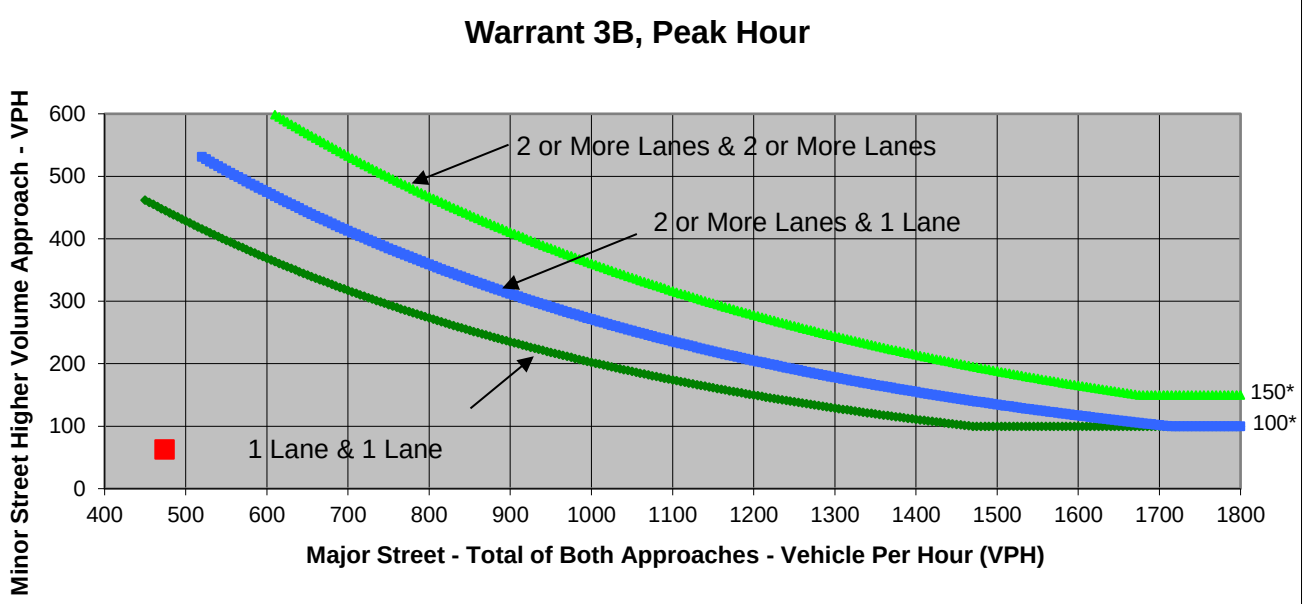
Major Street	Atwood Road	Project	PCGC Master Plan Update EIR
Minor Street	3rd Street	Scenario	Existing Conditions
		Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left		23	7	
Through		0	258	199
Right		40		10
Total	0	63	265	209

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Road	3rd Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**474**	**63**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Major Street	Atwood Road
Minor Street	3rd Street

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	23	7	0
Through	0	0	258	199
Right	0	40	0	10
Total	0	63	265	209

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.4
Approach with Worst Case Delay	SB
Total Vehicles on Approach	63

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Conditions	**0.2**	**63**	**537**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

Appendix C:
Existing Plus Multifamily Residential Conditions – Technical Calculations

FEHR PEERS

EXISTING PLUS MULTIFAMILY RESIDENTIAL		# of Lanes		Trip Distribution			Daily Trip Assignment	Roadway ADT Forecasts		ADT Volume	V/C	LOS
Roadway	**Segment**	**Ex**	**Cum**	**AM**	**PM**	**Blended**	**MFR**	**Existing**	**Ex+MFR**	**Ex+MFR**	**Ex+MFR**	**Ex+MFR**
Atwood Road	West of SR 49	2	2	8%	6%	7%	51	9,749	9,800	4900	0.54	A
Bell Road	West of SR 49	4	4	59%	62%	60%	438	15,297	15,735	3934	0.44	A
SR 49	Luther Rd. to New Airport Rd.	6	6	40%	38%	39%	285	42,000	42,285	7048	0.78	C
SR 49	New Airport Rd. to Atwood Rd.	6	6	40%	38%	39%	285	40,000	40,285	6714	0.75	C
SR 49	Atwood Rd. to Willow Creek Dr.	6	6	35%	37%	36%	263	40,500	40,763	6794	0.75	C
SR 49	Willow Creek Dr. to Bell Rd.	6	6	17%	15%	16%	117	37,700	37,817	6303	0.70	C
SR 49	North of Bell Rd.	4	5	20%	22%	21%	153	34,700	34,853	8713	0.97	E

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	41	117	1142	1645	161
Future Volume (veh/h)	58	41	117	1142	1645	161
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	59	3	119	1165	1679	115
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	97	86	145	3066	2667	1163
Arrive On Green	0.05	0.05	0.08	0.87	0.76	0.76
Sat Flow, veh/h	1767	1572	1767	3618	3618	1537
Grp Volume(v), veh/h	59	3	119	1165	1679	115
Grp Sat Flow(s),veh/h/ln	1767	1572	1767	1763	1763	1537
Q Serve(g_s), s	4.2	0.2	8.6	8.4	28.8	2.6
Cycle Q Clear(g_c), s	4.2	0.2	8.6	8.4	28.8	2.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	97	86	145	3066	2667	1163
V/C Ratio(X)	0.61	0.03	0.82	0.38	0.63	0.10
Avail Cap(c_a), veh/h	367	327	272	3066	2667	1163
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	60.1	58.2	58.7	1.6	7.4	4.2
Incr Delay (d2), s/veh	2.3	0.1	4.3	0.4	1.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.2	3.9	1.2	8.8	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	62.3	58.2	62.9	2.0	8.5	4.3
LnGrp LOS	E	E	E	A	A	A
Approach Vol, veh/h	62			1284	1794	
Approach Delay, s/veh	62.1			7.7	8.2	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		118.8		11.2	14.7	104.1
Change Period (Y+Rc), s		5.7		4.1	4.0	5.7
Max Green Setting (Gmax), s		93.2		27.0	20.0	69.2
Max Q Clear Time (g_c+I1), s		10.4		6.2	10.6	30.8
Green Ext Time (p_c), s		5.9		0.1	0.1	10.8

Intersection Summary	
HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	201	70	152	117	3	26	1	54	0	0	1
Future Vol, veh/h	0	201	70	152	117	3	26	1	54	0	0	1
Conflicting Peds, #/hr	0	0	3	0	0	1	0	0	1	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	100	-	125	0	-	-	225	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	245	85	185	143	4	32	1	66	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	148	0	-	245	0	0	762	763	246	796	761	147
Stage 1	-	-	-	-	-	-	245	245	-	516	516	-
Stage 2	-	-	-	-	-	-	517	518	-	280	245	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1427	-	0	1315	-	-	320	333	790	304	334	897
Stage 1	-	-	0	-	-	-	756	702	-	540	533	-
Stage 2	-	-	0	-	-	-	539	532	-	725	702	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1426	-	-	1315	-	-	285	286	789	247	287	895
Mov Cap-2 Maneuver	-	-	-	-	-	-	285	286	-	247	287	-
Stage 1	-	-	-	-	-	-	756	702	-	539	457	-
Stage 2	-	-	-	-	-	-	462	456	-	663	702	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.6	13.1	9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	285	789	1426	-	1315	-	-	895
HCM Lane V/C Ratio	0.116	0.083	-	-	0.141	-	-	0.001
HCM Control Delay (s)	19.3	10	0	-	8.2	-	-	9
HCM Lane LOS	C	B	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.4	0.3	0	-	0.5	-	-	0

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	251	4	45	274	7	8
Future Vol, veh/h	251	4	45	274	7	8
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	339	5	61	370	9	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	347	0	652	175
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	307	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1201	-	398	835
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	717	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1198	-	377	833
Mov Cap-2 Maneuver	-	-	-	-	377	-
Stage 1	-	-	-	-	649	-
Stage 2	-	-	-	-	717	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	532	-	-	1198	-
HCM Lane V/C Ratio	0.038	-	-	0.051	-
HCM Control Delay (s)	12	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	239	292	41	41	51
Future Vol, veh/h	20	239	292	41	41	51
Conflicting Peds, #/hr	0	0	0	1	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	27	327	400	56	56	70

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	457	0	-	0	647	231
Stage 1	-	-	-	-	429	-
Stage 2	-	-	-	-	218	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	1093	-	-	-	401	768
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	794	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1092	-	-	-	390	766
Mov Cap-2 Maneuver	-	-	-	-	390	-
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	793	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1092	-	-	-	536
HCM Lane V/C Ratio	0.025	-	-	-	0.235
HCM Control Delay (s)	8.4	-	-	-	13.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	284	17	73	443	149	3	15	45	58	40	24
Future Volume (veh/h)	25	284	17	73	443	149	3	15	45	58	40	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	30	346	17	89	540	158	4	18	0	71	49	6
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	39	1206	59	112	1059	309	30	31	0	167	153	19
Arrive On Green	0.02	0.35	0.35	0.06	0.39	0.39	0.02	0.02	0.00	0.09	0.09	0.09
Sat Flow, veh/h	1767	3420	167	1767	2690	784	1767	1856	0	1767	1618	198
Grp Volume(v), veh/h	30	178	185	89	353	345	4	18	0	71	0	55
Grp Sat Flow(s),veh/h/ln	1767	1763	1825	1767	1763	1711	1767	1856	0	1767	0	1817
Q Serve(g_s), s	0.5	2.0	2.0	1.4	4.2	4.2	0.1	0.3	0.0	1.0	0.0	0.8
Cycle Q Clear(g_c), s	0.5	2.0	2.0	1.4	4.2	4.2	0.1	0.3	0.0	1.0	0.0	0.8
Prop In Lane	1.00		0.09	1.00		0.46	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	39	622	644	112	694	674	30	31	0	167	0	171
V/C Ratio(X)	0.76	0.29	0.29	0.80	0.51	0.51	0.13	0.57	0.00	0.43	0.00	0.32
Avail Cap(c_a), veh/h	1285	2564	2655	1285	2564	2489	1607	1687	0	1607	0	1652
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	6.4	6.4	12.7	6.3	6.3	13.3	13.4	0.0	11.8	0.0	11.6
Incr Delay (d2), s/veh	25.3	0.3	0.2	12.0	0.6	0.6	2.0	15.5	0.0	1.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.4	0.7	0.7	0.7	0.0	0.2	0.0	0.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	6.7	6.7	24.7	6.9	6.9	15.3	28.9	0.0	13.5	0.0	12.7
LnGrp LOS	D	A	A	C	A	A	B	C	A	B	A	B
Approach Vol, veh/h		393			787			22			126	
Approach Delay, s/veh		9.1			8.9			26.5			13.1	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	13.7		5.6	3.6	14.8		3.5
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0
Max Q Clear Time (g_c+I1), s	3.4	4.0		3.0	2.5	6.2		2.3
Green Ext Time (p_c), s	0.2	2.1		0.4	0.0	4.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	191	159	171	469	395	260	770	141	404	1142	140
Future Volume (veh/h)	94	191	159	171	469	395	260	770	141	404	1142	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	96	195	35	174	479	0	265	786	56	412	1165	137
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	122	339	588	452	561		958	1131	503	1090	1141	134
Arrive On Green	0.07	0.10	0.10	0.13	0.16	0.00	0.28	0.32	0.32	0.32	0.36	0.36
Sat Flow, veh/h	1767	3526	1538	3428	3526	1572	3428	3526	1570	3428	3177	373
Grp Volume(v), veh/h	96	195	35	174	479	0	265	786	56	412	645	657
Grp Sat Flow(s),veh/h/ln	1767	1763	1538	1714	1763	1572	1714	1763	1570	1714	1763	1787
Q Serve(g_s), s	7.0	6.9	0.0	6.0	17.2	0.0	7.8	25.3	3.3	12.1	46.7	46.7
Cycle Q Clear(g_c), s	7.0	6.9	0.0	6.0	17.2	0.0	7.8	25.3	3.3	12.1	46.7	46.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	122	339	588	452	561		958	1131	503	1090	633	642
V/C Ratio(X)	0.79	0.57	0.06	0.38	0.85		0.28	0.70	0.11	0.38	1.02	1.02
Avail Cap(c_a), veh/h	231	976	865	452	868		958	1131	503	1090	633	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	56.2	25.9	51.6	53.2	0.0	36.6	38.6	31.1	34.4	41.6	41.7
Incr Delay (d2), s/veh	4.2	0.6	0.0	0.2	3.1	0.0	0.1	3.5	0.4	0.1	40.6	41.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.0	0.7	2.6	7.7	0.0	3.2	11.2	1.3	4.9	26.5	27.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	56.8	25.9	51.8	56.3	0.0	36.6	42.1	31.5	34.5	82.2	83.1
LnGrp LOS	E	E	C	D	E		D	D	C	C	F	F
Approach Vol, veh/h		326			653	A		1107			1714	
Approach Delay, s/veh		55.5			55.1			40.3			71.1	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.4	47.0	20.7	16.9	40.4	52.0	12.5	25.1
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	22.6	41.7	13.0	36.0	17.0	46.7	17.0	32.0
Max Q Clear Time (g_c+I1), s	14.1	27.3	8.0	8.9	9.8	48.7	9.0	19.2
Green Ext Time (p_c), s	0.2	1.6	0.0	0.4	0.1	0.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	58.0
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	3	10	0	3	6	76	29	28	177	17
Future Vol, veh/h	2	0	3	10	0	3	6	76	29	28	177	17
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	4	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	3	0	4	13	0	4	8	101	39	37	236	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	468	489	257	467	481	125	266	0	0	144	0	0
Stage 1	329	329	-	141	141	-	-	-	-	-	-	-
Stage 2	139	160	-	326	340	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	504	478	779	504	483	923	1292	-	-	1432	-	-
Stage 1	682	645	-	860	778	-	-	-	-	-	-	-
Stage 2	862	764	-	684	637	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	486	457	772	486	462	919	1283	-	-	1427	-	-
Mov Cap-2 Maneuver	486	457	-	486	462	-	-	-	-	-	-	-
Stage 1	672	624	-	851	769	-	-	-	-	-	-	-
Stage 2	852	756	-	662	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	11.8	0.4	1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1283	-	-	625	545	1427	-	-
HCM Lane V/C Ratio	0.006	-	-	0.011	0.032	0.026	-	-
HCM Control Delay (s)	7.8	0	-	10.8	11.8	7.6	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	1	15	8	7	6	48	100	25	7	154	18
Future Vol, veh/h	9	1	15	8	7	6	48	100	25	7	154	18
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	10	1	17	9	8	7	54	112	28	8	173	20
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	7.8	8	8.4	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	36%	38%	100%	0%
Vol Thru, %	0%	80%	4%	33%	0%	90%
Vol Right, %	0%	20%	60%	29%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	125	25	21	7	172
LT Vol	48	0	9	8	7	0
Through Vol	0	100	1	7	0	154
RT Vol	0	25	15	6	0	18
Lane Flow Rate	54	140	28	24	8	193
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.079	0.18	0.036	0.032	0.011	0.251
Departure Headway (Hd)	5.244	4.602	4.62	4.818	5.243	4.669
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	675	768	779	747	674	758
Service Time	3.039	2.397	2.622	2.82	3.043	2.468
HCM Lane V/C Ratio	0.08	0.182	0.036	0.032	0.012	0.255
HCM Control Delay	8.5	8.4	7.8	8	8.1	9.1
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.7	0.1	0.1	0	1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	2	38	3	7	9	117	75	7	64	0
Future Vol, veh/h	0	0	2	38	3	7	9	117	75	7	64	0
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	6	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	2	44	3	8	10	136	87	8	74	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	299	339	74	297	296	190	74	0	0	229	0	0
Stage 1	90	90	-	206	206	-	-	-	-	-	-	-
Stage 2	209	249	-	91	90	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	651	581	985	653	614	849	1519	-	-	1333	-	-
Stage 1	915	818	-	794	729	-	-	-	-	-	-	-
Stage 2	791	699	-	914	818	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	633	569	985	641	602	841	1519	-	-	1325	-	-
Mov Cap-2 Maneuver	633	569	-	641	602	-	-	-	-	-	-	-
Stage 1	908	813	-	783	719	-	-	-	-	-	-	-
Stage 2	770	689	-	906	813	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	10.9	0.3	0.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1519	-	-	985	661	1325	-	-
HCM Lane V/C Ratio	0.007	-	-	0.002	0.084	0.006	-	-
HCM Control Delay (s)	7.4	0	-	8.7	10.9	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	3.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	32	188	107	139
Demand Flow Rate, veh/h	33	194	110	142
Vehicles Circulating, veh/h	170	88	79	66
Vehicles Exiting, veh/h	38	101	124	216
Ped Vol Crossing Leg, #/h	0	5	0	0
Ped Cap Adj	1.000	0.999	1.000	1.000
Approach Delay, s/veh	3.5	4.2	3.6	3.8
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	33	194	110	142
Cap Entry Lane, veh/h	1160	1261	1273	1290
Entry HV Adj Factor	0.960	0.971	0.973	0.977
Flow Entry, veh/h	32	188	107	139
Cap Entry, veh/h	1114	1224	1239	1260
V/C Ratio	0.028	0.154	0.086	0.110
Control Delay, s/veh	3.5	4.2	3.6	3.8
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	16	140	45	16	18	153	1045	42	32	1266	124
Future Volume (veh/h)	83	16	140	45	16	18	153	1045	42	32	1266	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	85	16	47	46	16	1	156	1066	27	33	1292	77
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	240	130	759	73	25	87	730	2007	623	600	1633	506
Arrive On Green	0.07	0.07	0.07	0.06	0.06	0.06	0.41	0.40	0.40	0.68	0.64	0.64
Sat Flow, veh/h	3428	1856	1559	1327	462	1572	1767	5066	1572	1767	5066	1570
Grp Volume(v), veh/h	85	16	47	62	0	1	156	1066	27	33	1292	77
Grp Sat Flow(s),veh/h/ln	1714	1856	1559	1789	0	1572	1767	1689	1572	1767	1689	1570
Q Serve(g_s), s	3.1	1.1	0.0	4.4	0.0	0.1	7.4	20.9	1.4	0.8	24.1	2.5
Cycle Q Clear(g_c), s	3.1	1.1	0.0	4.4	0.0	0.1	7.4	20.9	1.4	0.8	24.1	2.5
Prop In Lane	1.00		1.00	0.74		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	130	759	99	0	87	731	2007	623	600	1633	506
V/C Ratio(X)	0.35	0.12	0.06	0.63	0.00	0.01	0.21	0.53	0.04	0.05	0.79	0.15
Avail Cap(c_a), veh/h	1028	557	1118	151	0	133	731	2007	623	600	1633	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	56.7	17.9	60.1	0.0	58.1	24.5	30.0	24.1	13.9	19.9	16.1
Incr Delay (d2), s/veh	0.3	0.2	0.0	2.4	0.0	0.0	0.1	1.0	0.1	0.0	4.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.5	0.8	2.1	0.0	0.0	3.0	8.4	0.5	0.3	6.1	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.0	56.9	17.9	62.5	0.0	58.1	24.6	31.0	24.2	13.9	23.9	16.7
LnGrp LOS	E	E	B	E	A	E	C	C	C	B	C	B
Approach Vol, veh/h		148			63			1249			1402	
Approach Delay, s/veh		45.1			62.4			30.1			23.3	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	48.2	56.8		13.7	57.8	47.2		11.3
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	11.9	* 52		39.0	20.0	41.9		11.0
Max Q Clear Time (g_c+I1), s	12.8	22.9		5.1	9.4	26.1		6.4
Green Ext Time (p_c), s	0.0	8.0		0.3	0.1	7.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	151	18	48	77	126	7	22	41	71	40	27
Future Volume (veh/h)	72	151	18	48	77	126	7	22	41	71	40	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	159	14	51	81	24	7	23	0	75	42	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	89	247	22	171	358	304	53	56	0	173	139	36
Arrive On Green	0.05	0.15	0.15	0.10	0.19	0.19	0.03	0.03	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1767	1680	148	1767	1856	1572	1767	1856	0	1767	1416	371
Grp Volume(v), veh/h	76	0	173	51	81	24	7	23	0	75	0	53
Grp Sat Flow(s),veh/h/ln	1767	0	1828	1767	1856	1572	1767	1856	0	1767	0	1787
Q Serve(g_s), s	1.1	0.0	2.2	0.7	0.9	0.3	0.1	0.3	0.0	1.0	0.0	0.7
Cycle Q Clear(g_c), s	1.1	0.0	2.2	0.7	0.9	0.3	0.1	0.3	0.0	1.0	0.0	0.7
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.00	1.00		0.21
Lane Grp Cap(c), veh/h	89	0	268	171	358	304	53	56	0	173	0	175
V/C Ratio(X)	0.85	0.00	0.64	0.30	0.23	0.08	0.13	0.41	0.00	0.43	0.00	0.30
Avail Cap(c_a), veh/h	1433	0	2223	1075	2257	1912	1075	1128	0	1791	0	1811
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	9.9	10.4	8.4	8.2	11.6	11.7	0.0	10.5	0.0	10.3
Incr Delay (d2), s/veh	8.2	0.0	1.0	0.4	0.1	0.0	0.4	1.8	0.0	0.6	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.6	0.2	0.2	0.1	0.0	0.1	0.0	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	10.9	10.7	8.5	8.2	12.1	13.5	0.0	11.1	0.0	10.7
LnGrp LOS	B	A	B	B	A	A	B	B	A	B	A	B
Approach Vol, veh/h		249			156			30			128	
Approach Delay, s/veh		13.6			9.2			13.2			10.9	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.4	8.9		5.9	4.2	10.1		4.4
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	15.0	30.0		25.0	20.0	30.0		15.0
Max Q Clear Time (g_c+I1), s	2.7	4.2		3.0	3.1	2.9		2.3
Green Ext Time (p_c), s	0.0	0.3		0.1	0.0	0.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	237	236	11	14	15
Future Vol, veh/h	25	237	236	11	14	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	27	252	251	12	15	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	263	0	-	0	563	257
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	306	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1295	-	-	-	486	779
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1295	-	-	-	476	779
Mov Cap-2 Maneuver	-	-	-	-	476	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1295	-	-	-	596
HCM Lane V/C Ratio	0.021	-	-	-	0.052
HCM Control Delay (s)	7.8	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	245	11	6	261	49	16	22	18	32	22	48
Future Volume (veh/h)	58	245	11	6	261	49	16	22	18	32	22	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	67	282	12	7	300	49	18	25	0	37	25	15
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	103	593	25	13	442	72	31	43	0	63	43	26
Arrive On Green	0.06	0.34	0.34	0.01	0.28	0.28	0.04	0.04	0.00	0.08	0.08	0.08
Sat Flow, veh/h	1767	1766	75	1767	1553	254	761	1057	0	839	567	340
Grp Volume(v), veh/h	67	0	294	7	0	349	43	0	0	77	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1842	1767	0	1807	1817	0	0	1747	0	0
Q Serve(g_s), s	1.0	0.0	3.4	0.1	0.0	4.6	0.6	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	3.4	0.1	0.0	4.6	0.6	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.14	0.42		0.00	0.48		0.19
Lane Grp Cap(c), veh/h	103	0	618	13	0	515	74	0	0	131	0	0
V/C Ratio(X)	0.65	0.00	0.48	0.52	0.00	0.68	0.58	0.00	0.00	0.59	0.00	0.00
Avail Cap(c_a), veh/h	981	0	2046	981	0	2007	1346	0	0	1294	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	7.1	13.4	0.0	8.6	12.7	0.0	0.0	12.1	0.0	0.0
Incr Delay (d2), s/veh	2.5	0.0	0.2	11.2	0.0	0.6	2.6	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.7	0.1	0.0	1.1	0.3	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	0.0	7.3	24.5	0.0	9.1	15.4	0.0	0.0	13.6	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		361			356			43			77	
Approach Delay, s/veh		8.7			9.4			15.4			13.6	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.2	13.7		5.5	4.6	12.3		4.6
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	15.0	30.0		20.0	15.0	30.0		20.0
Max Q Clear Time (g_c+I1), s	2.1	5.4		3.2	3.0	6.6		2.6
Green Ext Time (p_c), s	0.0	0.5		0.1	0.0	0.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	43	246	35	43	48	348	1200	64	47	1235	154
Future Volume (veh/h)	104	43	246	35	43	48	348	1200	64	47	1235	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	106	44	171	36	44	4	355	1224	62	48	1260	145
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	133	149	682	106	130	108	627	1960	99	578	1701	196
Arrive On Green	0.08	0.08	0.08	0.06	0.07	0.07	0.24	0.27	0.27	0.33	0.37	0.37
Sat Flow, veh/h	1767	1856	1543	1767	1856	1539	1767	4937	250	1767	4606	530
Grp Volume(v), veh/h	106	44	171	36	44	4	355	837	449	48	924	481
Grp Sat Flow(s),veh/h/ln	1767	1856	1543	1767	1856	1539	1767	1689	1810	1767	1689	1758
Q Serve(g_s), s	7.7	2.9	0.0	2.5	2.9	0.3	23.0	28.4	28.4	2.4	30.9	30.9
Cycle Q Clear(g_c), s	7.7	2.9	0.0	2.5	2.9	0.3	23.0	28.4	28.4	2.4	30.9	30.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.30
Lane Grp Cap(c), veh/h	133	149	682	106	130	108	627	1340	718	578	1247	649
V/C Ratio(X)	0.80	0.29	0.25	0.34	0.34	0.04	0.57	0.62	0.62	0.08	0.74	0.74
Avail Cap(c_a), veh/h	163	514	985	150	500	414	627	1340	718	578	1247	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	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	59.1	56.3	23.2	58.6	57.6	56.4	40.7	39.2	39.2	30.2	35.6	35.6
Incr Delay (d2), s/veh	25.9	0.4	0.1	0.7	3.3	0.3	0.8	2.2	4.1	0.0	4.0	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	1.4	3.3	1.2	1.5	0.1	10.4	12.5	13.8	1.0	12.9	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.1	56.7	23.3	59.3	60.9	56.7	41.5	41.4	43.3	30.3	39.6	43.1
LnGrp LOS	F	E	C	E	E	E	D	D	D	C	D	D
Approach Vol, veh/h		321			84			1641			1453	
Approach Delay, s/veh		48.3			60.0			41.9			40.4	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	47.1	56.9	11.4	14.6	50.7	53.3	13.4	12.6
Change Period (Y+Rc), s	4.6	* 5.3	3.6	* 4.1	4.6	5.3	3.6	3.5
Max Green Setting (Gmax), s	15.0	* 52	11.0	* 36	18.0	48.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	14.4	30.4	4.5	4.9	25.0	32.9	9.7	4.9
Green Ext Time (p_c), s	0.0	5.3	0.0	0.2	0.0	5.3	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	42.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	21	79	129	44	41	148	1560	156	38	1397	30
Future Volume (veh/h)	11	21	79	129	44	41	148	1560	156	38	1397	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	11	21	7	132	45	10	151	1592	152	39	1426	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	23	44	15	211	90	20	720	1635	156	734	1816	37
Arrive On Green	0.05	0.05	0.05	0.06	0.06	0.06	0.41	0.35	0.35	0.42	0.36	0.36
Sat Flow, veh/h	500	955	318	3428	1470	327	1767	4703	449	1767	5110	104
Grp Volume(v), veh/h	39	0	0	132	0	55	151	1143	601	39	942	513
Grp Sat Flow(s),veh/h/ln	1773	0	0	1714	0	1797	1767	1689	1775	1767	1689	1837
Q Serve(g_s), s	2.8	0.0	0.0	4.9	0.0	3.9	7.2	43.4	43.5	1.7	32.4	32.4
Cycle Q Clear(g_c), s	2.8	0.0	0.0	4.9	0.0	3.9	7.2	43.4	43.5	1.7	32.4	32.4
Prop In Lane	0.28		0.18	1.00		0.18	1.00		0.25	1.00		0.06
Lane Grp Cap(c), veh/h	82	0	0	211	0	110	720	1174	617	734	1200	653
V/C Ratio(X)	0.47	0.00	0.00	0.63	0.00	0.50	0.21	0.97	0.97	0.05	0.79	0.79
Avail Cap(c_a), veh/h	218	0	0	949	0	498	720	1174	617	734	1200	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.4	0.0	0.0	59.5	0.0	59.1	25.0	41.8	41.8	22.7	37.5	37.5
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.1	0.0	1.3	0.1	20.5	30.5	0.0	5.2	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.2	0.0	1.8	3.0	20.6	23.4	0.7	13.7	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	0.0	0.0	60.7	0.0	60.4	25.0	62.3	72.4	22.7	42.7	46.7
LnGrp LOS	E	A	A	E	A	E	C	E	E	C	D	D
Approach Vol, veh/h		39			187			1895			1494	
Approach Delay, s/veh		62.0			60.6			62.5			43.5	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	57.5	50.5		10.0	56.5	51.5		12.0
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	16.0	45.2		16.0	15.0	46.2		36.0
Max Q Clear Time (g_c+I1), s	13.7	45.5		4.8	9.2	34.4		6.9
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	5.8		0.4

Intersection Summary	
HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	244	36	99	333	0	44
Future Vol, veh/h	244	36	99	333	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	334	49	136	456	0	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	383	0	-	192
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.16	-	-	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.23	-	-	3.33
Pot Cap-1 Maneuver	-	-	1165	-	0	814
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1165	-	-	814
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	814	-	-	1165	-
HCM Lane V/C Ratio	0.074	-	-	0.116	-
HCM Control Delay (s)	9.8	-	-	8.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	141	134	40	1978	1430	43
Future Volume (veh/h)	141	134	40	1978	1430	43
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	144	15	41	2018	1459	32
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	171	152	82	2919	2648	1153
Arrive On Green	0.10	0.10	0.05	0.83	0.75	0.75
Sat Flow, veh/h	1767	1572	1767	3618	3618	1535
Grp Volume(v), veh/h	144	15	41	2018	1459	32
Grp Sat Flow(s),veh/h/ln	1767	1572	1767	1763	1763	1535
Q Serve(g_s), s	10.4	1.1	2.9	29.9	22.8	0.7
Cycle Q Clear(g_c), s	10.4	1.1	2.9	29.9	22.8	0.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	171	152	82	2919	2648	1153
V/C Ratio(X)	0.84	0.10	0.50	0.69	0.55	0.03
Avail Cap(c_a), veh/h	367	327	272	2919	2648	1153
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	57.8	53.6	60.5	4.5	6.9	4.1
Incr Delay (d2), s/veh	4.3	0.1	1.8	1.4	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	1.0	1.3	6.8	7.1	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	62.0	53.7	62.3	5.9	7.7	4.2
LnGrp LOS	E	D	E	A	A	A
Approach Vol, veh/h	159			2059	1491	
Approach Delay, s/veh	61.3			7.0	7.6	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		113.3		16.7	10.0	103.3
Change Period (Y+Rc), s		5.7		4.1	4.0	5.7
Max Green Setting (Gmax), s		93.2		27.0	20.0	69.2
Max Q Clear Time (g_c+I1), s		31.9		12.4	4.9	24.8
Green Ext Time (p_c), s		16.4		0.2	0.0	8.5

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	226	27	59	199	1	53	0	136	1	0	0
Future Vol, veh/h	0	226	27	59	199	1	53	0	136	1	0	0
Conflicting Peds, #/hr	0	0	4	0	0	1	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	100	-	125	0	-	-	225	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	297	36	78	262	1	70	0	179	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	264	0	-	297	0	0	717	717	297	807	717	265
Stage 1	-	-	-	-	-	-	297	297	-	420	420	-
Stage 2	-	-	-	-	-	-	420	420	-	387	297	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1294	-	0	1259	-	-	343	354	740	299	354	771
Stage 1	-	-	0	-	-	-	709	666	-	609	588	-
Stage 2	-	-	0	-	-	-	609	588	-	635	666	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1293	-	-	1259	-	-	327	332	740	216	332	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	327	332	-	216	332	-
Stage 1	-	-	-	-	-	-	709	666	-	608	551	-
Stage 2	-	-	-	-	-	-	571	551	-	481	666	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.8	13.5	21.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	327	740	1293	-	1259	-	-	216
HCM Lane V/C Ratio	0.213	0.242	-	-	0.062	-	-	0.006
HCM Control Delay (s)	19	11.4	0	-	8	-	-	21.8
HCM Lane LOS	C	B	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0.9	0	-	0.2	-	-	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	362	1	8	237	24	41
Future Vol, veh/h	362	1	8	237	24	41
Conflicting Peds, #/hr	0	4	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	489	1	11	320	32	55

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	494	0	676	250
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	182	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1059	-	385	747
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	828	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1055	-	380	743
Mov Cap-2 Maneuver	-	-	-	-	380	-
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	828	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	549	-	-	1055	-
HCM Lane V/C Ratio	0.16	-	-	0.01	-
HCM Control Delay (s)	12.8	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	369	220	19	49	26
Future Vol, veh/h	34	369	220	19	49	26
Conflicting Peds, #/hr	0	0	0	2	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	47	505	301	26	67	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	329	0	-	0	663	168
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	347	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	1220	-	-	-	392	844
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	684	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1218	-	-	-	375	841
Mov Cap-2 Maneuver	-	-	-	-	375	-
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	683	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1218	-	-	-	464
HCM Lane V/C Ratio	0.038	-	-	-	0.221
HCM Control Delay (s)	8.1	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	427	10	25	269	35	5	25	70	96	33	15
Future Volume (veh/h)	35	427	10	25	269	35	5	25	70	96	33	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	45	547	12	32	345	35	6	32	0	123	42	2
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	56	1168	26	42	1044	105	54	57	0	213	212	10
Arrive On Green	0.03	0.33	0.33	0.02	0.32	0.32	0.03	0.03	0.00	0.12	0.12	0.12
Sat Flow, veh/h	1767	3527	77	1767	3233	326	1767	1856	0	1767	1756	84
Grp Volume(v), veh/h	45	273	286	32	187	193	6	32	0	123	0	44
Grp Sat Flow(s),veh/h/ln	1767	1763	1841	1767	1763	1796	1767	1856	0	1767	0	1840
Q Serve(g_s), s	0.7	3.2	3.2	0.5	2.1	2.1	0.1	0.4	0.0	1.7	0.0	0.6
Cycle Q Clear(g_c), s	0.7	3.2	3.2	0.5	2.1	2.1	0.1	0.4	0.0	1.7	0.0	0.6
Prop In Lane	1.00		0.04	1.00		0.18	1.00		0.00	1.00		0.05
Lane Grp Cap(c), veh/h	56	584	610	42	570	580	54	57	0	213	0	222
V/C Ratio(X)	0.80	0.47	0.47	0.76	0.33	0.33	0.11	0.56	0.00	0.58	0.00	0.20
Avail Cap(c_a), veh/h	1342	2678	2797	1342	2678	2728	1678	1762	0	1678	0	1747
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	7.0	7.0	12.8	6.7	6.8	12.4	12.6	0.0	10.9	0.0	10.4
Incr Delay (d2), s/veh	21.8	0.6	0.6	24.1	0.3	0.3	0.9	8.4	0.0	2.5	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.6	0.6	0.4	0.4	0.4	0.0	0.3	0.0	0.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	7.6	7.5	36.9	7.1	7.1	13.3	21.0	0.0	13.4	0.0	10.9
LnGrp LOS	C	A	A	D	A	A	B	C	A	B	A	B
Approach Vol, veh/h		604			412			38			167	
Approach Delay, s/veh		9.5			9.4			19.8			12.7	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.6	12.7		6.2	3.8	12.5		3.8
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0
Max Q Clear Time (g_c+I1), s	2.5	5.2		3.7	2.7	4.1		2.4
Green Ext Time (p_c), s	0.0	3.3		0.5	0.1	2.2		0.1

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	361	220	274	194	612	157	1237	273	431	1067	66
Future Volume (veh/h)	151	361	220	274	194	612	157	1237	273	431	1067	66
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		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	154	368	58	280	198	0	160	1262	153	440	1089	64
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	293	526	642	329	279		900	1131	502	1032	1215	71
Arrive On Green	0.17	0.15	0.15	0.10	0.08	0.00	0.26	0.32	0.32	0.30	0.36	0.36
Sat Flow, veh/h	1767	3526	1538	3428	3526	1572	3428	3526	1564	3428	3381	199
Grp Volume(v), veh/h	154	368	58	280	198	0	160	1262	153	440	568	585
Grp Sat Flow(s),veh/h/ln	1767	1763	1538	1714	1763	1572	1714	1763	1564	1714	1763	1817
Q Serve(g_s), s	10.3	12.9	0.0	10.5	7.1	0.0	4.7	41.7	9.6	13.4	39.6	39.6
Cycle Q Clear(g_c), s	10.3	12.9	0.0	10.5	7.1	0.0	4.7	41.7	9.6	13.4	39.6	39.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	293	526	642	329	279		900	1131	502	1032	633	653
V/C Ratio(X)	0.52	0.70	0.09	0.85	0.71		0.18	1.12	0.31	0.43	0.90	0.90
Avail Cap(c_a), veh/h	293	976	839	343	868		900	1131	502	1032	633	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	52.5	23.4	57.9	58.4	0.0	37.1	44.1	33.2	36.4	39.4	39.4
Incr Delay (d2), s/veh	0.8	0.6	0.0	16.7	1.2	0.0	0.0	64.6	1.6	0.1	17.8	17.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	5.7	1.1	5.2	3.2	0.0	1.9	27.6	3.8	5.5	19.5	20.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.4	53.2	23.4	74.5	59.6	0.0	37.1	108.7	34.8	36.5	57.1	56.8
LnGrp LOS	D	D	C	E	E		D	F	C	D	E	E
Approach Vol, veh/h		580			478	A		1575			1593	
Approach Delay, s/veh		49.4			68.4			94.3			51.3	
Approach LOS		D			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.2	47.0	16.0	23.8	38.2	52.0	25.1	14.7
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	22.9	41.7	13.0	36.0	17.0	46.7	17.0	32.0
Max Q Clear Time (g_c+I1), s	15.4	43.7	12.5	14.9	6.7	41.6	12.3	9.1
Green Ext Time (p_c), s	0.2	0.0	0.0	0.8	0.1	1.3	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	69.0
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	0	7	52	0	37	3	134	7	2	82	2
Future Vol, veh/h	18	0	7	52	0	37	3	134	7	2	82	2
Conflicting Peds, #/hr	0	0	8	0	0	0	0	0	50	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	0	11	83	0	59	5	213	11	3	130	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	398	424	142	430	420	269	135	0	0	274	0	0
Stage 1	140	140	-	279	279	-	-	-	-	-	-	-
Stage 2	258	284	-	151	141	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	560	520	903	534	523	767	1443	-	-	1283	-	-
Stage 1	861	779	-	725	678	-	-	-	-	-	-	-
Stage 2	744	675	-	849	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	511	491	894	496	494	730	1440	-	-	1222	-	-
Mov Cap-2 Maneuver	511	491	-	496	494	-	-	-	-	-	-	-
Stage 1	856	776	-	688	643	-	-	-	-	-	-	-
Stage 2	681	640	-	830	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	13.3	0.2	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1440	-	-	581	572	1222	-	-
HCM Lane V/C Ratio	0.003	-	-	0.068	0.247	0.003	-	-
HCM Control Delay (s)	7.5	0	-	11.7	13.3	8	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1	0	-	-

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	11	42	40	2	27	17	96	5	1	125	12
Future Vol, veh/h	18	11	42	40	2	27	17	96	5	1	125	12
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	17	67	63	3	43	27	152	8	2	198	19
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.8	9	9.6	10.4
HCM LOS	A	A	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	25%	58%	100%	0%
Vol Thru, %	0%	95%	15%	3%	0%	91%
Vol Right, %	0%	5%	59%	39%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	101	71	69	1	137
LT Vol	17	0	18	40	1	0
Through Vol	0	96	11	2	0	125
RT Vol	0	5	42	27	0	12
Lane Flow Rate	27	160	113	110	2	217
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.044	0.235	0.151	0.153	0.003	0.316
Departure Headway (Hd)	5.817	5.278	4.829	5.013	5.791	5.226
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	612	677	737	711	615	683
Service Time	3.585	3.045	2.895	3.08	3.556	2.99
HCM Lane V/C Ratio	0.044	0.236	0.153	0.155	0.003	0.318
HCM Control Delay	8.9	9.7	8.8	9	8.6	10.4
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0.1	0.9	0.5	0.5	0	1.4

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	7	4	81	0	3	1	60	32	6	124	4
Future Vol, veh/h	3	7	4	81	0	3	1	60	32	6	124	4
Conflicting Peds, #/hr	0	0	2	0	0	1	0	0	2	0	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	4	10	6	121	0	4	1	90	48	9	185	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	334	357	199	334	336	117	200	0	0	140	0	0
Stage 1	215	215	-	118	118	-	-	-	-	-	-	-
Stage 2	119	142	-	216	218	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	618	567	839	618	583	932	1366	-	-	1437	-	-
Stage 1	785	723	-	884	796	-	-	-	-	-	-	-
Stage 2	883	777	-	784	721	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	606	556	830	599	572	929	1354	-	-	1434	-	-
Mov Cap-2 Maneuver	606	556	-	599	572	-	-	-	-	-	-	-
Stage 1	777	711	-	881	794	-	-	-	-	-	-	-
Stage 2	877	775	-	760	709	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	12.5	0.1	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1354	-	-	626	607	1434	-	-
HCM Lane V/C Ratio	0.001	-	-	0.033	0.207	0.006	-	-
HCM Control Delay (s)	7.7	0	-	10.9	12.5	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.8	0	-	-

Intersection	
Intersection Delay, s/veh	4.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	30	141	103	278
Demand Flow Rate, veh/h	31	145	106	287
Vehicles Circulating, veh/h	302	70	200	72
Vehicles Exiting, veh/h	57	236	133	143
Ped Vol Crossing Leg, #/h	2	0	0	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.9	3.8	4.1	4.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	31	145	106	287
Cap Entry Lane, veh/h	1014	1285	1125	1282
Entry HV Adj Factor	0.977	0.971	0.973	0.969
Flow Entry, veh/h	30	141	103	278
Cap Entry, veh/h	990	1248	1095	1242
V/C Ratio	0.031	0.113	0.094	0.224
Control Delay, s/veh	3.9	3.8	4.1	4.9
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	46	258	61	37	72	180	1436	45	60	1356	98
Future Volume (veh/h)	189	46	258	61	37	72	180	1436	45	60	1356	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	193	47	192	62	38	5	184	1465	23	61	1384	51
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	316	171	736	77	47	108	667	2007	622	536	1633	499
Arrive On Green	0.09	0.09	0.09	0.07	0.07	0.07	0.38	0.40	0.40	0.61	0.64	0.64
Sat Flow, veh/h	3428	1856	1552	1116	684	1572	1767	5066	1571	1767	5066	1548
Grp Volume(v), veh/h	193	47	192	100	0	5	184	1465	23	61	1384	51
Grp Sat Flow(s),veh/h/ln	1714	1856	1552	1800	0	1572	1767	1689	1571	1767	1689	1548
Q Serve(g_s), s	7.0	3.1	0.0	7.1	0.0	0.4	9.4	31.9	1.2	1.9	27.8	1.6
Cycle Q Clear(g_c), s	7.0	3.1	0.0	7.1	0.0	0.4	9.4	31.9	1.2	1.9	27.8	1.6
Prop In Lane	1.00		1.00	0.62		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	171	736	124	0	108	667	2007	622	536	1633	499
V/C Ratio(X)	0.61	0.28	0.26	0.81	0.00	0.05	0.28	0.73	0.04	0.11	0.85	0.10
Avail Cap(c_a), veh/h	1028	557	1059	152	0	133	667	2007	622	536	1633	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	55.0	20.8	59.6	0.0	56.5	28.1	33.3	24.1	18.2	20.6	15.9
Incr Delay (d2), s/veh	0.7	0.3	0.1	18.4	0.0	0.1	0.1	2.4	0.1	0.0	5.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.5	3.6	3.9	0.0	0.2	3.9	13.0	0.4	0.8	6.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	55.3	20.9	78.0	0.0	56.6	28.2	35.7	24.2	18.2	26.3	16.4
LnGrp LOS	E	E	C	E	A	E	C	D	C	B	C	B
Approach Vol, veh/h		432			105			1672			1496	
Approach Delay, s/veh		41.0			77.0			34.7			25.6	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	43.6	56.8		16.6	53.2	47.2		13.1
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	11.6	* 52		39.0	20.0	41.9		11.0
Max Q Clear Time (g_c+I1), s	13.9	33.9		9.0	11.4	29.8		9.1
Green Ext Time (p_c), s	0.0	9.3		0.9	0.1	7.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	104	10	35	137	68	6	5	28	133	14	100
Future Volume (veh/h)	19	104	10	35	137	68	6	5	28	133	14	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	25	135	9	45	178	13	8	6	0	173	18	1
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	34	223	15	177	391	331	26	28	0	239	236	13
Arrive On Green	0.02	0.13	0.13	0.10	0.21	0.21	0.01	0.01	0.00	0.14	0.14	0.14
Sat Flow, veh/h	1767	1720	115	1767	1856	1569	1767	1856	0	1767	1741	97
Grp Volume(v), veh/h	25	0	144	45	178	13	8	6	0	173	0	19
Grp Sat Flow(s),veh/h/ln	1767	0	1835	1767	1856	1569	1767	1856	0	1767	0	1837
Q Serve(g_s), s	0.4	0.0	1.9	0.6	2.1	0.2	0.1	0.1	0.0	2.3	0.0	0.2
Cycle Q Clear(g_c), s	0.4	0.0	1.9	0.6	2.1	0.2	0.1	0.1	0.0	2.3	0.0	0.2
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.00	1.00		0.05
Lane Grp Cap(c), veh/h	34	0	238	177	391	331	26	28	0	239	0	249
V/C Ratio(X)	0.74	0.00	0.61	0.25	0.46	0.04	0.31	0.22	0.00	0.72	0.00	0.08
Avail Cap(c_a), veh/h	1413	0	2201	1060	2226	1882	1060	1113	0	1767	0	1837
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	10.3	10.4	8.6	7.9	12.2	12.2	0.0	10.4	0.0	9.4
Incr Delay (d2), s/veh	11.1	0.0	0.9	0.3	0.3	0.0	2.4	1.5	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.2	0.5	0.0	0.0	0.0	0.0	0.7	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	0.0	11.2	10.7	8.9	7.9	14.6	13.6	0.0	11.9	0.0	9.5
LnGrp LOS	C	A	B	B	A	A	B	B	A	B	A	A
Approach Vol, veh/h		169			236			14			192	
Approach Delay, s/veh		13.0			9.2			14.2			11.7	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	8.5		6.9	3.5	10.6		4.1
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	15.0	30.0		25.0	20.0	30.0		15.0
Max Q Clear Time (g_c+I1), s	2.6	3.9		4.3	2.4	4.1		2.1
Green Ext Time (p_c), s	0.0	0.2		0.0	0.0	0.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	258	200	10	23	40
Future Vol, veh/h	7	258	200	10	23	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	8	307	238	12	27	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	250	0	-	0	567	244
Stage 1	-	-	-	-	244	-
Stage 2	-	-	-	-	323	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1310	-	-	-	483	792
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	732	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1310	-	-	-	480	792
Mov Cap-2 Maneuver	-	-	-	-	480	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	732	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1310	-	-	-	640
HCM Lane V/C Ratio	0.006	-	-	-	0.117
HCM Control Delay (s)	7.8	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	259	13	18	190	36	4	7	16	65	13	30
Future Volume (veh/h)	28	259	13	18	190	36	4	7	16	65	13	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	35	328	13	23	241	38	5	9	0	82	16	19
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	61	520	21	42	441	70	10	17	0	111	22	26
Arrive On Green	0.03	0.29	0.29	0.02	0.28	0.28	0.01	0.01	0.00	0.09	0.09	0.09
Sat Flow, veh/h	1767	1772	70	1767	1564	247	651	1172	0	1221	238	283
Grp Volume(v), veh/h	35	0	341	23	0	279	14	0	0	117	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1843	1767	0	1810	1823	0	0	1742	0	0
Q Serve(g_s), s	0.5	0.0	4.1	0.3	0.0	3.3	0.2	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	4.1	0.3	0.0	3.3	0.2	0.0	0.0	1.7	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.14	0.36		0.00	0.70		0.16
Lane Grp Cap(c), veh/h	61	0	540	42	0	511	27	0	0	159	0	0
V/C Ratio(X)	0.57	0.00	0.63	0.55	0.00	0.55	0.52	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	1048	0	2186	1048	0	2147	1442	0	0	1378	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	0.0	7.8	12.2	0.0	7.7	12.4	0.0	0.0	11.2	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	0.5	4.2	0.0	0.3	5.6	0.0	0.0	2.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.8	0.1	0.0	0.7	0.1	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	0.0	8.2	16.4	0.0	8.0	18.0	0.0	0.0	13.7	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		376			302			14			117	
Approach Delay, s/veh		8.9			8.7			18.0			13.7	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.6	12.0		5.8	3.9	11.7		3.9
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	15.0	30.0		20.0	15.0	30.0		20.0
Max Q Clear Time (g_c+I1), s	2.3	6.1		3.7	2.5	5.3		2.2
Green Ext Time (p_c), s	0.0	0.6		0.2	0.0	0.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	80	388	117	68	141	182	1443	86	125	1384	87
Future Volume (veh/h)	146	80	388	117	68	141	182	1443	86	125	1384	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	149	82	362	119	69	16	186	1472	82	128	1412	85
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	197	163	647	144	116	98	576	1949	109	527	1804	109
Arrive On Green	0.11	0.09	0.09	0.08	0.06	0.06	0.11	0.13	0.13	0.30	0.37	0.37
Sat Flow, veh/h	1767	1856	1535	1767	1856	1565	1767	4910	273	1767	4885	294
Grp Volume(v), veh/h	149	82	362	119	69	16	186	1013	541	128	976	521
Grp Sat Flow(s),veh/h/ln	1767	1856	1535	1767	1856	1565	1767	1689	1806	1767	1689	1802
Q Serve(g_s), s	10.6	5.5	0.0	8.6	4.7	1.3	12.6	37.6	37.6	7.1	33.3	33.3
Cycle Q Clear(g_c), s	10.6	5.5	0.0	8.6	4.7	1.3	12.6	37.6	37.6	7.1	33.3	33.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		0.16
Lane Grp Cap(c), veh/h	197	163	647	144	116	98	576	1340	717	527	1247	665
V/C Ratio(X)	0.76	0.50	0.56	0.82	0.59	0.16	0.32	0.76	0.76	0.24	0.78	0.78
Avail Cap(c_a), veh/h	197	514	938	150	500	421	576	1340	717	527	1247	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	56.6	29.0	58.8	59.3	57.7	44.7	50.4	50.4	34.5	36.4	36.4
Incr Delay (d2), s/veh	18.1	0.9	0.3	27.2	10.0	1.7	0.1	4.0	7.3	0.1	5.0	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	2.6	8.5	4.9	2.5	0.5	6.0	17.7	19.6	3.0	14.1	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.1	57.5	29.3	85.9	69.3	59.4	44.9	54.4	57.7	34.6	41.3	45.3
LnGrp LOS	E	E	C	F	E	E	D	D	E	C	D	D
Approach Vol, veh/h		593			204			1740			1625	
Approach Delay, s/veh		44.5			78.2			54.4			42.1	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.4	56.9	14.2	15.5	47.0	53.3	18.1	11.6
Change Period (Y+Rc), s	4.6	* 5.3	3.6	* 4.1	4.6	5.3	3.6	3.5
Max Green Setting (Gmax), s	15.0	* 52	11.0	* 36	18.0	48.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	9.1	39.6	10.6	7.5	14.6	35.3	12.6	6.7
Green Ext Time (p_c), s	0.0	5.3	0.0	0.4	0.0	5.3	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	49.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	34	179	229	34	56	63	1613	279	63	1840	12
Future Volume (veh/h)	42	34	179	229	34	56	63	1613	279	63	1840	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	43	35	118	234	35	8	64	1646	268	64	1878	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	45	36	123	352	149	34	512	1527	247	526	1847	11
Arrive On Green	0.12	0.12	0.12	0.10	0.10	0.10	0.29	0.35	0.35	0.30	0.36	0.36
Sat Flow, veh/h	364	296	998	3428	1457	333	1767	4392	711	1767	5197	30
Grp Volume(v), veh/h	196	0	0	234	0	43	64	1264	650	64	1220	669
Grp Sat Flow(s),veh/h/ln	1658	0	0	1714	0	1790	1767	1689	1726	1767	1689	1850
Q Serve(g_s), s	15.3	0.0	0.0	8.5	0.0	2.9	3.5	45.2	45.2	3.4	46.2	46.2
Cycle Q Clear(g_c), s	15.3	0.0	0.0	8.5	0.0	2.9	3.5	45.2	45.2	3.4	46.2	46.2
Prop In Lane	0.22		0.60	1.00		0.19	1.00		0.41	1.00		0.02
Lane Grp Cap(c), veh/h	204	0	0	352	0	184	512	1174	600	526	1200	657
V/C Ratio(X)	0.96	0.00	0.00	0.67	0.00	0.23	0.12	1.08	1.08	0.12	1.02	1.02
Avail Cap(c_a), veh/h	204	0	0	949	0	496	512	1174	600	526	1200	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.7	0.0	0.0	56.2	0.0	53.6	34.0	42.4	42.4	33.3	41.9	41.9
Incr Delay (d2), s/veh	51.3	0.0	0.0	0.8	0.0	0.2	0.0	49.3	61.4	0.0	30.3	39.5
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	9.2	0.0	0.0	3.8	0.0	1.3	1.5	26.0	28.6	1.5	23.4	27.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.0	0.0	0.0	57.0	0.0	53.9	34.1	91.7	103.8	33.3	72.2	81.4
LnGrp LOS	F	A	A	E	A	D	C	F	F	C	F	F
Approach Vol, veh/h		196			277			1978			1953	
Approach Delay, s/veh		108.0			56.5			93.8			74.0	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	42.2	50.5		20.0	41.2	51.5		17.3
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	16.0	45.2		16.0	15.0	46.2		36.0
Max Q Clear Time (g_c+I1), s	17.5	47.2		17.3	5.5	48.2		10.5
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.6

Intersection Summary	
HCM 6th Ctrl Delay	83.3
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	345	73	50	239	0	84
Future Vol, veh/h	345	73	50	239	0	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	473	100	68	327	0	115

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	573	0	-	287
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.16	-	-	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.23	-	-	3.33
Pot Cap-1 Maneuver	-	-	989	-	0	707
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	989	-	-	707
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	707	-	-	989	-
HCM Lane V/C Ratio	0.163	-	-	0.069	-
HCM Control Delay (s)	11.1	-	-	8.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0.2	-

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	2. Richardson Dr / Bell Rd
Scenario	Existing Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*
AM Peak Hour Volume	26	1	54	0	0	1	0	201	70	152	117	3
AM Peak Hour Delay (s)	19.3	10	10	9	9	9	0	0	0	8.2	0	0
PM Peak Hour Volume	53	0	136	1	0	0	0	226	27	59	199	1
PM Peak Hour Delay (s)	19	11.4	11.4	21.8	21.8	21.8	0	0	0	8	0	0

AM Delay	**9.9**
AM LOS	**A**

PM Delay	**12.3**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	3. County Center Dr / Bell Rd
Scenario	Existing Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yield*	*Free*	
AM Peak Hour Volume	7		8					251	4	45	274	
AM Peak Hour Delay (s)	12		12					0	0	8.2	0	
PM Peak Hour Volume	24		41					362	1	8	237	
PM Peak Hour Delay (s)	12.8		12.8					0	0	8.4	0	

AM Delay	**9.2**
AM LOS	**A**

PM Delay	**12.3**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	4. 1st St / Blue Oaks Dr
Scenario	Existing Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control				*Stop*		*Stop*	*Yield*	*Free*			*Free*	*Free*
AM Peak Hour Volume				41		51	20	239			292	41
AM Peak Hour Delay (s)				13.8		13.8	8.4	0			0	0
PM Peak Hour Volume				49		26	34	369			220	19
PM Peak Hour Delay (s)				15		15	8.1	0			0	0

AM Delay	**12.8**
AM LOS	**B**

PM Delay	**12.8**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	7. Richardson Dr / DeWitt Av
Scenario	Existing Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	6	76	29	28	177	17	2	0	3	10	0	3
AM Peak Hour Delay (s)	7.8	0	0	7.6	0	0	10.8	10.8	10.8	11.8	11.8	11.8
PM Peak Hour Volume	3	134	7	2	82	2	18	0	7	52	0	37
PM Peak Hour Delay (s)	7.5	0	0	8	0	0	11.7	11.7	11.7	13.3	13.3	13.3

AM Delay	**9.0**
AM LOS	**A**

PM Delay	**12.7**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	9. 1st St / D Av / Professional Dr
Scenario	Existing Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	9	117	75	7	64	0	0	0	2	3	7	9
AM Peak Hour Delay (s)	7.4	0	0	7.7	0	0	8.7	8.7	8.7	10.9	10.9	10.9
PM Peak Hour Volume	1	60	32	6	124	4	3	7	4	81	0	3
PM Peak Hour Delay (s)	7.7	0	0	7.5	0	0	10.9	10.9	10.9	12.5	12.5	12.5

AM Delay	**9.3**
AM LOS	**A**

PM Delay	**12.0**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	13. Atwood Rd / 3rd St
Scenario	Existing Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control				*Stop*		*Stop*	*Yield*	*Free*			*Free*	*Free*
AM Peak Hour Volume				14		15	25	237			236	11
AM Peak Hour Delay (s)				11.4		11.4	7.8	0			0	0
PM Peak Hour Volume				23		40	7	258			200	10
PM Peak Hour Delay (s)				11.4		11.4	7.8	0			0	0

AM Delay	**9.7**
AM LOS	**A**

PM Delay	**11.0**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	17. 1st St / Bell Rd
Scenario	Existing Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yield*	*Free*	
AM Peak Hour Volume	0		44					244	36	99	333	
AM Peak Hour Delay (s)	9.8		9.8					0	0	8.5	0	
PM Peak Hour Volume	0		84					345	73	50	239	
PM Peak Hour Delay (s)	11.1		11.1					0	0	8.9	0	

AM Delay	**8.9**
AM LOS	**A**

PM Delay	**10.3**
PM LOS	**B**

FEHR PEERS

Major Street	Bell Road
Minor Street	Richardson Drive

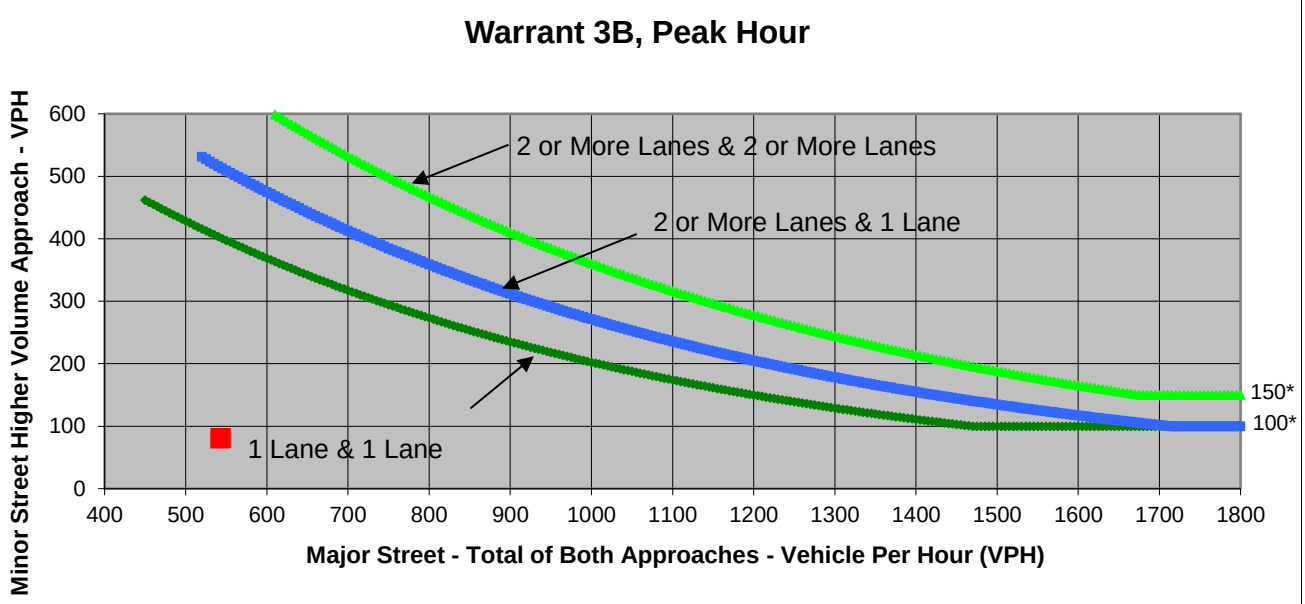
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	26	0	0	152
Through	1	0	201	117
Right	54	1	70	3
Total	81	1	271	272

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Richardson Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**543**	**81**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	AM

Major Street	Bell Road
Minor Street	Richardson Drive

Turn Movement Volumes

	NB	SB	EB	WB
Left	26	0	0	152
Through	1	0	201	117
Right	54	1	70	3
Total	81	1	271	272

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.1
Approach with Worst Case Delay	NB
Total Vehicles on Approach	81

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
xisting Plus Multifamily Residentia	**0.3**	**81**	**625**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Road
Minor Street	Richardson Drive

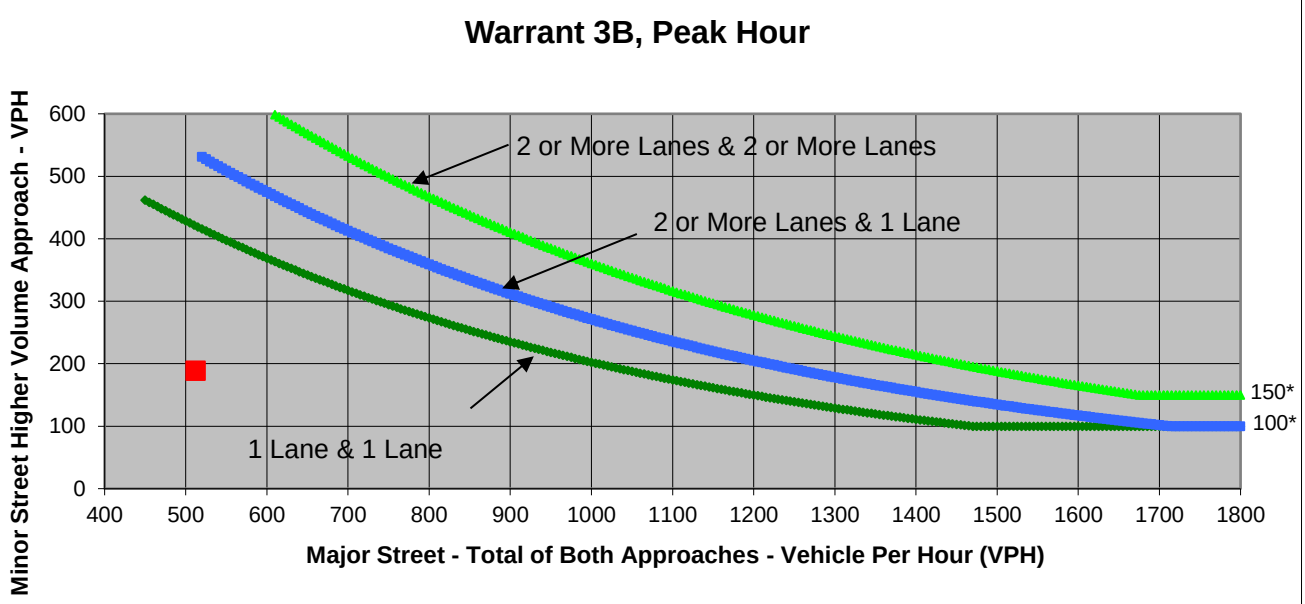
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	53	1	0	59
Through	0	0	226	199
Right	136	0	27	1
Total	189	1	253	259

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Richardson Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**512**	**189**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	Richardson Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	53	1	0	59
Through	0	0	226	199
Right	136	0	27	1
Total	189	1	253	259

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	19.6
Approach with Worst Case Delay	SB
Total Vehicles on Approach	1

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
xisting Plus Multifamily Residentia	**0**	**189**	**702**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

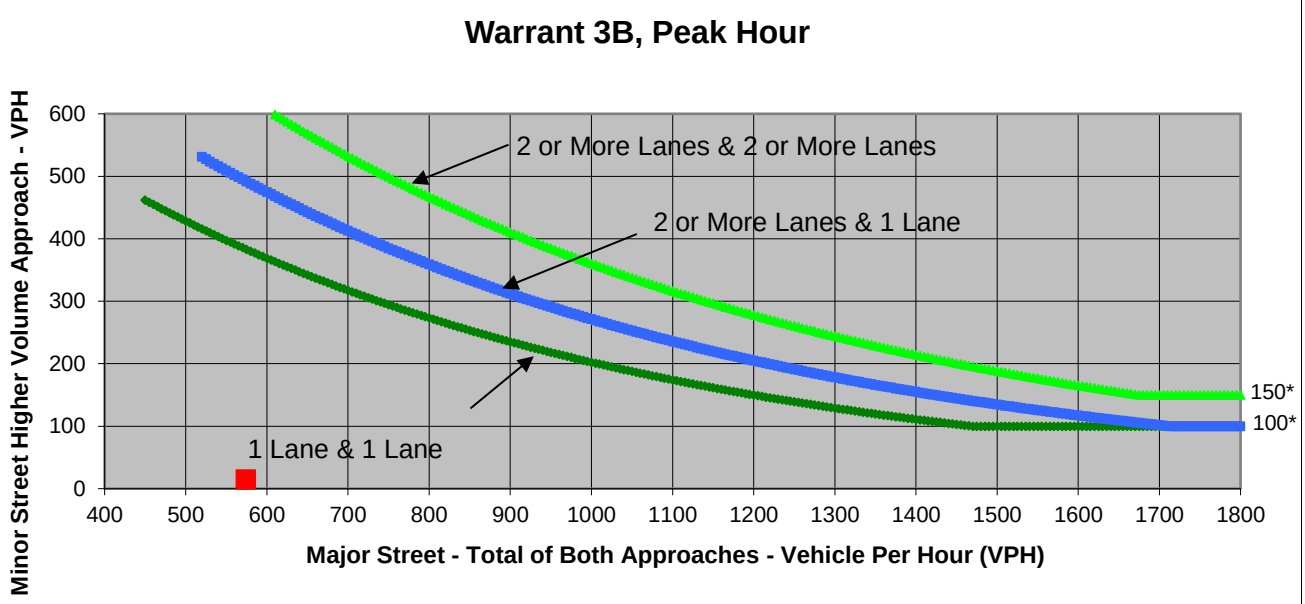
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	County Center Drive	Scenario	Existing Plus Multifamily Residential
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	7			45
Through			251	274
Right	8		4	
Total	15	0	255	319

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	County Center Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**574**	**15**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	County Center Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	7	0	0	45
Through	0	0	251	274
Right	8	0	4	0
Total	15	0	255	319

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12
Approach with Worst Case Delay	NB
Total Vehicles on Approach	15

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
xisting Plus Multifamily Residentia	**0.1**	**15**	**589**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

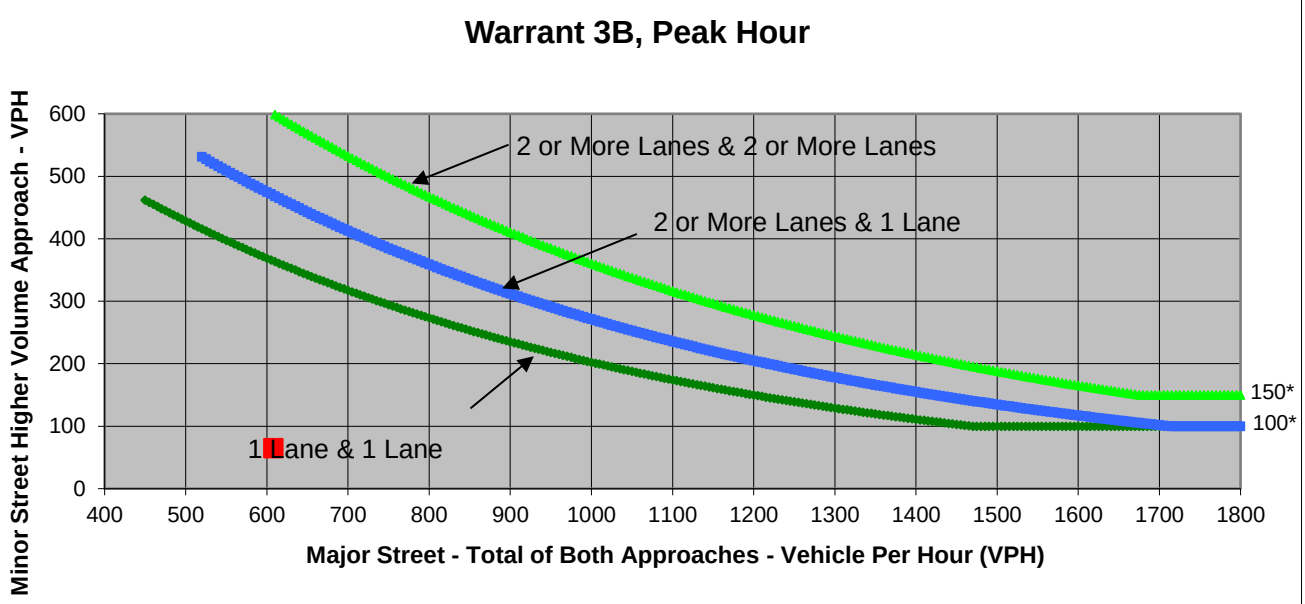
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	County Center Drive	Scenario	Existing Plus Multifamily Residential
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24			8
Through			362	237
Right	41		1	
Total	65	0	363	245

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	County Center Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**608**	**65**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	County Center Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	0	0	8
Through	0	0	362	237
Right	41	0	1	0
Total	65	0	363	245

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.8
Approach with Worst Case Delay	NB
Total Vehicles on Approach	65

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
xisting Plus Multifamily Residentia	**0.2**	**65**	**673**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Road
Minor Street	Blue Oaks Drive

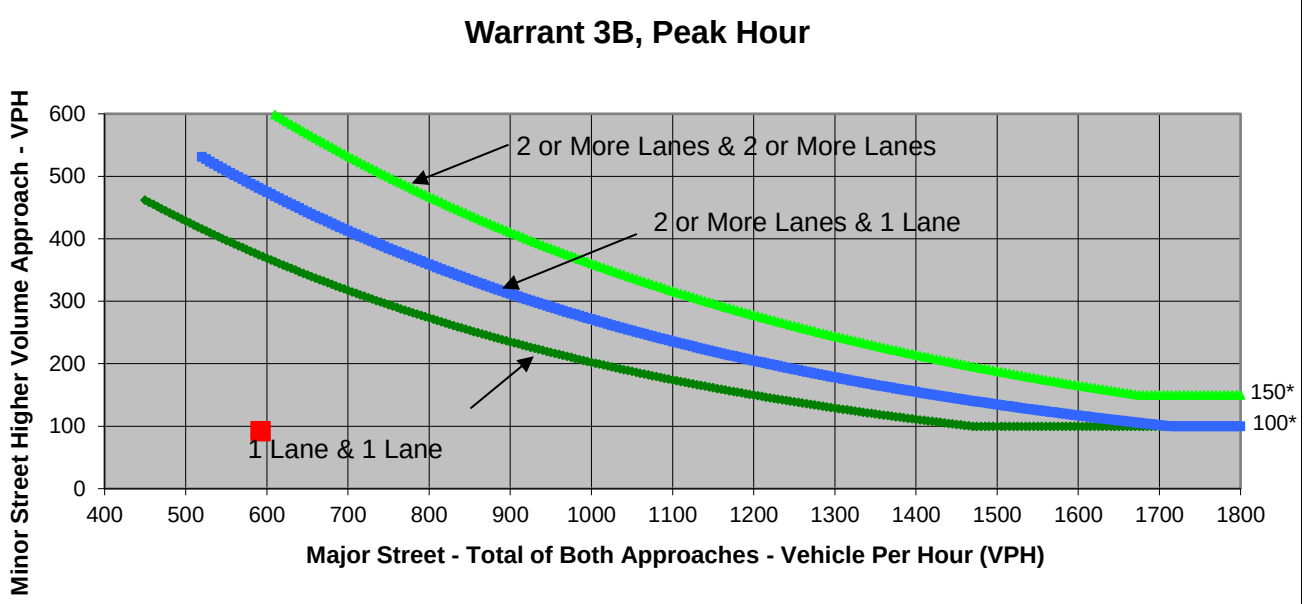
Project	PCGC Master Plan Update
Scenario	Existing Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		41	20	
Through			239	292
Right		51		41
Total	0	92	259	333

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Blue Oaks Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**592**	**92**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	Blue Oaks Drive

Project	PCGC Master Plan Update
Scenario	Existing Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	41	20	0
Through	0	0	239	292
Right	0	51	0	41
Total	0	92	259	333

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.8
Approach with Worst Case Delay	SB
Total Vehicles on Approach	92

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
xisting Plus Multifamily Residentia	**0.4**	**92**	**684**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

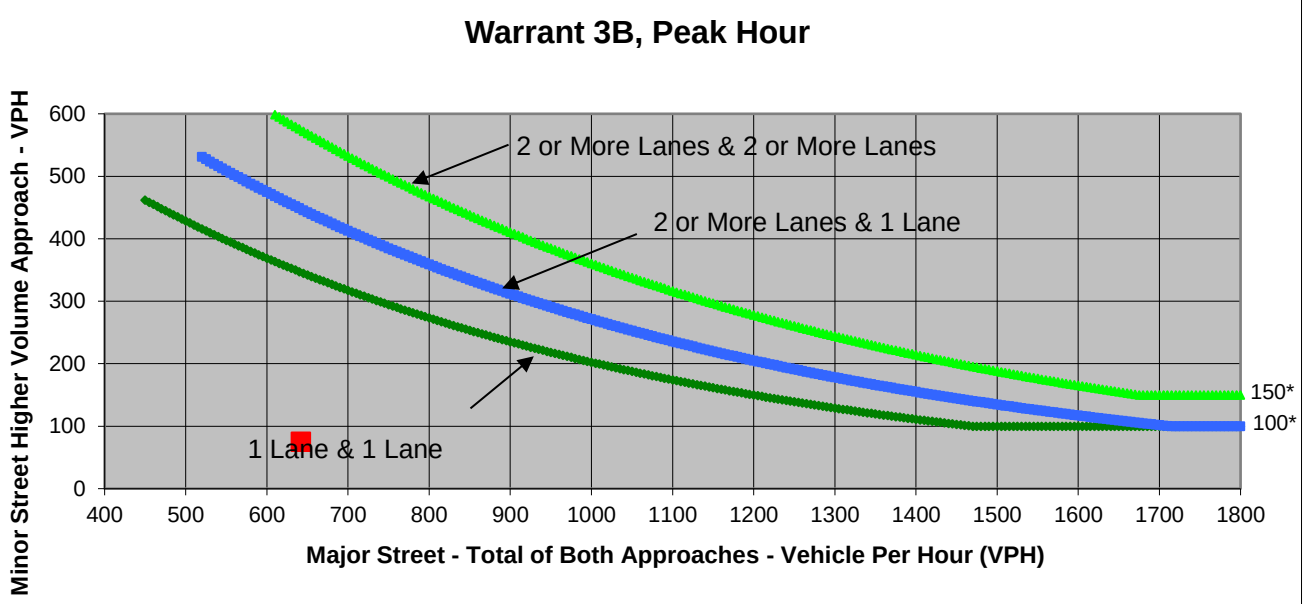
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	Blue Oaks Drive	Scenario	Existing Plus Multifamily Residential
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		49	34	
Through			369	220
Right		26		19
Total	0	75	403	239

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Blue Oaks Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**642**	**75**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	Blue Oaks Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	49	34	0
Through	0	0	369	220
Right	0	26	0	19
Total	0	75	403	239

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	14.9
Approach with Worst Case Delay	SB
Total Vehicles on Approach	75

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
xisting Plus Multifamily Residentia	**0.3**	**75**	**717**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

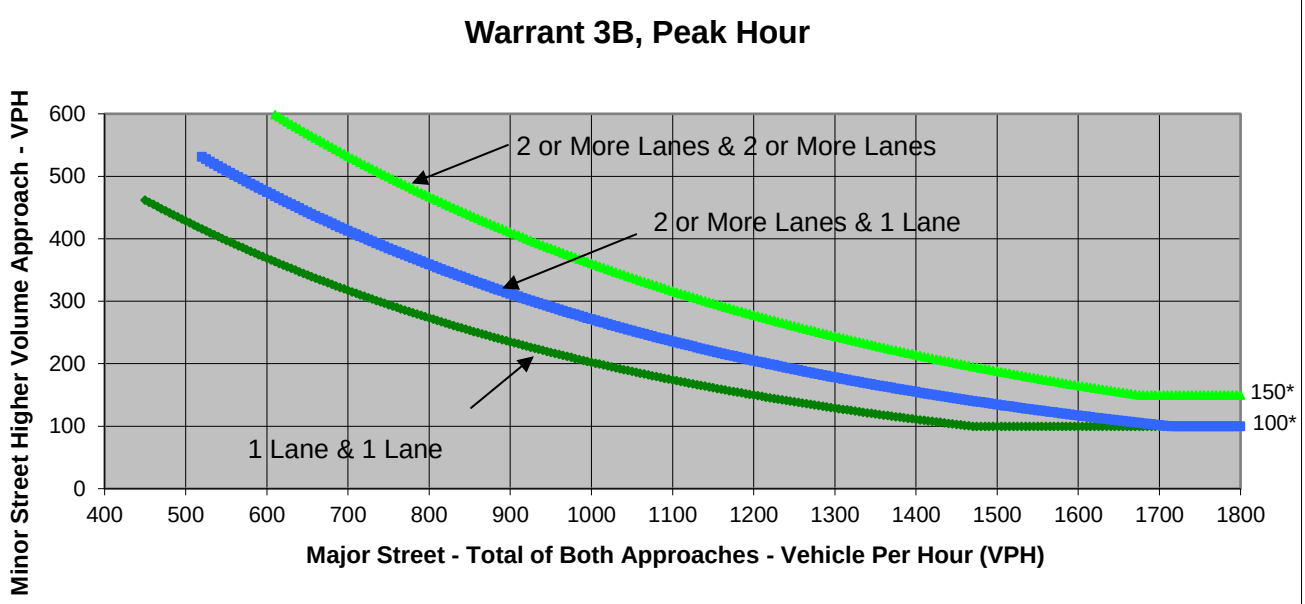
Major Street	Richardson Drive	Project	PCGC Master Plan Update EIR
Minor Street	DeWitt Ave	Scenario	Existing Plus Multifamily Residential
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	6	28	2	10
Through	76	177	0	0
Right	29	17	3	3
Total	111	222	5	13

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**333**	**13**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	AM

Major Street	Richardson Drive
Minor Street	DeWitt Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	6	28	2	10
Through	76	177	0	0
Right	29	17	3	3
Total	111	222	5	13

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	13

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
xisting Plus Multifamily Residentia	**0**	**13**	**351**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

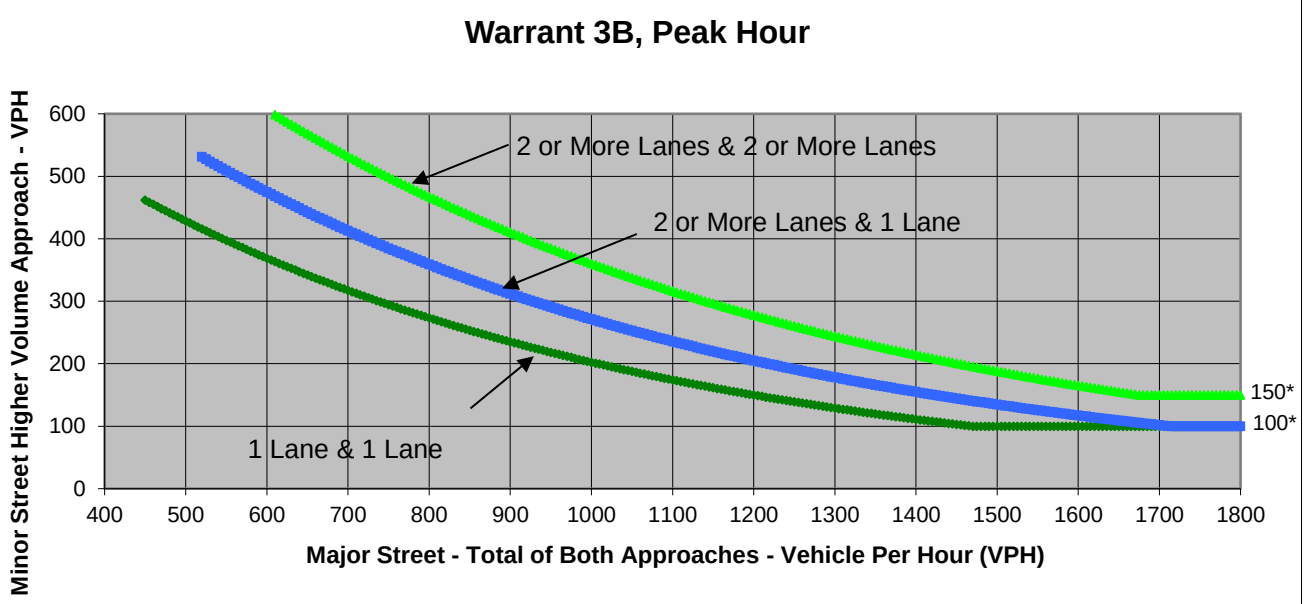
Major Street	Richardson Drive	Project	PCGC Master Plan Update EIR
Minor Street	DeWitt Ave	Scenario	Existing Plus Multifamily Residential
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	3	2	18	52
Through	134	82	0	0
Right	7	2	7	37
Total	144	86	25	89

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**230**	**89**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	PM

Major Street	Richardson Drive
Minor Street	DeWitt Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	3	2	18	52
Through	134	82	0	0
Right	7	2	7	37
Total	144	86	25	89

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	89

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
xisting Plus Multifamily Residentia	**0.3**	**89**	**344**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

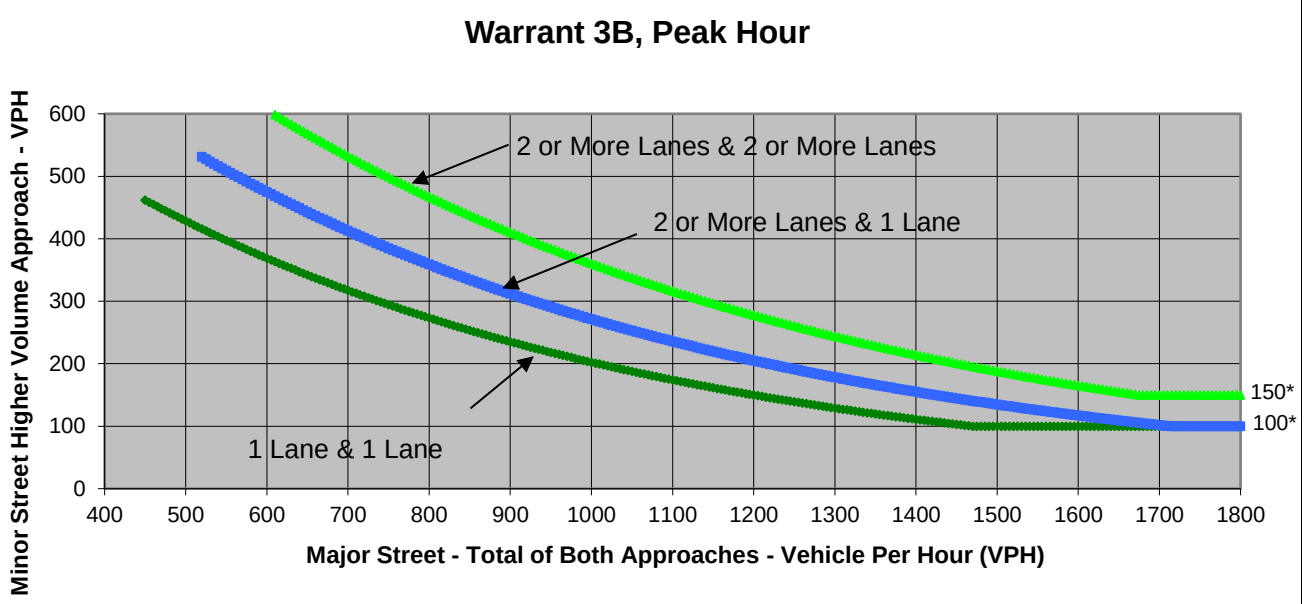
Major Street	Richardson Drive	Project	PCGC Master Plan Update EIR
Minor Street	B Ave	Scenario	Existing Plus Multifamily Residential
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	48	7	9	8
Through	100	154	1	7
Right	25	18	15	6
Total	173	179	25	21

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**352**	**25**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	AM

Major Street	Richardson Drive
Minor Street	B Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	48	7	9	8
Through	100	154	1	7
Right	25	18	15	6
Total	173	179	25	21

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	21

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
xisting Plus Multifamily Residentia	**0**	**25**	**398**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

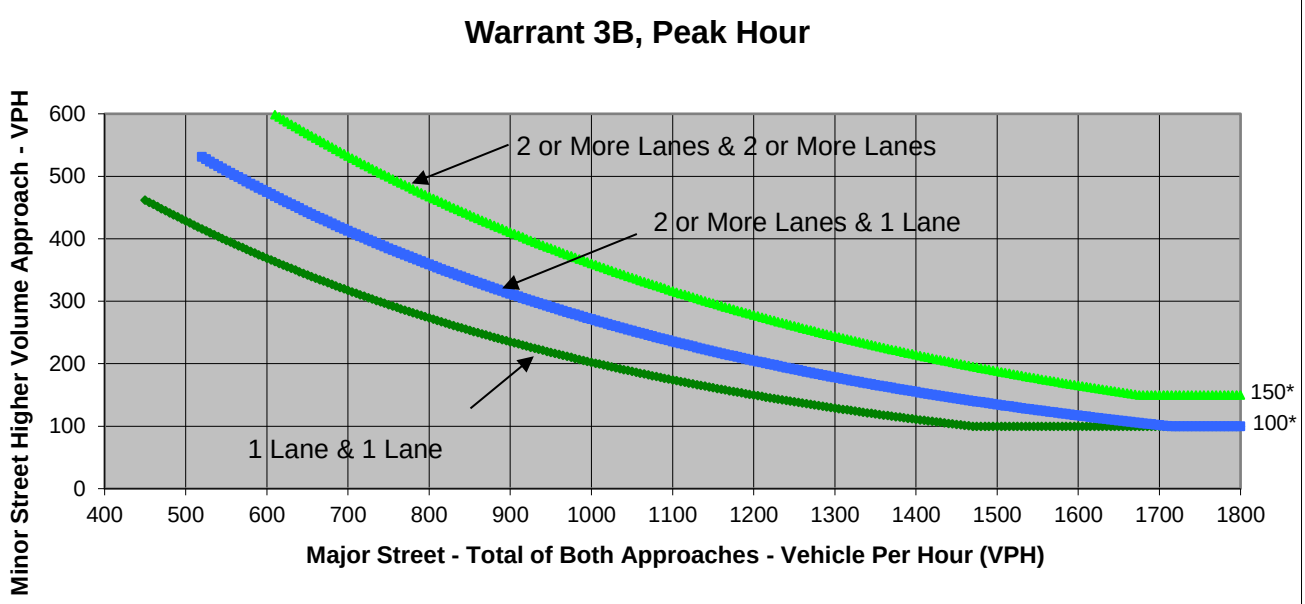
Major Street	Richardson Drive	Project	PCGC Master Plan Update EIR
Minor Street	B Ave	Scenario	Existing Plus Multifamily Residential
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	17	1	18	40
Through	96	125	11	2
Right	5	12	42	27
Total	118	138	71	69

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**256**	**71**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	PM

Major Street	Richardson Drive
Minor Street	B Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	17	1	18	40
Through	96	125	11	2
Right	5	12	42	27
Total	118	138	71	69

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	69

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
xisting Plus Multifamily Residentia	**0.2**	**71**	**396**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

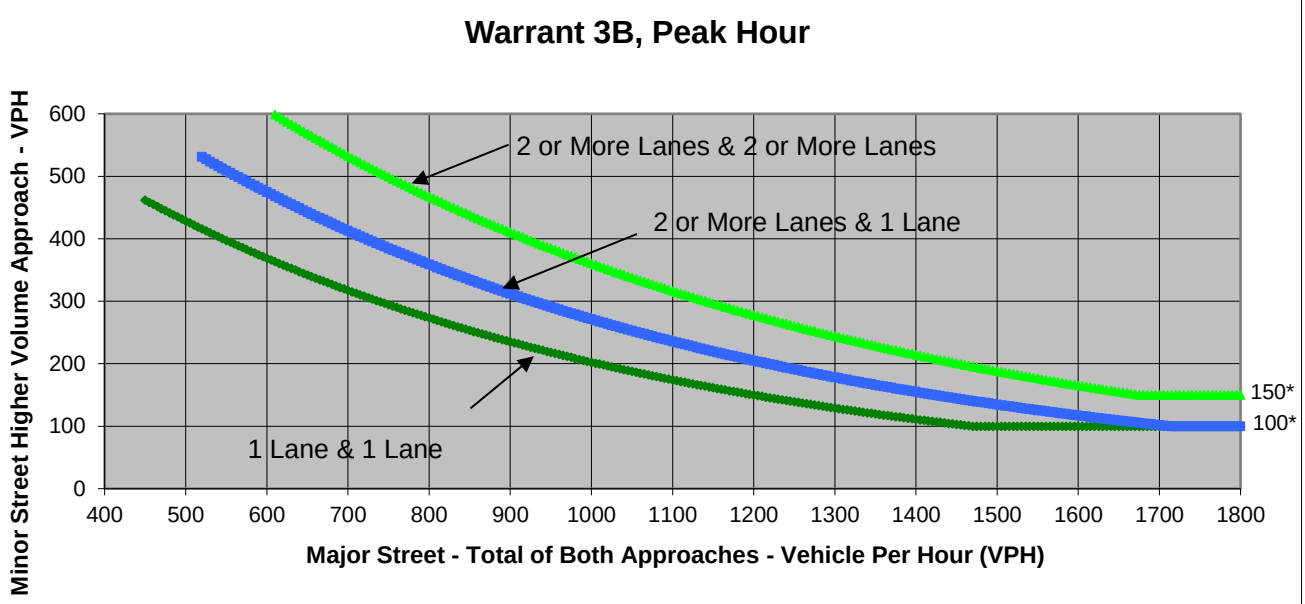
Major Street	1st Street	Project	PCGC Master Plan Update EIR
Minor Street	D Ave / Professional Dr	Scenario	Existing Plus Multifamily Residential
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	9	7	0	38
Through	117	64	0	3
Right	75	0	2	7
Total	201	71	2	48

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Dr	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**272**	**48**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Dr

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	9	7	0	38
Through	117	64	0	3
Right	75	0	2	7
Total	201	71	2	48

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11
Approach with Worst Case Delay	WB
Total Vehicles on Approach	48

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
xisting Plus Multifamily Residentia	**0.1**	**48**	**322**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

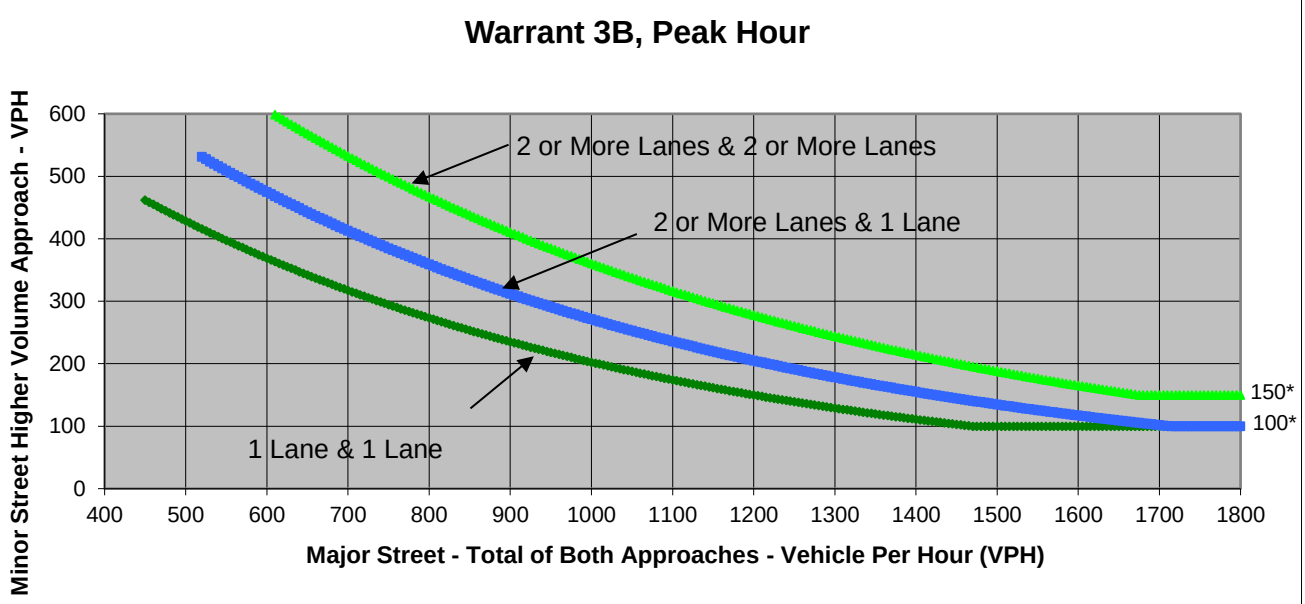
Major Street	1st Street	Project	PCGC Master Plan Update EIR
Minor Street	D Ave / Professional Drive	Scenario	Existing Plus Multifamily Residential
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	6	3	81
Through	60	124	7	0
Right	32	4	4	3
Total	93	134	14	84

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**227**	**84**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	6	3	81
Through	60	124	7	0
Right	32	4	4	3
Total	93	134	14	84

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	84

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
xisting Plus Multifamily Residentia	**0.3**	**84**	**325**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

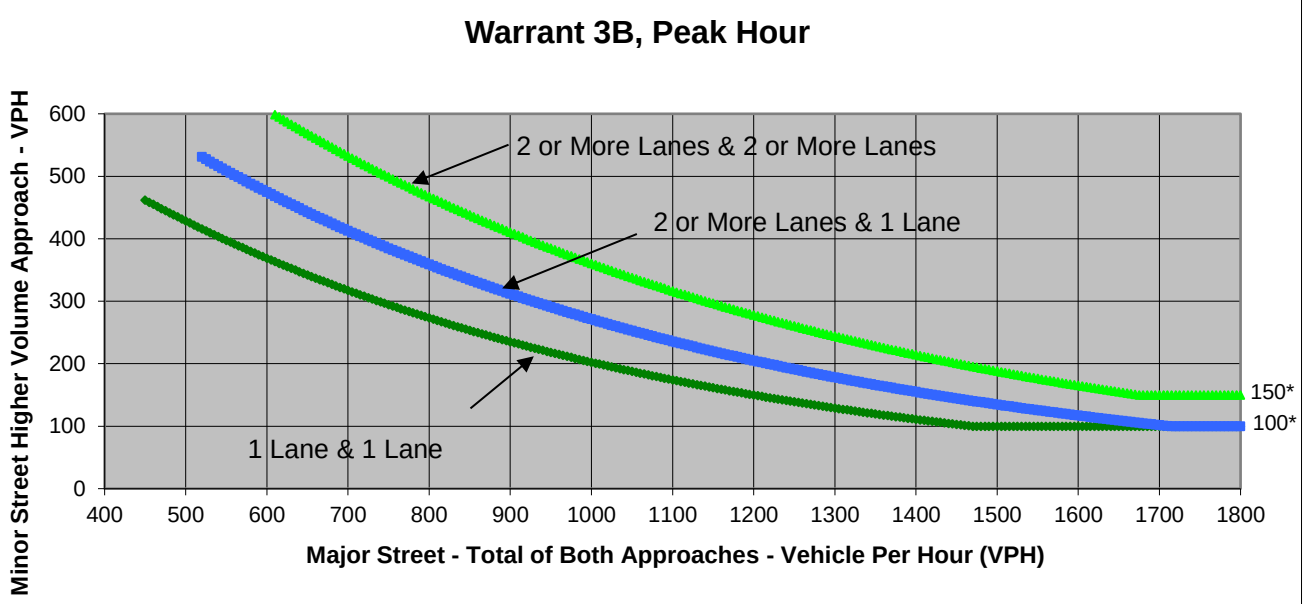
Major Street	Willow Creek Drive / 3rd St	Project	PCGC Master Plan Update EIR
Minor Street	1st Street	Scenario	Existing Plus Multifamily Residential
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	45	17	37
Through	60	73	10	20
Right	37	12	3	117
Total	99	130	30	174

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Drive / 3rd St	1st Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**229**	**174**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	AM

Major Street	Willow Creek Drive / 3rd St
Minor Street	1st Street

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	45	17	37
Through	60	73	10	20
Right	37	12	3	117
Total	99	130	30	174

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	5.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	174

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
xisting Plus Multifamily Residentia	**0.3**	**174**	**433**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

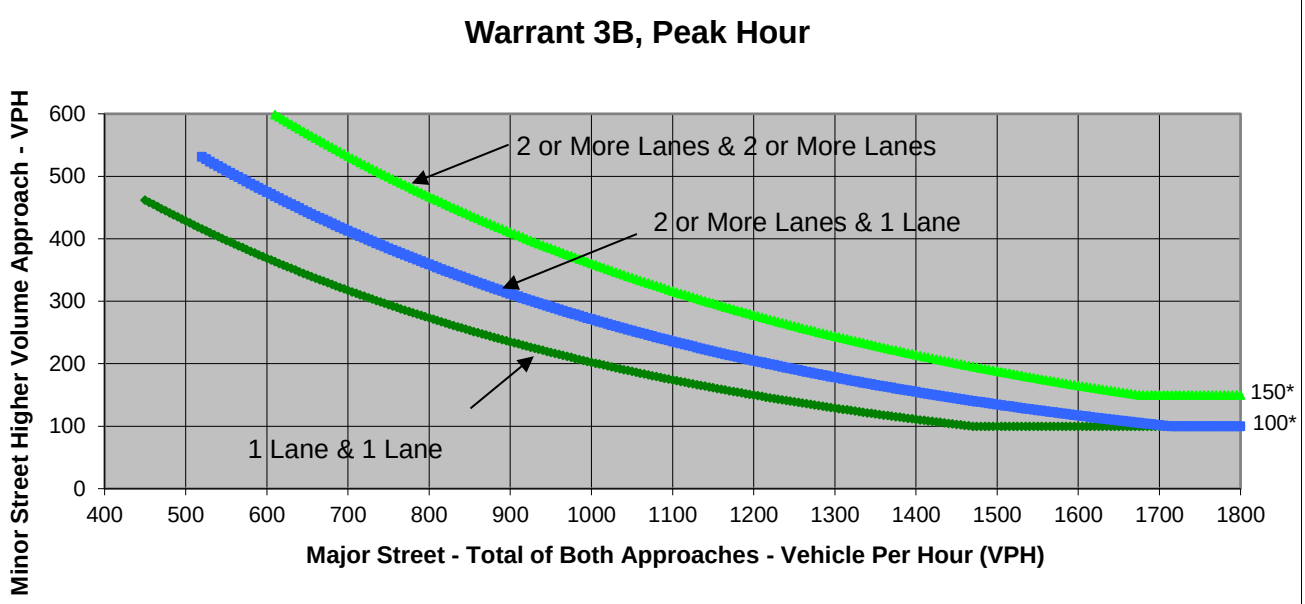
Major Street	Willow Creek Drive / 3rd St	Project	PCGC Master Plan Update EIR
Minor Street	1st Street	Scenario	Existing Plus Multifamily Residential
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	129	4	25
Through	49	75	19	30
Right	31	13	1	55
Total	80	217	24	110

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Drive / 3rd St	1st Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**134**	**217**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	PM

Major Street	Willow Creek Drive / 3rd St
Minor Street	1st Street

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	129	4	25
Through	49	75	19	30
Right	31	13	1	55
Total	80	217	24	110

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	6.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	217

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
xisting Plus Multifamily Residentia	**0.4**	**217**	**431**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

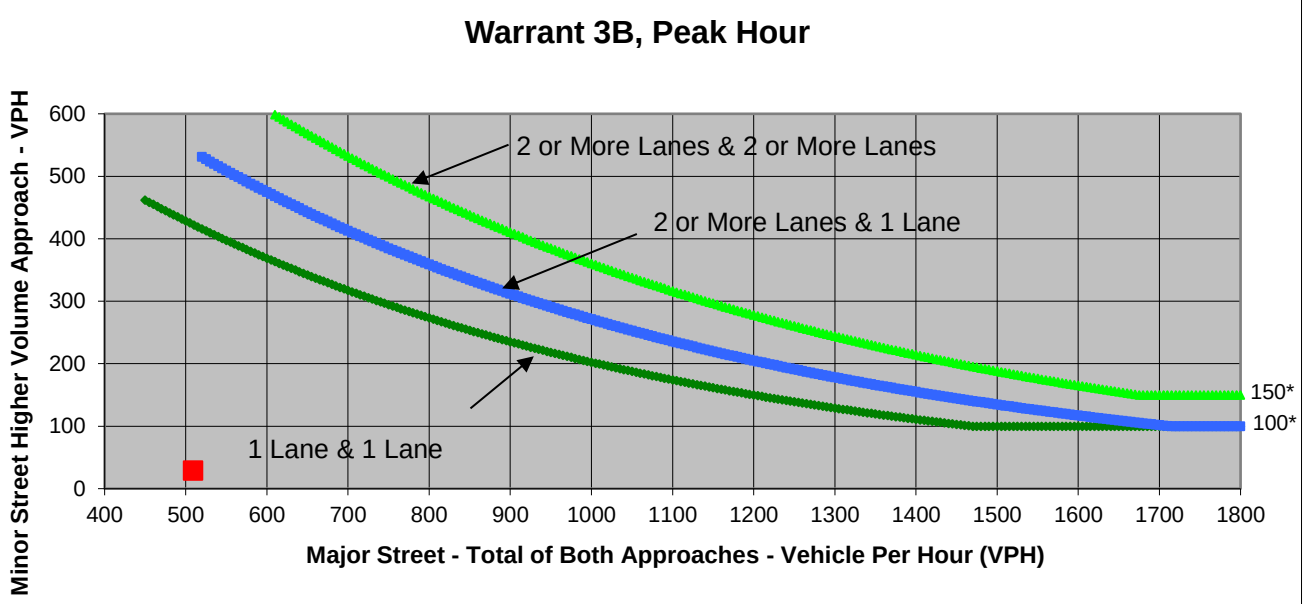
Major Street	Atwood Drive	Project	PCGC Master Plan Update EIR
Minor Street	3rd Street	Scenario	Existing Plus Multifamily Residential
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		14	25	
Through			237	236
Right		15		11
Total	0	29	262	247

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Drive	3rd Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**509**	**29**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Atwood Drive
Minor Street	3rd Street

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	14	25	0
Through	0	0	237	236
Right	0	15	0	11
Total	0	29	262	247

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.4
Approach with Worst Case Delay	SB
Total Vehicles on Approach	29

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
xisting Plus Multifamily Residentia	**0.1**	**29**	**538**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Atwood Road
Minor Street	3rd Street

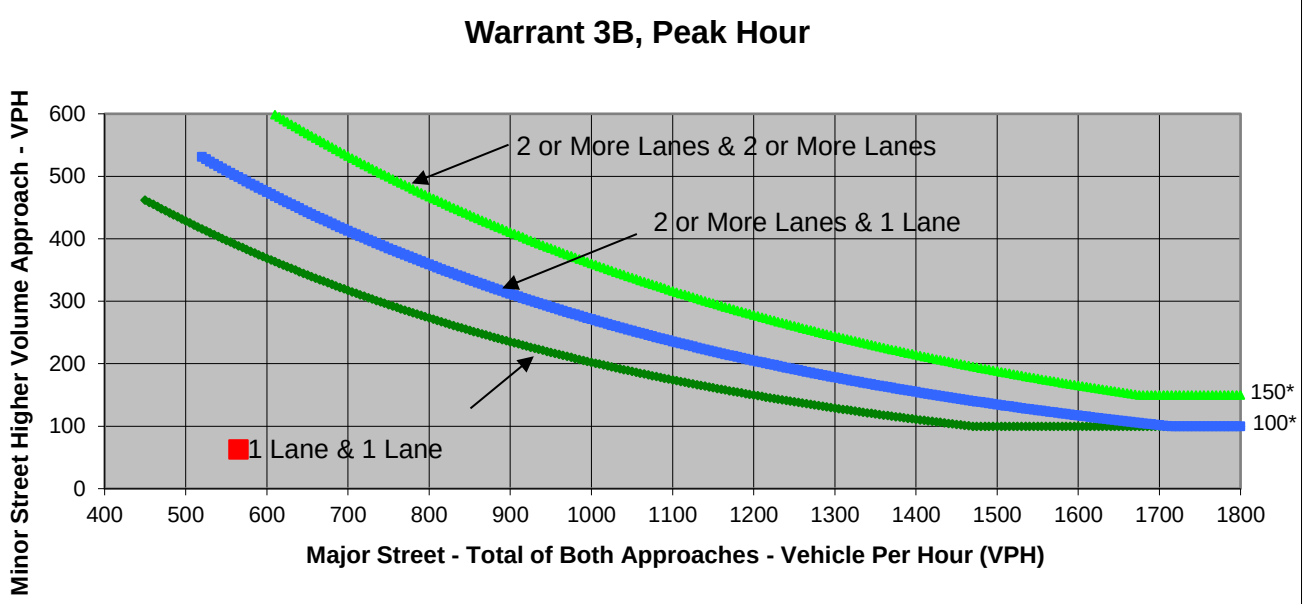
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		23	7	
Through			258	200
Right		40		100
Total	0	63	265	300

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Road	3rd Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**565**	**63**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	PM

Major Street	Atwood Road
Minor Street	3rd Street

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	23	7	0
Through	0	0	258	200
Right	0	40	0	100
Total	0	63	265	300

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.4
Approach with Worst Case Delay	SB
Total Vehicles on Approach	63

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
xisting Plus Multifamily Residentia	**0.2**	**63**	**628**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

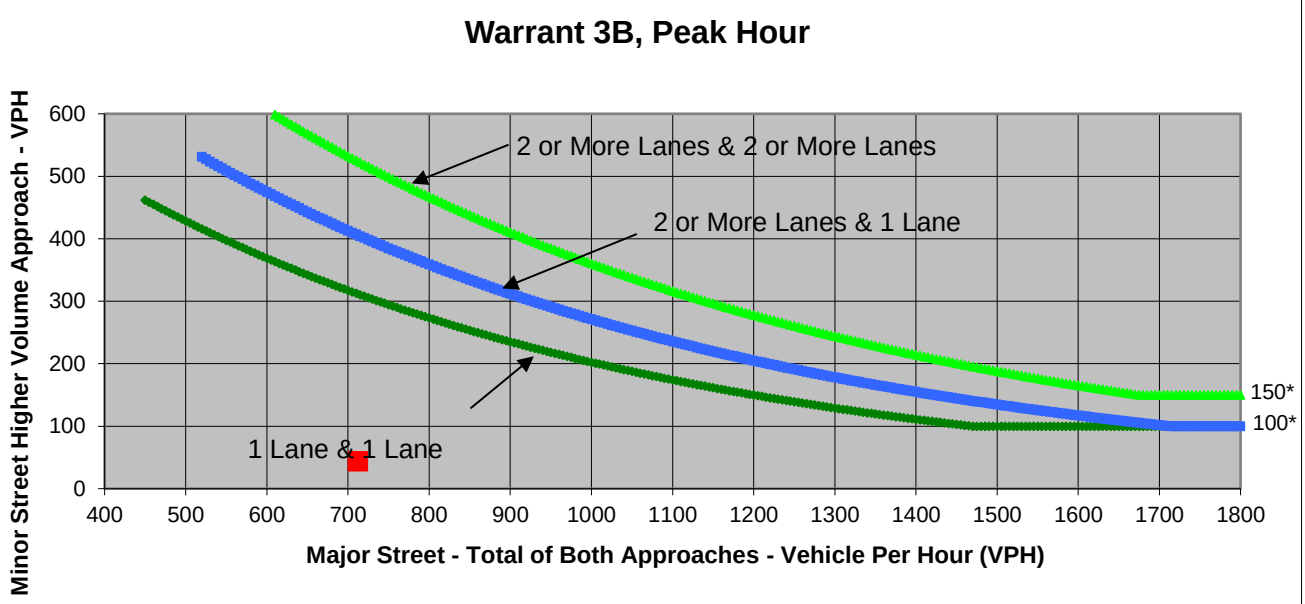
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	1st Street	Scenario	Existing Plus Multifamily Residential
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left				99
Through			244	333
Right	44		36	
Total	44	0	280	432

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	1st Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**712**	**44**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	1st Street

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	99
Through	0	0	244	333
Right	44	0	36	0
Total	44	0	280	432

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.8
Approach with Worst Case Delay	NB
Total Vehicles on Approach	44

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
xisting Plus Multifamily Residentia	**0.1**	**44**	**756**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

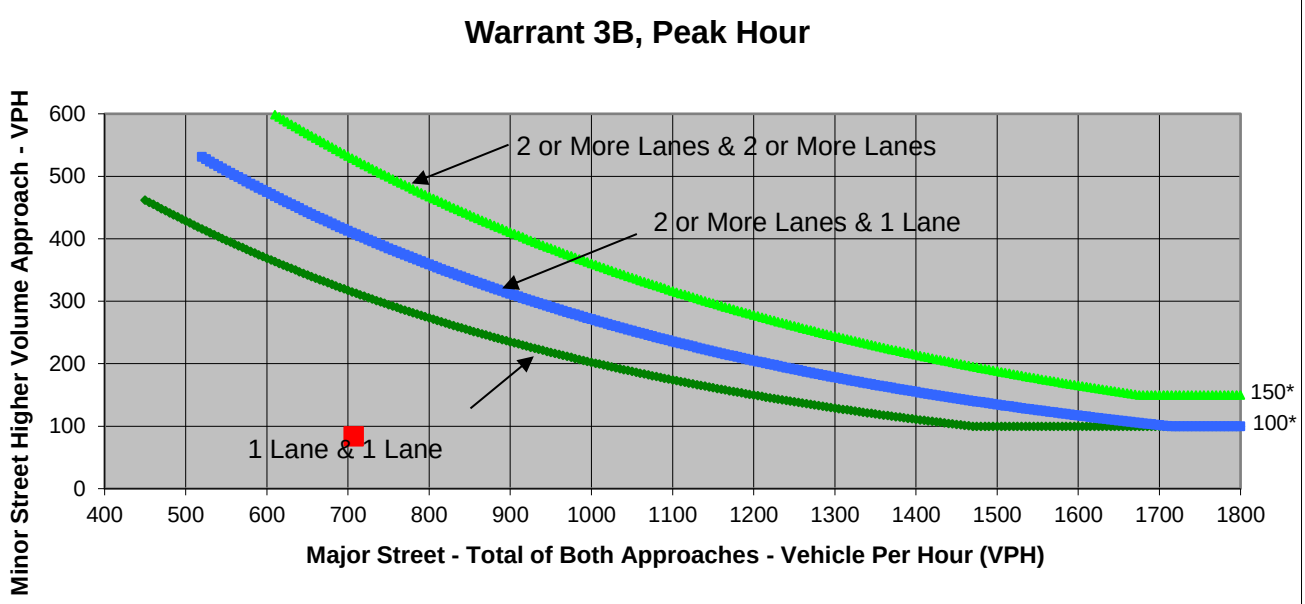
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	1st Street	Scenario	Existing Plus Multifamily Residential
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left				50
Through			345	239
Right	84		73	
Total	84	0	418	289

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	1st Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**707**	**84**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	1st Street

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	50
Through	0	0	345	239
Right	84	0	73	0
Total	84	0	418	289

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.1
Approach with Worst Case Delay	NB
Total Vehicles on Approach	84

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
xisting Plus Multifamily Residentia	**0.3**	**84**	**791**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	21	79	129	44	41	148	1560	156	38	1397	30
Future Volume (veh/h)	11	21	79	129	44	41	148	1560	156	38	1397	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	11	21	7	132	45	10	151	1592	152	39	1426	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	23	44	15	211	90	20	720	1635	156	734	1816	37
Arrive On Green	0.05	0.05	0.05	0.06	0.06	0.06	0.41	0.35	0.35	0.42	0.36	0.36
Sat Flow, veh/h	500	955	318	3428	1470	327	1767	4703	449	1767	5110	104
Grp Volume(v), veh/h	39	0	0	132	0	55	151	1143	601	39	942	513
Grp Sat Flow(s),veh/h/ln	1773	0	0	1714	0	1797	1767	1689	1775	1767	1689	1837
Q Serve(g_s), s	2.8	0.0	0.0	4.9	0.0	3.9	7.2	43.4	43.5	1.7	32.4	32.4
Cycle Q Clear(g_c), s	2.8	0.0	0.0	4.9	0.0	3.9	7.2	43.4	43.5	1.7	32.4	32.4
Prop In Lane	0.28		0.18	1.00		0.18	1.00		0.25	1.00		0.06
Lane Grp Cap(c), veh/h	82	0	0	211	0	110	720	1174	617	734	1200	653
V/C Ratio(X)	0.47	0.00	0.00	0.63	0.00	0.50	0.21	0.97	0.97	0.05	0.79	0.79
Avail Cap(c_a), veh/h	218	0	0	949	0	498	720	1174	617	734	1200	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.4	0.0	0.0	59.5	0.0	59.1	25.0	41.8	41.8	22.7	37.5	37.5
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.1	0.0	1.3	0.1	20.5	30.5	0.0	5.2	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.2	0.0	1.8	3.0	20.6	23.4	0.7	13.7	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	0.0	0.0	60.7	0.0	60.4	25.0	62.3	72.4	22.7	42.7	46.7
LnGrp LOS	E	A	A	E	A	E	C	E	E	C	D	D
Approach Vol, veh/h		39			187			1895			1494	
Approach Delay, s/veh		62.0			60.6			62.5			43.5	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	57.5	50.5		10.0	56.5	51.5		12.0
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	16.0	45.2		16.0	15.0	46.2		36.0
Max Q Clear Time (g_c+I1), s	13.7	45.5		4.8	9.2	34.4		6.9
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	5.8		0.4

Intersection Summary	
HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	34	179	229	34	56	63	1613	279	63	1840	12
Future Volume (veh/h)	42	34	179	229	34	56	63	1613	279	63	1840	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	43	35	118	234	35	8	64	1646	268	64	1878	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	45	36	123	352	149	34	397	1848	299	397	2187	13
Arrive On Green	0.12	0.12	0.12	0.10	0.10	0.10	0.22	0.42	0.42	0.22	0.42	0.42
Sat Flow, veh/h	364	296	998	3428	1457	333	1767	4392	711	1767	5197	30
Grp Volume(v), veh/h	196	0	0	234	0	43	64	1264	650	64	1220	669
Grp Sat Flow(s),veh/h/ln	1658	0	0	1714	0	1790	1767	1689	1726	1767	1689	1850
Q Serve(g_s), s	15.3	0.0	0.0	8.5	0.0	2.9	3.8	45.0	45.5	3.8	42.6	42.6
Cycle Q Clear(g_c), s	15.3	0.0	0.0	8.5	0.0	2.9	3.8	45.0	45.5	3.8	42.6	42.6
Prop In Lane	0.22		0.60	1.00		0.19	1.00		0.41	1.00		0.02
Lane Grp Cap(c), veh/h	204	0	0	352	0	184	397	1421	726	397	1421	778
V/C Ratio(X)	0.96	0.00	0.00	0.67	0.00	0.23	0.16	0.89	0.90	0.16	0.86	0.86
Avail Cap(c_a), veh/h	204	0	0	949	0	496	397	1421	726	397	1421	778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.7	0.0	0.0	56.2	0.0	53.6	40.6	34.8	35.0	40.6	34.1	34.2
Incr Delay (d2), s/veh	51.3	0.0	0.0	0.8	0.0	0.2	0.1	8.7	15.9	0.1	6.9	11.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	0.0	0.0	3.8	0.0	1.3	1.6	19.2	21.3	1.6	17.9	20.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.0	0.0	0.0	57.0	0.0	53.9	40.6	43.5	50.8	40.6	41.1	46.0
LnGrp LOS	F	A	A	E	A	D	D	D	D	D	D	D
Approach Vol, veh/h		196			277			1978			1953	
Approach Delay, s/veh		108.0			56.5			45.8			42.8	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.7	60.0		20.0	32.7	60.0		17.3
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	6.5	54.7		16.0	6.5	54.7		36.0
Max Q Clear Time (g_c+I1), s	5.8	47.5		17.3	5.8	44.6		10.5
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	6.7		0.6

Intersection Summary	
HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D

Appendix D:
Existing Plus Health & Human Services Building Conditions – Technical Calculations

FEHR PEERS

EXISTING PLUS HEALTH & HUMAN SERVICES		# of Lanes		Trip Distribution			Daily Trip Assignment	Roadway ADT Forecasts		ADT Volume	V/C	LOS
Roadway	Segment	Ex	Cum	AM	PM	Blended	HHS	Existing	Ex+HHS	Ex+HHS	Ex+HHS	Ex+HHS
Atwood Road	West of SR 49	2	2	24%	28%	26%	517	9,749	10,266	5133	0.57	A
Bell Road	West of SR 49	4	4	44%	41%	43%	855	15,297	16,152	4038	0.45	A
SR 49	Luther Rd. to New Airport Rd.	6	6	41%	39%	40%	796	42,000	42,796	7133	0.79	C
SR 49	New Airport Rd. to Atwood Rd.	6	6	41%	39%	40%	796	40,000	40,796	6799	0.76	C
SR 49	Atwood Rd. to Willow Creek Dr.	6	6	19%	14%	17%	328	40,500	40,828	6805	0.76	C
SR 49	Willow Creek Dr. to Bell Rd.	6	6	0%	0%	0%	0	37,700	37,700	6283	0.70	B
SR 49	North of Bell Rd.	4	5	27%	25%	26%	517	34,700	35,217	8804	0.98	E

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	41	117	1146	1703	161
Future Volume (veh/h)	58	41	117	1146	1703	161
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	59	2	119	1169	1738	117
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	97	86	145	3067	2668	1163
Arrive On Green	0.05	0.05	0.08	0.87	0.76	0.76
Sat Flow, veh/h	1767	1572	1767	3618	3618	1537
Grp Volume(v), veh/h	59	2	119	1169	1738	117
Grp Sat Flow(s),veh/h/ln	1767	1572	1767	1763	1763	1537
Q Serve(g_s), s	4.2	0.2	8.6	8.4	30.7	2.6
Cycle Q Clear(g_c), s	4.2	0.2	8.6	8.4	30.7	2.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	97	86	145	3067	2668	1163
V/C Ratio(X)	0.61	0.02	0.82	0.38	0.65	0.10
Avail Cap(c_a), veh/h	367	327	272	3067	2668	1163
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	60.1	58.2	58.7	1.6	7.6	4.2
Incr Delay (d2), s/veh	2.3	0.0	4.3	0.4	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.1	3.9	1.1	9.4	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	62.4	58.2	62.9	2.0	8.8	4.3
LnGrp LOS	E	E	E	A	A	A
Approach Vol, veh/h	61			1288	1855	
Approach Delay, s/veh	62.3			7.6	8.5	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		118.8		11.2	14.7	104.1
Change Period (Y+Rc), s		5.7		4.1	4.0	5.7
Max Green Setting (Gmax), s		93.2		27.0	20.0	69.2
Max Q Clear Time (g_c+I1), s		10.4		6.2	10.6	32.7
Green Ext Time (p_c), s		6.0		0.1	0.1	11.4

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	199	79	219	117	3	28	1	76	0	0	1
Future Vol, veh/h	0	199	79	219	117	3	28	1	76	0	0	1
Conflicting Peds, #/hr	0	0	3	0	0	1	0	0	1	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	100	-	125	0	-	-	225	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	243	96	267	143	4	34	1	93	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	148	0	-	243	0	0	924	925	244	971	923	147
Stage 1	-	-	-	-	-	-	243	243	-	680	680	-
Stage 2	-	-	-	-	-	-	681	682	-	291	243	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1427	-	0	1317	-	-	249	268	792	231	269	897
Stage 1	-	-	0	-	-	-	758	703	-	439	449	-
Stage 2	-	-	0	-	-	-	439	448	-	715	703	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1426	-	-	1317	-	-	210	213	791	171	214	895
Mov Cap-2 Maneuver	-	-	-	-	-	-	210	213	-	171	214	-
Stage 1	-	-	-	-	-	-	758	703	-	439	357	-
Stage 2	-	-	-	-	-	-	349	357	-	630	703	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	5.4	14.5	9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	210	791	1426	-	1317	-	-	895
HCM Lane V/C Ratio	0.168	0.117	-	-	0.203	-	-	0.001
HCM Control Delay (s)	25.6	10.2	0	-	8.4	-	-	9
HCM Lane LOS	D	B	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.6	0.4	0	-	0.8	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	273	2	35	346	2	5
Future Vol, veh/h	273	2	35	346	2	5
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	369	3	47	468	3	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	375	0	702	189
Stage 1	-	-	-	-	374	-
Stage 2	-	-	-	-	328	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1173	-	370	818
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1170	-	354	816
Mov Cap-2 Maneuver	-	-	-	-	354	-
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	699	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	594	-	-	1170	-
HCM Lane V/C Ratio	0.016	-	-	0.04	-
HCM Control Delay (s)	11.2	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	240	18	132	349	41	5	10	42	23	18	51
Future Vol, veh/h	20	240	18	132	349	41	5	10	42	23	18	51
Conflicting Peds, #/hr	0	0	2	0	0	1	0	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	27	329	25	181	478	56	7	14	58	32	25	70

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	535	0	0	356	0	0	1014	1295	179	1095	1279	270
Stage 1	-	-	-	-	-	-	398	398	-	869	869	-
Stage 2	-	-	-	-	-	-	616	897	-	226	410	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	1022	-	-	1192	-	-	191	160	830	167	163	725
Stage 1	-	-	-	-	-	-	596	599	-	311	365	-
Stage 2	-	-	-	-	-	-	442	354	-	753	591	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1021	-	-	1190	-	-	128	132	828	124	134	723
Mov Cap-2 Maneuver	-	-	-	-	-	-	128	132	-	124	134	-
Stage 1	-	-	-	-	-	-	579	582	-	303	309	-
Stage 2	-	-	-	-	-	-	311	300	-	666	574	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	2.2	18.5	36.5
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	344	1021	-	-	1190	-	-	236
HCM Lane V/C Ratio	0.227	0.027	-	-	0.152	-	-	0.534
HCM Control Delay (s)	18.5	8.6	-	-	8.6	-	-	36.5
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.5	-	-	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	292	17	73	533	149	3	15	45	58	40	24
Future Volume (veh/h)	15	292	17	73	533	149	3	15	45	58	40	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	18	356	17	89	650	162	4	18	0	71	49	6
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	24	1451	69	109	1318	328	29	31	0	171	157	19
Arrive On Green	0.01	0.42	0.42	0.06	0.47	0.47	0.02	0.02	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1767	3425	163	1767	2795	696	1767	1856	0	1767	1618	198
Grp Volume(v), veh/h	18	183	190	89	410	402	4	18	0	71	0	55
Grp Sat Flow(s),veh/h/ln	1767	1763	1826	1767	1763	1728	1767	1856	0	1767	0	1816
Q Serve(g_s), s	0.3	2.2	2.2	1.6	5.2	5.2	0.1	0.3	0.0	1.2	0.0	0.9
Cycle Q Clear(g_c), s	0.3	2.2	2.2	1.6	5.2	5.2	0.1	0.3	0.0	1.2	0.0	0.9
Prop In Lane	1.00		0.09	1.00		0.40	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	24	747	774	109	832	815	29	31	0	171	0	176
V/C Ratio(X)	0.74	0.24	0.25	0.81	0.49	0.49	0.14	0.58	0.00	0.41	0.00	0.31
Avail Cap(c_a), veh/h	1090	2174	2252	1090	2174	2131	1362	1431	0	1362	0	1400
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.9	6.0	6.0	15.0	5.9	5.9	15.7	15.8	0.0	13.8	0.0	13.6
Incr Delay (d2), s/veh	14.6	0.2	0.2	5.4	0.6	0.7	2.9	22.5	0.0	2.3	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.4	0.4	0.6	0.9	0.9	0.0	0.3	0.0	0.5	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	6.2	6.2	20.4	6.5	6.6	18.7	38.3	0.0	16.1	0.0	15.1
LnGrp LOS	C	A	A	C	A	A	B	D	A	B	A	B
Approach Vol, veh/h		391			901			22			126	
Approach Delay, s/veh		7.4			7.9			34.7			15.6	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	17.7		6.1	3.4	19.3		3.5
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0
Max Q Clear Time (g_c+I1), s	3.6	4.2		3.2	2.3	7.2		2.3
Green Ext Time (p_c), s	0.0	3.2		0.7	0.0	8.1		0.1

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	194	152	171	503	395	258	770	141	404	1142	198
Future Volume (veh/h)	106	194	152	171	503	395	258	770	141	404	1142	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	108	198	116	174	513	0	263	786	63	412	1165	193
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	134	343	564	504	594		903	1131	503	1035	1088	179
Arrive On Green	0.08	0.10	0.10	0.15	0.17	0.00	0.26	0.32	0.32	0.30	0.36	0.36
Sat Flow, veh/h	1767	3526	1539	3428	3526	1572	3428	3526	1570	3428	3028	499
Grp Volume(v), veh/h	108	198	116	174	513	0	263	786	63	412	676	682
Grp Sat Flow(s),veh/h/ln	1767	1763	1539	1714	1763	1572	1714	1763	1570	1714	1763	1764
Q Serve(g_s), s	7.8	7.0	0.0	5.9	18.4	0.0	8.0	25.3	3.7	12.4	46.7	46.7
Cycle Q Clear(g_c), s	7.8	7.0	0.0	5.9	18.4	0.0	8.0	25.3	3.7	12.4	46.7	46.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	134	343	564	504	594		903	1131	503	1035	633	634
V/C Ratio(X)	0.81	0.58	0.21	0.35	0.86		0.29	0.70	0.13	0.40	1.07	1.08
Avail Cap(c_a), veh/h	231	976	840	504	868		903	1131	503	1035	633	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.1	56.1	28.7	49.8	52.6	0.0	38.2	38.6	31.2	36.0	41.6	41.7
Incr Delay (d2), s/veh	4.3	0.6	0.1	0.2	4.4	0.0	0.1	3.5	0.5	0.1	55.2	57.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.1	2.5	2.5	8.3	0.0	3.3	11.2	1.4	5.1	29.0	29.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.4	56.7	28.7	50.0	57.0	0.0	38.3	42.1	31.8	36.1	96.8	99.6
LnGrp LOS	E	E	C	D	E		D	D	C	D	F	F
Approach Vol, veh/h		422			687	A		1112			1770	
Approach Delay, s/veh		50.7			55.2			40.6			83.8	
Approach LOS		D			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.4	47.0	22.6	17.0	38.4	52.0	13.3	26.3
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	22.6	41.7	13.0	36.0	17.0	46.7	17.0	32.0
Max Q Clear Time (g_c+I1), s	14.4	27.3	7.9	9.0	10.0	48.7	9.8	20.4
Green Ext Time (p_c), s	0.2	1.6	0.1	0.5	0.1	0.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	63.3
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	3	10	0	3	6	100	29	26	255	17
Future Vol, veh/h	2	0	3	10	0	3	6	100	29	26	255	17
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	4	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	3	0	4	13	0	4	8	133	39	35	340	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	600	621	361	599	613	157	370	0	0	176	0	0
Stage 1	429	429	-	173	173	-	-	-	-	-	-	-
Stage 2	171	192	-	426	440	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	411	402	681	412	406	886	1183	-	-	1394	-	-
Stage 1	602	582	-	827	754	-	-	-	-	-	-	-
Stage 2	829	740	-	604	576	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	396	385	675	397	389	883	1175	-	-	1389	-	-
Mov Cap-2 Maneuver	396	385	-	397	389	-	-	-	-	-	-	-
Stage 1	593	563	-	817	745	-	-	-	-	-	-	-
Stage 2	819	731	-	584	558	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	13.2	0.4	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1175	-	-	527	455	1389	-	-
HCM Lane V/C Ratio	0.007	-	-	0.013	0.038	0.025	-	-
HCM Control Delay (s)	8.1	0	-	11.9	13.2	7.7	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	1	15	6	7	27	48	103	25	71	168	18
Future Vol, veh/h	9	1	15	6	7	27	48	103	25	71	168	18
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	10	1	17	7	8	30	54	116	28	80	189	20
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.1	8.1	8.7	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	36%	15%	100%	0%
Vol Thru, %	0%	80%	4%	17%	0%	90%
Vol Right, %	0%	20%	60%	68%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	128	25	40	71	186
LT Vol	48	0	9	6	71	0
Through Vol	0	103	1	7	0	168
RT Vol	0	25	15	27	0	18
Lane Flow Rate	54	144	28	45	80	209
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.082	0.193	0.038	0.059	0.12	0.28
Departure Headway (Hd)	5.478	4.839	4.841	4.729	5.396	4.827
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	655	744	740	757	666	746
Service Time	3.2	2.56	2.87	2.757	3.116	2.546
HCM Lane V/C Ratio	0.082	0.194	0.038	0.059	0.12	0.28
HCM Control Delay	8.7	8.7	8.1	8.1	8.9	9.4
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.7	0.1	0.2	0.4	1.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	2	38	3	7	9	135	75	7	51	0
Future Vol, veh/h	0	0	2	38	3	7	9	135	75	7	51	0
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	6	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	2	44	3	8	10	157	87	8	59	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	305	345	59	303	302	211	59	0	0	250	0	0
Stage 1	75	75	-	227	227	-	-	-	-	-	-	-
Stage 2	230	270	-	76	75	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	645	576	1004	647	609	827	1538	-	-	1310	-	-
Stage 1	932	831	-	773	714	-	-	-	-	-	-	-
Stage 2	771	684	-	931	831	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	626	564	1004	635	597	819	1538	-	-	1303	-	-
Mov Cap-2 Maneuver	626	564	-	635	597	-	-	-	-	-	-	-
Stage 1	925	826	-	762	704	-	-	-	-	-	-	-
Stage 2	751	674	-	923	826	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	11	0.3	0.9
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1538	-	-	1004	654	1303	-	-
HCM Lane V/C Ratio	0.007	-	-	0.002	0.085	0.006	-	-
HCM Control Delay (s)	7.4	0	-	8.6	11	7.8	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	3.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	32	209	104	126
Demand Flow Rate, veh/h	33	215	107	129
Vehicles Circulating, veh/h	157	85	71	66
Vehicles Exiting, veh/h	38	93	119	234
Ped Vol Crossing Leg, #/h	0	5	0	0
Ped Cap Adj	1.000	0.999	1.000	1.000
Approach Delay, s/veh	3.4	4.4	3.6	3.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	33	215	107	129
Cap Entry Lane, veh/h	1176	1265	1283	1290
Entry HV Adj Factor	0.960	0.974	0.973	0.975
Flow Entry, veh/h	32	209	104	126
Cap Entry, veh/h	1129	1231	1249	1258
V/C Ratio	0.028	0.170	0.083	0.100
Control Delay, s/veh	3.4	4.4	3.6	3.7
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	16	133	45	19	18	166	1043	42	32	1259	124
Future Volume (veh/h)	82	16	133	45	19	18	166	1043	42	32	1259	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	84	16	46	46	19	1	169	1064	28	33	1285	70
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	239	130	758	71	29	88	729	2007	623	599	1633	506
Arrive On Green	0.07	0.07	0.07	0.06	0.06	0.06	0.41	0.40	0.40	0.68	0.64	0.64
Sat Flow, veh/h	3428	1856	1559	1268	524	1572	1767	5066	1572	1767	5066	1570
Grp Volume(v), veh/h	84	16	46	65	0	1	169	1064	28	33	1285	70
Grp Sat Flow(s),veh/h/ln	1714	1856	1559	1792	0	1572	1767	1689	1572	1767	1689	1570
Q Serve(g_s), s	3.0	1.1	0.0	4.6	0.0	0.1	8.1	20.9	1.4	0.8	23.8	2.3
Cycle Q Clear(g_c), s	3.0	1.1	0.0	4.6	0.0	0.1	8.1	20.9	1.4	0.8	23.8	2.3
Prop In Lane	1.00		1.00	0.71		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	130	758	100	0	88	729	2007	623	599	1633	506
V/C Ratio(X)	0.35	0.12	0.06	0.65	0.00	0.01	0.23	0.53	0.04	0.06	0.79	0.14
Avail Cap(c_a), veh/h	1028	557	1117	152	0	133	729	2007	623	599	1633	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.6	56.7	17.9	60.1	0.0	58.0	24.8	30.0	24.1	14.0	19.9	16.1
Incr Delay (d2), s/veh	0.3	0.2	0.0	2.6	0.0	0.0	0.1	1.0	0.1	0.0	3.9	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.5	0.8	2.2	0.0	0.0	3.3	8.4	0.5	0.3	6.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.0	56.9	17.9	62.7	0.0	58.0	24.8	31.0	24.3	14.0	23.8	16.6
LnGrp LOS	E	E	B	E	A	E	C	C	C	B	C	B
Approach Vol, veh/h		146			66			1261			1388	
Approach Delay, s/veh		45.2			62.7			30.0			23.2	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	48.2	56.8		13.7	57.8	47.2		11.4
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	11.9	* 52		39.0	20.0	41.9		11.0
Max Q Clear Time (g_c+I1), s	12.8	22.9		5.0	10.1	25.8		6.6
Green Ext Time (p_c), s	0.0	7.9		0.3	0.1	7.9		0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	151	18	48	77	205	7	22	41	103	38	32
Future Volume (veh/h)	87	151	18	48	77	205	7	22	41	103	38	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	92	159	15	51	81	39	7	23	1	108	40	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	110	253	24	64	233	198	55	55	2	198	176	26
Arrive On Green	0.06	0.15	0.15	0.04	0.13	0.13	0.03	0.03	0.03	0.11	0.11	0.11
Sat Flow, veh/h	1767	1669	157	1767	1856	1572	1767	1765	77	1767	1576	236
Grp Volume(v), veh/h	92	0	174	51	81	39	7	0	24	108	0	46
Grp Sat Flow(s),veh/h/ln	1767	0	1826	1767	1856	1572	1767	0	1842	1767	0	1812
Q Serve(g_s), s	1.2	0.0	2.1	0.7	0.9	0.5	0.1	0.0	0.3	1.3	0.0	0.5
Cycle Q Clear(g_c), s	1.2	0.0	2.1	0.7	0.9	0.5	0.1	0.0	0.3	1.3	0.0	0.5
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.04	1.00		0.13
Lane Grp Cap(c), veh/h	110	0	277	64	233	198	55	0	58	198	0	203
V/C Ratio(X)	0.84	0.00	0.63	0.80	0.35	0.20	0.13	0.00	0.42	0.55	0.00	0.23
Avail Cap(c_a), veh/h	1526	0	2366	1145	2404	2037	1145	0	1193	1908	0	1956
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.7	0.0	9.2	11.1	9.3	9.1	10.9	0.0	11.0	9.7	0.0	9.4
Incr Delay (d2), s/veh	6.3	0.0	0.9	8.1	0.3	0.2	0.4	0.0	1.8	0.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.5	0.3	0.2	0.1	0.0	0.0	0.1	0.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.0	0.0	10.1	19.2	9.6	9.3	11.3	0.0	12.8	10.6	0.0	9.6
LnGrp LOS	B	A	B	B	A	A	B	A	B	B	A	A
Approach Vol, veh/h		266			171			31			154	
Approach Delay, s/veh		12.5			12.4			12.5			10.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.8	8.8		6.1	4.4	8.2		4.4
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	15.0	30.0		25.0	20.0	30.0		15.0
Max Q Clear Time (g_c+I1), s	2.7	4.1		3.3	3.2	2.9		2.3
Green Ext Time (p_c), s	0.0	0.3		0.0	0.0	0.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	269	315	11	14	15
Future Vol, veh/h	25	269	315	11	14	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	27	286	335	12	15	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	347	0	-	0	681	341
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	340	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1206	-	-	-	414	699
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	719	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1206	-	-	-	405	699
Mov Cap-2 Maneuver	-	-	-	-	405	-
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	719	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1206	-	-	-	518
HCM Lane V/C Ratio	0.022	-	-	-	0.06
HCM Control Delay (s)	8.1	-	-	-	12.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	276	11	6	338	48	16	22	18	29	22	46
Future Volume (veh/h)	57	276	11	6	338	48	16	22	18	29	22	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	66	317	12	7	389	50	18	25	0	33	25	12
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	101	670	25	13	528	68	31	43	0	58	44	21
Arrive On Green	0.06	0.38	0.38	0.01	0.33	0.33	0.04	0.04	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1767	1776	67	1767	1610	207	761	1057	0	827	627	301
Grp Volume(v), veh/h	66	0	329	7	0	439	43	0	0	70	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1843	1767	0	1816	1817	0	0	1755	0	0
Q Serve(g_s), s	1.1	0.0	3.9	0.1	0.0	6.2	0.7	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	3.9	0.1	0.0	6.2	0.7	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.11	0.42		0.00	0.47		0.17
Lane Grp Cap(c), veh/h	101	0	696	13	0	596	73	0	0	122	0	0
V/C Ratio(X)	0.66	0.00	0.47	0.52	0.00	0.74	0.59	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	917	0	1912	917	0	1884	1257	0	0	1214	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.4	0.0	6.8	14.3	0.0	8.6	13.6	0.0	0.0	13.0	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.0	0.2	11.3	0.0	0.7	2.7	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.8	0.1	0.0	1.4	0.3	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	7.0	25.6	0.0	9.3	16.4	0.0	0.0	14.6	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		395			446			43			70	
Approach Delay, s/veh		8.5			9.5			16.4			14.6	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.2	15.5		5.5	4.6	14.1		4.7
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	15.0	30.0		20.0	15.0	30.0		20.0
Max Q Clear Time (g_c+I1), s	2.1	5.9		3.1	3.1	8.2		2.7
Green Ext Time (p_c), s	0.0	0.6		0.1	0.0	0.9		0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	43	274	35	45	48	422	1214	64	47	1221	154
Future Volume (veh/h)	104	43	274	35	45	48	422	1214	64	47	1221	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	106	44	189	36	46	4	431	1239	62	48	1246	148
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	133	149	681	107	131	109	626	1961	98	577	1694	201
Arrive On Green	0.08	0.08	0.08	0.06	0.07	0.07	0.24	0.27	0.27	0.33	0.37	0.37
Sat Flow, veh/h	1767	1856	1543	1767	1856	1539	1767	4941	247	1767	4588	545
Grp Volume(v), veh/h	106	44	189	36	46	4	431	847	454	48	917	477
Grp Sat Flow(s),veh/h/ln	1767	1856	1543	1767	1856	1539	1767	1689	1811	1767	1689	1756
Q Serve(g_s), s	7.7	2.9	0.0	2.5	3.1	0.3	28.9	28.8	28.8	2.4	30.6	30.6
Cycle Q Clear(g_c), s	7.7	2.9	0.0	2.5	3.1	0.3	28.9	28.8	28.8	2.4	30.6	30.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.31
Lane Grp Cap(c), veh/h	133	149	681	107	131	109	626	1340	719	577	1247	648
V/C Ratio(X)	0.80	0.29	0.28	0.34	0.35	0.04	0.69	0.63	0.63	0.08	0.74	0.74
Avail Cap(c_a), veh/h	163	514	984	150	500	414	626	1340	719	577	1247	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	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	59.1	56.3	23.6	58.5	57.6	56.3	43.0	39.3	39.3	30.3	35.5	35.5
Incr Delay (d2), s/veh	25.9	0.4	0.1	0.7	3.4	0.3	2.7	2.3	4.2	0.0	3.9	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	1.4	3.7	1.2	1.6	0.1	13.4	12.7	14.0	1.0	12.8	13.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.1	56.7	23.7	59.2	61.0	56.6	45.7	41.6	43.5	30.3	39.4	42.8
LnGrp LOS	F	E	C	E	E	E	D	D	D	C	D	D
Approach Vol, veh/h		339			86			1732			1442	
Approach Delay, s/veh		47.2			60.0			43.1			40.2	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	47.1	56.9	11.5	14.6	50.7	53.3	13.4	12.7
Change Period (Y+Rc), s	4.6	* 5.3	3.6	* 4.1	4.6	5.3	3.6	3.5
Max Green Setting (Gmax), s	15.0	* 52	11.0	* 36	18.0	48.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	14.4	30.8	4.5	4.9	30.9	32.6	9.7	5.1
Green Ext Time (p_c), s	0.0	5.4	0.0	0.2	0.0	5.3	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	21	79	129	44	41	148	1645	156	38	1411	30
Future Volume (veh/h)	11	21	79	129	44	41	148	1645	156	38	1411	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	11	21	5	132	45	9	151	1679	154	39	1440	30
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	24	46	11	211	92	18	722	1642	150	736	1815	38
Arrive On Green	0.05	0.05	0.05	0.06	0.06	0.06	0.41	0.35	0.35	0.42	0.36	0.36
Sat Flow, veh/h	531	1013	241	3428	1501	300	1767	4723	432	1767	5107	106
Grp Volume(v), veh/h	37	0	0	132	0	54	151	1200	633	39	952	518
Grp Sat Flow(s),veh/h/ln	1786	0	0	1714	0	1801	1767	1689	1778	1767	1689	1836
Q Serve(g_s), s	2.6	0.0	0.0	4.9	0.0	3.8	7.2	45.2	45.2	1.7	32.9	32.9
Cycle Q Clear(g_c), s	2.6	0.0	0.0	4.9	0.0	3.8	7.2	45.2	45.2	1.7	32.9	32.9
Prop In Lane	0.30		0.14	1.00		0.17	1.00		0.24	1.00		0.06
Lane Grp Cap(c), veh/h	81	0	0	211	0	111	722	1174	618	736	1200	653
V/C Ratio(X)	0.46	0.00	0.00	0.63	0.00	0.49	0.21	1.02	1.02	0.05	0.79	0.79
Avail Cap(c_a), veh/h	220	0	0	949	0	499	722	1174	618	736	1200	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.5	0.0	0.0	59.5	0.0	59.0	24.9	42.4	42.4	22.6	37.6	37.6
Incr Delay (d2), s/veh	1.5	0.0	0.0	1.1	0.0	1.2	0.1	31.9	42.6	0.0	5.4	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	2.2	0.0	1.8	2.9	23.2	26.2	0.7	14.0	15.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	0.0	0.0	60.7	0.0	60.3	24.9	74.3	85.0	22.7	43.1	47.2
LnGrp LOS	E	A	A	E	A	E	C	F	F	C	D	D
Approach Vol, veh/h		37			186			1984			1509	
Approach Delay, s/veh		62.0			60.6			73.9			44.0	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	57.6	50.5		9.9	56.6	51.5		12.0
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	16.0	45.2		16.0	15.0	46.2		36.0
Max Q Clear Time (g_c+I1), s	13.7	47.2		4.6	9.2	34.9		6.9
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	5.8		0.4

Intersection Summary	
HCM 6th Ctrl Delay	61.0
HCM 6th LOS	E

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	134	40	1990	1430	43
Future Volume (veh/h)	147	134	40	1990	1430	43
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	150	15	41	2031	1459	31
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	177	157	63	2907	2673	1165
Arrive On Green	0.10	0.10	0.04	0.82	0.76	0.76
Sat Flow, veh/h	1767	1572	1767	3618	3618	1537
Grp Volume(v), veh/h	150	15	41	2031	1459	31
Grp Sat Flow(s),veh/h/ln	1767	1572	1767	1763	1763	1537
Q Serve(g_s), s	10.9	1.1	3.0	31.0	22.2	0.6
Cycle Q Clear(g_c), s	10.9	1.1	3.0	31.0	22.2	0.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	177	157	63	2907	2673	1165
V/C Ratio(X)	0.85	0.10	0.65	0.70	0.55	0.03
Avail Cap(c_a), veh/h	367	327	272	2907	2673	1165
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	57.5	53.1	61.9	4.7	6.5	3.9
Incr Delay (d2), s/veh	4.3	0.1	4.2	1.4	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	1.0	1.4	7.3	6.7	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	61.8	53.2	66.0	6.1	7.3	3.9
LnGrp LOS	E	D	E	A	A	A
Approach Vol, veh/h	165			2072	1490	
Approach Delay, s/veh	61.0			7.3	7.2	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		112.9		17.1	8.6	104.3
Change Period (Y+Rc), s		5.7		4.1	4.0	5.7
Max Green Setting (Gmax), s		93.2		27.0	20.0	69.2
Max Q Clear Time (g_c+I1), s		33.0		12.9	5.0	24.2
Green Ext Time (p_c), s		16.6		0.2	0.0	8.5

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	226	28	70	199	1	58	0	182	1	0	0
Future Vol, veh/h	0	226	28	70	199	1	58	0	182	1	0	0
Conflicting Peds, #/hr	0	0	4	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	100	-	125	0	-	-	225	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	297	37	92	262	1	76	0	239	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	263	0	-	297	0	0	745	744	297	864	744	264
Stage 1	-	-	-	-	-	-	297	297	-	447	447	-
Stage 2	-	-	-	-	-	-	448	447	-	417	297	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1295	-	0	1259	-	-	329	342	740	273	342	772
Stage 1	-	-	0	-	-	-	709	666	-	589	572	-
Stage 2	-	-	0	-	-	-	588	572	-	611	666	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1295	-	-	1259	-	-	310	317	740	174	317	771
Mov Cap-2 Maneuver	-	-	-	-	-	-	310	317	-	174	317	-
Stage 1	-	-	-	-	-	-	709	666	-	589	530	-
Stage 2	-	-	-	-	-	-	545	530	-	413	666	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.1	14.2	25.8
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	740	1295	-	1259	-	-	174
HCM Lane V/C Ratio	0.246	0.324	-	-	0.073	-	-	0.008
HCM Control Delay (s)	20.4	12.2	0	-	8.1	-	-	25.8
HCM Lane LOS	C	B	A	-	A	-	-	D
HCM 95th %tile Q(veh)	0.9	1.4	0	-	0.2	-	-	0

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	408	1	6	266	6	36
Future Vol, veh/h	408	1	6	266	6	36
Conflicting Peds, #/hr	0	4	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	551	1	8	359	8	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	556	0	752	281
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	196	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1004	-	344	713
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	815	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1000	-	340	710
Mov Cap-2 Maneuver	-	-	-	-	340	-
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	815	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	614	-	-	1000	-
HCM Lane V/C Ratio	0.092	-	-	0.008	-
HCM Control Delay (s)	11.5	-	-	8.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	348	59	29	229	19	18	22	79	35	14	26
Future Vol, veh/h	37	348	59	29	229	19	18	22	79	35	14	26
Conflicting Peds, #/hr	0	0	5	0	0	2	0	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	51	477	81	40	314	26	25	30	108	48	19	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	342	0	0	563	0	0	874	1047	284	765	1074	174
Stage 1	-	-	-	-	-	-	625	625	-	409	409	-
Stage 2	-	-	-	-	-	-	249	422	-	356	665	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	1207	-	-	998	-	-	242	225	710	291	217	836
Stage 1	-	-	-	-	-	-	437	473	-	588	592	-
Stage 2	-	-	-	-	-	-	730	584	-	632	454	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1205	-	-	993	-	-	200	205	707	205	198	833
Mov Cap-2 Maneuver	-	-	-	-	-	-	200	205	-	205	198	-
Stage 1	-	-	-	-	-	-	416	451	-	562	567	-
Stage 2	-	-	-	-	-	-	647	559	-	478	433	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.9	21	25.7
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	385	1205	-	-	993	-	-	275
HCM Lane V/C Ratio	0.423	0.042	-	-	0.04	-	-	0.374
HCM Control Delay (s)	21	8.1	-	-	8.8	-	-	25.7
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	2.1	0.1	-	-	0.1	-	-	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	469	10	25	257	35	5	25	70	96	33	15
Future Volume (veh/h)	16	469	10	25	257	35	5	25	70	96	33	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	21	601	12	32	329	35	6	32	0	123	42	2
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	28	1356	27	41	1257	133	53	56	0	223	222	11
Arrive On Green	0.02	0.38	0.38	0.02	0.39	0.39	0.03	0.03	0.00	0.13	0.13	0.13
Sat Flow, veh/h	1767	3535	71	1767	3216	340	1767	1856	0	1767	1756	84
Grp Volume(v), veh/h	21	300	313	32	179	185	6	32	0	123	0	44
Grp Sat Flow(s),veh/h/ln	1767	1763	1843	1767	1763	1793	1767	1856	0	1767	0	1840
Q Serve(g_s), s	0.4	3.8	3.8	0.5	2.1	2.1	0.1	0.5	0.0	1.9	0.0	0.6
Cycle Q Clear(g_c), s	0.4	3.8	3.8	0.5	2.1	2.1	0.1	0.5	0.0	1.9	0.0	0.6
Prop In Lane	1.00		0.04	1.00		0.19	1.00		0.00	1.00		0.05
Lane Grp Cap(c), veh/h	28	676	707	41	689	701	53	56	0	223	0	232
V/C Ratio(X)	0.74	0.44	0.44	0.77	0.26	0.26	0.11	0.57	0.00	0.55	0.00	0.19
Avail Cap(c_a), veh/h	1188	2369	2476	1188	2369	2410	1484	1559	0	1484	0	1546
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	6.8	6.8	14.5	6.1	6.2	14.0	14.2	0.0	12.2	0.0	11.6
Incr Delay (d2), s/veh	13.0	0.7	0.6	10.7	0.3	0.3	1.3	12.4	0.0	3.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	0.8	0.3	0.4	0.4	0.1	0.4	0.0	0.8	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.6	7.5	7.4	25.2	6.4	6.4	15.4	26.7	0.0	15.2	0.0	12.2
LnGrp LOS	C	A	A	C	A	A	B	C	A	B	A	B
Approach Vol, veh/h		634			396			38			167	
Approach Delay, s/veh		8.1			7.9			24.9			14.4	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.7	15.4		6.8	3.5	15.6		3.9
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0
Max Q Clear Time (g_c+I1), s	2.5	5.8		3.9	2.4	4.1		2.5
Green Ext Time (p_c), s	0.0	5.6		0.8	0.0	3.1		0.2

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	381	216	270	188	612	151	1255	273	431	1067	66
Future Volume (veh/h)	177	381	216	270	188	612	151	1255	273	431	1067	66
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		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	181	389	183	276	192	0	154	1281	152	440	1089	64
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	304	545	644	325	273		886	1131	502	1017	1215	71
Arrive On Green	0.17	0.15	0.15	0.09	0.08	0.00	0.26	0.32	0.32	0.30	0.36	0.36
Sat Flow, veh/h	1767	3526	1539	3428	3526	1572	3428	3526	1564	3428	3381	199
Grp Volume(v), veh/h	181	389	183	276	192	0	154	1281	152	440	568	585
Grp Sat Flow(s),veh/h/ln	1767	1763	1539	1714	1763	1572	1714	1763	1564	1714	1763	1817
Q Serve(g_s), s	12.3	13.6	0.0	10.3	6.9	0.0	4.5	41.7	9.5	13.5	39.6	39.6
Cycle Q Clear(g_c), s	12.3	13.6	0.0	10.3	6.9	0.0	4.5	41.7	9.5	13.5	39.6	39.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	304	545	644	325	273		886	1131	502	1017	633	653
V/C Ratio(X)	0.60	0.71	0.28	0.85	0.70		0.17	1.13	0.30	0.43	0.90	0.90
Avail Cap(c_a), veh/h	304	976	832	343	868		886	1131	502	1017	633	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	52.2	25.4	57.9	58.5	0.0	37.4	44.1	33.2	36.9	39.4	39.4
Incr Delay (d2), s/veh	2.2	0.7	0.1	16.2	1.2	0.0	0.0	71.1	1.6	0.1	17.8	17.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	6.0	3.7	5.1	3.1	0.0	1.9	28.6	3.7	5.5	19.5	20.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	52.9	25.4	74.1	59.7	0.0	37.5	115.3	34.8	37.0	57.1	56.8
LnGrp LOS	D	D	C	E	E		D	F	C	D	E	E
Approach Vol, veh/h		753			468	A		1587			1593	
Approach Delay, s/veh		46.0			68.2			100.0			51.4	
Approach LOS		D			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	47.0	15.8	24.5	37.7	52.0	25.8	14.5
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	22.6	41.7	13.0	36.0	17.0	46.7	17.0	32.0
Max Q Clear Time (g_c+I1), s	15.5	43.7	12.3	15.6	6.5	41.6	14.3	8.9
Green Ext Time (p_c), s	0.2	0.0	0.0	0.9	0.1	1.3	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	69.8
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	0	7	52	0	37	3	185	7	2	94	2
Future Vol, veh/h	18	0	7	52	0	37	3	185	7	2	94	2
Conflicting Peds, #/hr	0	0	8	0	0	0	0	0	50	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	0	11	83	0	59	5	294	11	3	149	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	498	524	161	530	520	350	154	0	0	355	0	0
Stage 1	159	159	-	360	360	-	-	-	-	-	-	-
Stage 2	339	365	-	170	160	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	481	457	881	458	459	691	1420	-	-	1198	-	-
Stage 1	841	764	-	656	625	-	-	-	-	-	-	-
Stage 2	673	622	-	830	764	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	435	431	873	425	433	658	1417	-	-	1141	-	-
Mov Cap-2 Maneuver	435	431	-	425	433	-	-	-	-	-	-	-
Stage 1	836	760	-	623	593	-	-	-	-	-	-	-
Stage 2	610	590	-	811	760	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	15.1	0.1	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1417	-	-	506	498	1141	-	-
HCM Lane V/C Ratio	0.003	-	-	0.078	0.284	0.003	-	-
HCM Control Delay (s)	7.5	0	-	12.7	15.1	8.2	-	-
HCM Lane LOS	A	A	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1.2	0	-	-

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	11	42	41	2	73	17	108	6	11	127	12
Future Vol, veh/h	18	11	42	41	2	73	17	108	6	11	127	12
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	17	67	65	3	116	27	171	10	17	202	19
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.2	9.8	10.3	10.9
HCM LOS	A	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	25%	35%	100%	0%
Vol Thru, %	0%	95%	15%	2%	0%	91%
Vol Right, %	0%	5%	59%	63%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	114	71	116	11	139
LT Vol	17	0	18	41	11	0
Through Vol	0	108	11	2	0	127
RT Vol	0	6	42	73	0	12
Lane Flow Rate	27	181	113	184	17	221
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.046	0.282	0.162	0.253	0.03	0.34
Departure Headway (Hd)	6.15	5.607	5.169	5.065	6.121	5.554
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	584	642	696	714	588	651
Service Time	3.865	3.322	3.181	3.065	3.829	3.262
HCM Lane V/C Ratio	0.046	0.282	0.162	0.258	0.029	0.339
HCM Control Delay	9.2	10.5	9.2	9.8	9	11.1
HCM Lane LOS	A	B	A	A	A	B
HCM 95th-tile Q	0.1	1.2	0.6	1	0.1	1.5

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	7	4	81	0	3	1	42	32	6	122	4
Future Vol, veh/h	3	7	4	81	0	3	1	42	32	6	122	4
Conflicting Peds, #/hr	0	0	2	0	0	1	0	0	2	0	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	4	10	6	121	0	4	1	63	48	9	182	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	304	327	196	304	306	90	197	0	0	113	0	0
Stage 1	212	212	-	91	91	-	-	-	-	-	-	-
Stage 2	92	115	-	213	215	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	646	590	843	646	606	965	1370	-	-	1470	-	-
Stage 1	788	725	-	914	818	-	-	-	-	-	-	-
Stage 2	913	798	-	787	723	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	633	579	834	627	594	962	1358	-	-	1467	-	-
Mov Cap-2 Maneuver	633	579	-	627	594	-	-	-	-	-	-	-
Stage 1	780	713	-	911	816	-	-	-	-	-	-	-
Stage 2	907	796	-	763	711	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	12.1	0.1	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1358	-	-	647	635	1467	-	-
HCM Lane V/C Ratio	0.001	-	-	0.032	0.197	0.006	-	-
HCM Control Delay (s)	7.7	0	-	10.8	12.1	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.7	0	-	-

Intersection	
Intersection Delay, s/veh	4.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	30	123	98	276
Demand Flow Rate, veh/h	31	127	101	285
Vehicles Circulating, veh/h	300	65	200	72
Vehicles Exiting, veh/h	57	236	131	120
Ped Vol Crossing Leg, #/h	2	0	0	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.9	3.7	4.1	4.8
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	31	127	101	285
Cap Entry Lane, veh/h	1016	1291	1125	1282
Entry HV Adj Factor	0.977	0.967	0.973	0.969
Flow Entry, veh/h	30	123	98	276
Cap Entry, veh/h	992	1249	1095	1242
V/C Ratio	0.031	0.098	0.090	0.222
Control Delay, s/veh	3.9	3.7	4.1	4.8
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	48	254	61	35	72	169	1430	45	60	1352	98
Future Volume (veh/h)	189	48	254	61	35	72	169	1430	45	60	1352	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	193	49	192	62	36	5	172	1459	27	61	1380	51
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	316	171	738	77	45	107	669	2007	622	538	1633	499
Arrive On Green	0.09	0.09	0.09	0.07	0.07	0.07	0.38	0.40	0.40	0.61	0.64	0.64
Sat Flow, veh/h	3428	1856	1552	1138	661	1572	1767	5066	1571	1767	5066	1548
Grp Volume(v), veh/h	193	49	192	98	0	5	172	1459	27	61	1380	51
Grp Sat Flow(s),veh/h/ln	1714	1856	1552	1799	0	1572	1767	1689	1571	1767	1689	1548
Q Serve(g_s), s	7.0	3.2	0.0	7.0	0.0	0.4	8.7	31.8	1.4	1.9	27.7	1.6
Cycle Q Clear(g_c), s	7.0	3.2	0.0	7.0	0.0	0.4	8.7	31.8	1.4	1.9	27.7	1.6
Prop In Lane	1.00		1.00	0.63		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	171	738	122	0	107	669	2007	622	538	1633	499
V/C Ratio(X)	0.61	0.29	0.26	0.80	0.00	0.05	0.26	0.73	0.04	0.11	0.85	0.10
Avail Cap(c_a), veh/h	1028	557	1061	152	0	133	669	2007	622	538	1633	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	55.0	20.7	59.7	0.0	56.7	27.8	33.3	24.1	18.0	20.6	15.9
Incr Delay (d2), s/veh	0.7	0.3	0.1	17.4	0.0	0.1	0.1	2.3	0.1	0.0	5.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.5	3.6	3.8	0.0	0.2	3.6	12.9	0.5	0.8	6.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	55.4	20.8	77.2	0.0	56.7	27.9	35.6	24.2	18.1	26.1	16.4
LnGrp LOS	E	E	C	E	A	E	C	D	C	B	C	B
Approach Vol, veh/h		434			103			1658			1492	
Approach Delay, s/veh		41.0			76.2			34.6			25.5	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	43.7	56.8		16.6	53.3	47.2		12.9
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	11.6	* 52		39.0	20.0	41.9		11.0
Max Q Clear Time (g_c+I1), s	13.9	33.8		9.0	10.7	29.7		9.0
Green Ext Time (p_c), s	0.0	9.3		0.9	0.1	7.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	104	10	35	137	85	6	5	28	199	14	109
Future Volume (veh/h)	22	104	10	35	137	85	6	5	28	199	14	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	29	135	8	45	178	1	8	6	0	258	18	15
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	39	235	14	57	270	229	26	28	0	347	183	153
Arrive On Green	0.02	0.14	0.14	0.03	0.15	0.15	0.01	0.01	0.00	0.20	0.20	0.20
Sat Flow, veh/h	1767	1734	103	1767	1856	1569	1767	1856	0	1767	933	778
Grp Volume(v), veh/h	29	0	143	45	178	1	8	6	0	258	0	33
Grp Sat Flow(s),veh/h/ln	1767	0	1837	1767	1856	1569	1767	1856	0	1767	0	1711
Q Serve(g_s), s	0.4	0.0	1.8	0.6	2.3	0.0	0.1	0.1	0.0	3.4	0.0	0.4
Cycle Q Clear(g_c), s	0.4	0.0	1.8	0.6	2.3	0.0	0.1	0.1	0.0	3.4	0.0	0.4
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.00	1.00		0.45
Lane Grp Cap(c), veh/h	39	0	249	57	270	229	26	28	0	347	0	336
V/C Ratio(X)	0.75	0.00	0.57	0.79	0.66	0.00	0.31	0.22	0.00	0.74	0.00	0.10
Avail Cap(c_a), veh/h	1416	0	2208	1062	2230	1885	1062	1115	0	1770	0	1714
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	10.1	12.0	10.1	9.1	12.2	12.2	0.0	9.4	0.0	8.2
Incr Delay (d2), s/veh	10.2	0.0	0.8	8.7	1.0	0.0	2.4	1.5	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.3	0.6	0.0	0.0	0.0	0.0	0.9	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	0.0	10.9	20.7	11.1	9.1	14.6	13.6	0.0	10.6	0.0	8.3
LnGrp LOS	C	A	B	C	B	A	B	B	A	B	A	A
Approach Vol, veh/h		172			224			14			291	
Approach Delay, s/veh		12.8			13.0			14.2			10.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.8	8.7		8.4	3.5	8.9		4.1
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	15.0	30.0		25.0	20.0	30.0		15.0
Max Q Clear Time (g_c+I1), s	2.6	3.8		5.4	2.4	4.3		2.1
Green Ext Time (p_c), s	0.0	0.2		0.1	0.0	0.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	324	217	10	23	40
Future Vol, veh/h	7	324	217	10	23	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	8	386	258	12	27	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	270	0	-	0	666	264
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	402	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1288	-	-	-	423	772
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	673	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1288	-	-	-	420	772
Mov Cap-2 Maneuver	-	-	-	-	420	-
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	673	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1288	-	-	-	591
HCM Lane V/C Ratio	0.006	-	-	-	0.127
HCM Control Delay (s)	7.8	-	-	-	12
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	321	13	18	207	33	4	7	16	64	13	29
Future Volume (veh/h)	27	321	13	18	207	33	4	7	16	64	13	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	34	406	15	23	262	37	5	9	0	81	16	19
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	59	564	21	42	488	69	10	17	0	109	21	26
Arrive On Green	0.03	0.32	0.32	0.02	0.31	0.31	0.01	0.01	0.00	0.09	0.09	0.09
Sat Flow, veh/h	1767	1778	66	1767	1590	225	651	1172	0	1217	240	285
Grp Volume(v), veh/h	34	0	421	23	0	299	14	0	0	116	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1843	1767	0	1814	1823	0	0	1742	0	0
Q Serve(g_s), s	0.5	0.0	5.3	0.3	0.0	3.6	0.2	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	5.3	0.3	0.0	3.6	0.2	0.0	0.0	1.7	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.12	0.36		0.00	0.70		0.16
Lane Grp Cap(c), veh/h	59	0	585	42	0	557	27	0	0	156	0	0
V/C Ratio(X)	0.58	0.00	0.72	0.55	0.00	0.54	0.52	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	1008	0	2103	1008	0	2069	1386	0	0	1325	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	0.0	7.9	12.7	0.0	7.6	12.9	0.0	0.0	11.7	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.0	0.6	4.2	0.0	0.3	5.6	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.1	0.1	0.0	0.8	0.1	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	0.0	8.6	16.9	0.0	7.9	18.5	0.0	0.0	14.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		455			322			14			116	
Approach Delay, s/veh		9.1			8.5			18.5			14.3	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.6	12.9		5.9	3.9	12.7		3.9
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	15.0	30.0		20.0	15.0	30.0		20.0
Max Q Clear Time (g_c+I1), s	2.3	7.3		3.7	2.5	5.6		2.2
Green Ext Time (p_c), s	0.0	0.8		0.2	0.0	0.6		0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	83	446	117	69	140	195	1427	88	126	1375	87
Future Volume (veh/h)	146	83	446	117	69	140	195	1427	88	126	1375	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	149	85	416	119	70	15	199	1456	85	129	1403	84
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	198	164	647	144	116	98	575	1943	113	526	1804	108
Arrive On Green	0.11	0.09	0.09	0.08	0.06	0.06	0.11	0.13	0.13	0.30	0.37	0.37
Sat Flow, veh/h	1767	1856	1535	1767	1856	1565	1767	4895	286	1767	4886	293
Grp Volume(v), veh/h	149	85	416	119	70	15	199	1004	537	129	970	517
Grp Sat Flow(s),veh/h/ln	1767	1856	1535	1767	1856	1565	1767	1689	1804	1767	1689	1802
Q Serve(g_s), s	10.6	5.7	0.0	8.6	4.8	1.2	13.6	37.3	37.3	7.2	33.0	33.0
Cycle Q Clear(g_c), s	10.6	5.7	0.0	8.6	4.8	1.2	13.6	37.3	37.3	7.2	33.0	33.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		0.16
Lane Grp Cap(c), veh/h	198	164	647	144	116	98	575	1340	716	526	1247	665
V/C Ratio(X)	0.75	0.52	0.64	0.82	0.60	0.15	0.35	0.75	0.75	0.25	0.78	0.78
Avail Cap(c_a), veh/h	198	514	937	150	500	421	575	1340	716	526	1247	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	56.6	30.4	58.8	59.4	57.7	45.2	50.3	50.3	34.6	36.3	36.3
Incr Delay (d2), s/veh	17.6	0.9	0.4	27.2	10.3	1.5	0.1	3.9	7.1	0.1	4.8	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	2.7	10.3	4.9	2.6	0.5	6.4	17.5	19.4	3.0	13.9	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.5	57.6	30.8	85.9	69.7	59.2	45.3	54.1	57.3	34.7	41.1	45.0
LnGrp LOS	E	E	C	F	E	E	D	D	E	C	D	D
Approach Vol, veh/h		650			204			1740			1616	
Approach Delay, s/veh		44.1			78.4			54.1			41.8	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.3	56.9	14.2	15.6	46.9	53.3	18.2	11.6
Change Period (Y+Rc), s	4.6	* 5.3	3.6	* 4.1	4.6	5.3	3.6	3.5
Max Green Setting (Gmax), s	15.0	* 52	11.0	* 36	18.0	48.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	9.2	39.3	10.6	7.7	15.6	35.0	12.6	6.8
Green Ext Time (p_c), s	0.0	5.4	0.0	0.4	0.0	5.3	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	49.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	34	179	228	34	56	62	1610	279	63	1889	12
Future Volume (veh/h)	42	34	179	228	34	56	62	1610	279	63	1889	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	43	35	119	233	35	6	63	1643	271	64	1928	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	45	36	123	350	157	27	513	1524	250	526	1846	11
Arrive On Green	0.12	0.12	0.12	0.10	0.10	0.10	0.29	0.35	0.35	0.30	0.36	0.36
Sat Flow, veh/h	362	294	1001	3428	1539	264	1767	4383	719	1767	5194	32
Grp Volume(v), veh/h	197	0	0	233	0	41	63	1264	650	64	1253	687
Grp Sat Flow(s),veh/h/ln	1657	0	0	1714	0	1803	1767	1689	1725	1767	1689	1850
Q Serve(g_s), s	15.4	0.0	0.0	8.5	0.0	2.7	3.4	45.2	45.2	3.4	46.2	46.2
Cycle Q Clear(g_c), s	15.4	0.0	0.0	8.5	0.0	2.7	3.4	45.2	45.2	3.4	46.2	46.2
Prop In Lane	0.22		0.60	1.00		0.15	1.00		0.42	1.00		0.02
Lane Grp Cap(c), veh/h	204	0	0	350	0	184	513	1174	600	526	1200	657
V/C Ratio(X)	0.97	0.00	0.00	0.66	0.00	0.22	0.12	1.08	1.08	0.12	1.04	1.04
Avail Cap(c_a), veh/h	204	0	0	949	0	499	513	1174	600	526	1200	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.7	0.0	0.0	56.2	0.0	53.6	34.0	42.4	42.4	33.3	41.9	41.9
Incr Delay (d2), s/veh	52.8	0.0	0.0	0.8	0.0	0.2	0.0	49.4	61.5	0.0	38.3	47.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	0.0	0.0	3.8	0.0	1.3	1.4	26.0	28.6	1.5	24.7	28.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	109.5	0.0	0.0	57.0	0.0	53.8	34.0	91.8	103.9	33.3	80.2	89.2
LnGrp LOS	F	A	A	E	A	D	C	F	F	C	F	F
Approach Vol, veh/h		197			274			1977			2004	
Approach Delay, s/veh		109.5			56.5			94.0			81.8	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	42.2	50.5		20.0	41.2	51.5		17.3
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	16.0	45.2		16.0	15.0	46.2		36.0
Max Q Clear Time (g_c+I1), s	17.4	47.2		17.4	5.4	48.2		10.5
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.6

Intersection Summary	
HCM 6th Ctrl Delay	86.9
HCM 6th LOS	F

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	2. Richardson Dr / Bell Rd
Scenario	Existing Plus HHS

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*
AM Peak Hour Volume	28	1	76	0	0	1	0	199	79	219	117	3
AM Peak Hour Delay (s)	25.6	10.2	10.2	9	9	9	0	0	0	8.4	0	0
PM Peak Hour Volume	58	0	182	1	0	0	0	226	28	70	199	1
PM Peak Hour Delay (s)	20.4	12.2	12.2	25.8	25.8	25.8	0	0	0	8.1	0	0

AM Delay	**10.3**
AM LOS	**B**

PM Delay	**12.9**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	3. County Center Dr / Bell Rd
Scenario	Existing Plus HHS

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yield*	*Free*	
AM Peak Hour Volume	2		5					273	2	35	346	
AM Peak Hour Delay (s)	11.2		11.2					0	0	8.2	0	
PM Peak Hour Volume	6		36					408	1	6	266	
PM Peak Hour Delay (s)	11.5		11.5					0	0	8.6	0	

AM Delay	**8.7**
AM LOS	**A**

PM Delay	**11.1**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	4. 1st St / Blue Oaks Dr
Scenario	Existing Plus HHS

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*
AM Peak Hour Volume	5	10	42	23	18	51	20	240	18	132	349	41
AM Peak Hour Delay (s)	18.5	18.5	18.5	36.5	36.5	36.5	8.6	0	0	8.6	0	0
PM Peak Hour Volume	18	22	79	35	14	26	37	348	59	29	229	19
PM Peak Hour Delay (s)	21	21	21	25.7	25.7	25.7	8.1	0	0	8.8	0	0

AM Delay	**19.0**
AM LOS	**C**

PM Delay	**19.2**
PM LOS	**C**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	7. Richardson Dr / DeWitt Av
Scenario	Existing Plus HHS

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	6	100	29	26	255	17	2	0	3	10	0	3
AM Peak Hour Delay (s)	8.1	0	0	7.7	0	0	11.9	11.9	11.9	13.2	13.2	13.2
PM Peak Hour Volume	3	185	7	2	94	2	18	0	7	52	0	37
PM Peak Hour Delay (s)	7.5	0	0	8.2	0	0	12.7	12.7	12.7	15.1	15.1	15.1

AM Delay	**9.6**
AM LOS	**A**

PM Delay	**14.3**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	9. 1st St / D Av / Professional Dr
Scenario	Existing Plus HHS

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	9	135	75	7	51	0	0	0	2	38	3	7
AM Peak Hour Delay (s)	7.4	0	0	7.8	0	0	8.6	8.6	8.6	11	11	11
PM Peak Hour Volume	1	42	32	6	122	4	3	7	4	81	0	3
PM Peak Hour Delay (s)	7.7	0	0	7.5	0	0	10.8	10.8	10.8	12.1	12.1	12.1

AM Delay	**10.1**
AM LOS	**B**

PM Delay	**11.6**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	13. Atwood Rd / 3rd St
Scenario	Existing Plus HHS

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control				*Stop*		*Stop*	*Yield*	*Free*			*Free*	*Free*
AM Peak Hour Volume				14		15	25	269			315	11
AM Peak Hour Delay (s)				12.4		12.4	8.1	0			0	0
PM Peak Hour Volume				23		40	7	324			217	10
PM Peak Hour Delay (s)				12		12	7.8	0			0	0

AM Delay	**10.4**
AM LOS	**B**

PM Delay	**11.6**
PM LOS	**B**

FEHR PEERS

Major Street	Bell Rd
Minor Street	Richardson Dr

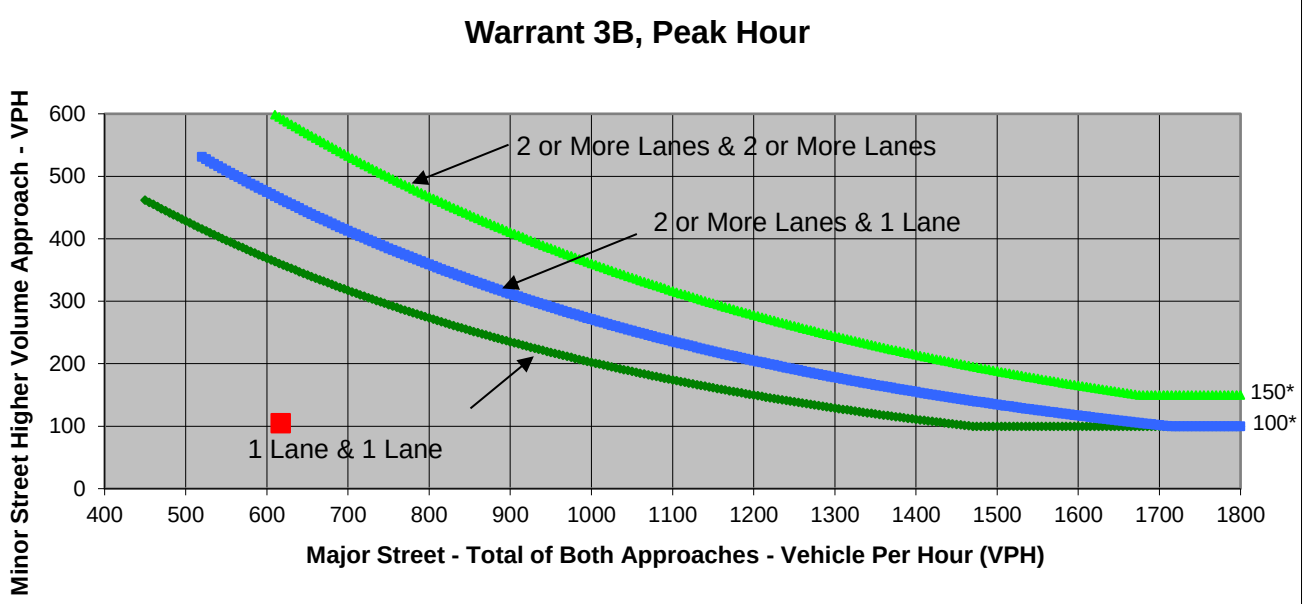
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	28	0	0	219
Through	1	0	199	117
Right	76	1	79	3
Total	105	1	278	339

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Rd	Richardson Dr	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**617**	**105**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Rd
Minor Street	Richardson Dr

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	28	0	0	219
Through	1	0	199	117
Right	76	1	79	3
Total	105	1	278	339

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	14.5
Approach with Worst Case Delay	NB
Total Vehicles on Approach	105

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus Health & Human Servic	**0.4**	**105**	**723**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Rd
Minor Street	Richardson Dr

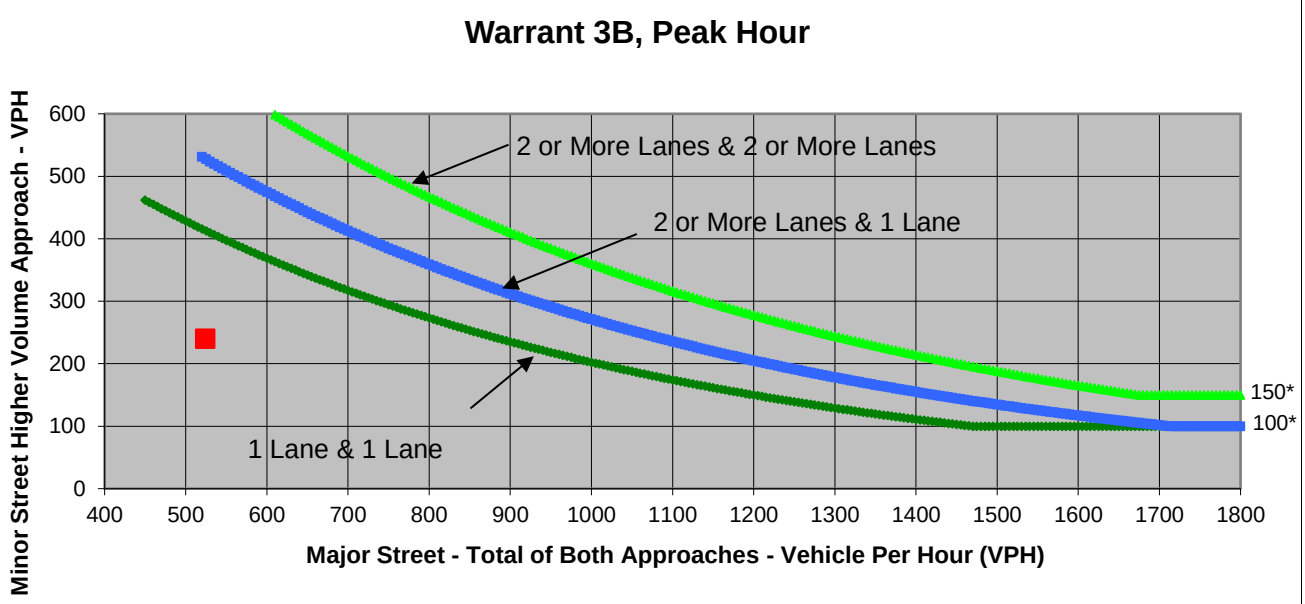
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	58	1	0	70
Through	0	0	226	199
Right	182	0	28	1
Total	240	1	254	270

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Rd	Richardson Dr	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**524**	**240**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Rd
Minor Street	Richardson Dr

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	58	1	0	70
Through	0	0	226	199
Right	182	0	28	1
Total	240	1	254	270

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	25.8
Approach with Worst Case Delay	SB
Total Vehicles on Approach	1

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus Health & Human Servic	**0**	**240**	**765**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Rd
Minor Street	County Center Dr

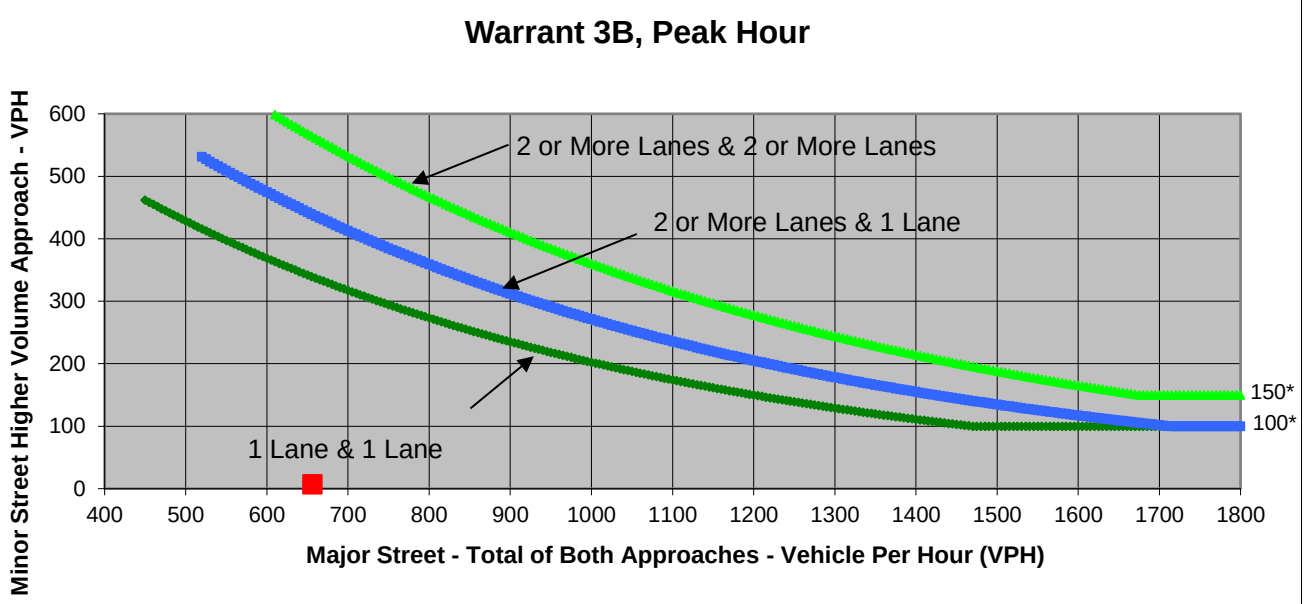
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	2			35
Through			273	346
Right	5		2	
Total	7	0	275	381

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Rd	County Center Dr	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**656**	**7**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Rd
Minor Street	County Center Dr

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	0	0	35
Through	0	0	273	346
Right	5	0	2	0
Total	7	0	275	381

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.2
Approach with Worst Case Delay	NB
Total Vehicles on Approach	7

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus Health & Human Servi	**0**	**7**	**663**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Rd
Minor Street	County Center Dr

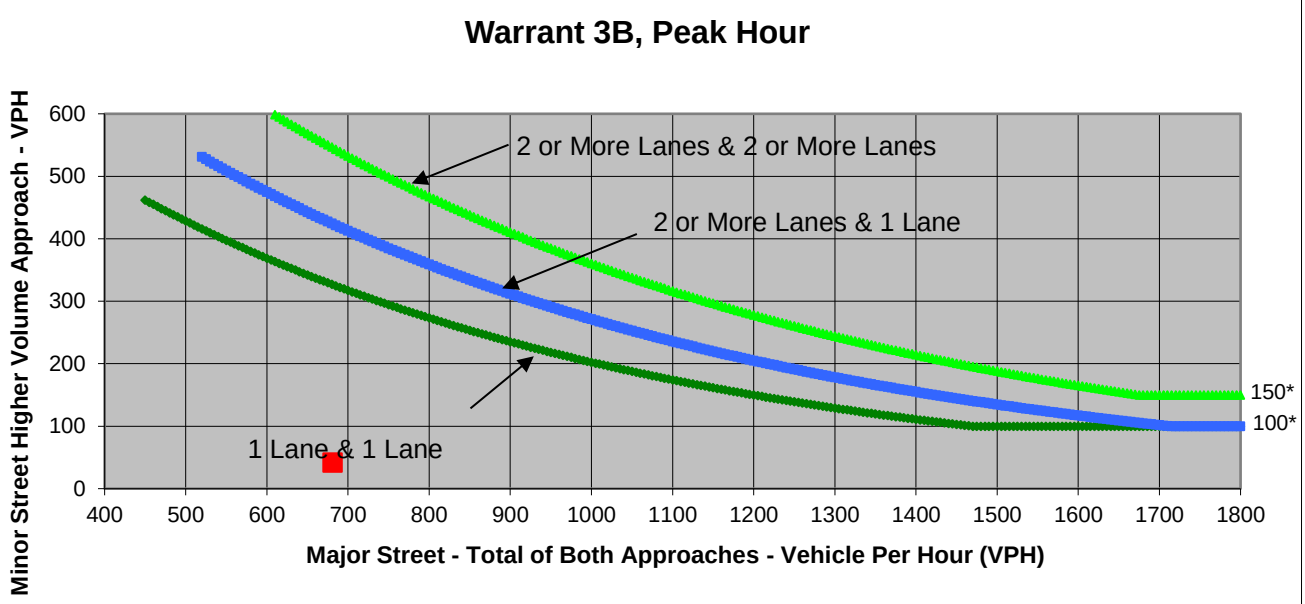
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	6			6
Through			408	266
Right	36		1	
Total	42	0	409	272

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Rd	County Center Dr	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**681**	**42**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Rd
Minor Street	County Center Dr

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	6	0	0	6
Through	0	0	408	266
Right	36	0	1	0
Total	42	0	409	272

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.5
Approach with Worst Case Delay	NB
Total Vehicles on Approach	42

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus Health & Human Servic	**0.1**	**42**	**723**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Rd
Minor Street	Blue Oaks Dr / 1st St

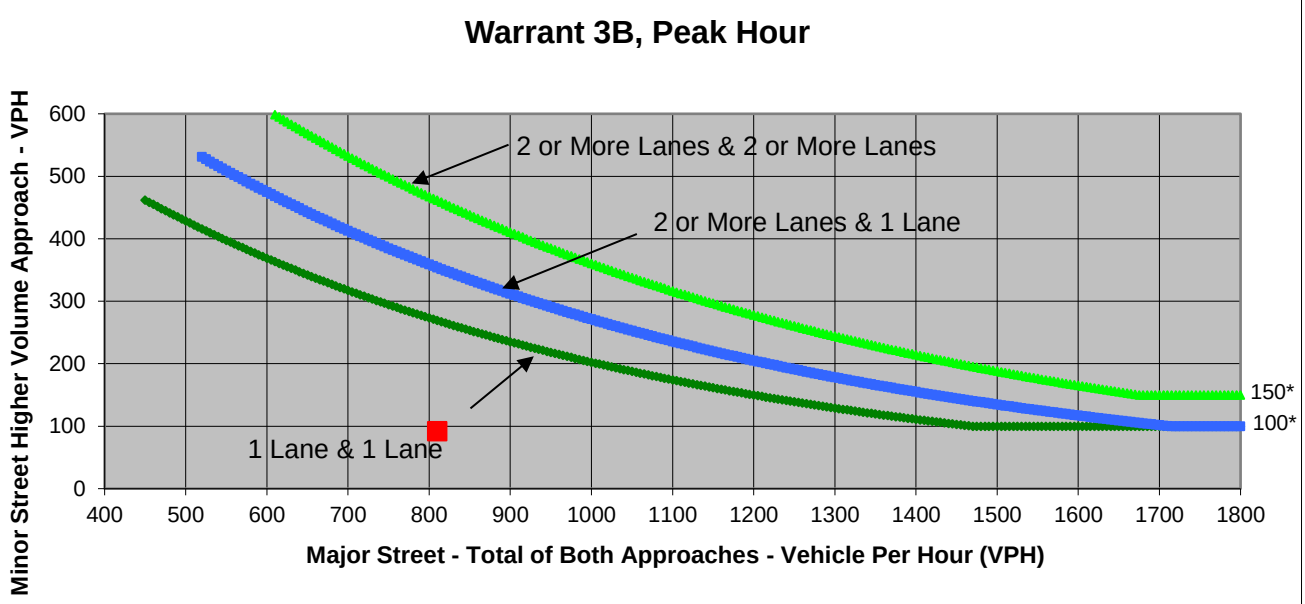
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	23	20	132
Through	10	18	240	349
Right	42	51	18	51
Total	57	92	278	532

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Rd	Blue Oaks Dr / 1st St	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**810**	**92**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Rd
Minor Street	Blue Oaks Dr / 1st St

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	23	20	132
Through	10	18	240	349
Right	42	51	18	51
Total	57	92	278	532

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	36.5
Approach with Worst Case Delay	SB
Total Vehicles on Approach	92

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus Health & Human Servic	**0.9**	**92**	**959**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Rd
Minor Street	Blue Oaks Dr / 1st St

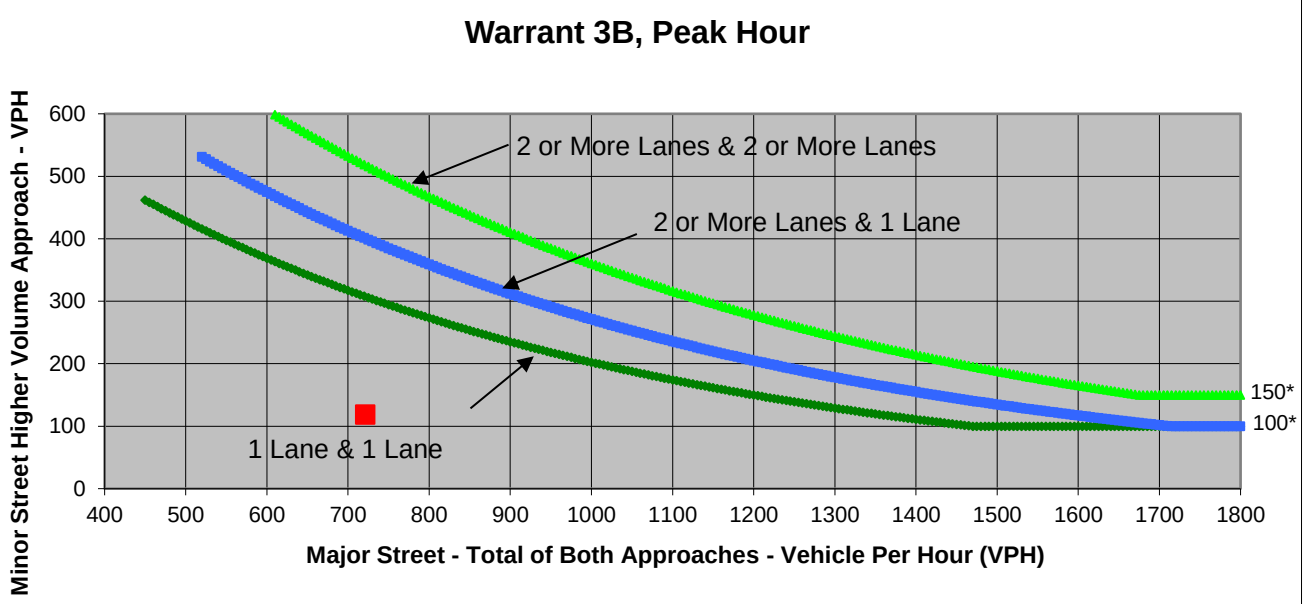
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	18	35	37	29
Through	22	14	348	229
Right	79	26	59	19
Total	119	75	444	277

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Rd	Blue Oaks Dr / 1st St	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**721**	**119**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Rd
Minor Street	Blue Oaks Dr / 1st St

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	18	35	37	29
Through	22	14	348	229
Right	79	26	59	19
Total	119	75	444	277

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	25.7
Approach with Worst Case Delay	SB
Total Vehicles on Approach	75

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus Health & Human Servic	**0.5**	**119**	**915**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Dr
Minor Street	DeWitt Ave

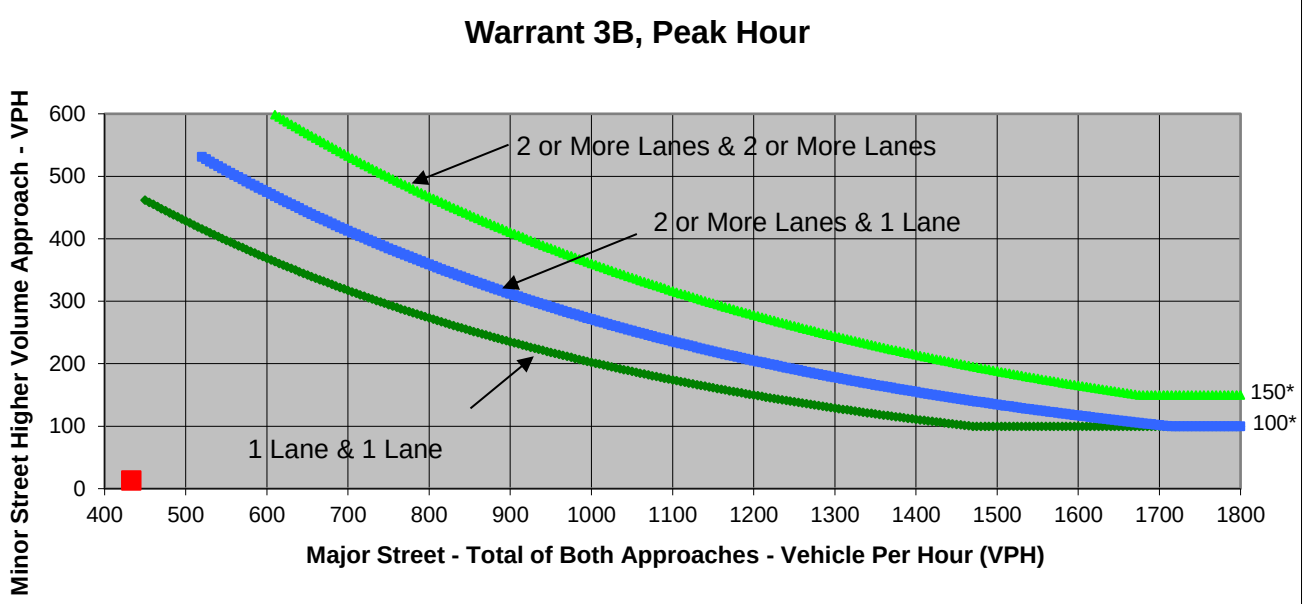
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	6	26	2	10
Through	100	255	0	0
Right	29	17	3	3
Total	135	298	5	13

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Dr	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**433**	**13**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Dr
Minor Street	DeWitt Ave

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	6	26	2	10
Through	100	255	0	0
Right	29	17	3	3
Total	135	298	5	13

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	13

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus Health & Human Servic	**0**	**13**	**451**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Dr
Minor Street	DeWitt Ave

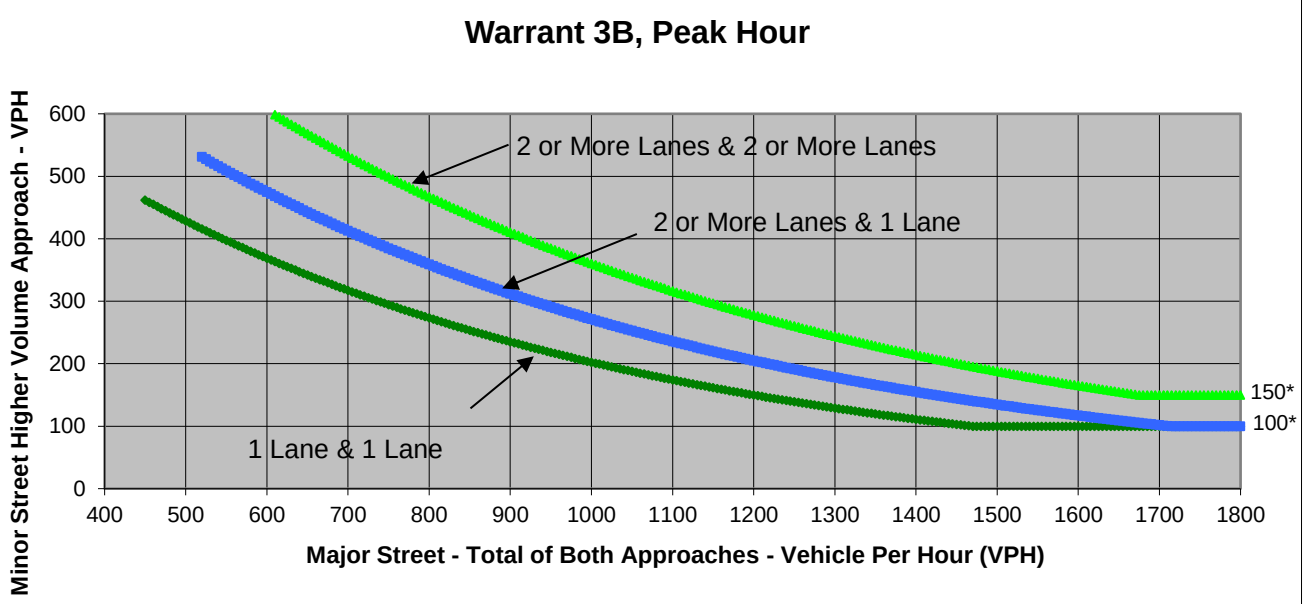
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	3	2	18	52
Through	185	94	0	0
Right	7	2	7	37
Total	195	98	25	89

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Dr	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**293**	**89**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Servic
Peak Hour	PM Peak Hour

Major Street	Richardson Dr
Minor Street	DeWitt Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	3	2	18	52
Through	185	94	0	0
Right	7	2	7	37
Total	195	98	25	89

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	15.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	89

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus Health & Human Servic	**0.4**	**89**	**407**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Dr
Minor Street	B Ave

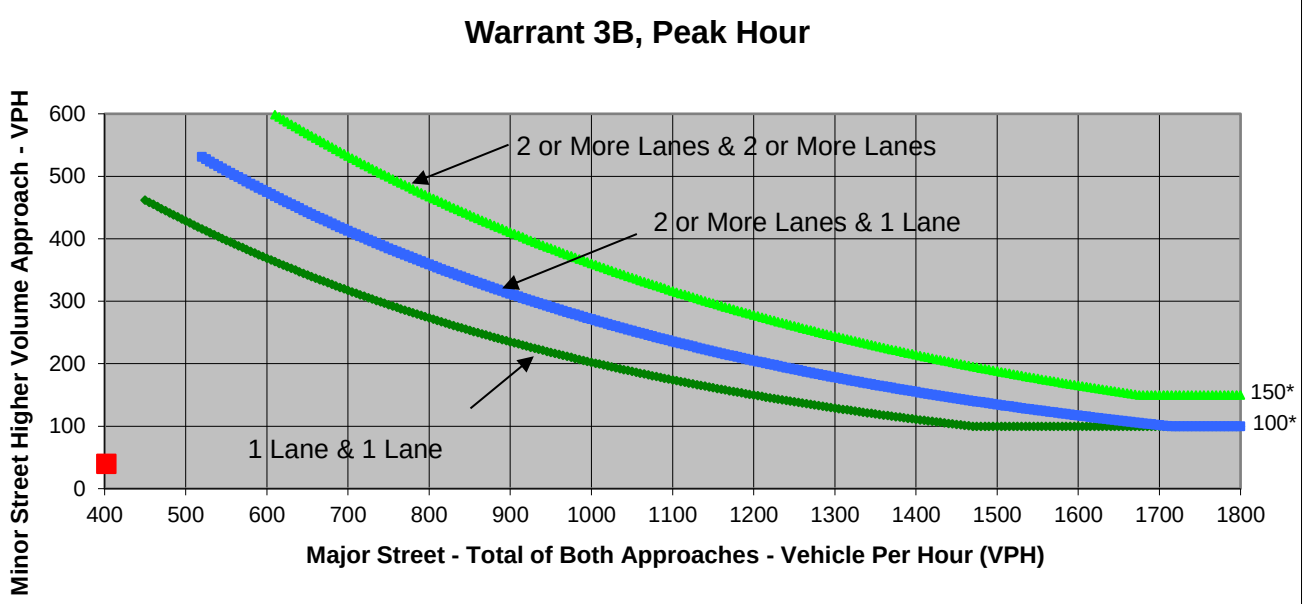
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	48	40	9	6
Through	103	168	1	7
Right	25	18	15	27
Total	176	226	25	40

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Dr	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**402**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Major Street	Richardson Dr
Minor Street	B Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	48	40	9	6
Through	103	168	1	7
Right	25	18	15	27
Total	176	226	25	40

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.3
Approach with Worst Case Delay	EB
Total Vehicles on Approach	25

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus Health & Human Servic	**0.1**	**40**	**467**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Dr
Minor Street	B Ave

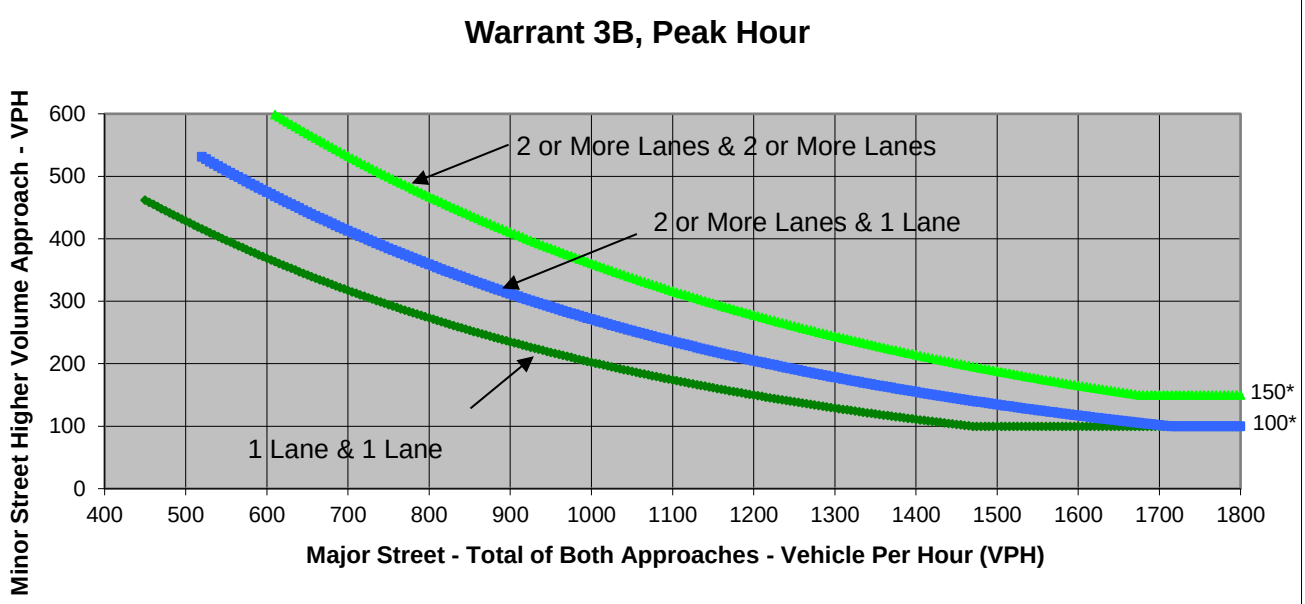
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	17	11	18	41
Through	108	127	11	2
Right	6	12	42	73
Total	131	150	71	116

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Dr	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**281**	**116**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Dr
Minor Street	B Ave

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	17	11	18	41
Through	108	127	11	2
Right	6	12	42	73
Total	131	150	71	116

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	10.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	116

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus Health & Human Servic	**0.4**	**116**	**468**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st St
Minor Street	D Ave / Professional Dr

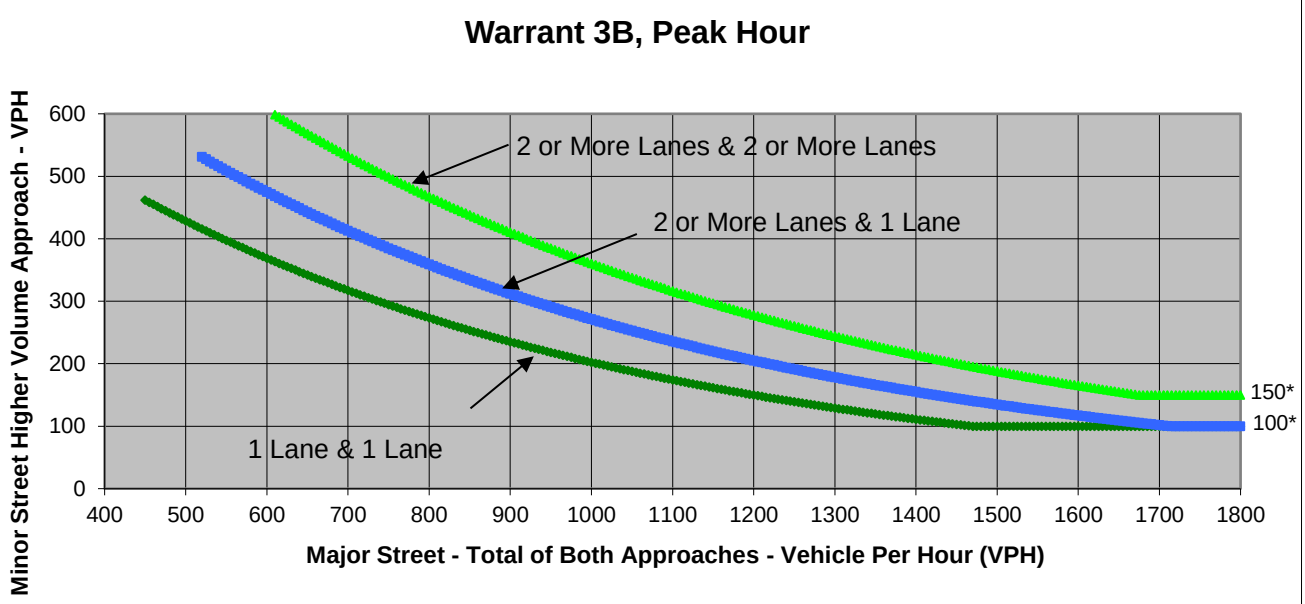
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	9	7	0	38
Through	135	51	0	3
Right	75	0	2	7
Total	219	58	2	48

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st St	D Ave / Professional Dr	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**277**	**48**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st St
Minor Street	D Ave / Professional Dr

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	9	7	0	38
Through	135	51	0	3
Right	75	0	2	7
Total	219	58	2	48

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11
Approach with Worst Case Delay	WB
Total Vehicles on Approach	48

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus Health & Human Servic	**0.1**	**48**	**327**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st St
Minor Street	D Ave / Professional Dr

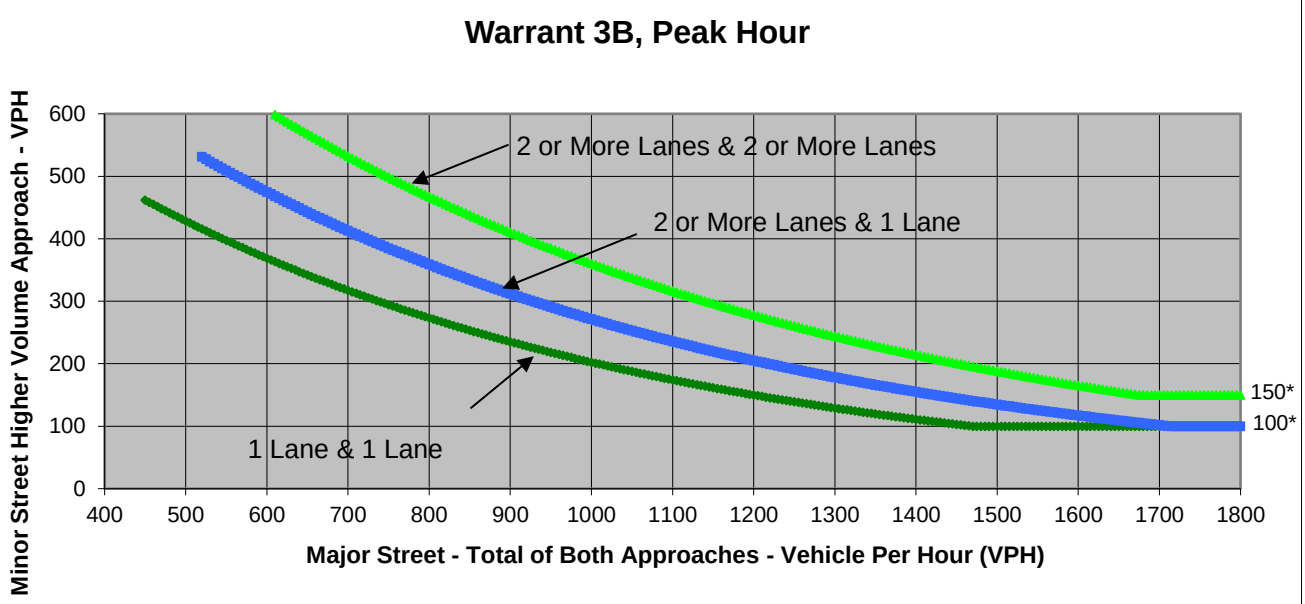
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	6	3	81
Through	42	122	7	0
Right	32	4	4	3
Total	75	132	14	84

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st St	D Ave / Professional Dr	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**207**	**84**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st St
Minor Street	D Ave / Professional Dr

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	6	3	81
Through	42	122	7	0
Right	32	4	4	3
Total	75	132	14	84

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	84

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus Health & Human Servic	**0.3**	**84**	**305**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Willow Creek Dr / 3rd St
Minor Street	1st St

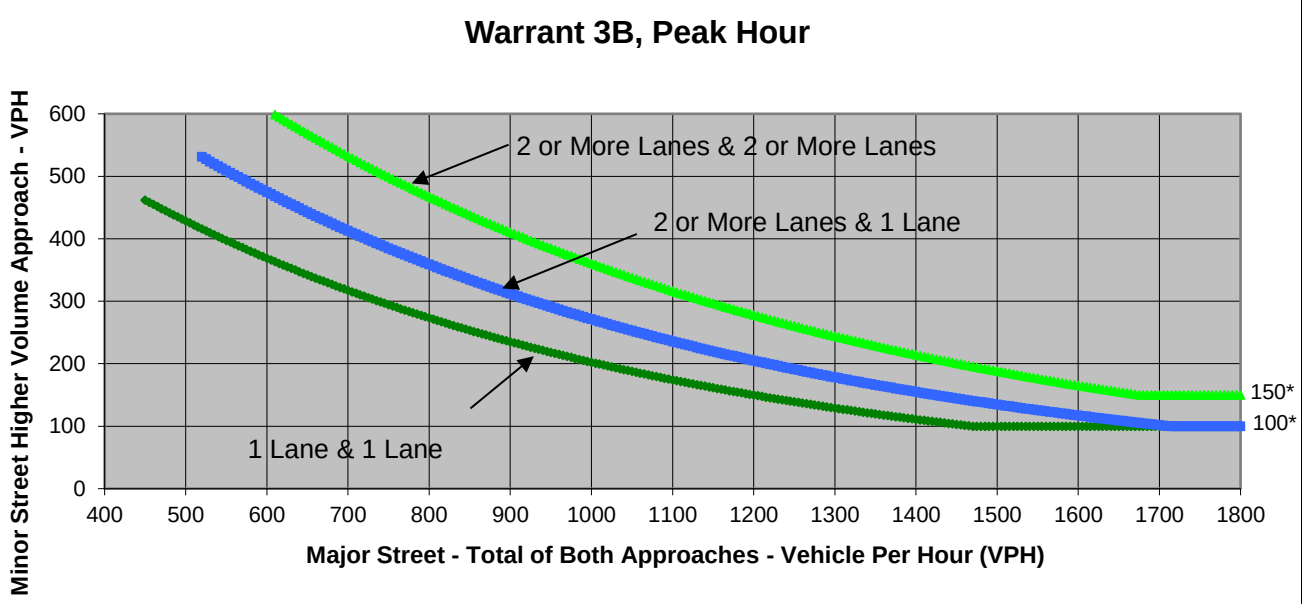
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	37	17	37
Through	58	68	10	20
Right	37	12	3	137
Total	97	117	30	194

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Dr / 3rd St	1st St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**224**	**117**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Willow Creek Dr / 3rd St
Minor Street	1st St

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	37	17	37
Through	58	68	10	20
Right	37	12	3	137
Total	97	117	30	194

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	4.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	194

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus Health & Human Servic	**0.2**	**117**	**438**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Willow Creek Dr / 3rd St
Minor Street	1st St

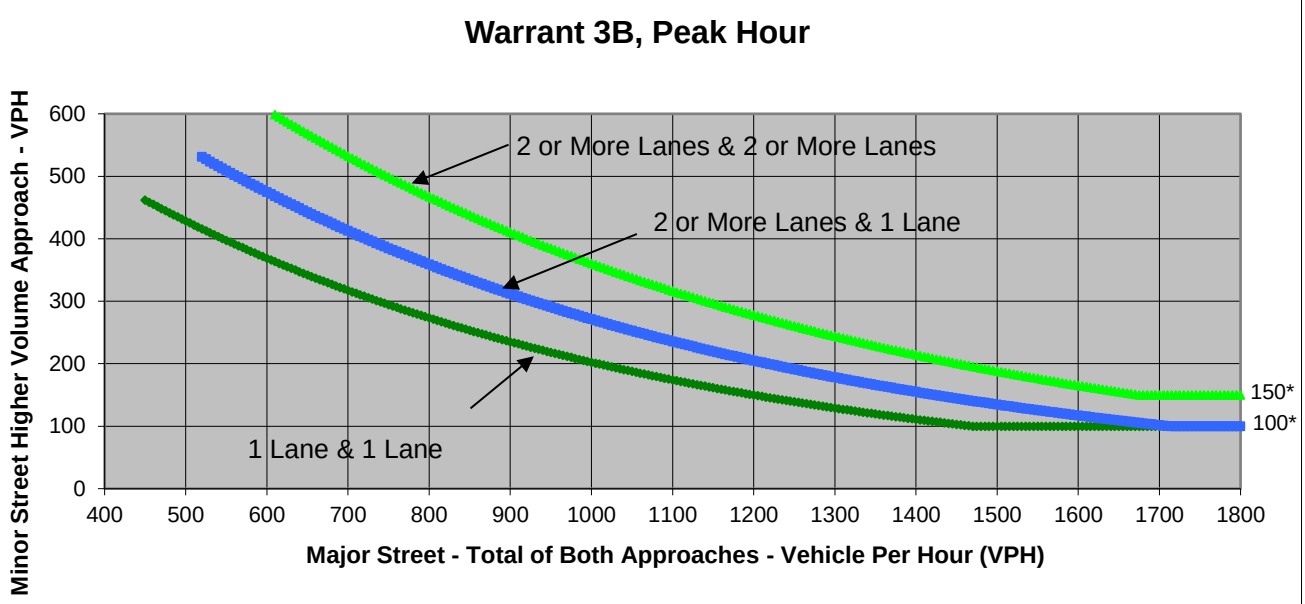
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	129	4	25
Through	45	73	19	30
Right	31	13	1	41
Total	76	215	24	96

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Dr / 3rd St	1st St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**120**	**215**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Willow Creek Dr / 3rd St
Minor Street	1st St

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	129	4	25
Through	45	73	19	30
Right	31	13	1	41
Total	76	215	24	96

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	4.8
Approach with Worst Case Delay	SB
Total Vehicles on Approach	215

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus Health & Human Servic	**0.3**	**215**	**411**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd St

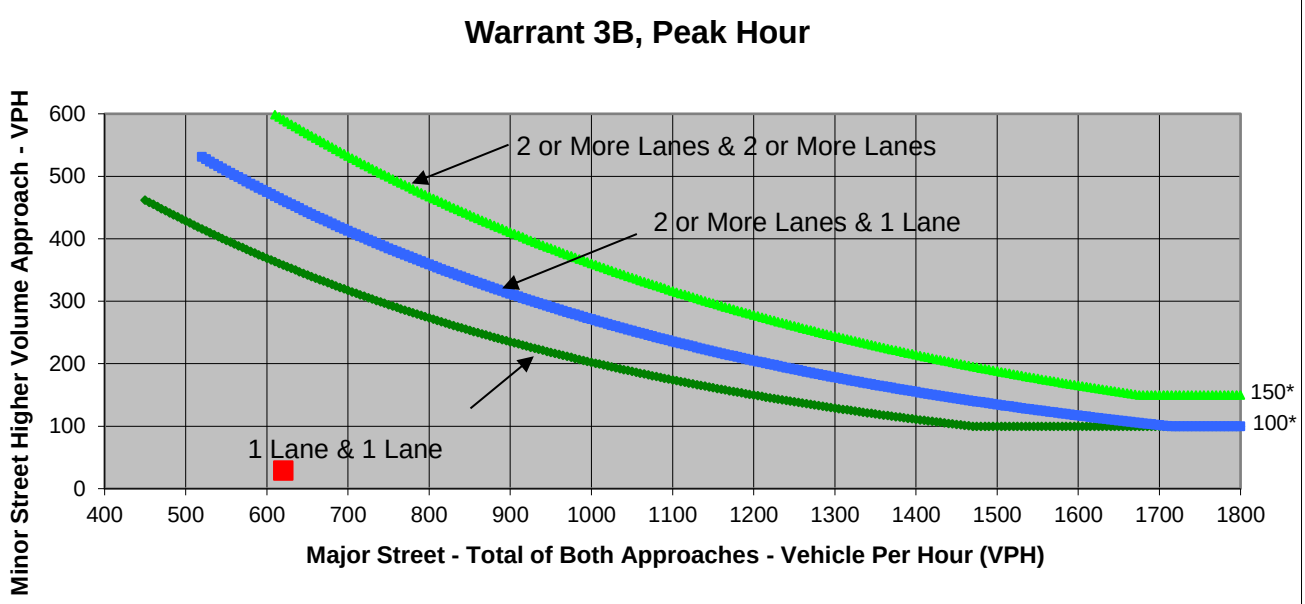
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left		14	25	
Through			269	315
Right		15		11
Total	0	29	294	326

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Rd	3rd St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**620**	**29**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd St

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	14	25	0
Through	0	0	269	315
Right	0	15	0	11
Total	0	29	294	326

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.4
Approach with Worst Case Delay	SB
Total Vehicles on Approach	29

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus Health & Human Servic	**0.1**	**29**	**649**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd St

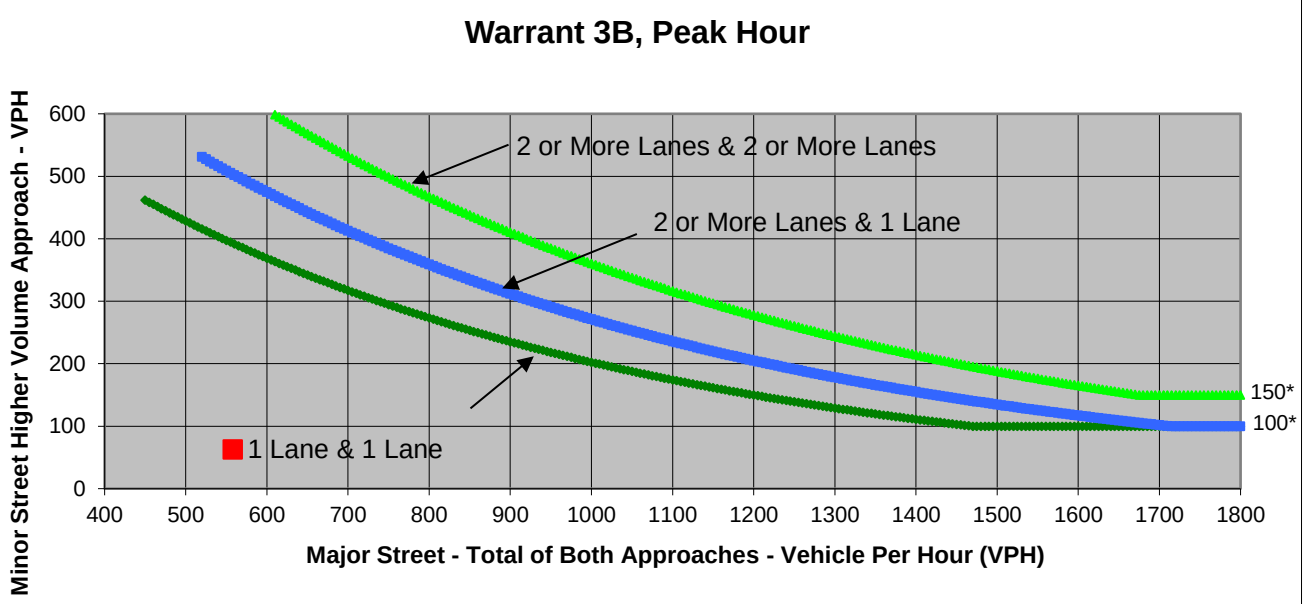
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left		23	7	
Through			324	217
Right		40		10
Total	0	63	331	227

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Rd	3rd St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**558**	**63**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd St

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	23	7	0
Through	0	0	324	217
Right	0	40	0	10
Total	0	63	331	227

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12
Approach with Worst Case Delay	SB
Total Vehicles on Approach	63

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus Health & Human Servic	**0.2**	**63**	**621**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	194	152	171	503	395	258	770	141	404	1142	198
Future Volume (veh/h)	106	194	152	171	503	395	258	770	141	404	1142	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	108	198	79	174	513	0	263	786	59	412	1165	193
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	134	343	455	504	595		666	1212	540	956	1297	214
Arrive On Green	0.08	0.10	0.10	0.15	0.17	0.00	0.19	0.34	0.34	0.28	0.43	0.43
Sat Flow, veh/h	1767	3526	1539	3428	3526	1572	3428	3526	1570	3428	3028	499
Grp Volume(v), veh/h	108	198	79	174	513	0	263	786	59	412	676	682
Grp Sat Flow(s),veh/h/ln	1767	1763	1539	1714	1763	1572	1714	1763	1570	1714	1763	1764
Q Serve(g_s), s	7.8	7.0	0.0	5.9	18.4	0.0	8.7	24.5	3.3	12.8	46.2	46.8
Cycle Q Clear(g_c), s	7.8	7.0	0.0	5.9	18.4	0.0	8.7	24.5	3.3	12.8	46.2	46.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	134	343	455	504	595		666	1212	540	956	755	756
V/C Ratio(X)	0.81	0.58	0.17	0.34	0.86		0.40	0.65	0.11	0.43	0.90	0.90
Avail Cap(c_a), veh/h	156	993	738	504	911		666	1212	540	956	755	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.2	56.1	34.4	49.8	52.6	0.0	45.7	36.0	29.1	38.4	34.4	34.6
Incr Delay (d2), s/veh	19.9	0.6	0.1	0.2	3.5	0.0	0.1	2.7	0.4	0.1	15.3	16.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	3.1	1.8	2.5	8.2	0.0	3.6	10.6	1.3	5.3	21.9	22.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.1	56.7	34.4	50.0	56.1	0.0	45.9	38.7	29.5	38.5	49.8	50.7
LnGrp LOS	E	E	C	D	E		D	D	C	D	D	D
Approach Vol, veh/h		385			687	A		1108			1770	
Approach Delay, s/veh		58.4			54.5			39.9			47.5	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	40.3	50.0	22.6	17.0	29.3	61.0	13.3	26.3
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	22.9	44.7	8.5	36.6	11.9	55.7	11.5	33.6
Max Q Clear Time (g_c+I1), s	14.8	26.5	7.9	9.0	10.7	48.8	9.8	20.4
Green Ext Time (p_c), s	0.2	1.7	0.0	0.4	0.0	2.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	47.7
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	21	79	129	44	41	148	1645	156	38	1411	30
Future Volume (veh/h)	11	21	79	129	44	41	148	1645	156	38	1411	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	11	21	9	132	45	9	151	1679	153	39	1440	30
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	22	43	18	211	92	18	684	2134	194	548	1913	40
Arrive On Green	0.05	0.05	0.05	0.06	0.06	0.06	0.39	0.45	0.45	0.31	0.37	0.37
Sat Flow, veh/h	473	903	387	3428	1501	300	1767	4725	430	1767	5107	106
Grp Volume(v), veh/h	41	0	0	132	0	54	151	1199	633	39	952	518
Grp Sat Flow(s),veh/h/ln	1762	0	0	1714	0	1801	1767	1689	1778	1767	1689	1836
Q Serve(g_s), s	2.9	0.0	0.0	4.9	0.0	3.8	7.4	39.2	39.4	2.0	31.9	31.9
Cycle Q Clear(g_c), s	2.9	0.0	0.0	4.9	0.0	3.8	7.4	39.2	39.4	2.0	31.9	31.9
Prop In Lane	0.27		0.22	1.00		0.17	1.00		0.24	1.00		0.06
Lane Grp Cap(c), veh/h	84	0	0	211	0	111	684	1525	803	548	1265	688
V/C Ratio(X)	0.49	0.00	0.00	0.63	0.00	0.49	0.22	0.79	0.79	0.07	0.75	0.75
Avail Cap(c_a), veh/h	136	0	0	949	0	499	684	1525	803	548	1265	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.4	0.0	0.0	59.5	0.0	59.0	26.7	30.3	30.4	31.6	35.4	35.4
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.1	0.0	1.2	0.1	4.2	7.7	0.0	4.2	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	2.2	0.0	1.8	3.1	16.0	17.7	0.9	13.4	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	0.0	0.0	60.7	0.0	60.3	26.8	34.5	38.1	31.6	39.6	42.9
LnGrp LOS	E	A	A	E	A	E	C	C	D	C	D	D
Approach Vol, veh/h		41			186			1983			1509	
Approach Delay, s/veh		62.0			60.6			35.0			40.5	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	43.8	64.0		10.2	53.8	54.0		12.0				
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0				
Max Green Setting (Gmax), s	8.5	58.7		10.0	18.5	48.7		36.0				
Max Q Clear Time (g_c+I1), s	4.0	41.4		4.9	9.4	33.9		6.9				
Green Ext Time (p_c), s	0.0	9.5		0.0	0.1	6.8		0.4				

Intersection Summary			
HCM 6th Ctrl Delay			38.8
HCM 6th LOS			D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	381	216	270	188	612	151	1255	273	431	1067	66
Future Volume (veh/h)	177	381	216	270	188	612	151	1255	273	431	1067	66
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		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	181	389	147	276	192	0	154	1281	150	440	1089	63
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	304	545	559	325	274		701	1266	562	886	1398	81
Arrive On Green	0.17	0.15	0.15	0.09	0.08	0.00	0.20	0.36	0.36	0.26	0.41	0.41
Sat Flow, veh/h	1767	3526	1539	3428	3526	1572	3428	3526	1565	3428	3385	196
Grp Volume(v), veh/h	181	389	147	276	192	0	154	1281	150	440	567	585
Grp Sat Flow(s),veh/h/ln	1767	1763	1539	1714	1763	1572	1714	1763	1565	1714	1763	1818
Q Serve(g_s), s	12.3	13.6	0.0	10.3	6.9	0.0	4.9	46.7	8.8	14.2	36.2	36.2
Cycle Q Clear(g_c), s	12.3	13.6	0.0	10.3	6.9	0.0	4.9	46.7	8.8	14.2	36.2	36.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	304	545	559	325	274		701	1266	562	886	728	751
V/C Ratio(X)	0.60	0.71	0.26	0.85	0.70		0.22	1.01	0.27	0.50	0.78	0.78
Avail Cap(c_a), veh/h	304	993	755	356	993		701	1266	562	886	728	751
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	52.2	29.5	57.9	58.5	0.0	43.1	41.6	29.5	41.0	33.0	33.0
Incr Delay (d2), s/veh	2.2	0.7	0.1	14.9	1.2	0.0	0.1	28.1	1.2	0.2	8.0	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	6.0	3.2	5.0	3.1	0.0	2.0	24.3	3.4	5.9	16.4	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	52.9	29.6	72.8	59.7	0.0	43.1	69.8	30.7	41.2	41.0	40.9
LnGrp LOS	D	D	C	E	E		D	F	C	D	D	D
Approach Vol, veh/h		717			468	A		1585			1592	
Approach Delay, s/veh		47.9			67.5			63.5			41.0	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.7	52.0	15.8	24.5	30.7	59.0	25.8	14.5
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	15.9	46.7	13.5	36.6	8.9	53.7	13.5	36.6
Max Q Clear Time (g_c+I1), s	16.2	48.7	12.3	15.6	6.9	38.2	14.3	8.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	2.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	53.1
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	34	179	228	34	56	62	1610	279	63	1889	12
Future Volume (veh/h)	42	34	179	228	34	56	62	1610	279	63	1889	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	43	35	117	233	35	6	63	1643	271	64	1928	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	45	37	122	350	157	27	80	1777	292	400	3116	19
Arrive On Green	0.12	0.12	0.12	0.10	0.10	0.10	0.05	0.41	0.41	0.23	0.60	0.60
Sat Flow, veh/h	366	298	995	3428	1539	264	1767	4383	719	1767	5194	32
Grp Volume(v), veh/h	195	0	0	233	0	41	63	1264	650	64	1253	687
Grp Sat Flow(s),veh/h/ln	1658	0	0	1714	0	1803	1767	1689	1725	1767	1689	1850
Q Serve(g_s), s	15.2	0.0	0.0	8.5	0.0	2.7	4.6	46.2	46.7	3.8	30.7	30.7
Cycle Q Clear(g_c), s	15.2	0.0	0.0	8.5	0.0	2.7	4.6	46.2	46.7	3.8	30.7	30.7
Prop In Lane	0.22		0.60	1.00		0.15	1.00		0.42	1.00		0.02
Lane Grp Cap(c), veh/h	204	0	0	350	0	184	80	1369	699	400	2026	1110
V/C Ratio(X)	0.96	0.00	0.00	0.66	0.00	0.22	0.78	0.92	0.93	0.16	0.62	0.62
Avail Cap(c_a), veh/h	204	0	0	949	0	499	116	1369	699	400	2026	1110
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	0.0	0.0	56.2	0.0	53.6	61.4	36.7	36.9	40.4	16.5	16.5
Incr Delay (d2), s/veh	49.8	0.0	0.0	0.8	0.0	0.2	11.8	11.8	20.6	0.1	1.4	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	0.0	0.0	3.8	0.0	1.3	2.3	20.3	22.7	1.6	11.2	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.5	0.0	0.0	57.0	0.0	53.8	73.2	48.5	57.5	40.4	18.0	19.1
LnGrp LOS	F	A	A	E	A	D	E	D	E	D	B	B
Approach Vol, veh/h		195			274			1977			2004	
Approach Delay, s/veh		106.5			56.5			52.2			19.1	
Approach LOS		F			E			D			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.7	58.0		20.0	9.4	83.3		17.3				
Change Period (Y+Rc), s	5.3	* 5.3		4.0	3.5	5.3		4.0				
Max Green Setting (Gmax), s	8.5	* 53		16.0	8.5	52.7		36.0				
Max Q Clear Time (g_c+I1), s	5.8	48.7		17.2	6.6	32.7		10.5				
Green Ext Time (p_c), s	0.0	3.1		0.0	0.0	11.0		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		40.0
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Appendix E:
Existing Plus PCGC Master Plan Update Conditions – Technical Calculations

FEHR PEERS

EXISTING PLUS PCGC MASTER PLAN UPDATE		# of Lanes		Trip Distribution			Daily Trip Assignment	Roadway ADT Forecasts		ADT Volume	V/C	LOS
Roadway	Segment	Ex	Cum	AM	PM	Blended	MP	Existing	Ex+MP	Ex+MP	Ex+MP	Ex+MP
Atwood Road	West of SR 49	2	2	24%	28%	26%	3250	9,749	12,999	6499	0.72	C
Bell Road	West of SR 49	4	4	44%	41%	43%	3500	15,297	18,797	4699	0.52	A
SR 49	Luther Rd. to New Airport Rd.	6	6	41%	39%	40%	5000	42,000	47,000	7833	0.87	D
SR 49	New Airport Rd. to Atwood Rd.	6	6	41%	39%	40%	5000	40,000	45,000	7500	0.83	D
SR 49	Atwood Rd. to Willow Creek Dr.	6	6	19%	14%	17%	2125	40,500	42,625	7104	0.79	C
SR 49	Willow Creek Dr. to Bell Rd.	6	6	0%	0%	0%	1875	37,700	39,575	6596	0.73	C
SR 49	North of Bell Rd.	4	5	27%	25%	26%	2000	34,700	36,700	9175	1.02	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	50	120	1210	1740	170
Future Volume (veh/h)	60	50	120	1210	1740	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	61	3	122	1235	1776	125
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	98	87	148	3064	2660	1160
Arrive On Green	0.06	0.06	0.08	0.87	0.75	0.75
Sat Flow, veh/h	1767	1572	1767	3618	3618	1537
Grp Volume(v), veh/h	61	3	122	1235	1776	125
Grp Sat Flow(s),veh/h/ln	1767	1572	1767	1763	1763	1537
Q Serve(g_s), s	4.4	0.2	8.8	9.2	32.4	2.8
Cycle Q Clear(g_c), s	4.4	0.2	8.8	9.2	32.4	2.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	98	87	148	3064	2660	1160
V/C Ratio(X)	0.62	0.03	0.82	0.40	0.67	0.11
Avail Cap(c_a), veh/h	367	327	272	3064	2660	1160
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	60.1	58.1	58.6	1.7	7.9	4.3
Incr Delay (d2), s/veh	2.4	0.1	4.3	0.4	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.2	4.0	1.3	10.0	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	62.5	58.2	62.9	2.1	9.2	4.5
LnGrp LOS	E	E	E	A	A	A
Approach Vol, veh/h	64			1357	1901	
Approach Delay, s/veh	62.3			7.6	8.9	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		118.7		11.3	14.9	103.8
Change Period (Y+Rc), s		5.7		4.1	4.0	5.7
Max Green Setting (Gmax), s		93.2		27.0	20.0	69.2
Max Q Clear Time (g_c+I1), s		11.2		6.4	10.8	34.4
Green Ext Time (p_c), s		6.5		0.1	0.1	11.7

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	210	80	190	120	5	30	5	90	0	0	5
Future Vol, veh/h	0	210	80	190	120	5	30	5	90	0	0	5
Conflicting Peds, #/hr	0	0	3	0	0	1	0	0	1	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	100	-	125	0	-	-	225	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	256	98	232	146	6	37	6	110	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	153	0	-	256	0	0	873	873	257	929	870	151
Stage 1	-	-	-	-	-	-	256	256	-	614	614	-
Stage 2	-	-	-	-	-	-	617	617	-	315	256	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1421	-	0	1303	-	-	269	287	779	247	289	893
Stage 1	-	-	0	-	-	-	746	694	-	477	481	-
Stage 2	-	-	0	-	-	-	476	480	-	694	694	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1420	-	-	1303	-	-	230	236	778	179	237	891
Mov Cap-2 Maneuver	-	-	-	-	-	-	230	236	-	179	237	-
Stage 1	-	-	-	-	-	-	746	694	-	477	395	-
Stage 2	-	-	-	-	-	-	388	394	-	590	694	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	5	14.2	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	231	778	1420	-	1303	-	-	891
HCM Lane V/C Ratio	0.185	0.141	-	-	0.178	-	-	0.007
HCM Control Delay (s)	24.1	10.4	0	-	8.4	-	-	9.1
HCM Lane LOS	C	B	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.7	0.5	0	-	0.6	-	-	0

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	290	10	100	320	10	50
Future Vol, veh/h	290	10	100	320	10	50
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	392	14	135	432	14	68

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	409	0	888	206
Stage 1	-	-	-	-	402	-
Stage 2	-	-	-	-	486	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1139	-	281	797
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	581	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1136	-	247	795
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	581	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	580	-	-	1136	-
HCM Lane V/C Ratio	0.14	-	-	0.119	-
HCM Control Delay (s)	12.2	-	-	8.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.4	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	320	390	50	50	60
Future Vol, veh/h	20	320	390	50	50	60
Conflicting Peds, #/hr	0	0	0	1	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	27	438	534	68	68	82

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	603	0	-	0	842	304
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	273	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	964	-	-	-	301	689
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	963	-	-	-	292	687
Mov Cap-2 Maneuver	-	-	-	-	292	-
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	744	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	963	-	-	-	425
HCM Lane V/C Ratio	0.028	-	-	-	0.355
HCM Control Delay (s)	8.8	-	-	-	18.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	360	20	100	560	150	5	20	70	60	50	30
Future Volume (veh/h)	30	360	20	100	560	150	5	20	70	60	50	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	37	439	20	122	683	166	6	24	0	73	61	14
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	47	1262	57	161	1214	295	39	41	0	183	150	35
Arrive On Green	0.03	0.37	0.37	0.09	0.43	0.43	0.02	0.02	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1767	3434	156	1767	2810	683	1767	1856	0	1767	1456	334
Grp Volume(v), veh/h	37	225	234	122	428	421	6	24	0	73	0	75
Grp Sat Flow(s),veh/h/ln	1767	1763	1827	1767	1763	1730	1767	1856	0	1767	0	1790
Q Serve(g_s), s	0.7	2.9	2.9	2.1	5.7	5.7	0.1	0.4	0.0	1.2	0.0	1.2
Cycle Q Clear(g_c), s	0.7	2.9	2.9	2.1	5.7	5.7	0.1	0.4	0.0	1.2	0.0	1.2
Prop In Lane	1.00		0.09	1.00		0.39	1.00		0.00	1.00		0.19
Lane Grp Cap(c), veh/h	47	648	672	161	762	748	39	41	0	183	0	185
V/C Ratio(X)	0.79	0.35	0.35	0.76	0.56	0.56	0.15	0.59	0.00	0.40	0.00	0.41
Avail Cap(c_a), veh/h	1131	2257	2340	1131	2257	2215	1414	1485	0	1414	0	1432
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.1	7.2	7.2	13.9	6.7	6.7	15.0	15.1	0.0	13.1	0.0	13.1
Incr Delay (d2), s/veh	25.3	0.3	0.3	7.2	0.7	0.7	1.8	12.7	0.0	1.4	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.6	0.6	0.9	1.0	1.0	0.1	0.3	0.0	0.5	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	7.5	7.5	21.0	7.3	7.3	16.8	27.8	0.0	14.5	0.0	14.5
LnGrp LOS	D	A	A	C	A	A	B	C	A	B	A	B
Approach Vol, veh/h		496			971			30			148	
Approach Delay, s/veh		9.9			9.0			25.6			14.5	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.8	15.5		6.2	3.8	17.5		3.7
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0
Max Q Clear Time (g_c+I1), s	4.1	4.9		3.2	2.7	7.7		2.4
Green Ext Time (p_c), s	0.2	2.7		0.6	0.0	5.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	10.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	230	170	190	530	400	280	790	160	410	1180	200
Future Volume (veh/h)	140	230	170	190	530	400	280	790	160	410	1180	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	143	235	134	194	541	0	286	806	52	418	1204	193
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	168	376	536	564	621		811	1131	503	942	1094	174
Arrive On Green	0.10	0.11	0.11	0.16	0.18	0.00	0.24	0.32	0.32	0.27	0.36	0.36
Sat Flow, veh/h	1767	3526	1542	3428	3526	1572	3428	3526	1570	3428	3044	485
Grp Volume(v), veh/h	143	235	134	194	541	0	286	806	52	418	695	702
Grp Sat Flow(s),veh/h/ln	1767	1763	1542	1714	1763	1572	1714	1763	1570	1714	1763	1767
Q Serve(g_s), s	10.4	8.3	0.0	6.5	19.4	0.0	9.0	26.2	3.0	13.1	46.7	46.7
Cycle Q Clear(g_c), s	10.4	8.3	0.0	6.5	19.4	0.0	9.0	26.2	3.0	13.1	46.7	46.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	168	376	536	564	621		811	1131	503	942	633	635
V/C Ratio(X)	0.85	0.62	0.25	0.34	0.87		0.35	0.71	0.10	0.44	1.10	1.11
Avail Cap(c_a), veh/h	231	976	799	564	868		811	1131	503	942	633	635
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.9	55.6	30.7	48.1	52.1	0.0	41.3	38.9	31.0	38.9	41.6	41.7
Incr Delay (d2), s/veh	14.8	0.6	0.1	0.1	5.5	0.0	0.1	3.8	0.4	0.1	65.1	68.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	3.7	3.0	2.7	8.9	0.0	3.8	11.5	1.2	5.4	30.8	31.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	56.2	30.7	48.2	57.7	0.0	41.4	42.7	31.4	39.0	106.8	110.3
LnGrp LOS	E	E	C	D	E		D	D	C	D	F	F
Approach Vol, veh/h		512			735	A		1144			1815	
Approach Delay, s/veh		54.2			55.2			41.9			92.5	
Approach LOS		D			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.8	47.0	24.9	18.3	34.8	52.0	15.9	27.3
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	22.6	41.7	13.0	36.0	17.0	46.7	17.0	32.0
Max Q Clear Time (g_c+I1), s	15.1	28.2	8.5	10.3	11.0	48.7	12.4	21.4
Green Ext Time (p_c), s	0.2	1.7	0.1	0.5	0.1	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	67.6
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	5	10	0	5	10	110	30	30	220	20
Future Vol, veh/h	10	0	5	10	0	5	10	110	30	30	220	20
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	4	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	13	0	7	13	0	7	13	147	40	40	293	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	591	611	316	589	604	171	327	0	0	191	0	0
Stage 1	394	394	-	197	197	-	-	-	-	-	-	-
Stage 2	197	217	-	392	407	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	417	407	722	418	411	870	1227	-	-	1377	-	-
Stage 1	629	603	-	803	736	-	-	-	-	-	-	-
Stage 2	803	721	-	631	596	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	398	386	716	399	390	867	1219	-	-	1372	-	-
Mov Cap-2 Maneuver	398	386	-	399	390	-	-	-	-	-	-	-
Stage 1	617	581	-	790	724	-	-	-	-	-	-	-
Stage 2	787	709	-	606	575	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	12.7	0.5	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1219	-	-	467	487	1372	-	-
HCM Lane V/C Ratio	0.011	-	-	0.043	0.041	0.029	-	-
HCM Control Delay (s)	8	0	-	13.1	12.7	7.7	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	4.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	44	55	258	247
Demand Flow Rate, veh/h	45	57	266	255
Vehicles Circulating, veh/h	255	219	57	103
Vehicles Exiting, veh/h	103	104	243	173
Ped Vol Crossing Leg, #/h	10	9	6	8
Ped Cap Adj	0.999	0.999	0.993	0.992
Approach Delay, s/veh	3.9	3.8	3.8	4.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Right	Left	Right
Designated Moves	LTR	LTR	L	TR	L	TR
Assumed Moves	LTR	LTR	L	TR	L	TR
RT Channelized						
Lane Util	1.000	1.000	0.259	0.741	0.137	0.863
Follow-Up Headway, s	2.609	2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	45	57	69	197	35	220
Cap Entry Lane, veh/h	1064	1104	1348	1348	1293	1293
Entry HV Adj Factor	0.971	0.959	0.971	0.969	0.971	0.969
Flow Entry, veh/h	44	55	67	191	34	213
Cap Entry, veh/h	1031	1057	1301	1298	1246	1243
V/C Ratio	0.042	0.052	0.052	0.147	0.027	0.172
Control Delay, s/veh	3.9	3.8	3.2	4.0	3.1	4.4
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	0	0	1	0	1

Intersection	
Intersection Delay, s/veh	4.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	36	104	291	116
Demand Flow Rate, veh/h	36	108	300	119
Vehicles Circulating, veh/h	167	204	48	108
Vehicles Exiting, veh/h	60	144	155	204
Ped Vol Crossing Leg, #/h	0	6	0	4
Ped Cap Adj	1.000	0.999	1.000	0.999
Approach Delay, s/veh	3.4	4.2	4.8	3.8
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	36	108	300	119
Cap Entry Lane, veh/h	1164	1121	1314	1236
Entry HV Adj Factor	0.990	0.966	0.970	0.971
Flow Entry, veh/h	36	104	291	116
Cap Entry, veh/h	1152	1081	1275	1200
V/C Ratio	0.031	0.096	0.228	0.096
Control Delay, s/veh	3.4	4.2	4.8	3.8
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	0

Intersection	
Intersection Delay, s/veh	4.4
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	247	183	151
Demand Flow Rate, veh/h	255	188	156
Vehicles Circulating, veh/h	111	67	89
Vehicles Exiting, veh/h	144	178	277
Ped Vol Crossing Leg, #/h	5	0	0
Ped Cap Adj	0.999	1.000	1.000
Approach Delay, s/veh	4.8	4.1	4.0
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	255	188	156
Cap Entry Lane, veh/h	1232	1289	1260
Entry HV Adj Factor	0.969	0.972	0.971
Flow Entry, veh/h	247	183	151
Cap Entry, veh/h	1193	1253	1223
V/C Ratio	0.207	0.146	0.124
Control Delay, s/veh	4.8	4.1	4.0
LOS	A	A	A
95th %tile Queue, veh	1	1	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	20	180	50	20	20	200	1070	50	35	1270	180
Future Volume (veh/h)	120	20	180	50	20	20	200	1070	50	35	1270	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	122	20	102	51	20	1	204	1092	32	36	1296	111
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	241	130	756	73	29	90	727	2007	623	596	1633	506
Arrive On Green	0.07	0.07	0.07	0.06	0.06	0.06	0.41	0.40	0.40	0.67	0.64	0.64
Sat Flow, veh/h	3428	1856	1559	1287	505	1572	1767	5066	1572	1767	5066	1570
Grp Volume(v), veh/h	122	20	102	71	0	1	204	1092	32	36	1296	111
Grp Sat Flow(s),veh/h/ln	1714	1856	1559	1791	0	1572	1767	1689	1572	1767	1689	1570
Q Serve(g_s), s	4.5	1.3	0.0	5.1	0.0	0.1	10.0	21.6	1.6	0.9	24.2	3.8
Cycle Q Clear(g_c), s	4.5	1.3	0.0	5.1	0.0	0.1	10.0	21.6	1.6	0.9	24.2	3.8
Prop In Lane	1.00		1.00	0.72		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	241	130	756	102	0	90	727	2007	623	596	1633	506
V/C Ratio(X)	0.51	0.15	0.13	0.70	0.00	0.01	0.28	0.54	0.05	0.06	0.79	0.22
Avail Cap(c_a), veh/h	1028	557	1115	152	0	133	727	2007	623	596	1633	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.3	56.8	18.7	60.2	0.0	57.8	25.5	30.2	24.2	14.1	20.0	16.3
Incr Delay (d2), s/veh	0.6	0.2	0.0	3.2	0.0	0.0	0.1	1.1	0.2	0.0	4.1	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	2.0	0.6	1.7	2.4	0.0	0.0	4.1	8.7	0.6	0.4	6.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	57.0	18.7	63.3	0.0	57.9	25.5	31.3	24.3	14.2	24.0	17.3
LnGrp LOS	E	E	B	E	A	E	C	C	C	B	C	B
Approach Vol, veh/h		244			72			1328			1443	
Approach Delay, s/veh		41.9			63.2			30.2			23.3	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	48.0	56.8		13.7	57.6	47.2		11.5
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	41.9	* 52		39.0	20.0	41.9		11.0
Max Q Clear Time (g_c+I1), s	12.9	23.6		6.5	12.0	26.2		7.1
Green Ext Time (p_c), s	0.0	8.2		0.5	0.2	7.9		0.1

Intersection Summary	
HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	160	20	50	80	220	10	30	50	130	40	40
Future Volume (veh/h)	90	160	20	50	80	220	10	30	50	130	40	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	95	168	17	53	84	43	11	32	1	137	42	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	115	249	25	175	341	289	74	75	2	205	184	26
Arrive On Green	0.07	0.15	0.15	0.10	0.18	0.18	0.04	0.04	0.04	0.12	0.12	0.12
Sat Flow, veh/h	1767	1657	168	1767	1856	1572	1767	1790	56	1767	1587	227
Grp Volume(v), veh/h	95	0	185	53	84	43	11	0	33	137	0	48
Grp Sat Flow(s),veh/h/ln	1767	0	1824	1767	1856	1572	1767	0	1845	1767	0	1814
Q Serve(g_s), s	1.4	0.0	2.5	0.7	1.0	0.6	0.2	0.0	0.5	1.9	0.0	0.6
Cycle Q Clear(g_c), s	1.4	0.0	2.5	0.7	1.0	0.6	0.2	0.0	0.5	1.9	0.0	0.6
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.03	1.00		0.13
Lane Grp Cap(c), veh/h	115	0	274	175	341	289	74	0	77	205	0	211
V/C Ratio(X)	0.83	0.00	0.68	0.30	0.25	0.15	0.15	0.00	0.43	0.67	0.00	0.23
Avail Cap(c_a), veh/h	1352	0	2093	1014	2129	1804	1014	0	1059	1690	0	1734
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	10.5	10.9	9.1	8.9	12.1	0.0	12.2	11.1	0.0	10.5
Incr Delay (d2), s/veh	5.5	0.0	1.1	0.4	0.1	0.1	0.3	0.0	1.4	1.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.7	0.2	0.3	0.1	0.0	0.0	0.2	0.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	0.0	11.6	11.3	9.3	9.0	12.4	0.0	13.6	12.5	0.0	10.7
LnGrp LOS	B	A	B	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h		280			180			44			185	
Approach Delay, s/veh		13.6			9.8			13.3			12.0	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.6	9.2		6.5	4.7	10.1		4.8
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	15.0	30.0		25.0	20.0	30.0		15.0
Max Q Clear Time (g_c+I1), s	2.7	4.5		3.9	3.4	3.0		2.5
Green Ext Time (p_c), s	0.0	0.3		0.1	0.0	0.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	310	330	20	20	20
Future Vol, veh/h	30	310	330	20	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	32	330	351	21	21	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	372	0	-	0	756	362
Stage 1	-	-	-	-	362	-
Stage 2	-	-	-	-	394	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1181	-	-	-	374	680
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1181	-	-	-	364	680
Mov Cap-2 Maneuver	-	-	-	-	364	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	679	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1181	-	-	-	474
HCM Lane V/C Ratio	0.027	-	-	-	0.09
HCM Control Delay (s)	8.1	-	-	-	13.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	310	20	10	350	80	20	30	20	70	30	50
Future Volume (veh/h)	60	310	20	10	350	80	20	30	20	70	30	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	69	356	22	11	402	84	23	34	3	80	34	34
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	99	671	41	21	510	107	35	52	5	113	48	48
Arrive On Green	0.06	0.39	0.39	0.01	0.34	0.34	0.05	0.05	0.05	0.12	0.12	0.12
Sat Flow, veh/h	1767	1729	107	1767	1486	311	692	1023	90	935	397	397
Grp Volume(v), veh/h	69	0	378	11	0	486	60	0	0	148	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1836	1767	0	1797	1805	0	0	1729	0	0
Q Serve(g_s), s	1.3	0.0	5.4	0.2	0.0	8.3	1.1	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	1.3	0.0	5.4	0.2	0.0	8.3	1.1	0.0	0.0	2.8	0.0	0.0
Prop In Lane	1.00		0.06	1.00		0.17	0.38		0.05	0.54		0.23
Lane Grp Cap(c), veh/h	99	0	712	21	0	617	92	0	0	210	0	0
V/C Ratio(X)	0.69	0.00	0.53	0.54	0.00	0.79	0.65	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	778	0	1616	778	0	1582	1059	0	0	1015	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.8	0.0	8.0	16.8	0.0	10.1	15.9	0.0	0.0	14.4	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.0	0.2	7.8	0.0	0.9	2.9	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.3	0.1	0.0	2.2	0.5	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	0.0	8.3	24.6	0.0	10.9	18.8	0.0	0.0	16.0	0.0	0.0
LnGrp LOS	B	A	A	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		447			497			60			148	
Approach Delay, s/veh		9.9			11.2			18.8			16.0	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.4	17.8		7.6	4.9	16.3		5.2
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	15.0	30.0		20.0	15.0	30.0		20.0
Max Q Clear Time (g_c+I1), s	2.2	7.4		4.8	3.3	10.3		3.1
Green Ext Time (p_c), s	0.0	0.7		0.3	0.0	1.0		0.1

Intersection Summary	
HCM 6th Ctrl Delay	11.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	50	340	40	50	50	460	1280	60	55	1270	160
Future Volume (veh/h)	110	50	340	40	50	50	460	1280	60	55	1270	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		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	112	51	265	41	51	4	469	1306	57	56	1296	154
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	139	149	674	116	134	111	618	1975	86	569	1694	201
Arrive On Green	0.08	0.08	0.08	0.07	0.07	0.07	0.23	0.27	0.27	0.32	0.37	0.37
Sat Flow, veh/h	1767	1856	1543	1767	1856	1540	1767	4976	217	1767	4588	545
Grp Volume(v), veh/h	112	51	265	41	51	4	469	886	477	56	954	496
Grp Sat Flow(s),veh/h/ln	1767	1856	1543	1767	1856	1540	1767	1689	1816	1767	1689	1756
Q Serve(g_s), s	8.1	3.4	0.0	2.9	3.4	0.3	32.1	30.4	30.4	2.9	32.3	32.3
Cycle Q Clear(g_c), s	8.1	3.4	0.0	2.9	3.4	0.3	32.1	30.4	30.4	2.9	32.3	32.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.31
Lane Grp Cap(c), veh/h	139	149	674	116	134	111	618	1340	721	569	1247	648
V/C Ratio(X)	0.81	0.34	0.39	0.35	0.38	0.04	0.76	0.66	0.66	0.10	0.77	0.77
Avail Cap(c_a), veh/h	163	514	977	150	500	415	618	1340	721	569	1247	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	56.5	25.4	58.1	57.5	56.1	44.7	39.9	39.9	30.9	36.0	36.0
Incr Delay (d2), s/veh	27.5	0.5	0.1	0.7	3.8	0.3	4.9	2.6	4.7	0.0	4.5	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	1.6	5.6	1.3	1.7	0.1	15.3	13.4	14.9	1.2	13.6	14.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.4	57.0	25.5	58.8	61.3	56.4	49.6	42.5	44.7	30.9	40.6	44.4
LnGrp LOS	F	E	C	E	E	E	D	D	D	C	D	D
Approach Vol, veh/h		428			96			1832			1506	
Approach Delay, s/veh		45.2			60.0			44.9			41.5	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	46.4	56.9	12.1	14.6	50.0	53.3	13.8	12.9
Change Period (Y+Rc), s	4.6	* 5.3	3.6	* 4.1	4.6	5.3	3.6	3.5
Max Green Setting (Gmax), s	15.0	* 52	11.0	* 36	18.0	48.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	14.3	32.4	4.9	5.4	34.1	34.3	10.1	5.4
Green Ext Time (p_c), s	0.0	5.6	0.0	0.2	0.0	5.3	0.1	0.4

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	30	80	130	50	50	150	1730	160	50	1510	30
Future Volume (veh/h)	20	30	80	130	50	50	150	1730	160	50	1510	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	20	31	34	133	51	16	153	1765	157	51	1541	30
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	25	39	43	211	83	26	692	1647	146	706	1818	35
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.39	0.35	0.35	0.40	0.36	0.36
Sat Flow, veh/h	403	624	685	3428	1354	425	1767	4737	420	1767	5115	100
Grp Volume(v), veh/h	85	0	0	133	0	67	153	1257	665	51	1017	554
Grp Sat Flow(s),veh/h/ln	1712	0	0	1714	0	1779	1767	1689	1780	1767	1689	1837
Q Serve(g_s), s	6.4	0.0	0.0	4.9	0.0	4.8	7.5	45.2	45.2	2.3	36.1	36.1
Cycle Q Clear(g_c), s	6.4	0.0	0.0	4.9	0.0	4.8	7.5	45.2	45.2	2.3	36.1	36.1
Prop In Lane	0.24		0.40	1.00		0.24	1.00		0.24	1.00		0.05
Lane Grp Cap(c), veh/h	107	0	0	211	0	109	692	1174	619	706	1200	653
V/C Ratio(X)	0.80	0.00	0.00	0.63	0.00	0.61	0.22	1.07	1.07	0.07	0.85	0.85
Avail Cap(c_a), veh/h	211	0	0	949	0	493	692	1174	619	706	1200	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.1	0.0	0.0	59.6	0.0	59.5	26.3	42.4	42.4	24.1	38.7	38.7
Incr Delay (d2), s/veh	5.1	0.0	0.0	1.2	0.0	2.1	0.1	47.3	57.9	0.0	7.5	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	2.2	0.0	2.2	3.1	25.7	28.9	1.0	15.6	18.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.2	0.0	0.0	60.7	0.0	61.6	26.4	89.7	100.3	24.2	46.2	51.6
LnGrp LOS	E	A	A	E	A	E	C	F	F	C	D	D
Approach Vol, veh/h		85			200			2075			1622	
Approach Delay, s/veh		65.2			61.0			88.4			47.3	
Approach LOS		E			E			F			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	55.4	50.5		12.1	54.4	51.5		12.0
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	16.0	45.2		16.0	15.0	46.2		36.0
Max Q Clear Time (g_c+I1), s	14.3	47.2		8.4	9.5	38.1		6.9
Green Ext Time (p_c), s	0.0	0.0		0.1	0.1	4.9		0.5

Intersection Summary	
HCM 6th Ctrl Delay	69.8
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	330	40	120	440	0	60
Future Vol, veh/h	330	40	120	440	0	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	452	55	164	603	0	82

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	507	0	-	254
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.16	-	-	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.23	-	-	3.33
Pot Cap-1 Maneuver	-	-	1047	-	0	742
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1047	-	-	742
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	742	-	-	1047	-
HCM Lane V/C Ratio	0.111	-	-	0.157	-
HCM Control Delay (s)	10.5	-	-	9.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.6	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	170	140	40	2060	1510	50
Future Volume (veh/h)	170	140	40	2060	1510	50
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	173	104	41	2102	1541	2
Adj No. of Lanes	1	1	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	202	180	81	2838	2569	1122
Arrive On Green	0.11	0.11	0.05	0.81	0.73	0.73
Sat Flow, veh/h	1757	1568	1757	3597	3597	1531
Grp Volume(v), veh/h	173	104	41	2102	1541	2
Grp Sat Flow(s),veh/h/ln	1757	1568	1757	1752	1752	1531
Q Serve(g_s), s	12.6	8.2	3.0	37.1	27.3	0.0
Cycle Q Clear(g_c), s	12.6	8.2	3.0	37.1	27.3	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	202	180	81	2838	2569	1122
V/C Ratio(X)	0.86	0.58	0.51	0.74	0.60	0.00
Avail Cap(c_a), veh/h	365	326	270	2838	2569	1122
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	56.5	54.5	60.6	5.9	8.3	4.6
Incr Delay (d2), s/veh	4.1	1.1	1.8	1.8	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	7.1	1.5	18.2	13.4	0.0
LnGrp Delay(d),s/veh	60.5	55.6	62.4	7.7	9.3	4.6
LnGrp LOS	E	E	E	A	A	A
Approach Vol, veh/h	277			2143	1543	
Approach Delay, s/veh	58.7			8.7	9.3	
Approach LOS	E			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		111.0		19.0	10.0	101.0		
Change Period (Y+Rc), s		5.7		4.1	4.0	5.7		
Max Green Setting (Gmax), s		93.2		27.0	20.0	69.2		
Max Q Clear Time (g_c+I1), s		39.1		14.6	5.0	29.3		
Green Ext Time (p_c), s		17.6		0.4	0.0	9.1		

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	170	140	40	2060	1510	50
Future Volume (veh/h)	170	140	40	2060	1510	50
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	173	17	41	2102	1541	36
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	200	178	82	2861	2590	1128
Arrive On Green	0.11	0.11	0.05	0.81	0.73	0.73
Sat Flow, veh/h	1767	1572	1767	3618	3618	1535
Grp Volume(v), veh/h	173	17	41	2102	1541	36
Grp Sat Flow(s),veh/h/ln	1767	1572	1767	1763	1763	1535
Q Serve(g_s), s	12.5	1.3	2.9	36.2	26.8	0.8
Cycle Q Clear(g_c), s	12.5	1.3	2.9	36.2	26.8	0.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	200	178	82	2861	2590	1128
V/C Ratio(X)	0.87	0.10	0.50	0.73	0.60	0.03
Avail Cap(c_a), veh/h	367	327	272	2861	2590	1128
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	56.7	51.7	60.5	5.7	8.1	4.7
Incr Delay (d2), s/veh	4.3	0.1	1.8	1.7	1.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	1.2	1.3	9.2	8.6	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	61.0	51.8	62.3	7.4	9.2	4.7
LnGrp LOS	E	D	E	A	A	A
Approach Vol, veh/h	190			2143	1577	
Approach Delay, s/veh	60.2			8.5	9.1	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		111.2		18.8	10.0	101.2
Change Period (Y+Rc), s		5.7		4.1	4.0	5.7
Max Green Setting (Gmax), s		93.2		27.0	20.0	69.2
Max Q Clear Time (g_c+I1), s		38.2		14.5	4.9	28.8
Green Ext Time (p_c), s		17.7		0.2	0.0	9.2

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

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	240	30	90	210	5	60	0	200	5	0	0
Future Vol, veh/h	0	240	30	90	210	5	60	0	200	5	0	0
Conflicting Peds, #/hr	0	0	4	0	0	1	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	100	-	125	0	-	-	225	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	316	39	118	276	7	79	0	263	7	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	284	0	-	316	0	0	833	836	316	965	833	282
Stage 1	-	-	-	-	-	-	316	316	-	517	517	-
Stage 2	-	-	-	-	-	-	517	520	-	448	316	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1273	-	0	1239	-	-	287	302	722	233	303	755
Stage 1	-	-	0	-	-	-	693	653	-	539	532	-
Stage 2	-	-	0	-	-	-	539	530	-	588	653	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1272	-	-	1239	-	-	266	273	722	137	274	754
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	273	-	137	274	-
Stage 1	-	-	-	-	-	-	693	653	-	538	481	-
Stage 2	-	-	-	-	-	-	487	479	-	374	653	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.4	15.4	32.6
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	266	722	1272	-	1239	-	-	137
HCM Lane V/C Ratio	0.297	0.364	-	-	0.096	-	-	0.048
HCM Control Delay (s)	24.1	12.8	0	-	8.2	-	-	32.6
HCM Lane LOS	C	B	A	-	A	-	-	D
HCM 95th %tile Q(veh)	1.2	1.7	0	-	0.3	-	-	0.1

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	440	5	60	280	30	100
Future Vol, veh/h	440	5	60	280	30	100
Conflicting Peds, #/hr	0	4	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	595	7	81	378	41	135

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	606	0	954	306
Stage 1	-	-	-	-	603	-
Stage 2	-	-	-	-	351	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	961	-	255	687
Stage 1	-	-	-	-	506	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	957	-	232	684
Mov Cap-2 Maneuver	-	-	-	-	232	-
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	681	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	472	-	-	957	-
HCM Lane V/C Ratio	0.372	-	-	0.085	-
HCM Control Delay (s)	17.1	-	-	9.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.7	-	-	0.3	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	490	310	20	50	30
Future Vol, veh/h	50	490	310	20	50	30
Conflicting Peds, #/hr	0	0	0	2	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	68	671	425	27	68	41

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	454	0	-	0	913	230
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	472	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	1096	-	-	-	271	769
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	591	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1094	-	-	-	253	766
Mov Cap-2 Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	590	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	20.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1094	-	-	-	338
HCM Lane V/C Ratio	0.063	-	-	-	0.324
HCM Control Delay (s)	8.5	-	-	-	20.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	520	10	60	350	30	20	40	110	100	40	20
Future Volume (veh/h)	60	520	10	60	350	30	20	40	110	100	40	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	77	667	13	77	449	38	26	51	141	128	51	26
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	98	1114	22	98	1037	87	307	76	209	226	148	75
Arrive On Green	0.06	0.32	0.32	0.06	0.32	0.32	0.17	0.17	0.17	0.13	0.13	0.13
Sat Flow, veh/h	1757	3516	69	1757	3271	276	1757	433	1198	1757	1151	587
Grp Volume(v), veh/h	77	332	348	77	240	247	26	0	192	128	0	77
Grp Sat Flow(s),veh/h/ln	1757	1752	1832	1757	1752	1795	1757	0	1631	1757	0	1738
Q Serve(g_s), s	1.7	6.4	6.4	1.7	4.3	4.4	0.5	0.0	4.4	2.7	0.0	1.6
Cycle Q Clear(g_c), s	1.7	6.4	6.4	1.7	4.3	4.4	0.5	0.0	4.4	2.7	0.0	1.6
Prop In Lane	1.00		0.04	1.00		0.15	1.00		0.73	1.00		0.34
Lane Grp Cap(c), veh/h	98	555	581	98	555	569	307	0	285	226	0	224
V/C Ratio(X)	0.79	0.60	0.60	0.79	0.43	0.43	0.08	0.00	0.67	0.57	0.00	0.34
Avail Cap(c_a), veh/h	877	1749	1828	877	1749	1791	1096	0	1017	1096	0	1084
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.7	11.5	11.5	18.7	10.8	10.8	13.9	0.0	15.5	16.4	0.0	15.9
Incr Delay (d2), s/veh	13.1	1.0	1.0	13.1	0.5	0.5	0.1	0.0	2.8	2.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.2	3.3	1.2	2.1	2.2	0.2	0.0	2.2	1.5	0.0	0.8
LnGrp Delay(d),s/veh	31.8	12.6	12.5	31.8	11.4	11.4	14.0	0.0	18.2	18.6	0.0	16.8
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		757			564			218			205	
Approach Delay, s/veh		14.5			14.2			17.7			18.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	16.7		8.2	5.2	16.7		10.0
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0
Max Q Clear Time (g_c+I1), s	3.7	8.4		4.7	3.7	6.4		6.4
Green Ext Time (p_c), s	0.1	4.2		0.7	0.1	2.9		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	520	10	60	350	30	20	40	110	100	40	20
Future Volume (veh/h)	60	520	10	60	350	30	20	40	110	100	40	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		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	77	667	12	77	449	32	26	51	33	128	51	7
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	96	1219	22	96	1148	82	142	84	54	224	203	28
Arrive On Green	0.05	0.34	0.34	0.05	0.34	0.34	0.08	0.08	0.08	0.13	0.13	0.13
Sat Flow, veh/h	1767	3543	64	1767	3338	237	1767	1051	680	1767	1596	219
Grp Volume(v), veh/h	77	332	347	77	236	245	26	0	84	128	0	58
Grp Sat Flow(s),veh/h/ln	1767	1763	1844	1767	1763	1812	1767	0	1731	1767	0	1815
Q Serve(g_s), s	1.4	5.0	5.0	1.4	3.3	3.4	0.5	0.0	1.5	2.2	0.0	0.9
Cycle Q Clear(g_c), s	1.4	5.0	5.0	1.4	3.3	3.4	0.5	0.0	1.5	2.2	0.0	0.9
Prop In Lane	1.00		0.03	1.00		0.13	1.00		0.39	1.00		0.12
Lane Grp Cap(c), veh/h	96	606	634	96	606	623	142	0	139	224	0	230
V/C Ratio(X)	0.80	0.55	0.55	0.80	0.39	0.39	0.18	0.00	0.61	0.57	0.00	0.25
Avail Cap(c_a), veh/h	1072	2139	2238	1072	2139	2199	1340	0	1313	1340	0	1377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.4	8.7	8.7	15.4	8.2	8.2	14.2	0.0	14.7	13.5	0.0	13.0
Incr Delay (d2), s/veh	13.9	0.8	0.7	13.9	0.4	0.4	0.6	0.0	4.2	2.3	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.2	1.3	0.8	0.8	0.8	0.2	0.0	0.7	0.9	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	9.5	9.5	29.3	8.6	8.6	14.8	0.0	18.9	15.8	0.0	13.5
LnGrp LOS	C	A	A	C	A	A	B	A	B	B	A	B
Approach Vol, veh/h		756			558			110			186	
Approach Delay, s/veh		11.5			11.5			17.9			15.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	15.3		7.2	4.8	15.3		5.6
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0
Max Q Clear Time (g_c+I1), s	3.4	7.0		4.2	3.4	5.4		3.5
Green Ext Time (p_c), s	0.1	4.2		0.6	0.1	2.8		0.5

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	420	250	295	240	620	170	1280	300	440	1090	120
Future Volume (veh/h)	200	420	250	295	240	620	170	1280	300	440	1090	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	204	429	128	301	245	0	173	1306	218	449	1112	122
Adj No. of Lanes	1	2	1	2	2	1	2	2	1	2	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	302	577	634	341	325	146	829	1124	500	960	1143	125
Arrive On Green	0.17	0.16	0.16	0.10	0.09	0.00	0.24	0.32	0.32	0.28	0.36	0.36
Sat Flow, veh/h	1757	3505	1537	3408	3505	1568	3408	3505	1559	3408	3182	349
Grp Volume(v), veh/h	204	429	128	301	245	0	173	1306	218	449	612	622
Grp Sat Flow(s),veh/h/ln	1757	1752	1537	1704	1752	1568	1704	1752	1559	1704	1752	1779
Q Serve(g_s), s	14.1	15.1	0.0	11.3	8.9	0.0	5.3	41.7	14.4	14.2	44.7	44.8
Cycle Q Clear(g_c), s	14.1	15.1	0.0	11.3	8.9	0.0	5.3	41.7	14.4	14.2	44.7	44.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	302	577	634	341	325	146	829	1124	500	960	630	639
V/C Ratio(X)	0.68	0.74	0.20	0.88	0.75	0.00	0.21	1.16	0.44	0.47	0.97	0.97
Avail Cap(c_a), veh/h	302	971	807	341	863	386	829	1124	500	960	630	639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	51.7	24.8	57.8	57.5	0.0	39.2	44.2	34.9	38.6	41.0	41.1
Incr Delay (d2), s/veh	4.9	0.7	0.1	22.1	1.3	0.0	0.0	82.9	2.8	0.1	29.5	29.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	7.4	3.0	6.4	4.3	0.0	2.5	33.1	6.6	6.7	26.7	27.2
LnGrp Delay(d),s/veh	55.3	52.4	24.9	79.8	58.8	0.0	39.3	127.0	37.6	38.8	70.5	70.8
LnGrp LOS	E	D	C	E	E		D	F	D	D	E	E
Approach Vol, veh/h		761			546			1697			1683	
Approach Delay, s/veh		48.6			70.4			106.6			62.2	
Approach LOS		D			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	40.7	47.0	16.5	25.8	35.7	52.0	25.8	16.5
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	22.6	41.7	13.0	36.0	17.0	46.7	17.0	32.0
Max Q Clear Time (g_c+I1), s	16.3	43.7	13.3	17.1	7.3	46.8	16.1	10.9
Green Ext Time (p_c), s	0.2	0.0	0.0	1.0	0.1	0.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	77.0
HCM 2010 LOS	E

Notes

User approved ignoring U-Turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	420	250	295	240	620	170	1280	300	440	1090	120
Future Volume (veh/h)	200	420	250	295	240	620	170	1280	300	440	1090	120
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		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	204	429	219	301	245	0	173	1306	168	449	1112	116
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	303	579	636	343	326		835	1131	502	967	1156	120
Arrive On Green	0.17	0.16	0.16	0.10	0.09	0.00	0.24	0.32	0.32	0.28	0.36	0.36
Sat Flow, veh/h	1767	3526	1541	3428	3526	1572	3428	3526	1564	3428	3218	335
Grp Volume(v), veh/h	204	429	219	301	245	0	173	1306	168	449	608	620
Grp Sat Flow(s),veh/h/ln	1767	1763	1541	1714	1763	1572	1714	1763	1564	1714	1763	1791
Q Serve(g_s), s	14.1	15.1	0.0	11.3	8.8	0.0	5.2	41.7	10.6	14.1	43.9	44.1
Cycle Q Clear(g_c), s	14.1	15.1	0.0	11.3	8.8	0.0	5.2	41.7	10.6	14.1	43.9	44.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	303	579	636	343	326		835	1131	502	967	633	643
V/C Ratio(X)	0.67	0.74	0.34	0.88	0.75		0.21	1.15	0.33	0.46	0.96	0.96
Avail Cap(c_a), veh/h	303	976	810	343	868		835	1131	502	967	633	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	51.7	26.5	57.7	57.5	0.0	39.2	44.1	33.6	38.6	40.8	40.8
Incr Delay (d2), s/veh	4.7	0.7	0.1	21.1	1.3	0.0	0.0	80.0	1.8	0.1	27.3	27.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	6.6	4.6	5.8	3.9	0.0	2.2	30.0	4.2	5.8	23.0	23.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	52.4	26.6	78.9	58.9	0.0	39.2	124.2	35.4	38.7	68.1	68.3
LnGrp LOS	E	D	C	E	E		D	F	D	D	E	E
Approach Vol, veh/h		852			546	A		1647			1677	
Approach Delay, s/veh		46.4			69.9			106.2			60.3	
Approach LOS		D			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	40.8	47.0	16.5	25.7	35.8	52.0	25.8	16.4
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	22.6	41.7	13.0	36.0	17.0	46.7	17.0	32.0
Max Q Clear Time (g_c+I1), s	16.1	43.7	13.3	17.1	7.2	46.1	16.1	10.8
Green Ext Time (p_c), s	0.2	0.0	0.0	1.0	0.1	0.3	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	74.9
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	0	10	60	0	40	5	190	10	5	110	5
Future Vol, veh/h	30	0	10	60	0	40	5	190	10	5	110	5
Conflicting Peds, #/hr	0	0	8	0	0	0	0	0	50	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	48	0	16	95	0	63	8	302	16	8	175	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	555	581	189	587	577	360	185	0	0	368	0	0
Stage 1	197	197	-	376	376	-	-	-	-	-	-	-
Stage 2	358	384	-	211	201	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	441	424	850	420	426	682	1384	-	-	1185	-	-
Stage 1	803	736	-	643	615	-	-	-	-	-	-	-
Stage 2	658	610	-	789	733	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	393	397	842	385	399	650	1381	-	-	1129	-	-
Mov Cap-2 Maneuver	393	397	-	385	399	-	-	-	-	-	-	-
Stage 1	796	729	-	608	581	-	-	-	-	-	-	-
Stage 2	590	576	-	763	726	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.2	16.9	0.2	0.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1381	-	-	453	460	1129	-	-
HCM Lane V/C Ratio	0.006	-	-	0.14	0.345	0.007	-	-
HCM Control Delay (s)	7.6	0	-	14.2	16.9	8.2	-	-
HCM Lane LOS	A	A	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	1.5	0	-	-

Intersection	
Intersection Delay, s/veh	4.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	175	190	286	286
Demand Flow Rate, veh/h	180	195	294	295
Vehicles Circulating, veh/h	360	294	115	163
Vehicles Exiting, veh/h	98	115	425	326
Ped Vol Crossing Leg, #/h	7	1	3	2
Ped Cap Adj	0.999	1.000	0.997	0.998
Approach Delay, s/veh	5.7	5.4	4.3	4.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Right	Left	Right
Designated Moves	LTR	LTR	L	TR	L	TR
Assumed Moves	LTR	LTR	L	TR	L	TR
RT Channelized						
Lane Util	1.000	1.000	0.167	0.833	0.112	0.888
Follow-Up Headway, s	2.609	2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	180	195	49	245	33	262
Cap Entry Lane, veh/h	956	1022	1279	1279	1224	1224
Entry HV Adj Factor	0.972	0.972	0.980	0.973	0.970	0.971
Flow Entry, veh/h	175	190	48	238	32	254
Cap Entry, veh/h	929	994	1249	1240	1185	1186
V/C Ratio	0.189	0.191	0.038	0.192	0.027	0.214
Control Delay, s/veh	5.7	5.4	3.2	4.6	3.3	4.9
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	1	0	1	0	1

Intersection	
Intersection Delay, s/veh	4.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	75	164	224	254
Demand Flow Rate, veh/h	76	168	231	261
Vehicles Circulating, veh/h	399	153	92	184
Vehicles Exiting, veh/h	46	170	383	137
Ped Vol Crossing Leg, #/h	9	2	2	1
Ped Cap Adj	0.999	1.000	1.000	1.000
Approach Delay, s/veh	4.8	4.4	4.5	5.3
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	76	168	231	261
Cap Entry Lane, veh/h	919	1180	1256	1144
Entry HV Adj Factor	0.982	0.976	0.969	0.972
Flow Entry, veh/h	75	164	224	254
Cap Entry, veh/h	901	1152	1217	1112
V/C Ratio	0.083	0.142	0.184	0.228
Control Delay, s/veh	4.8	4.4	4.5	5.3
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	1

Intersection	
Intersection Delay, s/veh	4.9
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	193	193	320
Demand Flow Rate, veh/h	199	199	330
Vehicles Circulating, veh/h	93	198	93
Vehicles Exiting, veh/h	304	225	199
Ped Vol Crossing Leg, #/h	0	0	1
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.3	4.9	5.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	199	199	330
Cap Entry Lane, veh/h	1255	1128	1255
Entry HV Adj Factor	0.970	0.971	0.970
Flow Entry, veh/h	193	193	320
Cap Entry, veh/h	1217	1095	1217
V/C Ratio	0.159	0.176	0.263
Control Delay, s/veh	4.3	4.9	5.3
LOS	A	A	A
95th %tile Queue, veh	1	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	50	320	70	40	80	230	1450	50	70	1380	140
Future Volume (veh/h)	240	50	320	70	40	80	230	1450	50	70	1380	140
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	245	51	231	71	41	65	235	1480	35	71	1408	93
Adj No. of Lanes	2	1	1	0	1	1	1	3	1	1	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	381	206	724	88	51	122	624	2045	636	486	1673	513
Arrive On Green	0.11	0.11	0.11	0.08	0.08	0.08	0.35	0.41	0.41	0.55	0.66	0.66
Sat Flow, veh/h	3408	1845	1551	1133	655	1568	1757	5036	1566	1757	5036	1544
Grp Volume(v), veh/h	245	51	231	112	0	65	235	1480	35	71	1408	93
Grp Sat Flow(s),veh/h/ln	1704	1845	1551	1788	0	1568	1757	1679	1566	1757	1679	1544
Q Serve(g_s), s	8.9	3.3	0.0	8.0	0.0	5.2	12.9	32.1	1.8	2.6	27.7	3.0
Cycle Q Clear(g_c), s	8.9	3.3	0.0	8.0	0.0	5.2	12.9	32.1	1.8	2.6	27.7	3.0
Prop In Lane	1.00		1.00	0.63		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	381	206	724	139	0	122	624	2045	636	486	1673	513
V/C Ratio(X)	0.64	0.25	0.32	0.80	0.00	0.53	0.38	0.72	0.06	0.15	0.84	0.18
Avail Cap(c_a), veh/h	1038	562	1023	153	0	134	624	2045	636	486	1673	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	52.8	22.0	58.9	0.0	57.6	31.2	32.5	23.4	21.6	19.2	15.1
Incr Delay (d2), s/veh	0.7	0.2	0.1	21.6	0.0	1.3	0.1	2.3	0.2	0.1	5.3	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	4.3	1.7	5.2	4.8	0.0	2.3	6.3	15.2	0.8	1.2	13.3	1.4
LnGrp Delay(d),s/veh	55.9	53.0	22.1	80.5	0.0	59.0	31.4	34.7	23.6	21.6	24.5	15.8
LnGrp LOS	E	D	C	F		E	C	C	C	C	C	B
Approach Vol, veh/h		527			177			1750			1572	
Approach Delay, s/veh		40.8			72.6			34.1			23.9	
Approach LOS		D			E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	40.5	56.8		18.5	50.1	47.2		14.1
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	11.9	* 52		39.0	20.0	41.9		11.0
Max Q Clear Time (g_c+I1), s	14.6	34.1		10.9	14.9	29.7		10.0
Green Ext Time (p_c), s	0.0	9.4		1.1	0.1	7.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	50	320	70	40	80	230	1450	50	70	1380	140
Future Volume (veh/h)	240	50	320	70	40	80	230	1450	50	70	1380	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	245	51	270	71	41	5	235	1480	30	71	1408	77
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	383	208	728	87	50	120	629	2057	638	491	1683	515
Arrive On Green	0.11	0.11	0.11	0.08	0.08	0.08	0.36	0.41	0.41	0.56	0.66	0.66
Sat Flow, veh/h	3428	1856	1555	1140	658	1572	1767	5066	1571	1767	5066	1549
Grp Volume(v), veh/h	245	51	270	112	0	5	235	1480	30	71	1408	77
Grp Sat Flow(s),veh/h/ln	1714	1856	1555	1799	0	1572	1767	1689	1571	1767	1689	1549
Q Serve(g_s), s	8.9	3.3	0.0	8.0	0.0	0.4	12.8	31.9	1.5	2.5	27.3	2.4
Cycle Q Clear(g_c), s	8.9	3.3	0.0	8.0	0.0	0.4	12.8	31.9	1.5	2.5	27.3	2.4
Prop In Lane	1.00		1.00	0.63		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	383	208	728	138	0	120	629	2057	638	491	1683	515
V/C Ratio(X)	0.64	0.25	0.37	0.81	0.00	0.04	0.37	0.72	0.05	0.14	0.84	0.15
Avail Cap(c_a), veh/h	1044	565	1028	154	0	134	629	2057	638	491	1683	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	52.7	22.5	59.1	0.0	55.6	31.1	32.4	23.4	21.4	19.1	15.0
Incr Delay (d2), s/veh	0.7	0.2	0.1	22.5	0.0	0.1	0.1	2.2	0.1	0.0	5.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	1.5	5.4	4.5	0.0	0.2	5.4	12.9	0.6	1.0	6.4	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	52.9	22.6	81.6	0.0	55.7	31.2	34.6	23.5	21.5	24.2	15.6
LnGrp LOS	E	D	C	F	A	E	C	C	C	C	C	B
Approach Vol, veh/h		566			117			1745			1556	
Approach Delay, s/veh		39.8			80.5			33.9			23.7	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	40.7	56.8		18.5	50.3	47.2		14.0
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	11.6	* 52		39.0	20.0	41.9		11.0
Max Q Clear Time (g_c+I1), s	14.5	33.9		10.9	14.8	29.3		10.0
Green Ext Time (p_c), s	0.0	9.4		1.1	0.2	7.4		0.0

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	120	10	40	150	120	10	10	30	210	20	120
Future Volume (veh/h)	30	120	10	40	150	120	10	10	30	210	20	120
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	39	156	13	52	195	156	13	13	39	273	26	156
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	147	365	30	61	311	263	96	22	67	377	49	294
Arrive On Green	0.08	0.22	0.22	0.03	0.17	0.17	0.05	0.05	0.05	0.21	0.21	0.21
Sat Flow, veh/h	1757	1680	140	1757	1845	1563	1757	406	1218	1757	228	1368
Grp Volume(v), veh/h	39	0	169	52	195	156	13	0	52	273	0	182
Grp Sat Flow(s),veh/h/ln	1757	0	1820	1757	1845	1563	1757	0	1624	1757	0	1596
Q Serve(g_s), s	0.7	0.0	2.6	1.0	3.2	3.0	0.2	0.0	1.0	4.7	0.0	3.3
Cycle Q Clear(g_c), s	0.7	0.0	2.6	1.0	3.2	3.0	0.2	0.0	1.0	4.7	0.0	3.3
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.75	1.00		0.86
Lane Grp Cap(c), veh/h	147	0	396	61	311	263	96	0	89	377	0	343
V/C Ratio(X)	0.27	0.00	0.43	0.86	0.63	0.59	0.14	0.00	0.59	0.72	0.00	0.53
Avail Cap(c_a), veh/h	1085	0	1685	813	1708	1448	813	0	752	1356	0	1231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.9	0.0	10.9	15.6	12.5	12.4	14.6	0.0	15.0	11.8	0.0	11.3
Incr Delay (d2), s/veh	0.4	0.0	0.3	11.8	0.8	0.8	0.2	0.0	2.3	1.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.3	0.6	1.7	1.3	0.1	0.0	0.5	2.4	0.0	1.5
LnGrp Delay(d),s/veh	14.3	0.0	11.2	27.4	13.3	13.2	14.8	0.0	17.2	12.8	0.0	11.7
LnGrp LOS	B		B	C	B	B	B		B	B		B
Approach Vol, veh/h		208			403			65			455	
Approach Delay, s/veh		11.8			15.1			16.7			12.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.1	12.3		10.5	5.7	10.8		5.5
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	15.0	30.0		25.0	20.0	30.0		15.0
Max Q Clear Time (g_c+I1), s	3.0	4.6		6.7	2.7	5.2		3.0
Green Ext Time (p_c), s	0.0	0.3		0.2	0.0	0.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	120	10	40	150	120	10	10	30	210	20	120
Future Volume (veh/h)	30	120	10	40	150	120	10	10	30	210	20	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	39	156	9	52	195	30	13	13	0	273	26	9
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	158	361	21	62	286	241	46	48	0	360	268	93
Arrive On Green	0.09	0.21	0.21	0.04	0.15	0.15	0.03	0.03	0.00	0.20	0.20	0.20
Sat Flow, veh/h	1767	1737	100	1767	1856	1568	1767	1856	0	1767	1316	455
Grp Volume(v), veh/h	39	0	165	52	195	30	13	13	0	273	0	35
Grp Sat Flow(s),veh/h/ln	1767	0	1837	1767	1856	1568	1767	1856	0	1767	0	1771
Q Serve(g_s), s	0.6	0.0	2.3	0.9	2.9	0.5	0.2	0.2	0.0	4.3	0.0	0.5
Cycle Q Clear(g_c), s	0.6	0.0	2.3	0.9	2.9	0.5	0.2	0.2	0.0	4.3	0.0	0.5
Prop In Lane	1.00		0.05	1.00		1.00	1.00		0.00	1.00		0.26
Lane Grp Cap(c), veh/h	158	0	382	62	286	241	46	48	0	360	0	361
V/C Ratio(X)	0.25	0.00	0.43	0.83	0.68	0.12	0.28	0.27	0.00	0.76	0.00	0.10
Avail Cap(c_a), veh/h	1201	0	1873	901	1892	1599	901	946	0	1502	0	1505
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.5	0.0	10.1	14.1	11.8	10.7	14.1	14.1	0.0	11.0	0.0	9.5
Incr Delay (d2), s/veh	0.3	0.0	0.3	10.2	1.1	0.1	1.2	1.1	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.6	0.4	0.9	0.1	0.1	0.1	0.0	1.2	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	0.0	10.4	24.3	12.8	10.8	15.3	15.1	0.0	12.3	0.0	9.6
LnGrp LOS	B	A	B	C	B	B	B	B	A	B	A	A
Approach Vol, veh/h		204			277			26			308	
Approach Delay, s/veh		10.9			14.8			15.2			12.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.0	11.4		9.5	5.6	9.8		4.5
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	15.0	30.0		25.0	20.0	30.0		15.0
Max Q Clear Time (g_c+I1), s	2.9	4.3		6.3	2.6	4.9		2.2
Green Ext Time (p_c), s	0.0	0.3		0.1	0.0	0.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	350	260	10	30	50
Future Vol, veh/h	10	350	260	10	30	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	417	310	12	36	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	322	0	-	0	757	316
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	441	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1232	-	-	-	374	722
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	646	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1232	-	-	-	370	722
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	646	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1232	-	-	-	532
HCM Lane V/C Ratio	0.01	-	-	-	0.179
HCM Control Delay (s)	8	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	330	20	20	250	90	5	10	20	120	20	30
Future Volume (veh/h)	40	330	20	20	250	90	5	10	20	120	20	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1900	1845	1900	1900	1845	1900
Adj Flow Rate, veh/h	51	418	25	25	316	114	6	13	25	152	25	38
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	79	576	34	44	406	147	9	20	38	204	34	51
Arrive On Green	0.05	0.33	0.33	0.02	0.31	0.31	0.04	0.04	0.04	0.17	0.17	0.17
Sat Flow, veh/h	1757	1723	103	1757	1294	467	227	492	947	1222	201	306
Grp Volume(v), veh/h	51	0	443	25	0	430	44	0	0	215	0	0
Grp Sat Flow(s),veh/h/ln	1757	0	1826	1757	0	1761	1666	0	0	1729	0	0
Q Serve(g_s), s	1.0	0.0	7.2	0.5	0.0	7.5	0.9	0.0	0.0	4.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	7.2	0.5	0.0	7.5	0.9	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.06	1.00		0.27	0.14		0.57	0.71		0.18
Lane Grp Cap(c), veh/h	79	0	610	44	0	553	67	0	0	288	0	0
V/C Ratio(X)	0.64	0.00	0.73	0.57	0.00	0.78	0.66	0.00	0.00	0.75	0.00	0.00
Avail Cap(c_a), veh/h	784	0	1629	784	0	1570	991	0	0	1028	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.8	0.0	9.8	16.2	0.0	10.5	15.9	0.0	0.0	13.3	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.0	0.6	4.4	0.0	0.9	4.1	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	3.7	0.3	0.0	3.7	0.5	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	19.0	0.0	10.5	20.6	0.0	11.4	20.0	0.0	0.0	14.8	0.0	0.0
LnGrp LOS	B		B	C		B	B			B		
Approach Vol, veh/h		494			455			44			215	
Approach Delay, s/veh		11.3			11.9			20.0			14.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.8	15.8		9.1	4.5	15.2		4.8
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	15.0	30.0		20.0	15.0	30.0		20.0
Max Q Clear Time (g_c+I1), s	2.5	9.2		6.0	3.0	9.5		2.9
Green Ext Time (p_c), s	0.0	0.9		0.4	0.0	0.9		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	330	20	20	250	90	5	10	20	120	20	30
Future Volume (veh/h)	40	330	20	20	250	90	5	10	20	120	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	51	418	22	25	316	99	6	13	0	152	25	28
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	81	575	30	44	418	131	11	24	0	206	34	38
Arrive On Green	0.05	0.33	0.33	0.02	0.31	0.31	0.02	0.02	0.00	0.16	0.16	0.16
Sat Flow, veh/h	1767	1747	92	1767	1354	424	577	1250	0	1295	213	239
Grp Volume(v), veh/h	51	0	440	25	0	415	19	0	0	205	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1839	1767	0	1778	1827	0	0	1747	0	0
Q Serve(g_s), s	0.9	0.0	6.6	0.4	0.0	6.6	0.3	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	6.6	0.4	0.0	6.6	0.3	0.0	0.0	3.5	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.24	0.32		0.00	0.74		0.14
Lane Grp Cap(c), veh/h	81	0	606	44	0	549	36	0	0	278	0	0
V/C Ratio(X)	0.63	0.00	0.73	0.57	0.00	0.76	0.53	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	848	0	1765	848	0	1707	1169	0	0	1118	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.6	0.0	9.2	15.1	0.0	9.7	15.2	0.0	0.0	12.5	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	0.6	4.2	0.0	0.8	4.6	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.7	0.2	0.0	1.7	0.2	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	0.0	9.9	19.2	0.0	10.6	19.7	0.0	0.0	14.0	0.0	0.0
LnGrp LOS	B	A	A	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		491			440			19			205	
Approach Delay, s/veh		10.7			11.0			19.7			14.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.8	14.9		8.5	4.4	14.2		4.1
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	15.0	30.0		20.0	15.0	30.0		20.0
Max Q Clear Time (g_c+I1), s	2.4	8.6		5.5	2.9	8.6		2.3
Green Ext Time (p_c), s	0.0	0.9		0.4	0.0	0.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	90	500	120	70	140	290	1505	85	130	1470	90
Future Volume (veh/h)	150	90	500	120	70	140	290	1505	85	130	1470	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	153	92	430	122	71	98	296	1536	87	133	1500	92
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	162	169	639	151	166	140	558	1936	110	510	1791	110
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.13	0.13	0.29	0.37	0.37
Sat Flow, veh/h	1757	1845	1532	1757	1845	1563	1757	4877	276	1757	4851	297
Grp Volume(v), veh/h	153	92	430	122	71	98	296	1057	566	133	1038	554
Grp Sat Flow(s),veh/h/ln	1757	1845	1532	1757	1845	1563	1757	1679	1796	1757	1679	1791
Q Serve(g_s), s	11.3	6.2	0.0	8.9	4.7	7.9	20.8	39.7	39.7	7.6	36.7	36.7
Cycle Q Clear(g_c), s	11.3	6.2	0.0	8.9	4.7	7.9	20.8	39.7	39.7	7.6	36.7	36.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		0.17
Lane Grp Cap(c), veh/h	162	169	639	151	166	140	558	1333	713	510	1240	661
V/C Ratio(X)	0.94	0.54	0.67	0.81	0.43	0.70	0.53	0.79	0.79	0.26	0.84	0.84
Avail Cap(c_a), veh/h	162	511	923	151	497	421	558	1333	713	510	1240	661
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.7	56.4	31.2	58.4	56.0	57.4	49.0	51.3	51.3	35.4	37.4	37.4
Incr Delay (d2), s/veh	55.0	1.0	0.5	25.4	3.7	12.5	0.5	4.9	8.9	0.1	6.8	12.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	3.2	12.6	5.4	2.6	3.9	10.2	19.4	21.6	3.7	18.2	20.4
LnGrp Delay(d),s/veh	113.7	57.4	31.7	83.8	59.7	70.0	49.5	56.2	60.2	35.5	44.3	49.5
LnGrp LOS	F	E	C	F	E	E	D	E	E	D	D	D
Approach Vol, veh/h		675			291			1919			1725	
Approach Delay, s/veh		53.8			73.3			56.4			45.3	
Approach LOS		D			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.3	56.9	14.8	16.0	45.9	53.3	15.6	15.2
Change Period (Y+Rc), s	4.6	* 5.3	3.6	* 4.1	4.6	5.3	3.6	3.5
Max Green Setting (Gmax), s	15.0	* 52	11.0	* 36	18.0	48.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	9.6	41.7	10.9	8.2	22.8	38.7	13.3	9.9
Green Ext Time (p_c), s	0.0	5.0	0.0	0.4	0.0	4.7	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	52.9
HCM 2010 LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	90	500	120	70	140	290	1505	85	130	1470	90
Future Volume (veh/h)	150	90	500	120	70	140	290	1505	85	130	1470	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	153	92	472	122	71	15	296	1536	83	133	1500	88
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	207	170	645	147	116	98	566	1952	105	517	1807	106
Arrive On Green	0.12	0.09	0.09	0.08	0.06	0.06	0.11	0.13	0.13	0.29	0.37	0.37
Sat Flow, veh/h	1767	1856	1536	1767	1856	1565	1767	4919	266	1767	4893	287
Grp Volume(v), veh/h	153	92	472	122	71	15	296	1054	565	133	1035	553
Grp Sat Flow(s),veh/h/ln	1767	1856	1536	1767	1856	1565	1767	1689	1807	1767	1689	1803
Q Serve(g_s), s	10.9	6.2	0.0	8.8	4.8	1.2	20.6	39.3	39.3	7.5	36.2	36.3
Cycle Q Clear(g_c), s	10.9	6.2	0.0	8.8	4.8	1.2	20.6	39.3	39.3	7.5	36.2	36.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		0.16
Lane Grp Cap(c), veh/h	207	170	645	147	116	98	566	1340	717	517	1247	666
V/C Ratio(X)	0.74	0.54	0.73	0.83	0.61	0.15	0.52	0.79	0.79	0.26	0.83	0.83
Avail Cap(c_a), veh/h	207	514	929	150	500	421	566	1340	717	517	1247	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	56.4	32.1	58.7	59.4	57.7	48.7	51.2	51.2	35.2	37.3	37.3
Incr Delay (d2), s/veh	15.7	1.0	0.7	28.5	10.6	1.5	0.4	4.7	8.5	0.1	6.5	11.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	2.9	12.3	5.1	2.6	0.5	9.8	18.6	20.7	3.2	15.4	17.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.1	57.4	32.8	87.1	70.0	59.2	49.2	55.9	59.7	35.3	43.8	48.8
LnGrp LOS	E	E	C	F	E	E	D	E	E	D	D	D
Approach Vol, veh/h		717			208			1915			1721	
Approach Delay, s/veh		44.2			79.3			56.0			44.7	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.6	56.9	14.4	16.0	46.2	53.3	18.8	11.6
Change Period (Y+Rc), s	4.6	* 5.3	3.6	* 4.1	4.6	5.3	3.6	3.5
Max Green Setting (Gmax), s	15.0	* 52	11.0	* 36	18.0	48.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	19.5	41.3	10.8	8.2	22.6	38.3	12.9	6.8
Green Ext Time (p_c), s	0.0	5.1	0.0	0.5	0.0	4.8	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	50.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	40	180	230	40	60	70	1770	280	75	2020	20
Future Volume (veh/h)	50	40	180	230	40	60	70	1770	280	75	2020	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	51	41	184	235	41	61	71	1806	286	77	2061	20
Adj No. of Lanes	0	1	0	2	1	0	1	3	0	1	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	37	30	134	357	70	104	505	1527	239	518	1828	18
Arrive On Green	0.12	0.12	0.12	0.10	0.10	0.10	0.29	0.35	0.35	0.30	0.36	0.36
Sat Flow, veh/h	302	243	1091	3408	665	989	1757	4391	689	1757	5143	50
Grp Volume(v), veh/h	276	0	0	235	0	102	71	1377	715	77	1345	736
Grp Sat Flow(s),veh/h/ln	1637	0	0	1704	0	1653	1757	1679	1722	1757	1679	1836
Q Serve(g_s), s	16.0	0.0	0.0	8.6	0.0	7.7	3.9	45.2	45.2	4.2	46.2	46.2
Cycle Q Clear(g_c), s	16.0	0.0	0.0	8.6	0.0	7.7	3.9	45.2	45.2	4.2	46.2	46.2
Prop In Lane	0.18		0.67	1.00		0.60	1.00		0.40	1.00		0.03
Lane Grp Cap(c), veh/h	201	0	0	357	0	173	505	1167	599	518	1193	652
V/C Ratio(X)	1.37	0.00	0.00	0.66	0.00	0.59	0.14	1.18	1.19	0.15	1.13	1.13
Avail Cap(c_a), veh/h	201	0	0	944	0	458	505	1167	599	518	1193	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	0.0	55.9	0.0	55.5	34.4	42.4	42.4	33.8	41.9	41.9
Incr Delay (d2), s/veh	194.7	0.0	0.0	0.8	0.0	1.2	0.0	89.9	103.2	0.0	68.5	76.1
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	18.1	0.0	0.0	4.1	0.0	3.5	1.9	35.5	38.6	2.0	32.7	37.2
LnGrp Delay(d),s/veh	251.7	0.0	0.0	56.7	0.0	56.7	34.4	132.3	145.6	33.8	110.4	118.0
LnGrp LOS	F			E		E	C	F	F	C	F	F
Approach Vol, veh/h		276			337			2163			2158	
Approach Delay, s/veh		251.7			56.7			133.5			110.2	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	41.9	50.5		20.0	40.9	51.5		17.6
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	16.0	45.2		16.0	15.0	46.2		36.0
Max Q Clear Time (g_c+I1), s	10.2	47.2		18.0	5.9	48.2		10.6
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	124.7
HCM 2010 LOS	F

Notes

User approved ignoring U-Turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	40	180	230	40	60	70	1770	280	75	2020	20
Future Volume (veh/h)	50	40	180	230	40	60	70	1770	280	75	2020	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		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	51	41	130	235	41	10	71	1806	274	77	2061	20
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	47	38	120	353	148	36	511	1545	232	525	1838	18
Arrive On Green	0.12	0.12	0.12	0.10	0.10	0.10	0.29	0.35	0.35	0.30	0.36	0.36
Sat Flow, veh/h	382	307	973	3428	1436	350	1767	4443	668	1767	5173	50
Grp Volume(v), veh/h	222	0	0	235	0	51	71	1369	711	77	1345	736
Grp Sat Flow(s),veh/h/ln	1661	0	0	1714	0	1786	1767	1689	1734	1767	1689	1846
Q Serve(g_s), s	16.0	0.0	0.0	8.6	0.0	3.4	3.9	45.2	45.2	4.2	46.2	46.2
Cycle Q Clear(g_c), s	16.0	0.0	0.0	8.6	0.0	3.4	3.9	45.2	45.2	4.2	46.2	46.2
Prop In Lane	0.23		0.59	1.00		0.20	1.00		0.39	1.00		0.03
Lane Grp Cap(c), veh/h	204	0	0	353	0	184	511	1174	603	525	1200	656
V/C Ratio(X)	1.09	0.00	0.00	0.67	0.00	0.28	0.14	1.17	1.18	0.15	1.12	1.12
Avail Cap(c_a), veh/h	204	0	0	949	0	495	511	1174	603	525	1200	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	0.0	56.1	0.0	53.8	34.2	42.4	42.4	33.6	41.9	41.9
Incr Delay (d2), s/veh	87.6	0.0	0.0	0.8	0.0	0.3	0.0	84.1	97.1	0.0	65.8	73.6
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	11.6	0.0	0.0	3.8	0.0	1.6	1.6	31.7	34.7	1.8	29.3	33.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	144.6	0.0	0.0	57.0	0.0	54.1	34.3	126.5	139.5	33.6	107.7	115.5
LnGrp LOS	F	A	A	E	A	D	C	F	F	C	F	F
Approach Vol, veh/h		222			286			2151			2158	
Approach Delay, s/veh		144.6			56.5			127.8			107.7	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	42.1	50.5		20.0	41.1	51.5		17.4
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	16.0	45.2		16.0	15.0	46.2		36.0
Max Q Clear Time (g_c+I1), s	16.2	47.2		18.0	5.9	48.2		10.6
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.6

Intersection Summary	
HCM 6th Ctrl Delay	115.3
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	460	80	60	330	0	100
Future Vol, veh/h	460	80	60	330	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	630	110	82	452	0	137

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	740	0	-	370
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.16	-	-	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.23	-	-	3.33
Pot Cap-1 Maneuver	-	-	856	-	0	624
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	856	-	-	624
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	624	-	-	856	-
HCM Lane V/C Ratio	0.22	-	-	0.096	-
HCM Control Delay (s)	12.4	-	-	9.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.3	-

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	2. Richardson Dr / Bell Rd
Scenario	Existing Plus PCGC Master Plan Update

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*
AM Peak Hour Volume	30	5	90	0	0	5	0	210	80	190	120	5
AM Peak Hour Delay (s)	24.1	10.4	10.4	9.1	9.1	9.1	0	0	0	8.4	0	0
PM Peak Hour Volume	60	0	200	5	0	0	0	240	30	90	210	5
PM Peak Hour Delay (s)	24.1	12.8	12.8	32.6	32.6	32.6	0	0	0	8.2	0	0

AM Delay	**10.5**
AM LOS	**B**

PM Delay	**13.8**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	3. County Center Dr / Bell Rd
Scenario	Existing Plus PCGC Master Plan Update

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yield*	*Free*	
AM Peak Hour Volume	10		50					290	10	100	320	
AM Peak Hour Delay (s)	12.2		12.2					0	0	8.6	0	
PM Peak Hour Volume	30		100					440	5	60	280	
PM Peak Hour Delay (s)	17.1		17.1					0	0	9.1	0	

AM Delay	**10.0**
AM LOS	**A**

PM Delay	**14.6**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	4. 1st St / Blue Oaks Dr
Scenario	Existing Plus PCGC Master Plan Update

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control				*Stop*		*Stop*	*Yield*	*Free*			*Free*	*Free*
AM Peak Hour Volume				50		60	20	320			390	50
AM Peak Hour Delay (s)				18.1		18.1	8.8	0			0	0
PM Peak Hour Volume				50		30	50	490			310	20
PM Peak Hour Delay (s)				20.7		20.7	8.5	0			0	0

AM Delay	**16.7**
AM LOS	**C**

PM Delay	**16.0**
PM LOS	**C**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	7. Richardson Dr / DeWitt Av
Scenario	Existing Plus PCGC Master Plan Update

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	10	110	30	30	220	20	10	0	5	10	0	5
AM Peak Hour Delay (s)	8	0	0	7.7	0	0	13.1	13.1	13.1	12.7	12.7	12.7
PM Peak Hour Volume	5	190	10	5	110	5	30	0	10	60	0	40
PM Peak Hour Delay (s)	7.6	0	0	8.2	0	0	14.2	14.2	14.2	16.9	16.9	16.9

AM Delay	**10.0**
AM LOS	**A**

PM Delay	**15.6**
PM LOS	**C**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	13. Atwood Rd / 3rd St
Scenario	Existing Plus PCGC Master Plan Update

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control				*Stop*		*Stop*	*Yield*	*Free*			*Free*	*Free*
AM Peak Hour Volume				20		20	30	310			330	20
AM Peak Hour Delay (s)				13.3		13.3	8.1	0			0	0
PM Peak Hour Volume				30		50	10	350			260	10
PM Peak Hour Delay (s)				13.2		13.2	8	0			0	0

AM Delay	**11.1**
AM LOS	**B**

PM Delay	**12.6**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	17. 1st St / Bell Rd
Scenario	Existing Plus PCGC Master Plan Update

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yield*	*Free*	
AM Peak Hour Volume	0		60					330	40	120	440	
AM Peak Hour Delay (s)	10.5		10.5					0	0	9.1	0	
PM Peak Hour Volume	0		100					460	80	60	330	
PM Peak Hour Delay (s)	12.4		12.4					0	0	9.7	0	

AM Delay	**9.6**
AM LOS	**A**

PM Delay	**11.4**
PM LOS	**B**

FEHR PEERS

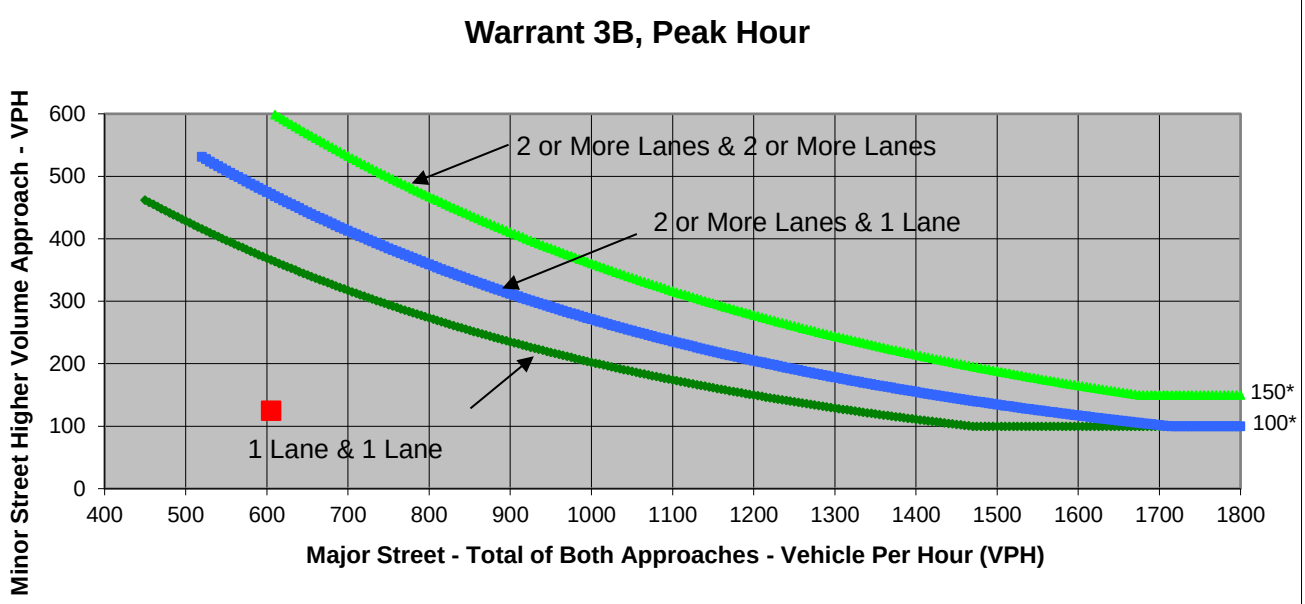
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	Richardson Drive	Scenario	Existing Plus PCGC Master Plan Update
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	30	0	0	190
Through	5	0	210	120
Right	90	5	80	5
Total	125	5	290	315

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Richardson Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**605**	**125**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	Richardson Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	30	0	0	190
Through	5	0	210	120
Right	90	5	80	5
Total	125	5	290	315

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	14.2
Approach with Worst Case Delay	NB
Total Vehicles on Approach	125

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus PCGC Master Plan Upda	**0.5**	**125**	**735**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

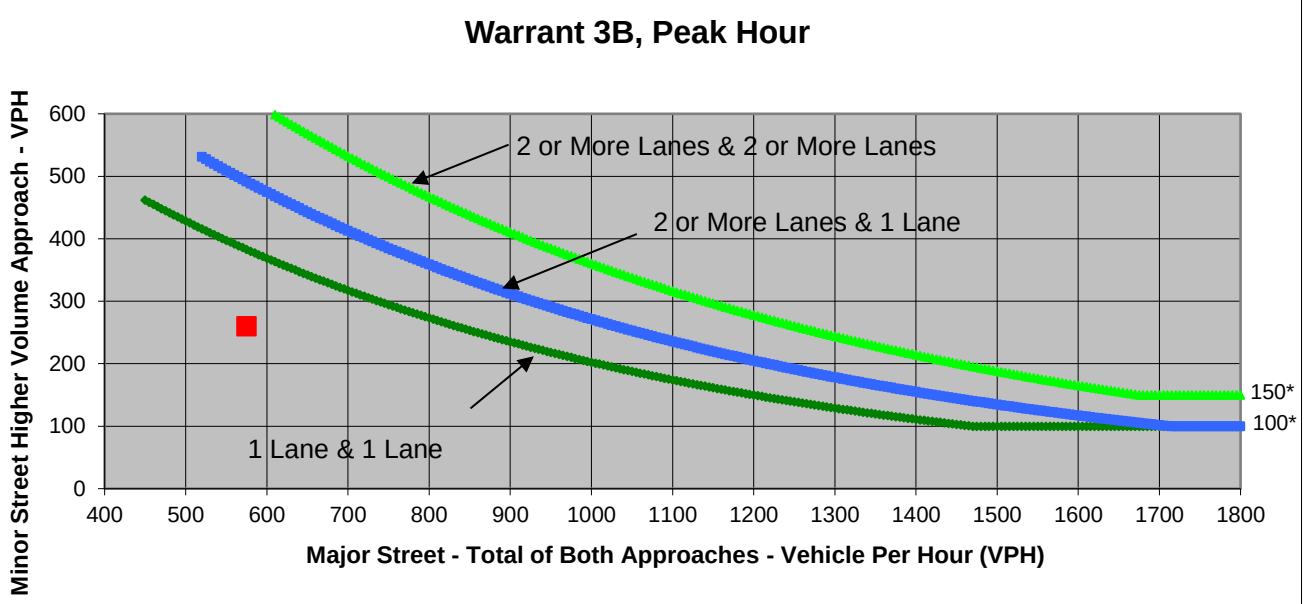
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	Richardson Drive	Scenario	Existing Plus PCGC Master Plan Update
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	60	5	0	90
Through	0	0	240	210
Right	200	0	30	5
Total	260	5	270	305

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Richardson Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**575**	**260**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	Richardson Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	60	5	0	90
Through	0	0	240	210
Right	200	0	30	5
Total	260	5	270	305

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	27.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	5

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus PCGC Master Plan Upda	**0**	**260**	**840**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

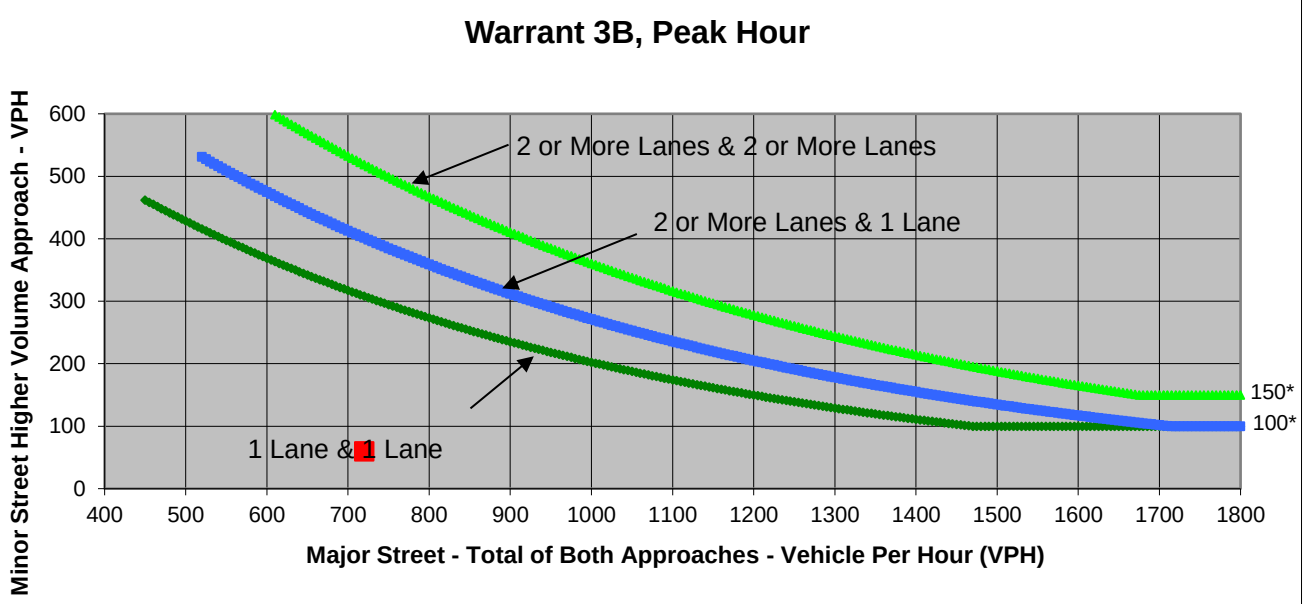
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	County Center Drive	Scenario	Existing Plus PCGC Master Plan Update
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10			100
Through			290	320
Right	50		10	
Total	60	0	300	420

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	County Center Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**720**	**60**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	County Center Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	0	0	100
Through	0	0	290	320
Right	50	0	10	0
Total	60	0	300	420

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.2
Approach with Worst Case Delay	NB
Total Vehicles on Approach	60

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus PCGC Master Plan Upda	**0.2**	**60**	**780**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

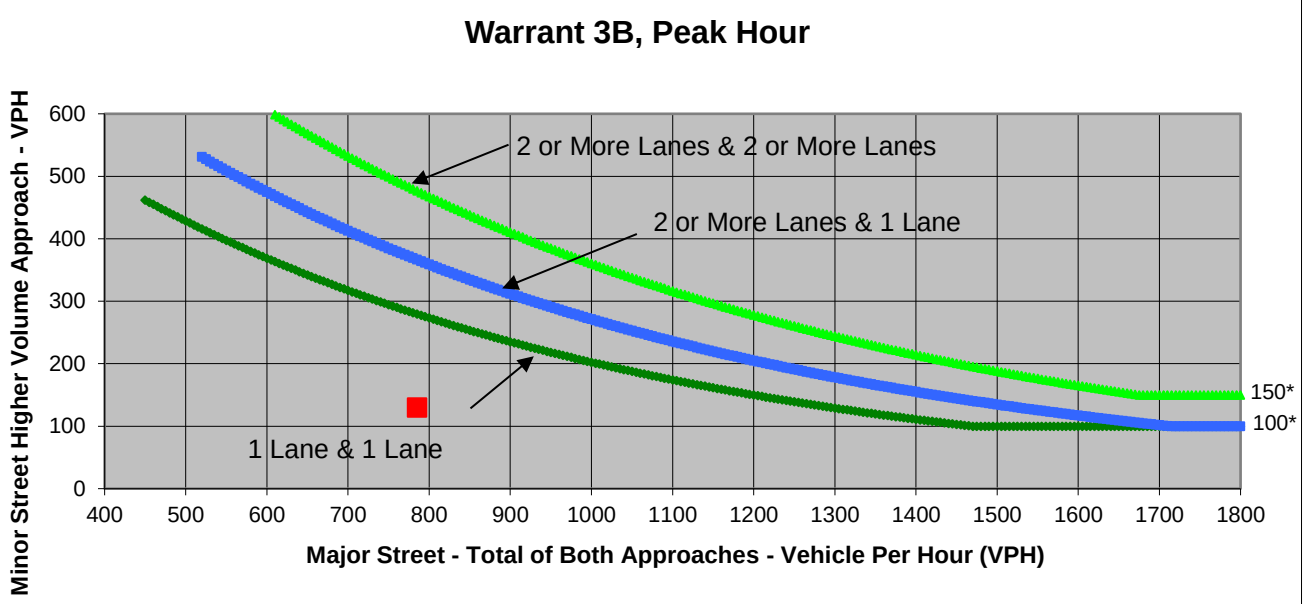
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	County Center Drive	Scenario	Existing Plus PCGC Master Plan Update
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	30			60
Through			440	280
Right	100		5	
Total	130	0	445	340

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	County Center Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**785**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	County Center Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	30	0	0	60
Through	0	0	440	280
Right	100	0	5	0
Total	130	0	445	340

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	17
Approach with Worst Case Delay	NB
Total Vehicles on Approach	130

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus PCGC Master Plan Upda	**0.6**	**130**	**915**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Road
Minor Street	Blue Oaks Drive

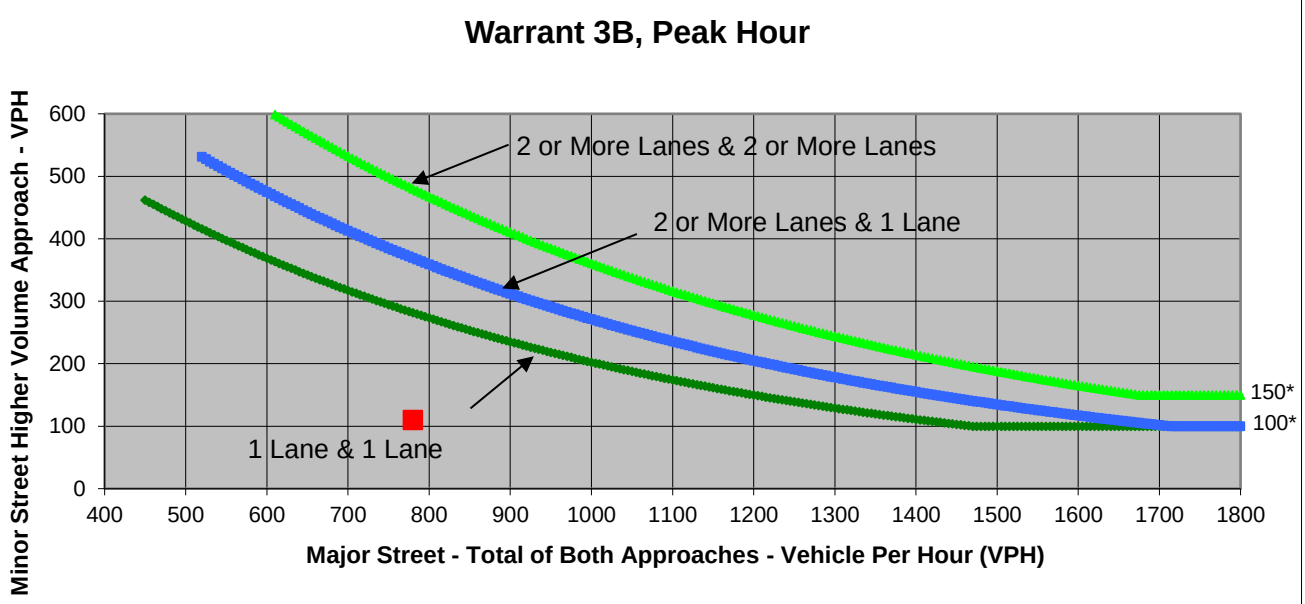
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		50	20	
Through			320	390
Right		60		50
Total	0	110	340	440

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Blue Oaks Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**780**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	Blue Oaks Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	50	20	0
Through	0	0	320	390
Right	0	60	0	50
Total	0	110	340	440

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	18.1
Approach with Worst Case Delay	SB
Total Vehicles on Approach	110

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus PCGC Master Plan Upda	**0.6**	**110**	**890**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

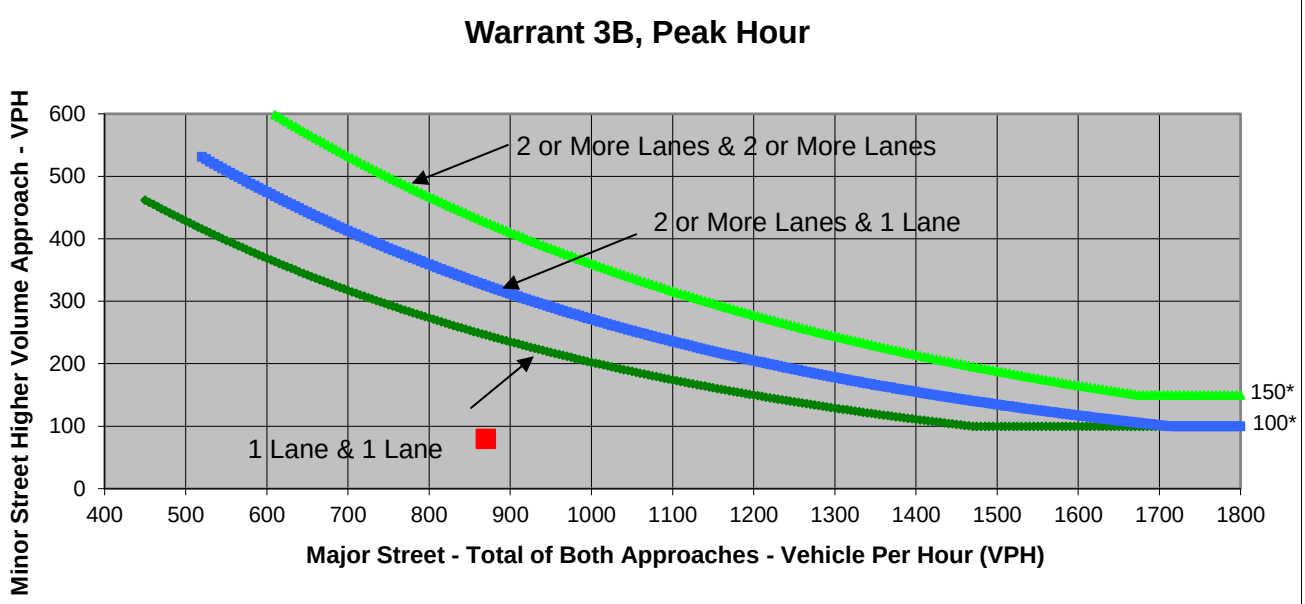
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	Blue Oaks Drive	Scenario	Existing Plus PCGC Master Plan Update
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		50	50	
Through			490	310
Right		30		20
Total	0	80	540	330

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Blue Oaks Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**870**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	Blue Oaks Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	50	50	0
Through	0	0	490	310
Right	0	30	0	20
Total	0	80	540	330

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	20.7
Approach with Worst Case Delay	SB
Total Vehicles on Approach	80

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus PCGC Master Plan Upda	**0.5**	**80**	**950**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Drive
Minor Street	DeWitt Ave

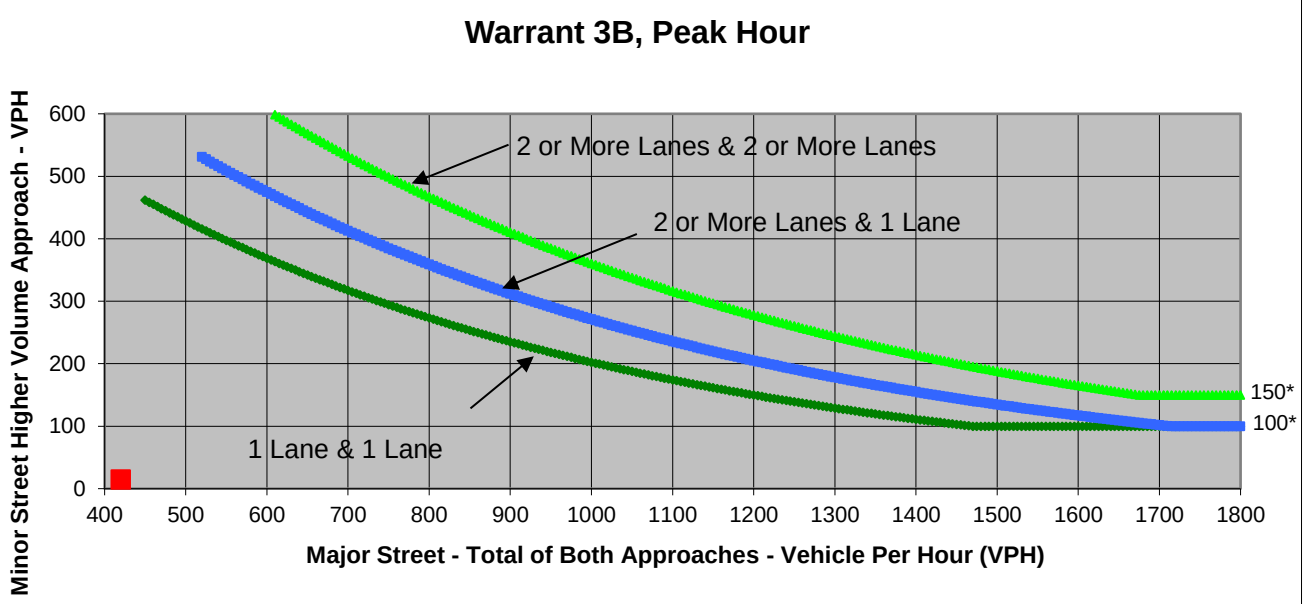
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	30	10	10
Through	110	220	0	0
Right	30	20	5	5
Total	150	270	15	15

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**420**	**15**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Drive
Minor Street	DeWitt Ave

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	30	10	10
Through	110	220	0	0
Right	30	20	5	5
Total	150	270	15	15

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.1
Approach with Worst Case Delay	EB
Total Vehicles on Approach	15

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
sting Plus PCGC Master Plan Upda	**0.1**	**15**	**450**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Drive
Minor Street	DeWitt Ave

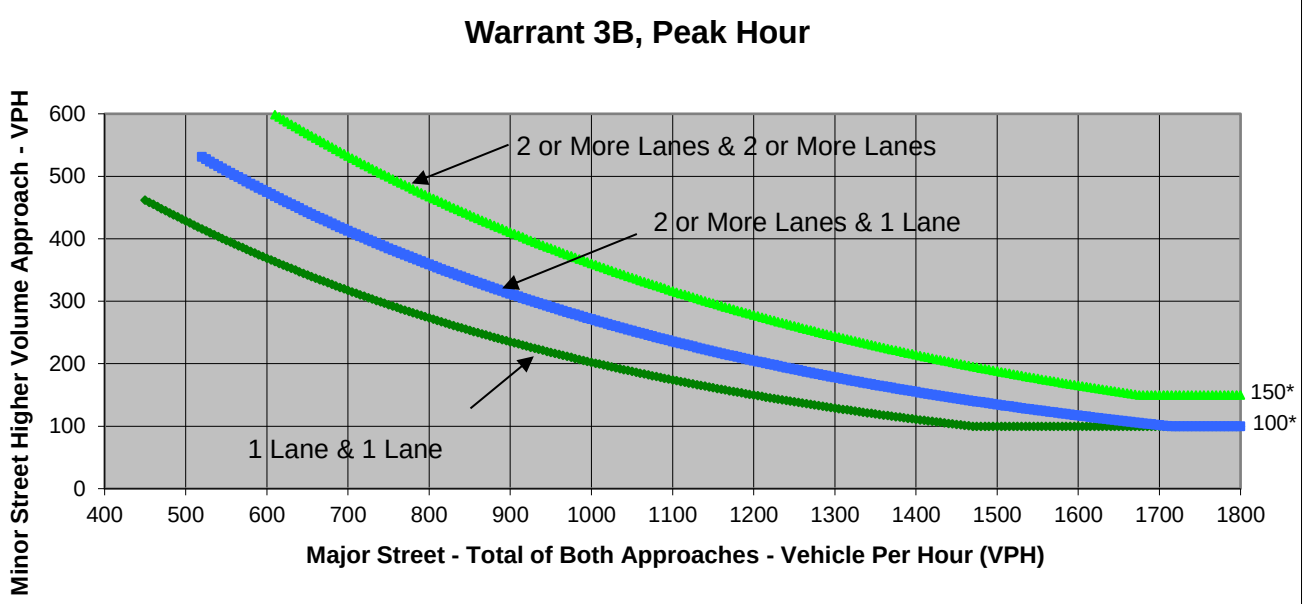
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	5	30	60
Through	190	110	0	0
Right	10	5	10	40
Total	205	120	40	100

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**325**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Drive
Minor Street	DeWitt Ave

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	5	30	60
Through	190	110	0	0
Right	10	5	10	40
Total	205	120	40	100

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	16.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	100

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus PCGC Master Plan Upda	**0.5**	**100**	**465**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Drive
Minor Street	B Ave

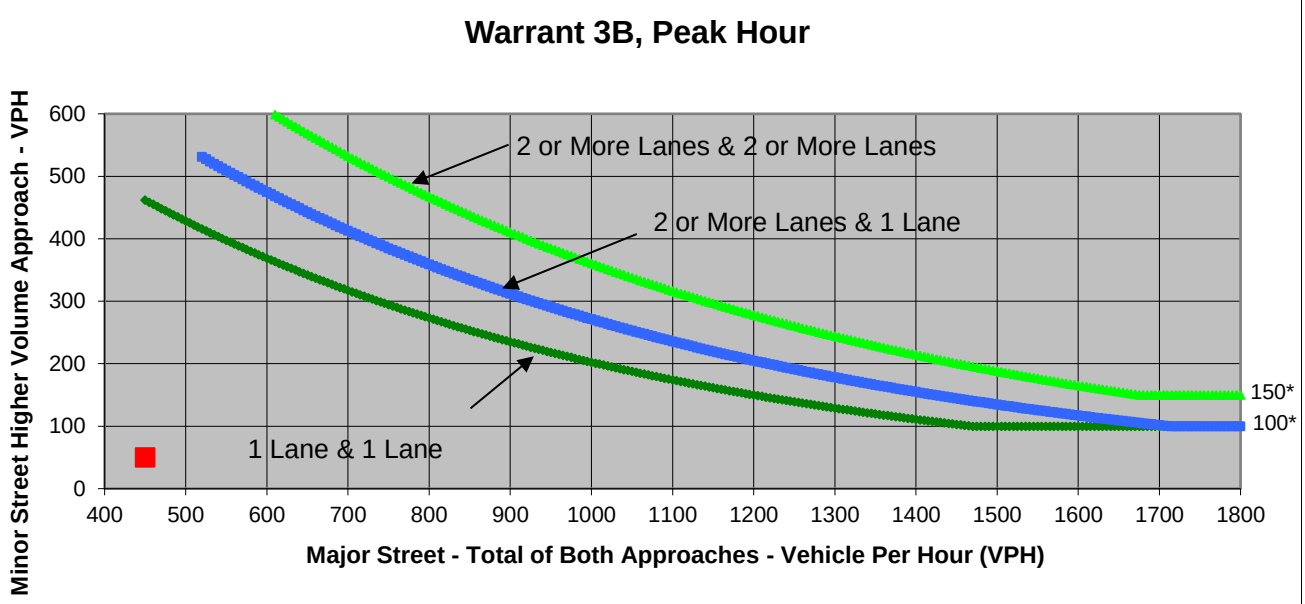
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	60	30	10	20
Through	120	170	10	10
Right	50	20	20	20
Total	230	220	40	50

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**450**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM
Major Street	Richardson Drive
Minor Street	B Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	60	30	10	20
Through	120	170	10	10
Right	50	20	20	20
Total	230	220	40	50

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	4.7
Approach with Worst Case Delay	SB
Total Vehicles on Approach	220

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus PCGC Master Plan Upda	**0.3**	**50**	**540**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

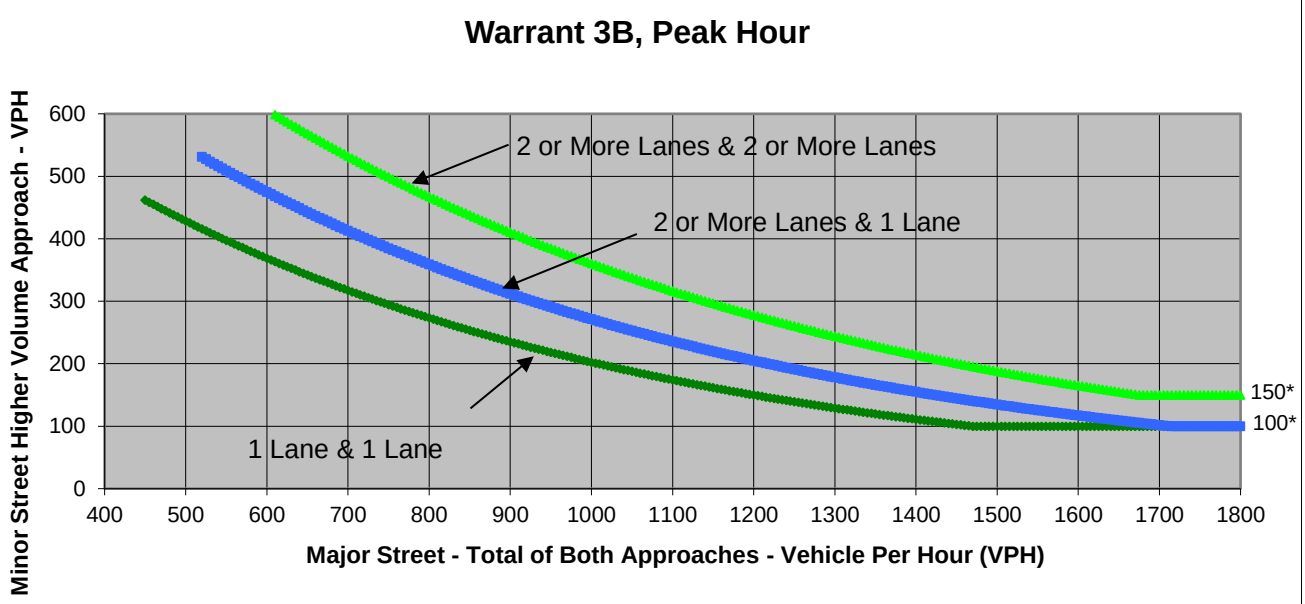
Major Street	Richardson Drive	Project	PCGC Master Plan Update EIR
Minor Street	B Ave	Scenario	Existing Plus PCGC Master Plan Update
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	30	20	30	60
Through	120	140	20	10
Right	30	20	60	50
Total	180	180	110	120

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**360**	**120**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM
Major Street	Richardson Drive
Minor Street	B Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	30	20	30	60
Through	120	140	20	10
Right	30	20	60	50
Total	180	180	110	120

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	7.2
Approach with Worst Case Delay	EB
Total Vehicles on Approach	110

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus PCGC Master Plan Upda	**0.2**	**120**	**590**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

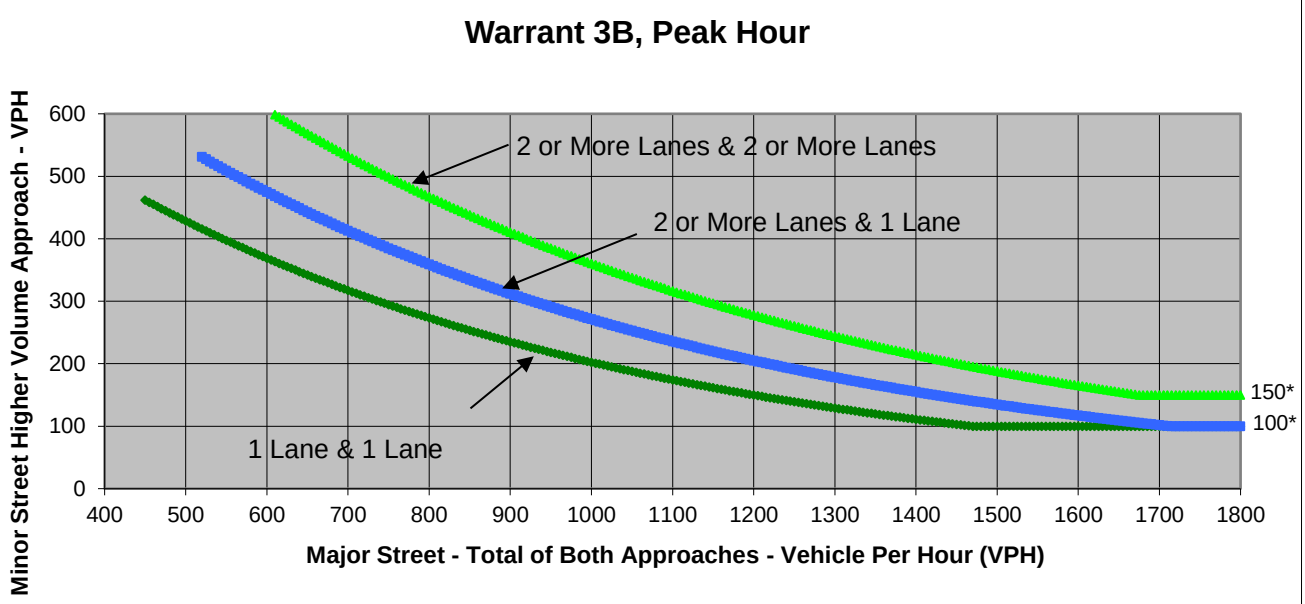
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	20	10	50
Through	140	70	10	20
Right	90	10	10	20
Total	250	100	30	90

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**350**	**90**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	20	10	50
Through	140	70	10	20
Right	90	10	10	20
Total	250	100	30	90

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	6.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	90

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
sting Plus PCGC Master Plan Upda	**0.2**	**90**	**470**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

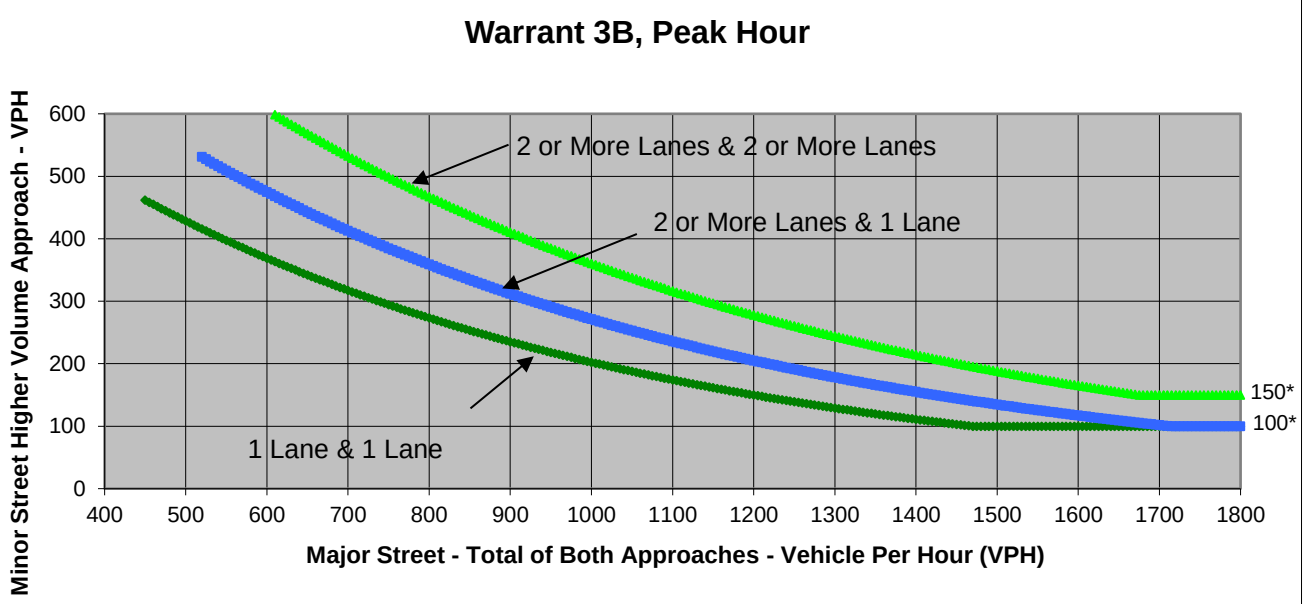
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	20	10	100
Through	70	140	30	0
Right	60	10	10	10
Total	150	170	50	110

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**320**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Major Street	1st Street
Minor Street	D Ave / Professional Drive

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	20	10	100
Through	70	140	30	0
Right	60	10	10	10
Total	150	170	50	110

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	5.9
Approach with Worst Case Delay	EB
Total Vehicles on Approach	50

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus PCGC Master Plan Upda	**0.1**	**110**	**480**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Willow Creek Drive
Minor Street	1st Street

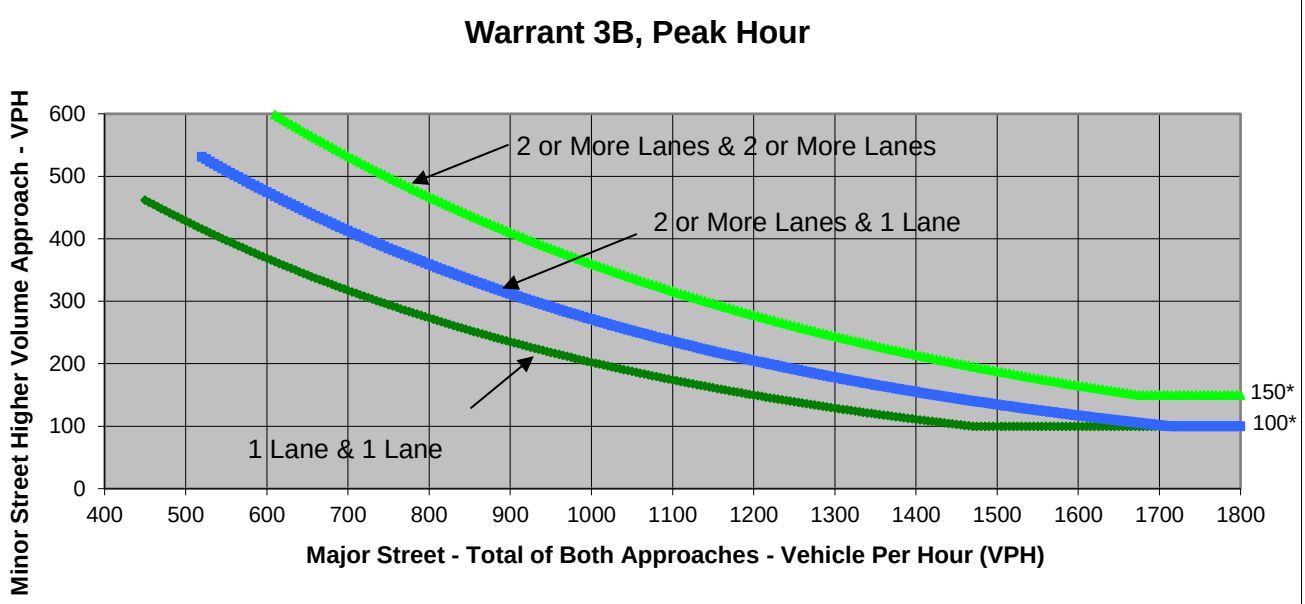
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		60		80
Through	100	80		
Right	70			150
Total	170	140	0	230

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Drive	1st Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**310**	**230**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Willow Creek Drive
Minor Street	1st Street

Project	PCGC
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	60	0	80
Through	100	80	0	0
Right	70	0	0	150
Total	170	140	0	230

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	6.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	230

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus PCGC Master Plan Upda	**0.4**	**230**	**540**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Willow Creek Drive
Minor Street	1st Street

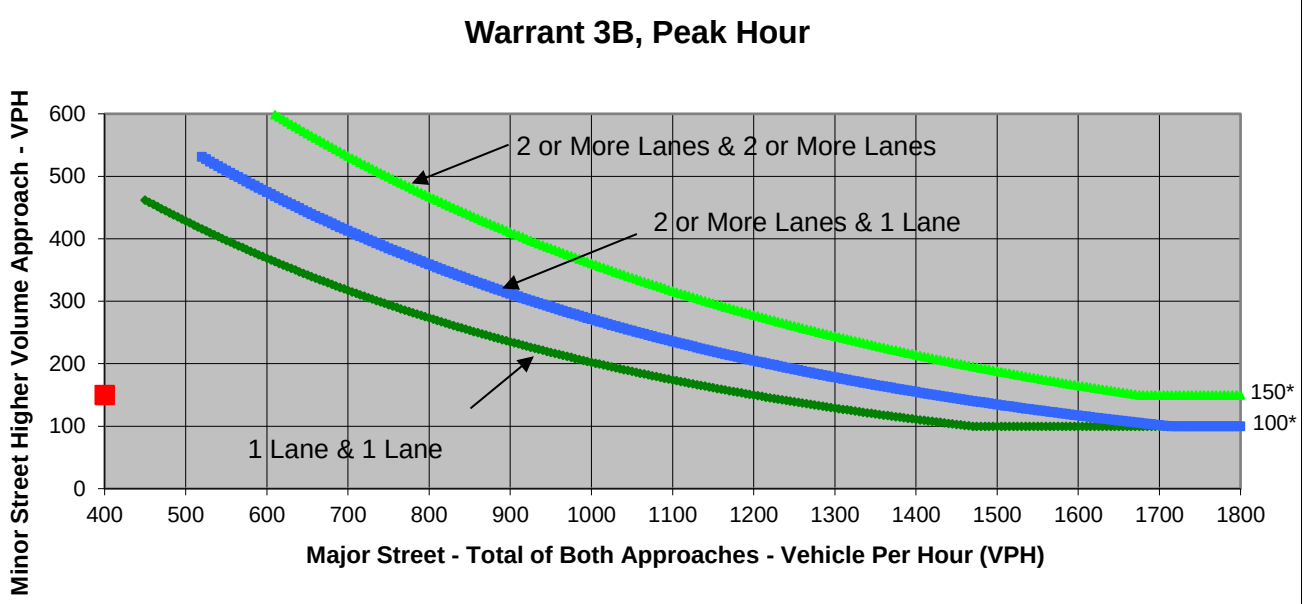
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		150		70
Through	70	100		0
Right	80			80
Total	150	250	0	150

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Drive	1st Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**400**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM
Major Street	Willow Creek Drive
Minor Street	1st Street

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	150	0	70
Through	70	100	0	0
Right	80	0	0	80
Total	150	250	0	150

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	5.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	150

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus PCGC Master Plan Upda	**0.2**	**150**	**550**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd Street

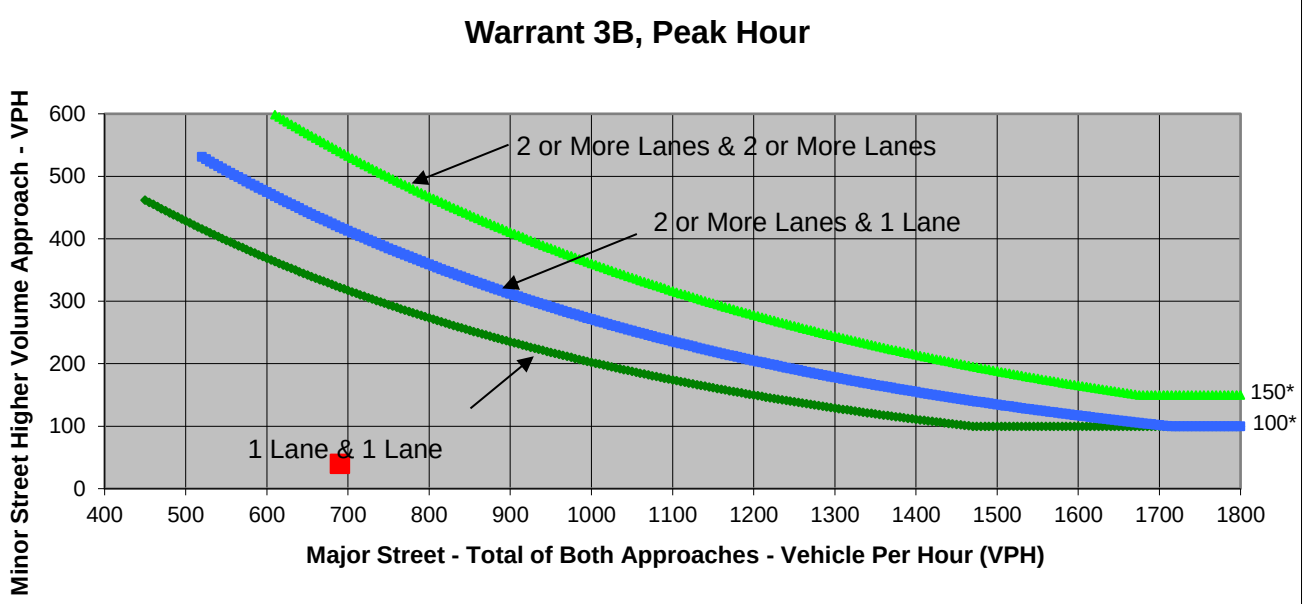
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		20	30	
Through			310	330
Right		20		20
Total	0	40	340	350

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Rd	3rd Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**690**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd Street

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	20	30	0
Through	0	0	310	330
Right	0	20	0	20
Total	0	40	340	350

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	40

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus PCGC Master Plan Upda	**0.1**	**40**	**730**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd Street

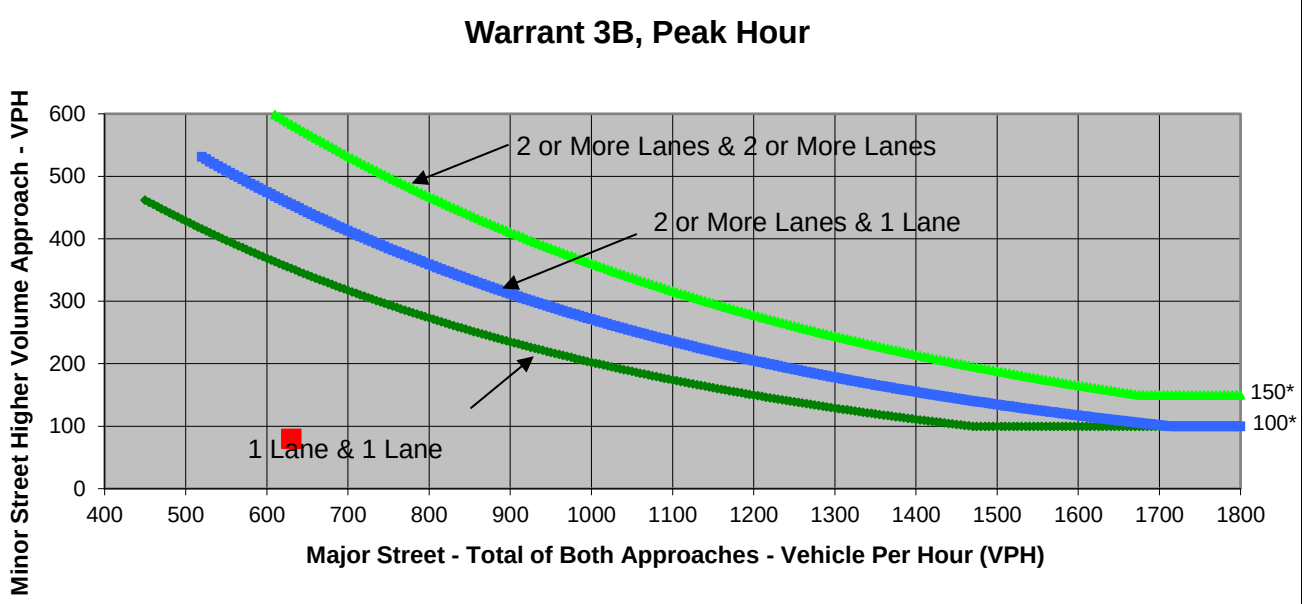
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		30	10	
Through			350	260
Right		50		10
Total	0	80	360	270

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Rd	3rd Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**630**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd Street

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	30	10	0
Through	0	0	350	260
Right	0	50	0	10
Total	0	80	360	270

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	80

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
isting Plus PCGC Master Plan Upda	**0.3**	**80**	**710**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Road
Minor Street	1st Street

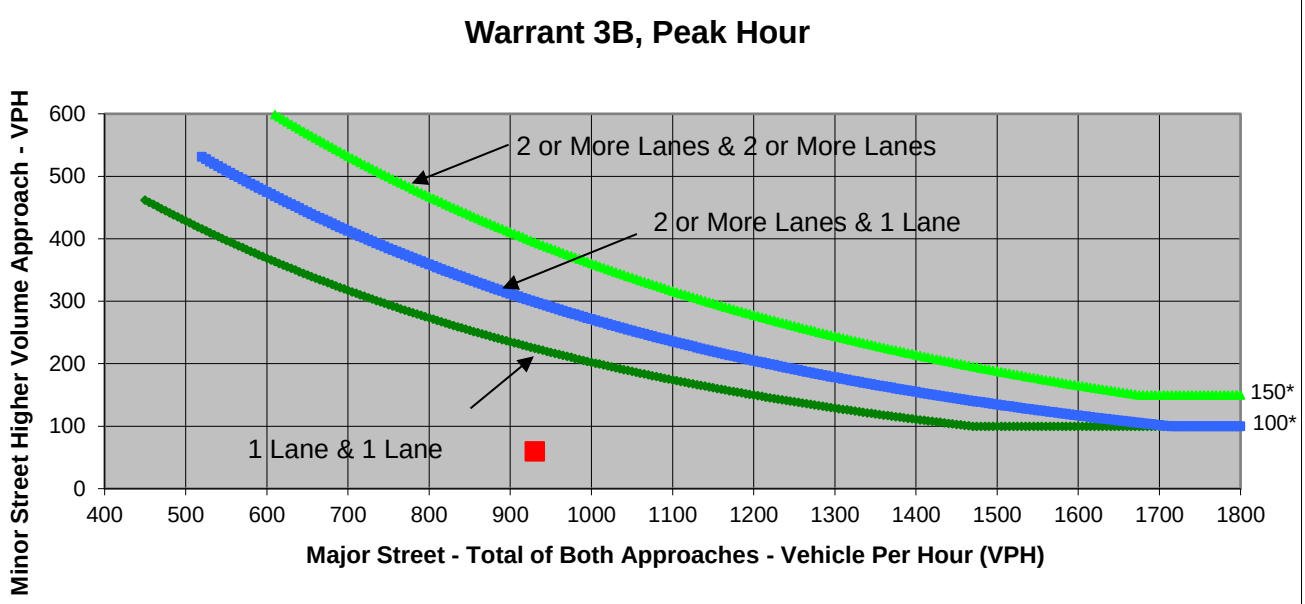
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left				120
Through			330	440
Right	60		40	
Total	60	0	370	560

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	1st Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**930**	**60**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	1st Street

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	120
Through	0	0	330	440
Right	60	0	40	0
Total	60	0	370	560

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	10.4
Approach with Worst Case Delay	NB
Total Vehicles on Approach	60

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus PCGC Master Plan Upda	**0.2**	**60**	**990**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Road
Minor Street	1st Street

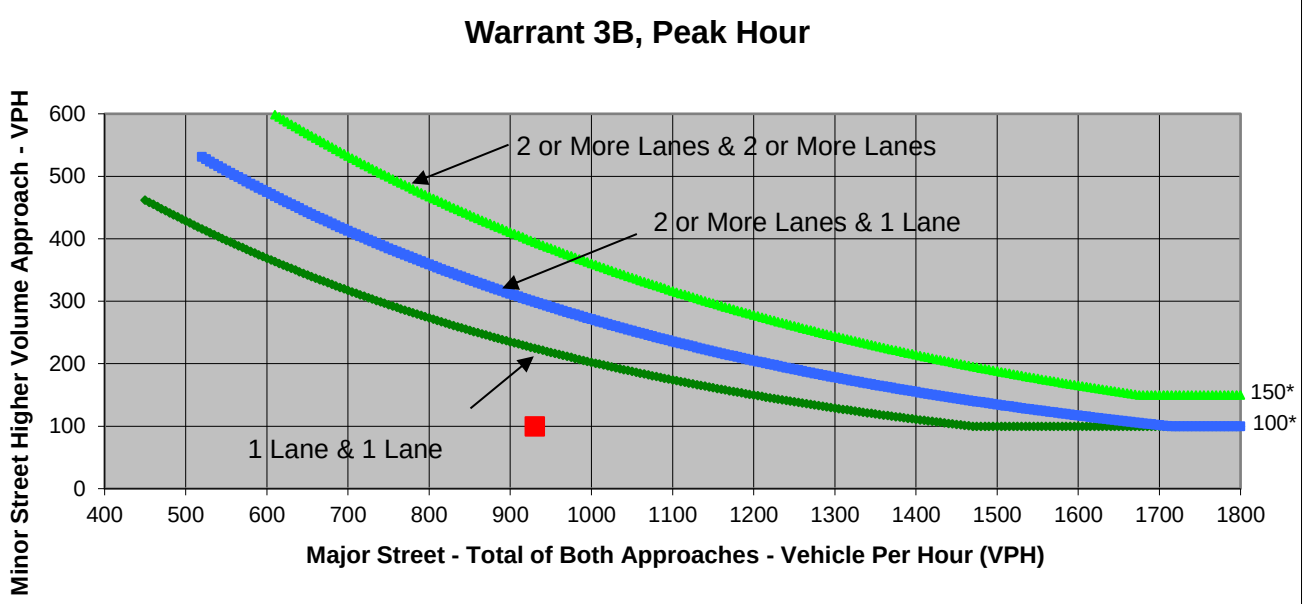
Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	100			60
Through			460	330
Right			80	
Total	100	0	540	390

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	1st Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**930**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	1st Street

Project	PCGC Master Plan Update EIR
Scenario	Existing Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	100	0	0	60
Through	0	0	460	330
Right	0	0	80	0
Total	100	0	540	390

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.4
Approach with Worst Case Delay	NB
Total Vehicles on Approach	100

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
isting Plus PCGC Master Plan Upda	**0.3**	**100**	**1,030**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	30	80	130	50	50	150	1730	160	50	1510	30
Future Volume (veh/h)	20	30	80	130	50	50	150	1730	160	50	1510	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	20	31	34	133	51	16	153	1765	157	51	1541	30
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	25	39	42	211	83	26	659	2102	186	536	1916	37
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.37	0.44	0.44	0.30	0.37	0.37
Sat Flow, veh/h	403	624	685	3428	1354	425	1767	4737	420	1767	5115	100
Grp Volume(v), veh/h	85	0	0	133	0	67	153	1257	665	51	1017	554
Grp Sat Flow(s),veh/h/ln	1712	0	0	1714	0	1779	1767	1689	1780	1767	1689	1837
Q Serve(g_s), s	6.4	0.0	0.0	4.9	0.0	4.8	7.7	42.9	43.1	2.7	35.1	35.1
Cycle Q Clear(g_c), s	6.4	0.0	0.0	4.9	0.0	4.8	7.7	42.9	43.1	2.7	35.1	35.1
Prop In Lane	0.24		0.40	1.00		0.24	1.00		0.24	1.00		0.05
Lane Grp Cap(c), veh/h	106	0	0	211	0	109	659	1499	790	536	1265	688
V/C Ratio(X)	0.80	0.00	0.00	0.63	0.00	0.61	0.23	0.84	0.84	0.10	0.80	0.80
Avail Cap(c_a), veh/h	158	0	0	949	0	493	659	1499	790	536	1265	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.2	0.0	0.0	59.6	0.0	59.5	28.0	32.0	32.1	32.5	36.4	36.4
Incr Delay (d2), s/veh	9.4	0.0	0.0	1.2	0.0	2.1	0.1	5.8	10.6	0.0	5.5	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	2.2	0.0	2.2	3.2	17.7	19.9	1.1	14.8	16.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.6	0.0	0.0	60.7	0.0	61.6	28.1	37.8	42.7	32.5	41.9	46.1
LnGrp LOS	E	A	A	E	A	E	C	D	D	C	D	D
Approach Vol, veh/h		85			200			2075			1622	
Approach Delay, s/veh		69.6			61.0			38.6			43.0	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	43.0	63.0		12.0	52.0	54.0		12.0
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	7.5	57.7		12.0	16.5	48.7		36.0
Max Q Clear Time (g_c+I1), s	14.3	45.1		8.4	9.7	37.1		6.9
Green Ext Time (p_c), s	0.0	8.1		0.1	0.1	6.3		0.5

Intersection Summary	
HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	40	180	230	40	60	70	1770	280	75	2020	20
Future Volume (veh/h)	50	40	180	230	40	60	70	1770	280	75	2020	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		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	51	41	130	235	41	10	71	1806	274	77	2061	20
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	50	40	127	353	148	36	396	1822	274	401	2137	21
Arrive On Green	0.13	0.13	0.13	0.10	0.10	0.10	0.22	0.41	0.41	0.23	0.41	0.41
Sat Flow, veh/h	382	307	973	3428	1436	350	1767	4443	668	1767	5173	50
Grp Volume(v), veh/h	222	0	0	235	0	51	71	1369	711	77	1345	736
Grp Sat Flow(s),veh/h/ln	1661	0	0	1714	0	1786	1767	1689	1734	1767	1689	1846
Q Serve(g_s), s	17.0	0.0	0.0	8.6	0.0	3.4	4.2	52.3	53.3	4.6	50.5	50.6
Cycle Q Clear(g_c), s	17.0	0.0	0.0	8.6	0.0	3.4	4.2	52.3	53.3	4.6	50.5	50.6
Prop In Lane	0.23		0.59	1.00		0.20	1.00		0.39	1.00		0.03
Lane Grp Cap(c), veh/h	217	0	0	353	0	184	396	1385	711	401	1395	763
V/C Ratio(X)	1.02	0.00	0.00	0.67	0.00	0.28	0.18	0.99	1.00	0.19	0.96	0.97
Avail Cap(c_a), veh/h	217	0	0	949	0	495	396	1385	711	401	1395	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	0.0	0.0	56.1	0.0	53.8	40.8	38.0	38.4	40.6	37.2	37.2
Incr Delay (d2), s/veh	66.8	0.0	0.0	0.8	0.0	0.3	0.1	21.6	33.8	0.1	16.9	25.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	0.0	0.0	3.8	0.0	1.6	1.8	24.6	28.1	2.0	23.0	26.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.3	0.0	0.0	57.0	0.0	54.1	40.9	59.6	72.2	40.7	54.1	62.3
LnGrp LOS	F	A	A	E	A	D	D	E	F	D	D	E
Approach Vol, veh/h		222			286			2151			2158	
Approach Delay, s/veh		123.3			56.5			63.2			56.5	
Approach LOS		F			E			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	33.0	58.6		21.0	32.6	59.0		17.4
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	6.5	53.3		17.0	6.5	53.7		36.0
Max Q Clear Time (g_c+I1), s	16.6	55.3		19.0	6.2	52.6		10.6
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	1.0		0.6

Intersection Summary	
HCM 6th Ctrl Delay	62.5
HCM 6th LOS	E

Appendix F:
Cumulative No Project Conditions – Technical Calculations

Daily Roadway Segment LOS - Cumulative No Project									
Placer_ID	Roadway	Segment	Direction	Roadway Capacity Class	Lanes	Daily Roadway Volume	Daily Roadway Volume / Lane	Daily Roadway LOS	Daily Roadway V/C Ratio
1	Atwood Road	West of SR 49	E/W	Arterial - Moderate Access Control	2	11,900	5,950	B	0.66
2	Bell Road	West of SR 49	E/W	Arterial - Moderate Access Control	4	19,400	4,850	A	0.54
3	SR 49	Luther Rd. to New Airport Rd.	N/S	Arterial - Moderate Access Control	6	47,700	7,950	D	0.88
4	SR 49	New Airport Rd. to Atwood Rd.	N/S	Arterial - Moderate Access Control	6	45,200	7,533	D	0.84
5	SR 49	Atwood Rd. to Willow Creek Dr.	N/S	Arterial - Moderate Access Control	6	45,100	7,517	D	0.84
6	SR 49	Willow Creek Dr. to Bell Rd.	N/S	Arterial - Moderate Access Control	6	44,900	7,483	D	0.83
7	SR 49	North of Bell Rd.	N/S	Arterial - Moderate Access Control	5	35,000	7,000	C	0.78

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	10	50	10	10	50	120	1490	40	80	1790	160
Future Volume (veh/h)	70	10	50	10	10	50	120	1490	40	80	1790	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		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	71	10	4	10	10	0	122	1520	27	82	1827	123
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	106	75	30	33	35	30	503	2452	761	551	1803	785
Arrive On Green	0.06	0.06	0.06	0.02	0.02	0.00	0.57	0.97	0.97	0.31	0.51	0.51
Sat Flow, veh/h	1767	1254	502	1767	1856	1572	1767	5066	1572	1767	3526	1535
Grp Volume(v), veh/h	71	0	14	10	10	0	122	1520	27	82	1827	123
Grp Sat Flow(s),veh/h/ln	1767	0	1756	1767	1856	1572	1767	1689	1572	1767	1763	1535
Q Serve(g_s), s	5.9	0.0	1.1	0.8	0.8	0.0	5.2	3.6	0.1	5.0	76.7	6.4
Cycle Q Clear(g_c), s	5.9	0.0	1.1	0.8	0.8	0.0	5.2	3.6	0.1	5.0	76.7	6.4
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	0	105	33	35	30	503	2452	761	551	1803	785
V/C Ratio(X)	0.67	0.00	0.13	0.30	0.29	0.00	0.24	0.62	0.04	0.15	1.01	0.16
Avail Cap(c_a), veh/h	318	0	316	212	223	189	503	2452	761	551	1803	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	0.52	0.52	0.52	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.1	0.0	66.8	72.6	72.6	0.0	24.2	1.3	1.2	37.2	36.6	19.5
Incr Delay (d2), s/veh	2.7	0.0	0.2	4.9	4.4	0.0	0.0	0.6	0.0	0.1	24.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.5	0.4	0.4	0.0	2.0	0.7	0.0	2.2	37.1	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.8	0.0	67.0	77.5	77.0	0.0	24.3	1.9	1.3	37.3	61.2	19.9
LnGrp LOS	E	A	E	E	E	A	C	A	A	D	F	B
Approach Vol, veh/h		85			20			1669			2032	
Approach Delay, s/veh		71.0			77.3			3.5			57.8	
Approach LOS		E			E			A			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	51.3	78.3		13.1	47.2	82.4		7.3
Change Period (Y+Rc), s	4.5	5.7		4.1	4.5	* 5.7		4.5
Max Green Setting (Gmax), s	13.6	72.6		27.0	10.0	* 77		18.0
Max Q Clear Time (g_c+I1), s	7.0	5.6		7.9	7.2	78.7		2.8
Green Ext Time (p_c), s	0.1	8.8		0.1	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	460	110	140	240	90	60	30	100	60	120	80
Future Volume (veh/h)	20	460	110	140	240	90	60	30	100	60	120	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	24	561	0	171	293	33	73	37	4	73	146	48
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	51	866		216	629	532	118	269	29	118	218	72
Arrive On Green	0.03	0.25	0.00	0.12	0.34	0.34	0.07	0.16	0.16	0.07	0.16	0.16
Sat Flow, veh/h	1767	3618	0	1767	1856	1570	1767	1645	178	1767	1336	439
Grp Volume(v), veh/h	24	561	0	171	293	33	73	0	41	73	0	194
Grp Sat Flow(s),veh/h/ln	1767	1763	0	1767	1856	1570	1767	0	1823	1767	0	1775
Q Serve(g_s), s	0.6	6.4	0.0	4.2	5.5	0.6	1.8	0.0	0.9	1.8	0.0	4.6
Cycle Q Clear(g_c), s	0.6	6.4	0.0	4.2	5.5	0.6	1.8	0.0	0.9	1.8	0.0	4.6
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.10	1.00		0.25
Lane Grp Cap(c), veh/h	51	866		216	629	532	118	0	298	118	0	290
V/C Ratio(X)	0.47	0.65		0.79	0.47	0.06	0.62	0.00	0.14	0.62	0.00	0.67
Avail Cap(c_a), veh/h	197	1417		217	767	649	197	0	753	197	0	733
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.4	15.1	0.0	19.1	11.6	10.0	20.3	0.0	16.0	20.3	0.0	17.6
Incr Delay (d2), s/veh	6.6	0.8	0.0	17.8	0.5	0.0	5.2	0.0	0.2	5.2	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.1	0.0	2.5	1.8	0.2	0.8	0.0	0.3	0.8	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	16.0	0.0	36.9	12.2	10.0	25.6	0.0	16.2	25.6	0.0	20.2
LnGrp LOS	C	B		D	B	B	C	A	B	C	A	C
Approach Vol, veh/h		585	A		497			114			267	
Approach Delay, s/veh		16.5			20.5			22.2			21.7	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	11.8	10.0	15.5	7.5	11.8	5.8	19.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	5.5	18.0	5.0	18.5	5.0	18.5
Max Q Clear Time (g_c+I1), s	3.8	2.9	6.2	8.4	3.8	6.6	2.6	7.5
Green Ext Time (p_c), s	0.0	0.1	0.0	2.4	0.0	0.7	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	610	10	50	470	5	10
Future Vol, veh/h	610	10	50	470	5	10
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	824	14	68	635	7	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	841	0	1288	422
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	454	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	784	-	154	577
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	603	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	782	-	140	575
Mov Cap-2 Maneuver	-	-	-	-	140	-
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	603	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	18.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	282	-	-	782	-
HCM Lane V/C Ratio	0.072	-	-	0.086	-
HCM Control Delay (s)	18.8	-	-	10	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	570	20	100	450	50	10	20	30	30	30	60
Future Volume (veh/h)	30	570	20	100	450	50	10	20	30	30	30	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	41	781	23	137	616	56	14	27	0	41	41	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	81	1155	34	178	1259	114	32	146	0	81	197	0
Arrive On Green	0.05	0.33	0.33	0.10	0.39	0.39	0.02	0.08	0.00	0.05	0.11	0.00
Sat Flow, veh/h	1767	3496	103	1767	3268	297	1767	1856	0	1767	1856	0
Grp Volume(v), veh/h	41	394	410	137	332	340	14	27	0	41	41	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1837	1767	1763	1802	1767	1856	0	1767	1856	0
Q Serve(g_s), s	0.9	7.8	7.8	3.1	5.8	5.8	0.3	0.6	0.0	0.9	0.8	0.0
Cycle Q Clear(g_c), s	0.9	7.8	7.8	3.1	5.8	5.8	0.3	0.6	0.0	0.9	0.8	0.0
Prop In Lane	1.00		0.06	1.00		0.16	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	81	582	607	178	679	694	32	146	0	81	197	0
V/C Ratio(X)	0.51	0.68	0.68	0.77	0.49	0.49	0.44	0.19	0.00	0.51	0.21	0.00
Avail Cap(c_a), veh/h	262	893	930	415	1045	1069	240	940	0	240	940	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.9	11.7	11.7	17.7	9.4	9.4	19.7	17.4	0.0	18.9	16.5	0.0
Incr Delay (d2), s/veh	4.9	1.4	1.3	6.9	0.5	0.5	9.3	0.6	0.0	4.9	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.3	2.4	1.3	1.6	1.6	0.2	0.2	0.0	0.4	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	13.1	13.0	24.7	10.0	10.0	28.9	18.0	0.0	23.7	17.0	0.0
LnGrp LOS	C	B	B	C	A	A	C	B	A	C	B	A
Approach Vol, veh/h		845			809			41			82	
Approach Delay, s/veh		13.6			12.5			21.8			20.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	7.7	8.6	17.9	5.2	8.8	6.3	20.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	20.5	9.5	20.5	5.5	20.5	6.0	24.0
Max Q Clear Time (g_c+I1), s	2.9	2.6	5.1	9.8	2.3	2.8	2.9	7.8
Green Ext Time (p_c), s	0.0	0.1	0.1	3.5	0.0	0.1	0.0	3.5

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)	30	590	30	80	570	160	5	20	50	70	40	30
Future Volume (veh/h)	30	590	30	80	570	160	5	20	50	70	40	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	37	720	33	98	695	172	6	24	0	85	49	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	47	1348	62	121	1216	301	39	41	0	186	195	0
Arrive On Green	0.03	0.39	0.39	0.07	0.43	0.43	0.02	0.02	0.00	0.11	0.11	0.00
Sat Flow, veh/h	1767	3432	157	1767	2799	692	1767	1856	0	1767	1856	0
Grp Volume(v), veh/h	37	370	383	98	438	429	6	24	0	85	49	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1827	1767	1763	1728	1767	1856	0	1767	1856	0
Q Serve(g_s), s	0.7	5.1	5.1	1.7	5.9	5.9	0.1	0.4	0.0	1.4	0.8	0.0
Cycle Q Clear(g_c), s	0.7	5.1	5.1	1.7	5.9	5.9	0.1	0.4	0.0	1.4	0.8	0.0
Prop In Lane	1.00		0.09	1.00		0.40	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	47	692	717	121	766	751	39	41	0	186	195	0
V/C Ratio(X)	0.80	0.53	0.53	0.81	0.57	0.57	0.15	0.59	0.00	0.46	0.25	0.00
Avail Cap(c_a), veh/h	504	1172	1215	504	1172	1149	1231	1293	0	1399	1469	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.3	7.4	7.4	14.5	6.7	6.7	15.2	15.3	0.0	13.3	13.0	0.0
Incr Delay (d2), s/veh	10.8	0.9	0.9	4.9	1.0	1.0	2.6	17.7	0.0	2.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.1	1.1	0.7	1.1	1.1	0.1	0.3	0.0	0.6	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	8.3	8.3	19.4	7.7	7.7	17.7	33.0	0.0	15.8	13.9	0.0
LnGrp LOS	C	A	A	B	A	A	B	C	A	B	B	A
Approach Vol, veh/h		790			965			30			134	
Approach Delay, s/veh		9.1			8.9			30.0			15.1	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	16.4		6.3	3.8	17.7		3.7
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	9.6	21.0		25.0	9.0	21.0		22.0
Max Q Clear Time (g_c+I1), s	3.7	7.1		3.4	2.7	7.9		2.4
Green Ext Time (p_c), s	0.0	5.1		0.7	0.0	5.8		0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	260	290	290	530	560	340	890	270	550	1160	140
Future Volume (veh/h)	200	260	290	290	530	560	340	890	270	550	1160	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	204	265	31	296	541	0	347	908	241	561	1184	137
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	225	389	170	649	607		596	1316	348	875	1310	151
Arrive On Green	0.13	0.11	0.11	0.19	0.17	0.00	0.17	0.33	0.33	0.51	0.82	0.82
Sat Flow, veh/h	1767	3526	1543	3428	3526	1572	3428	3987	1054	3428	3184	367
Grp Volume(v), veh/h	204	265	31	296	541	0	347	769	380	561	654	667
Grp Sat Flow(s),veh/h/ln	1767	1763	1543	1714	1763	1572	1714	1689	1664	1714	1763	1788
Q Serve(g_s), s	17.1	10.8	2.7	11.5	22.5	0.0	14.0	29.6	29.8	17.9	38.3	39.0
Cycle Q Clear(g_c), s	17.1	10.8	2.7	11.5	22.5	0.0	14.0	29.6	29.8	17.9	38.3	39.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.21
Lane Grp Cap(c), veh/h	225	389	170	649	607		596	1114	549	875	725	736
V/C Ratio(X)	0.91	0.68	0.18	0.46	0.89		0.58	0.69	0.69	0.64	0.90	0.91
Avail Cap(c_a), veh/h	230	884	387	649	813		596	1114	549	875	725	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.58	0.58	0.58
Uniform Delay (d), s/veh	64.6	64.2	60.6	53.9	60.7	0.0	57.0	43.6	43.6	31.7	11.2	11.3
Incr Delay (d2), s/veh	34.1	0.8	0.2	0.2	8.0	0.0	1.0	3.5	7.0	0.7	10.7	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	4.9	1.1	4.9	10.6	0.0	6.0	12.7	13.1	5.8	6.8	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.7	65.0	60.8	54.1	68.7	0.0	57.9	47.1	50.7	32.5	21.9	22.2
LnGrp LOS	F	E	E	D	E		E	D	D	C	C	C
Approach Vol, veh/h		500			837	A		1496			1882	
Approach Delay, s/veh		78.5			63.5			50.5			25.2	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.4	54.8	31.9	20.9	30.2	67.0	22.6	30.2
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	29.1	49.5	16.5	37.6	16.9	61.7	19.5	34.6
Max Q Clear Time (g_c+I1), s	19.3	31.8	13.5	12.8	16.0	41.0	19.1	24.5
Green Ext Time (p_c), s	0.3	2.5	0.1	0.6	0.0	2.6	0.0	0.9

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

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	20	0	5	10	180	40	50	300	20
Future Vol, veh/h	5	0	5	20	0	5	10	180	40	50	300	20
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	4	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	7	0	7	27	0	7	13	240	53	67	400	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	851	878	423	850	865	271	434	0	0	297	0	0
Stage 1	555	555	-	297	297	-	-	-	-	-	-	-
Stage 2	296	323	-	553	568	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	279	286	629	279	291	765	1120	-	-	1259	-	-
Stage 1	514	512	-	709	666	-	-	-	-	-	-	-
Stage 2	710	649	-	516	505	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	261	264	624	261	269	762	1113	-	-	1254	-	-
Mov Cap-2 Maneuver	261	264	-	261	269	-	-	-	-	-	-	-
Stage 1	503	481	-	696	654	-	-	-	-	-	-	-
Stage 2	694	637	-	482	475	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	18.4	0.4	1.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1113	-	-	368	301	1254	-	-
HCM Lane V/C Ratio	0.012	-	-	0.036	0.111	0.053	-	-
HCM Control Delay (s)	8.3	0	-	15.2	18.4	8	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.2	-	-

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	5	20	10	10	10	50	200	30	20	270	20
Future Vol, veh/h	10	5	20	10	10	10	50	200	30	20	270	20
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	6	22	11	11	11	56	225	34	22	303	22
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.6	8.8	10.1	11.5
HCM LOS	A	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	29%	33%	100%	0%
Vol Thru, %	0%	87%	14%	33%	0%	93%
Vol Right, %	0%	13%	57%	33%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	230	35	30	20	290
LT Vol	50	0	10	10	20	0
Through Vol	0	200	5	10	0	270
RT Vol	0	30	20	10	0	20
Lane Flow Rate	56	258	39	34	22	326
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.086	0.354	0.057	0.051	0.034	0.449
Departure Headway (Hd)	5.533	4.938	5.241	5.404	5.515	4.964
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	648	729	681	660	649	727
Service Time	3.266	2.671	3.294	3.457	3.247	2.696
HCM Lane V/C Ratio	0.086	0.354	0.057	0.052	0.034	0.448
HCM Control Delay	8.8	10.4	8.6	8.8	8.4	11.7
HCM Lane LOS	A	B	A	A	A	B
HCM 95th-tile Q	0.3	1.6	0.2	0.2	0.1	2.3

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	40	5	10	10	120	80	20	50	0
Future Vol, veh/h	0	0	5	40	5	10	10	120	80	20	50	0
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	6	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	6	47	6	12	12	140	93	23	58	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	328	367	58	324	321	197	58	0	0	239	0	0
Stage 1	104	104	-	217	217	-	-	-	-	-	-	-
Stage 2	224	263	-	107	104	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	623	560	1005	627	594	842	1540	-	-	1322	-	-
Stage 1	899	807	-	783	721	-	-	-	-	-	-	-
Stage 2	776	689	-	896	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	595	542	1005	607	574	834	1540	-	-	1314	-	-
Mov Cap-2 Maneuver	595	542	-	607	574	-	-	-	-	-	-	-
Stage 1	891	792	-	771	710	-	-	-	-	-	-	-
Stage 2	749	679	-	875	792	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	11.3	0.4	2.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1540	-	-	1005	635	1314	-	-
HCM Lane V/C Ratio	0.008	-	-	0.006	0.101	0.018	-	-
HCM Control Delay (s)	7.4	0	-	8.6	11.3	7.8	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.1	-	-

Intersection	
Intersection Delay, s/veh	4.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	49	204	124	140
Demand Flow Rate, veh/h	51	210	128	144
Vehicles Circulating, veh/h	165	95	90	82
Vehicles Exiting, veh/h	61	123	126	223
Ped Vol Crossing Leg, #/h	0	5	0	0
Ped Cap Adj	1.000	0.999	1.000	1.000
Approach Delay, s/veh	3.6	4.4	3.8	3.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	51	210	128	144
Cap Entry Lane, veh/h	1166	1252	1259	1269
Entry HV Adj Factor	0.967	0.972	0.969	0.971
Flow Entry, veh/h	49	204	124	140
Cap Entry, veh/h	1128	1216	1220	1232
V/C Ratio	0.044	0.168	0.102	0.113
Control Delay, s/veh	3.6	4.4	3.8	3.9
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	20	150	50	20	20	160	1370	50	30	1480	210
Future Volume (veh/h)	90	20	150	50	20	20	160	1370	50	30	1480	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	92	20	80	51	20	1	163	1398	34	31	1510	151
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	212	115	710	65	26	80	689	2286	710	557	1908	592
Arrive On Green	0.06	0.06	0.06	0.05	0.05	0.05	0.39	0.45	0.45	0.63	0.75	0.75
Sat Flow, veh/h	3428	1856	1557	1287	505	1572	1767	5066	1572	1767	5066	1570
Grp Volume(v), veh/h	92	20	80	71	0	1	163	1398	34	31	1510	151
Grp Sat Flow(s),veh/h/ln	1714	1856	1557	1791	0	1572	1767	1689	1572	1767	1689	1570
Q Serve(g_s), s	3.9	1.5	0.0	5.9	0.0	0.1	9.3	31.4	1.8	1.0	27.3	4.4
Cycle Q Clear(g_c), s	3.9	1.5	0.0	5.9	0.0	0.1	9.3	31.4	1.8	1.0	27.3	4.4
Prop In Lane	1.00		1.00	0.72		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	115	710	91	0	80	689	2286	710	557	1908	592
V/C Ratio(X)	0.43	0.17	0.11	0.78	0.00	0.01	0.24	0.61	0.05	0.06	0.79	0.26
Avail Cap(c_a), veh/h	891	482	1018	149	0	131	689	2286	710	557	1908	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.8	66.7	23.7	70.4	0.0	67.6	30.7	31.2	23.1	19.1	14.9	12.1
Incr Delay (d2), s/veh	0.5	0.3	0.0	5.4	0.0	0.0	0.1	1.2	0.1	0.0	3.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.7	1.7	2.8	0.0	0.0	3.9	12.7	0.7	0.4	5.7	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.3	67.0	23.8	75.8	0.0	67.7	30.8	32.4	23.2	19.2	18.4	13.1
LnGrp LOS	E	E	C	E	A	E	C	C	C	B	B	B
Approach Vol, veh/h		192			72			1595			1692	
Approach Delay, s/veh		49.6			75.7			32.1			17.9	
Approach LOS		D			E			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	51.4	73.0		13.9	62.6	61.8		11.7
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	13.3	* 68		39.0	23.9	56.5		12.5
Max Q Clear Time (g_c+I1), s	13.6	33.4		5.9	11.3	29.3		7.9
Green Ext Time (p_c), s	0.0	12.0		0.4	0.2	12.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	240	30	60	120	150	20	30	50	100	50	50
Future Volume (veh/h)	160	240	30	60	120	150	20	30	50	100	50	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	168	253	27	63	126	39	21	32	1	105	53	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	274	473	50	74	323	273	85	87	3	183	169	19
Arrive On Green	0.15	0.29	0.29	0.04	0.17	0.17	0.05	0.05	0.05	0.10	0.10	0.10
Sat Flow, veh/h	1767	1647	176	1767	1856	1572	1767	1790	56	1767	1636	185
Grp Volume(v), veh/h	168	0	280	63	126	39	21	0	33	105	0	59
Grp Sat Flow(s),veh/h/ln	1767	0	1823	1767	1856	1572	1767	0	1845	1767	0	1821
Q Serve(g_s), s	2.6	0.0	3.9	1.1	1.8	0.6	0.3	0.0	0.5	1.7	0.0	0.9
Cycle Q Clear(g_c), s	2.6	0.0	3.9	1.1	1.8	0.6	0.3	0.0	0.5	1.7	0.0	0.9
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.03	1.00		0.10
Lane Grp Cap(c), veh/h	274	0	523	74	323	273	85	0	89	183	0	188
V/C Ratio(X)	0.61	0.00	0.54	0.85	0.39	0.14	0.25	0.00	0.37	0.58	0.00	0.31
Avail Cap(c_a), veh/h	652	0	1907	533	1816	1539	314	0	328	1718	0	1771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	9.0	14.2	10.9	10.4	13.7	0.0	13.8	12.7	0.0	12.4
Incr Delay (d2), s/veh	0.8	0.0	0.3	9.9	0.3	0.1	0.5	0.0	0.9	1.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.0	0.5	0.5	0.2	0.1	0.0	0.2	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	0.0	9.3	24.1	11.2	10.5	14.2	0.0	14.7	13.8	0.0	12.7
LnGrp LOS	B	A	A	C	B	B	B	A	B	B	A	B
Approach Vol, veh/h		448			228			54			164	
Approach Delay, s/veh		10.5			14.6			14.5			13.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	13.9		6.6	7.6	10.5		5.1
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	9.6	31.2		29.0	11.0	29.2		5.3
Max Q Clear Time (g_c+I1), s	3.1	5.9		3.7	4.6	3.8		2.5
Green Ext Time (p_c), s	0.0	0.5		0.1	0.0	0.2		0.0

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

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	360	310	20	20	20
Future Vol, veh/h	30	360	310	20	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	32	383	330	21	21	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	351	0	-	0	788	341
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	447	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1202	-	-	-	359	699
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1202	-	-	-	349	699
Mov Cap-2 Maneuver	-	-	-	-	349	-
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	642	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1202	-	-	-	466
HCM Lane V/C Ratio	0.027	-	-	-	0.091
HCM Control Delay (s)	8.1	-	-	-	13.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	330	50	60	270	50	50	30	100	30	30	50
Future Volume (veh/h)	60	330	50	60	270	50	50	30	100	30	30	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	69	379	49	69	310	47	57	34	45	34	34	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	102	503	65	102	491	75	72	43	57	61	61	0
Arrive On Green	0.06	0.31	0.31	0.06	0.31	0.31	0.10	0.10	0.10	0.07	0.07	0.00
Sat Flow, veh/h	1767	1609	208	1767	1572	238	720	429	568	905	905	0
Grp Volume(v), veh/h	69	0	428	69	0	357	136	0	0	68	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1817	1767	0	1810	1717	0	0	1810	0	0
Q Serve(g_s), s	1.2	0.0	6.7	1.2	0.0	5.3	2.4	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	6.7	1.2	0.0	5.3	2.4	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.13	0.42		0.33	0.50		0.00
Lane Grp Cap(c), veh/h	102	0	568	102	0	566	171	0	0	121	0	0
V/C Ratio(X)	0.68	0.00	0.75	0.68	0.00	0.63	0.80	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	392	0	1233	392	0	1229	387	0	0	1143	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.6	0.0	9.7	14.6	0.0	9.3	13.9	0.0	0.0	14.3	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.0	0.8	2.9	0.0	0.4	3.2	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.8	0.5	0.0	1.4	0.9	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	0.0	10.5	17.5	0.0	9.7	17.0	0.0	0.0	15.7	0.0	0.0
LnGrp LOS	B	A	B	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		497			426			136			68	
Approach Delay, s/veh		11.5			11.0			17.0			15.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	14.5		5.6	4.8	14.5		6.6
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	7.0	21.4		19.9	7.0	21.4		7.1
Max Q Clear Time (g_c+I1), s	3.2	8.7		3.1	3.2	7.3		4.4
Green Ext Time (p_c), s	0.0	0.8		0.1	0.0	0.6		0.1

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	50	330	40	50	60	400	1360	70	50	1420	160
Future Volume (veh/h)	200	50	330	40	50	60	400	1360	70	50	1420	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	204	51	292	41	51	5	408	1388	68	51	1449	155
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	205	271	834	71	124	103	682	2381	117	387	1462	156
Arrive On Green	0.12	0.15	0.15	0.04	0.07	0.07	0.77	0.96	0.96	0.22	0.31	0.31
Sat Flow, veh/h	1767	1856	1556	1767	1856	1537	1767	4946	242	1767	4645	497
Grp Volume(v), veh/h	204	51	292	41	51	5	408	948	508	51	1053	551
Grp Sat Flow(s),veh/h/ln	1767	1856	1556	1767	1856	1537	1767	1689	1812	1767	1689	1764
Q Serve(g_s), s	17.3	3.6	2.1	3.4	4.0	0.5	14.7	3.6	3.6	3.5	46.6	46.6
Cycle Q Clear(g_c), s	17.3	3.6	2.1	3.4	4.0	0.5	14.7	3.6	3.6	3.5	46.6	46.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.28
Lane Grp Cap(c), veh/h	205	271	834	71	124	103	682	1626	872	387	1063	555
V/C Ratio(X)	1.00	0.19	0.35	0.58	0.41	0.05	0.60	0.58	0.58	0.13	0.99	0.99
Avail Cap(c_a), veh/h	205	537	1057	106	433	359	682	1626	872	387	1063	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.3	56.2	11.6	70.8	67.2	65.5	12.2	1.5	1.5	47.1	51.2	51.2
Incr Delay (d2), s/veh	61.5	0.1	0.1	2.8	4.6	0.4	1.0	1.5	2.8	0.1	25.6	36.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	1.7	4.1	1.6	2.0	0.2	3.8	1.0	1.4	1.5	22.9	25.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	127.7	56.3	11.7	73.5	71.8	65.9	13.2	3.1	4.4	47.1	76.8	87.4
LnGrp LOS	F	E	B	E	E	E	B	A	A	D	E	F
Approach Vol, veh/h		547			97			1864			1655	
Approach Delay, s/veh		59.1			72.2			5.6			79.4	
Approach LOS		E			E			A			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.5	77.5	9.0	26.0	62.5	52.5	21.5	13.5
Change Period (Y+Rc), s	4.6	* 5.3	3.0	4.1	4.6	5.3	4.1	* 3.5
Max Green Setting (Gmax), s	10.0	* 72	9.0	43.4	33.4	47.2	17.4	* 35
Max Q Clear Time (g_c+I1), s	15.5	5.6	5.4	5.6	16.7	48.6	19.3	6.0
Green Ext Time (p_c), s	0.0	7.2	0.0	0.3	0.1	0.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	50	110	230	50	60	150	1690	200	40	1650	40
Future Volume (veh/h)	80	50	110	230	50	60	150	1690	200	40	1650	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	82	51	91	235	51	28	153	1724	196	41	1684	39
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	90	56	99	293	96	53	493	2083	236	366	1932	45
Arrive On Green	0.14	0.14	0.14	0.09	0.09	0.09	0.28	0.45	0.45	0.21	0.38	0.38
Sat Flow, veh/h	622	387	691	3428	1126	618	1767	4616	523	1767	5093	118
Grp Volume(v), veh/h	224	0	0	235	0	79	153	1260	660	41	1116	607
Grp Sat Flow(s),veh/h/ln	1700	0	0	1714	0	1744	1767	1689	1761	1767	1689	1834
Q Serve(g_s), s	19.5	0.0	0.0	10.1	0.0	6.5	10.3	49.0	49.4	2.8	46.0	46.0
Cycle Q Clear(g_c), s	19.5	0.0	0.0	10.1	0.0	6.5	10.3	49.0	49.4	2.8	46.0	46.0
Prop In Lane	0.37		0.41	1.00		0.35	1.00		0.30	1.00		0.06
Lane Grp Cap(c), veh/h	245	0	0	293	0	149	493	1524	795	366	1281	696
V/C Ratio(X)	0.91	0.00	0.00	0.80	0.00	0.53	0.31	0.83	0.83	0.11	0.87	0.87
Avail Cap(c_a), veh/h	261	0	0	823	0	419	493	1524	795	366	1281	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.3	0.0	0.0	67.3	0.0	65.7	42.7	36.0	36.1	48.3	43.2	43.2
Incr Delay (d2), s/veh	31.9	0.0	0.0	1.9	0.0	1.1	0.1	5.3	9.8	0.0	8.3	14.1
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	10.6	0.0	0.0	4.5	0.0	3.0	4.5	20.5	22.5	1.2	20.1	22.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.2	0.0	0.0	69.3	0.0	66.8	42.8	41.3	46.0	48.3	51.5	57.3
LnGrp LOS	F	A	A	E	A	E	D	D	D	D	D	E
Approach Vol, veh/h		224			314			2073			1764	
Approach Delay, s/veh		95.2			68.6			42.9			53.4	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	34.6	73.0		25.6	45.4	62.2		16.8
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	6.5	67.7		23.0	17.3	56.9		36.0
Max Q Clear Time (g_c+I1), s	14.8	51.4		21.5	12.3	48.0		12.1
Green Ext Time (p_c), s	0.0	9.7		0.1	0.1	5.7		0.7

Intersection Summary	
HCM 6th Ctrl Delay	51.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	20	140	30	20	90	50	2110	80	80	1620	50
Future Volume (veh/h)	140	20	140	30	20	90	50	2110	80	80	1620	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	143	20	14	26	28	0	51	2153	46	82	1653	33
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	185	106	74	54	57	48	405	2316	719	491	1782	775
Arrive On Green	0.10	0.10	0.10	0.03	0.03	0.00	0.46	0.91	0.91	0.28	0.51	0.51
Sat Flow, veh/h	1767	1008	706	1767	1856	1572	1767	5066	1572	1767	3526	1532
Grp Volume(v), veh/h	143	0	34	26	28	0	51	2153	46	82	1653	33
Grp Sat Flow(s),veh/h/ln	1767	0	1714	1767	1856	1572	1767	1689	1572	1767	1763	1532
Q Serve(g_s), s	11.4	0.0	2.6	2.1	2.2	0.0	2.4	35.1	0.4	5.1	63.3	1.6
Cycle Q Clear(g_c), s	11.4	0.0	2.6	2.1	2.2	0.0	2.4	35.1	0.4	5.1	63.3	1.6
Prop In Lane	1.00		0.41	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	0	180	54	57	48	405	2316	719	491	1782	775
V/C Ratio(X)	0.77	0.00	0.19	0.48	0.49	0.00	0.13	0.93	0.06	0.17	0.93	0.04
Avail Cap(c_a), veh/h	329	0	319	219	230	195	405	2316	719	491	1782	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.2	0.0	59.3	69.2	69.2	0.0	30.9	4.9	3.4	39.7	33.4	18.1
Incr Delay (d2), s/veh	2.6	0.0	0.2	6.5	6.5	0.0	0.0	0.9	0.0	0.2	9.9	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	5.3	0.0	1.2	1.1	1.1	0.0	1.0	2.4	0.1	2.2	27.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	0.0	59.4	75.7	75.7	0.0	30.9	5.8	3.4	39.8	43.3	18.2
LnGrp LOS	E	A	E	E	E	A	C	A	A	D	D	B
Approach Vol, veh/h		177			54			2250			1768	
Approach Delay, s/veh		64.5			75.7			6.3			42.7	
Approach LOS		E			E			A			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	44.8	72.0		19.3	37.8	79.0		8.9
Change Period (Y+Rc), s	4.5	5.7		4.1	4.5	* 5.7		4.5
Max Green Setting (Gmax), s	14.9	66.3		27.0	8.4	* 73		18.0
Max Q Clear Time (g_c+I1), s	7.1	37.1		13.4	4.4	65.3		4.2
Green Ext Time (p_c), s	0.1	13.7		0.3	0.0	4.8		0.1

Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	430	70	60	450	120	110	150	140	130	80	50
Future Volume (veh/h)	90	430	70	60	450	120	110	150	140	130	80	50
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	118	566	78	79	592	71	145	197	142	171	105	38
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	148	1196	164	102	666	565	181	230	166	208	318	115
Arrive On Green	0.08	0.39	0.39	0.06	0.36	0.36	0.10	0.23	0.23	0.12	0.24	0.24
Sat Flow, veh/h	1767	3102	426	1767	1856	1572	1767	1003	723	1767	1299	470
Grp Volume(v), veh/h	118	321	323	79	592	71	145	0	339	171	0	143
Grp Sat Flow(s),veh/h/ln	1767	1763	1765	1767	1856	1572	1767	0	1725	1767	0	1770
Q Serve(g_s), s	5.6	11.7	11.8	3.8	25.7	2.6	6.9	0.0	16.2	8.1	0.0	5.7
Cycle Q Clear(g_c), s	5.6	11.7	11.8	3.8	25.7	2.6	6.9	0.0	16.2	8.1	0.0	5.7
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.42	1.00		0.27
Lane Grp Cap(c), veh/h	148	680	681	102	666	565	181	0	396	208	0	432
V/C Ratio(X)	0.79	0.47	0.47	0.77	0.89	0.13	0.80	0.00	0.86	0.82	0.00	0.33
Avail Cap(c_a), veh/h	196	792	793	216	855	724	340	0	594	278	0	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.5	19.8	19.8	39.8	25.9	18.4	37.6	0.0	31.7	37.0	0.0	26.6
Incr Delay (d2), s/veh	15.2	0.5	0.5	11.8	9.4	0.1	7.9	0.0	7.9	13.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.5	4.6	1.9	12.1	0.9	3.3	0.0	7.3	4.2	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	20.3	20.3	51.6	35.2	18.5	45.5	0.0	39.6	50.7	0.0	27.1
LnGrp LOS	D	C	C	D	D	B	D	A	D	D	A	C
Approach Vol, veh/h		762			742			484			314	
Approach Delay, s/veh		25.5			35.4			41.4			39.9	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	24.2	9.4	37.6	13.3	25.4	11.7	35.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	29.5	10.5	38.5	16.5	26.5	9.5	39.5
Max Q Clear Time (g_c+I1), s	10.1	18.2	5.8	13.8	8.9	7.7	7.6	27.7
Green Ext Time (p_c), s	0.1	1.5	0.1	3.8	0.2	0.6	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	690	10	10	620	10	50
Future Vol, veh/h	690	10	10	620	10	50
Conflicting Peds, #/hr	0	4	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	932	14	14	838	14	68

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	950	0	1390	478
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	447	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	712	-	132	531
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	608	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	709	-	129	528
Mov Cap-2 Maneuver	-	-	-	-	129	-
Stage 1	-	-	-	-	329	-
Stage 2	-	-	-	-	608	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	348	-	-	709	-
HCM Lane V/C Ratio	0.233	-	-	0.019	-
HCM Control Delay (s)	18.5	-	-	10.2	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	620	70	30	570	20	30	30	60	40	20	30
Future Volume (veh/h)	50	620	70	30	570	20	30	30	60	40	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	68	849	82	41	781	24	41	41	0	55	27	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	205	1275	123	80	1124	35	80	164	0	99	185	0
Arrive On Green	0.12	0.39	0.39	0.04	0.32	0.32	0.04	0.09	0.00	0.06	0.10	0.00
Sat Flow, veh/h	1767	3246	314	1767	3491	107	1767	1856	0	1767	1856	0
Grp Volume(v), veh/h	68	461	470	41	394	411	41	41	0	55	27	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1797	1767	1763	1836	1767	1856	0	1767	1856	0
Q Serve(g_s), s	1.5	9.3	9.3	1.0	8.4	8.4	1.0	0.9	0.0	1.3	0.6	0.0
Cycle Q Clear(g_c), s	1.5	9.3	9.3	1.0	8.4	8.4	1.0	0.9	0.0	1.3	0.6	0.0
Prop In Lane	1.00		0.17	1.00		0.06	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	205	693	706	80	567	591	80	164	0	99	185	0
V/C Ratio(X)	0.33	0.67	0.67	0.52	0.69	0.69	0.52	0.25	0.00	0.56	0.15	0.00
Avail Cap(c_a), veh/h	738	1280	1305	254	797	830	225	818	0	225	818	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.5	10.8	10.8	20.1	12.8	12.8	20.1	18.3	0.0	19.8	17.7	0.0
Incr Delay (d2), s/veh	0.9	1.1	1.1	5.1	1.5	1.5	5.1	0.8	0.0	4.8	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	0.6	2.7	2.7	0.5	2.7	2.8	0.5	0.4	0.0	0.6	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	11.9	11.8	25.2	14.3	14.2	25.2	19.1	0.0	24.6	18.1	0.0
LnGrp LOS	B	B	B	C	B	B	C	B	A	C	B	A
Approach Vol, veh/h		999			846			82			82	
Approach Delay, s/veh		12.3			14.8			22.2			22.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	8.3	6.4	21.4	6.4	8.8	9.5	18.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	19.0	6.2	31.3	5.5	19.0	18.0	19.5
Max Q Clear Time (g_c+I1), s	3.3	2.9	3.0	11.3	3.0	2.6	3.5	10.4
Green Ext Time (p_c), s	0.0	0.1	0.0	5.6	0.0	0.1	0.1	3.2

Intersection Summary	
HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	690	20	30	570	40	20	30	70	110	40	30
Future Volume (veh/h)	20	690	20	30	570	40	20	30	70	110	40	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	26	885	23	38	731	46	26	38	0	141	51	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	34	1501	39	47	1464	92	75	79	0	247	260	0
Arrive On Green	0.02	0.43	0.43	0.03	0.43	0.43	0.04	0.04	0.00	0.14	0.14	0.00
Sat Flow, veh/h	1767	3510	91	1767	3368	212	1767	1856	0	1767	1856	0
Grp Volume(v), veh/h	26	444	464	38	382	395	26	38	0	141	51	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1839	1767	1763	1817	1767	1856	0	1767	1856	0
Q Serve(g_s), s	0.5	6.9	6.9	0.8	5.6	5.6	0.5	0.7	0.0	2.7	0.9	0.0
Cycle Q Clear(g_c), s	0.5	6.9	6.9	0.8	5.6	5.6	0.5	0.7	0.0	2.7	0.9	0.0
Prop In Lane	1.00		0.05	1.00		0.12	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	34	754	786	47	766	790	75	79	0	247	260	0
V/C Ratio(X)	0.77	0.59	0.59	0.82	0.50	0.50	0.35	0.48	0.00	0.57	0.20	0.00
Avail Cap(c_a), veh/h	326	1155	1204	326	1155	1190	1088	1143	0	1237	1299	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.4	7.8	7.8	17.3	7.3	7.3	16.6	16.7	0.0	14.4	13.6	0.0
Incr Delay (d2), s/veh	12.7	1.1	1.0	11.9	0.7	0.7	3.9	6.4	0.0	2.9	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.6	1.7	0.4	1.2	1.3	0.3	0.4	0.0	1.1	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	8.9	8.8	29.2	8.0	8.0	20.5	23.1	0.0	17.3	14.1	0.0
LnGrp LOS	C	A	A	C	A	A	C	C	A	B	B	A
Approach Vol, veh/h		934			815			64			192	
Approach Delay, s/veh		9.5			9.0			22.1			16.4	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.9	19.3		8.0	3.7	19.5		4.5
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	6.6	23.4		25.0	6.6	23.4		22.0
Max Q Clear Time (g_c+I1), s	2.8	8.9		4.7	2.5	7.6		2.7
Green Ext Time (p_c), s	0.0	6.4		1.0	0.0	5.6		0.3

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	490	340	590	340	790	290	1260	550	660	1070	60
Future Volume (veh/h)	190	490	340	590	340	790	290	1260	550	660	1070	60
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		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	194	500	192	602	347	0	296	1286	506	673	1092	58
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	165	621	272	485	791		666	1151	450	827	1256	67
Arrive On Green	0.09	0.18	0.18	0.14	0.22	0.00	0.19	0.32	0.32	0.48	0.74	0.74
Sat Flow, veh/h	1767	3526	1543	3428	3526	1572	3428	3575	1397	3428	3403	181
Grp Volume(v), veh/h	194	500	192	602	347	0	296	1214	578	673	566	584
Grp Sat Flow(s),veh/h/ln	1767	1763	1543	1714	1763	1572	1714	1689	1595	1714	1763	1821
Q Serve(g_s), s	13.5	19.7	11.8	20.5	12.3	0.0	11.0	46.7	46.7	24.3	34.0	34.1
Cycle Q Clear(g_c), s	13.5	19.7	11.8	20.5	12.3	0.0	11.0	46.7	46.7	24.3	34.0	34.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	1.00		0.10
Lane Grp Cap(c), veh/h	165	621	272	485	791		666	1088	514	827	650	672
V/C Ratio(X)	1.18	0.81	0.71	1.24	0.44		0.44	1.12	1.12	0.81	0.87	0.87
Avail Cap(c_a), veh/h	165	939	411	485	1109		666	1088	514	827	650	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.64	0.64	0.64
Uniform Delay (d), s/veh	65.8	57.3	27.0	62.3	48.4	0.0	51.5	49.2	49.2	34.8	16.4	16.5
Incr Delay (d2), s/veh	126.5	1.7	1.3	125.5	0.1	0.0	0.2	65.2	78.6	3.8	10.1	9.8
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	11.8	8.8	4.4	17.2	5.3	0.0	4.7	28.9	29.2	8.1	7.7	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	192.2	59.0	28.3	187.7	48.5	0.0	51.7	114.3	127.8	38.6	26.5	26.3
LnGrp LOS	F	E	C	F	D		D	F	F	D	C	C
Approach Vol, veh/h		886			949	A		2088			1823	
Approach Delay, s/veh		81.5			136.8			109.2			30.9	
Approach LOS		F			F			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.1	52.0	24.0	29.9	32.3	58.8	17.0	36.9
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	21.9	46.7	20.5	38.6	15.1	53.5	13.5	45.6
Max Q Clear Time (g_c+I1), s	26.3	48.7	22.5	21.7	13.0	36.1	15.5	14.3
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.1	2.1	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	84.6
HCM 6th LOS	F

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	0	10	60	0	80	5	290	10	5	200	5
Future Vol, veh/h	30	0	10	60	0	80	5	290	10	5	200	5
Conflicting Peds, #/hr	0	0	8	0	0	0	0	0	50	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	48	0	16	95	0	127	8	460	16	8	317	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	887	881	331	887	877	518	327	0	0	526	0	0
Stage 1	339	339	-	534	534	-	-	-	-	-	-	-
Stage 2	548	542	-	353	343	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	264	284	708	264	286	556	1227	-	-	1036	-	-
Stage 1	673	638	-	528	523	-	-	-	-	-	-	-
Stage 2	519	519	-	662	636	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	198	265	701	241	267	530	1225	-	-	987	-	-
Mov Cap-2 Maneuver	198	265	-	241	267	-	-	-	-	-	-	-
Stage 1	666	632	-	498	493	-	-	-	-	-	-	-
Stage 2	391	489	-	637	630	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.2	31.6	0.1	0.2
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1225	-	-	241	350	987	-	-
HCM Lane V/C Ratio	0.006	-	-	0.263	0.635	0.008	-	-
HCM Control Delay (s)	8	0	-	25.2	31.6	8.7	-	-
HCM Lane LOS	A	A	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1	4.1	0	-	-

Intersection	
Intersection Delay, s/veh	16.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	20	50	50	5	40	20	190	5	5	240	20
Future Vol, veh/h	30	20	50	50	5	40	20	190	5	5	240	20
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	48	32	79	79	8	63	32	302	8	8	381	32
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.8	11.8	15.2	20.9
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	30%	53%	100%	0%
Vol Thru, %	0%	97%	20%	5%	0%	92%
Vol Right, %	0%	3%	50%	42%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	195	100	95	5	260
LT Vol	20	0	30	50	5	0
Through Vol	0	190	20	5	0	240
RT Vol	0	5	50	40	0	20
Lane Flow Rate	32	310	159	151	8	413
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.059	0.528	0.279	0.27	0.014	0.687
Departure Headway (Hd)	6.664	6.137	6.335	6.438	6.557	5.994
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	533	582	571	561	542	598
Service Time	4.463	3.935	4.335	4.445	4.348	3.785
HCM Lane V/C Ratio	0.06	0.533	0.278	0.269	0.015	0.691
HCM Control Delay	9.9	15.7	11.8	11.8	9.4	21.1
HCM Lane LOS	A	C	B	B	A	C
HCM 95th-tile Q	0.2	3.1	1.1	1.1	0	5.3

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	10	5	90	5	20	5	50	40	20	120	20
Future Vol, veh/h	20	10	5	90	5	20	5	50	40	20	120	20
Conflicting Peds, #/hr	0	0	2	0	0	1	0	0	2	0	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	30	15	7	134	7	30	7	75	60	30	179	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	402	414	205	388	399	108	218	0	0	137	0	0
Stage 1	263	263	-	121	121	-	-	-	-	-	-	-
Stage 2	139	151	-	267	278	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	557	527	833	569	537	943	1346	-	-	1441	-	-
Stage 1	740	689	-	881	794	-	-	-	-	-	-	-
Stage 2	862	770	-	736	679	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	516	505	824	537	515	940	1334	-	-	1438	-	-
Mov Cap-2 Maneuver	516	505	-	537	515	-	-	-	-	-	-	-
Stage 1	729	666	-	874	788	-	-	-	-	-	-	-
Stage 2	821	764	-	695	657	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	13.8	0.4	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1334	-	-	542	579	1438	-	-
HCM Lane V/C Ratio	0.006	-	-	0.096	0.296	0.021	-	-
HCM Control Delay (s)	7.7	0	-	12.3	13.8	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	50	179	115	296
Demand Flow Rate, veh/h	51	184	119	305
Vehicles Circulating, veh/h	317	72	217	118
Vehicles Exiting, veh/h	106	264	151	138
Ped Vol Crossing Leg, #/h	2	0	0	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.1	4.1	4.3	5.3
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	51	184	119	305
Cap Entry Lane, veh/h	999	1282	1106	1223
Entry HV Adj Factor	0.978	0.971	0.967	0.970
Flow Entry, veh/h	50	179	115	296
Cap Entry, veh/h	976	1245	1069	1187
V/C Ratio	0.051	0.144	0.108	0.249
Control Delay, s/veh	4.1	4.1	4.3	5.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	50	310	70	40	80	170	1820	50	70	1690	190
Future Volume (veh/h)	210	50	310	70	40	80	170	1820	50	70	1690	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	214	51	249	71	41	4	173	1857	25	71	1724	135
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	329	178	655	85	49	118	568	2330	723	432	1939	594
Arrive On Green	0.10	0.10	0.10	0.07	0.07	0.07	0.32	0.46	0.46	0.49	0.77	0.77
Sat Flow, veh/h	3428	1856	1553	1140	658	1572	1767	5066	1571	1767	5066	1552
Grp Volume(v), veh/h	214	51	249	112	0	4	173	1857	25	71	1724	135
Grp Sat Flow(s),veh/h/ln	1714	1856	1553	1799	0	1572	1767	1689	1571	1767	1689	1552
Q Serve(g_s), s	8.7	3.7	0.0	8.9	0.0	0.3	10.7	45.3	1.3	3.2	36.2	3.6
Cycle Q Clear(g_c), s	8.7	3.7	0.0	8.9	0.0	0.3	10.7	45.3	1.3	3.2	36.2	3.6
Prop In Lane	1.00		1.00	0.63		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	329	178	655	135	0	118	568	2330	723	432	1939	594
V/C Ratio(X)	0.65	0.29	0.38	0.83	0.00	0.03	0.30	0.80	0.03	0.16	0.89	0.23
Avail Cap(c_a), veh/h	922	499	923	160	0	140	568	2330	723	432	1939	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.2	60.9	29.2	66.2	0.0	62.2	37.0	33.4	21.5	28.8	14.7	10.9
Incr Delay (d2), s/veh	0.8	0.3	0.1	22.7	0.0	0.0	0.1	2.9	0.1	0.1	6.6	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	1.8	6.1	5.0	0.0	0.1	4.6	18.4	0.5	1.3	6.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	61.3	29.4	88.9	0.0	62.2	37.1	36.3	21.6	28.9	21.3	11.8
LnGrp LOS	E	E	C	F	A	E	D	D	C	C	C	B
Approach Vol, veh/h		514			116			2055			1930	
Approach Delay, s/veh		47.0			87.9			36.2			20.9	
Approach LOS		D			F			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	39.5	72.0		18.5	50.7	60.8		15.0
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	8.9	* 67		39.0	19.5	55.5		12.9
Max Q Clear Time (g_c+I1), s	15.2	47.3		10.7	12.7	38.2		10.9
Green Ext Time (p_c), s	0.0	12.6		1.0	0.1	11.2		0.1

Intersection Summary	
HCM 6th Ctrl Delay	32.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	150	20	40	230	90	10	10	30	180	20	170
Future Volume (veh/h)	60	150	20	40	230	90	10	10	30	180	20	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	78	195	18	52	299	34	13	13	0	234	26	43
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	172	490	45	61	426	361	45	48	0	323	114	189
Arrive On Green	0.10	0.29	0.29	0.03	0.23	0.23	0.03	0.03	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1767	1673	154	1767	1856	1569	1767	1856	0	1767	626	1036
Grp Volume(v), veh/h	78	0	213	52	299	34	13	13	0	234	0	69
Grp Sat Flow(s),veh/h/ln	1767	0	1827	1767	1856	1569	1767	1856	0	1767	0	1662
Q Serve(g_s), s	1.4	0.0	3.1	1.0	4.9	0.6	0.2	0.2	0.0	4.2	0.0	1.2
Cycle Q Clear(g_c), s	1.4	0.0	3.1	1.0	4.9	0.6	0.2	0.2	0.0	4.2	0.0	1.2
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.00	1.00		0.62
Lane Grp Cap(c), veh/h	172	0	535	61	426	361	45	48	0	323	0	303
V/C Ratio(X)	0.45	0.00	0.40	0.86	0.70	0.09	0.29	0.27	0.00	0.73	0.00	0.23
Avail Cap(c_a), veh/h	212	0	1396	318	1529	1293	212	222	0	1536	0	1445
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	0.0	9.4	16.0	11.8	10.1	16.0	16.0	0.0	12.9	0.0	11.6
Incr Delay (d2), s/veh	0.7	0.0	0.2	11.9	0.8	0.0	1.3	1.1	0.0	1.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.9	0.5	1.5	0.1	0.1	0.1	0.0	1.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	0.0	9.6	27.9	12.6	10.2	17.2	17.1	0.0	14.0	0.0	11.8
LnGrp LOS	B	A	A	C	B	B	B	B	A	B	A	B
Approach Vol, veh/h		291			385			26			303	
Approach Delay, s/veh		11.0			14.4			17.2			13.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.1	15.1		9.6	6.3	13.0		4.6
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	6.0	25.5		29.0	4.0	27.5		4.0
Max Q Clear Time (g_c+I1), s	3.0	5.1		6.2	3.4	6.9		2.2
Green Ext Time (p_c), s	0.0	0.4		0.1	0.0	0.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	350	290	20	30	70
Future Vol, veh/h	10	350	290	20	30	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	417	345	24	36	83

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	369	0	-	0	798	357
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	441	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1184	-	-	-	354	685
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	646	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1184	-	-	-	350	685
Mov Cap-2 Maneuver	-	-	-	-	350	-
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	646	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1184	-	-	-	532
HCM Lane V/C Ratio	0.01	-	-	-	0.224
HCM Control Delay (s)	8.1	-	-	-	13.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	330	30	90	300	40	20	10	50	70	20	30
Future Volume (veh/h)	30	330	30	90	300	40	20	10	50	70	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	38	418	33	114	380	43	25	13	0	89	25	11
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	64	542	43	142	596	67	43	22	0	120	34	15
Arrive On Green	0.04	0.32	0.32	0.08	0.36	0.36	0.04	0.04	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1767	1697	134	1767	1636	185	1182	615	0	1256	353	155
Grp Volume(v), veh/h	38	0	451	114	0	423	38	0	0	125	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1831	1767	0	1822	1796	0	0	1764	0	0
Q Serve(g_s), s	0.7	0.0	6.9	2.0	0.0	6.0	0.6	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	6.9	2.0	0.0	6.0	0.6	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		0.07	1.00		0.10	0.66		0.00	0.71		0.09
Lane Grp Cap(c), veh/h	64	0	585	142	0	663	65	0	0	169	0	0
V/C Ratio(X)	0.60	0.00	0.77	0.80	0.00	0.64	0.59	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	227	0	1322	340	0	1432	282	0	0	1245	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.8	0.0	9.6	14.1	0.0	8.2	14.8	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	3.3	0.0	0.8	3.9	0.0	0.4	3.1	0.0	0.0	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.8	0.7	0.0	1.4	0.3	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	0.0	10.4	18.0	0.0	8.6	17.9	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	B	A	B	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		489			537			38			125	
Approach Delay, s/veh		11.0			10.6			17.9			16.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	14.6		6.5	4.1	16.0		4.6
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	6.0	22.5		22.0	4.0	24.5		4.9
Max Q Clear Time (g_c+I1), s	4.0	8.9		4.2	2.7	8.0		2.6
Green Ext Time (p_c), s	0.0	0.8		0.2	0.0	0.8		0.0

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

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	90	420	130	80	160	330	1680	90	160	1720	120
Future Volume (veh/h)	220	90	420	130	80	160	330	1680	90	160	1720	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	224	92	378	133	82	16	337	1714	89	163	1755	117
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	212	401	612	156	334	283	310	2047	106	280	1957	130
Arrive On Green	0.12	0.22	0.22	0.09	0.18	0.18	0.06	0.14	0.14	0.16	0.40	0.40
Sat Flow, veh/h	1767	1856	1557	1767	1856	1570	1767	4930	256	1767	4851	323
Grp Volume(v), veh/h	224	92	378	133	82	16	337	1173	630	163	1221	651
Grp Sat Flow(s),veh/h/ln	1767	1856	1557	1767	1856	1570	1767	1689	1809	1767	1689	1796
Q Serve(g_s), s	17.4	5.9	28.3	10.8	5.5	0.9	25.4	49.1	49.2	12.4	49.0	49.2
Cycle Q Clear(g_c), s	17.4	5.9	28.3	10.8	5.5	0.9	25.4	49.1	49.2	12.4	49.0	49.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.18
Lane Grp Cap(c), veh/h	212	401	612	156	334	283	310	1402	751	280	1363	725
V/C Ratio(X)	1.06	0.23	0.62	0.85	0.25	0.06	1.09	0.84	0.84	0.58	0.90	0.90
Avail Cap(c_a), veh/h	212	491	688	171	448	379	310	1402	751	280	1363	725
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.8	46.9	35.5	65.2	51.0	26.1	68.3	57.8	57.8	56.5	40.4	40.5
Incr Delay (d2), s/veh	77.4	0.1	0.8	28.2	0.8	0.2	76.9	6.1	10.8	2.0	9.5	16.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	2.8	10.8	6.1	2.6	0.5	18.7	23.4	26.1	5.6	21.3	24.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	141.2	47.0	36.3	93.4	51.8	26.2	145.2	63.9	68.6	58.6	49.9	56.7
LnGrp LOS	F	D	D	F	D	C	F	E	E	E	D	E
Approach Vol, veh/h		694			231			2140			2035	
Approach Delay, s/veh		71.6			74.0			78.1			52.7	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.3	65.5	15.8	35.4	30.0	63.8	21.0	30.2
Change Period (Y+Rc), s	5.3	* 5.3	3.0	4.1	4.6	5.3	3.6	* 4.1
Max Green Setting (Gmax), s	17.0	* 60	14.0	38.4	25.4	50.2	17.4	* 35
Max Q Clear Time (g_c+I1), s	14.4	51.2	12.8	30.3	27.4	51.2	19.4	7.5
Green Ext Time (p_c), s	0.0	5.2	0.0	0.3	0.0	0.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	66.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	50	180	280	60	70	110	1960	400	90	2100	100
Future Volume (veh/h)	70	50	180	280	60	70	110	1960	400	90	2100	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	71	51	146	286	61	37	112	2000	390	92	2143	99
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	58	42	119	395	124	75	334	2506	476	91	2166	100
Arrive On Green	0.13	0.13	0.13	0.12	0.12	0.12	0.19	0.59	0.59	0.05	0.44	0.44
Sat Flow, veh/h	442	318	910	3428	1076	652	1767	4273	812	1767	4962	228
Grp Volume(v), veh/h	268	0	0	286	0	98	112	1570	820	92	1455	787
Grp Sat Flow(s),veh/h/ln	1670	0	0	1714	0	1728	1767	1689	1709	1767	1689	1814
Q Serve(g_s), s	19.0	0.0	0.0	11.7	0.0	7.7	8.0	52.1	55.4	7.5	61.9	62.6
Cycle Q Clear(g_c), s	19.0	0.0	0.0	11.7	0.0	7.7	8.0	52.1	55.4	7.5	61.9	62.6
Prop In Lane	0.26		0.54	1.00		0.38	1.00		0.48	1.00		0.13
Lane Grp Cap(c), veh/h	219	0	0	395	0	199	334	1980	1002	91	1474	792
V/C Ratio(X)	1.22	0.00	0.00	0.72	0.00	0.49	0.34	0.79	0.82	1.01	0.99	0.99
Avail Cap(c_a), veh/h	219	0	0	851	0	429	334	1980	1002	91	1474	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	0.0	0.0	61.9	0.0	60.2	50.9	23.2	23.9	68.8	40.4	40.6
Incr Delay (d2), s/veh	134.8	0.0	0.0	1.0	0.0	0.7	0.2	3.4	7.5	95.9	20.6	30.5
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	16.2	0.0	0.0	5.2	0.0	3.5	3.5	20.1	22.7	5.8	28.7	33.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	197.8	0.0	0.0	62.9	0.0	60.9	51.1	26.5	31.3	164.7	61.0	71.1
LnGrp LOS	F	A	A	E	A	E	D	C	C	F	E	E
Approach Vol, veh/h		268			384			2502			2334	
Approach Delay, s/veh		197.8			62.4			29.2			68.5	
Approach LOS		F			E			C			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	90.3		23.0	32.7	68.6		20.7
Change Period (Y+Rc), s	3.5	5.3		4.0	5.3	* 5.3		4.0
Max Green Setting (Gmax), s	7.5	65.7		19.0	9.9	* 63		36.0
Max Q Clear Time (g_c+I1), s	9.5	57.4		21.0	10.0	64.6		13.7
Green Ext Time (p_c), s	0.0	6.9		0.0	0.0	0.0		0.9

Intersection Summary	
HCM 6th Ctrl Delay	56.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	3. County Center Dr / Bell Rd
Scenario	Cumulative No Project

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yield*	*Free*	
AM Peak Hour Volume	5		10					610	10	50	470	
AM Peak Hour Delay (s)	18.8		18.8					0	0	10	0	
PM Peak Hour Volume	10		50					690	10	10	620	
PM Peak Hour Delay (s)	18.5		18.5					0	0	10.2	0	

AM Delay	**12.0**
AM LOS	**B**

PM Delay	**17.3**
PM LOS	**C**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	7. Richardson Dr / DeWitt Av
Scenario	Cumulative No Project

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	10	180	40	50	300	20	5	0	5	20	0	5
AM Peak Hour Delay (s)	8.3	0	0	8	0	0	15.2	15.2	15.2	18.4	18.4	18.4
PM Peak Hour Volume	5	290	10	5	200	5	30	0	10	60	0	80
PM Peak Hour Delay (s)	8	0	0	8.7	0	0	25.2	25.2	25.2	31.6	31.6	31.6

AM Delay	**11.5**
AM LOS	**B**

PM Delay	**29.0**
PM LOS	**D**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	9. 1st St / D Av / Professional Dr
Scenario	Cumulative No Project

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	10	120	80	20	50	0	0	0	5	40	5	10
AM Peak Hour Delay (s)	7.4	0	0	7.8	0	0	8.6	8.6	8.6	11.3	11.3	11.3
PM Peak Hour Volume	5	50	40	20	120	20	20	10	5	90	5	20
PM Peak Hour Delay (s)	7.7	0	0	7.6	0	0	12.3	12.3	12.3	13.8	13.8	13.8

AM Delay	**9.9**
AM LOS	**A**

PM Delay	**12.6**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	13. Atwood Rd / 3rd St
Scenario	Cumulative No Project

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control				*Stop*		*Stop*	*Yield*	*Free*			*Free*	*Free*
AM Peak Hour Volume				20		20	30	360			310	20
AM Peak Hour Delay (s)				13.5		13.5	8.1	0			0	0
PM Peak Hour Volume				30		70	10	350			290	20
PM Peak Hour Delay (s)				13.7		13.7	8.1	0			0	0

AM Delay	**11.2**
AM LOS	**B**

PM Delay	**13.2**
PM LOS	**B**

FEHR PEERS

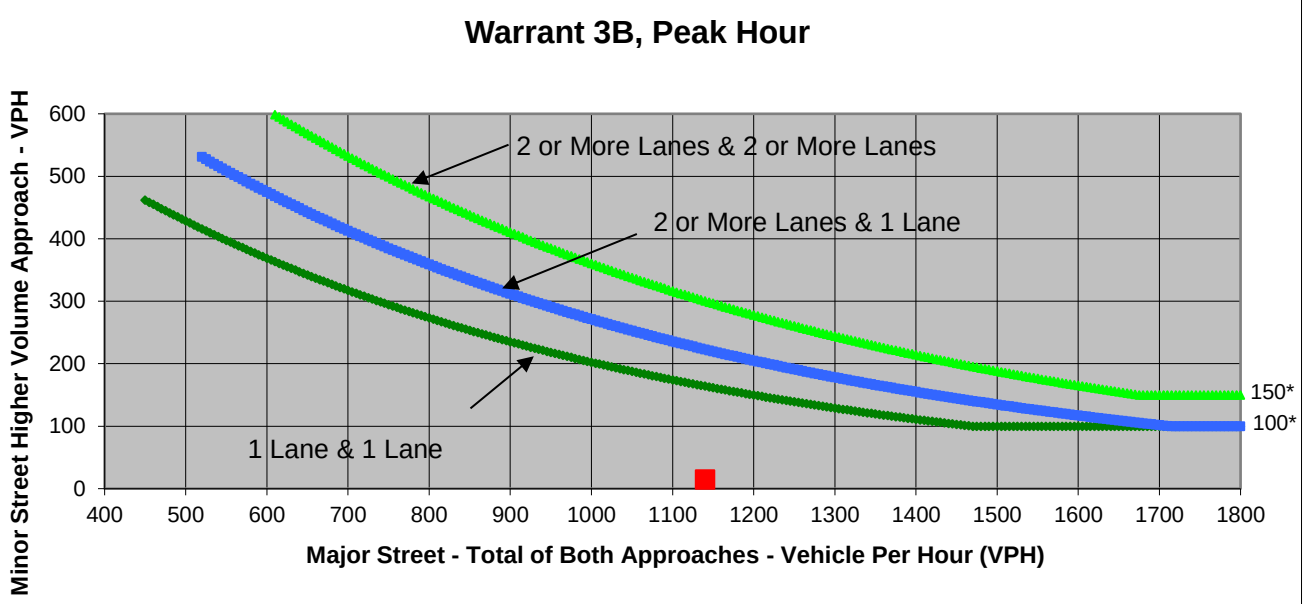
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	Richardson Drive	Scenario	Cumulative No Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5			50
Through			610	470
Right	10		10	
Total	15	0	620	520

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	Richardson Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,140**	**15**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	Richardson Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative No Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	0	0	50
Through	0	0	610	470
Right	10	0	10	0
Total	15	0	620	520

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	18.6
Approach with Worst Case Delay	NB
Total Vehicles on Approach	15

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative No Project	**0.1**	**15**	**1,155**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

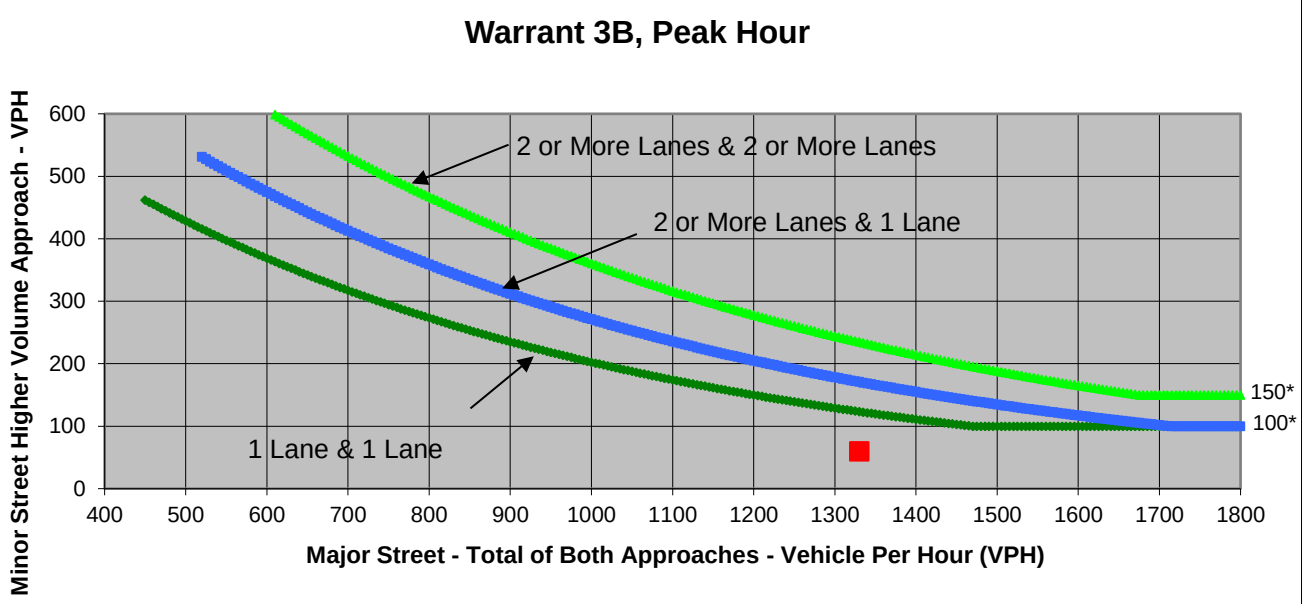
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	County Center Drive	Scenario	Cumulative No Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10			10
Through			690	620
Right	50		10	
Total	60	0	700	630

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	County Center Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,330**	**60**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	County Center Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative No Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	0	0	10
Through	0	0	690	620
Right	50	0	10	0
Total	60	0	700	630

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	18.5
Approach with Worst Case Delay	NB
Total Vehicles on Approach	60

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative No Project	**0.3**	**60**	**1,390**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Drive
Minor Street	DeWitt Ave

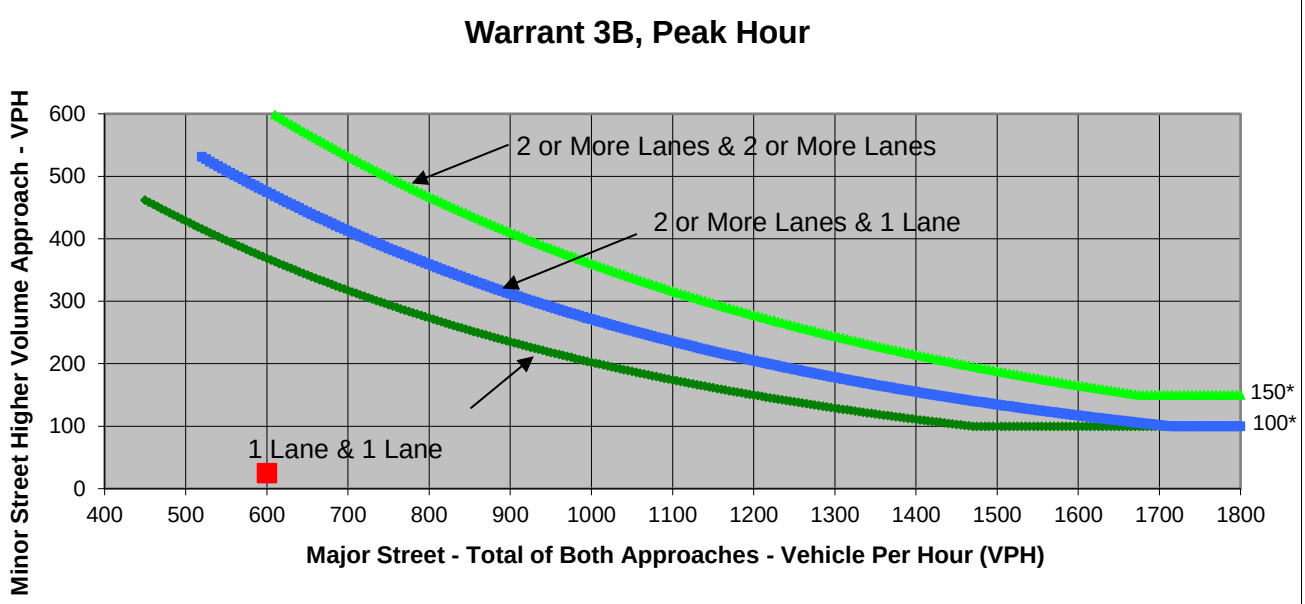
Project	PCGC Master Plan Update EIR
Scenario	Cumulative No Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	50	5	20
Through	180	300	0	0
Right	40	20	5	5
Total	230	370	10	25

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**600**	**25**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Cumulative No Project
Peak Hour	AM

Major Street	Richardson Drive
Minor Street	DeWitt Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	50	5	20
Through	180	300	0	0
Right	40	20	5	5
Total	230	370	10	25

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	18.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	25

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative No Project	**0.1**	**25**	**635**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

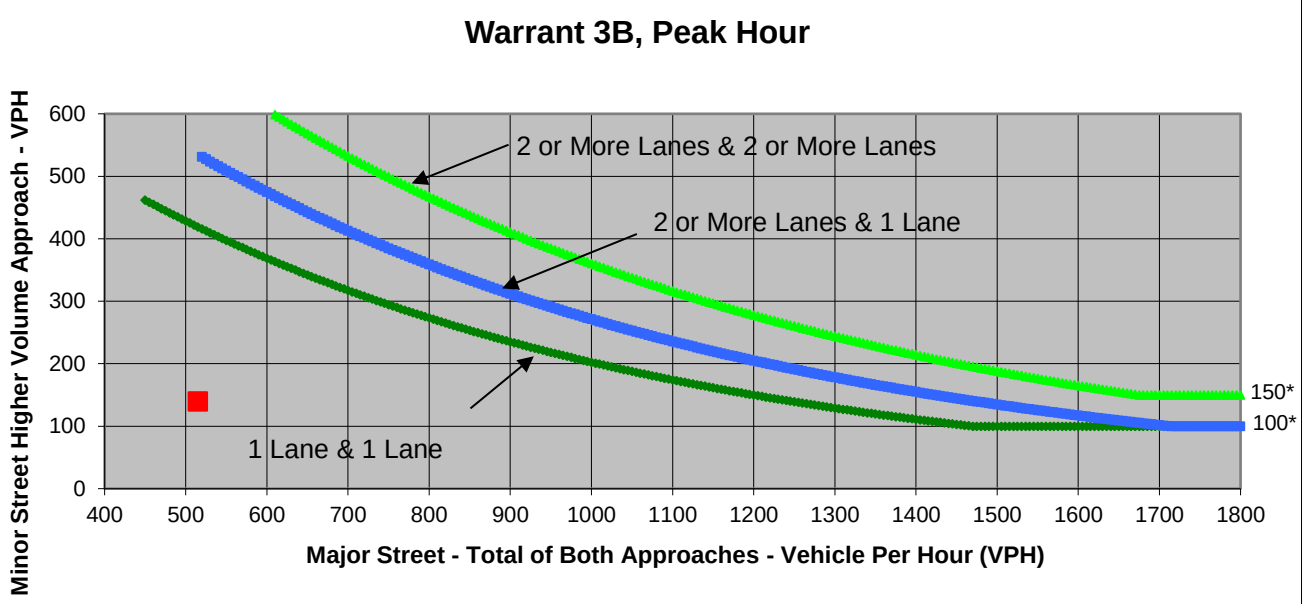
Major Street	Richardson Drive	Project	PCGC Master Plan Update EIR
Minor Street	DeWitt Ave	Scenario	Cumulative No Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	5	30	60
Through	290	200	0	0
Right	10	5	10	80
Total	305	210	40	140

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**515**	**140**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Cumulative No Project
Peak Hour	PM

Major Street	Richardson Drive
Minor Street	DeWitt Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	5	30	60
Through	290	200	0	0
Right	10	5	10	80
Total	305	210	40	140

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	31.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	140

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative No Project	**1.2**	**140**	**695**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

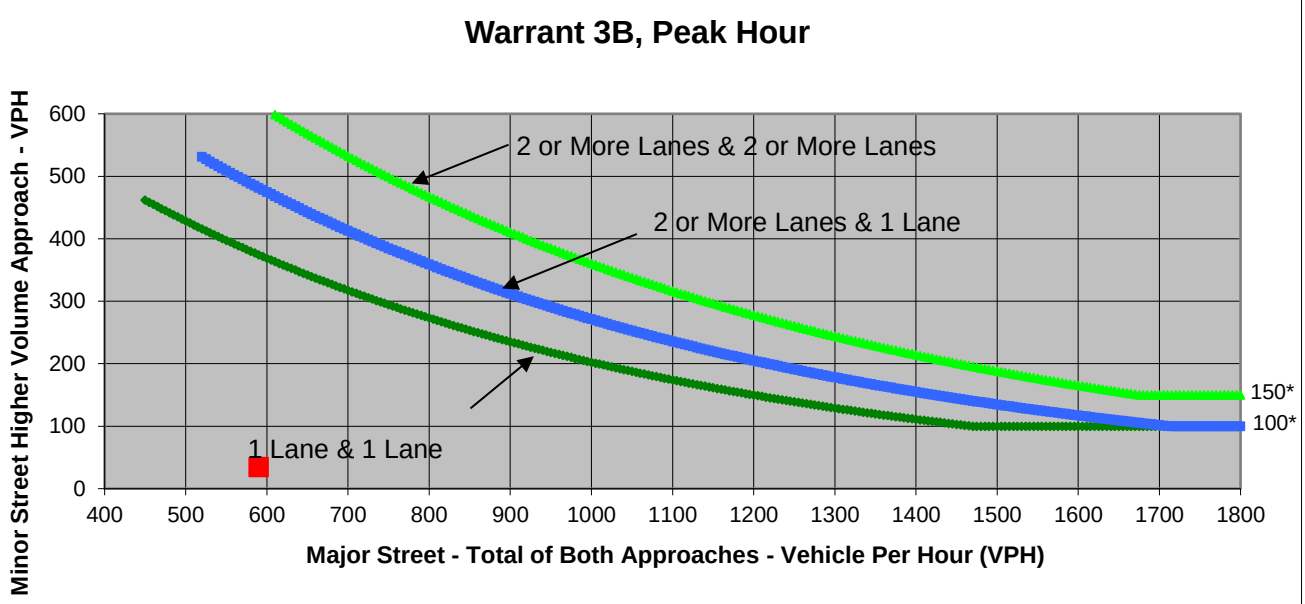
Major Street	Richardson Drive	Project	PCGC Master Plan Update EIR
Minor Street	B Ave	Scenario	Cummulative No Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	20	10	10
Through	200	270	5	10
Right	30	20	20	10
Total	280	310	35	30

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**590**	**35**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Cummulative No Project
Peak Hour	AM

Major Street	Richardson Drive
Minor Street	B Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	20	10	10
Through	200	270	5	10
Right	30	20	20	10
Total	280	310	35	30

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	8.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	30

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cummulative No Project	**0.1**	**35**	**655**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

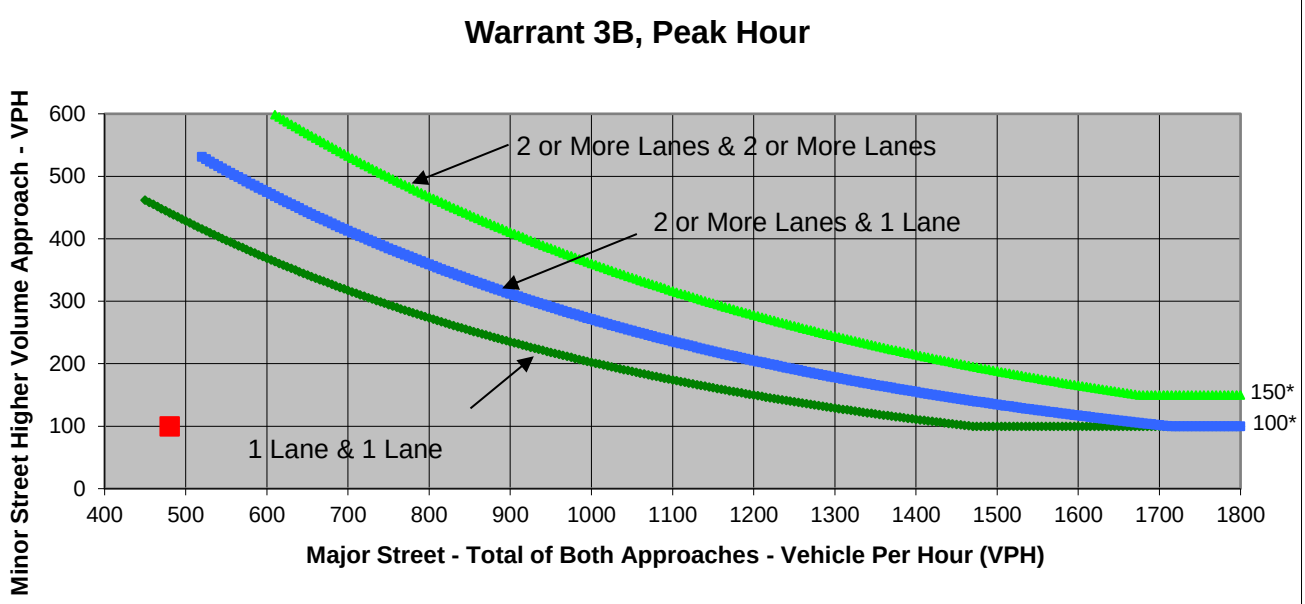
Major Street	Richardson Drive	Project	PCGC Master Plan Update EIR
Minor Street	B Ave	Scenario	Cummulative No Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	5	30	50
Through	190	240	20	5
Right	5	20	50	40
Total	215	265	100	95

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**480**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Cummulative No Project
Peak Hour	PM

Major Street	Richardson Drive
Minor Street	B Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	5	30	50
Through	190	240	20	5
Right	5	20	50	40
Total	215	265	100	95

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	95

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cummulative No Project	**0.3**	**100**	**675**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

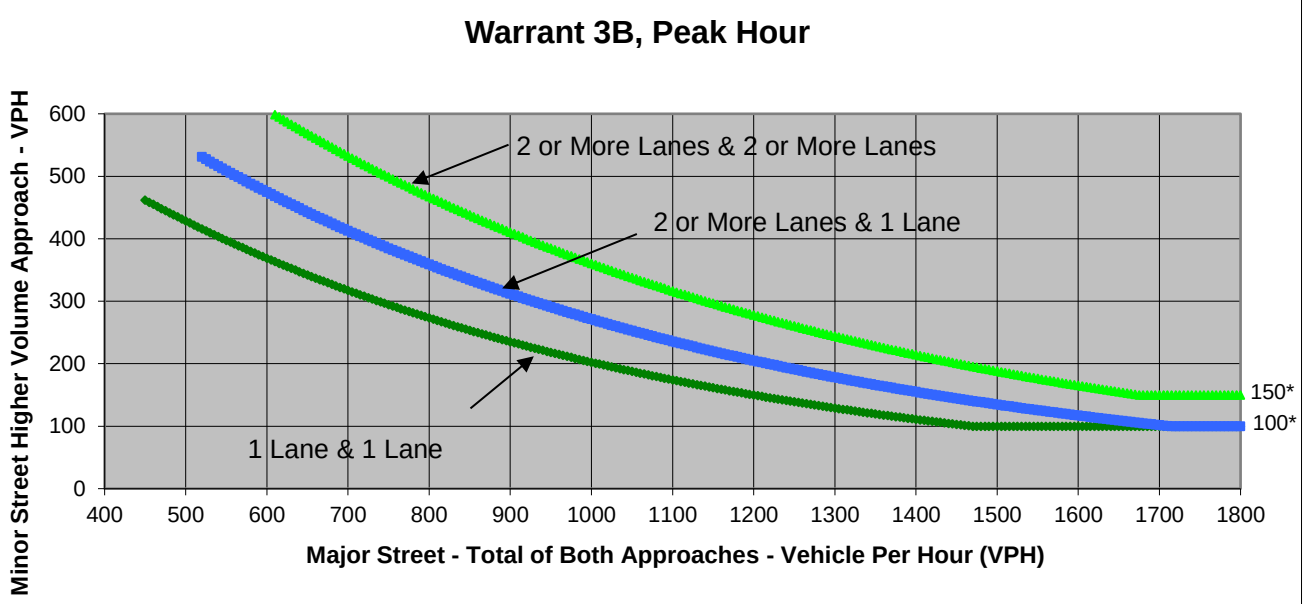
Major Street	1st Street	Project	PCGC Master Plan Update EIR
Minor Street	D Ave / Professional Drive	Scenario	Cumulative No Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	20	0	40
Through	120	50	0	5
Right	80	0	5	10
Total	210	70	5	55

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**280**	**55**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative No Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	20	0	40
Through	120	50	0	5
Right	80	0	5	10
Total	210	70	5	55

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	55

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative No Project	**0.2**	**55**	**340**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

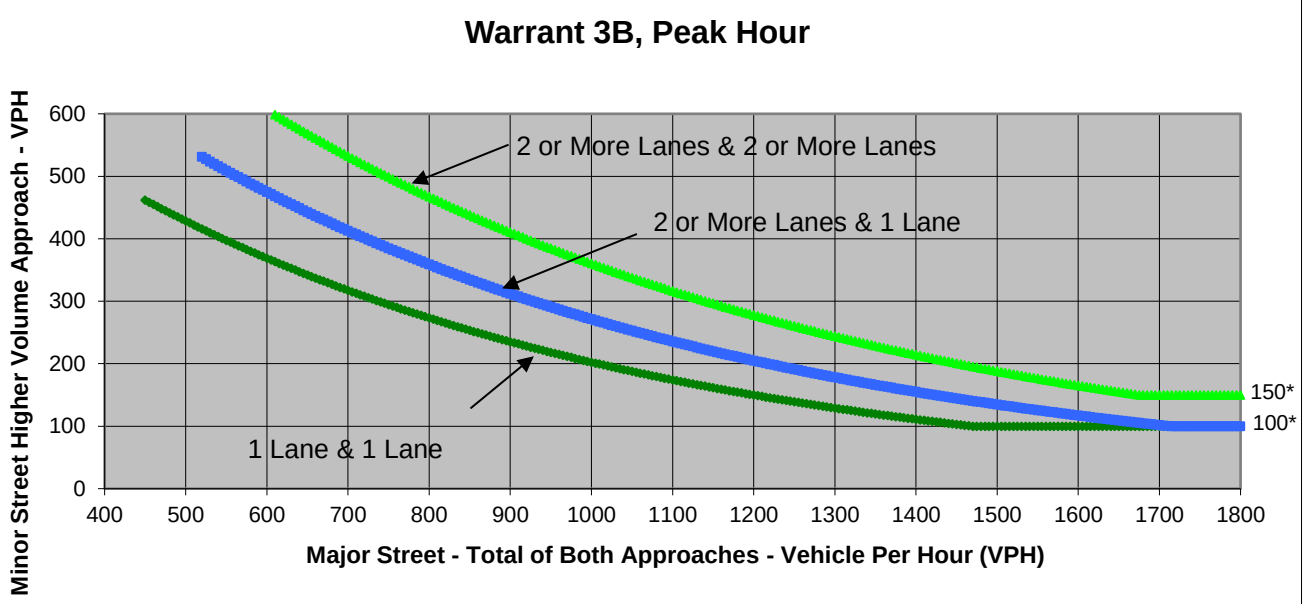
Major Street	1st Street	Project	PCGC Master Plan Update EIR
Minor Street	D Ave / Professional Drive	Scenario	Cumulative No Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	20	20	90
Through	50	120	10	5
Right	40	20	5	20
Total	95	160	35	115

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**255**	**115**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Cumulative No Project
Peak Hour	PM

Major Street	1st Street
Minor Street	D Ave / Professional Drive

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	20	20	90
Through	50	120	10	5
Right	40	20	5	20
Total	95	160	35	115

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	115

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative No Project	**0.4**	**115**	**405**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Willow Creek Drive / 3rd Street
Minor Street	1st Street

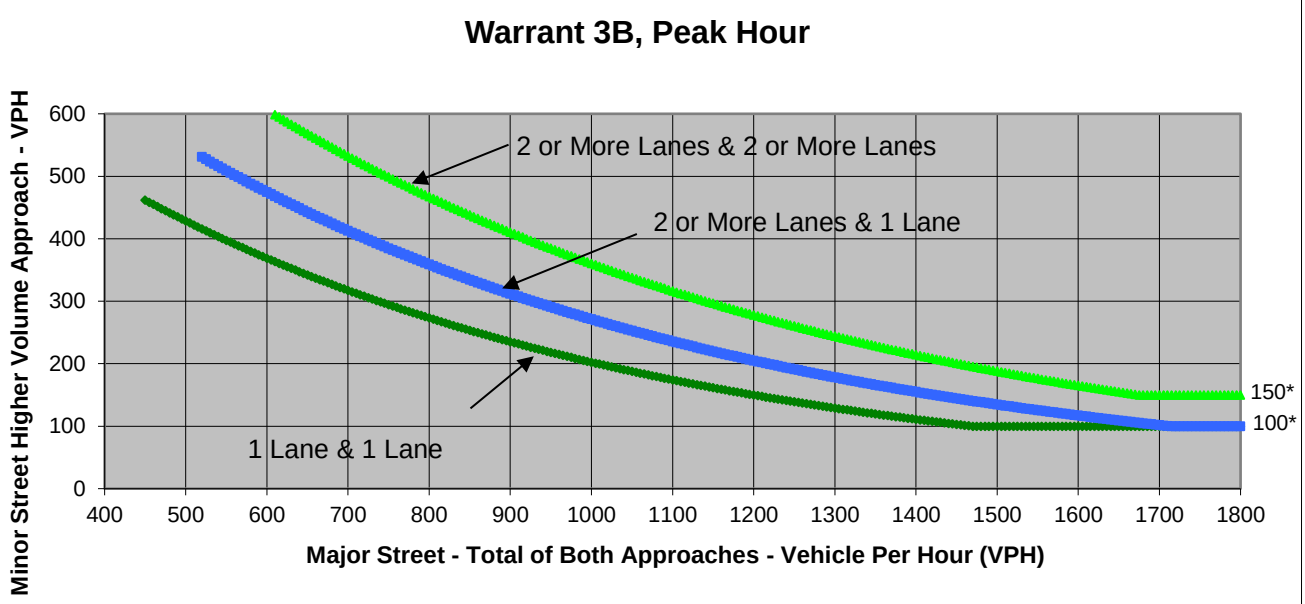
Project	PCGC Master Plan Update EIR
Scenario	Cummulative No Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	40	20	40
Through	60	70	20	30
Right	50	20	5	120
Total	115	130	45	190

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Drive / 3rd Street	1st Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**235**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Willow Creek Drive / 3rd Street
Minor Street	1st Street

Project	PCGC Master Plan Update EIR
Scenario	Cummulative No Project
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	40	20	40
Through	60	70	20	30
Right	50	20	5	120
Total	115	130	45	190

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	4.8
Approach with Worst Case Delay	SB
Total Vehicles on Approach	130

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cummulative No Project	**0.2**	**130**	**480**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

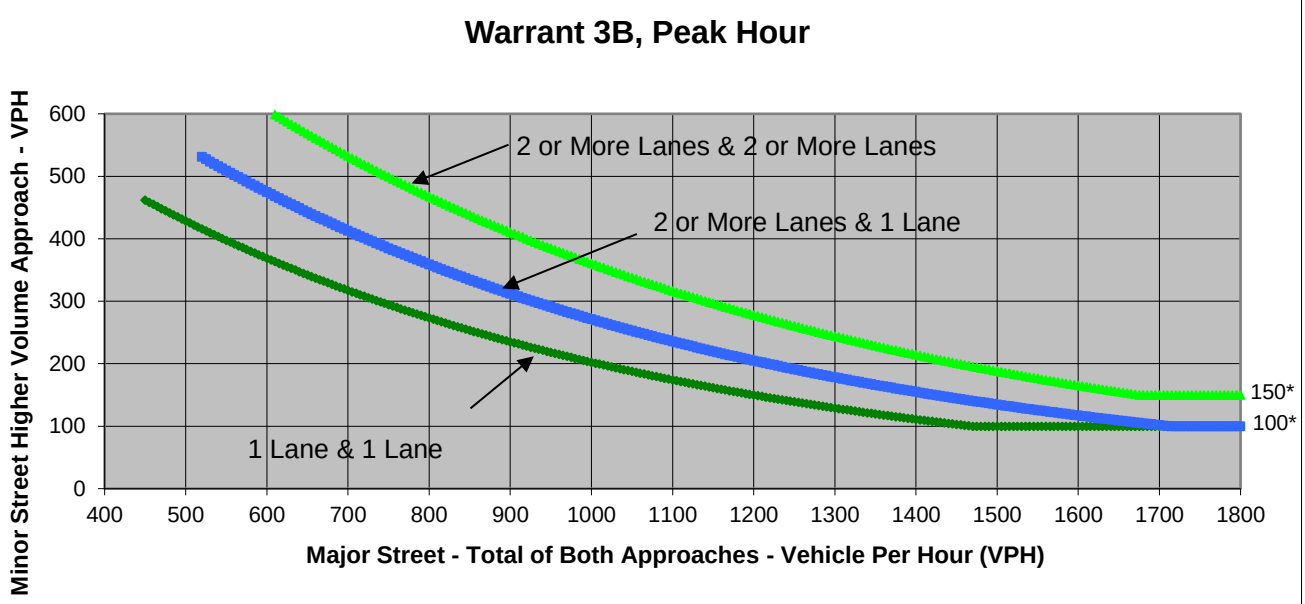
Major Street	Willow Creek Drive / 3rd Street	Project	PCGC Master Plan Update EIR
Minor Street	1st Street	Scenario	Cummulative No Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	130	5	30
Through	50	80	30	60
Right	40	20	5	50
Total	90	230	40	140

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Drive / 3rd Street	1st Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**320**	**140**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Willow Creek Drive / 3rd Street
Minor Street	1st Street

Project	PCGC Master Plan Update EIR
Scenario	Cummulative No Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	130	5	30
Through	50	80	30	60
Right	40	20	5	50
Total	90	230	40	140

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	5.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	140

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cummulative No Project	**0.2**	**140**	**500**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

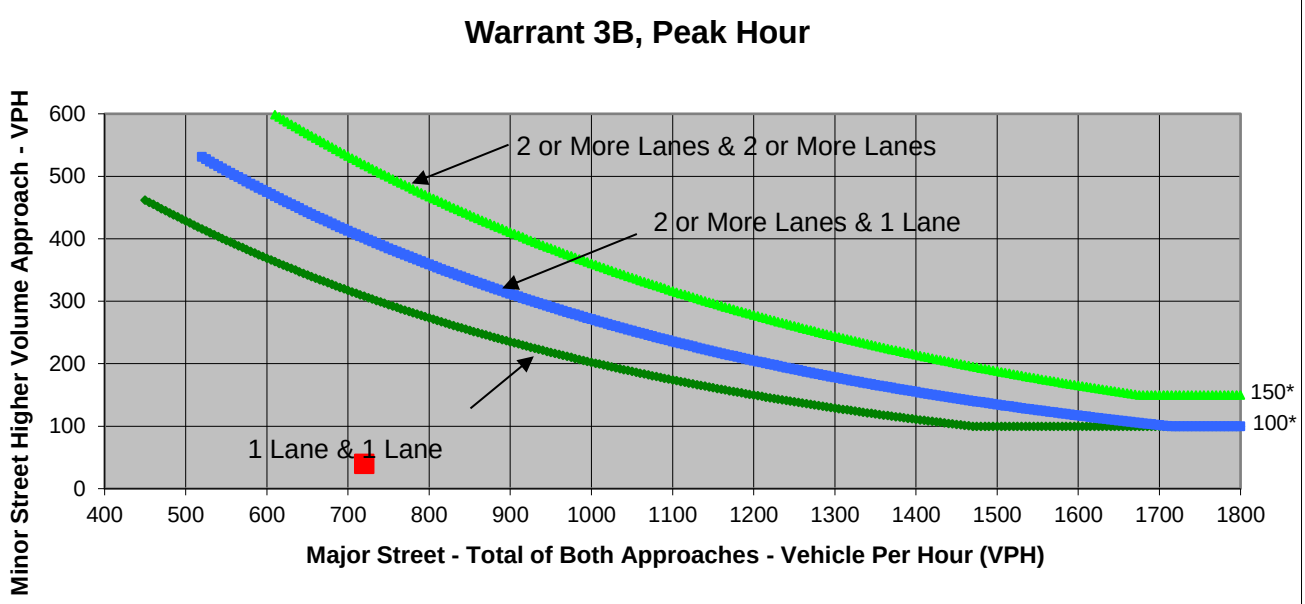
Major Street	Atwood Rd	Project	PCGC Master Plan Update EIR
Minor Street	3rd Street	Scenario	Cumulative No Project
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		20	30	
Through			360	310
Right		20		20
Total	0	40	390	330

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Rd	3rd Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**720**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Cumulative No Project
Peak Hour	AM

Major Street	Atwood Rd
Minor Street	3rd Street

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	20	30	0
Through	0	0	360	310
Right	0	20	0	20
Total	0	40	390	330

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.5
Approach with Worst Case Delay	SB
Total Vehicles on Approach	40

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative No Project	**0.2**	**40**	**760**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

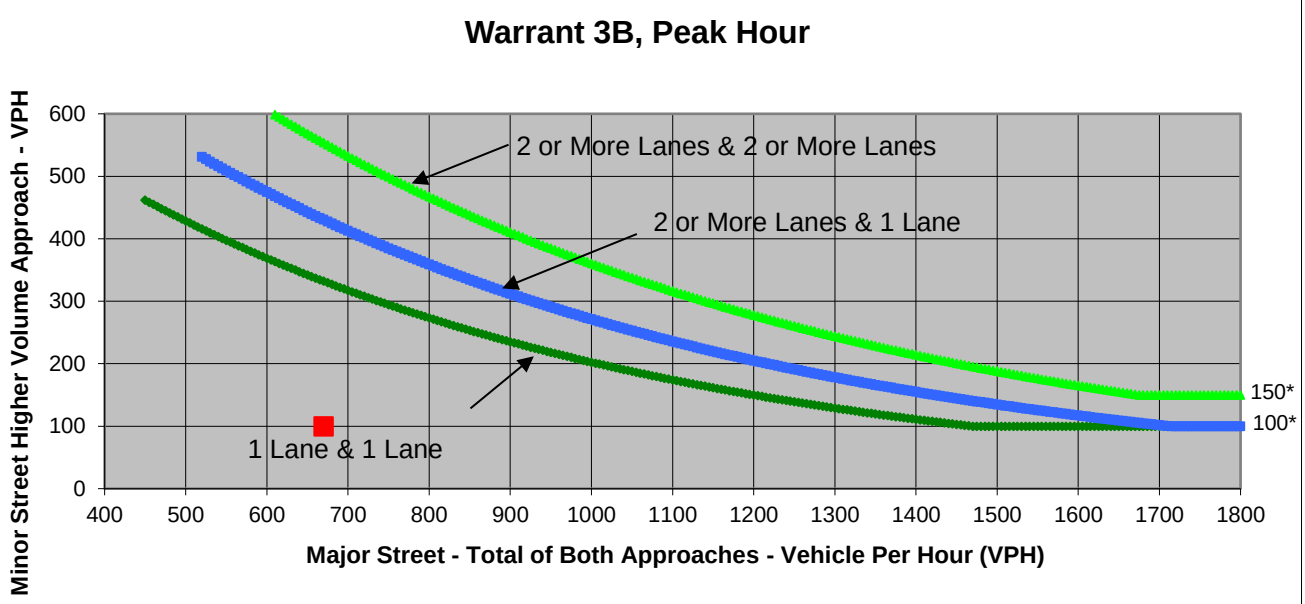
Major Street	Atwood Rd	Project	PCGC Master Plan Update EIR
Minor Street	3rd Street	Scenario	Cumulative No Project
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		30	10	
Through			350	290
Right		70		20
Total	0	100	360	310

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Rd	3rd Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**670**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd Street

Project	PCGC Master Plan Update EIR
Scenario	Cumulative No Project
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	30	10	0
Through	0	0	350	290
Right	0	70	0	20
Total	0	100	360	310

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.7
Approach with Worst Case Delay	SB
Total Vehicles on Approach	100

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative No Project	**0.4**	**100**	**770**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

Appendix G:
Cumulative Plus Multifamily Residential Conditions – Technical Calculations

FEHR PEERS

CUMULATIVE NO PROJECT		# of Lanes		Trip Distribution			Daily Trip Assignment	Roadway ADT Forecasts		ADT Volume	V/C	LOS
Roadway	Segment	Ex	Cum	AM	PM	Blended	MP	CNP	C+MFR	C+MFR	C+MFR	C+MFR
Atwood Road	West of SR 49	2	2	8%	6%	7%	51	11,900	11,951	5976	0.66	B
Bell Road	West of SR 49	4	4	59%	62%	60%	438	19,400	19,838	4960	0.55	A
SR 49	Luther Rd. to New Airport Rd.	6	6	40%	38%	39%	285	47,700	47,985	7998	0.89	D
SR 49	New Airport Rd. to Atwood Rd.	6	6	40%	38%	39%	285	45,200	45,485	7581	0.84	D
SR 49	Atwood Rd. to Willow Creek Dr.	6	6	35%	37%	36%	263	45,100	45,363	7561	0.84	D
SR 49	Willow Creek Dr. to Bell Rd.	6	6	17%	15%	16%	117	44,900	45,017	7503	0.83	D
SR 49	North of Bell Rd.	4	5	20%	22%	21%	153	35,000	35,153	7031	0.78	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	10	50	10	10	50	120	1498	40	80	1792	160
Future Volume (veh/h)	70	10	50	10	10	50	120	1498	40	80	1792	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		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	10	4	10	10	0	122	1529	27	82	1829	122
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	75	30	34	35	30	507	2471	767	556	1817	791
Arrive On Green	0.06	0.06	0.06	0.02	0.02	0.00	0.57	0.97	0.97	0.31	0.51	0.51
Sat Flow, veh/h	1781	1264	506	1781	1870	1585	1781	5106	1585	1781	3554	1548
Grp Volume(v), veh/h	71	0	14	10	10	0	122	1529	27	82	1829	122
Grp Sat Flow(s),veh/h/ln	1781	0	1770	1781	1870	1585	1781	1702	1585	1781	1777	1548
Q Serve(g_s), s	5.9	0.0	1.1	0.8	0.8	0.0	5.1	3.6	0.1	5.0	76.7	6.3
Cycle Q Clear(g_c), s	5.9	0.0	1.1	0.8	0.8	0.0	5.1	3.6	0.1	5.0	76.7	6.3
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	0	106	34	35	30	507	2471	767	556	1817	791
V/C Ratio(X)	0.67	0.00	0.13	0.30	0.28	0.00	0.24	0.62	0.04	0.15	1.01	0.15
Avail Cap(c_a), veh/h	321	0	319	214	224	190	507	2471	767	556	1817	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	0.52	0.52	0.52	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.1	0.0	66.8	72.6	72.6	0.0	24.2	1.3	1.2	37.2	36.7	19.4
Incr Delay (d2), s/veh	2.7	0.0	0.2	4.8	4.3	0.0	0.0	0.6	0.0	0.1	22.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.5	0.4	0.4	0.0	2.0	0.7	0.0	2.2	37.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	0.0	67.0	77.4	76.9	0.0	24.2	1.9	1.3	37.3	59.4	19.9
LnGrp LOS	E	A	E	E	E	A	C	A	A	D	F	B
Approach Vol, veh/h		85			20			1678			2033	
Approach Delay, s/veh		71.0			77.2			3.5			56.1	
Approach LOS		E			E			A			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	51.3	78.3		13.1	47.2	82.4		7.3
Change Period (Y+Rc), s	4.5	5.7		4.1	4.5	* 5.7		4.5
Max Green Setting (Gmax), s	13.6	72.6		27.0	10.0	* 77		18.0
Max Q Clear Time (g_c+I1), s	7.0	5.6		7.9	7.1	78.7		2.8
Green Ext Time (p_c), s	0.1	8.9		0.1	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	460	110	140	240	90	60	30	100	60	120	80
Future Volume (veh/h)	20	460	110	140	240	90	60	30	100	60	120	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	24	561	99	171	293	33	73	37	4	73	146	48
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	51	799	141	208	661	559	116	270	29	116	219	72
Arrive On Green	0.03	0.27	0.27	0.12	0.36	0.36	0.07	0.16	0.16	0.07	0.16	0.16
Sat Flow, veh/h	1767	2993	527	1767	1856	1570	1767	1645	178	1767	1336	439
Grp Volume(v), veh/h	24	330	330	171	293	33	73	0	41	73	0	194
Grp Sat Flow(s),veh/h/ln	1767	1763	1757	1767	1856	1570	1767	0	1823	1767	0	1775
Q Serve(g_s), s	0.6	7.9	7.9	4.4	5.6	0.6	1.9	0.0	0.9	1.9	0.0	4.8
Cycle Q Clear(g_c), s	0.6	7.9	7.9	4.4	5.6	0.6	1.9	0.0	0.9	1.9	0.0	4.8
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.10	1.00		0.25
Lane Grp Cap(c), veh/h	51	471	469	208	661	559	116	0	299	116	0	291
V/C Ratio(X)	0.47	0.70	0.70	0.82	0.44	0.06	0.63	0.00	0.14	0.63	0.00	0.67
Avail Cap(c_a), veh/h	189	679	677	208	735	622	189	0	722	189	0	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	15.4	15.4	20.1	11.5	9.9	21.3	0.0	16.7	21.3	0.0	18.3
Incr Delay (d2), s/veh	6.7	1.9	1.9	22.4	0.5	0.0	5.5	0.0	0.2	5.5	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.8	2.8	2.8	1.8	0.2	0.9	0.0	0.3	0.9	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	17.3	17.4	42.5	12.0	9.9	26.8	0.0	16.9	26.8	0.0	20.9
LnGrp LOS	C	B	B	D	B	A	C	A	B	C	A	C
Approach Vol, veh/h		684			497			114			267	
Approach Delay, s/veh		17.8			22.4			23.2			22.5	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	12.2	10.0	17.0	7.6	12.2	5.8	21.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	5.5	18.0	5.0	18.5	5.0	18.5
Max Q Clear Time (g_c+I1), s	3.9	2.9	6.4	9.9	3.9	6.8	2.6	7.6
Green Ext Time (p_c), s	0.0	0.1	0.0	2.4	0.0	0.7	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	610	10	50	462	13	15
Future Vol, veh/h	610	10	50	462	13	15
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	824	14	68	624	18	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	841	0	1282	422
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	448	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	790	-	157	580
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	611	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	788	-	143	578
Mov Cap-2 Maneuver	-	-	-	-	143	-
Stage 1	-	-	-	-	353	-
Stage 2	-	-	-	-	611	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	22.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	240	-	-	788	-
HCM Lane V/C Ratio	0.158	-	-	0.086	-
HCM Control Delay (s)	22.8	-	-	10	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0.3	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	35	590	452	50	60	60
Future Volume (veh/h)	35	590	452	50	60	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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	808	619	52	82	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	100	2032	1142	96	153	136
Arrive On Green	0.06	0.57	0.34	0.34	0.09	0.00
Sat Flow, veh/h	1781	3647	3412	278	1781	1585
Grp Volume(v), veh/h	48	808	331	340	82	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1820	1781	1585
Q Serve(g_s), s	0.7	3.3	3.9	4.0	1.2	0.0
Cycle Q Clear(g_c), s	0.7	3.3	3.9	4.0	1.2	0.0
Prop In Lane	1.00			0.15	1.00	1.00
Lane Grp Cap(c), veh/h	100	2032	612	626	153	136
V/C Ratio(X)	0.48	0.40	0.54	0.54	0.54	0.00
Avail Cap(c_a), veh/h	359	3760	1217	1247	1234	1098
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	12.0	3.1	6.9	6.9	11.5	0.0
Incr Delay (d2), s/veh	3.5	0.1	0.7	0.7	2.9	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	0.3	0.0	0.7	0.7	0.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.5	3.2	7.7	7.7	14.4	0.0
LnGrp LOS	B	A	A	A	B	A
Approach Vol, veh/h		856	671		82	
Approach Delay, s/veh		3.9	7.7		14.4	
Approach LOS		A	A		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	19.5	6.8	6.0	13.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	27.8	18.2	5.3	18.0
Max Q Clear Time (g_c+I1), s	5.3	3.2	2.7	6.0
Green Ext Time (p_c), s	5.5	0.1	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	615	30	80	577	160	7	20	50	70	40	30
Future Volume (veh/h)	45	615	30	80	577	160	7	20	50	70	40	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	750	33	98	704	171	9	24	0	85	49	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	1417	62	122	1249	303	42	44	0	186	195	0
Arrive On Green	0.04	0.41	0.41	0.07	0.44	0.44	0.02	0.02	0.00	0.10	0.10	0.00
Sat Flow, veh/h	1781	3467	152	1781	2833	688	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	55	384	399	98	441	434	9	24	0	85	49	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1842	1781	1777	1744	1781	1870	0	1781	1870	0
Q Serve(g_s), s	1.0	5.4	5.4	1.8	6.1	6.1	0.2	0.4	0.0	1.5	0.8	0.0
Cycle Q Clear(g_c), s	1.0	5.4	5.4	1.8	6.1	6.1	0.2	0.4	0.0	1.5	0.8	0.0
Prop In Lane	1.00		0.08	1.00		0.39	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	64	726	753	122	783	769	42	44	0	186	195	0
V/C Ratio(X)	0.85	0.53	0.53	0.81	0.56	0.56	0.21	0.54	0.00	0.46	0.25	0.00
Avail Cap(c_a), veh/h	357	1230	1275	389	1262	1239	1190	1249	0	1352	1420	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.8	7.3	7.3	15.1	6.9	6.9	15.8	15.9	0.0	13.9	13.6	0.0
Incr Delay (d2), s/veh	11.1	0.9	0.8	4.7	0.9	0.9	3.5	13.8	0.0	2.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.2	1.2	0.7	1.2	1.2	0.1	0.3	0.0	0.6	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	8.2	8.2	19.8	7.8	7.8	19.3	29.7	0.0	16.3	14.5	0.0
LnGrp LOS	C	A	A	B	A	A	B	C	A	B	B	A
Approach Vol, veh/h		838			973			33			134	
Approach Delay, s/veh		9.4			9.0			26.8			15.7	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	17.5		6.4	4.2	18.5		3.8
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	7.3	22.8		25.0	6.6	23.4		22.0
Max Q Clear Time (g_c+I1), s	3.8	7.4		3.5	3.0	8.1		2.4
Green Ext Time (p_c), s	0.0	5.6		0.7	0.0	6.4		0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	270	297	290	533	560	342	890	270	550	1160	142
Future Volume (veh/h)	208	270	297	290	533	560	342	890	270	550	1160	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	276	238	296	544	0	349	908	239	561	1184	139
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	624	275	437	611		592	1329	348	873	1318	154
Arrive On Green	0.13	0.18	0.18	0.13	0.17	0.00	0.17	0.33	0.33	0.51	0.82	0.82
Sat Flow, veh/h	1781	3554	1566	3456	3554	1585	3456	4027	1056	3456	3204	375
Grp Volume(v), veh/h	212	276	238	296	544	0	349	767	380	561	655	668
Grp Sat Flow(s),veh/h/ln	1781	1777	1566	1728	1777	1585	1728	1702	1678	1728	1777	1802
Q Serve(g_s), s	17.6	10.4	22.2	12.3	22.4	0.0	14.0	29.2	29.4	17.8	37.4	38.1
Cycle Q Clear(g_c), s	17.6	10.4	22.2	12.3	22.4	0.0	14.0	29.2	29.4	17.8	37.4	38.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.21
Lane Grp Cap(c), veh/h	232	624	275	437	611		592	1123	554	873	731	741
V/C Ratio(X)	0.92	0.44	0.87	0.68	0.89		0.59	0.68	0.69	0.64	0.90	0.90
Avail Cap(c_a), veh/h	232	891	393	437	820		592	1123	554	873	731	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	64.4	55.3	60.1	62.6	60.7	0.0	57.3	43.5	43.5	32.1	11.1	11.2
Incr Delay (d2), s/veh	36.4	0.2	10.0	3.4	7.8	0.0	1.1	3.4	6.8	0.7	10.3	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	4.7	9.4	5.5	10.6	0.0	6.1	12.6	13.0	5.8	6.7	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.8	55.5	70.1	66.0	68.6	0.0	58.3	46.8	50.3	32.9	21.5	21.7
LnGrp LOS	F	E	E	E	E		E	D	D	C	C	C
Approach Vol, veh/h		726			840	A		1496			1884	
Approach Delay, s/veh		73.5			67.7			50.4			25.0	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.0	54.8	22.5	30.7	29.8	67.0	23.0	30.2
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	29.1	49.5	16.5	37.6	16.9	61.7	19.5	34.6
Max Q Clear Time (g_c+I1), s	19.8	31.4	14.3	24.2	16.0	40.1	19.6	24.4
Green Ext Time (p_c), s	0.3	2.5	0.1	0.6	0.0	2.6	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	47.0
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	20	0	5	10	180	40	50	300	20
Future Vol, veh/h	5	0	5	20	0	5	10	180	40	50	300	20
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	4	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	7	27	0	7	13	240	53	67	400	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	851	878	423	850	865	271	434	0	0	297	0	0
Stage 1	555	555	-	297	297	-	-	-	-	-	-	-
Stage 2	296	323	-	553	568	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	280	287	631	280	292	768	1126	-	-	1264	-	-
Stage 1	516	513	-	712	668	-	-	-	-	-	-	-
Stage 2	712	650	-	517	506	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	262	265	626	262	270	765	1118	-	-	1259	-	-
Mov Cap-2 Maneuver	262	265	-	262	270	-	-	-	-	-	-	-
Stage 1	505	482	-	699	656	-	-	-	-	-	-	-
Stage 2	696	638	-	483	476	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.1	18.4	0.4	1.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1118	-	-	369	302	1259	-	-
HCM Lane V/C Ratio	0.012	-	-	0.036	0.11	0.053	-	-
HCM Control Delay (s)	8.3	0	-	15.1	18.4	8	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.2	-	-

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	5	20	12	10	10	50	200	30	20	270	20
Future Vol, veh/h	10	5	20	12	10	10	50	200	30	20	270	20
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	6	22	13	11	11	56	225	34	22	303	22
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.6	8.8	10.1	11.5
HCM LOS	A	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	29%	38%	100%	0%
Vol Thru, %	0%	87%	14%	31%	0%	93%
Vol Right, %	0%	13%	57%	31%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	230	35	32	20	290
LT Vol	50	0	10	12	20	0
Through Vol	0	200	5	10	0	270
RT Vol	0	30	20	10	0	20
Lane Flow Rate	56	258	39	36	22	326
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.086	0.354	0.057	0.054	0.034	0.448
Departure Headway (Hd)	5.522	4.928	5.224	5.403	5.504	4.953
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	649	729	682	660	651	727
Service Time	3.255	2.66	3.28	3.459	3.237	2.686
HCM Lane V/C Ratio	0.086	0.354	0.057	0.055	0.034	0.448
HCM Control Delay	8.8	10.4	8.6	8.8	8.4	11.7
HCM Lane LOS	A	B	A	A	A	B
HCM 95th-tile Q	0.3	1.6	0.2	0.2	0.1	2.3

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	0	0	5	40	5	10	10	124	80	20	65	0
Future Vol, veh/h	0	0	5	40	5	10	10	124	80	20	65	0
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	6	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	6	47	6	12	12	144	93	23	76	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	350	389	76	346	343	201	76	0	0	243	0	0
Stage 1	122	122	-	221	221	-	-	-	-	-	-	-
Stage 2	228	267	-	125	122	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	605	546	985	608	579	840	1523	-	-	1323	-	-
Stage 1	882	795	-	781	720	-	-	-	-	-	-	-
Stage 2	775	688	-	879	795	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	578	528	985	589	560	832	1523	-	-	1315	-	-
Mov Cap-2 Maneuver	578	528	-	589	560	-	-	-	-	-	-	-
Stage 1	874	781	-	769	709	-	-	-	-	-	-	-
Stage 2	748	678	-	858	781	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	11.5	0.3	1.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1523	-	-	985	619	1315	-	-
HCM Lane V/C Ratio	0.008	-	-	0.006	0.103	0.018	-	-
HCM Control Delay (s)	7.4	0	-	8.7	11.5	7.8	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.1	-	-

Intersection	
Intersection Delay, s/veh	4.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	49	206	126	157
Demand Flow Rate, veh/h	49	211	128	160
Vehicles Circulating, veh/h	182	95	99	82
Vehicles Exiting, veh/h	60	132	132	224
Ped Vol Crossing Leg, #/h	0	5	0	0
Ped Cap Adj	1.000	0.999	1.000	1.000
Approach Delay, s/veh	3.5	4.4	3.8	3.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	49	211	128	160
Cap Entry Lane, veh/h	1146	1252	1247	1269
Entry HV Adj Factor	0.991	0.978	0.982	0.984
Flow Entry, veh/h	49	206	126	157
Cap Entry, veh/h	1136	1224	1225	1248
V/C Ratio	0.043	0.169	0.103	0.126
Control Delay, s/veh	3.5	4.4	3.8	3.9
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	20	158	50	20	20	162	1372	50	30	1487	210
Future Volume (veh/h)	91	20	158	50	20	20	162	1372	50	30	1487	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	20	78	51	20	1	165	1400	36	31	1517	153
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	116	715	66	26	80	695	2305	715	562	1923	596
Arrive On Green	0.06	0.06	0.06	0.05	0.05	0.05	0.39	0.45	0.45	0.63	0.75	0.75
Sat Flow, veh/h	3456	1870	1570	1297	509	1585	1781	5106	1585	1781	5106	1583
Grp Volume(v), veh/h	93	20	78	71	0	1	165	1400	36	31	1517	153
Grp Sat Flow(s),veh/h/ln	1728	1870	1570	1806	0	1585	1781	1702	1585	1781	1702	1583
Q Serve(g_s), s	3.9	1.5	0.0	5.8	0.0	0.1	9.3	31.1	1.9	1.0	27.1	4.4
Cycle Q Clear(g_c), s	3.9	1.5	0.0	5.8	0.0	0.1	9.3	31.1	1.9	1.0	27.1	4.4
Prop In Lane	1.00		1.00	0.72		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	116	715	91	0	80	695	2305	715	562	1923	596
V/C Ratio(X)	0.43	0.17	0.11	0.78	0.00	0.01	0.24	0.61	0.05	0.06	0.79	0.26
Avail Cap(c_a), veh/h	898	486	1026	150	0	132	695	2305	715	562	1923	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.8	66.7	23.7	70.3	0.0	67.6	30.7	31.1	23.1	19.1	14.9	12.1
Incr Delay (d2), s/veh	0.5	0.3	0.0	5.2	0.0	0.0	0.1	1.2	0.1	0.0	3.4	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.7	1.6	2.8	0.0	0.0	4.0	12.7	0.7	0.4	5.7	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.3	67.0	23.7	75.5	0.0	67.7	30.8	32.3	23.2	19.2	18.2	13.1
LnGrp LOS	E	E	C	E	A	E	C	C	C	B	B	B
Approach Vol, veh/h		191			72			1601			1701	
Approach Delay, s/veh		50.0			75.4			31.9			17.8	
Approach LOS		D			E			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	51.4	73.0		13.9	62.6	61.8		11.7
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	13.3	* 68		39.0	23.9	56.5		12.5
Max Q Clear Time (g_c+I1), s	13.6	33.1		5.9	11.3	29.1		7.8
Green Ext Time (p_c), s	0.0	12.1		0.4	0.2	12.9		0.1

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	240	30	60	120	150	20	30	50	100	52	50
Future Volume (veh/h)	160	240	30	60	120	150	20	30	50	100	52	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1870	1870
Adj Flow Rate, veh/h	168	253	27	63	126	23	21	32	1	105	55	5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	2	2
Cap, veh/h	274	469	50	74	318	270	86	87	3	183	175	16
Arrive On Green	0.16	0.28	0.28	0.04	0.17	0.17	0.05	0.05	0.05	0.10	0.10	0.10
Sat Flow, veh/h	1767	1647	176	1767	1856	1572	1767	1790	56	1767	1689	154
Grp Volume(v), veh/h	168	0	280	63	126	23	21	0	33	105	0	60
Grp Sat Flow(s),veh/h/ln	1767	0	1823	1767	1856	1572	1767	0	1845	1767	0	1842
Q Serve(g_s), s	2.6	0.0	3.9	1.1	1.8	0.4	0.3	0.0	0.5	1.7	0.0	0.9
Cycle Q Clear(g_c), s	2.6	0.0	3.9	1.1	1.8	0.4	0.3	0.0	0.5	1.7	0.0	0.9
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.03	1.00		0.08
Lane Grp Cap(c), veh/h	274	0	519	74	318	270	86	0	89	183	0	191
V/C Ratio(X)	0.61	0.00	0.54	0.85	0.40	0.09	0.25	0.00	0.37	0.57	0.00	0.31
Avail Cap(c_a), veh/h	713	0	1913	535	1760	1491	315	0	329	1723	0	1796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	0.0	9.0	14.2	10.9	10.4	13.6	0.0	13.7	12.7	0.0	12.3
Incr Delay (d2), s/veh	0.8	0.0	0.3	9.9	0.3	0.0	0.5	0.0	0.9	1.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.0	0.5	0.5	0.1	0.1	0.0	0.2	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	0.0	9.3	24.0	11.2	10.4	14.2	0.0	14.7	13.7	0.0	12.7
LnGrp LOS	B	A	A	C	B	B	B	A	B	B	A	B
Approach Vol, veh/h		448			212			54			165	
Approach Delay, s/veh		10.5			15.0			14.5			13.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	13.8		6.6	7.6	10.4		5.1
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	9.6	31.2		29.0	12.0	28.2		5.3
Max Q Clear Time (g_c+I1), s	3.1	5.9		3.7	4.6	3.8		2.5
Green Ext Time (p_c), s	0.0	0.5		0.1	0.0	0.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	360	310	20	20	20
Future Vol, veh/h	30	360	310	20	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	383	330	21	21	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	351	0	-	0	788	341
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	447	-
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	1208	-	-	-	360	701
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	644	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1208	-	-	-	351	701
Mov Cap-2 Maneuver	-	-	-	-	351	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	644	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1208	-	-	-	468
HCM Lane V/C Ratio	0.026	-	-	-	0.091
HCM Control Delay (s)	8.1	-	-	-	13.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	330	50	60	270	51	50	30	100	33	30	52
Future Volume (veh/h)	61	330	50	60	270	51	50	30	100	33	30	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	379	48	69	310	48	57	34	45	38	34	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	506	64	102	490	76	72	43	57	68	61	0
Arrive On Green	0.06	0.31	0.31	0.06	0.31	0.31	0.08	0.10	0.10	0.05	0.07	0.00
Sat Flow, veh/h	1781	1626	206	1781	1579	245	725	433	573	962	861	0
Grp Volume(v), veh/h	70	0	427	69	0	358	136	0	0	72	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1832	1781	0	1824	1731	0	0	1822	0	0
Q Serve(g_s), s	1.2	0.0	6.6	1.2	0.0	5.3	2.4	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	6.6	1.2	0.0	5.3	2.4	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.13	0.42		0.33	0.53		0.00
Lane Grp Cap(c), veh/h	103	0	570	102	0	566	172	0	0	129	0	0
V/C Ratio(X)	0.68	0.00	0.75	0.67	0.00	0.63	0.79	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	225	0	1292	225	0	1286	389	0	0	1268	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.6	0.0	9.8	14.6	0.0	9.4	14.0	0.0	0.0	14.3	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.0	0.8	2.8	0.0	0.4	3.1	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.8	0.5	0.0	1.4	0.9	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	0.0	10.5	17.5	0.0	9.8	17.1	0.0	0.0	15.8	0.0	0.0
LnGrp LOS	B	A	B	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		497			427			136			72	
Approach Delay, s/veh		11.5			11.0			17.1			15.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	14.4		5.7	4.8	14.4		6.6
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	4.0	22.3		22.0	4.0	22.3		7.1
Max Q Clear Time (g_c+I1), s	3.2	8.6		3.2	3.2	7.3		4.4
Green Ext Time (p_c), s	0.0	0.8		0.1	0.0	0.6		0.1

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

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	50	333	40	50	60	401	1364	70	51	1434	160
Future Volume (veh/h)	200	50	333	40	50	60	401	1364	70	51	1434	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	51	292	41	51	5	409	1392	69	52	1463	155
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	273	841	71	125	104	687	2398	119	390	1475	156
Arrive On Green	0.12	0.15	0.15	0.04	0.07	0.07	0.77	0.96	0.96	0.22	0.31	0.31
Sat Flow, veh/h	1781	1870	1569	1781	1870	1549	1781	4983	247	1781	4687	496
Grp Volume(v), veh/h	204	51	292	41	51	5	409	951	510	52	1062	556
Grp Sat Flow(s),veh/h/ln	1781	1870	1569	1781	1870	1549	1781	1702	1826	1781	1702	1779
Q Serve(g_s), s	17.1	3.6	2.1	3.4	3.9	0.5	14.5	3.5	3.5	3.5	46.6	46.7
Cycle Q Clear(g_c), s	17.1	3.6	2.1	3.4	3.9	0.5	14.5	3.5	3.5	3.5	46.6	46.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.28
Lane Grp Cap(c), veh/h	207	273	841	71	125	104	687	1638	879	390	1071	560
V/C Ratio(X)	0.99	0.19	0.35	0.58	0.41	0.05	0.60	0.58	0.58	0.13	0.99	0.99
Avail Cap(c_a), veh/h	207	541	1065	107	436	362	687	1638	879	390	1071	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.2	56.2	11.6	70.7	67.1	65.5	12.2	1.5	1.5	47.1	51.2	51.2
Incr Delay (d2), s/veh	59.0	0.1	0.1	2.7	4.5	0.4	1.0	1.5	2.8	0.1	25.6	36.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	1.7	4.1	1.6	2.0	0.2	3.8	1.0	1.4	1.6	23.1	25.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.2	56.3	11.7	73.4	71.7	65.9	13.2	3.0	4.3	47.2	76.8	87.4
LnGrp LOS	F	E	B	E	E	E	B	A	A	D	E	F
Approach Vol, veh/h		547			97			1870			1670	
Approach Delay, s/veh		58.2			72.1			5.6			79.4	
Approach LOS		E			E			A			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.5	77.5	9.0	26.0	62.5	52.5	21.5	13.5
Change Period (Y+Rc), s	4.6	* 5.3	3.0	4.1	4.6	5.3	4.1	* 3.5
Max Green Setting (Gmax), s	10.0	* 72	9.0	43.4	33.4	47.2	17.4	* 35
Max Q Clear Time (g_c+I1), s	15.5	5.5	5.4	5.6	16.5	48.7	19.1	5.9
Green Ext Time (p_c), s	0.0	7.2	0.0	0.3	0.1	0.0	0.0	0.4

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	50	110	230	50	60	150	1695	200	40	1667	40
Future Volume (veh/h)	80	50	110	230	50	60	150	1695	200	40	1667	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	51	91	235	51	25	153	1730	197	41	1701	40
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	56	100	294	101	49	500	2099	238	372	1947	46
Arrive On Green	0.14	0.14	0.14	0.08	0.08	0.08	0.28	0.45	0.45	0.21	0.38	0.38
Sat Flow, veh/h	627	390	696	3456	1185	581	1781	4652	528	1781	5132	121
Grp Volume(v), veh/h	224	0	0	235	0	76	153	1264	663	41	1128	613
Grp Sat Flow(s),veh/h/ln	1714	0	0	1728	0	1766	1781	1702	1775	1781	1702	1848
Q Serve(g_s), s	19.3	0.0	0.0	10.0	0.0	6.2	10.1	48.6	49.0	2.8	46.1	46.2
Cycle Q Clear(g_c), s	19.3	0.0	0.0	10.0	0.0	6.2	10.1	48.6	49.0	2.8	46.1	46.2
Prop In Lane	0.37		0.41	1.00		0.33	1.00		0.30	1.00		0.07
Lane Grp Cap(c), veh/h	245	0	0	294	0	150	500	1536	801	372	1291	701
V/C Ratio(X)	0.91	0.00	0.00	0.80	0.00	0.51	0.31	0.82	0.83	0.11	0.87	0.87
Avail Cap(c_a), veh/h	263	0	0	829	0	424	500	1536	801	372	1291	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	0.0	0.0	67.4	0.0	65.6	42.5	35.9	36.0	48.1	43.2	43.2
Incr Delay (d2), s/veh	31.3	0.0	0.0	1.9	0.0	1.0	0.1	5.1	9.6	0.0	8.4	14.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	0.0	0.0	4.6	0.0	2.9	4.4	20.5	22.5	1.2	20.3	23.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.7	0.0	0.0	69.3	0.0	66.6	42.6	41.0	45.6	48.1	51.6	57.5
LnGrp LOS	F	A	A	E	A	E	D	D	D	D	D	E
Approach Vol, veh/h		224			311			2080			1782	
Approach Delay, s/veh		94.7			68.7			42.6			53.5	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	34.8	73.0		25.5	45.6	62.2		16.7
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	6.5	67.7		23.0	17.3	56.9		36.0
Max Q Clear Time (g_c+I1), s	14.3	51.0		21.3	12.1	48.2		12.0
Green Ext Time (p_c), s	0.0	9.9		0.1	0.1	5.6		0.7

Intersection Summary	
HCM 6th Ctrl Delay	51.5
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	600	50	107	502	0	70
Future Vol, veh/h	600	50	107	502	0	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	822	68	147	688	0	96

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	890	0	-	445
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	757	-	0	561
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	757	-	-	561
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	561	-	-	757	-
HCM Lane V/C Ratio	0.171	-	-	0.194	-
HCM Control Delay (s)	12.7	-	-	10.9	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.6	-	-	0.7	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	20	140	30	20	90	50	2115	80	80	1630	50
Future Volume (veh/h)	141	20	140	30	20	90	50	2115	80	80	1630	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	144	20	14	26	28	0	51	2158	52	82	1663	34
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	186	106	74	54	57	48	404	2316	719	490	1782	791
Arrive On Green	0.11	0.11	0.11	0.03	0.03	0.00	0.46	0.91	0.91	0.28	0.51	0.51
Sat Flow, veh/h	1767	1008	706	1767	1856	1572	1767	5066	1572	1767	3526	1565
Grp Volume(v), veh/h	144	0	34	26	28	0	51	2158	52	82	1663	34
Grp Sat Flow(s),veh/h/ln	1767	0	1714	1767	1856	1572	1767	1689	1572	1767	1763	1565
Q Serve(g_s), s	11.5	0.0	2.6	2.1	2.2	0.0	2.4	35.7	0.4	5.1	64.0	1.6
Cycle Q Clear(g_c), s	11.5	0.0	2.6	2.1	2.2	0.0	2.4	35.7	0.4	5.1	64.0	1.6
Prop In Lane	1.00		0.41	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	0	181	54	57	48	404	2316	719	490	1782	791
V/C Ratio(X)	0.77	0.00	0.19	0.48	0.49	0.00	0.13	0.93	0.07	0.17	0.93	0.04
Avail Cap(c_a), veh/h	329	0	319	219	230	195	404	2316	719	490	1782	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.2	0.0	59.2	69.2	69.2	0.0	31.0	4.9	3.4	39.7	33.6	18.1
Incr Delay (d2), s/veh	2.6	0.0	0.2	6.5	6.5	0.0	0.0	0.9	0.0	0.2	10.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	1.2	1.1	1.1	0.0	1.0	2.4	0.2	2.2	28.3	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.7	0.0	59.4	75.7	75.7	0.0	31.0	5.8	3.4	39.9	44.0	18.2
LnGrp LOS	E	A	E	E	E	A	C	A	A	D	D	B
Approach Vol, veh/h		178			54			2261			1779	
Approach Delay, s/veh		64.5			75.7			6.3			43.3	
Approach LOS		E			E			A			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	44.7	72.0		19.4	37.7	79.0		8.9
Change Period (Y+Rc), s	4.5	5.7		4.1	4.5	* 5.7		4.5
Max Green Setting (Gmax), s	14.9	66.3		27.0	8.4	* 73		18.0
Max Q Clear Time (g_c+I1), s	7.1	37.7		13.5	4.4	66.0		4.2
Green Ext Time (p_c), s	0.1	13.6		0.3	0.0	4.5		0.1

Intersection Summary	
HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	430	70	60	450	120	110	150	140	130	80	50
Future Volume (veh/h)	90	430	70	60	450	120	110	150	140	130	80	50
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	118	566	78	79	592	71	145	197	142	171	105	38
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	148	1196	164	102	666	565	181	230	166	208	318	115
Arrive On Green	0.08	0.39	0.39	0.06	0.36	0.36	0.10	0.23	0.23	0.12	0.24	0.24
Sat Flow, veh/h	1767	3102	426	1767	1856	1572	1767	1003	723	1767	1299	470
Grp Volume(v), veh/h	118	321	323	79	592	71	145	0	339	171	0	143
Grp Sat Flow(s),veh/h/ln	1767	1763	1765	1767	1856	1572	1767	0	1725	1767	0	1770
Q Serve(g_s), s	5.6	11.7	11.8	3.8	25.7	2.6	6.9	0.0	16.2	8.1	0.0	5.7
Cycle Q Clear(g_c), s	5.6	11.7	11.8	3.8	25.7	2.6	6.9	0.0	16.2	8.1	0.0	5.7
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.42	1.00		0.27
Lane Grp Cap(c), veh/h	148	680	681	102	666	565	181	0	396	208	0	432
V/C Ratio(X)	0.79	0.47	0.47	0.77	0.89	0.13	0.80	0.00	0.86	0.82	0.00	0.33
Avail Cap(c_a), veh/h	196	792	793	216	855	724	340	0	594	278	0	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.5	19.8	19.8	39.8	25.9	18.4	37.6	0.0	31.7	37.0	0.0	26.6
Incr Delay (d2), s/veh	15.2	0.5	0.5	11.8	9.4	0.1	7.9	0.0	7.9	13.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.5	4.6	1.9	12.1	0.9	3.3	0.0	7.3	4.2	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	20.3	20.3	51.6	35.2	18.5	45.5	0.0	39.6	50.7	0.0	27.1
LnGrp LOS	D	C	C	D	D	B	D	A	D	D	A	C
Approach Vol, veh/h		762			742			484			314	
Approach Delay, s/veh		25.5			35.4			41.4			39.9	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	24.2	9.4	37.6	13.3	25.4	11.7	35.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	29.5	10.5	38.5	16.5	26.5	9.5	39.5
Max Q Clear Time (g_c+I1), s	10.1	18.2	5.8	13.8	8.9	7.7	7.6	27.7
Green Ext Time (p_c), s	0.1	1.5	0.1	3.8	0.2	0.6	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	690	10	10	600	30	60
Future Vol, veh/h	690	10	10	600	30	60
Conflicting Peds, #/hr	0	4	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	932	14	14	811	41	81

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	950	0	1377	478
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	434	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	712	-	135	531
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	618	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	709	-	132	528
Mov Cap-2 Maneuver	-	-	-	-	132	-
Stage 1	-	-	-	-	329	-
Stage 2	-	-	-	-	618	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	29.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	264	-	-	709	-
HCM Lane V/C Ratio	0.461	-	-	0.019	-
HCM Control Delay (s)	29.8	-	-	10.2	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	2.3	-	-	0.1	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	690	580	20	60	30
Future Volume (veh/h)	60	690	580	20	60	30
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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	82	945	795	22	82	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	147	2152	1311	36	147	131
Arrive On Green	0.08	0.61	0.37	0.37	0.08	0.00
Sat Flow, veh/h	1767	3618	3596	97	1767	1572
Grp Volume(v), veh/h	82	945	400	417	82	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1763	1838	1767	1572
Q Serve(g_s), s	1.3	4.2	5.4	5.4	1.3	0.0
Cycle Q Clear(g_c), s	1.3	4.2	5.4	5.4	1.3	0.0
Prop In Lane	1.00			0.05	1.00	1.00
Lane Grp Cap(c), veh/h	147	2152	660	688	147	131
V/C Ratio(X)	0.56	0.44	0.61	0.61	0.56	0.00
Avail Cap(c_a), veh/h	307	3313	1080	1126	1107	985
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	12.9	3.0	7.4	7.4	12.9	0.0
Incr Delay (d2), s/veh	3.3	0.1	0.9	0.9	3.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.1	1.1	0.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.3	3.2	8.3	8.3	16.3	0.0
LnGrp LOS	B	A	A	A	B	A
Approach Vol, veh/h		1027	817		82	
Approach Delay, s/veh		4.2	8.3		16.3	
Approach LOS		A	A		B	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		22.4		6.9	6.9	15.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		27.6		18.4	5.1	18.0
Max Q Clear Time (g_c+I1), s		6.2		3.3	3.3	7.4
Green Ext Time (p_c), s		6.5		0.1	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	706	20	30	599	40	30	30	70	110	40	30
Future Volume (veh/h)	41	706	20	30	599	40	30	30	70	110	40	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	53	905	26	38	768	51	38	38	90	141	51	38
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	63	1337	38	46	1249	83	217	60	142	249	139	103
Arrive On Green	0.04	0.38	0.38	0.03	0.37	0.37	0.12	0.12	0.12	0.14	0.14	0.14
Sat Flow, veh/h	1767	3499	101	1767	3355	223	1767	488	1156	1767	985	734
Grp Volume(v), veh/h	53	456	475	38	403	416	38	0	128	141	0	89
Grp Sat Flow(s),veh/h/ln	1767	1763	1837	1767	1763	1815	1767	0	1644	1767	0	1720
Q Serve(g_s), s	1.2	8.5	8.5	0.8	7.4	7.4	0.8	0.0	2.9	2.9	0.0	1.9
Cycle Q Clear(g_c), s	1.2	8.5	8.5	0.8	7.4	7.4	0.8	0.0	2.9	2.9	0.0	1.9
Prop In Lane	1.00		0.05	1.00		0.12	1.00		0.70	1.00		0.43
Lane Grp Cap(c), veh/h	63	674	702	46	656	676	217	0	202	249	0	242
V/C Ratio(X)	0.84	0.68	0.68	0.83	0.61	0.61	0.18	0.00	0.63	0.57	0.00	0.37
Avail Cap(c_a), veh/h	295	1043	1087	295	1043	1073	983	0	914	1117	0	1087
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.0	10.2	10.2	19.2	10.1	10.1	15.6	0.0	16.5	15.9	0.0	15.4
Incr Delay (d2), s/veh	24.2	1.2	1.2	29.9	0.9	0.9	0.4	0.0	3.3	2.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.3	2.4	0.7	2.0	2.1	0.3	0.0	1.2	1.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	11.4	11.3	49.1	11.0	11.0	15.9	0.0	19.8	17.9	0.0	16.3
LnGrp LOS	D	B	B	D	B	B	B	A	B	B	A	B
Approach Vol, veh/h		984			857			166			230	
Approach Delay, s/veh		13.1			12.7			18.9			17.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.0	19.1		8.6	4.4	18.7		7.9
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	6.6	23.4		25.0	6.6	23.4		22.0
Max Q Clear Time (g_c+I1), s	2.8	10.5		4.9	3.2	9.4		4.9
Green Ext Time (p_c), s	0.0	4.6		0.9	0.0	4.1		0.7

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	497	344	590	353	790	296	1260	550	660	1070	70
Future Volume (veh/h)	195	497	344	590	353	790	296	1260	550	660	1070	70
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		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	199	507	294	602	360	0	302	1286	506	673	1092	68
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	165	627	275	485	798		660	1151	450	820	1243	77
Arrive On Green	0.09	0.18	0.18	0.14	0.23	0.00	0.19	0.32	0.32	0.48	0.74	0.74
Sat Flow, veh/h	1767	3526	1543	3428	3526	1572	3428	3575	1397	3428	3368	210
Grp Volume(v), veh/h	199	507	294	602	360	0	302	1214	578	673	571	589
Grp Sat Flow(s),veh/h/ln	1767	1763	1543	1714	1763	1572	1714	1689	1595	1714	1763	1815
Q Serve(g_s), s	13.5	20.0	17.9	20.5	12.8	0.0	11.3	46.7	46.7	24.4	35.0	35.1
Cycle Q Clear(g_c), s	13.5	20.0	17.9	20.5	12.8	0.0	11.3	46.7	46.7	24.4	35.0	35.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	1.00		0.12
Lane Grp Cap(c), veh/h	165	627	275	485	798		660	1088	514	820	650	670
V/C Ratio(X)	1.21	0.81	1.07	1.24	0.45		0.46	1.12	1.12	0.82	0.88	0.88
Avail Cap(c_a), veh/h	165	939	411	485	1109		660	1088	514	820	650	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.64	0.64	0.64
Uniform Delay (d), s/veh	65.8	57.2	28.8	62.3	48.3	0.0	51.9	49.2	49.2	35.1	16.6	16.6
Incr Delay (d2), s/veh	137.6	1.8	57.7	125.5	0.1	0.0	0.2	65.2	78.6	4.1	10.7	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	9.0	10.9	17.2	5.6	0.0	4.8	28.9	29.2	8.2	7.9	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	203.3	59.0	86.5	187.7	48.5	0.0	52.0	114.3	127.8	39.2	27.3	27.1
LnGrp LOS	F	E	F	F	D		D	F	F	D	C	C
Approach Vol, veh/h		1000			962	A		2094			1833	
Approach Delay, s/veh		95.8			135.6			109.1			31.6	
Approach LOS		F			F			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	38.8	52.0	24.0	30.2	32.0	58.8	17.0	37.2
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	21.9	46.7	20.5	38.6	15.1	53.5	13.5	45.6
Max Q Clear Time (g_c+I1), s	26.4	48.7	22.5	22.0	13.3	37.1	15.5	14.8
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.1	2.1	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	87.0
HCM 6th LOS	F

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	0	10	60	0	80	5	290	10	5	200	5
Future Vol, veh/h	30	0	10	60	0	80	5	290	10	5	200	5
Conflicting Peds, #/hr	0	0	8	0	0	0	0	0	50	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	48	0	16	95	0	127	8	460	16	8	317	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	887	881	331	887	877	518	327	0	0	526	0	0
Stage 1	339	339	-	534	534	-	-	-	-	-	-	-
Stage 2	548	542	-	353	343	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	264	284	708	264	286	556	1227	-	-	1036	-	-
Stage 1	673	638	-	528	523	-	-	-	-	-	-	-
Stage 2	519	519	-	662	636	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	198	265	701	241	267	530	1225	-	-	987	-	-
Mov Cap-2 Maneuver	198	265	-	241	267	-	-	-	-	-	-	-
Stage 1	666	632	-	498	493	-	-	-	-	-	-	-
Stage 2	391	489	-	637	630	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.2	31.6	0.1	0.2
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1225	-	-	241	350	987	-	-
HCM Lane V/C Ratio	0.006	-	-	0.263	0.635	0.008	-	-
HCM Control Delay (s)	8	0	-	25.2	31.6	8.7	-	-
HCM Lane LOS	A	A	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1	4.1	0	-	-

Intersection	
Intersection Delay, s/veh	16.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	20	50	50	5	40	20	190	5	5	240	20
Future Vol, veh/h	30	20	50	50	5	40	20	190	5	5	240	20
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	48	32	79	79	8	63	32	302	8	8	381	32
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.8	11.8	15.2	20.9
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	30%	53%	100%	0%
Vol Thru, %	0%	97%	20%	5%	0%	92%
Vol Right, %	0%	3%	50%	42%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	195	100	95	5	260
LT Vol	20	0	30	50	5	0
Through Vol	0	190	20	5	0	240
RT Vol	0	5	50	40	0	20
Lane Flow Rate	32	310	159	151	8	413
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.059	0.528	0.279	0.27	0.014	0.687
Departure Headway (Hd)	6.664	6.137	6.335	6.438	6.557	5.994
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	533	582	571	561	542	598
Service Time	4.463	3.935	4.335	4.445	4.348	3.785
HCM Lane V/C Ratio	0.06	0.533	0.278	0.269	0.015	0.691
HCM Control Delay	9.9	15.7	11.8	11.8	9.4	21.1
HCM Lane LOS	A	C	B	B	A	C
HCM 95th-tile Q	0.2	3.1	1.1	1.1	0	5.3

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	10	5	90	5	20	5	68	40	20	129	20
Future Vol, veh/h	20	10	5	90	5	20	5	68	40	20	129	20
Conflicting Peds, #/hr	0	0	2	0	0	1	0	0	2	0	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	30	15	7	134	7	30	7	101	60	30	193	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	442	454	219	428	439	134	232	0	0	163	0	0
Stage 1	277	277	-	147	147	-	-	-	-	-	-	-
Stage 2	165	177	-	281	292	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	524	500	818	535	510	912	1330	-	-	1410	-	-
Stage 1	727	679	-	853	774	-	-	-	-	-	-	-
Stage 2	835	751	-	724	669	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	485	480	809	504	489	909	1319	-	-	1407	-	-
Mov Cap-2 Maneuver	485	480	-	504	489	-	-	-	-	-	-	-
Stage 1	716	657	-	846	768	-	-	-	-	-	-	-
Stage 2	794	745	-	683	647	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	14.6	0.3	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1319	-	-	513	546	1407	-	-
HCM Lane V/C Ratio	0.006	-	-	0.102	0.314	0.021	-	-
HCM Control Delay (s)	7.7	0	-	12.8	14.6	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1.3	0.1	-	-

Intersection	
Intersection Delay, s/veh	4.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	50	197	120	307
Demand Flow Rate, veh/h	51	202	124	316
Vehicles Circulating, veh/h	328	77	226	118
Vehicles Exiting, veh/h	106	273	153	161
Ped Vol Crossing Leg, #/h	2	0	0	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.2	4.2	4.4	5.4
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	51	202	124	316
Cap Entry Lane, veh/h	988	1276	1096	1223
Entry HV Adj Factor	0.978	0.974	0.967	0.971
Flow Entry, veh/h	50	197	120	307
Cap Entry, veh/h	965	1242	1060	1188
V/C Ratio	0.052	0.158	0.113	0.258
Control Delay, s/veh	4.2	4.2	4.4	5.4
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	50	316	70	42	80	181	1826	50	70	1694	190
Future Volume (veh/h)	210	50	316	70	42	80	181	1826	50	70	1694	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	214	51	255	71	43	8	185	1863	23	71	1729	130
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	329	178	653	85	52	120	566	2330	723	430	1939	594
Arrive On Green	0.10	0.10	0.10	0.08	0.08	0.08	0.32	0.46	0.46	0.49	0.77	0.77
Sat Flow, veh/h	3428	1856	1553	1121	679	1572	1767	5066	1571	1767	5066	1552
Grp Volume(v), veh/h	214	51	255	114	0	8	185	1863	23	71	1729	130
Grp Sat Flow(s),veh/h/ln	1714	1856	1553	1800	0	1572	1767	1689	1571	1767	1689	1552
Q Serve(g_s), s	8.7	3.7	0.0	9.1	0.0	0.7	11.5	45.5	1.2	3.3	36.6	3.4
Cycle Q Clear(g_c), s	8.7	3.7	0.0	9.1	0.0	0.7	11.5	45.5	1.2	3.3	36.6	3.4
Prop In Lane	1.00		1.00	0.62		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	329	178	653	137	0	120	566	2330	723	430	1939	594
V/C Ratio(X)	0.65	0.29	0.39	0.83	0.00	0.07	0.33	0.80	0.03	0.17	0.89	0.22
Avail Cap(c_a), veh/h	922	499	921	160	0	140	566	2330	723	430	1939	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.2	60.9	29.5	66.0	0.0	62.2	37.4	33.4	21.5	29.0	14.8	10.9
Incr Delay (d2), s/veh	0.8	0.3	0.1	23.4	0.0	0.1	0.1	3.0	0.1	0.1	6.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	1.8	6.3	5.1	0.0	0.3	4.9	18.5	0.4	1.3	6.6	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	61.2	29.6	89.4	0.0	62.3	37.5	36.4	21.5	29.1	21.5	11.7
LnGrp LOS	E	E	C	F	A	E	D	D	C	C	C	B
Approach Vol, veh/h		520			122			2071			1930	
Approach Delay, s/veh		46.9			87.7			36.4			21.1	
Approach LOS		D			F			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	39.3	72.0		18.5	50.5	60.8		15.1
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	8.9	* 67		39.0	19.5	55.5		12.9
Max Q Clear Time (g_c+I1), s	5.3	47.5		10.7	13.5	38.6		11.1
Green Ext Time (p_c), s	0.0	12.6		1.0	0.1	11.0		0.1

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	150	20	40	230	90	10	10	30	180	20	170
Future Volume (veh/h)	60	150	20	40	230	90	10	10	30	180	20	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	78	195	20	52	299	34	13	13	0	234	26	37
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	173	485	50	61	426	361	45	48	0	317	124	176
Arrive On Green	0.10	0.29	0.29	0.03	0.23	0.23	0.03	0.03	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1767	1655	170	1767	1856	1572	1767	1856	0	1767	691	984
Grp Volume(v), veh/h	78	0	215	52	299	34	13	13	0	234	0	63
Grp Sat Flow(s),veh/h/ln	1767	0	1824	1767	1856	1572	1767	1856	0	1767	0	1675
Q Serve(g_s), s	1.4	0.0	3.1	1.0	4.9	0.6	0.2	0.2	0.0	4.2	0.0	1.1
Cycle Q Clear(g_c), s	1.4	0.0	3.1	1.0	4.9	0.6	0.2	0.2	0.0	4.2	0.0	1.1
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.00	1.00		0.59
Lane Grp Cap(c), veh/h	173	0	534	61	426	361	45	48	0	317	0	300
V/C Ratio(X)	0.45	0.00	0.40	0.85	0.70	0.09	0.29	0.27	0.00	0.74	0.00	0.21
Avail Cap(c_a), veh/h	213	0	1459	267	1540	1305	213	224	0	1547	0	1466
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.1	0.0	9.4	15.9	11.7	10.1	15.8	15.8	0.0	12.9	0.0	11.6
Incr Delay (d2), s/veh	0.7	0.0	0.2	11.8	0.8	0.0	1.3	1.1	0.0	1.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.9	0.5	1.5	0.1	0.1	0.1	0.0	1.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	0.0	9.6	27.7	12.5	10.1	17.1	17.0	0.0	14.1	0.0	11.7
LnGrp LOS	B	A	A	C	B	B	B	B	A	B	A	B
Approach Vol, veh/h		293			385			26			297	
Approach Delay, s/veh		11.0			14.3			17.0			13.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.1	15.0		9.4	6.2	12.9		4.6
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	5.0	26.5		29.0	4.0	27.5		4.0
Max Q Clear Time (g_c+I1), s	3.0	5.1		6.2	3.4	6.9		2.2
Green Ext Time (p_c), s	0.0	0.4		0.1	0.0	0.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	350	290	20	30	70
Future Vol, veh/h	10	350	290	20	30	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	417	345	24	36	83

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	369	0	-	0	798	357
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	441	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1184	-	-	-	354	685
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	646	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1184	-	-	-	350	685
Mov Cap-2 Maneuver	-	-	-	-	350	-
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	646	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1184	-	-	-	532
HCM Lane V/C Ratio	0.01	-	-	-	0.224
HCM Control Delay (s)	8.1	-	-	-	13.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	330	30	90	300	43	20	10	50	71	20	31
Future Volume (veh/h)	31	330	30	90	300	43	20	10	50	71	20	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	39	418	33	114	380	46	25	13	0	90	25	11
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	65	542	43	142	589	71	43	22	0	122	34	15
Arrive On Green	0.04	0.32	0.32	0.08	0.36	0.36	0.02	0.04	0.00	0.08	0.10	0.10
Sat Flow, veh/h	1767	1697	134	1767	1623	196	1182	615	0	1260	350	154
Grp Volume(v), veh/h	39	0	451	114	0	426	38	0	0	126	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1831	1767	0	1820	1796	0	0	1764	0	0
Q Serve(g_s), s	0.7	0.0	6.9	2.0	0.0	6.1	0.7	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	6.9	2.0	0.0	6.1	0.7	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		0.07	1.00		0.11	0.66		0.00	0.71		0.09
Lane Grp Cap(c), veh/h	65	0	585	142	0	660	65	0	0	170	0	0
V/C Ratio(X)	0.60	0.00	0.77	0.80	0.00	0.65	0.59	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	226	0	1296	340	0	1405	305	0	0	1243	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.8	0.0	9.6	14.1	0.0	8.3	15.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	3.3	0.0	0.8	3.9	0.0	0.4	3.1	0.0	0.0	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.8	0.7	0.0	1.4	0.3	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	0.0	10.4	18.0	0.0	8.7	18.1	0.0	0.0	16.3	0.0	0.0
LnGrp LOS	B	A	B	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		490			540			38			126	
Approach Delay, s/veh		11.0			10.6			18.1			16.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	14.6		6.5	4.1	15.9		4.6
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	6.0	22.1		22.0	4.0	24.1		5.3
Max Q Clear Time (g_c+I1), s	4.0	8.9		4.2	2.7	8.1		2.7
Green Ext Time (p_c), s	0.0	0.8		0.2	0.0	0.8		0.0

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

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	90	421	130	81	161	332	1696	90	161	1729	120
Future Volume (veh/h)	220	90	421	130	81	161	332	1696	90	161	1729	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	224	92	388	133	83	16	339	1731	90	164	1764	118
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	212	409	619	156	342	290	310	2047	106	272	1935	129
Arrive On Green	0.12	0.22	0.22	0.09	0.18	0.18	0.06	0.14	0.14	0.15	0.40	0.40
Sat Flow, veh/h	1767	1856	1558	1767	1856	1570	1767	4930	256	1767	4850	324
Grp Volume(v), veh/h	224	92	388	133	83	16	339	1185	636	164	1227	655
Grp Sat Flow(s),veh/h/ln	1767	1856	1558	1767	1856	1570	1767	1689	1809	1767	1689	1796
Q Serve(g_s), s	17.4	5.9	29.1	10.8	5.5	0.9	25.4	49.7	49.8	12.5	49.8	50.0
Cycle Q Clear(g_c), s	17.4	5.9	29.1	10.8	5.5	0.9	25.4	49.7	49.8	12.5	49.8	50.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.18
Lane Grp Cap(c), veh/h	212	409	619	156	342	290	310	1402	751	272	1347	717
V/C Ratio(X)	1.06	0.22	0.63	0.85	0.24	0.06	1.10	0.85	0.85	0.60	0.91	0.91
Avail Cap(c_a), veh/h	212	491	688	171	448	379	310	1402	751	272	1347	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.8	46.3	35.2	65.2	50.5	26.1	68.3	58.0	58.1	57.2	41.2	41.2
Incr Delay (d2), s/veh	77.4	0.1	1.0	28.2	0.8	0.2	79.0	6.4	11.4	2.6	10.8	18.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	2.8	11.1	6.1	2.7	0.5	18.9	23.8	26.5	5.7	21.9	24.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	141.2	46.4	36.2	93.4	51.2	26.2	147.4	64.4	69.4	59.8	51.9	59.3
LnGrp LOS	F	D	D	F	D	C	F	E	E	E	D	E
Approach Vol, veh/h		704			232			2160			2046	
Approach Delay, s/veh		71.0			73.7			78.9			54.9	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.6	65.5	15.8	36.1	30.0	63.1	21.0	30.9
Change Period (Y+Rc), s	5.3	* 5.3	3.0	4.1	4.6	5.3	3.6	* 4.1
Max Green Setting (Gmax), s	17.6	* 60	14.0	38.4	25.4	50.2	17.4	* 35
Max Q Clear Time (g_c+I1), s	14.5	51.8	12.8	31.1	27.4	52.0	19.4	7.5
Green Ext Time (p_c), s	0.0	5.0	0.0	0.3	0.0	0.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	68.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	50	180	280	60	70	110	1978	400	90	2110	100
Future Volume (veh/h)	70	50	180	280	60	70	110	1978	400	90	2110	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	71	51	145	286	61	37	112	2018	393	92	2153	100
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	58	42	119	395	124	75	334	2507	475	91	2166	100
Arrive On Green	0.13	0.13	0.13	0.12	0.12	0.12	0.19	0.59	0.59	0.05	0.44	0.44
Sat Flow, veh/h	444	319	907	3428	1076	652	1767	4275	811	1767	4961	229
Grp Volume(v), veh/h	267	0	0	286	0	98	112	1582	829	92	1462	791
Grp Sat Flow(s),veh/h/ln	1670	0	0	1714	0	1728	1767	1689	1709	1767	1689	1813
Q Serve(g_s), s	19.0	0.0	0.0	11.7	0.0	7.7	8.0	52.9	56.5	7.5	62.4	63.2
Cycle Q Clear(g_c), s	19.0	0.0	0.0	11.7	0.0	7.7	8.0	52.9	56.5	7.5	62.4	63.2
Prop In Lane	0.27		0.54	1.00		0.38	1.00		0.47	1.00		0.13
Lane Grp Cap(c), veh/h	219	0	0	395	0	199	334	1980	1002	91	1474	792
V/C Ratio(X)	1.22	0.00	0.00	0.72	0.00	0.49	0.34	0.80	0.83	1.01	0.99	1.00
Avail Cap(c_a), veh/h	219	0	0	851	0	429	334	1980	1002	91	1474	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	0.0	0.0	61.9	0.0	60.2	50.9	23.3	24.1	68.8	40.6	40.8
Incr Delay (d2), s/veh	133.0	0.0	0.0	1.0	0.0	0.7	0.2	3.5	7.8	95.9	21.6	31.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.1	0.0	0.0	5.2	0.0	3.5	3.5	20.5	23.3	5.8	29.1	33.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	196.0	0.0	0.0	62.9	0.0	60.9	51.1	26.8	31.9	164.7	62.2	72.5
LnGrp LOS	F	A	A	E	A	E	D	C	C	F	E	E
Approach Vol, veh/h		267			384			2523			2345	
Approach Delay, s/veh		196.0			62.4			29.6			69.7	
Approach LOS		F			E			C			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	90.3		23.0	32.7	68.6		20.7
Change Period (Y+Rc), s	3.5	5.3		4.0	5.3	* 5.3		4.0
Max Green Setting (Gmax), s	7.5	65.7		19.0	9.9	* 63		36.0
Max Q Clear Time (g_c+I1), s	9.5	58.5		21.0	10.0	65.2		13.7
Green Ext Time (p_c), s	0.0	6.1		0.0	0.0	0.0		0.9

Intersection Summary	
HCM 6th Ctrl Delay	57.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	660	90	64	600	0	97
Future Vol, veh/h	660	90	64	600	0	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	904	123	88	822	0	133

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1027	0	-	514
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.16	-	-	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.23	-	-	3.33
Pot Cap-1 Maneuver	-	-	666	-	0	503
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	666	-	-	503
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	503	-	-	666	-
HCM Lane V/C Ratio	0.264	-	-	0.132	-
HCM Control Delay (s)	14.7	-	-	11.2	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	1.1	-	-	0.5	-

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	3. County Center Dr / Bell Rd
Scenario	Cumulative Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yield*	*Free*	
AM Peak Hour Volume	13		15					610	10	50	462	
AM Peak Hour Delay (s)	22.8		22.8					0	0	10	0	
PM Peak Hour Volume	30		60					690	10	10	600	
PM Peak Hour Delay (s)	29.8		29.8					0	0	10.2	0	

AM Delay	**14.6**
AM LOS	**B**

PM Delay	**27.8**
PM LOS	**D**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	7. Richardson Dr / DeWitt Av
Scenario	Cumulative Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	10	180	40	50	300	20	5	0	5	20	0	5
AM Peak Hour Delay (s)	8.3	0	0	8	0	0	15.1	15.1	15.1	18.4	18.4	18.4
PM Peak Hour Volume	5	290	10	5	200	5	30	0	10	60	0	80
PM Peak Hour Delay (s)	8	0	0	8.7	0	0	25.2	25.2	25.2	31.6	31.6	31.6

AM Delay	**11.5**
AM LOS	**B**

PM Delay	**29.0**
PM LOS	**D**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	9. 1st St / D Av / Professional Dr
Scenario	Cumulative Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	10	124	80	20	65	0	0	0	5	40	5	10
AM Peak Hour Delay (s)	7.4	0	0	7.8	0	0	8.7	8.7	8.7	11.5	11.5	11.5
PM Peak Hour Volume	5	68	40	20	129	20	20	10	5	90	5	20
PM Peak Hour Delay (s)	7.7	0	0	7.6	0	0	12.8	12.8	12.8	14.6	14.6	14.6

AM Delay	**10.1**
AM LOS	**B**

PM Delay	**13.2**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	13. Atwood Rd / 3rd St
Scenario	Cumulative Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control				*Stop*		*Stop*	*Yield*	*Free*			*Free*	*Free*
AM Peak Hour Volume				20		20	30	360			310	20
AM Peak Hour Delay (s)				13.5		13.5	8.1	0			0	0
PM Peak Hour Volume				30		70	10	350			290	20
PM Peak Hour Delay (s)				13.7		13.7	8.1	0			0	0

AM Delay	**11.2**
AM LOS	**B**

PM Delay	**13.2**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	17. 1st St / Bell St
Scenario	Cumulative Plus Multifamily Residential

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yeild*	*Free*	
AM Peak Hour Volume	0		70					600	50	107	502	
AM Peak Hour Delay (s)	12.7		12.7					0	0	10.9	0	
PM Peak Hour Volume	0		97					660	90	64	600	
PM Peak Hour Delay (s)	14.7		14.7					0	0	11.2	0	

AM Delay	**12.7**
AM LOS	**B**

PM Delay	**14.7**
PM LOS	**B**

FEHR PEERS

Major Street	Bell Road
Minor Street	County Center Drive

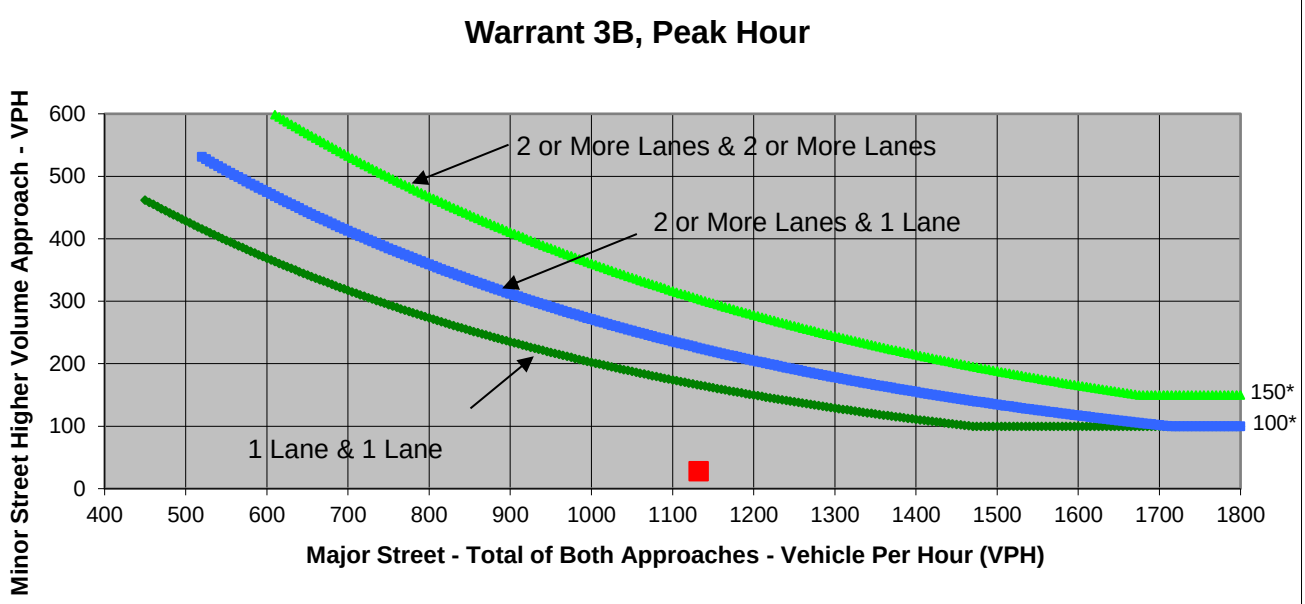
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	13			50
Through			610	462
Right	15		10	
Total	28	0	620	512

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	County Center Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,132**	**28**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	County Center Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	13	0	0	50
Through	0	0	610	462
Right	15	0	10	0
Total	28	0	620	512

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	22.8
Approach with Worst Case Delay	NB
Total Vehicles on Approach	28

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
mulative Plus Multifamily Residen	**0.2**	**28**	**1,160**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

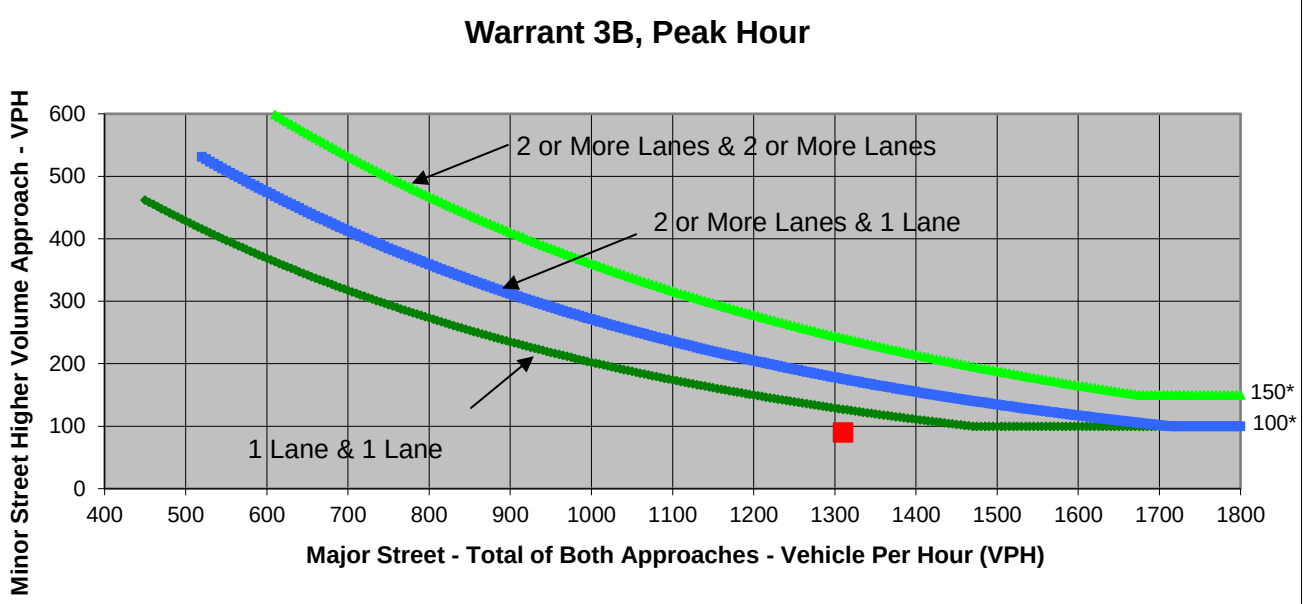
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	County Center Drive	Scenario	Cumulative Plus Multifamily Residential
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	30			10
Through			690	600
Right	60		10	
Total	90	0	700	610

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	County Center Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,310**	**90**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	County Center Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	30	0	0	10
Through	0	0	690	600
Right	60	0	10	0
Total	90	0	700	610

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	29.8
Approach with Worst Case Delay	NB
Total Vehicles on Approach	90

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
mulative Plus Multifamily Residen	**0.7**	**90**	**1,400**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Dr
Minor Street	DeWitt Ave

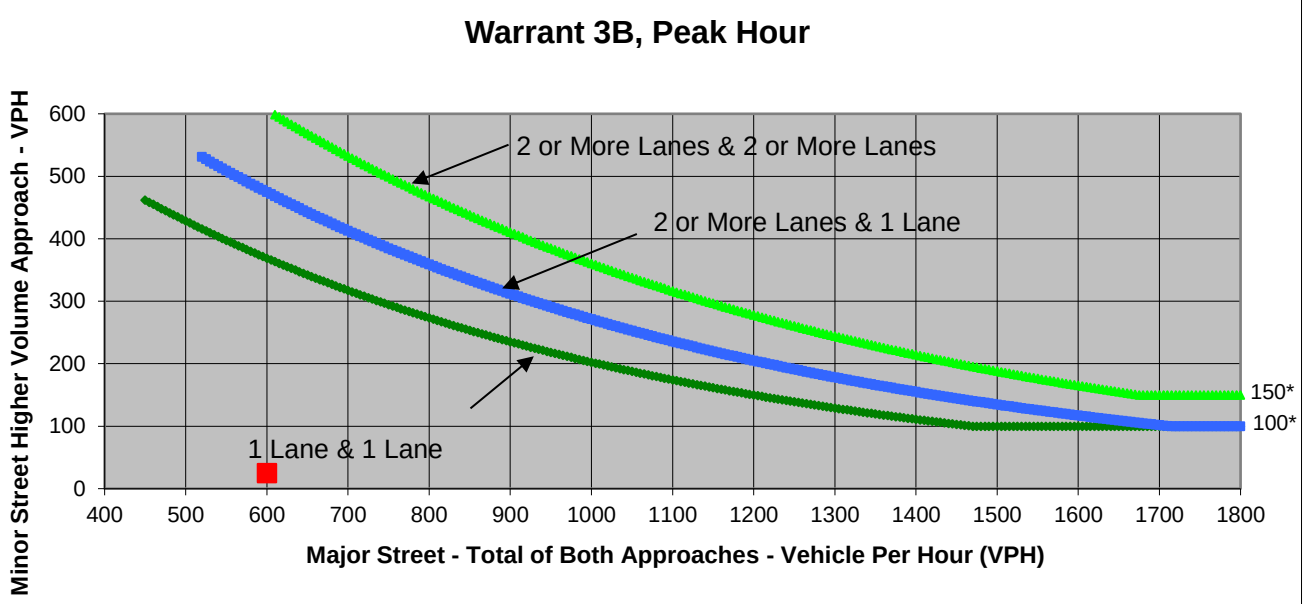
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	50	5	20
Through	180	300	0	0
Right	40	20	5	5
Total	230	370	10	25

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Dr	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**600**	**25**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Dr
Minor Street	DeWitt Ave

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	50	5	20
Through	180	300	0	0
Right	40	20	5	5
Total	230	370	10	25

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	18.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	25

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
mulative Plus Multifamily Residen	**0.1**	**25**	**635**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Drive
Minor Street	DeWitt Ave

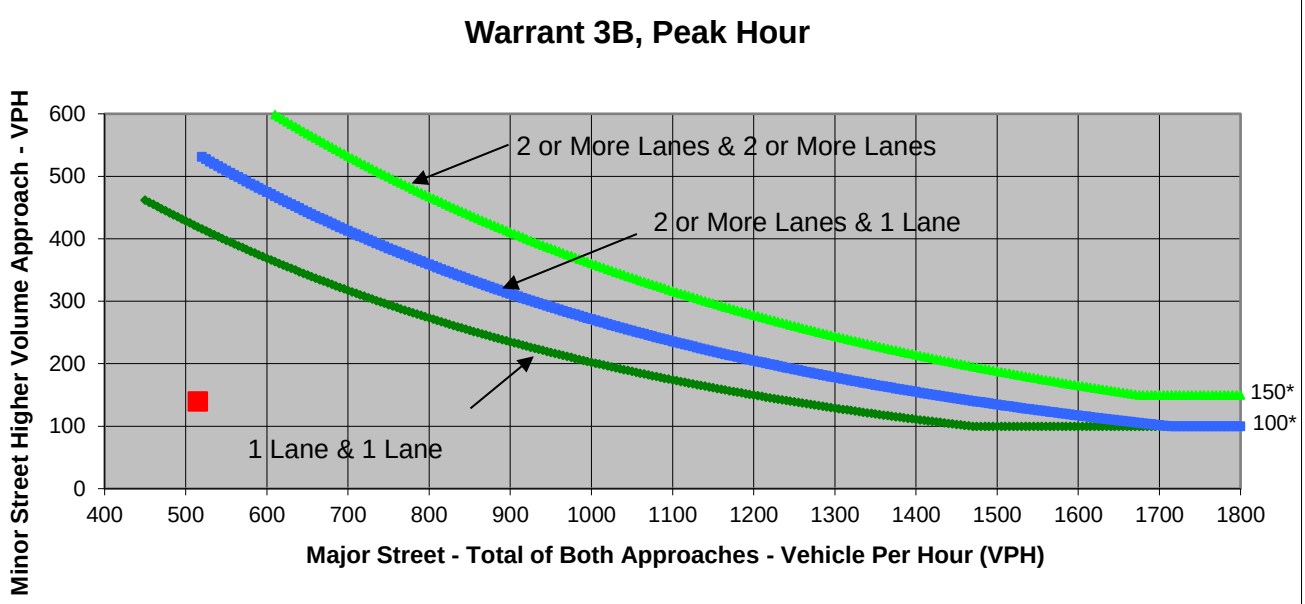
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	5	30	60
Through	290	200	0	0
Right	10	5	10	80
Total	305	210	40	140

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**515**	**140**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Drive
Minor Street	DeWitt Ave

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	5	30	60
Through	290	200	0	0
Right	10	5	10	80
Total	305	210	40	140

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	31.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	140

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
mulative Plus Multifamily Residen	**1.2**	**140**	**695**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

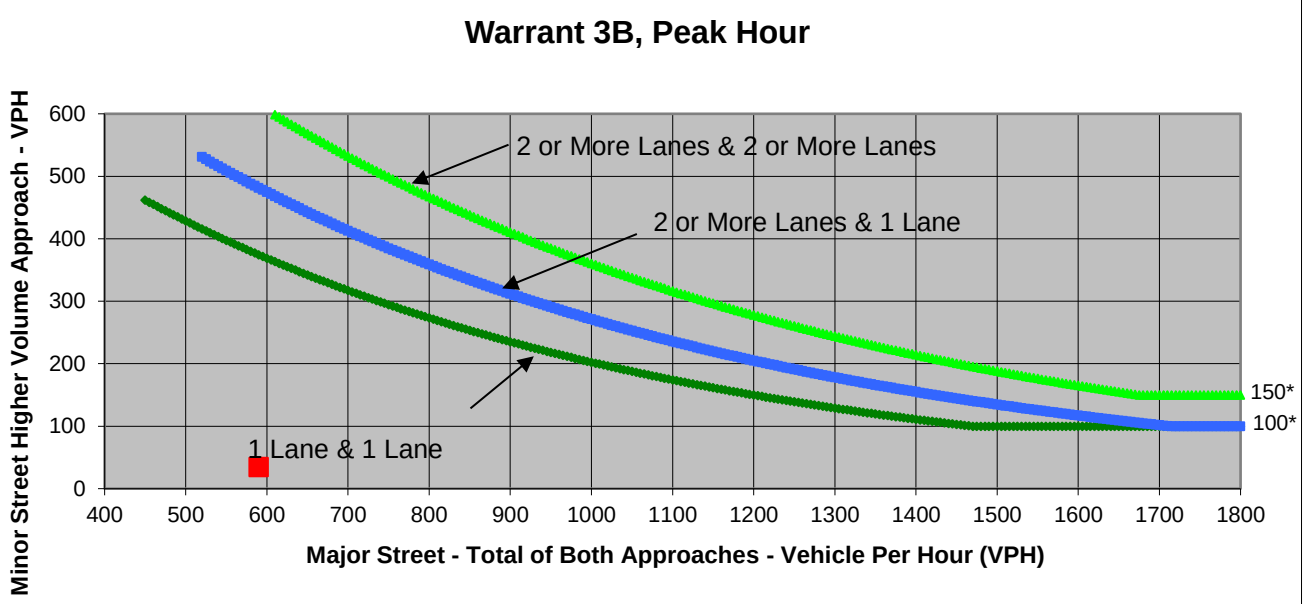
Major Street	Richardson Dr	Project	PCGC Master Plan Update EIR
Minor Street	B Ave	Scenario	Cumulative Plus Multifamily Residential
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	20	10	12
Through	200	270	5	10
Right	30	20	20	10
Total	280	310	35	32

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Dr	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**590**	**35**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Dr
Minor Street	B Ave

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	20	10	12
Through	200	270	5	10
Right	30	20	20	10
Total	280	310	35	32

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	8.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	32

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
mulative Plus Multifamily Residen	**0.1**	**35**	**657**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Drive
Minor Street	B Ave

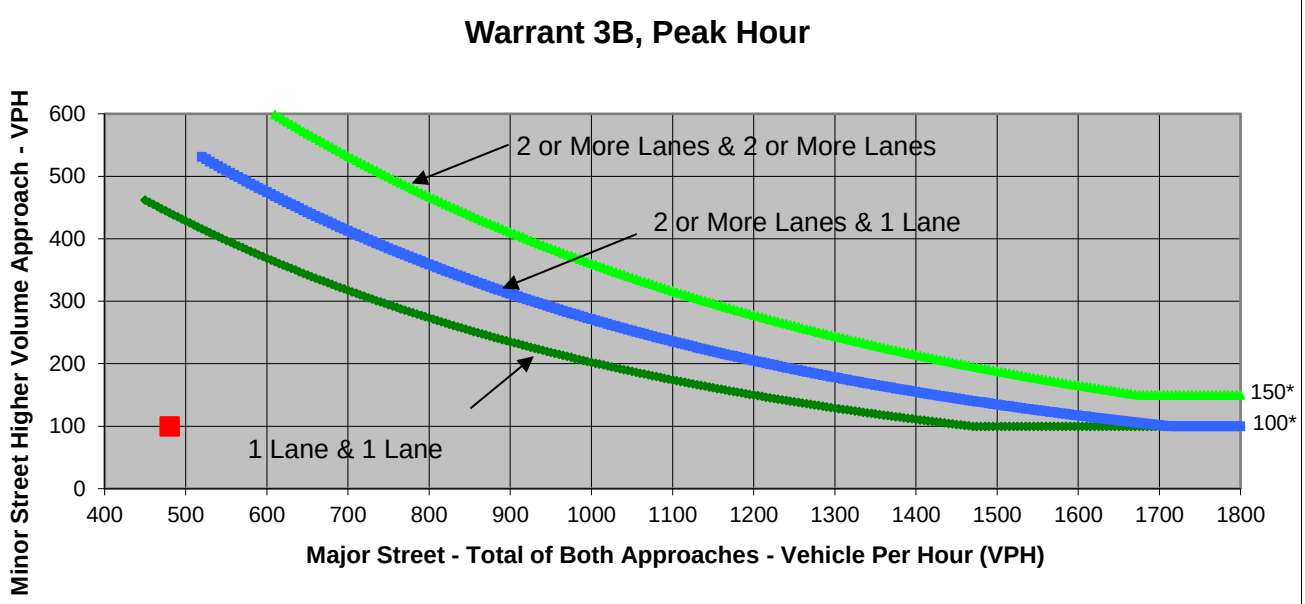
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	5	30	50
Through	190	240	20	5
Right	5	20	50	40
Total	215	265	100	95

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**480**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	PM

Major Street	Richardson Drive
Minor Street	B Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	5	30	50
Through	190	240	20	5
Right	5	20	50	40
Total	215	265	100	95

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	95

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
mulative Plus Multifamily Residen	**0.3**	**100**	**675**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

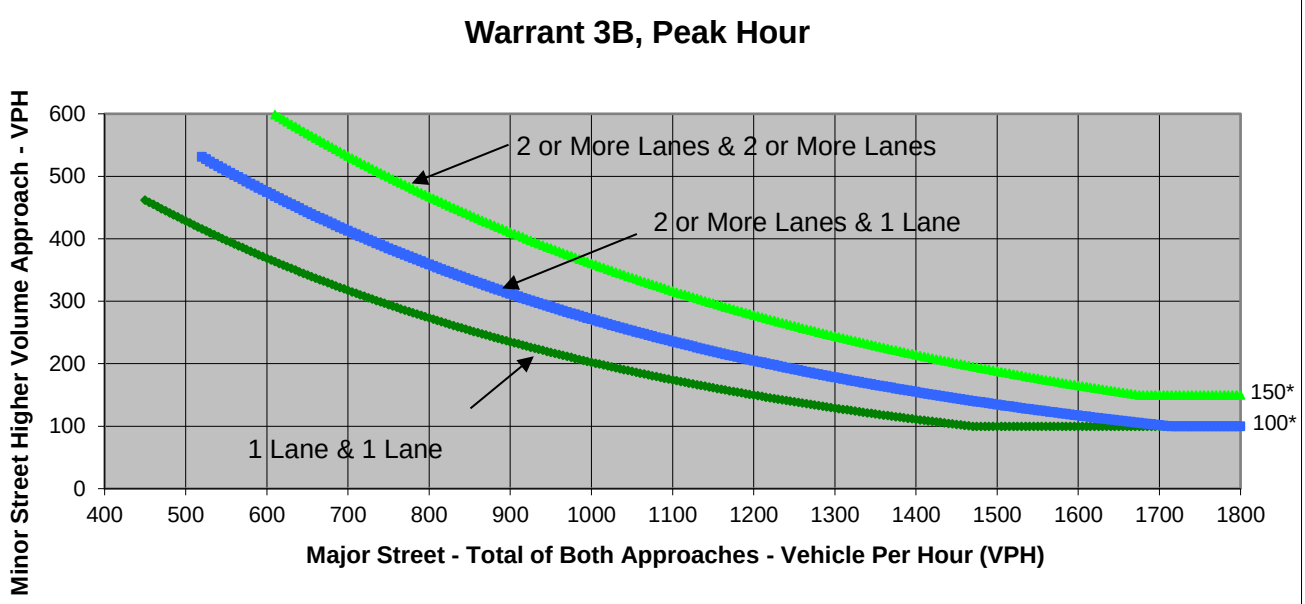
Major Street	1st Street	Project	PCGC Master Plan Update EIR
Minor Street	D Ave / Professional Drive	Scenario	Cumulative Plus Multifamily Residential
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	20	0	40
Through	124	65	0	5
Right	80	0	5	10
Total	214	85	5	55

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**299**	**55**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	20	0	40
Through	124	65	0	5
Right	80	0	5	10
Total	214	85	5	55

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	55

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
mulative Plus Multifamily Residen	**0.2**	**55**	**359**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

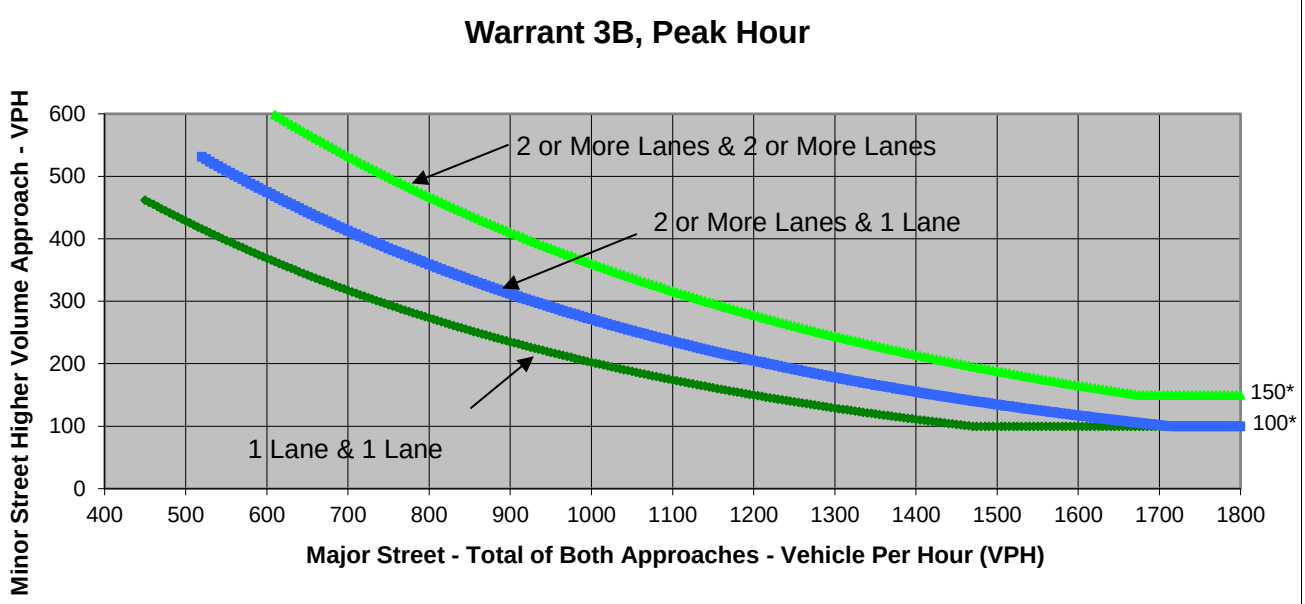
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	20	20	90
Through	68	129	10	5
Right	40	20	5	20
Total	113	169	35	115

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**282**	**115**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	PM

Major Street	1st Street
Minor Street	D Ave / Professional Drive

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	20	20	90
Through	68	129	10	5
Right	40	20	5	20
Total	113	169	35	115

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	14.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	115

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
mulative Plus Multifamily Residen	**0.5**	**115**	**432**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st Street
Minor Street	3rd St / Willow Creek Drive

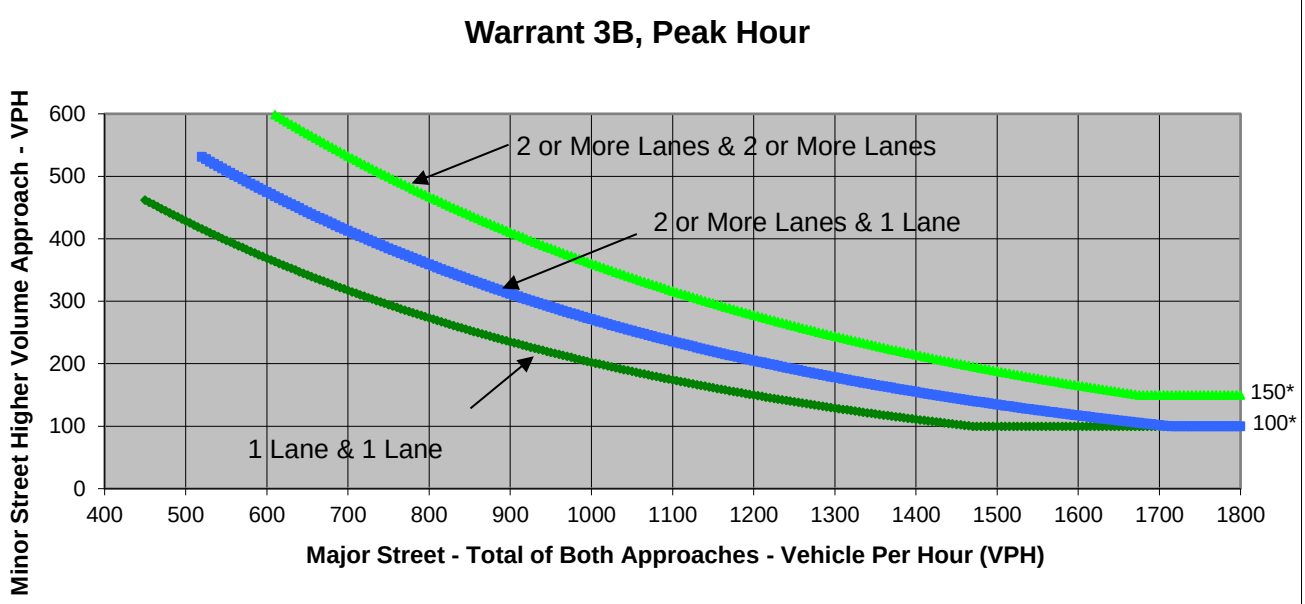
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	50	20	40
Through	62	75	20	30
Right	50	20	5	122
Total	117	145	45	192

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	3rd St / Willow Creek Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**262**	**192**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	3rd St / Willow Creek Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	50	20	40
Through	62	75	20	30
Right	50	20	5	122
Total	117	145	45	192

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	5.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	192

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
mulative Plus Multifamily Residen	**0.3**	**192**	**499**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

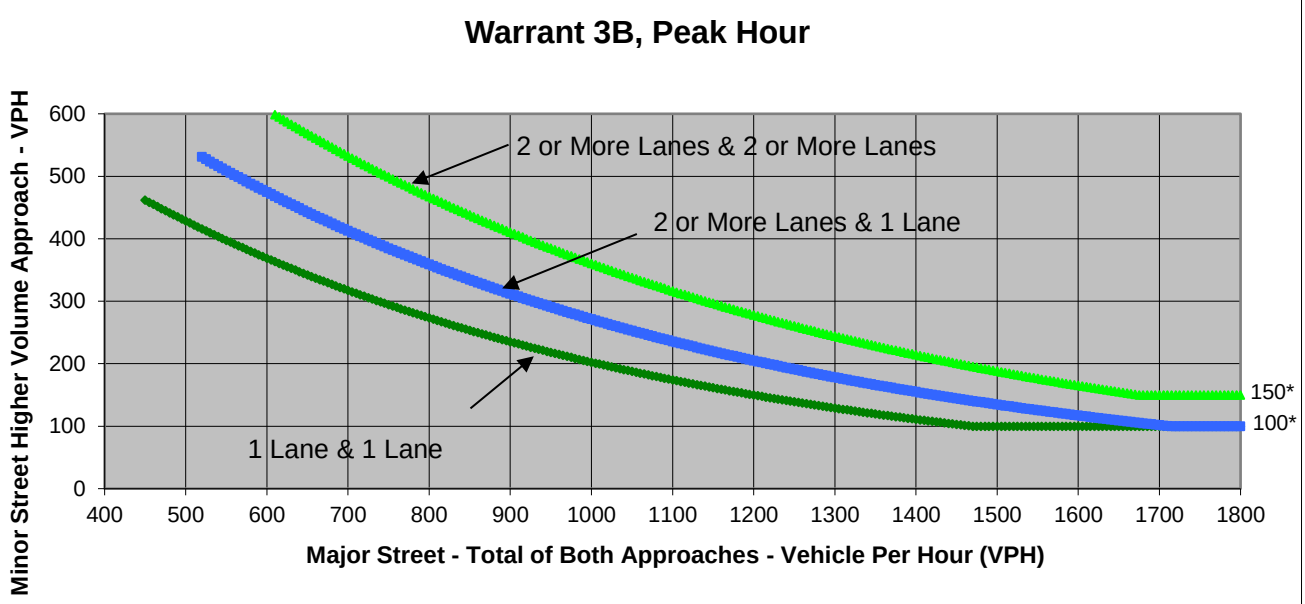
Major Street	1st Street	Project	PCGC Master Plan Update EIR
Minor Street	3rd St / Willow Creek Drive	Scenario	Cumulative Plus Multifamily Residential
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	137	5	30
Through	54	82	30	60
Right	40	20	5	64
Total	94	239	40	154

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	3rd St / Willow Creek Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**333**	**154**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	3rd St / Willow Creek Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	137	5	30
Through	54	82	30	60
Right	40	20	5	64
Total	94	239	40	154

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	5.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	154

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
mulative Plus Multifamily Residen	**0.2**	**154**	**527**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

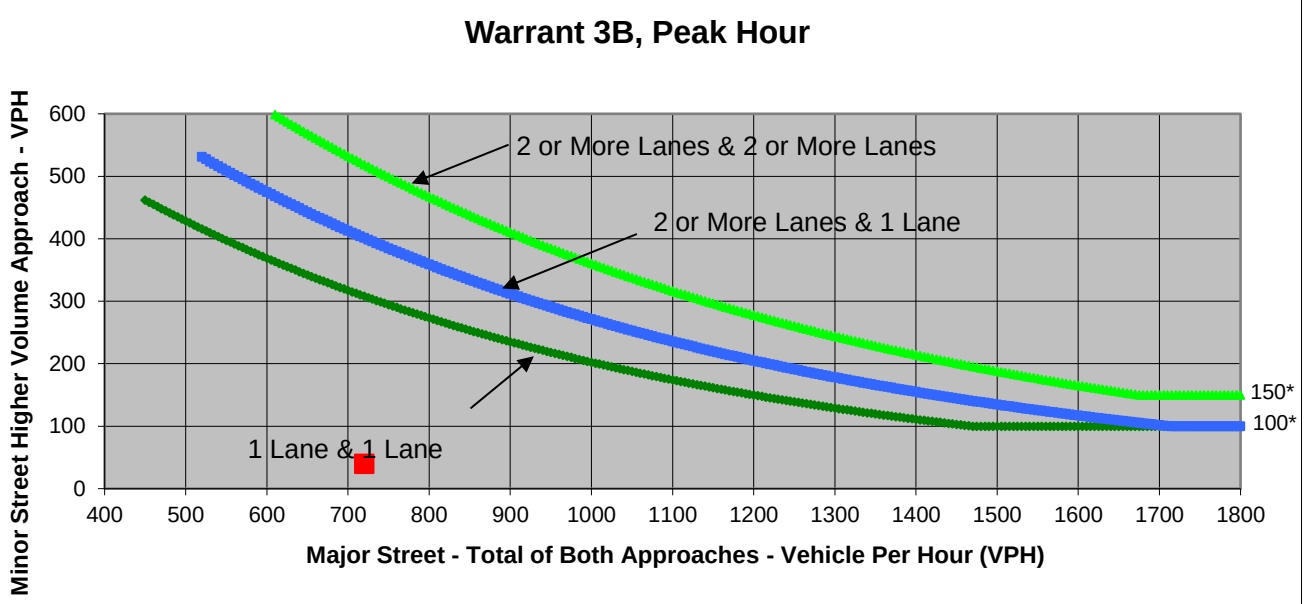
Major Street	Atwood Rd	Project	PCGC Master Plan Update EIR
Minor Street	3rd Street	Scenario	Cumulative Plus Multifamily Residential
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		20	30	
Through			360	310
Right		20		20
Total	0	40	390	330

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Rd	3rd Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**720**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd Street

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	20	30	0
Through	0	0	360	310
Right	0	20	0	20
Total	0	40	390	330

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.5
Approach with Worst Case Delay	SB
Total Vehicles on Approach	40

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
mulative Plus Multifamily Residen	0.2	40	760
Limiting Value	4	100	650
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	NO		

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd Street

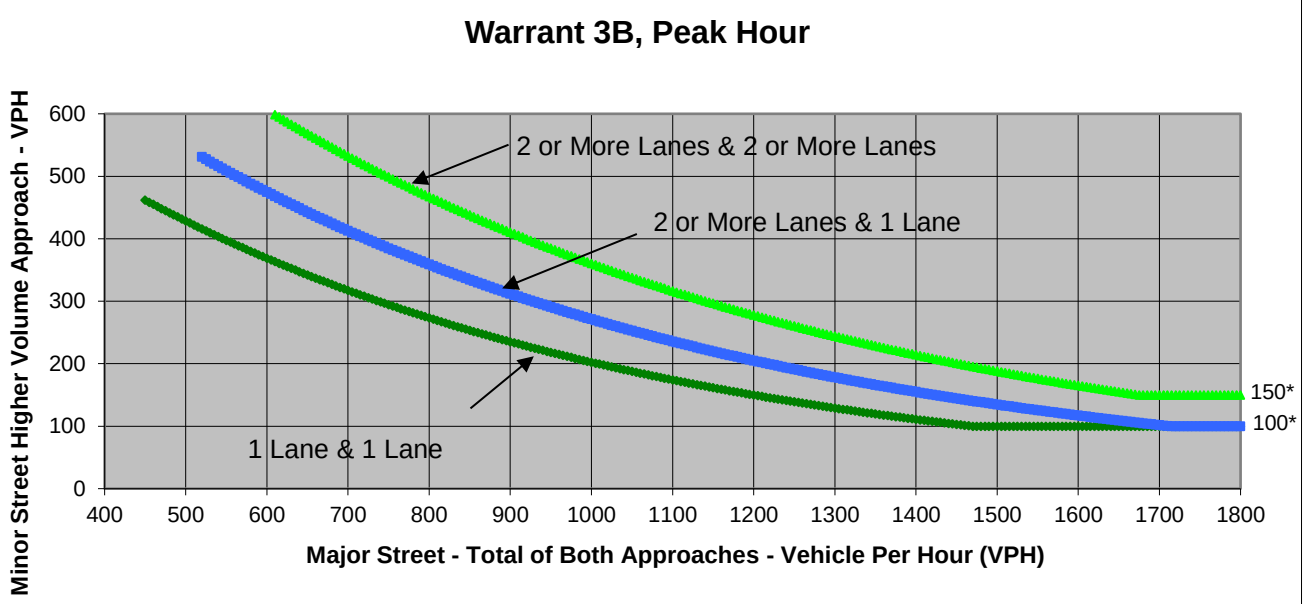
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		30	10	
Through			350	290
Right		70		20
Total	0	100	360	310

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Rd	3rd Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**100**	**360**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd Street

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	30	10	0
Through	0	0	350	290
Right	0	70	0	20
Total	0	100	360	310

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.7
Approach with Worst Case Delay	SB
Total Vehicles on Approach	100

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
mulative Plus Multifamily Residen	**0.4**	**360**	**770**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

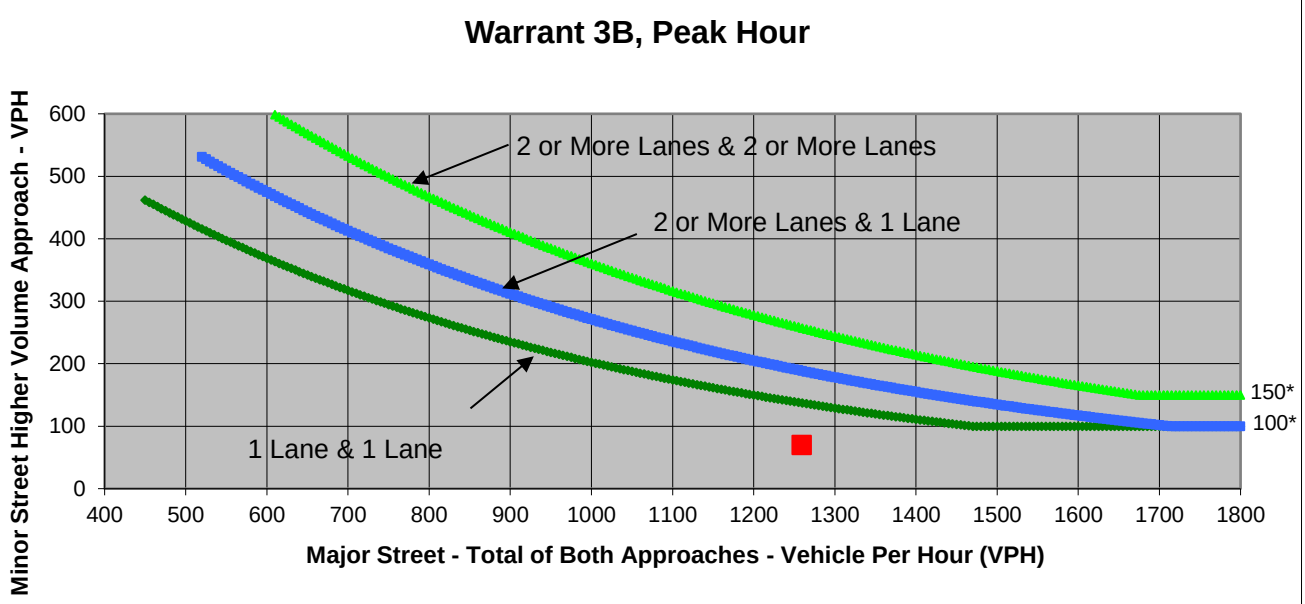
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	1st Street	Scenario	Cumulative Plus Multifamily Residential
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left				107
Through			600	502
Right	70		50	
Total	70	0	650	609

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	1st Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,259**	**70**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	1st Street

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	107
Through	0	0	600	502
Right	70	0	50	0
Total	70	0	650	609

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.7
Approach with Worst Case Delay	NB
Total Vehicles on Approach	70

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
mulative Plus Multifamily Residen	**0.2**	**70**	**1,329**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

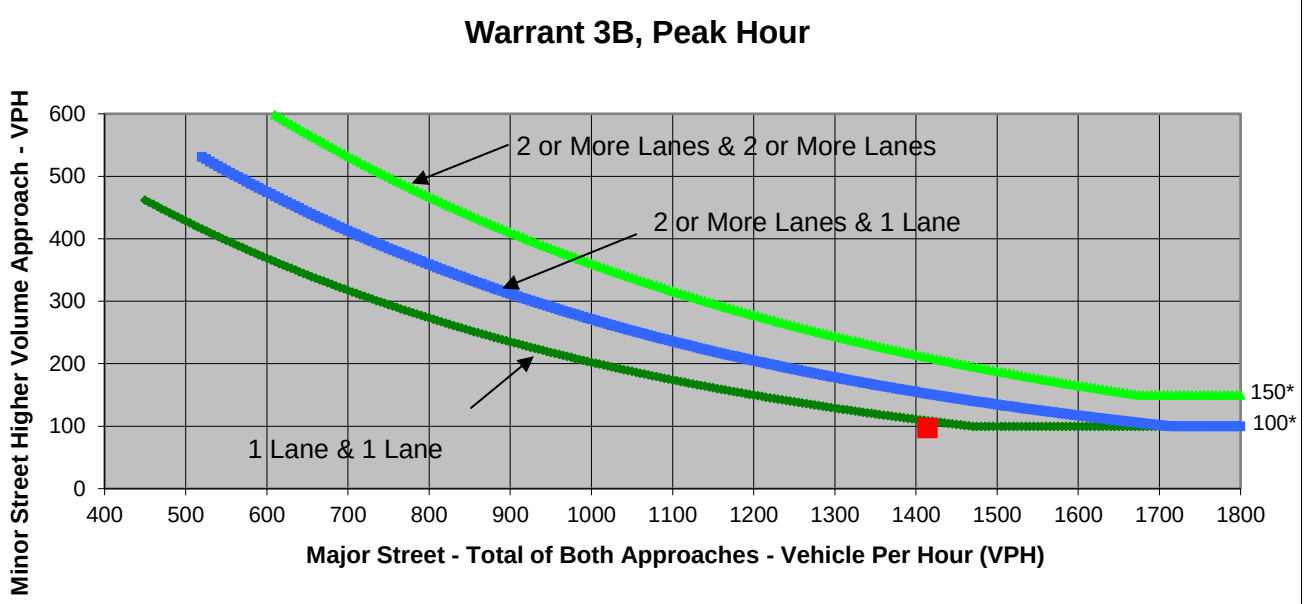
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	1st Street	Scenario	Cumulative Plus Multifamily Residential
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left				64
Through			660	600
Right	97		90	
Total	97	0	750	664

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	1st Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,414**	**97**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	1st Street

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Multifamily Residential
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	64
Through	0	0	660	600
Right	97	0	90	0
Total	97	0	750	664

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	14.7
Approach with Worst Case Delay	NB
Total Vehicles on Approach	97

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
mulative Plus Multifamily Residen	**0.4**	**97**	**1,511**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

Appendix H:
Cumulative Plus Health & Human Services Building Conditions – Technical Calculations

FEHR PEERS

CUMULATIVE PLUS HEALTH & HUMAN SERVICES		# of Lanes		Trip Distribution			Daily Trip Assignment	Roadway ADT Forecasts		ADT Volume	V/C	LOS
Roadway	**Segment**	**Ex**	**Cum**	**AM**	**PM**	**Blended**	**HHS**	**CNP**	**C+HHS**	**C+HHS**	**C+HHS**	**C+HHS**
Atwood Road	West of SR 49	2	2	24%	28%	26%	517	11,900	12,417	6209	0.69	B
Bell Road	West of SR 49	4	4	44%	41%	43%	855	19,400	20,255	5064	0.56	A
SR 49	Luther Rd. to New Airport Rd.	6	6	41%	39%	40%	796	47,700	48,496	8083	0.9	D
SR 49	New Airport Rd. to Atwood Rd.	6	6	41%	39%	40%	796	45,200	45,996	7666	0.85	D
SR 49	Atwood Rd. to Willow Creek Dr.	6	6	19%	14%	17%	328	45,100	45,428	7571	0.84	D
SR 49	Willow Creek Dr. to Bell Rd.	6	6	0%	0%	0%	0	44,900	44,900	7483	0.83	D
SR 49	North of Bell Rd.	4	5	27%	25%	26%	517	35,000	35,517	7103	0.79	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	10	50	10	10	50	120	1505	40	80	1830	160
Future Volume (veh/h)	70	10	50	10	10	50	120	1505	40	80	1830	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		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	71	10	4	10	10	1	122	1536	27	82	1867	124
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	106	75	30	34	36	31	502	2452	761	550	1803	785
Arrive On Green	0.06	0.06	0.06	0.02	0.02	0.02	0.57	0.97	0.97	0.31	0.51	0.51
Sat Flow, veh/h	1767	1254	502	1767	1856	1572	1767	5066	1572	1767	3526	1535
Grp Volume(v), veh/h	71	0	14	10	10	1	122	1536	27	82	1867	124
Grp Sat Flow(s),veh/h/ln	1767	0	1756	1767	1856	1572	1767	1689	1572	1767	1763	1535
Q Serve(g_s), s	5.9	0.0	1.1	0.8	0.8	0.1	5.2	3.7	0.1	5.0	76.7	6.4
Cycle Q Clear(g_c), s	5.9	0.0	1.1	0.8	0.8	0.1	5.2	3.7	0.1	5.0	76.7	6.4
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	0	105	34	36	31	502	2452	761	550	1803	785
V/C Ratio(X)	0.67	0.00	0.13	0.29	0.28	0.03	0.24	0.63	0.04	0.15	1.04	0.16
Avail Cap(c_a), veh/h	318	0	316	212	223	189	502	2452	761	550	1803	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.50	0.50	0.50	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.1	0.0	66.8	72.5	72.5	72.2	24.3	1.3	1.2	37.3	36.6	19.5
Incr Delay (d2), s/veh	2.7	0.0	0.2	4.6	4.1	0.4	0.0	0.6	0.0	0.1	31.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.5	0.4	0.4	0.0	2.0	0.7	0.0	2.2	38.7	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.8	0.0	67.0	77.1	76.6	72.6	24.3	1.9	1.3	37.4	67.7	19.9
LnGrp LOS	E	A	E	E	E	E	C	A	A	D	F	B
Approach Vol, veh/h		85			21			1685			2073	
Approach Delay, s/veh		71.0			76.6			3.5			63.6	
Approach LOS		E			E			A			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	51.2	78.3		13.1	47.1	82.4		7.4				
Change Period (Y+Rc), s	4.5	5.7		4.1	4.5	* 5.7		4.5				
Max Green Setting (Gmax), s	13.6	72.6		27.0	10.0	* 77		18.0				
Max Q Clear Time (g_c+I1), s	7.0	5.7		7.9	7.2	78.7		2.8				
Green Ext Time (p_c), s	0.1	9.0		0.1	0.0	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	458	119	187	240	90	62	35	117	60	140	80
Future Volume (veh/h)	20	458	119	187	240	90	62	35	117	60	140	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	24	559	107	228	293	34	76	43	4	73	171	59
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	50	756	144	281	718	608	113	302	28	110	236	81
Arrive On Green	0.03	0.26	0.26	0.16	0.39	0.39	0.06	0.18	0.18	0.06	0.18	0.18
Sat Flow, veh/h	1767	2950	563	1767	1856	1570	1767	1672	156	1767	1318	455
Grp Volume(v), veh/h	24	333	333	228	293	34	76	0	47	73	0	230
Grp Sat Flow(s),veh/h/ln	1767	1763	1750	1767	1856	1570	1767	0	1827	1767	0	1772
Q Serve(g_s), s	0.7	9.1	9.2	6.6	6.0	0.7	2.2	0.0	1.1	2.1	0.0	6.4
Cycle Q Clear(g_c), s	0.7	9.1	9.2	6.6	6.0	0.7	2.2	0.0	1.1	2.1	0.0	6.4
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.09	1.00		0.26
Lane Grp Cap(c), veh/h	50	452	449	281	718	608	113	0	330	110	0	317
V/C Ratio(X)	0.48	0.74	0.74	0.81	0.41	0.06	0.67	0.00	0.14	0.66	0.00	0.73
Avail Cap(c_a), veh/h	168	603	599	353	829	701	168	0	642	168	0	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.2	17.9	18.0	21.4	11.7	10.1	24.1	0.0	18.1	24.1	0.0	20.4
Incr Delay (d2), s/veh	7.1	3.3	3.4	10.9	0.4	0.0	6.8	0.0	0.2	6.6	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.5	3.5	3.2	2.0	0.2	1.1	0.0	0.4	1.0	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	21.2	21.4	32.2	12.1	10.1	31.0	0.0	18.3	30.8	0.0	23.5
LnGrp LOS	C	C	C	C	B	B	C	A	B	C	A	C
Approach Vol, veh/h		690			555			123			303	
Approach Delay, s/veh		21.7			20.3			26.1			25.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	14.0	12.9	18.0	7.9	13.9	6.0	24.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	10.5	18.0	5.0	18.5	5.0	23.5
Max Q Clear Time (g_c+I1), s	4.1	3.1	8.6	11.2	4.2	8.4	2.7	8.0
Green Ext Time (p_c), s	0.0	0.1	0.1	2.2	0.0	0.8	0.0	1.5

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	627	8	40	517	5	7
Future Vol, veh/h	627	8	40	517	5	7
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	847	11	54	699	7	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	861	0	1314	432
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	458	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	770	-	148	569
Stage 1	-	-	-	-	374	-
Stage 2	-	-	-	-	601	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	768	-	137	567
Mov Cap-2 Maneuver	-	-	-	-	137	-
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	601	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	246	-	-	768	-
HCM Lane V/C Ratio	0.066	-	-	0.07	-
HCM Control Delay (s)	20.7	-	-	10	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	584	20	140	487	50	10	20	44	30	30	60
Future Volume (veh/h)	30	584	20	140	487	50	10	20	44	30	30	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	41	800	23	192	667	58	14	27	0	41	41	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	79	1140	33	246	1378	120	32	142	0	79	192	0
Arrive On Green	0.04	0.33	0.33	0.14	0.42	0.42	0.02	0.08	0.00	0.04	0.10	0.00
Sat Flow, veh/h	1767	3499	101	1767	3282	285	1767	1856	0	1767	1856	0
Grp Volume(v), veh/h	41	403	420	192	358	367	14	27	0	41	41	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1837	1767	1763	1804	1767	1856	0	1767	1856	0
Q Serve(g_s), s	1.0	8.7	8.7	4.6	6.4	6.4	0.3	0.6	0.0	1.0	0.9	0.0
Cycle Q Clear(g_c), s	1.0	8.7	8.7	4.6	6.4	6.4	0.3	0.6	0.0	1.0	0.9	0.0
Prop In Lane	1.00		0.05	1.00		0.16	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	79	574	599	246	740	757	32	142	0	79	192	0
V/C Ratio(X)	0.52	0.70	0.70	0.78	0.48	0.48	0.44	0.19	0.00	0.52	0.21	0.00
Avail Cap(c_a), veh/h	244	831	866	386	973	995	223	875	0	223	875	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.3	12.8	12.8	18.1	9.2	9.2	21.1	18.8	0.0	20.3	17.9	0.0
Incr Delay (d2), s/veh	5.1	1.6	1.5	5.4	0.5	0.5	9.4	0.6	0.0	5.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.8	2.9	1.9	1.8	1.8	0.2	0.3	0.0	0.5	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	14.4	14.3	23.5	9.7	9.7	30.6	19.5	0.0	25.4	18.4	0.0
LnGrp LOS	C	B	B	C	A	A	C	B	A	C	B	A
Approach Vol, veh/h		864			917			41			82	
Approach Delay, s/veh		14.9			12.6			23.3			21.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	7.8	10.5	18.7	5.3	9.0	6.5	22.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	20.5	9.5	20.5	5.5	20.5	6.0	24.0
Max Q Clear Time (g_c+I1), s	3.0	2.6	6.6	10.7	2.3	2.9	3.0	8.4
Green Ext Time (p_c), s	0.0	0.1	0.1	3.4	0.0	0.1	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	618	30	80	647	160	5	20	50	70	40	30
Future Volume (veh/h)	30	618	30	80	647	160	5	20	50	70	40	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	37	754	33	98	789	175	6	24	0	85	49	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	46	1415	62	121	1301	288	39	41	0	185	194	0
Arrive On Green	0.03	0.41	0.41	0.07	0.45	0.45	0.02	0.02	0.00	0.10	0.10	0.00
Sat Flow, veh/h	1767	3440	151	1767	2866	636	1767	1856	0	1767	1856	0
Grp Volume(v), veh/h	37	386	401	98	485	479	6	24	0	85	49	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1828	1767	1763	1739	1767	1856	0	1767	1856	0
Q Serve(g_s), s	0.7	5.5	5.5	1.8	6.9	6.9	0.1	0.4	0.0	1.5	0.8	0.0
Cycle Q Clear(g_c), s	0.7	5.5	5.5	1.8	6.9	6.9	0.1	0.4	0.0	1.5	0.8	0.0
Prop In Lane	1.00		0.08	1.00		0.37	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	46	725	752	121	800	789	39	41	0	185	194	0
V/C Ratio(X)	0.80	0.53	0.53	0.81	0.61	0.61	0.16	0.59	0.00	0.46	0.25	0.00
Avail Cap(c_a), veh/h	481	1120	1162	481	1120	1105	1177	1235	0	1337	1404	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.0	7.3	7.3	15.2	6.8	6.8	15.9	16.0	0.0	13.9	13.6	0.0
Incr Delay (d2), s/veh	11.1	0.9	0.8	4.8	1.1	1.1	2.6	18.0	0.0	2.5	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.2	1.2	0.7	1.4	1.3	0.1	0.4	0.0	0.6	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	8.2	8.2	19.9	7.9	7.9	18.5	34.1	0.0	16.4	14.6	0.0
LnGrp LOS	C	A	A	B	A	A	B	C	A	B	B	A
Approach Vol, veh/h		824			1062			30			134	
Approach Delay, s/veh		9.0			9.0			30.9			15.7	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	17.6		6.5	3.9	19.0		3.7
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	9.0	21.0		25.0	9.0	21.0		22.0
Max Q Clear Time (g_c+I1), s	3.8	7.5		3.5	2.7	8.9		2.4
Green Ext Time (p_c), s	0.0	5.2		0.7	0.0	6.1		0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	273	290	290	567	560	340	890	270	550	1160	180
Future Volume (veh/h)	215	273	290	290	567	560	340	890	270	550	1160	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	219	279	96	296	579	0	347	908	239	561	1184	176
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	230	401	176	680	643		552	1318	346	831	1267	188
Arrive On Green	0.13	0.11	0.11	0.20	0.18	0.00	0.16	0.33	0.33	0.48	0.82	0.82
Sat Flow, veh/h	1767	3526	1543	3428	3526	1572	3428	3995	1047	3428	3079	456
Grp Volume(v), veh/h	219	279	96	296	579	0	347	767	380	561	676	684
Grp Sat Flow(s),veh/h/ln	1767	1763	1543	1714	1763	1572	1714	1689	1665	1714	1763	1772
Q Serve(g_s), s	18.5	11.4	8.8	11.4	24.1	0.0	14.2	29.5	29.7	18.8	43.7	45.1
Cycle Q Clear(g_c), s	18.5	11.4	8.8	11.4	24.1	0.0	14.2	29.5	29.7	18.8	43.7	45.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.26
Lane Grp Cap(c), veh/h	230	401	176	680	643		552	1114	549	831	725	729
V/C Ratio(X)	0.95	0.70	0.55	0.43	0.90		0.63	0.69	0.69	0.68	0.93	0.94
Avail Cap(c_a), veh/h	230	884	387	680	813		552	1114	549	831	725	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.55	0.55	0.55
Uniform Delay (d), s/veh	64.8	64.0	62.8	52.7	60.0	0.0	58.7	43.6	43.6	34.1	11.7	11.8
Incr Delay (d2), s/veh	45.9	0.8	1.0	0.2	9.8	0.0	1.7	3.5	7.0	1.0	13.1	13.8
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	11.2	5.1	3.5	4.8	11.4	0.0	6.2	12.6	13.0	6.1	7.5	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.7	64.8	63.8	52.9	69.8	0.0	60.5	47.0	50.6	35.1	24.8	25.7
LnGrp LOS	F	E	E	D	E		E	D	D	D	C	C
Approach Vol, veh/h		594			875	A		1494			1921	
Approach Delay, s/veh		81.5			64.1			51.1			28.1	
Approach LOS		F			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	40.5	54.8	33.3	21.5	28.3	67.0	23.0	31.7
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	29.1	49.5	16.5	37.6	16.9	61.7	19.5	34.6
Max Q Clear Time (g_c+I1), s	20.8	31.7	13.4	13.4	16.2	47.1	20.5	26.1
Green Ext Time (p_c), s	0.3	2.5	0.1	0.6	0.0	2.6	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	48.1
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	5	20	0	5	10	204	40	48	378	20
Future Vol, veh/h	5	0	5	20	0	5	10	204	40	48	378	20
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	4	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	7	0	7	27	0	7	13	272	53	64	504	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	981	1008	527	980	995	303	538	0	0	329	0	0
Stage 1	653	653	-	329	329	-	-	-	-	-	-	-
Stage 2	328	355	-	651	666	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	228	240	549	228	244	734	1025	-	-	1225	-	-
Stage 1	455	462	-	682	645	-	-	-	-	-	-	-
Stage 2	683	628	-	456	456	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	213	222	544	212	225	731	1018	-	-	1220	-	-
Mov Cap-2 Maneuver	213	222	-	212	225	-	-	-	-	-	-	-
Stage 1	445	435	-	668	632	-	-	-	-	-	-	-
Stage 2	666	615	-	426	429	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.3	21.8	0.3	0.9
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1018	-	-	306	247	1220	-	-
HCM Lane V/C Ratio	0.013	-	-	0.044	0.135	0.052	-	-
HCM Control Delay (s)	8.6	0	-	17.3	21.8	8.1	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.5	0.2	-	-

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	5	20	10	10	31	50	203	30	84	284	20
Future Vol, veh/h	10	5	20	10	10	31	50	203	30	84	284	20
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	6	22	11	11	35	56	228	34	94	319	22
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.9	9	10.6	11.7
HCM LOS	A	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	29%	20%	100%	0%
Vol Thru, %	0%	87%	14%	20%	0%	93%
Vol Right, %	0%	13%	57%	61%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	233	35	51	84	304
LT Vol	50	0	10	10	84	0
Through Vol	0	203	5	10	0	284
RT Vol	0	30	20	31	0	20
Lane Flow Rate	56	262	39	57	94	342
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.089	0.372	0.06	0.086	0.147	0.479
Departure Headway (Hd)	5.713	5.119	5.448	5.372	5.596	5.047
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	625	699	652	662	639	710
Service Time	3.468	2.873	3.526	3.447	3.347	2.797
HCM Lane V/C Ratio	0.09	0.375	0.06	0.086	0.147	0.482
HCM Control Delay	9	10.9	8.9	9	9.3	12.4
HCM Lane LOS	A	B	A	A	A	B
HCM 95th-tile Q	0.3	1.7	0.2	0.3	0.5	2.6

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	0	0	5	40	5	10	10	142	80	20	52	0
Future Vol, veh/h	0	0	5	40	5	10	10	142	80	20	52	0
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	6	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	6	47	6	12	12	165	93	23	60	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	355	394	60	351	348	222	60	0	0	264	0	0
Stage 1	106	106	-	242	242	-	-	-	-	-	-	-
Stage 2	249	288	-	109	106	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	598	541	1003	602	574	815	1537	-	-	1294	-	-
Stage 1	897	806	-	759	704	-	-	-	-	-	-	-
Stage 2	753	672	-	894	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	570	523	1003	583	555	807	1537	-	-	1287	-	-
Mov Cap-2 Maneuver	570	523	-	583	555	-	-	-	-	-	-	-
Stage 1	889	791	-	748	693	-	-	-	-	-	-	-
Stage 2	727	662	-	873	791	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	11.6	0.3	2.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1537	-	-	1003	611	1287	-	-
HCM Lane V/C Ratio	0.008	-	-	0.006	0.105	0.018	-	-
HCM Control Delay (s)	7.4	0	-	8.6	11.6	7.8	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.1	-	-

Intersection	
Intersection Delay, s/veh	4.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	49	228	124	142
Demand Flow Rate, veh/h	51	235	128	146
Vehicles Circulating, veh/h	167	95	92	82
Vehicles Exiting, veh/h	61	125	126	248
Ped Vol Crossing Leg, #/h	0	5	0	0
Ped Cap Adj	1.000	0.999	1.000	1.000
Approach Delay, s/veh	3.6	4.6	3.8	3.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	51	235	128	146
Cap Entry Lane, veh/h	1164	1252	1256	1269
Entry HV Adj Factor	0.967	0.970	0.969	0.971
Flow Entry, veh/h	49	228	124	142
Cap Entry, veh/h	1126	1214	1217	1232
V/C Ratio	0.044	0.188	0.102	0.115
Control Delay, s/veh	3.6	4.6	3.8	3.9
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	20	151	50	23	20	175	1370	50	30	1480	210
Future Volume (veh/h)	90	20	151	50	23	20	175	1370	50	30	1480	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	92	20	82	51	23	1	179	1398	34	31	1510	150
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	212	115	708	64	29	82	687	2286	710	555	1908	592
Arrive On Green	0.06	0.06	0.06	0.05	0.05	0.05	0.39	0.45	0.45	0.63	0.75	0.75
Sat Flow, veh/h	3428	1856	1557	1236	558	1572	1767	5066	1572	1767	5066	1570
Grp Volume(v), veh/h	92	20	82	74	0	1	179	1398	34	31	1510	150
Grp Sat Flow(s),veh/h/ln	1714	1856	1557	1794	0	1572	1767	1689	1572	1767	1689	1570
Q Serve(g_s), s	3.9	1.5	0.0	6.1	0.0	0.1	10.3	31.4	1.8	1.0	27.3	4.4
Cycle Q Clear(g_c), s	3.9	1.5	0.0	6.1	0.0	0.1	10.3	31.4	1.8	1.0	27.3	4.4
Prop In Lane	1.00		1.00	0.69		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	115	708	94	0	82	687	2286	710	555	1908	592
V/C Ratio(X)	0.43	0.17	0.12	0.79	0.00	0.01	0.26	0.61	0.05	0.06	0.79	0.25
Avail Cap(c_a), veh/h	891	482	1016	149	0	131	687	2286	710	555	1908	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.8	66.7	23.9	70.3	0.0	67.4	31.2	31.2	23.1	19.3	14.9	12.1
Incr Delay (d2), s/veh	0.5	0.3	0.0	5.5	0.0	0.0	0.1	1.2	0.1	0.0	3.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.7	1.7	3.0	0.0	0.0	4.4	12.7	0.7	0.4	5.7	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.3	67.0	23.9	75.8	0.0	67.4	31.3	32.4	23.2	19.3	18.4	13.1
LnGrp LOS	E	E	C	E	A	E	C	C	C	B	B	B
Approach Vol, veh/h		194			75			1611			1691	
Approach Delay, s/veh		49.4			75.7			32.1			17.9	
Approach LOS		D			E			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	51.2	73.0		13.9	62.4	61.8		11.9
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	13.3	* 68		39.0	23.9	56.5		12.5
Max Q Clear Time (g_c+I1), s	13.6	33.4		5.9	12.3	29.3		8.1
Green Ext Time (p_c), s	0.0	12.0		0.4	0.2	12.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	240	30	60	120	229	20	30	50	132	50	55
Future Volume (veh/h)	175	240	30	60	120	229	20	30	50	132	50	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	184	253	27	63	126	54	21	32	1	139	53	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	286	475	51	74	312	265	85	86	3	211	196	22
Arrive On Green	0.16	0.29	0.29	0.04	0.17	0.17	0.05	0.05	0.05	0.12	0.12	0.12
Sat Flow, veh/h	1767	1647	176	1767	1856	1572	1767	1790	56	1767	1636	185
Grp Volume(v), veh/h	184	0	280	63	126	54	21	0	33	139	0	59
Grp Sat Flow(s),veh/h/ln	1767	0	1823	1767	1856	1572	1767	0	1845	1767	0	1821
Q Serve(g_s), s	3.0	0.0	4.0	1.1	1.9	0.9	0.4	0.0	0.5	2.3	0.0	0.9
Cycle Q Clear(g_c), s	3.0	0.0	4.0	1.1	1.9	0.9	0.4	0.0	0.5	2.3	0.0	0.9
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.03	1.00		0.10
Lane Grp Cap(c), veh/h	286	0	525	74	312	265	85	0	89	211	0	218
V/C Ratio(X)	0.64	0.00	0.53	0.85	0.40	0.20	0.25	0.00	0.37	0.66	0.00	0.27
Avail Cap(c_a), veh/h	630	0	1843	515	1756	1488	304	0	317	1661	0	1712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	9.2	14.7	11.5	11.1	14.1	0.0	14.2	13.0	0.0	12.4
Incr Delay (d2), s/veh	0.9	0.0	0.3	9.6	0.3	0.1	0.6	0.0	1.0	1.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.0	0.5	0.6	0.2	0.1	0.0	0.2	0.7	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.0	0.0	9.5	24.3	11.8	11.2	14.7	0.0	15.2	14.3	0.0	12.6
LnGrp LOS	B	A	A	C	B	B	B	A	B	B	A	B
Approach Vol, veh/h		464			243			54			198	
Approach Delay, s/veh		10.9			14.9			15.0			13.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.3	14.2		7.2	8.0	10.5		5.2
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	9.6	31.2		29.0	11.0	29.2		5.3
Max Q Clear Time (g_c+I1), s	3.1	6.0		4.3	5.0	3.9		2.5
Green Ext Time (p_c), s	0.0	0.5		0.1	0.0	0.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	392	389	20	20	20
Future Vol, veh/h	30	392	389	20	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	32	417	414	21	21	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	435	0	-	0	906	425
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	481	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1119	-	-	-	305	627
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1119	-	-	-	296	627
Mov Cap-2 Maneuver	-	-	-	-	296	-
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	620	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1119	-	-	-	402
HCM Lane V/C Ratio	0.029	-	-	-	0.106
HCM Control Delay (s)	8.3	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	361	50	60	347	50	50	30	100	30	30	50
Future Volume (veh/h)	60	361	50	60	347	50	50	30	100	30	30	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	69	415	50	69	399	49	57	34	44	34	34	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	101	535	64	101	533	65	72	43	55	60	60	0
Arrive On Green	0.06	0.33	0.33	0.06	0.33	0.33	0.10	0.10	0.10	0.07	0.07	0.00
Sat Flow, veh/h	1767	1624	196	1767	1619	199	726	433	560	905	905	0
Grp Volume(v), veh/h	69	0	465	69	0	448	135	0	0	68	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1819	1767	0	1818	1718	0	0	1810	0	0
Q Serve(g_s), s	1.2	0.0	7.5	1.2	0.0	7.1	2.5	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	7.5	1.2	0.0	7.1	2.5	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.11	0.42		0.33	0.50		0.00
Lane Grp Cap(c), veh/h	101	0	599	101	0	599	170	0	0	121	0	0
V/C Ratio(X)	0.68	0.00	0.78	0.68	0.00	0.75	0.79	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	380	0	1195	380	0	1194	375	0	0	1106	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.1	0.0	9.8	15.1	0.0	9.7	14.4	0.0	0.0	14.7	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	0.8	3.0	0.0	0.7	3.2	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.0	0.5	0.0	1.9	1.0	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	0.0	10.7	18.1	0.0	10.4	17.5	0.0	0.0	16.3	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		534			517			135			68	
Approach Delay, s/veh		11.6			11.5			17.5			16.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	15.3		5.7	4.9	15.3		6.7
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	7.0	21.4		19.9	7.0	21.4		7.1
Max Q Clear Time (g_c+I1), s	3.2	9.5		3.2	3.2	9.1		4.5
Green Ext Time (p_c), s	0.0	0.8		0.1	0.0	0.8		0.1

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	50	361	40	52	60	475	1375	70	51	1420	160
Future Volume (veh/h)	200	50	361	40	52	60	475	1375	70	51	1420	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	204	51	324	41	53	5	485	1403	68	52	1449	155
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	205	272	834	71	125	103	681	2382	115	387	1462	156
Arrive On Green	0.12	0.15	0.15	0.04	0.07	0.07	0.77	0.96	0.96	0.22	0.31	0.31
Sat Flow, veh/h	1767	1856	1556	1767	1856	1537	1767	4949	240	1767	4645	497
Grp Volume(v), veh/h	204	51	324	41	53	5	485	957	514	52	1053	551
Grp Sat Flow(s),veh/h/ln	1767	1856	1556	1767	1856	1537	1767	1689	1812	1767	1689	1764
Q Serve(g_s), s	17.3	3.6	2.4	3.4	4.1	0.5	20.9	3.7	3.7	3.6	46.6	46.6
Cycle Q Clear(g_c), s	17.3	3.6	2.4	3.4	4.1	0.5	20.9	3.7	3.7	3.6	46.6	46.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.28
Lane Grp Cap(c), veh/h	205	272	834	71	125	103	681	1626	872	387	1063	555
V/C Ratio(X)	1.00	0.19	0.39	0.58	0.43	0.05	0.71	0.59	0.59	0.13	0.99	0.99
Avail Cap(c_a), veh/h	205	537	1056	106	433	359	681	1626	872	387	1063	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.3	56.2	11.9	70.8	67.2	65.5	13.0	1.5	1.5	47.2	51.2	51.2
Incr Delay (d2), s/veh	61.5	0.1	0.1	2.8	4.8	0.4	3.0	1.6	2.9	0.1	25.6	36.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	1.7	4.7	1.6	2.1	0.2	5.0	1.0	1.4	1.6	22.9	25.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	127.7	56.3	12.0	73.5	72.0	65.9	16.0	3.1	4.4	47.2	76.8	87.4
LnGrp LOS	F	E	B	E	E	E	B	A	A	D	E	F
Approach Vol, veh/h		579			99			1956			1656	
Approach Delay, s/veh		56.7			72.3			6.6			79.4	
Approach LOS		E			E			A			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.4	77.5	9.0	26.1	62.4	52.5	21.5	13.6
Change Period (Y+Rc), s	4.6	* 5.3	3.0	4.1	4.6	5.3	4.1	* 3.5
Max Green Setting (Gmax), s	10.6	* 72	9.0	43.4	33.4	47.2	17.4	* 35
Max Q Clear Time (g_c+I1), s	15.6	5.7	5.4	5.6	22.9	48.6	19.3	6.1
Green Ext Time (p_c), s	0.0	7.3	0.0	0.3	0.2	0.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	50	110	230	50	60	150	1780	200	40	1681	40
Future Volume (veh/h)	80	50	110	230	50	60	150	1780	200	40	1681	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	82	51	91	235	51	27	153	1816	197	41	1715	40
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	90	56	99	293	98	52	493	2095	226	366	1932	45
Arrive On Green	0.14	0.14	0.14	0.09	0.09	0.09	0.28	0.45	0.45	0.21	0.38	0.38
Sat Flow, veh/h	622	387	691	3428	1142	605	1767	4642	501	1767	5092	119
Grp Volume(v), veh/h	224	0	0	235	0	78	153	1319	694	41	1137	618
Grp Sat Flow(s),veh/h/ln	1700	0	0	1714	0	1747	1767	1689	1765	1767	1689	1834
Q Serve(g_s), s	19.5	0.0	0.0	10.1	0.0	6.4	10.2	52.7	53.3	2.8	47.3	47.3
Cycle Q Clear(g_c), s	19.5	0.0	0.0	10.1	0.0	6.4	10.2	52.7	53.3	2.8	47.3	47.3
Prop In Lane	0.37		0.41	1.00		0.35	1.00		0.28	1.00		0.06
Lane Grp Cap(c), veh/h	245	0	0	293	0	149	493	1524	797	366	1281	696
V/C Ratio(X)	0.91	0.00	0.00	0.80	0.00	0.52	0.31	0.87	0.87	0.11	0.89	0.89
Avail Cap(c_a), veh/h	261	0	0	823	0	419	493	1524	797	366	1281	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.3	0.0	0.0	67.3	0.0	65.7	42.7	37.0	37.2	48.3	43.6	43.6
Incr Delay (d2), s/veh	31.9	0.0	0.0	1.9	0.0	1.1	0.1	6.8	12.6	0.0	9.4	15.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	0.0	0.0	4.5	0.0	2.9	4.5	22.3	24.9	1.2	20.8	23.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.2	0.0	0.0	69.3	0.0	66.7	42.8	43.9	49.8	48.3	52.9	59.2
LnGrp LOS	F	A	A	E	A	E	D	D	D	D	D	E
Approach Vol, veh/h		224			313			2166			1796	
Approach Delay, s/veh		95.2			68.6			45.7			55.0	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	34.6	73.0		25.6	45.4	62.2		16.8
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	6.5	67.7		23.0	17.3	56.9		36.0
Max Q Clear Time (g_c+I1), s	14.8	55.3		21.5	12.2	49.3		12.1
Green Ext Time (p_c), s	0.0	8.4		0.1	0.1	5.1		0.7

Intersection Summary	
HCM 6th Ctrl Delay	53.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	20	140	30	20	90	50	2124	80	80	1627	50
Future Volume (veh/h)	147	20	140	30	20	90	50	2124	80	80	1627	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	150	20	14	26	28	3	51	2167	48	82	1660	33
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	192	109	77	55	58	49	398	2316	719	484	1782	775
Arrive On Green	0.11	0.11	0.11	0.03	0.03	0.03	0.45	0.91	0.91	0.27	0.51	0.51
Sat Flow, veh/h	1767	1008	706	1767	1856	1572	1767	5066	1572	1767	3526	1532
Grp Volume(v), veh/h	150	0	34	26	28	3	51	2167	48	82	1660	33
Grp Sat Flow(s),veh/h/ln	1767	0	1714	1767	1856	1572	1767	1689	1572	1767	1763	1532
Q Serve(g_s), s	12.0	0.0	2.6	2.1	2.2	0.3	2.4	36.7	0.4	5.1	63.8	1.6
Cycle Q Clear(g_c), s	12.0	0.0	2.6	2.1	2.2	0.3	2.4	36.7	0.4	5.1	63.8	1.6
Prop In Lane	1.00		0.41	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	0	186	55	58	49	398	2316	719	484	1782	775
V/C Ratio(X)	0.78	0.00	0.18	0.47	0.49	0.06	0.13	0.94	0.07	0.17	0.93	0.04
Avail Cap(c_a), veh/h	329	0	319	219	230	195	398	2316	719	484	1782	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	0.0	58.8	69.1	69.1	68.2	31.5	4.9	3.4	40.1	33.5	18.1
Incr Delay (d2), s/veh	2.6	0.0	0.2	6.2	6.2	0.5	0.0	1.0	0.0	0.2	10.3	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	5.6	0.0	1.2	1.0	1.1	0.1	1.0	2.4	0.1	2.2	28.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.6	0.0	59.0	75.3	75.4	68.7	31.5	5.9	3.4	40.3	43.8	18.2
LnGrp LOS	E	A	E	E	E	E	C	A	A	D	D	B
Approach Vol, veh/h		184			57			2266			1775	
Approach Delay, s/veh		64.4			75.0			6.4			43.2	
Approach LOS		E			E			A			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	44.2	72.0		19.8	37.2	79.0		9.0
Change Period (Y+Rc), s	4.5	5.7		4.1	4.5	* 5.7		4.5
Max Green Setting (Gmax), s	14.9	66.3		27.0	8.4	* 73		18.0
Max Q Clear Time (g_c+I1), s	7.1	38.7		14.0	4.4	65.8		4.2
Green Ext Time (p_c), s	0.1	13.5		0.3	0.0	4.6		0.1

Intersection Summary	
HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	430	71	68	450	120	115	167	169	130	83	50
Future Volume (veh/h)	90	430	71	68	450	120	115	167	169	130	83	50
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	118	566	81	89	592	88	151	220	188	171	109	46
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	153	1165	166	114	660	559	184	248	212	203	346	146
Arrive On Green	0.09	0.38	0.38	0.06	0.36	0.36	0.10	0.27	0.27	0.12	0.28	0.28
Sat Flow, veh/h	1767	3085	440	1767	1856	1572	1767	924	790	1767	1238	522
Grp Volume(v), veh/h	118	323	324	89	592	88	151	0	408	171	0	155
Grp Sat Flow(s),veh/h/ln	1767	1763	1762	1767	1856	1572	1767	0	1713	1767	0	1760
Q Serve(g_s), s	6.7	14.4	14.5	5.1	31.1	3.9	8.6	0.0	23.6	9.8	0.0	7.2
Cycle Q Clear(g_c), s	6.7	14.4	14.5	5.1	31.1	3.9	8.6	0.0	23.6	9.8	0.0	7.2
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.46	1.00		0.30
Lane Grp Cap(c), veh/h	153	665	665	114	660	559	184	0	460	203	0	492
V/C Ratio(X)	0.77	0.48	0.49	0.78	0.90	0.16	0.82	0.00	0.89	0.84	0.00	0.32
Avail Cap(c_a), veh/h	308	889	889	248	873	740	360	0	648	283	0	589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.1	24.5	24.5	47.5	31.4	22.7	45.2	0.0	36.2	44.7	0.0	29.4
Incr Delay (d2), s/veh	8.0	0.5	0.6	11.0	9.8	0.1	8.7	0.0	10.7	14.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	5.8	5.9	2.5	14.9	1.4	4.2	0.0	10.9	5.0	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.1	25.0	25.0	58.5	41.2	22.8	53.9	0.0	46.9	59.5	0.0	29.7
LnGrp LOS	D	C	C	E	D	C	D	A	D	E	A	C
Approach Vol, veh/h		765			769			559			326	
Approach Delay, s/veh		29.5			41.1			48.8			45.3	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	32.2	11.1	43.4	15.2	33.3	13.4	41.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.5	39.0	14.5	52.0	21.0	34.5	18.0	48.5
Max Q Clear Time (g_c+I1), s	11.8	25.6	7.1	16.5	10.6	9.2	8.7	33.1
Green Ext Time (p_c), s	0.2	2.1	0.1	4.1	0.3	0.8	0.2	3.5

Intersection Summary	
HCM 6th Ctrl Delay	39.8
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	719	10	8	628	10	45
Future Vol, veh/h	719	10	8	628	10	45
Conflicting Peds, #/hr	0	4	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	972	14	11	849	14	61

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	990	0	1430	498
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	447	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	688	-	124	515
Stage 1	-	-	-	-	321	-
Stage 2	-	-	-	-	608	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	685	-	122	513
Mov Cap-2 Maneuver	-	-	-	-	122	-
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	608	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	19.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	324	-	-	685	-
HCM Lane V/C Ratio	0.229	-	-	0.016	-
HCM Control Delay (s)	19.4	-	-	10.3	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.9	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	641	70	38	576	20	30	34	80	40	20	30
Future Volume (veh/h)	53	641	70	38	576	20	30	34	80	40	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	73	878	84	52	789	24	41	47	0	55	27	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	198	1293	124	94	1184	36	79	166	0	98	185	0
Arrive On Green	0.11	0.40	0.40	0.05	0.34	0.34	0.04	0.09	0.00	0.06	0.10	0.00
Sat Flow, veh/h	1767	3249	311	1767	3493	106	1767	1856	0	1767	1856	0
Grp Volume(v), veh/h	73	476	486	52	398	415	41	47	0	55	27	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1797	1767	1763	1836	1767	1856	0	1767	1856	0
Q Serve(g_s), s	1.7	9.9	9.9	1.3	8.6	8.6	1.0	1.1	0.0	1.4	0.6	0.0
Cycle Q Clear(g_c), s	1.7	9.9	9.9	1.3	8.6	8.6	1.0	1.1	0.0	1.4	0.6	0.0
Prop In Lane	1.00		0.17	1.00		0.06	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	198	702	715	94	597	622	79	166	0	98	185	0
V/C Ratio(X)	0.37	0.68	0.68	0.55	0.67	0.67	0.52	0.28	0.00	0.56	0.15	0.00
Avail Cap(c_a), veh/h	714	1239	1263	246	772	804	218	792	0	218	792	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.3	11.1	11.1	20.6	12.6	12.6	20.8	19.0	0.0	20.5	18.3	0.0
Incr Delay (d2), s/veh	1.1	1.2	1.1	5.0	1.4	1.4	5.2	0.9	0.0	5.0	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	0.6	2.9	3.0	0.6	2.7	2.8	0.5	0.5	0.0	0.6	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.4	12.2	12.2	25.5	14.0	14.0	26.0	19.9	0.0	25.5	18.7	0.0
LnGrp LOS	B	B	B	C	B	B	C	B	A	C	B	A
Approach Vol, veh/h		1035			865			88			82	
Approach Delay, s/veh		12.7			14.7			22.7			23.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	8.5	6.9	22.2	6.5	9.0	9.5	19.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	19.0	6.2	31.3	5.5	19.0	18.0	19.5
Max Q Clear Time (g_c+I1), s	3.4	3.1	3.3	11.9	3.0	2.6	3.7	10.6
Green Ext Time (p_c), s	0.0	0.1	0.0	5.8	0.0	0.1	0.1	3.2

Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	731	20	30	584	40	20	30	70	110	40	30
Future Volume (veh/h)	20	731	20	30	584	40	20	30	70	110	40	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	26	937	23	38	749	46	26	38	0	141	51	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	34	1540	38	46	1502	92	74	78	0	246	258	0
Arrive On Green	0.02	0.44	0.44	0.03	0.45	0.45	0.04	0.04	0.00	0.14	0.14	0.00
Sat Flow, veh/h	1767	3516	86	1767	3373	207	1767	1856	0	1767	1856	0
Grp Volume(v), veh/h	26	470	490	38	391	404	26	38	0	141	51	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1840	1767	1763	1818	1767	1856	0	1767	1856	0
Q Serve(g_s), s	0.5	7.5	7.5	0.8	5.8	5.8	0.5	0.7	0.0	2.7	0.9	0.0
Cycle Q Clear(g_c), s	0.5	7.5	7.5	0.8	5.8	5.8	0.5	0.7	0.0	2.7	0.9	0.0
Prop In Lane	1.00		0.05	1.00		0.11	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	34	772	806	46	785	809	74	78	0	246	258	0
V/C Ratio(X)	0.77	0.61	0.61	0.82	0.50	0.50	0.35	0.49	0.00	0.57	0.20	0.00
Avail Cap(c_a), veh/h	318	1125	1174	318	1125	1160	1060	1113	0	1205	1265	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.9	7.9	7.9	17.8	7.3	7.3	17.1	17.2	0.0	14.8	14.0	0.0
Incr Delay (d2), s/veh	12.9	1.1	1.1	12.2	0.7	0.7	3.9	6.5	0.0	3.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.8	1.8	0.4	1.3	1.3	0.3	0.4	0.0	1.1	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	9.0	9.0	30.0	8.0	7.9	21.0	23.7	0.0	17.7	14.5	0.0
LnGrp LOS	C	A	A	C	A	A	C	C	A	B	B	A
Approach Vol, veh/h		986			833			64			192	
Approach Delay, s/veh		9.6			9.0			22.6			16.9	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.0	20.1		8.1	3.7	20.3		4.5
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	6.6	23.4		25.0	6.6	23.4		22.0
Max Q Clear Time (g_c+I1), s	2.8	9.5		4.7	2.5	7.8		2.7
Green Ext Time (p_c), s	0.0	6.6		1.0	0.0	5.7		0.3

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	517	340	590	347	790	290	1260	550	660	1070	67
Future Volume (veh/h)	204	517	340	590	347	790	290	1260	550	660	1070	67
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		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	208	528	186	602	354	0	296	1286	506	673	1092	65
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	165	644	282	485	814		644	1151	450	804	1247	74
Arrive On Green	0.09	0.18	0.18	0.14	0.23	0.00	0.19	0.32	0.32	0.47	0.74	0.74
Sat Flow, veh/h	1767	3526	1544	3428	3526	1572	3428	3575	1397	3428	3379	201
Grp Volume(v), veh/h	208	528	186	602	354	0	296	1214	578	673	570	587
Grp Sat Flow(s),veh/h/ln	1767	1763	1544	1714	1763	1572	1714	1689	1595	1714	1763	1817
Q Serve(g_s), s	13.5	20.9	11.3	20.5	12.4	0.0	11.1	46.7	46.7	24.9	34.7	34.8
Cycle Q Clear(g_c), s	13.5	20.9	11.3	20.5	12.4	0.0	11.1	46.7	46.7	24.9	34.7	34.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	1.00		0.11
Lane Grp Cap(c), veh/h	165	644	282	485	814		644	1088	514	804	650	670
V/C Ratio(X)	1.26	0.82	0.66	1.24	0.43		0.46	1.12	1.12	0.84	0.88	0.88
Avail Cap(c_a), veh/h	165	939	411	485	1109		644	1088	514	804	650	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.64	0.64	0.64
Uniform Delay (d), s/veh	65.8	57.0	26.9	62.3	47.7	0.0	52.4	49.2	49.2	36.1	16.5	16.5
Incr Delay (d2), s/veh	158.2	2.4	1.0	125.5	0.1	0.0	0.2	65.2	78.6	4.8	10.5	10.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.3	9.4	4.2	17.2	5.4	0.0	4.7	28.9	29.2	8.4	7.9	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	224.0	59.4	27.9	187.7	47.8	0.0	52.5	114.3	127.8	40.9	27.0	26.8
LnGrp LOS	F	E	C	F	D		D	F	F	D	C	C
Approach Vol, veh/h		922			956	A		2088			1830	
Approach Delay, s/veh		90.2			135.9			109.3			32.1	
Approach LOS		F			F			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	38.1	52.0	24.0	30.9	31.3	58.8	17.0	37.9
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	21.9	46.7	20.5	38.6	15.1	53.5	13.5	45.6
Max Q Clear Time (g_c+I1), s	26.9	48.7	22.5	22.9	13.1	36.8	15.5	14.4
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.1	2.1	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	86.3
HCM 6th LOS	F

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	0	10	60	0	80	5	341	10	5	212	5
Future Vol, veh/h	30	0	10	60	0	80	5	341	10	5	212	5
Conflicting Peds, #/hr	0	0	8	0	0	0	0	0	50	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	48	0	16	95	0	127	8	541	16	8	337	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	988	982	351	988	978	599	347	0	0	607	0	0
Stage 1	359	359	-	615	615	-	-	-	-	-	-	-
Stage 2	629	623	-	373	363	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	225	248	690	225	249	500	1206	-	-	966	-	-
Stage 1	657	625	-	477	481	-	-	-	-	-	-	-
Stage 2	469	477	-	646	623	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	162	231	683	205	232	476	1204	-	-	920	-	-
Mov Cap-2 Maneuver	162	231	-	205	232	-	-	-	-	-	-	-
Stage 1	649	618	-	450	453	-	-	-	-	-	-	-
Stage 2	340	449	-	621	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.2	43.3	0.1	0.2
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1204	-	-	200	304	920	-	-
HCM Lane V/C Ratio	0.007	-	-	0.317	0.731	0.009	-	-
HCM Control Delay (s)	8	0	-	31.2	43.3	8.9	-	-
HCM Lane LOS	A	A	-	D	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.3	5.4	0	-	-

Intersection	
Intersection Delay, s/veh	19
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	20	50	51	5	86	20	195	6	15	242	20
Future Vol, veh/h	30	20	50	51	5	86	20	195	6	15	242	20
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	48	32	79	81	8	137	32	310	10	24	384	32
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.7	14	17.8	24.9
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	30%	36%	100%	0%
Vol Thru, %	0%	97%	20%	4%	0%	92%
Vol Right, %	0%	3%	50%	61%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	201	100	142	15	262
LT Vol	20	0	30	51	15	0
Through Vol	0	195	20	5	0	242
RT Vol	0	6	50	86	0	20
Lane Flow Rate	32	319	159	225	24	416
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.063	0.588	0.298	0.407	0.046	0.745
Departure Headway (Hd)	7.162	6.63	6.756	6.502	7.012	6.447
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	500	542	530	552	510	561
Service Time	4.913	4.38	4.817	4.557	4.76	4.195
HCM Lane V/C Ratio	0.064	0.589	0.3	0.408	0.047	0.742
HCM Control Delay	10.4	18.5	12.7	14	10.1	25.8
HCM Lane LOS	B	C	B	B	B	D
HCM 95th-tile Q	0.2	3.8	1.2	2	0.1	6.4

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	10	5	90	5	20	5	50	40	20	127	20
Future Vol, veh/h	20	10	5	90	5	20	5	50	40	20	127	20
Conflicting Peds, #/hr	0	0	2	0	0	1	0	0	2	0	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	30	15	7	134	7	30	7	75	60	30	190	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	413	425	216	399	410	108	229	0	0	137	0	0
Stage 1	274	274	-	121	121	-	-	-	-	-	-	-
Stage 2	139	151	-	278	289	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	548	520	821	560	530	943	1333	-	-	1441	-	-
Stage 1	730	681	-	881	794	-	-	-	-	-	-	-
Stage 2	862	770	-	726	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	508	499	812	528	508	940	1322	-	-	1438	-	-
Mov Cap-2 Maneuver	508	499	-	528	508	-	-	-	-	-	-	-
Stage 1	719	659	-	874	788	-	-	-	-	-	-	-
Stage 2	821	764	-	685	649	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	14	0.4	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1322	-	-	534	571	1438	-	-
HCM Lane V/C Ratio	0.006	-	-	0.098	0.301	0.021	-	-
HCM Control Delay (s)	7.7	0	-	12.5	14	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1.3	0.1	-	-

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	50	179	115	305
Demand Flow Rate, veh/h	51	184	119	314
Vehicles Circulating, veh/h	326	72	226	118
Vehicles Exiting, veh/h	106	273	151	138
Ped Vol Crossing Leg, #/h	2	0	0	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.2	4.1	4.4	5.4
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	51	184	119	314
Cap Entry Lane, veh/h	990	1282	1096	1223
Entry HV Adj Factor	0.978	0.971	0.967	0.971
Flow Entry, veh/h	50	179	115	305
Cap Entry, veh/h	967	1245	1060	1188
V/C Ratio	0.052	0.144	0.109	0.257
Control Delay, s/veh	4.2	4.1	4.4	5.4
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	52	312	70	40	80	170	1820	50	70	1690	190
Future Volume (veh/h)	210	52	312	70	40	80	170	1820	50	70	1690	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	214	53	262	71	41	5	173	1857	32	71	1724	137
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	330	178	655	85	49	118	568	2330	723	431	1939	594
Arrive On Green	0.10	0.10	0.10	0.07	0.07	0.07	0.32	0.46	0.46	0.49	0.77	0.77
Sat Flow, veh/h	3428	1856	1553	1140	658	1572	1767	5066	1571	1767	5066	1552
Grp Volume(v), veh/h	214	53	262	112	0	5	173	1857	32	71	1724	137
Grp Sat Flow(s),veh/h/ln	1714	1856	1553	1799	0	1572	1767	1689	1571	1767	1689	1552
Q Serve(g_s), s	8.7	3.9	0.0	8.9	0.0	0.4	10.7	45.3	1.6	3.2	36.2	3.6
Cycle Q Clear(g_c), s	8.7	3.9	0.0	8.9	0.0	0.4	10.7	45.3	1.6	3.2	36.2	3.6
Prop In Lane	1.00		1.00	0.63		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	330	178	655	135	0	118	568	2330	723	431	1939	594
V/C Ratio(X)	0.65	0.30	0.40	0.83	0.00	0.04	0.30	0.80	0.04	0.16	0.89	0.23
Avail Cap(c_a), veh/h	922	499	923	160	0	140	568	2330	723	431	1939	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.2	61.0	29.5	66.2	0.0	62.2	37.0	33.4	21.6	28.9	14.7	10.9
Incr Delay (d2), s/veh	0.8	0.3	0.1	22.7	0.0	0.1	0.1	2.9	0.1	0.1	6.6	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	1.8	6.5	5.0	0.0	0.2	4.6	18.4	0.6	1.3	6.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	61.3	29.7	88.8	0.0	62.3	37.1	36.3	21.7	28.9	21.3	11.8
LnGrp LOS	E	E	C	F	A	E	D	D	C	C	C	B
Approach Vol, veh/h		529			117			2062			1932	
Approach Delay, s/veh		46.7			87.7			36.2			20.9	
Approach LOS		D			F			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	39.5	72.0		18.5	50.7	60.8		15.0
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	8.9	* 67		39.0	19.5	55.5		12.9
Max Q Clear Time (g_c+I1), s	15.2	47.3		10.7	12.7	38.2		10.9
Green Ext Time (p_c), s	0.0	12.7		1.1	0.1	11.2		0.1

Intersection Summary	
HCM 6th Ctrl Delay	32.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	150	20	40	230	108	10	10	30	246	20	179
Future Volume (veh/h)	62	150	20	40	230	108	10	10	30	246	20	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	81	195	18	52	299	35	13	13	0	319	26	9
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	169	478	44	61	417	352	45	47	0	401	299	103
Arrive On Green	0.10	0.29	0.29	0.03	0.22	0.22	0.03	0.03	0.00	0.23	0.23	0.23
Sat Flow, veh/h	1767	1673	154	1767	1856	1569	1767	1856	0	1767	1316	455
Grp Volume(v), veh/h	81	0	213	52	299	35	13	13	0	319	0	35
Grp Sat Flow(s),veh/h/ln	1767	0	1827	1767	1856	1569	1767	1856	0	1767	0	1771
Q Serve(g_s), s	1.6	0.0	3.4	1.1	5.4	0.6	0.3	0.2	0.0	6.2	0.0	0.6
Cycle Q Clear(g_c), s	1.6	0.0	3.4	1.1	5.4	0.6	0.3	0.2	0.0	6.2	0.0	0.6
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.00	1.00		0.26
Lane Grp Cap(c), veh/h	169	0	522	61	417	352	45	47	0	401	0	402
V/C Ratio(X)	0.48	0.00	0.41	0.85	0.72	0.10	0.29	0.28	0.00	0.79	0.00	0.09
Avail Cap(c_a), veh/h	195	0	1285	292	1407	1190	195	205	0	1413	0	1416
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	0.0	10.5	17.4	13.0	11.2	17.4	17.3	0.0	13.2	0.0	11.1
Incr Delay (d2), s/veh	0.8	0.0	0.2	11.7	0.9	0.0	1.3	1.2	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.0	0.6	1.8	0.2	0.1	0.1	0.0	2.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	0.0	10.7	29.1	13.9	11.2	18.7	18.5	0.0	14.6	0.0	11.1
LnGrp LOS	B	A	B	C	B	B	B	B	A	B	A	B
Approach Vol, veh/h		294			386			26			354	
Approach Delay, s/veh		12.2			15.7			18.6			14.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	15.7		11.7	6.5	13.4		4.6
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	6.0	25.5		29.0	4.0	27.5		4.0
Max Q Clear Time (g_c+I1), s	3.1	5.4		8.2	3.6	7.4		2.3
Green Ext Time (p_c), s	0.0	0.4		0.1	0.0	0.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	14.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	416	308	20	30	70
Future Vol, veh/h	10	416	308	20	30	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	495	367	24	36	83

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	391	0	-	0	898	379
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	519	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1162	-	-	-	309	666
Stage 1	-	-	-	-	690	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1162	-	-	-	306	666
Mov Cap-2 Maneuver	-	-	-	-	306	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	595	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1162	-	-	-	492
HCM Lane V/C Ratio	0.01	-	-	-	0.242
HCM Control Delay (s)	8.1	-	-	-	14.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	392	30	90	317	40	20	10	50	70	20	30
Future Volume (veh/h)	30	392	30	90	317	40	20	10	50	70	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	38	496	34	114	401	45	25	13	0	89	25	10
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	63	610	42	142	656	74	42	22	0	120	34	14
Arrive On Green	0.04	0.36	0.36	0.08	0.40	0.40	0.04	0.04	0.00	0.09	0.09	0.09
Sat Flow, veh/h	1767	1716	118	1767	1638	184	1182	615	0	1267	356	142
Grp Volume(v), veh/h	38	0	530	114	0	446	38	0	0	124	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1834	1767	0	1822	1796	0	0	1766	0	0
Q Serve(g_s), s	0.7	0.0	8.8	2.1	0.0	6.5	0.7	0.0	0.0	2.3	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	8.8	2.1	0.0	6.5	0.7	0.0	0.0	2.3	0.0	0.0
Prop In Lane	1.00		0.06	1.00		0.10	0.66		0.00	0.72		0.08
Lane Grp Cap(c), veh/h	63	0	652	142	0	730	64	0	0	168	0	0
V/C Ratio(X)	0.61	0.00	0.81	0.80	0.00	0.61	0.60	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	210	0	1225	315	0	1325	261	0	0	1153	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.0	0.0	9.8	15.2	0.0	8.0	16.0	0.0	0.0	14.8	0.0	0.0
Incr Delay (d2), s/veh	3.4	0.0	0.9	3.9	0.0	0.3	3.3	0.0	0.0	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.4	0.8	0.0	1.5	0.3	0.0	0.0	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	0.0	10.8	19.1	0.0	8.3	19.3	0.0	0.0	17.2	0.0	0.0
LnGrp LOS	B	A	B	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		568			560			38			124	
Approach Delay, s/veh		11.4			10.5			19.3			17.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.7	16.6		6.7	4.2	18.1		4.7
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	6.0	22.5		22.0	4.0	24.5		4.9
Max Q Clear Time (g_c+I1), s	4.1	10.8		4.3	2.7	8.5		2.7
Green Ext Time (p_c), s	0.0	1.0		0.2	0.0	0.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	93	479	130	82	160	345	1680	90	162	1720	120
Future Volume (veh/h)	220	93	479	130	82	160	345	1680	90	162	1720	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	224	95	441	133	84	16	352	1714	89	165	1755	117
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	212	454	657	156	387	328	310	2047	106	230	1818	121
Arrive On Green	0.12	0.24	0.24	0.09	0.21	0.21	0.06	0.14	0.14	0.13	0.37	0.37
Sat Flow, veh/h	1767	1856	1559	1767	1856	1570	1767	4930	256	1767	4851	323
Grp Volume(v), veh/h	224	95	441	133	84	16	352	1173	630	165	1221	651
Grp Sat Flow(s),veh/h/ln	1767	1856	1559	1767	1856	1570	1767	1689	1809	1767	1689	1796
Q Serve(g_s), s	17.4	5.9	33.2	10.8	5.4	0.9	25.4	49.1	49.2	13.0	51.3	51.5
Cycle Q Clear(g_c), s	17.4	5.9	33.2	10.8	5.4	0.9	25.4	49.1	49.2	13.0	51.3	51.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.18
Lane Grp Cap(c), veh/h	212	454	657	156	387	328	310	1402	751	230	1266	673
V/C Ratio(X)	1.06	0.21	0.67	0.85	0.22	0.05	1.14	0.84	0.84	0.72	0.96	0.97
Avail Cap(c_a), veh/h	212	491	688	171	448	379	310	1402	751	230	1266	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.8	43.6	34.0	65.2	47.6	26.1	68.3	57.8	57.8	60.5	44.4	44.4
Incr Delay (d2), s/veh	77.4	0.1	1.9	28.2	0.6	0.1	93.5	6.1	10.8	9.0	18.1	27.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	2.7	12.8	6.1	2.6	0.5	20.1	23.4	26.1	6.3	23.9	27.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	141.2	43.7	35.9	93.4	48.2	26.2	161.8	63.9	68.6	69.5	62.5	71.9
LnGrp LOS	F	D	D	F	D	C	F	E	E	E	E	E
Approach Vol, veh/h		760			233			2155			2037	
Approach Delay, s/veh		67.9			72.5			81.3			66.1	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	34.2	65.5	15.8	39.6	30.0	59.7	21.0	34.3
Change Period (Y+Rc), s	5.3	* 5.3	3.0	4.1	4.6	5.3	3.6	* 4.1
Max Green Setting (Gmax), s	17.6	* 60	14.0	38.4	25.4	50.2	17.4	* 35
Max Q Clear Time (g_c+I1), s	15.0	51.2	12.8	35.2	27.4	53.5	19.4	7.4
Green Ext Time (p_c), s	0.0	5.2	0.0	0.2	0.0	0.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	72.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	50	180	280	60	70	110	1975	400	90	2159	100
Future Volume (veh/h)	70	50	180	280	60	70	110	1975	400	90	2159	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	71	51	146	286	61	37	112	2015	390	92	2203	99
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	58	42	119	395	124	75	334	2509	473	91	2169	97
Arrive On Green	0.13	0.13	0.13	0.12	0.12	0.12	0.19	0.59	0.59	0.05	0.44	0.44
Sat Flow, veh/h	442	318	910	3428	1076	652	1767	4280	807	1767	4970	222
Grp Volume(v), veh/h	268	0	0	286	0	98	112	1579	826	92	1494	808
Grp Sat Flow(s),veh/h/ln	1670	0	0	1714	0	1728	1767	1689	1710	1767	1689	1815
Q Serve(g_s), s	19.0	0.0	0.0	11.7	0.0	7.7	8.0	52.7	56.1	7.5	63.3	63.3
Cycle Q Clear(g_c), s	19.0	0.0	0.0	11.7	0.0	7.7	8.0	52.7	56.1	7.5	63.3	63.3
Prop In Lane	0.26		0.54	1.00		0.38	1.00		0.47	1.00		0.12
Lane Grp Cap(c), veh/h	219	0	0	395	0	199	334	1980	1002	91	1474	792
V/C Ratio(X)	1.22	0.00	0.00	0.72	0.00	0.49	0.34	0.80	0.82	1.01	1.01	1.02
Avail Cap(c_a), veh/h	219	0	0	851	0	429	334	1980	1002	91	1474	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	0.0	0.0	61.9	0.0	60.2	50.9	23.3	24.0	68.8	40.9	40.9
Incr Delay (d2), s/veh	134.8	0.0	0.0	1.0	0.0	0.7	0.2	3.4	7.7	95.9	26.7	37.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.2	0.0	0.0	5.2	0.0	3.5	3.5	20.4	23.1	5.8	30.5	35.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	197.8	0.0	0.0	62.9	0.0	60.9	51.1	26.7	31.7	164.7	67.6	78.1
LnGrp LOS	F	A	A	E	A	E	D	C	C	F	F	F
Approach Vol, veh/h		268			384			2517			2394	
Approach Delay, s/veh		197.8			62.4			29.5			74.9	
Approach LOS		F			E			C			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	90.3		23.0	32.7	68.6		20.7
Change Period (Y+Rc), s	3.5	5.3		4.0	5.3	* 5.3		4.0
Max Green Setting (Gmax), s	7.5	65.7		19.0	9.9	* 63		36.0
Max Q Clear Time (g_c+I1), s	9.5	58.1		21.0	10.0	65.3		13.7
Green Ext Time (p_c), s	0.0	6.4		0.0	0.0	0.0		0.9

Intersection Summary	
HCM 6th Ctrl Delay	59.4
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	3. County Center Dr / Bell Rd
Scenario	Cumulative Plus Health & Human Services

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yield*	*Free*	
AM Peak Hour Volume	5		7					627	8	40	517	
AM Peak Hour Delay (s)	20.7		20.7					0	0	10	0	
PM Peak Hour Volume	10		45					719	10	8	628	
PM Peak Hour Delay (s)	19.4		19.4					0	0	10.3	0	

AM Delay	**12.5**
AM LOS	**B**

PM Delay	**18.2**
PM LOS	**C**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	7. Richardson Dr / DeWitt Av
Scenario	Cumulative Plus Health & Human Services

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	10	204	40	48	378	20	5	0	5	20	0	5
AM Peak Hour Delay (s)	8.6	0	0	8.1	0	0	17.3	17.3	17.3	21.8	21.8	21.8
PM Peak Hour Volume	5	341	10	5	212	5	30	0	10	60	0	80
PM Peak Hour Delay (s)	8	0	0	8.9	0	0	31.2	31.2	31.2	43.3	43.3	43.3

AM Delay	**12.8**
AM LOS	**B**

PM Delay	**38.9**
PM LOS	**E**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	9. 1st St / D Av / Professional Dr
Scenario	Cumulative Plus Health & Human Services

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	10	142	80	20	52	0	0	0	5	40	5	10
AM Peak Hour Delay (s)	7.4	0	0	7.8	0	0	8.6	8.6	8.6	11.6	11.6	11.6
PM Peak Hour Volume	5	50	40	20	127	20	20	10	5	90	5	20
PM Peak Hour Delay (s)	7.7	0	0	12.5	0	0	12.5	12.5	12.5	14	14	14

AM Delay	**10.1**
AM LOS	**B**

PM Delay	**13.3**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	13. Atwood Rd / 3rd St
Scenario	Cumulative Plus Health & Human Services

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control				*Stop*		*Stop*	*Yield*	*Free*			*Free*	*Free*
AM Peak Hour Volume				20		20	30	392			389	20
AM Peak Hour Delay (s)				15		15	8.3	0			0	0
PM Peak Hour Volume				30		70	10	416			308	20
PM Peak Hour Delay (s)				14.6		14.6	8.1	0			0	0

AM Delay	**12.1**
AM LOS	**B**

PM Delay	**14.0**
PM LOS	**B**

FEHR PEERS

Major Street	Bell Rd
Minor Street	County Center Dr

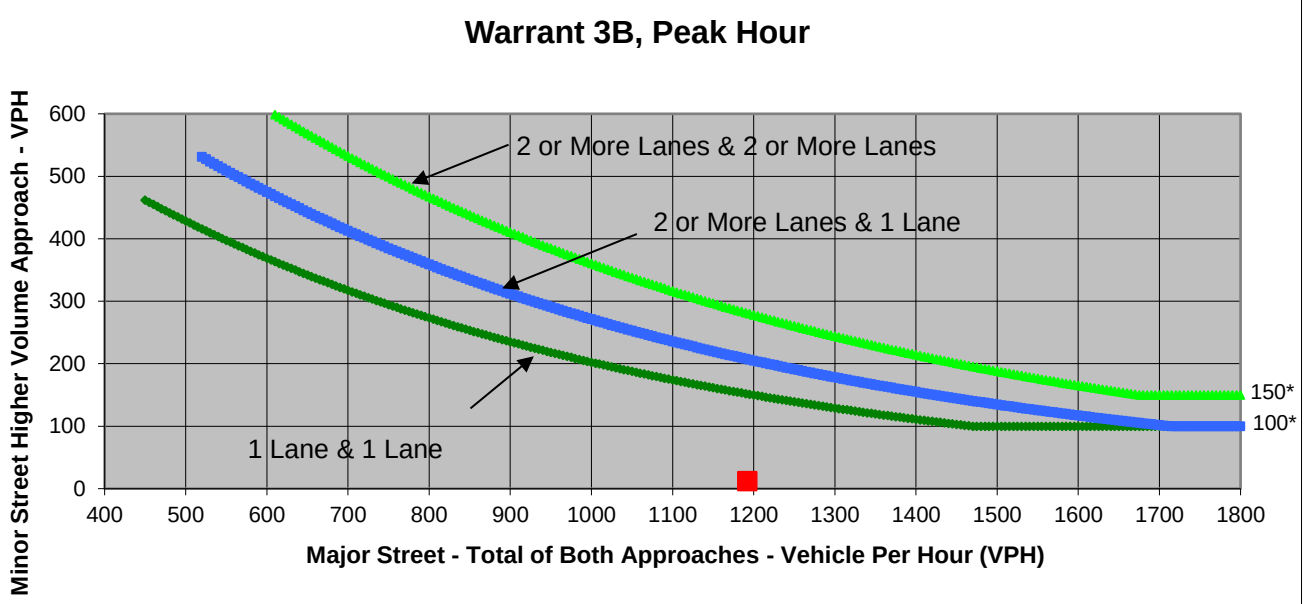
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5			40
Through			627	517
Right	7		8	
Total	12	0	635	557

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Rd	County Center Dr	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,192**	**12**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Rd
Minor Street	County Center Dr

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	0	0	40
Through	0	0	627	517
Right	7	0	8	0
Total	12	0	635	557

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	20.7
Approach with Worst Case Delay	NB
Total Vehicles on Approach	12

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus Health & Human Serv	**0.1**	**12**	**1,204**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

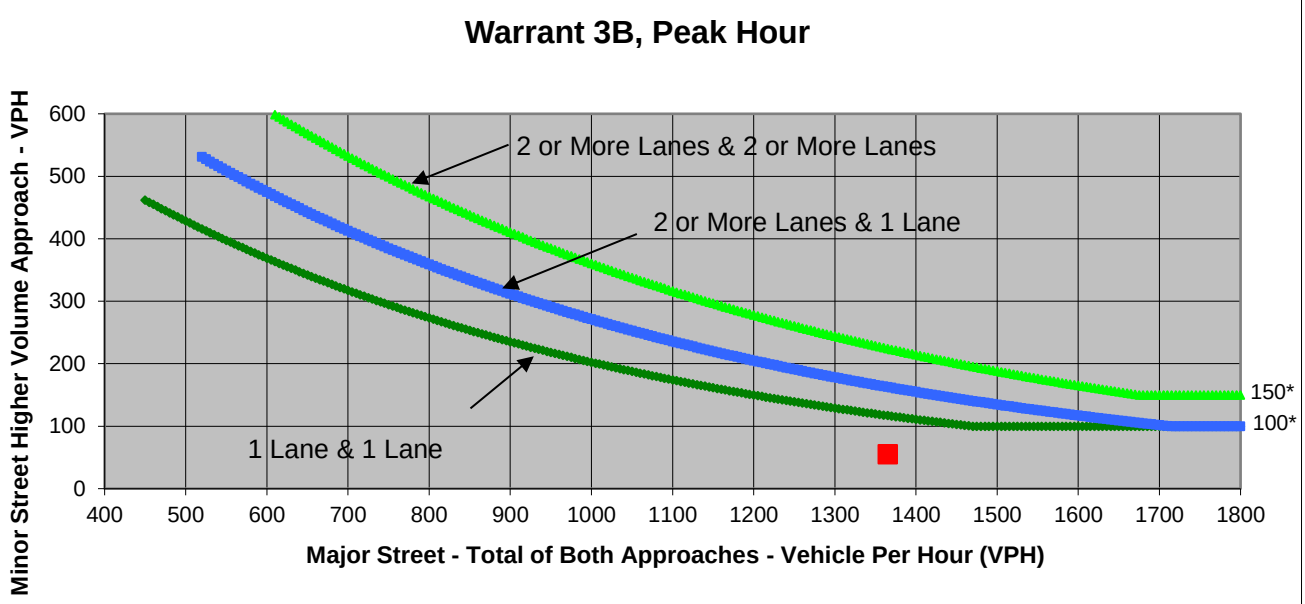
Major Street	Bell Rd	Project	PCGC Master Plan Update EIR
Minor Street	County Center Dr	Scenario	Cumulative Plus Health & Human Services
		Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	10			8
Through			719	628
Right	45		10	
Total	55	0	729	636

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Rd	County Center Dr	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,365**	**55**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Rd
Minor Street	County Center Dr

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	0	0	8
Through	0	0	719	628
Right	45	0	10	0
Total	55	0	729	636

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	19.4
Approach with Worst Case Delay	NB
Total Vehicles on Approach	55

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
ulative Plus Health & Human Serv	**0.3**	**55**	**1,420**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Dr
Minor Street	DeWitt Ave

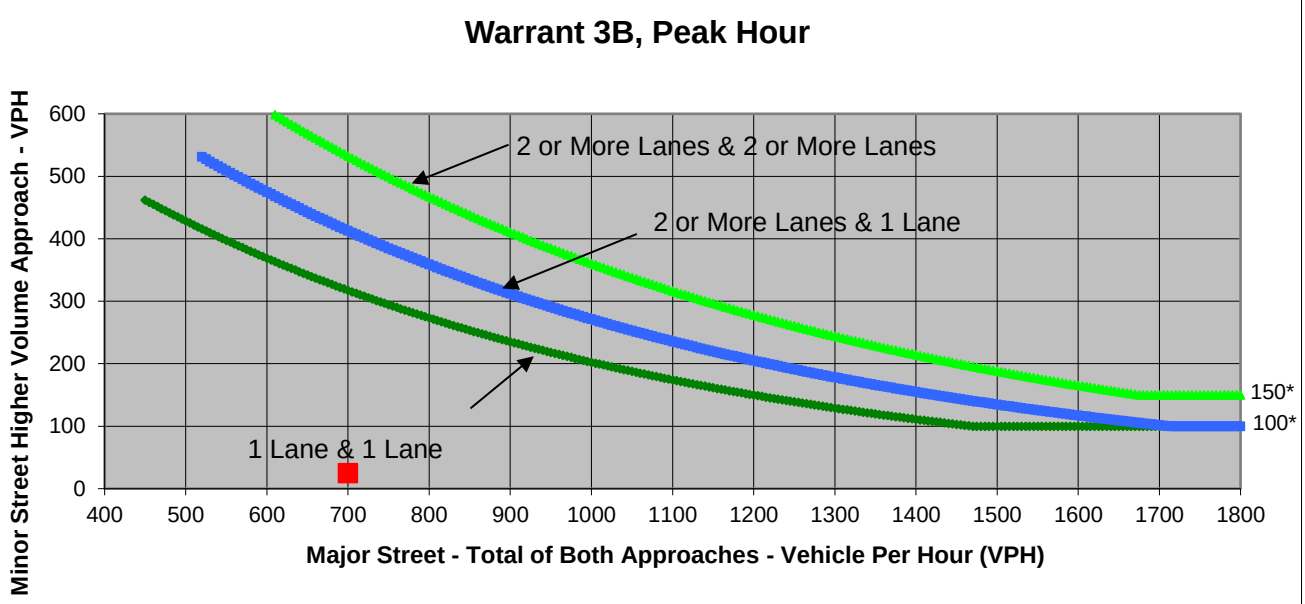
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	48	5	20
Through	204	378	0	0
Right	40	20	5	5
Total	254	446	10	25

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Dr	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**700**	**25**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Dr
Minor Street	DeWitt Ave

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	48	5	20
Through	204	378	0	0
Right	40	20	5	5
Total	254	446	10	25

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	21.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	25

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus Health & Human Serv	**0.2**	**25**	**735**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Dr
Minor Street	DeWitt Ave

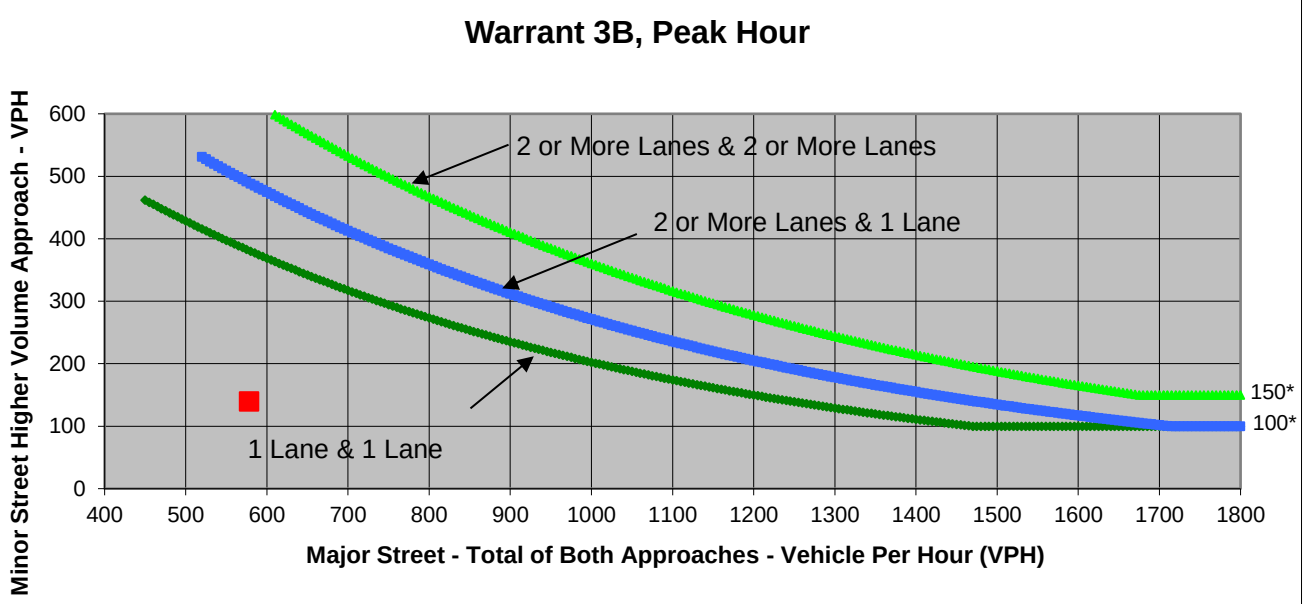
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	5	30	60
Through	341	212	0	0
Right	10	5	10	80
Total	356	222	40	140

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Dr	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**578**	**140**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Dr
Minor Street	DeWitt Ave

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	5	30	60
Through	341	212	0	0
Right	10	5	10	80
Total	356	222	40	140

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	43.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	140

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus Health & Human Serv	**1.7**	**140**	**758**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

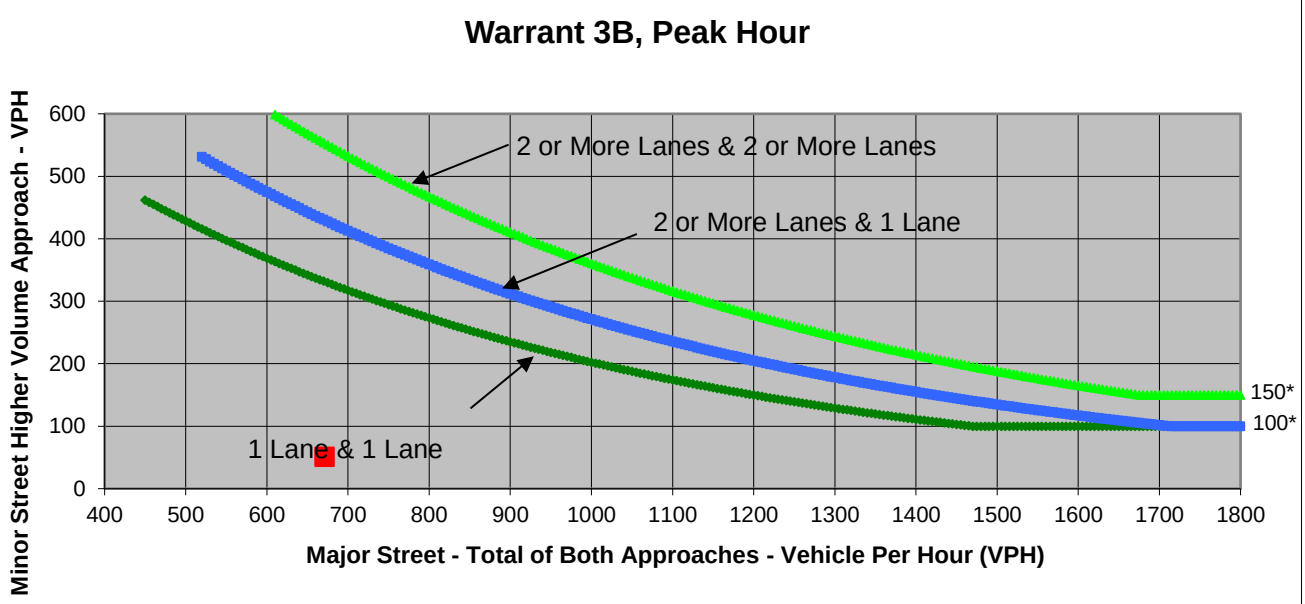
Major Street	Richardson Dr	Project	PCGC Master Plan Update EIR
Minor Street	B Ave	Scenario	Cumulative Plus Health & Human Services
		Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	84	10	10
Through	203	284	5	10
Right	30	20	20	31
Total	283	388	35	51

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Dr	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**671**	**51**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Dr
Minor Street	B Ave

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Se
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	84	10	10
Through	203	284	5	10
Right	30	20	20	31
Total	283	388	35	51

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.7
Approach with Worst Case Delay	SB
Total Vehicles on Approach	388

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
ulative Plus Health & Human Serv	**1.3**	**51**	**757**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Dr
Minor Street	B Ave

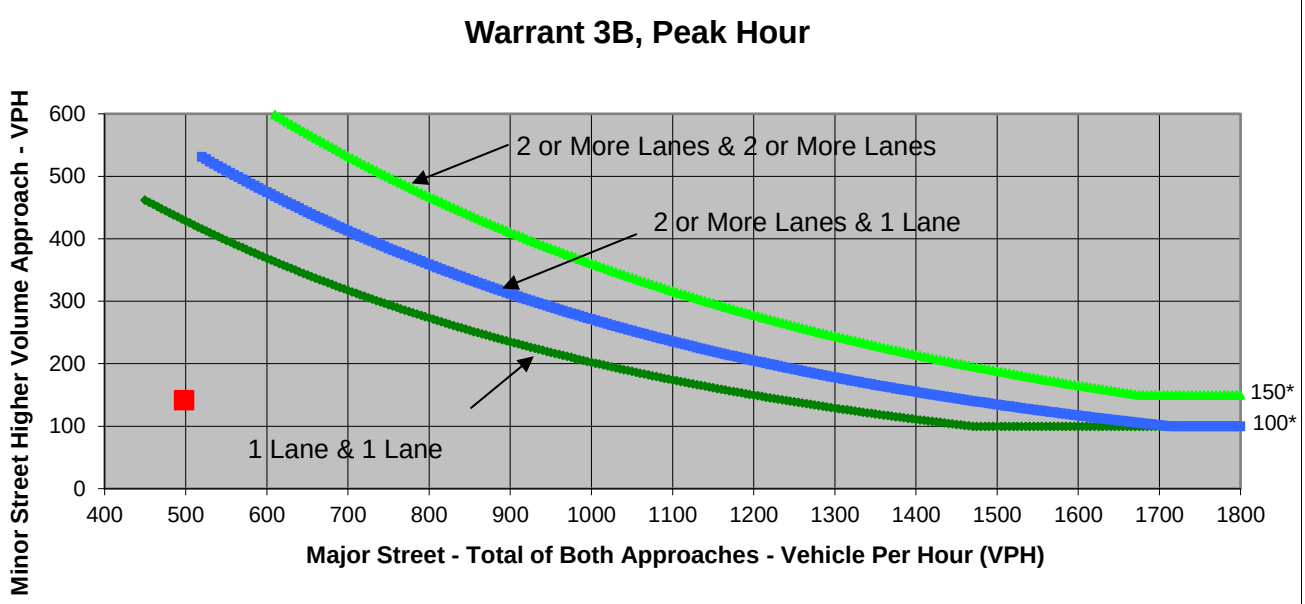
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	15	30	51
Through	195	242	20	5
Right	6	20	50	86
Total	221	277	100	142

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Dr	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**498**	**142**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Dr
Minor Street	B Ave

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	15	30	51
Through	195	242	20	5
Right	6	20	50	86
Total	221	277	100	142

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	24.9
Approach with Worst Case Delay	SB
Total Vehicles on Approach	277

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus Health & Human Serv	**1.9**	**142**	**740**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st St
Minor Street	D Ave / Professional Dr

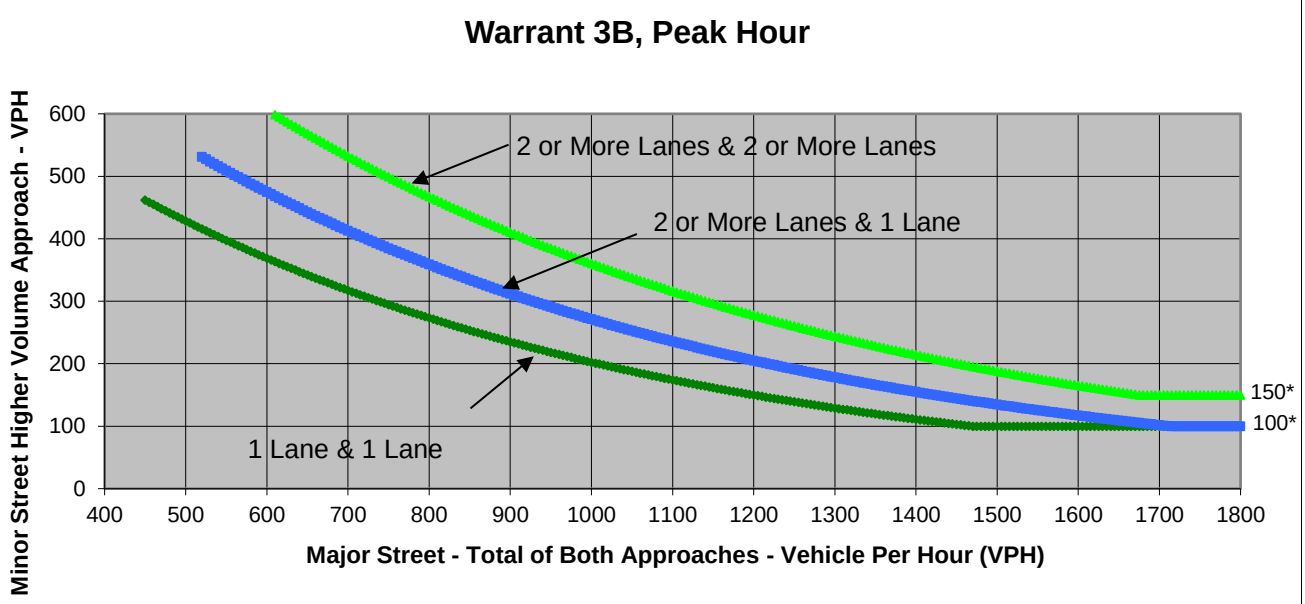
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	20	0	40
Through	142	52	0	5
Right	80	0	5	10
Total	232	72	5	55

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st St	D Ave / Professional Dr	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**304**	**55**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st St
Minor Street	D Ave / Professional Dr

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	20	0	40
Through	142	52	0	5
Right	80	0	5	10
Total	232	72	5	55

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	55

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
ulative Plus Health & Human Serv	**0.2**	**55**	**364**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st St
Minor Street	D Ave / Professional Dr

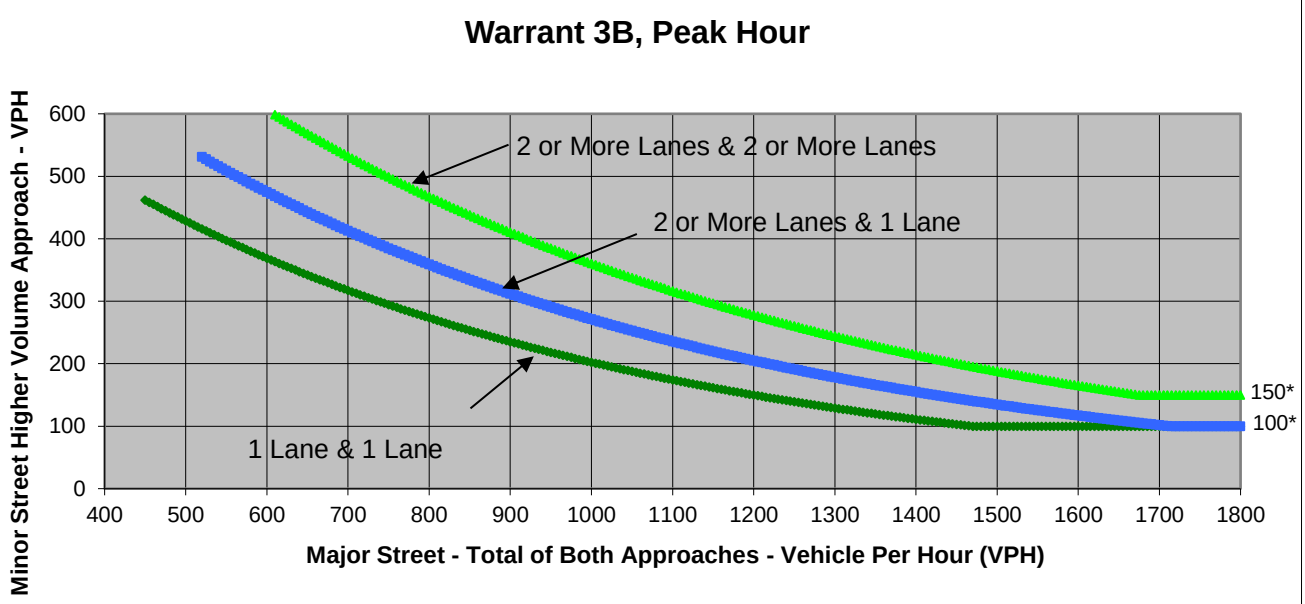
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	20	20	90
Through	50	127	10	5
Right	40	20	5	20
Total	95	167	35	115

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st St	D Ave / Professional Dr	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**262**	**115**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st St
Minor Street	D Ave / Professional Dr

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	20	20	90
Through	50	127	10	5
Right	40	20	5	20
Total	95	167	35	115

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	115

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus Health & Human Serv	**0.4**	**115**	**412**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Willow Creek Dr / 3rd St
Minor Street	1st St

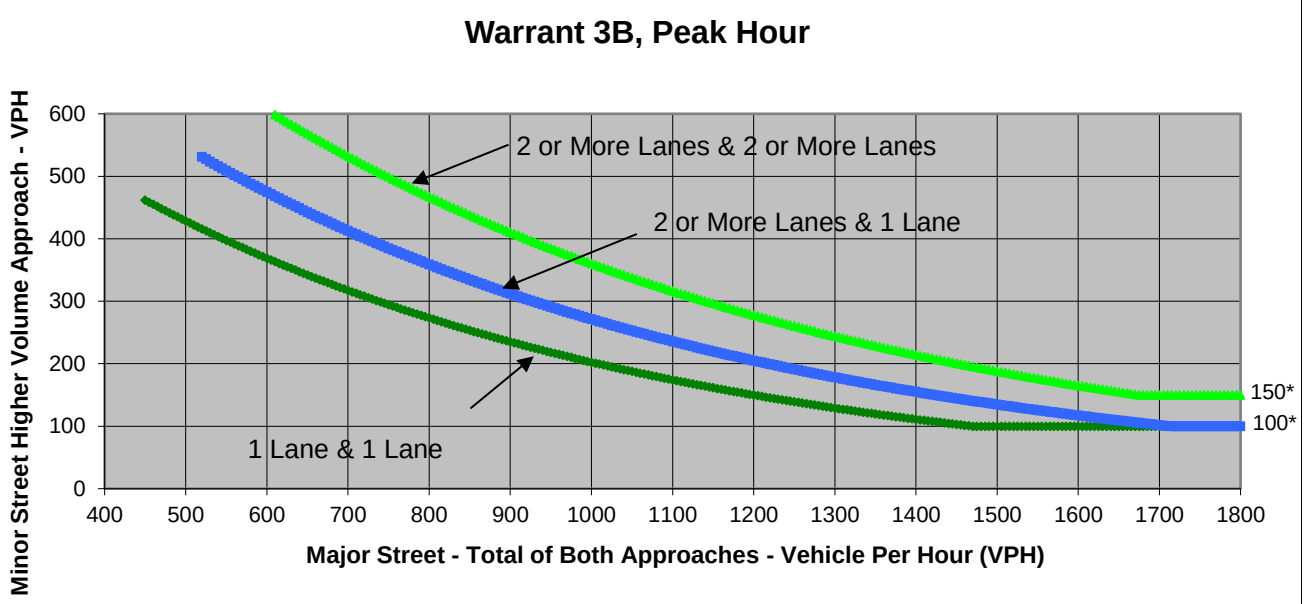
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	42	20	40
Through	60	70	20	30
Right	50	20	5	142
Total	115	132	45	212

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Dr / 3rd St	1st St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**247**	**212**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Willow Creek Dr / 3rd St
Minor Street	1st St

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	5	42	20	40
Through	60	70	20	30
Right	50	20	5	142
Total	115	132	45	212

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	4.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	212

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
ulative Plus Health & Human Serv	**0.3**	**212**	**504**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Willow Creek Dr / 3rd St
Minor Street	1st St

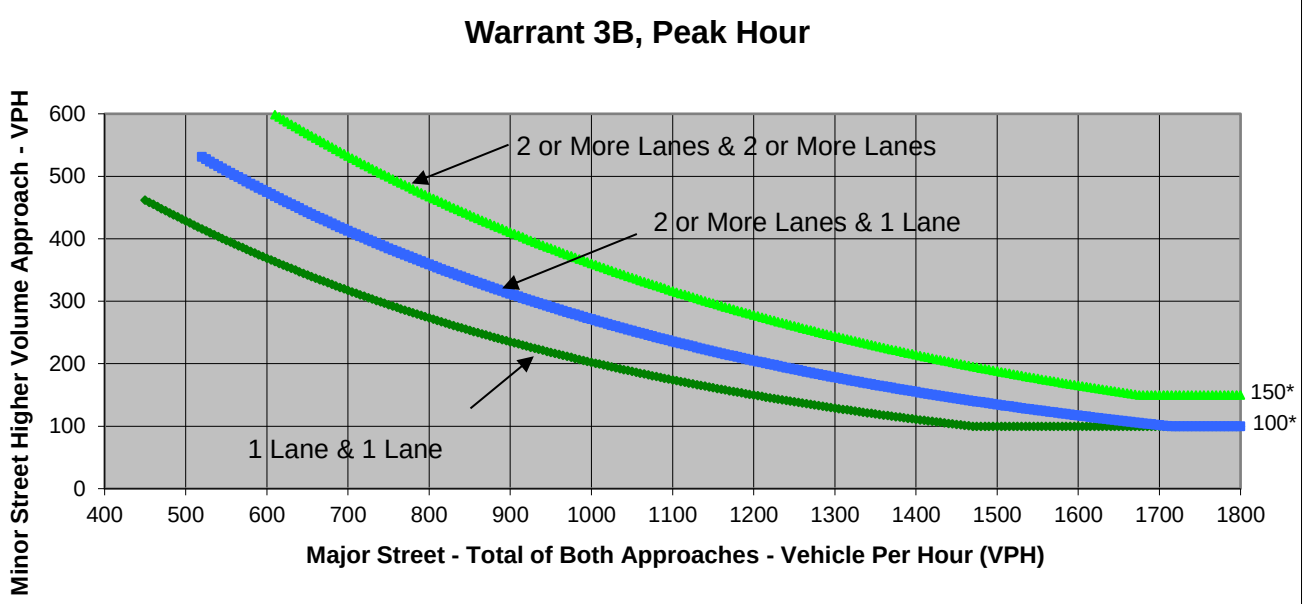
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	137	5	30
Through	50	80	30	60
Right	40	20	5	50
Total	90	237	40	140

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Willow Creek Dr / 3rd St	1st St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**327**	**140**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Willow Creek Dr / 3rd St
Minor Street	1st St

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	137	5	30
Through	50	80	30	60
Right	40	20	5	50
Total	90	237	40	140

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	5.4
Approach with Worst Case Delay	SB
Total Vehicles on Approach	237

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
ulative Plus Health & Human Serv	**0.4**	**140**	**507**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd St

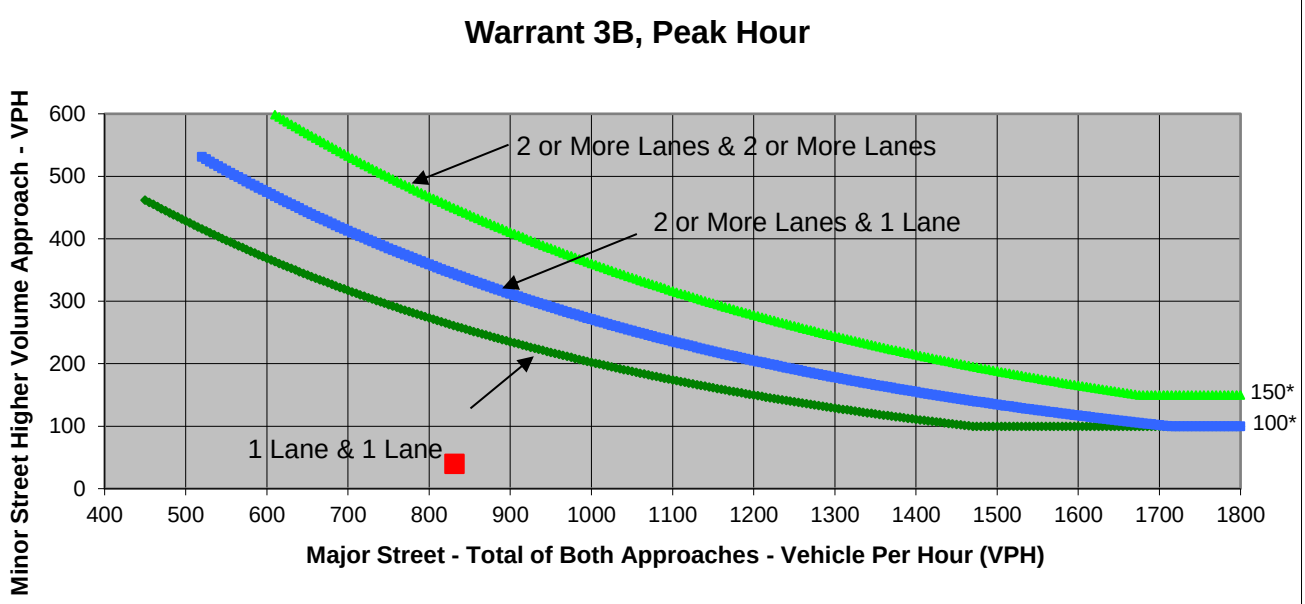
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left		20	30	
Through			392	389
Right		20		20
Total	0	40	422	409

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Rd	3rd St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**831**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd St

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	20	30	0
Through	0	0	392	389
Right	0	20	0	20
Total	0	40	422	409

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	15
Approach with Worst Case Delay	SB
Total Vehicles on Approach	40

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
ulative Plus Health & Human Serv	**0.2**	**40**	**871**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd St

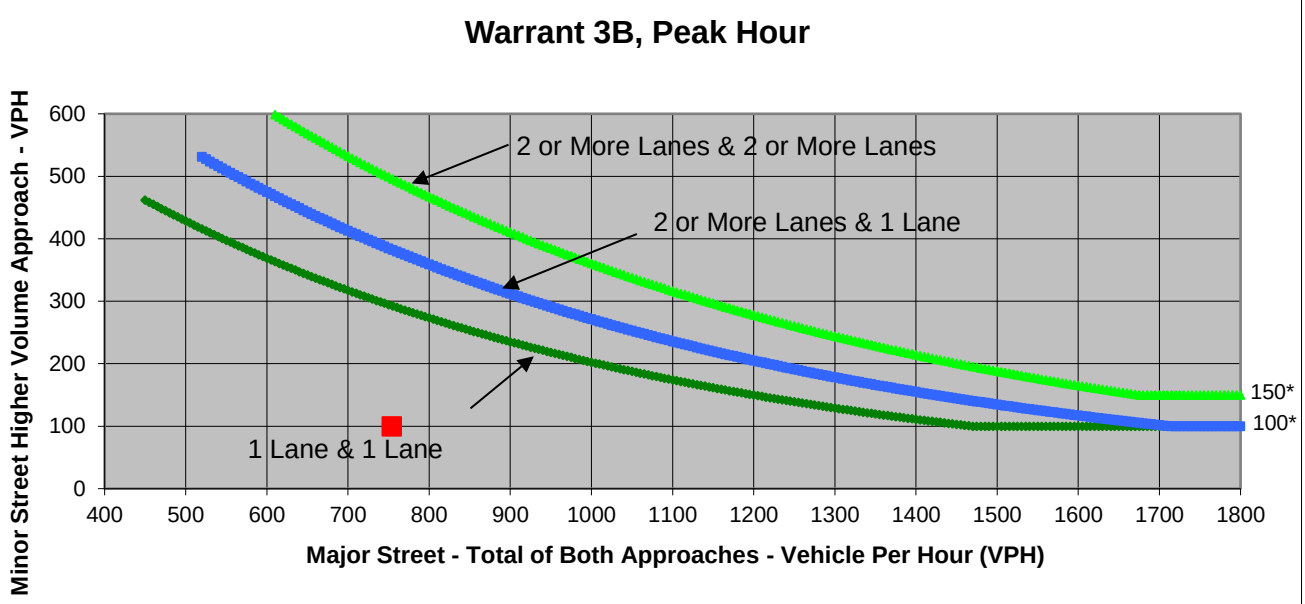
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left		30	10	
Through			416	308
Right		70		20
Total	0	100	426	328

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Rd	3rd St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**754**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Atwood Rd
Minor Street	3rd St

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus Health & Human Services
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	30	10	0
Through	0	0	416	308
Right	0	70	0	20
Total	0	100	426	328

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	14.6
Approach with Worst Case Delay	SB
Total Vehicles on Approach	100

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
ulative Plus Health & Human Serv	**0.4**	**100**	**854**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

Appendix I:
Cumulative Plus PCGC Master Plan Update Conditions – Technical Calculations

FEHR PEERS

CUMULATIVE PLUS PCGC MASTER PLAN UPDATE		# of Lanes		Trip Distribution			Daily Trip Assignment	Roadway ADT Forecasts		ADT Volume	V/C	LOS
Roadway	**Segment**	**Ex**	**Cum**	**AM**	**PM**	**Blended**	**MP**	**CNP**	**C+MP**	**C+MP**	**C+MP**	**C+MP**
Atwood Road	West of SR 49	2	2	28%	24%	26%	3250	11,900	15,150	7575	0.84	D
Bell Road	West of SR 49	4	4	28%	27%	28%	3500	19,400	22,900	5725	0.64	B
SR 49	Luther Rd. to New Airport Rd.	6	6	40%	40%	40%	5000	47,700	52,700	8783	0.98	E
SR 49	New Airport Rd. to Atwood Rd.	6	6	40%	40%	40%	5000	45,200	50,200	8367	0.93	E
SR 49	Atwood Rd. to Willow Creek Dr.	6	6	16%	18%	17%	2125	45,100	47,225	7871	0.87	D
SR 49	Willow Creek Dr. to Bell Rd.	6	6	15%	15%	15%	1875	44,900	46,775	7796	0.87	D
SR 49	North of Bell Rd.	4	5	18%	15%	16%	2000	35,000	37,000	9250	1.03	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	10	50	10	10	50	120	1570	40	80	1860	170
Future Volume (veh/h)	80	10	50	10	10	50	120	1570	40	80	1860	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	10	4	10	10	0	122	1602	27	82	1898	132
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	83	33	34	35	30	497	2471	767	545	1817	791
Arrive On Green	0.07	0.07	0.07	0.02	0.02	0.00	0.56	0.97	0.97	0.31	0.51	0.51
Sat Flow, veh/h	1781	1265	506	1781	1870	1585	1781	5106	1585	1781	3554	1548
Grp Volume(v), veh/h	82	0	14	10	10	0	122	1602	27	82	1898	132
Grp Sat Flow(s),veh/h/ln	1781	0	1771	1781	1870	1585	1781	1702	1585	1781	1777	1548
Q Serve(g_s), s	6.8	0.0	1.1	0.8	0.8	0.0	5.3	4.0	0.1	5.0	76.7	6.8
Cycle Q Clear(g_c), s	6.8	0.0	1.1	0.8	0.8	0.0	5.3	4.0	0.1	5.0	76.7	6.8
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	117	0	116	34	35	30	497	2471	767	545	1817	791
V/C Ratio(X)	0.70	0.00	0.12	0.30	0.28	0.00	0.25	0.65	0.04	0.15	1.04	0.17
Avail Cap(c_a), veh/h	321	0	319	214	224	190	497	2471	767	545	1817	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	0.43	0.43	0.43	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.6	0.0	66.0	72.6	72.6	0.0	25.1	1.3	1.2	37.9	36.7	19.6
Incr Delay (d2), s/veh	2.8	0.0	0.2	4.8	4.3	0.0	0.0	0.6	0.0	0.1	33.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	0.5	0.4	0.4	0.0	2.1	0.7	0.0	2.2	39.8	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.5	0.0	66.2	77.4	76.9	0.0	25.1	1.9	1.3	38.0	70.5	20.0
LnGrp LOS	E	A	E	E	E	A	C	A	A	D	F	C
Approach Vol, veh/h		96			20			1751			2112	
Approach Delay, s/veh		70.7			77.2			3.5			66.0	
Approach LOS		E			E			A			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	50.4	78.3		14.0	46.3	82.4		7.3
Change Period (Y+Rc), s	4.5	5.7		4.1	4.5	* 5.7		4.5
Max Green Setting (Gmax), s	13.6	72.6		27.0	10.0	* 77		18.0
Max Q Clear Time (g_c+I1), s	7.0	6.0		8.8	7.3	78.7		2.8
Green Ext Time (p_c), s	0.1	9.6		0.1	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	470	120	180	250	90	60	40	140	70	140	80
Future Volume (veh/h)	20	470	120	180	250	90	60	40	140	70	140	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	24	573	0	220	305	36	73	49	4	85	171	65
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	172	865		278	567	480	111	303	25	121	236	90
Arrive On Green	0.10	0.25	0.00	0.16	0.31	0.31	0.06	0.18	0.18	0.07	0.18	0.18
Sat Flow, veh/h	1767	3618	0	1767	1856	1570	1767	1692	138	1767	1280	487
Grp Volume(v), veh/h	24	573	0	220	305	36	73	0	53	85	0	236
Grp Sat Flow(s),veh/h/ln	1767	1763	0	1767	1856	1570	1767	0	1830	1767	0	1766
Q Serve(g_s), s	0.6	7.5	0.0	6.2	7.0	0.8	2.1	0.0	1.3	2.4	0.0	6.5
Cycle Q Clear(g_c), s	0.6	7.5	0.0	6.2	7.0	0.8	2.1	0.0	1.3	2.4	0.0	6.5
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.08	1.00		0.28
Lane Grp Cap(c), veh/h	172	865		278	567	480	111	0	327	121	0	325
V/C Ratio(X)	0.14	0.66		0.79	0.54	0.08	0.66	0.00	0.16	0.70	0.00	0.73
Avail Cap(c_a), veh/h	619	1536		485	668	565	210	0	673	227	0	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.2	17.5	0.0	20.8	14.8	12.7	23.5	0.0	17.9	23.4	0.0	19.7
Incr Delay (d2), s/veh	0.4	0.9	0.0	5.0	0.8	0.1	6.4	0.0	0.2	7.2	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.6	0.0	2.6	2.5	0.2	1.0	0.0	0.5	1.2	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	18.4	0.0	25.9	15.6	12.8	29.9	0.0	18.1	30.7	0.0	22.8
LnGrp LOS	C	B		C	B	B	C	A	B	C	A	C
Approach Vol, veh/h		597	A		561			126			321	
Approach Delay, s/veh		18.5			19.5			25.0			24.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	13.7	12.6	17.1	7.7	14.0	9.5	20.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.6	18.9	14.1	22.4	6.1	19.4	18.0	18.5
Max Q Clear Time (g_c+I1), s	4.4	3.3	8.2	9.5	4.1	8.5	2.6	9.0
Green Ext Time (p_c), s	0.0	0.1	0.3	2.9	0.0	0.9	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	650	30	100	520	10	60
Future Vol, veh/h	650	30	100	520	10	60
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	878	41	135	703	14	81

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	922	0	1524	463
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	622	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	736	-	109	546
Stage 1	-	-	-	-	356	-
Stage 2	-	-	-	-	498	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	734	-	89	544
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	498	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	21.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	314	-	-	734	-
HCM Lane V/C Ratio	0.301	-	-	0.184	-
HCM Control Delay (s)	21.3	-	-	11	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	1.2	-	-	0.7	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	670	540	60	70	70
Future Volume (veh/h)	40	670	540	60	70	70
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	918	740	66	96	14
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	110	2094	1230	110	180	160
Arrive On Green	0.06	0.59	0.37	0.37	0.10	0.10
Sat Flow, veh/h	1781	3647	3393	294	1781	1585
Grp Volume(v), veh/h	55	918	398	408	96	14
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1817	1781	1585
Q Serve(g_s), s	0.9	4.2	5.3	5.3	1.5	0.2
Cycle Q Clear(g_c), s	0.9	4.2	5.3	5.3	1.5	0.2
Prop In Lane	1.00			0.16	1.00	1.00
Lane Grp Cap(c), veh/h	110	2094	662	677	180	160
V/C Ratio(X)	0.50	0.44	0.60	0.60	0.53	0.09
Avail Cap(c_a), veh/h	325	3399	1100	1125	1115	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	3.3	7.4	7.4	12.4	11.8
Incr Delay (d2), s/veh	3.5	0.1	0.9	0.9	2.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.1	1.1	0.6	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.7	3.5	8.3	8.2	14.8	12.1
LnGrp LOS	B	A	A	A	B	B
Approach Vol, veh/h		973	806		110	
Approach Delay, s/veh		4.2	8.2		14.5	
Approach LOS		A	A		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	21.6	7.4	6.3	15.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	27.8	18.2	5.3	18.0
Max Q Clear Time (g_c+I1), s	6.2	3.5	2.9	7.3
Green Ext Time (p_c), s	6.3	0.2	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	690	40	100	670	160	20	30	80	70	50	40
Future Volume (veh/h)	40	690	40	100	670	160	20	30	80	70	50	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	841	45	122	817	171	24	37	37	85	61	12
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	1363	73	155	1321	277	125	60	60	199	169	33
Arrive On Green	0.03	0.40	0.40	0.09	0.45	0.45	0.07	0.07	0.07	0.11	0.11	0.11
Sat Flow, veh/h	1781	3430	184	1781	2923	612	1781	851	851	1781	1514	298
Grp Volume(v), veh/h	49	436	450	122	497	491	24	0	74	85	0	73
Grp Sat Flow(s),veh/h/ln	1781	1777	1837	1781	1777	1758	1781	0	1702	1781	0	1812
Q Serve(g_s), s	1.1	7.6	7.6	2.6	8.3	8.3	0.5	0.0	1.6	1.7	0.0	1.5
Cycle Q Clear(g_c), s	1.1	7.6	7.6	2.6	8.3	8.3	0.5	0.0	1.6	1.7	0.0	1.5
Prop In Lane	1.00		0.10	1.00		0.35	1.00		0.50	1.00		0.16
Lane Grp Cap(c), veh/h	58	706	730	155	803	795	125	0	119	199	0	202
V/C Ratio(X)	0.85	0.62	0.62	0.79	0.62	0.62	0.19	0.00	0.62	0.43	0.00	0.36
Avail Cap(c_a), veh/h	302	1040	1075	329	1067	1056	1006	0	961	1143	0	1163
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.8	9.4	9.4	17.4	8.1	8.1	17.1	0.0	17.6	16.1	0.0	16.0
Incr Delay (d2), s/veh	11.9	1.3	1.2	3.3	1.1	1.1	1.1	0.0	7.3	2.1	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.1	2.1	1.0	2.0	2.0	0.2	0.0	0.8	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	10.6	10.6	20.7	9.2	9.2	18.1	0.0	24.9	18.2	0.0	17.6
LnGrp LOS	C	B	B	C	A	A	B	A	C	B	A	B
Approach Vol, veh/h		935			1110			98			158	
Approach Delay, s/veh		11.7			10.5			23.2			17.9	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.4	19.5		7.4	4.3	21.6		5.7
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	7.3	22.8		25.0	6.6	23.4		22.0
Max Q Clear Time (g_c+I1), s	4.6	9.6		3.7	3.1	10.3		3.6
Green Ext Time (p_c), s	0.0	5.8		0.9	0.0	6.6		0.5

Intersection Summary	
HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	310	310	310	590	560	360	910	270	550	1200	170
Future Volume (veh/h)	260	310	310	310	590	560	360	910	270	550	1200	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	265	316	251	316	602	0	367	929	239	561	1224	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	650	287	464	665		540	1336	342	821	1293	176
Arrive On Green	0.13	0.18	0.18	0.13	0.19	0.00	0.16	0.33	0.33	0.48	0.82	0.82
Sat Flow, veh/h	1781	3554	1567	3456	3554	1585	3456	4048	1038	3456	3142	427
Grp Volume(v), veh/h	265	316	251	316	602	0	367	781	387	561	690	701
Grp Sat Flow(s),veh/h/ln	1781	1777	1567	1728	1777	1585	1728	1702	1681	1728	1777	1792
Q Serve(g_s), s	19.5	12.0	23.4	13.1	24.9	0.0	15.0	29.9	30.1	18.9	46.2	47.8
Cycle Q Clear(g_c), s	19.5	12.0	23.4	13.1	24.9	0.0	15.0	29.9	30.1	18.9	46.2	47.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.62	1.00		0.24
Lane Grp Cap(c), veh/h	232	650	287	464	665		540	1123	555	821	731	737
V/C Ratio(X)	1.14	0.49	0.88	0.68	0.91		0.68	0.70	0.70	0.68	0.94	0.95
Avail Cap(c_a), veh/h	232	891	393	464	820		540	1123	555	821	731	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.54	0.54	0.54
Uniform Delay (d), s/veh	65.3	55.0	59.6	61.9	59.7	0.0	59.7	43.7	43.7	35.0	11.9	12.1
Incr Delay (d2), s/veh	103.6	0.2	12.2	3.4	10.6	0.0	2.9	3.6	7.1	1.1	14.3	15.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.4	5.3	10.1	5.9	12.0	0.0	6.7	12.9	13.3	6.2	7.8	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	168.9	55.2	71.8	65.3	70.3	0.0	62.6	47.2	50.9	36.0	26.2	27.2
LnGrp LOS	F	E	E	E	E		E	D	D	D	C	C
Approach Vol, veh/h		832			918	A		1535			1952	
Approach Delay, s/veh		96.4			68.5			51.8			29.4	
Approach LOS		F			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.7	54.8	23.6	31.8	27.5	67.0	23.0	32.5
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	29.1	49.5	16.5	37.6	16.9	61.7	19.5	34.6
Max Q Clear Time (g_c+I1), s	21.9	32.1	15.1	25.4	17.0	49.8	21.5	26.9
Green Ext Time (p_c), s	0.3	2.5	0.0	0.7	0.0	2.5	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	53.5
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	10	20	0	10	20	220	50	60	350	30
Future Vol, veh/h	10	0	10	20	0	10	20	220	50	60	350	30
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	4	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	13	27	0	13	27	293	67	80	467	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1041	1072	496	1041	1059	331	514	0	0	364	0	0
Stage 1	654	654	-	385	385	-	-	-	-	-	-	-
Stage 2	387	418	-	656	674	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	208	220	574	208	224	711	1052	-	-	1195	-	-
Stage 1	456	463	-	638	611	-	-	-	-	-	-	-
Stage 2	637	591	-	454	454	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	188	196	569	187	200	708	1045	-	-	1190	-	-
Mov Cap-2 Maneuver	188	196	-	187	200	-	-	-	-	-	-	-
Stage 1	438	429	-	614	588	-	-	-	-	-	-	-
Stage 2	604	569	-	413	420	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	22.3	0.6	1.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1045	-	-	283	248	1190	-	-
HCM Lane V/C Ratio	0.026	-	-	0.094	0.161	0.067	-	-
HCM Control Delay (s)	8.5	0	-	19	22.3	8.2	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.6	0.2	-	-

Intersection	
Intersection Delay, s/veh	4.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	44	33	381	416
Demand Flow Rate, veh/h	44	33	388	425
Vehicles Circulating, veh/h	401	331	79	90
Vehicles Exiting, veh/h	114	136	366	274
Ped Vol Crossing Leg, #/h	10	9	6	8
Ped Cap Adj	0.999	0.999	0.994	0.991
Approach Delay, s/veh	4.4	4.0	4.6	5.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Right	Left	Right
Designated Moves	LTR	LTR	L	TR	L	TR
Assumed Moves	LTR	LTR	L	TR	L	TR
RT Channelized						
Lane Util	1.000	1.000	0.175	0.825	0.134	0.866
Follow-Up Headway, s	2.609	2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	44	33	68	320	57	368
Cap Entry Lane, veh/h	917	985	1322	1322	1308	1308
Entry HV Adj Factor	0.995	0.993	0.985	0.981	0.982	0.980
Flow Entry, veh/h	44	33	67	314	56	360
Cap Entry, veh/h	911	977	1294	1289	1275	1271
V/C Ratio	0.048	0.034	0.052	0.244	0.044	0.284
Control Delay, s/veh	4.4	4.0	3.2	4.9	3.2	5.4
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	0	0	1	0	1

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	23	116	348	116
Demand Flow Rate, veh/h	23	118	354	119
Vehicles Circulating, veh/h	178	236	36	154
Vehicles Exiting, veh/h	95	154	165	200
Ped Vol Crossing Leg, #/h	0	6	0	4
Ped Cap Adj	1.000	0.999	1.000	0.999
Approach Delay, s/veh	3.3	4.3	5.1	4.0
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	23	118	354	119
Cap Entry Lane, veh/h	1151	1085	1330	1179
Entry HV Adj Factor	1.000	0.986	0.982	0.978
Flow Entry, veh/h	23	116	348	116
Cap Entry, veh/h	1151	1068	1306	1153
V/C Ratio	0.020	0.109	0.266	0.101
Control Delay, s/veh	3.3	4.3	5.1	4.0
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	0

Intersection	
Intersection Delay, s/veh	4.0
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	0	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	0	172	161
Demand Flow Rate, veh/h	0	176	164
Vehicles Circulating, veh/h	88	76	88
Vehicles Exiting, veh/h	164	176	263
Ped Vol Crossing Leg, #/h	5	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	0.0	4.0	4.0
Approach LOS	-	A	A

Lane	Left	Left
Designated Moves	TR	LT
Assumed Moves	TR	LT
RT Channelized		
Lane Util	1.000	1.000
Follow-Up Headway, s	2.609	2.609
Critical Headway, s	4.976	4.976
Entry Flow, veh/h	176	164
Cap Entry Lane, veh/h	1277	1261
Entry HV Adj Factor	0.979	0.983
Flow Entry, veh/h	172	161
Cap Entry, veh/h	1250	1240
V/C Ratio	0.138	0.130
Control Delay, s/veh	4.0	4.0
LOS	A	A
95th %tile Queue, veh	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	30	200	50	30	20	210	1400	50	30	1500	270
Future Volume (veh/h)	100	30	200	50	30	20	210	1400	50	30	1500	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	31	121	51	31	1	214	1429	36	31	1531	215
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	116	706	64	39	90	684	2305	715	551	1923	596
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.38	0.45	0.45	0.62	0.75	0.75
Sat Flow, veh/h	3456	1870	1570	1128	686	1585	1781	5106	1585	1781	5106	1583
Grp Volume(v), veh/h	102	31	121	82	0	1	214	1429	36	31	1531	215
Grp Sat Flow(s),veh/h/ln	1728	1870	1570	1814	0	1585	1781	1702	1585	1781	1702	1583
Q Serve(g_s), s	4.3	2.4	0.0	6.7	0.0	0.1	12.6	32.0	1.9	1.0	27.7	6.9
Cycle Q Clear(g_c), s	4.3	2.4	0.0	6.7	0.0	0.1	12.6	32.0	1.9	1.0	27.7	6.9
Prop In Lane	1.00		1.00	0.62		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	116	706	103	0	90	684	2305	715	551	1923	596
V/C Ratio(X)	0.48	0.27	0.17	0.80	0.00	0.01	0.31	0.62	0.05	0.06	0.80	0.36
Avail Cap(c_a), veh/h	898	486	1017	151	0	132	684	2305	715	551	1923	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.0	67.1	24.9	69.9	0.0	66.8	32.3	31.4	23.1	19.9	14.9	12.4
Incr Delay (d2), s/veh	0.6	0.5	0.0	9.9	0.0	0.0	0.1	1.3	0.1	0.0	3.5	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.2	2.7	3.4	0.0	0.0	5.4	13.0	0.7	0.4	5.8	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.6	67.6	25.0	79.8	0.0	66.8	32.4	32.6	23.2	19.9	18.5	14.1
LnGrp LOS	E	E	C	E	A	E	C	C	C	B	B	B
Approach Vol, veh/h		254			83			1679			1777	
Approach Delay, s/veh		47.7			79.7			32.4			18.0	
Approach LOS		D			E			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	50.5	73.0		13.9	61.7	61.8		12.6
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	13.3	* 68		39.0	23.9	56.5		12.5
Max Q Clear Time (g_c+I1), s	13.6	34.0		6.3	14.6	29.7		8.7
Green Ext Time (p_c), s	0.0	12.3		0.5	0.2	13.2		0.1

Intersection Summary	
HCM 6th Ctrl Delay	27.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	250	30	60	130	230	20	40	60	160	60	60
Future Volume (veh/h)	180	250	30	60	130	230	20	40	60	160	60	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1870	1870
Adj Flow Rate, veh/h	189	263	27	63	137	107	21	42	11	168	63	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	2	2
Cap, veh/h	287	462	47	74	296	251	106	85	22	249	206	49
Arrive On Green	0.16	0.28	0.28	0.04	0.16	0.16	0.06	0.06	0.06	0.14	0.14	0.14
Sat Flow, veh/h	1767	1654	170	1767	1856	1572	1767	1417	371	1767	1459	347
Grp Volume(v), veh/h	189	0	290	63	137	107	21	0	53	168	0	78
Grp Sat Flow(s),veh/h/ln	1767	0	1824	1767	1856	1572	1767	0	1789	1767	0	1806
Q Serve(g_s), s	3.3	0.0	4.4	1.1	2.2	2.0	0.4	0.0	0.9	2.9	0.0	1.3
Cycle Q Clear(g_c), s	3.3	0.0	4.4	1.1	2.2	2.0	0.4	0.0	0.9	2.9	0.0	1.3
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.21	1.00		0.19
Lane Grp Cap(c), veh/h	287	0	510	74	296	251	106	0	107	249	0	255
V/C Ratio(X)	0.66	0.00	0.57	0.85	0.46	0.43	0.20	0.00	0.49	0.67	0.00	0.31
Avail Cap(c_a), veh/h	653	0	1753	490	1611	1366	288	0	292	1578	0	1613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.8	0.0	10.0	15.4	12.4	12.3	14.5	0.0	14.8	13.2	0.0	12.5
Incr Delay (d2), s/veh	1.0	0.0	0.4	9.3	0.4	0.4	0.3	0.0	1.3	1.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.2	0.6	0.7	0.5	0.1	0.0	0.3	0.9	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.0	10.4	24.8	12.8	12.7	14.9	0.0	16.1	14.4	0.0	12.8
LnGrp LOS	B	A	B	C	B	B	B	A	B	B	A	B
Approach Vol, veh/h		479			307			74			246	
Approach Delay, s/veh		11.7			15.2			15.7			13.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.4	14.4		8.1	8.3	10.5		5.6
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	9.6	31.2		29.0	12.0	28.2		5.3
Max Q Clear Time (g_c+I1), s	3.1	6.4		4.9	5.3	4.2		2.9
Green Ext Time (p_c), s	0.0	0.5		0.1	0.0	0.3		0.0

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

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	430	400	30	20	20
Future Vol, veh/h	40	430	400	30	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	457	426	32	21	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	458	0	-	0	985	442
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	543	-
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	1103	-	-	-	275	615
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	582	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1103	-	-	-	264	615
Mov Cap-2 Maneuver	-	-	-	-	264	-
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	582	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	16
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1103	-	-	-	369
HCM Lane V/C Ratio	0.039	-	-	-	0.115
HCM Control Delay (s)	8.4	-	-	-	16
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	400	50	60	360	80	60	40	100	70	40	60
Future Volume (veh/h)	70	400	50	60	360	80	60	40	100	70	40	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	460	48	69	414	81	69	46	45	80	46	9
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	566	59	97	508	99	88	59	57	117	67	13
Arrive On Green	0.06	0.34	0.34	0.05	0.33	0.33	0.10	0.12	0.12	0.10	0.11	0.11
Sat Flow, veh/h	1781	1665	174	1781	1517	297	752	502	491	1063	611	120
Grp Volume(v), veh/h	80	0	508	69	0	495	160	0	0	135	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1838	1781	0	1814	1744	0	0	1793	0	0
Q Serve(g_s), s	1.7	0.0	9.7	1.5	0.0	9.6	3.4	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	1.7	0.0	9.7	1.5	0.0	9.6	3.4	0.0	0.0	2.8	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.16	0.43		0.28	0.59		0.07
Lane Grp Cap(c), veh/h	106	0	625	97	0	607	204	0	0	198	0	0
V/C Ratio(X)	0.75	0.00	0.81	0.71	0.00	0.82	0.78	0.00	0.00	0.68	0.00	0.00
Avail Cap(c_a), veh/h	185	0	1063	185	0	1049	321	0	0	1023	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.8	0.0	11.6	17.9	0.0	11.7	16.7	0.0	0.0	16.7	0.0	0.0
Incr Delay (d2), s/veh	4.0	0.0	1.0	3.6	0.0	1.0	2.5	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	3.0	0.6	0.0	2.9	1.3	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	12.6	21.6	0.0	12.8	19.2	0.0	0.0	18.2	0.0	0.0
LnGrp LOS	C	A	B	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		588			564			160			135	
Approach Delay, s/veh		13.8			13.9			19.2			18.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	17.7		7.8	5.3	17.5		8.0
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	4.0	22.3		22.0	4.0	22.3		7.1
Max Q Clear Time (g_c+I1), s	3.5	11.7		4.8	3.7	11.6		5.4
Green Ext Time (p_c), s	0.0	0.9		0.2	0.0	0.9		0.1

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	60	430	40	60	70	520	1430	70	60	1470	170
Future Volume (veh/h)	200	60	430	40	60	70	520	1430	70	60	1470	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	61	391	41	61	15	531	1459	69	61	1500	165
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	278	841	71	130	108	683	2404	114	386	1469	161
Arrive On Green	0.12	0.15	0.15	0.04	0.07	0.07	0.77	0.96	0.96	0.22	0.31	0.31
Sat Flow, veh/h	1781	1870	1569	1781	1870	1551	1781	4995	236	1781	4667	513
Grp Volume(v), veh/h	204	61	391	41	61	15	531	994	534	61	1094	571
Grp Sat Flow(s),veh/h/ln	1781	1870	1569	1781	1870	1551	1781	1702	1828	1781	1702	1776
Q Serve(g_s), s	17.1	4.3	3.0	3.4	4.7	1.4	25.9	3.9	3.9	4.2	47.2	47.2
Cycle Q Clear(g_c), s	17.1	4.3	3.0	3.4	4.7	1.4	25.9	3.9	3.9	4.2	47.2	47.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.29
Lane Grp Cap(c), veh/h	207	278	841	71	130	108	683	1638	880	386	1071	559
V/C Ratio(X)	0.99	0.22	0.46	0.58	0.47	0.14	0.78	0.61	0.61	0.16	1.02	1.02
Avail Cap(c_a), veh/h	207	541	1061	107	436	362	683	1638	880	386	1071	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.2	56.2	12.6	70.7	67.1	65.6	13.8	1.5	1.5	47.7	51.4	51.4
Incr Delay (d2), s/veh	59.0	0.1	0.1	2.7	5.5	1.2	5.2	1.7	3.1	0.1	32.9	43.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	2.1	6.0	1.6	2.4	0.6	6.0	1.0	1.5	1.8	24.4	27.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.2	56.3	12.7	73.4	72.7	66.8	19.0	3.2	4.6	47.7	84.3	95.2
LnGrp LOS	F	E	B	E	E	E	B	A	A	D	F	F
Approach Vol, veh/h		656			117			2059			1726	
Approach Delay, s/veh		51.7			72.2			7.7			86.6	
Approach LOS		D			E			A			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.1	77.5	9.0	26.4	62.1	52.5	21.5	13.9
Change Period (Y+Rc), s	4.6	* 5.3	3.0	4.1	4.6	5.3	4.1	* 3.5
Max Green Setting (Gmax), s	10.6	* 72	9.0	43.4	33.4	47.2	17.4	* 35
Max Q Clear Time (g_c+I1), s	16.3	5.9	5.4	6.3	27.9	49.2	19.1	6.7
Green Ext Time (p_c), s	0.0	7.7	0.0	0.3	0.1	0.0	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	45.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	50	110	230	50	70	150	1860	200	40	1780	40
Future Volume (veh/h)	90	50	110	230	50	70	150	1860	200	40	1780	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	51	91	235	51	35	153	1898	197	41	1816	40
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	55	99	294	88	60	490	2122	219	362	1950	43
Arrive On Green	0.15	0.15	0.15	0.09	0.09	0.09	0.28	0.45	0.45	0.20	0.38	0.38
Sat Flow, veh/h	675	374	668	3456	1033	709	1781	4702	485	1781	5141	113
Grp Volume(v), veh/h	234	0	0	235	0	86	153	1371	724	41	1202	654
Grp Sat Flow(s),veh/h/ln	1716	0	0	1728	0	1743	1781	1702	1783	1781	1702	1850
Q Serve(g_s), s	20.2	0.0	0.0	10.0	0.0	7.1	10.2	55.5	56.3	2.8	50.8	50.9
Cycle Q Clear(g_c), s	20.2	0.0	0.0	10.0	0.0	7.1	10.2	55.5	56.3	2.8	50.8	50.9
Prop In Lane	0.39		0.39	1.00		0.41	1.00		0.27	1.00		0.06
Lane Grp Cap(c), veh/h	254	0	0	294	0	148	490	1536	805	362	1291	702
V/C Ratio(X)	0.92	0.00	0.00	0.80	0.00	0.58	0.31	0.89	0.90	0.11	0.93	0.93
Avail Cap(c_a), veh/h	263	0	0	829	0	418	490	1536	805	362	1291	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	0.0	0.0	67.3	0.0	66.0	43.1	37.8	38.0	48.7	44.7	44.7
Incr Delay (d2), s/veh	33.4	0.0	0.0	1.9	0.0	1.3	0.1	8.3	15.1	0.1	13.2	20.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	0.0	0.0	4.5	0.0	3.3	4.5	23.9	26.9	1.2	23.1	26.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.4	0.0	0.0	69.2	0.0	67.3	43.2	46.1	53.1	48.8	57.9	65.5
LnGrp LOS	F	A	A	E	A	E	D	D	D	D	E	E
Approach Vol, veh/h		234			321			2248			1897	
Approach Delay, s/veh		96.4			68.7			48.1			60.3	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	34.0	73.0		26.2	44.8	62.2		16.8
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	6.5	67.7		23.0	17.3	56.9		36.0
Max Q Clear Time (g_c+I1), s	14.2	58.3		22.2	12.2	52.9		12.0
Green Ext Time (p_c), s	0.0	7.0		0.1	0.1	3.1		0.8

Intersection Summary	
HCM 6th Ctrl Delay	56.9
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	680	60	140	600	0	70
Future Vol, veh/h	680	60	140	600	0	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	932	82	192	822	0	96

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1014	0	-	507
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	680	-	0	511
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	680	-	-	511
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	511	-	-	680	-
HCM Lane V/C Ratio	0.188	-	-	0.282	-
HCM Control Delay (s)	13.7	-	-	12.4	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.7	-	-	1.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	20	140	30	20	90	50	2170	90	80	1710	50
Future Volume (veh/h)	170	20	140	30	20	90	50	2170	90	80	1710	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	173	20	14	26	28	0	51	2214	62	82	1745	34
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	212	121	85	54	57	48	379	2316	719	464	1782	791
Arrive On Green	0.12	0.12	0.12	0.03	0.03	0.00	0.43	0.91	0.91	0.26	0.51	0.51
Sat Flow, veh/h	1767	1009	706	1767	1856	1572	1767	5066	1572	1767	3526	1565
Grp Volume(v), veh/h	173	0	34	26	28	0	51	2214	62	82	1745	34
Grp Sat Flow(s),veh/h/ln	1767	0	1716	1767	1856	1572	1767	1689	1572	1767	1763	1565
Q Serve(g_s), s	13.8	0.0	2.6	2.1	2.2	0.0	2.5	43.1	0.5	5.2	70.3	1.6
Cycle Q Clear(g_c), s	13.8	0.0	2.6	2.1	2.2	0.0	2.5	43.1	0.5	5.2	70.3	1.6
Prop In Lane	1.00		0.41	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	0	206	54	57	48	379	2316	719	464	1782	791
V/C Ratio(X)	0.82	0.00	0.17	0.48	0.49	0.00	0.13	0.96	0.09	0.18	0.98	0.04
Avail Cap(c_a), veh/h	329	0	319	219	230	195	379	2316	719	464	1782	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.3	0.0	57.3	69.2	69.2	0.0	33.3	5.2	3.4	41.3	35.1	18.1
Incr Delay (d2), s/veh	4.6	0.0	0.1	6.5	6.5	0.0	0.0	1.4	0.0	0.2	16.9	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	6.6	0.0	1.1	1.1	1.1	0.0	1.1	2.6	0.2	2.3	32.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.8	0.0	57.4	75.7	75.7	0.0	33.3	6.6	3.4	41.5	52.0	18.2
LnGrp LOS	E	A	E	E	E	A	C	A	A	D	D	B
Approach Vol, veh/h		207			54			2327			1861	
Approach Delay, s/veh		65.3			75.7			7.1			50.9	
Approach LOS		E			E			A			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	42.6	72.0		21.5	35.6	79.0		8.9
Change Period (Y+Rc), s	4.5	5.7		4.1	4.5	* 5.7		4.5
Max Green Setting (Gmax), s	14.9	66.3		27.0	8.4	* 73		18.0
Max Q Clear Time (g_c+I1), s	7.2	45.1		15.8	4.5	72.3		4.2
Green Ext Time (p_c), s	0.1	12.1		0.3	0.0	0.8		0.1

Intersection Summary	
HCM 6th Ctrl Delay	29.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	440	70	80	470	160	120	160	180	130	80	50
Future Volume (veh/h)	90	440	70	80	470	160	120	160	180	130	80	50
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	118	579	80	105	618	141	158	211	200	171	105	46
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	146	1164	160	132	681	577	191	235	223	203	336	147
Arrive On Green	0.08	0.38	0.38	0.07	0.37	0.37	0.11	0.27	0.27	0.12	0.28	0.28
Sat Flow, veh/h	1767	3101	427	1767	1856	1572	1767	876	830	1767	1222	536
Grp Volume(v), veh/h	118	328	331	105	618	141	158	0	411	171	0	151
Grp Sat Flow(s),veh/h/ln	1767	1763	1765	1767	1856	1572	1767	0	1706	1767	0	1758
Q Serve(g_s), s	7.1	15.4	15.5	6.3	34.1	6.7	9.5	0.0	25.1	10.2	0.0	7.3
Cycle Q Clear(g_c), s	7.1	15.4	15.5	6.3	34.1	6.7	9.5	0.0	25.1	10.2	0.0	7.3
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.49	1.00		0.30
Lane Grp Cap(c), veh/h	146	661	662	132	681	577	191	0	457	203	0	484
V/C Ratio(X)	0.81	0.50	0.50	0.79	0.91	0.24	0.83	0.00	0.90	0.84	0.00	0.31
Avail Cap(c_a), veh/h	254	786	787	260	834	707	385	0	593	336	0	562
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	25.9	25.9	49.1	32.4	23.7	47.1	0.0	38.1	46.8	0.0	31.0
Incr Delay (d2), s/veh	9.9	0.6	0.6	10.3	11.9	0.2	8.8	0.0	13.9	9.5	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	6.3	6.4	3.1	16.7	2.5	4.6	0.0	12.0	5.0	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	26.5	26.5	59.4	44.3	24.0	56.0	0.0	52.0	56.3	0.0	31.4
LnGrp LOS	E	C	C	E	D	C	E	A	D	E	A	C
Approach Vol, veh/h		777			864			569			322	
Approach Delay, s/veh		31.3			42.8			53.1			44.6	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	33.4	12.6	45.0	16.2	34.2	13.4	44.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	37.5	15.9	48.1	23.5	34.5	15.5	48.5
Max Q Clear Time (g_c+I1), s	12.2	27.1	8.3	17.5	11.5	9.3	9.1	36.1
Green Ext Time (p_c), s	0.3	1.9	0.1	4.1	0.3	0.8	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	10.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	730	20	30	660	50	110
Future Vol, veh/h	730	20	30	660	50	110
Conflicting Peds, #/hr	0	4	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	986	27	41	892	68	149

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1017	0	1532	512
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	528	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	672	-	106	504
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	553	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	669	-	99	502
Mov Cap-2 Maneuver	-	-	-	-	99	-
Stage 1	-	-	-	-	293	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	101.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	221	-	-	669	-
HCM Lane V/C Ratio	0.978	-	-	0.061	-
HCM Control Delay (s)	101.2	-	-	10.7	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	8.7	-	-	0.2	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	770	660	20	60	30
Future Volume (veh/h)	70	770	660	20	60	30
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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	96	1055	904	22	82	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	160	2223	1392	34	144	128
Arrive On Green	0.09	0.63	0.40	0.40	0.08	0.00
Sat Flow, veh/h	1767	3618	3610	86	1767	1572
Grp Volume(v), veh/h	96	1055	453	473	82	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1763	1840	1767	1572
Q Serve(g_s), s	1.6	4.9	6.5	6.5	1.4	0.0
Cycle Q Clear(g_c), s	1.6	4.9	6.5	6.5	1.4	0.0
Prop In Lane	1.00			0.05	1.00	1.00
Lane Grp Cap(c), veh/h	160	2223	698	728	144	128
V/C Ratio(X)	0.60	0.47	0.65	0.65	0.57	0.00
Avail Cap(c_a), veh/h	288	3115	1016	1060	1041	926
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	13.7	3.0	7.7	7.7	13.8	0.0
Incr Delay (d2), s/veh	3.6	0.2	1.0	1.0	3.5	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	0.6	0.0	1.3	1.4	0.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.2	3.2	8.7	8.7	17.3	0.0
LnGrp LOS	B	A	A	A	B	A
Approach Vol, veh/h		1151	926		82	
Approach Delay, s/veh		4.4	8.7		17.3	
Approach LOS		A	A		B	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		24.2		7.0	7.3	16.9
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		27.6		18.4	5.1	18.0
Max Q Clear Time (g_c+I1), s		6.9		3.4	3.6	8.5
Green Ext Time (p_c), s		7.3		0.1	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	760	20	70	670	40	30	50	110	110	40	30
Future Volume (veh/h)	70	760	20	70	670	40	30	50	110	110	40	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	90	974	26	90	859	51	38	64	141	141	51	38
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	114	1283	34	114	1236	73	311	91	199	234	130	97
Arrive On Green	0.06	0.37	0.37	0.06	0.37	0.37	0.18	0.18	0.18	0.13	0.13	0.13
Sat Flow, veh/h	1767	3507	94	1767	3381	201	1767	515	1134	1767	985	734
Grp Volume(v), veh/h	90	490	510	90	448	462	38	0	205	141	0	89
Grp Sat Flow(s),veh/h/ln	1767	1763	1838	1767	1763	1819	1767	0	1649	1767	0	1719
Q Serve(g_s), s	2.5	12.1	12.1	2.5	10.7	10.7	0.9	0.0	5.8	3.7	0.0	2.4
Cycle Q Clear(g_c), s	2.5	12.1	12.1	2.5	10.7	10.7	0.9	0.0	5.8	3.7	0.0	2.4
Prop In Lane	1.00		0.05	1.00		0.11	1.00		0.69	1.00		0.43
Lane Grp Cap(c), veh/h	114	645	672	114	645	665	311	0	290	234	0	227
V/C Ratio(X)	0.79	0.76	0.76	0.79	0.69	0.69	0.12	0.00	0.71	0.60	0.00	0.39
Avail Cap(c_a), veh/h	235	829	865	235	829	856	782	0	730	888	0	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	13.9	13.9	22.9	13.4	13.4	17.3	0.0	19.3	20.3	0.0	19.7
Incr Delay (d2), s/veh	11.2	3.1	2.9	11.2	1.7	1.7	0.2	0.0	3.2	2.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.2	4.4	1.3	3.6	3.7	0.4	0.0	2.3	1.6	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	16.9	16.8	34.1	15.2	15.1	17.4	0.0	22.5	22.8	0.0	20.8
LnGrp LOS	C	B	B	C	B	B	B	A	C	C	A	C
Approach Vol, veh/h		1090			1000			243			230	
Approach Delay, s/veh		18.3			16.8			21.7			22.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.2	22.2		9.6	6.2	22.2		11.7
Change Period (Y+Rc), s	3.0	4.0		3.0	3.0	4.0		3.0
Max Green Setting (Gmax), s	6.6	23.4		25.0	6.6	23.4		22.0
Max Q Clear Time (g_c+I1), s	4.5	14.1		5.7	4.5	12.7		7.8
Green Ext Time (p_c), s	0.0	4.1		0.9	0.0	4.0		1.1

Intersection Summary	
HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	540	370	610	400	800	310	1290	580	660	1100	120
Future Volume (veh/h)	220	540	370	610	400	800	310	1290	580	660	1100	120
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		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	224	551	321	622	408	0	316	1316	537	673	1122	119
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	165	664	291	485	834		624	1139	460	785	1185	126
Arrive On Green	0.09	0.19	0.19	0.14	0.24	0.00	0.18	0.32	0.32	0.46	0.74	0.74
Sat Flow, veh/h	1767	3526	1545	3428	3526	1572	3428	3537	1429	3428	3213	340
Grp Volume(v), veh/h	224	551	321	622	408	0	316	1256	597	673	615	626
Grp Sat Flow(s),veh/h/ln	1767	1763	1545	1714	1763	1572	1714	1689	1589	1714	1763	1790
Q Serve(g_s), s	13.5	21.8	19.2	20.5	14.5	0.0	12.0	46.7	46.7	25.4	43.8	44.2
Cycle Q Clear(g_c), s	13.5	21.8	19.2	20.5	14.5	0.0	12.0	46.7	46.7	25.4	43.8	44.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.90	1.00		0.19
Lane Grp Cap(c), veh/h	165	664	291	485	834		624	1088	512	785	650	660
V/C Ratio(X)	1.36	0.83	1.10	1.28	0.49		0.51	1.15	1.17	0.86	0.95	0.95
Avail Cap(c_a), veh/h	165	939	411	485	1109		624	1088	512	785	650	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.57	0.57	0.57
Uniform Delay (d), s/veh	65.8	56.6	29.1	62.3	47.8	0.0	53.4	49.2	49.2	37.2	17.7	17.8
Incr Delay (d2), s/veh	196.7	3.1	72.0	142.5	0.2	0.0	0.3	80.3	94.6	5.4	16.4	16.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.0	9.9	12.8	18.3	6.3	0.0	5.1	31.2	31.4	8.7	10.0	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	262.5	59.7	101.1	204.8	47.9	0.0	53.7	129.5	143.8	42.6	34.1	34.4
LnGrp LOS	F	E	F	F	D		D	F	F	D	C	C
Approach Vol, veh/h		1096			1030	A		2169			1914	
Approach Delay, s/veh		113.2			142.7			122.4			37.2	
Approach LOS		F			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.3	52.0	24.0	31.7	30.5	58.8	17.0	38.7
Change Period (Y+Rc), s	4.1	5.3	3.5	4.4	4.1	5.3	3.5	4.4
Max Green Setting (Gmax), s	21.9	46.7	20.5	38.6	15.1	53.5	13.5	45.6
Max Q Clear Time (g_c+I1), s	27.4	48.7	22.5	23.8	14.0	46.2	15.5	16.5
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	1.8	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	97.9
HCM 6th LOS	F

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	16.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	0	20	70	0	90	10	330	10	10	210	10
Future Vol, veh/h	40	0	20	70	0	90	10	330	10	10	210	10
Conflicting Peds, #/hr	0	0	8	0	0	0	0	0	50	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	63	0	32	111	0	143	16	524	16	16	333	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1011	997	351	1011	997	582	351	0	0	590	0	0
Stage 1	375	375	-	614	614	-	-	-	-	-	-	-
Stage 2	636	622	-	397	383	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	217	243	690	217	243	511	1202	-	-	981	-	-
Stage 1	644	615	-	477	481	-	-	-	-	-	-	-
Stage 2	464	477	-	627	610	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	149	223	683	190	223	487	1200	-	-	934	-	-
Mov Cap-2 Maneuver	149	223	-	190	223	-	-	-	-	-	-	-
Stage 1	630	603	-	446	449	-	-	-	-	-	-	-
Stage 2	322	446	-	583	598	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37.8	65.5	0.2	0.4
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1200	-	-	202	289	934	-	-
HCM Lane V/C Ratio	0.013	-	-	0.471	0.879	0.017	-	-
HCM Control Delay (s)	8	0	-	37.8	65.5	8.9	-	-
HCM Lane LOS	A	A	-	E	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.3	7.8	0.1	-	-

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	222	238	444	509
Demand Flow Rate, veh/h	228	245	457	523
Vehicles Circulating, veh/h	588	457	163	196
Vehicles Exiting, veh/h	131	163	653	506
Ped Vol Crossing Leg, #/h	7	1	3	2
Ped Cap Adj	0.999	1.000	0.997	0.998
Approach Delay, s/veh	8.5	7.4	5.9	6.8
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Right	Left	Right
Designated Moves	LTR	LTR	L	TR	L	TR
Assumed Moves	LTR	LTR	L	TR	L	TR
RT Channelized						
Lane Util	1.000	1.000	0.107	0.893	0.094	0.906
Follow-Up Headway, s	2.609	2.609	2.535	2.535	2.535	2.535
Critical Headway, s	4.976	4.976	4.544	4.544	4.544	4.544
Entry Flow, veh/h	228	245	49	408	49	474
Cap Entry Lane, veh/h	758	866	1224	1224	1188	1188
Entry HV Adj Factor	0.972	0.972	0.980	0.971	0.980	0.972
Flow Entry, veh/h	222	238	48	396	48	461
Cap Entry, veh/h	735	841	1196	1185	1162	1152
V/C Ratio	0.301	0.283	0.040	0.334	0.041	0.400
Control Delay, s/veh	8.5	7.4	3.3	6.2	3.4	7.2
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	1	0	1	0	2

Intersection	
Intersection Delay, s/veh	5.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	120	254	253	299
Demand Flow Rate, veh/h	123	261	261	307
Vehicles Circulating, veh/h	430	200	138	246
Vehicles Exiting, veh/h	123	199	415	215
Ped Vol Crossing Leg, #/h	9	2	2	1
Ped Cap Adj	0.999	1.000	1.000	1.000
Approach Delay, s/veh	5.5	5.4	5.0	6.3
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	123	261	261	307
Cap Entry Lane, veh/h	890	1125	1199	1074
Entry HV Adj Factor	0.973	0.972	0.971	0.973
Flow Entry, veh/h	120	254	253	299
Cap Entry, veh/h	865	1093	1164	1045
V/C Ratio	0.138	0.232	0.218	0.286
Control Delay, s/veh	5.5	5.4	5.0	6.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	1	1

Intersection	
Intersection Delay, s/veh	5.4
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	0	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	0	206	346
Demand Flow Rate, veh/h	0	212	356
Vehicles Circulating, veh/h	106	211	93
Vehicles Exiting, veh/h	317	238	224
Ped Vol Crossing Leg, #/h	0	0	1
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	0.0	5.1	5.5
Approach LOS	-	A	A

Lane	Left	Left
Designated Moves	TR	LT
Assumed Moves	TR	LT
RT Channelized		
Lane Util	1.000	1.000
Follow-Up Headway, s	2.609	2.609
Critical Headway, s	4.976	4.976
Entry Flow, veh/h	212	356
Cap Entry Lane, veh/h	1113	1255
Entry HV Adj Factor	0.971	0.971
Flow Entry, veh/h	206	346
Cap Entry, veh/h	1081	1219
V/C Ratio	0.191	0.284
Control Delay, s/veh	5.1	5.5
LOS	A	A
95th %tile Queue, veh	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	60	380	80	50	90	230	1840	60	70	1740	220
Future Volume (veh/h)	260	60	380	80	50	90	230	1840	60	70	1740	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	265	61	321	82	51	18	235	1878	33	71	1776	160
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	380	206	636	96	60	136	521	2330	723	385	1939	594
Arrive On Green	0.11	0.11	0.11	0.09	0.09	0.09	0.29	0.46	0.46	0.44	0.77	0.77
Sat Flow, veh/h	3428	1856	1555	1110	690	1572	1767	5066	1571	1767	5066	1552
Grp Volume(v), veh/h	265	61	321	133	0	18	235	1878	33	71	1776	160
Grp Sat Flow(s),veh/h/ln	1714	1856	1555	1800	0	1572	1767	1689	1571	1767	1689	1552
Q Serve(g_s), s	10.8	4.4	0.0	10.6	0.0	1.5	15.7	46.1	1.7	3.6	39.9	4.4
Cycle Q Clear(g_c), s	10.8	4.4	0.0	10.6	0.0	1.5	15.7	46.1	1.7	3.6	39.9	4.4
Prop In Lane	1.00		1.00	0.62		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	380	206	636	156	0	136	521	2330	723	385	1939	594
V/C Ratio(X)	0.70	0.30	0.50	0.85	0.00	0.13	0.45	0.81	0.05	0.18	0.92	0.27
Avail Cap(c_a), veh/h	922	499	882	160	0	140	521	2330	723	385	1939	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.1	59.3	32.2	65.3	0.0	61.2	41.6	33.6	21.6	33.0	15.2	11.0
Incr Delay (d2), s/veh	0.9	0.3	0.2	31.4	0.0	0.2	0.2	3.1	0.1	0.1	8.3	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	4.8	2.1	8.5	6.2	0.0	0.6	6.8	18.8	0.6	1.5	7.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.0	59.6	32.4	96.7	0.0	61.4	41.8	36.7	21.7	33.1	23.5	12.1
LnGrp LOS	E	E	C	F	A	E	D	D	C	C	C	B
Approach Vol, veh/h		647			151			2146			2007	
Approach Delay, s/veh		47.5			92.4			37.0			22.9	
Approach LOS		D			F			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	35.7	72.0		20.7	46.9	60.8		16.7
Change Period (Y+Rc), s	4.1	* 5.3		4.6	4.1	5.3		4.1
Max Green Setting (Gmax), s	8.9	* 67		39.0	19.5	55.5		12.9
Max Q Clear Time (g_c+I1), s	15.6	48.1		12.8	17.7	41.9		12.6
Green Ext Time (p_c), s	0.0	12.4		1.3	0.1	9.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	160	20	50	240	140	10	20	30	260	30	190
Future Volume (veh/h)	70	160	20	50	240	140	10	20	30	260	30	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	91	208	20	65	312	99	13	26	0	338	39	63
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	175	471	45	78	424	359	63	66	0	418	151	243
Arrive On Green	0.10	0.28	0.28	0.04	0.23	0.23	0.04	0.04	0.00	0.24	0.24	0.24
Sat Flow, veh/h	1767	1666	160	1767	1856	1572	1767	1856	0	1767	638	1030
Grp Volume(v), veh/h	91	0	228	65	312	99	13	26	0	338	0	102
Grp Sat Flow(s),veh/h/ln	1767	0	1826	1767	1856	1572	1767	1856	0	1767	0	1668
Q Serve(g_s), s	1.9	0.0	4.0	1.4	6.0	2.0	0.3	0.5	0.0	7.0	0.0	1.9
Cycle Q Clear(g_c), s	1.9	0.0	4.0	1.4	6.0	2.0	0.3	0.5	0.0	7.0	0.0	1.9
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.00	1.00		0.62
Lane Grp Cap(c), veh/h	175	0	517	78	424	359	63	66	0	418	0	394
V/C Ratio(X)	0.52	0.00	0.44	0.83	0.74	0.28	0.21	0.40	0.00	0.81	0.00	0.26
Avail Cap(c_a), veh/h	183	0	1252	229	1320	1118	183	192	0	1325	0	1251
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	11.4	18.3	13.8	12.3	18.1	18.2	0.0	13.9	0.0	12.0
Incr Delay (d2), s/veh	0.9	0.0	0.2	8.1	0.9	0.2	0.6	1.4	0.0	1.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.2	0.7	2.1	0.6	0.1	0.2	0.0	2.3	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.4	0.0	11.6	26.4	14.8	12.4	18.7	19.7	0.0	15.4	0.0	12.1
LnGrp LOS	B	A	B	C	B	B	B	B	A	B	A	B
Approach Vol, veh/h		319			476			39			440	
Approach Delay, s/veh		13.2			15.9			19.4			14.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	16.2		12.6	6.8	14.1		5.1
Change Period (Y+Rc), s	3.0	5.3		3.5	3.0	5.3		3.7
Max Green Setting (Gmax), s	5.0	26.5		29.0	4.0	27.5		4.0
Max Q Clear Time (g_c+I1), s	3.4	6.0		9.0	3.9	8.0		2.5
Green Ext Time (p_c), s	0.0	0.4		0.1	0.0	0.6		0.0

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

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	440	350	20	40	80
Future Vol, veh/h	10	440	350	20	40	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	524	417	24	48	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	441	0	-	0	977	429
Stage 1	-	-	-	-	429	-
Stage 2	-	-	-	-	548	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1114	-	-	-	277	624
Stage 1	-	-	-	-	655	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1114	-	-	-	274	624
Mov Cap-2 Maneuver	-	-	-	-	274	-
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	577	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	17.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1114	-	-	-	438
HCM Lane V/C Ratio	0.011	-	-	-	0.326
HCM Control Delay (s)	8.3	-	-	-	17.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	400	40	90	360	100	20	10	50	130	30	30
Future Volume (veh/h)	40	400	40	90	360	100	20	10	50	130	30	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	51	506	46	114	456	119	25	13	0	165	38	10
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	77	597	54	144	559	146	41	21	0	221	51	13
Arrive On Green	0.04	0.36	0.36	0.08	0.39	0.39	0.02	0.03	0.00	0.15	0.16	0.16
Sat Flow, veh/h	1767	1675	152	1767	1418	370	1182	615	0	1372	316	83
Grp Volume(v), veh/h	51	0	552	114	0	575	38	0	0	213	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1828	1767	0	1788	1796	0	0	1772	0	0
Q Serve(g_s), s	1.1	0.0	11.1	2.5	0.0	11.4	0.8	0.0	0.0	4.6	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	11.1	2.5	0.0	11.4	0.8	0.0	0.0	4.6	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.21	0.66		0.00	0.77		0.05
Lane Grp Cap(c), veh/h	77	0	651	144	0	705	62	0	0	286	0	0
V/C Ratio(X)	0.67	0.00	0.85	0.79	0.00	0.82	0.61	0.00	0.00	0.75	0.00	0.00
Avail Cap(c_a), veh/h	177	0	1014	266	0	1082	239	0	0	978	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.8	0.0	11.8	18.0	0.0	10.8	19.1	0.0	0.0	16.1	0.0	0.0
Incr Delay (d2), s/veh	3.7	0.0	2.4	3.7	0.0	1.5	3.6	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	3.6	1.0	0.0	3.4	0.4	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	0.0	14.2	21.6	0.0	12.3	22.8	0.0	0.0	17.6	0.0	0.0
LnGrp LOS	C	A	B	C	A	B	C	A	A	B	A	A
Approach Vol, veh/h		603			689			38			213	
Approach Delay, s/veh		14.9			13.8			22.8			17.6	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.2	18.8		9.9	4.7	20.3		4.9
Change Period (Y+Rc), s	3.0	4.6		3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	6.0	22.1		22.0	4.0	24.1		5.3
Max Q Clear Time (g_c+I1), s	4.5	13.1		6.6	3.1	13.4		2.8
Green Ext Time (p_c), s	0.0	0.9		0.4	0.0	1.1		0.0

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

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	100	530	130	90	160	450	1770	80	170	1840	120
Future Volume (veh/h)	230	100	530	130	90	160	450	1770	80	170	1840	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	235	102	499	133	92	15	459	1806	80	173	1878	118
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	212	491	689	156	424	359	310	2065	91	202	1749	110
Arrive On Green	0.12	0.26	0.26	0.09	0.23	0.23	0.06	0.14	0.14	0.11	0.36	0.36
Sat Flow, veh/h	1767	1856	1560	1767	1856	1570	1767	4973	220	1767	4871	305
Grp Volume(v), veh/h	235	102	499	133	92	15	459	1226	660	173	1300	696
Grp Sat Flow(s),veh/h/ln	1767	1856	1560	1767	1856	1570	1767	1689	1816	1767	1689	1800
Q Serve(g_s), s	17.4	6.2	38.2	10.8	5.8	0.8	25.4	51.6	51.7	13.9	52.1	52.1
Cycle Q Clear(g_c), s	17.4	6.2	38.2	10.8	5.8	0.8	25.4	51.6	51.7	13.9	52.1	52.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.17
Lane Grp Cap(c), veh/h	212	491	689	156	424	359	310	1402	754	202	1212	646
V/C Ratio(X)	1.11	0.21	0.72	0.85	0.22	0.04	1.48	0.87	0.88	0.86	1.07	1.08
Avail Cap(c_a), veh/h	212	491	689	171	448	379	310	1402	754	207	1212	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.8	41.5	33.4	65.2	45.4	26.0	68.3	58.9	58.9	63.1	46.5	46.5
Incr Delay (d2), s/veh	93.8	0.1	3.3	28.2	0.5	0.1	233.8	7.8	13.6	26.5	47.7	57.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.3	2.9	14.9	6.1	2.8	0.4	32.2	24.9	28.0	7.6	29.1	32.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	157.6	41.5	36.7	93.4	45.9	26.2	302.1	66.7	72.5	89.6	94.2	104.4
LnGrp LOS	F	D	D	F	D	C	F	E	E	F	F	F
Approach Vol, veh/h		836			240			2345			2169	
Approach Delay, s/veh		71.3			71.0			114.4			97.1	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.9	65.5	15.8	42.5	30.0	57.4	21.0	37.3
Change Period (Y+Rc), s	5.3	* 5.3	3.0	4.1	4.6	5.3	3.6	* 4.1
Max Green Setting (Gmax), s	17.6	* 60	14.0	38.4	25.4	50.2	17.4	* 35
Max Q Clear Time (g_c+I1), s	19.4	53.7	12.8	40.2	27.4	54.1	19.4	7.8
Green Ext Time (p_c), s	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	99.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	50	180	280	60	80	110	2140	400	100	2310	110
Future Volume (veh/h)	80	50	180	280	60	80	110	2140	400	100	2310	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	82	51	145	286	61	48	112	2184	393	102	2357	110
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	65	40	114	396	110	87	334	2544	442	91	2166	100
Arrive On Green	0.13	0.13	0.13	0.12	0.12	0.12	0.19	0.59	0.59	0.05	0.44	0.44
Sat Flow, veh/h	494	307	873	3428	956	752	1767	4341	755	1767	4961	230
Grp Volume(v), veh/h	278	0	0	286	0	109	112	1682	895	102	1599	868
Grp Sat Flow(s),veh/h/ln	1674	0	0	1714	0	1708	1767	1689	1719	1767	1689	1813
Q Serve(g_s), s	19.0	0.0	0.0	11.7	0.0	8.7	8.0	59.6	65.2	7.5	63.3	63.3
Cycle Q Clear(g_c), s	19.0	0.0	0.0	11.7	0.0	8.7	8.0	59.6	65.2	7.5	63.3	63.3
Prop In Lane	0.29		0.52	1.00		0.44	1.00		0.44	1.00		0.13
Lane Grp Cap(c), veh/h	219	0	0	396	0	197	334	1979	1007	91	1474	792
V/C Ratio(X)	1.27	0.00	0.00	0.72	0.00	0.55	0.34	0.85	0.89	1.12	1.08	1.10
Avail Cap(c_a), veh/h	219	0	0	851	0	424	334	1979	1007	91	1474	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	0.0	0.0	61.9	0.0	60.6	50.9	24.8	25.9	68.8	40.9	40.9
Incr Delay (d2), s/veh	151.3	0.0	0.0	0.9	0.0	0.9	0.2	4.8	11.6	128.9	50.0	61.6
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	7.3	0.0	0.0	5.2	0.0	3.9	3.5	23.3	27.7	6.6	35.2	40.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	214.3	0.0	0.0	62.8	0.0	61.5	51.2	29.6	37.5	197.6	90.8	102.5
LnGrp LOS	F	A	A	E	A	E	D	C	D	F	F	F
Approach Vol, veh/h		278			395			2689			2569	
Approach Delay, s/veh		214.3			62.5			33.1			99.0	
Approach LOS		F			E			C			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	90.3		23.0	32.7	68.6		20.7
Change Period (Y+Rc), s	3.5	5.3		4.0	5.3	* 5.3		4.0
Max Green Setting (Gmax), s	7.5	65.7		19.0	9.9	* 63		36.0
Max Q Clear Time (g_c+I1), s	9.5	67.2		21.0	10.0	65.3		13.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		1.0

Intersection Summary	
HCM 6th Ctrl Delay	72.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	730	100	50	680	0	110
Future Vol, veh/h	730	100	50	680	0	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1000	137	68	932	0	151

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1137	0	-	569
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.16	-	-	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.23	-	-	3.33
Pot Cap-1 Maneuver	-	-	604	-	0	463
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	604	-	-	463
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	16.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	463	-	-	604	-
HCM Lane V/C Ratio	0.325	-	-	0.113	-
HCM Control Delay (s)	16.5	-	-	11.7	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	1.4	-	-	0.4	-

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	3. County Center Dr / Bell Rd
Scenario	Cumulative Plus PCGC Master Plan Update

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yield*	*Free*	
AM Peak Hour Volume	10		60					650	30	100	520	
AM Peak Hour Delay (s)	21.3		21.3					0	0	11	0	
PM Peak Hour Volume	50		110					730	20	30	660	
PM Peak Hour Delay (s)	101.2		101.2					0	0	10.7	0	

AM Delay	**15.2**
AM LOS	**C**

PM Delay	**86.9**
PM LOS	**F**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	7. Richardson Dr / DeWitt Av
Scenario	Cumulative Plus PCGC Master Plan Update

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*	*Free*	*Yield*	*Free*	*Free*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	20	220	50	60	350	30	10	0	10	20	0	10
AM Peak Hour Delay (s)	8.5	0	0	8.2	0	0	19	19	19	22.3	22.3	22.3
PM Peak Hour Volume	10	330	10	10	210	10	40	0	20	70	0	90
PM Peak Hour Delay (s)	8	0	0	8.9	0	0	37.8	37.8	37.8	65.5	65.5	65.5

AM Delay	**13.2**
AM LOS	**B**

PM Delay	**53.8**
PM LOS	**F**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	13. Atwood Rd / 3rd St
Scenario	Cumulative Plus PCGC Master Plan Update

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control				*Stop*		*Stop*	*Yield*	*Free*			*Free*	*Free*
AM Peak Hour Volume				20		20	40	430			400	30
AM Peak Hour Delay (s)				16		16	8.4	0			0	0
PM Peak Hour Volume				40		80	10	440			350	20
PM Peak Hour Delay (s)				17.1		17.1	8.3	0			0	0

AM Delay	**12.2**
AM LOS	**B**

PM Delay	**16.4**
PM LOS	**C**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	17. 1st St / Bell St
Scenario	Cumulative Plus PCGC Master Plan Update

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yeild*	*Free*	
AM Peak Hour Volume	0		70					680	60	140	600	
AM Peak Hour Delay (s)	12.4		12.4					0	0	13.7	0	
PM Peak Hour Volume	0		110					730	100	50	680	
PM Peak Hour Delay (s)	16.5		16.5					0	0	11	0	

AM Delay	**12.4**
AM LOS	**B**

PM Delay	**16.5**
PM LOS	**C**

FEHR PEERS

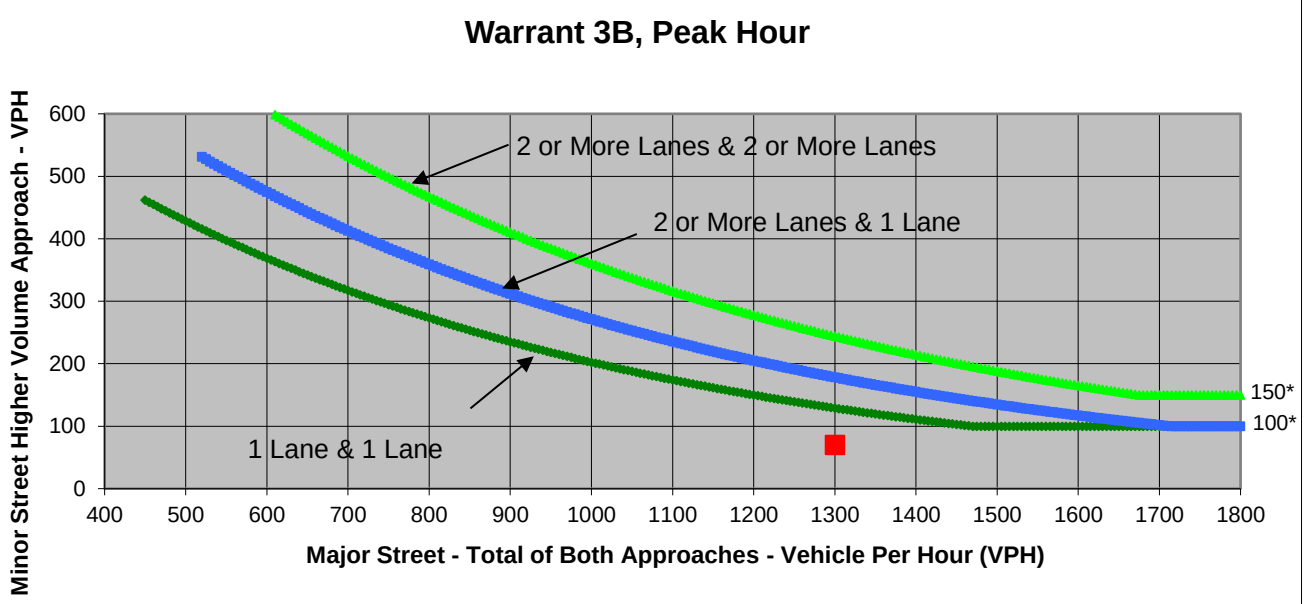
Major Street	Bell Road	Project	PCGC Master Plan Update EIR
Minor Street	County Center Drive	Scenario	Cumulative Plus PCGC Master Plan Update
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10			100
Through	0		650	520
Right	60		30	
Total	70	0	680	620

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	County Center Drive	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,300**	**70**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	County Center Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	0	0	100
Through	0	0	650	520
Right	60	0	30	0
Total	70	0	680	620

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	21.3
Approach with Worst Case Delay	NB
Total Vehicles on Approach	70

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
ulative Plus PCGC Master Plan Up	**0.4**	**70**	**1,370**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Street
Minor Street	County Center Drive

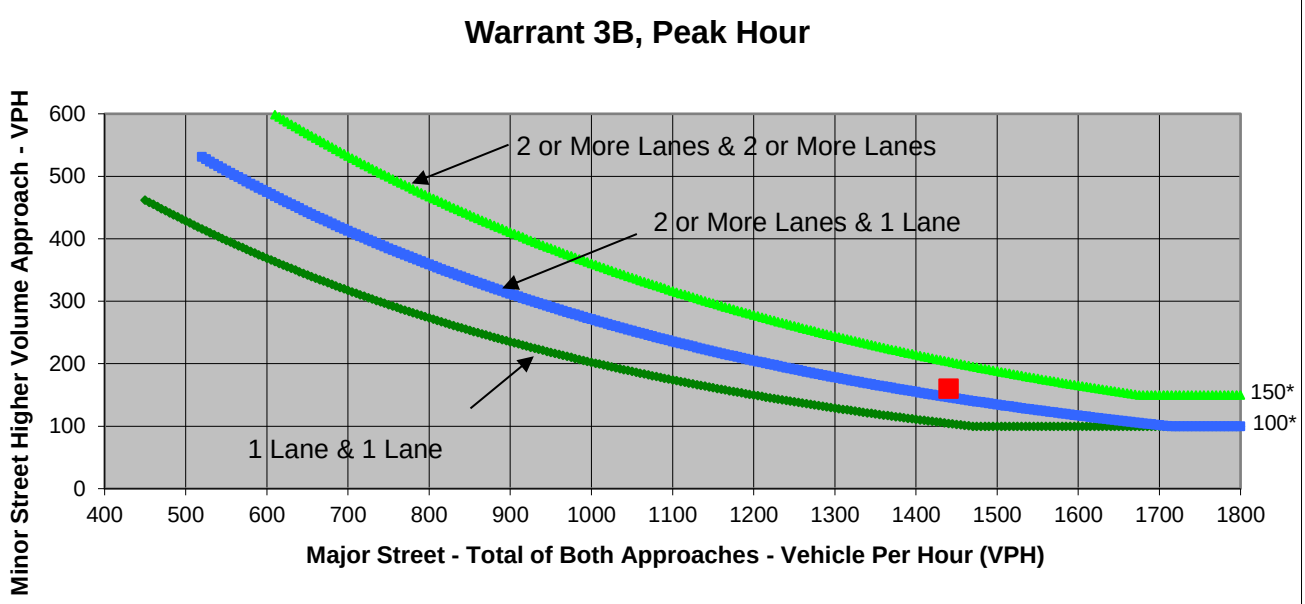
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	50			30
Through			730	660
Right	110		20	
Total	160	0	750	690

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Street	County Center Drive	
Number of Approach Lanes	**2**	**1**	**YES**
Traffic Volume (VPH) *	**1,440**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Street
Minor Street	County Center Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	0	0	30
Through	0	0	730	660
Right	110	0	20	0
Total	160	0	750	690

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	99.9
Approach with Worst Case Delay	NB
Total Vehicles on Approach	160

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus PCGC Master Plan Up	**4.4**	**160**	**1,600**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	Richardson Drive
Minor Street	DeWitt Ave

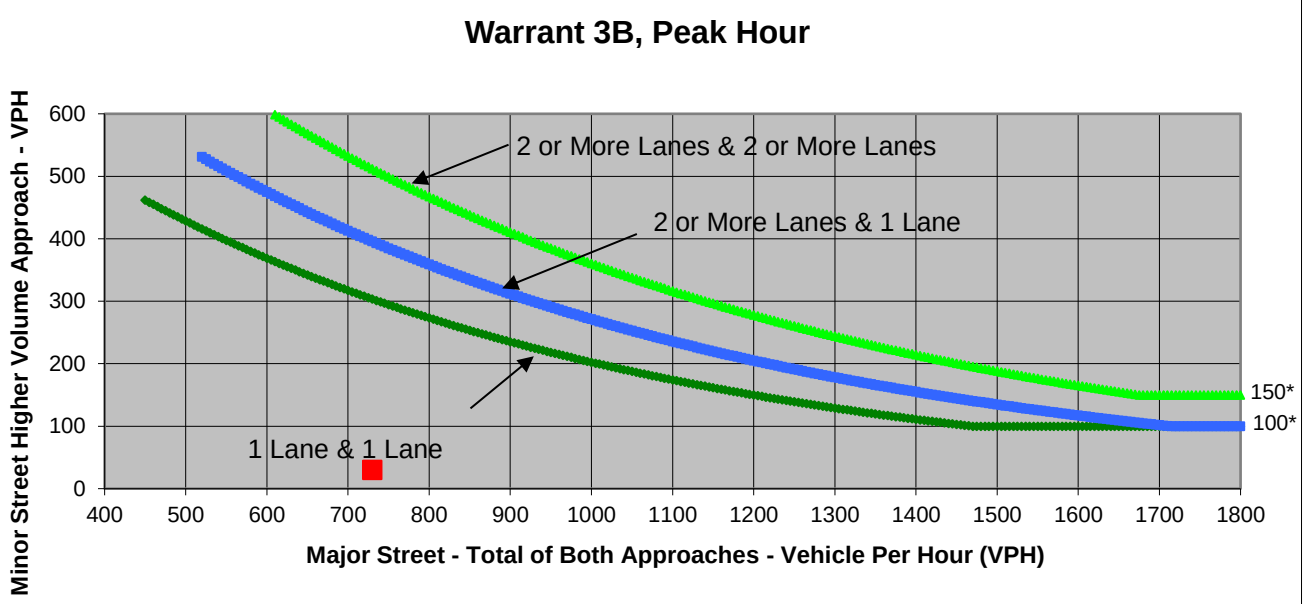
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	60	10	20
Through	220	350	0	0
Right	50	30	10	10
Total	290	440	20	30

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**730**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	AM
Major Street	Richardson Drive
Minor Street	DeWitt Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	60	10	20
Through	220	350	0	0
Right	50	30	10	10
Total	290	440	20	30

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	22.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	30

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus PCGC Master Plan Up	**0.2**	**30**	**780**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Dr
Minor Street	DeWitt Ave

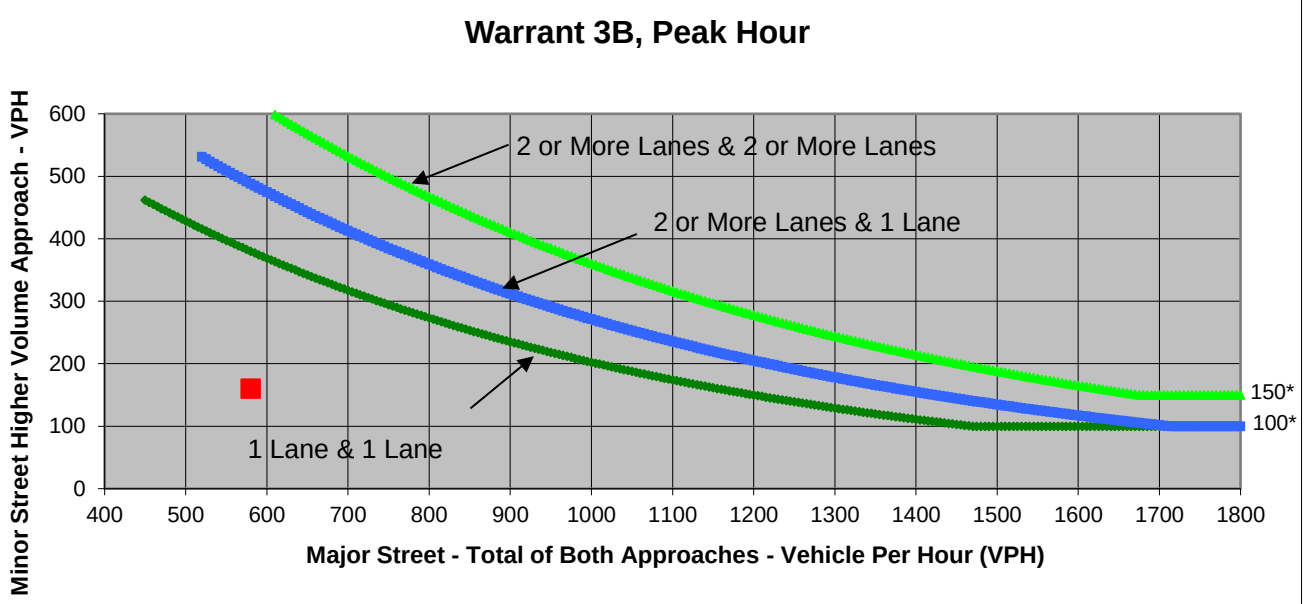
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	10	40	70
Through	330	210	0	0
Right	10	10	20	90
Total	350	230	60	160

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Dr	DeWitt Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**580**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Dr
Minor Street	DeWitt Ave

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	10	40	70
Through	330	210	0	0
Right	10	10	20	90
Total	350	230	60	160

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	65.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	160

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus PCGC Master Plan Up	**2.9**	**160**	**800**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Drive
Minor Street	B Ave

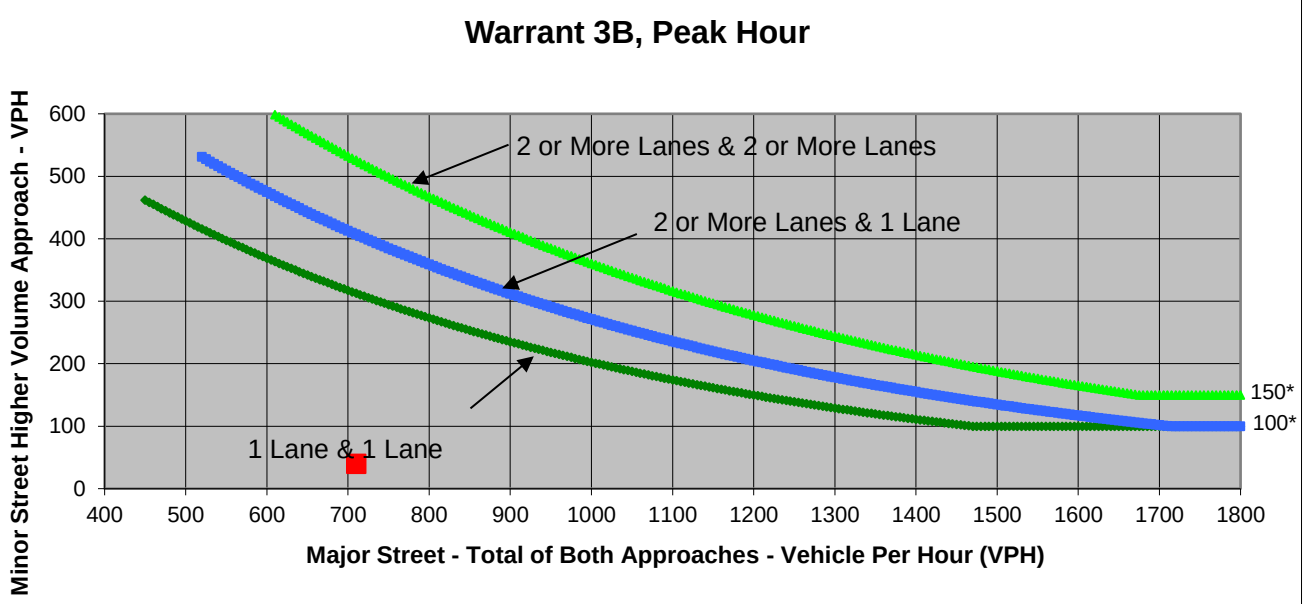
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	60	50	10	10
Through	220	290	10	10
Right	60	30	20	10
Total	340	370	40	30

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**710**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Richardson Drive
Minor Street	B Ave

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	60	50	10	10
Through	220	290	10	10
Right	60	30	20	10
Total	340	370	40	30

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	5.4
Approach with Worst Case Delay	EB
Total Vehicles on Approach	40

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus PCGC Master Plan Up	**0.1**	**40**	**780**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Richardson Drive
Minor Street	B Ave

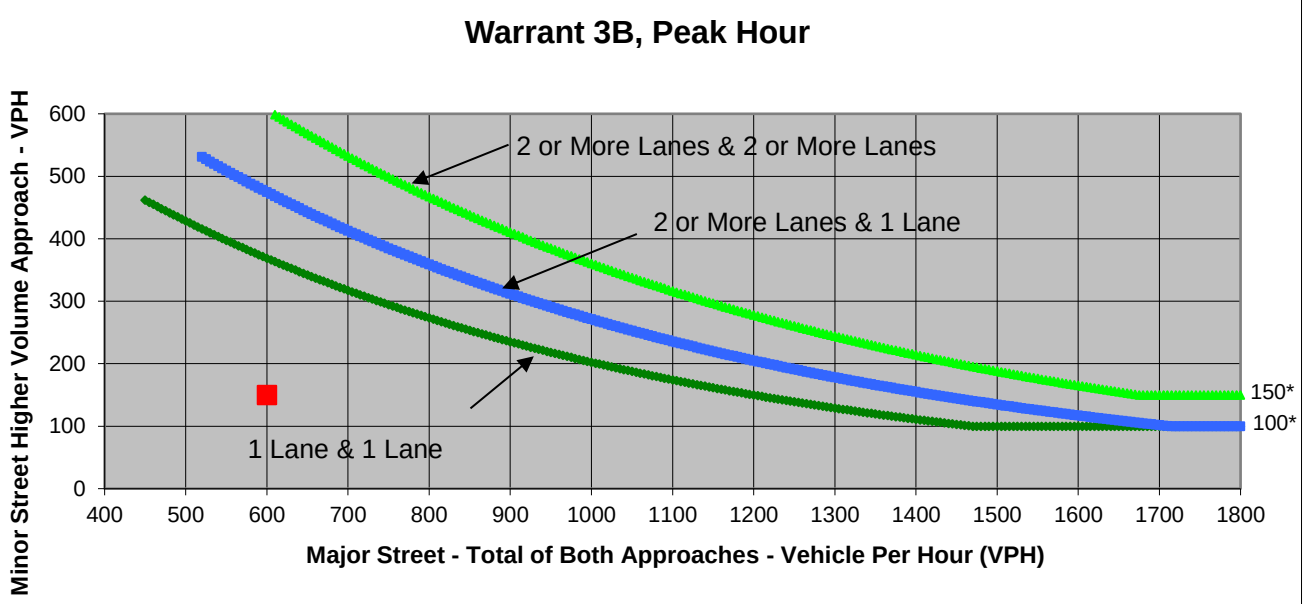
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	30	30	40	70
Through	210	260	30	20
Right	40	30	70	60
Total	280	320	140	150

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Richardson Drive	B Ave	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**600**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM
Major Street	Richardson Drive
Minor Street	B Ave

Turn Movement Volumes

	NB	SB	EB	WB
Left	30	30	40	70
Through	210	260	30	20
Right	40	30	70	60
Total	280	320	140	150

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.1
Approach with Worst Case Delay	EB
Total Vehicles on Approach	140

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus PCGC Master Plan Up	**0.4**	**150**	**890**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

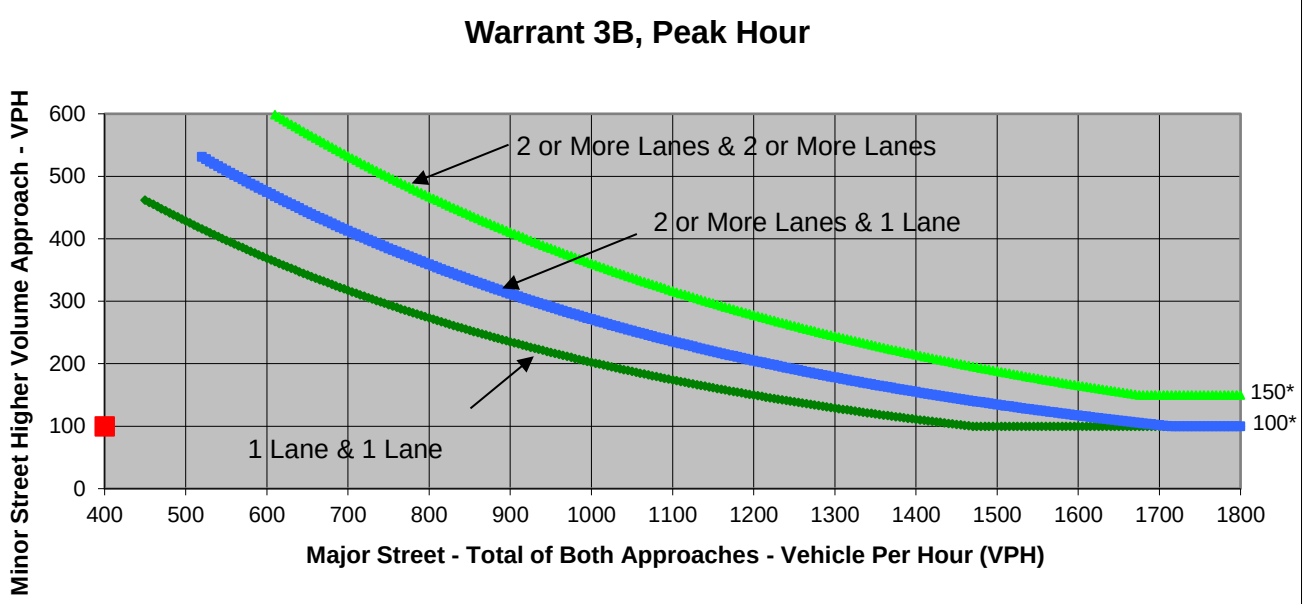
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	30	0	50
Through	150	70	0	30
Right	100	0	20	20
Total	300	100	20	100

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**400**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	30	0	50
Through	150	70	0	30
Right	100	0	20	20
Total	300	100	20	100

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	5.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	100

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus PCGC Master Plan Up	**0.2**	**100**	**520**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st Street
Minor Street	D Ave / Professional Drive

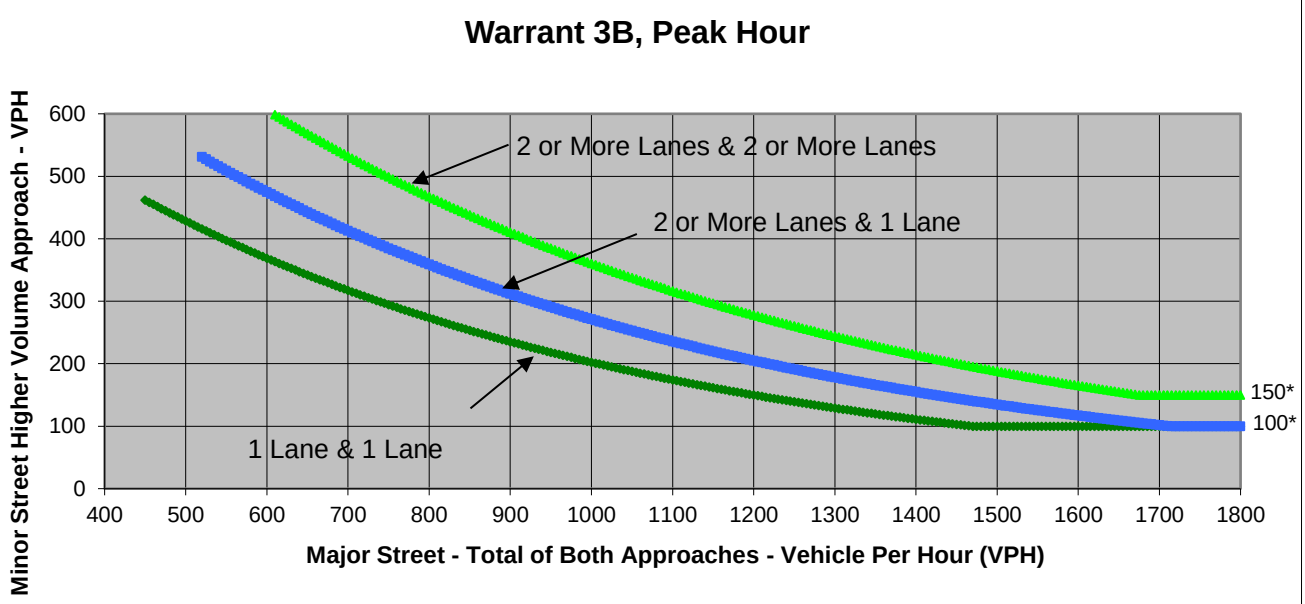
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	30	30	110
Through	80	140	30	30
Right	70	30	20	30
Total	170	200	80	170

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	D Ave / Professional Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**370**	**170**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM

Major Street	1st Street
Minor Street	D Ave / Professional Drive

Turn Movement Volumes

	NB	SB	EB	WB
Left	20	30	30	110
Through	80	140	30	30
Right	70	30	20	30
Total	170	200	80	170

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	7
Approach with Worst Case Delay	WB
Total Vehicles on Approach	170

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus PCGC Master Plan Up	**0.3**	**170**	**620**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st Street
Minor Street	Willow Creek Drive

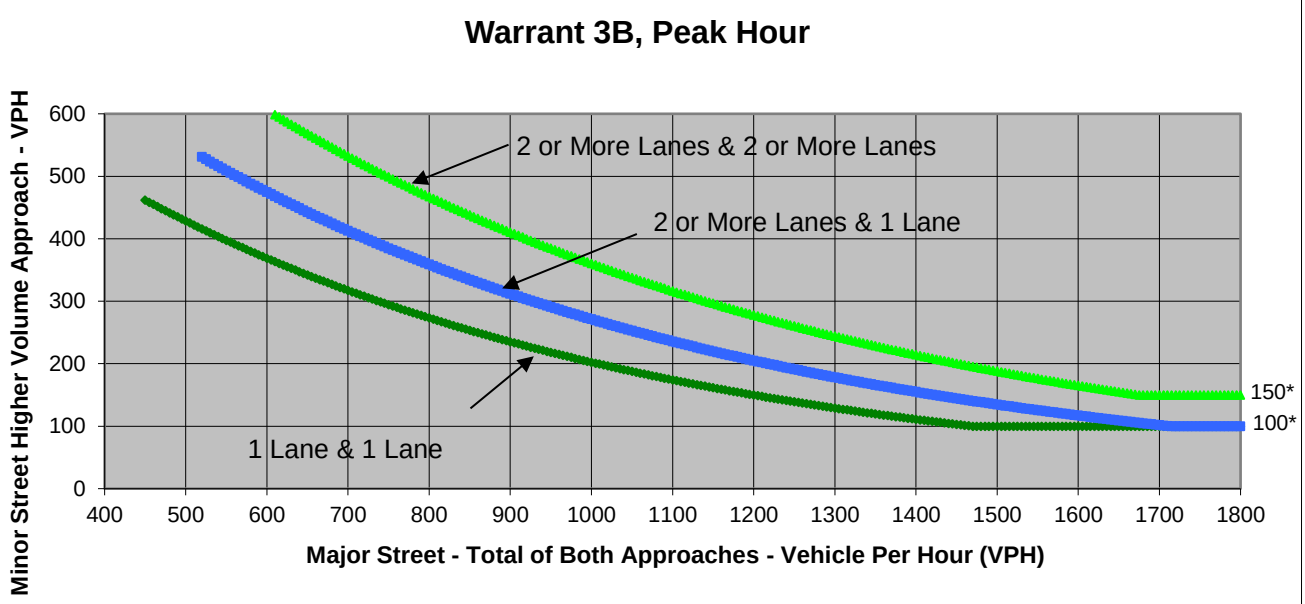
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		70		80
Through	80	80		
Right	80			160
Total	160	150	0	240

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	Willow Creek Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**310**	**240**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	Willow Creek Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	70	0	80
Through	80	80	0	0
Right	80	0	0	160
Total	160	150	0	240

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	4.7
Approach with Worst Case Delay	WB
Total Vehicles on Approach	240

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus PCGC Master Plan Up	**0.3**	**240**	**550**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	1st Street
Minor Street	Willow Creek Drive

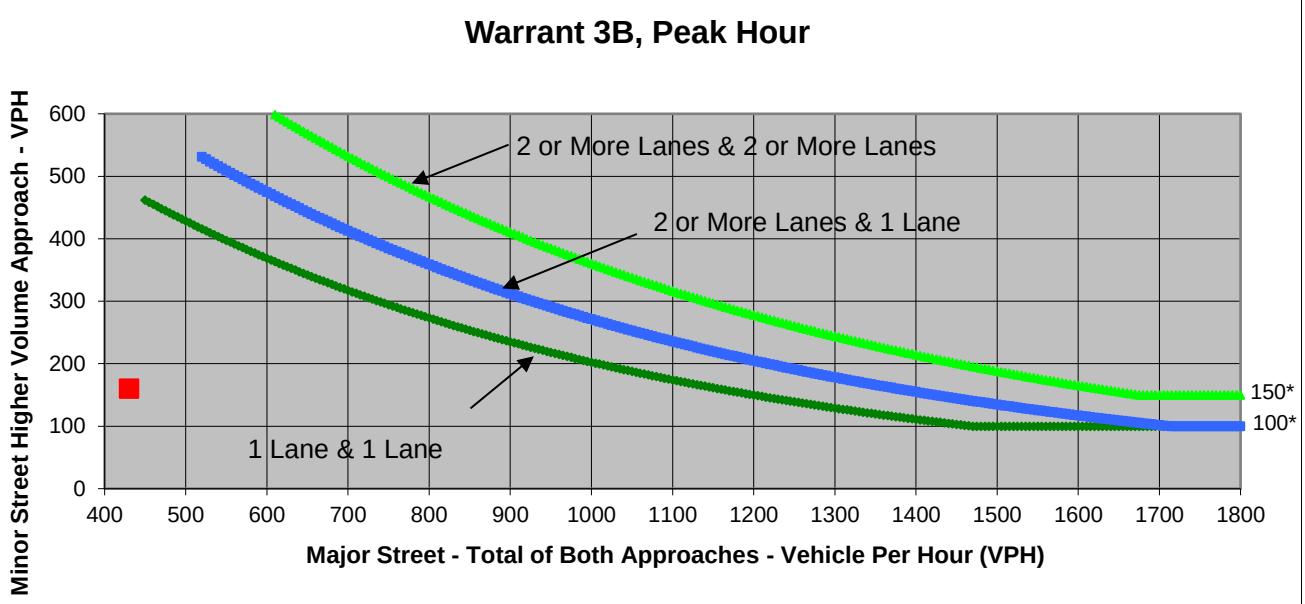
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		160		70
Through	80	110		
Right	80			90
Total	160	270	0	160

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	Willow Creek Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**430**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	Willow Creek Drive

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	160	0	70
Through	80	110	0	0
Right	80	0	0	90
Total	160	270	0	160

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	4.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	160

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus PCGC Master Plan Up	**0.2**	**160**	**590**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

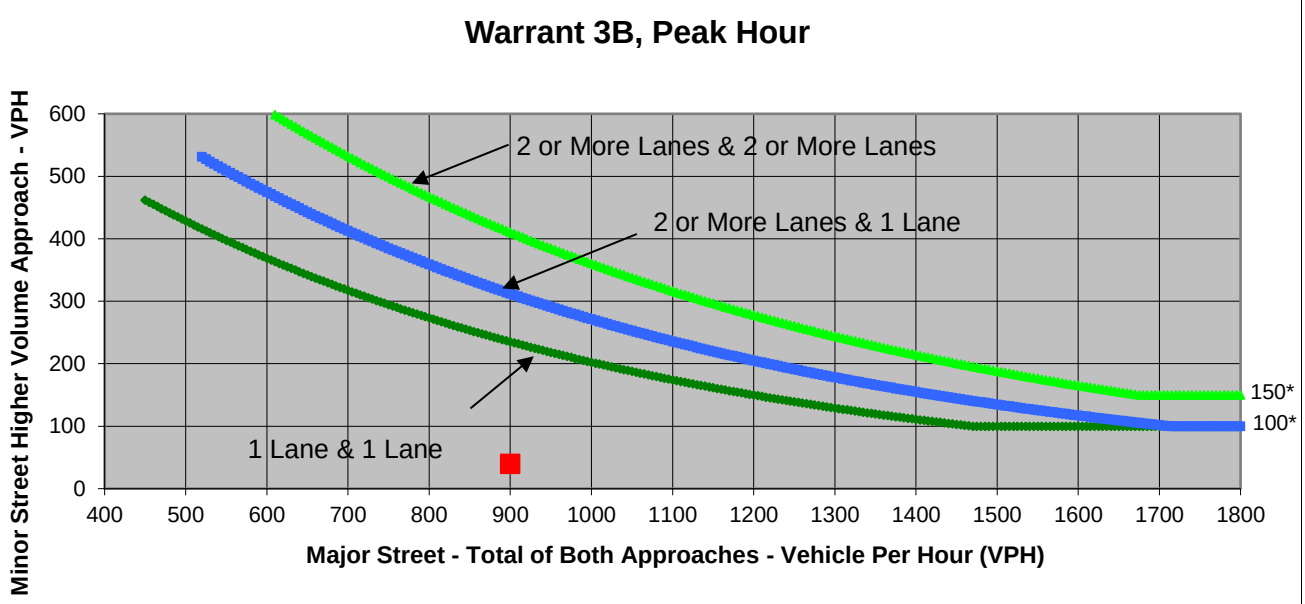
Major Street	Atwood Road	Project	PCGC Master Plan Update EIR
Minor Street	3rd Street	Scenario	Cumulative Plus PCGC Master Plan Update
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left		20	40	
Through			430	400
Right		20		30
Total	0	40	470	430

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Atwood Road	3rd Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**900**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Atwood Road
Minor Street	3rd Street

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	20	40	0
Through	0	0	430	400
Right	0	20	0	30
Total	0	40	470	430

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	16
Approach with Worst Case Delay	SB
Total Vehicles on Approach	40

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
ulative Plus PCGC Master Plan Up	**0.2**	**40**	**940**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

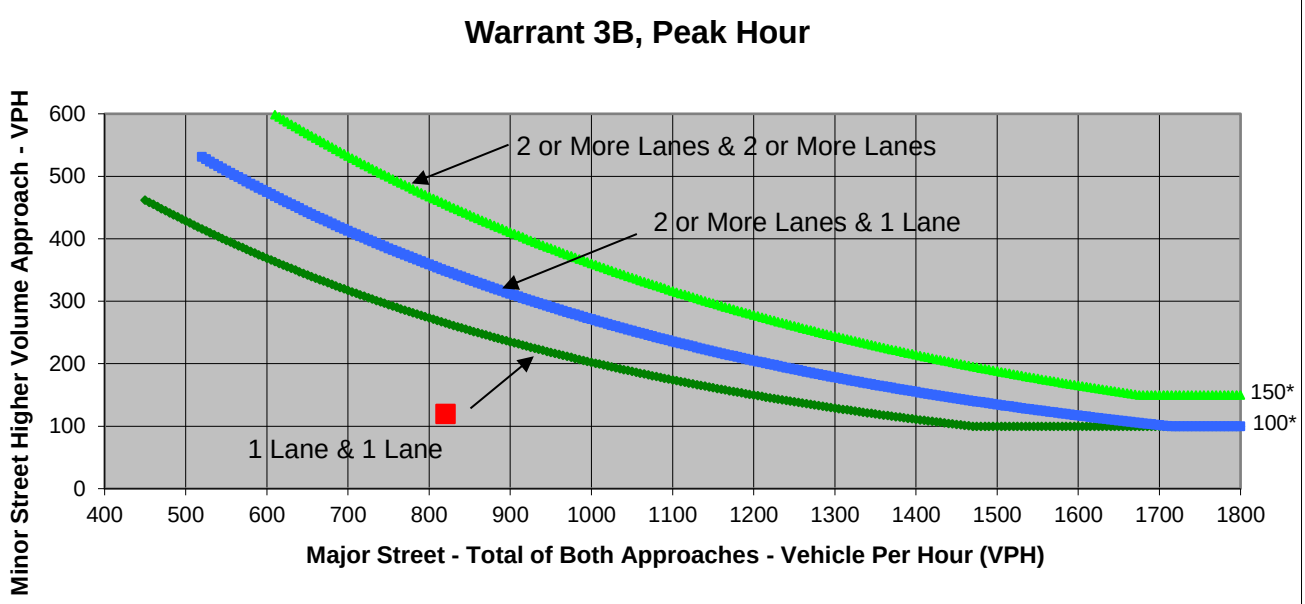
Major Street	1st Street	Project	PCGC Master Plan Update EIR
Minor Street	Willow Creek Drive	Scenario	Cummulative Plus PCGC Master Plan Update
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left		40	10	
Through			440	350
Right		80		20
Total	0	120	450	370

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	1st Street	Willow Creek Drive	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**820**	**120**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	1st Street
Minor Street	Willow Creek Drive

Project	PCGC Master Plan Update EIR
Scenario	Cummulative Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	40	10	0
Through	0	0	440	350
Right	0	80	0	20
Total	0	120	450	370

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	17.1
Approach with Worst Case Delay	SB
Total Vehicles on Approach	120

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
mulative Plus PCGC Master Plan Up	**0.6**	**120**	**940**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

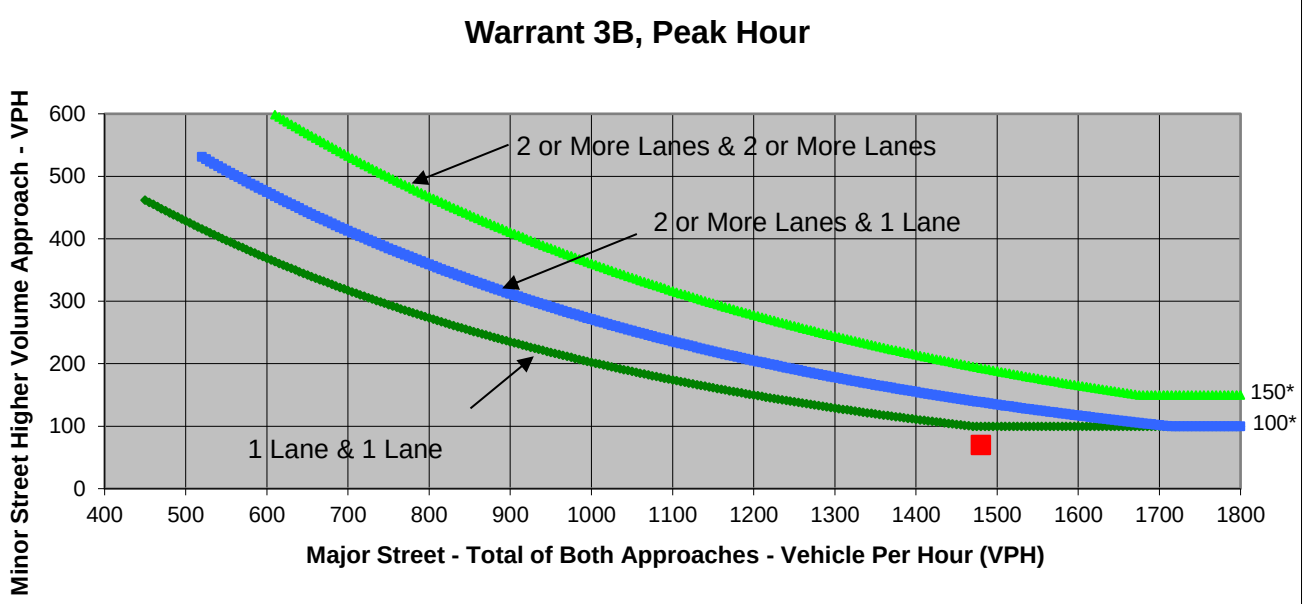
Major Street	Bell Street	Project	PCGC Master Plan Update EIR
Minor Street	1st Street	Scenario	Cumulative Plus PCGC Master Plan Update
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left				140
Through			680	600
Right	70		60	
Total	70	0	740	740

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Street	1st Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,480**	**70**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Street
Minor Street	1st Street

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	140
Through	0	0	680	600
Right	70	0	60	0
Total	70	0	740	740

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.7
Approach with Worst Case Delay	NB
Total Vehicles on Approach	70

Warrant 3A, Peak Hour

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
ulative Plus PCGC Master Plan Up	**0.3**	**70**	**1,550**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Bell Road
Minor Street	1st Street

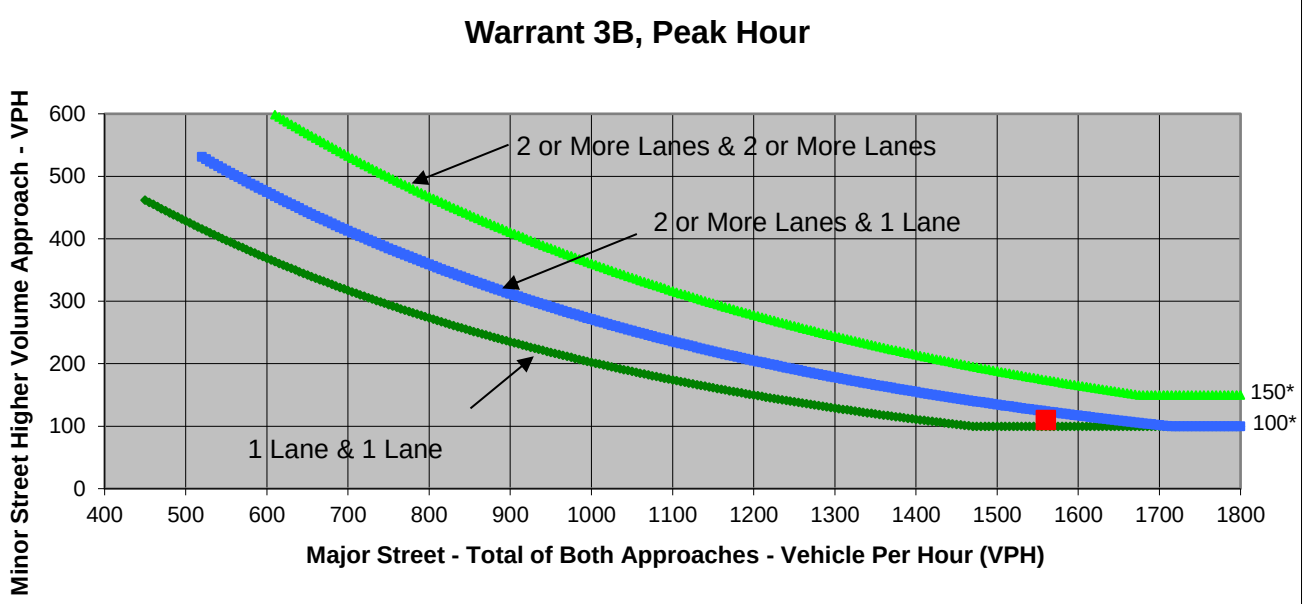
Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left				50
Through			730	680
Right	110		100	
Total	110	0	830	730

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Bell Road	1st Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**1,560**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Bell Road
Minor Street	1st Street

Project	PCGC Master Plan Update EIR
Scenario	Cumulative Plus PCGC Master Plan Update
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	50
Through	0	0	730	680
Right	110	0	100	0
Total	110	0	830	730

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	16.4
Approach with Worst Case Delay	NB
Total Vehicles on Approach	110

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
ulative Plus PCGC Master Plan Up	**0.5**	**110**	**1,670**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	470	120	180	250	90	60	40	140	70	140	80
Future Volume (veh/h)	20	470	120	180	250	90	60	40	140	70	140	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	573	0	220	305	93	73	49	51	85	171	59
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	648		266	878	743	101	306	259	109	223	77
Arrive On Green	0.03	0.35	0.00	0.15	0.47	0.47	0.06	0.16	0.16	0.06	0.17	0.17
Sat Flow, veh/h	1781	1870	1585	1781	1870	1583	1781	1870	1582	1781	1328	458
Grp Volume(v), veh/h	24	573	0	220	305	93	73	49	51	85	0	230
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1583	1781	1870	1582	1781	0	1786
Q Serve(g_s), s	0.9	18.6	0.0	7.7	6.7	2.1	2.6	1.5	1.8	3.0	0.0	7.9
Cycle Q Clear(g_c), s	0.9	18.6	0.0	7.7	6.7	2.1	2.6	1.5	1.8	3.0	0.0	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	48	648		266	878	743	101	306	259	109	0	300
V/C Ratio(X)	0.50	0.88		0.83	0.35	0.13	0.72	0.16	0.20	0.78	0.00	0.77
Avail Cap(c_a), veh/h	146	768		318	948	803	138	551	466	138	0	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.9	19.8	0.0	26.6	10.9	9.7	29.9	23.2	23.3	29.9	0.0	25.6
Incr Delay (d2), s/veh	7.7	10.6	0.0	14.1	0.2	0.1	11.2	0.2	0.4	19.6	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	8.8	0.0	4.0	2.3	0.6	1.4	0.6	0.6	1.8	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	30.4	0.0	40.7	11.1	9.7	41.2	23.4	23.7	49.5	0.0	29.7
LnGrp LOS	D	C		D	B	A	D	C	C	D	A	C
Approach Vol, veh/h		597	A		618			173			315	
Approach Delay, s/veh		30.7			21.4			31.0			35.0	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	15.1	14.1	26.9	8.1	15.3	6.2	34.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	11.5	26.5	5.0	19.0	5.3	32.7
Max Q Clear Time (g_c+I1), s	5.6	3.8	9.7	20.6	4.6	9.9	2.9	8.7
Green Ext Time (p_c), s	0.0	0.3	0.1	1.8	0.0	0.8	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	650	30	100	520	10	60
Future Vol, veh/h	650	30	100	520	10	60
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	100	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	878	41	135	703	14	81

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	922	0	1524	463
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	622	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	736	-	109	546
Stage 1	-	-	-	-	356	-
Stage 2	-	-	-	-	498	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	734	-	89	544
Mov Cap-2 Maneuver	-	-	-	-	187	-
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	498	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	187	544	-	-	734	-
HCM Lane V/C Ratio	0.072	0.149	-	-	0.184	-
HCM Control Delay (s)	25.7	12.8	-	-	11	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.2	0.5	-	-	0.7	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	60	430	40	60	70	520	1430	70	60	1470	170
Future Volume (veh/h)	200	60	430	40	60	70	520	1430	70	60	1470	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	61	391	41	61	15	531	1459	69	61	1500	165
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	298	777	71	130	108	1149	2305	109	402	1656	182
Arrive On Green	0.13	0.16	0.16	0.04	0.07	0.07	0.67	0.92	0.92	0.23	0.35	0.35
Sat Flow, veh/h	1781	1870	1570	1781	1870	1551	3456	4995	236	1781	4668	513
Grp Volume(v), veh/h	204	61	391	41	61	15	531	994	534	61	1094	571
Grp Sat Flow(s),veh/h/ln	1781	1870	1570	1781	1870	1551	1728	1702	1828	1781	1702	1777
Q Serve(g_s), s	16.9	4.3	3.0	3.4	4.7	1.4	11.1	8.1	8.1	4.1	45.8	45.9
Cycle Q Clear(g_c), s	16.9	4.3	3.0	3.4	4.7	1.4	11.1	8.1	8.1	4.1	45.8	45.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.29
Lane Grp Cap(c), veh/h	226	298	777	71	130	108	1149	1570	843	402	1207	630
V/C Ratio(X)	0.90	0.20	0.50	0.58	0.47	0.14	0.46	0.63	0.63	0.15	0.91	0.91
Avail Cap(c_a), veh/h	230	566	1002	107	436	362	1149	1570	843	402	1207	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.6	54.8	15.5	70.7	67.1	65.6	18.6	3.4	3.4	46.5	46.0	46.0
Incr Delay (d2), s/veh	36.0	0.1	0.2	2.7	5.5	1.2	0.1	2.0	3.6	0.1	11.3	19.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	2.0	6.9	1.6	2.4	0.6	3.5	1.8	2.4	1.8	20.7	23.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.6	54.9	15.7	73.4	72.7	66.8	18.7	5.4	7.0	46.6	57.3	65.1
LnGrp LOS	F	D	B	E	E	E	B	A	A	D	E	E
Approach Vol, veh/h		656			117			2059			1726	
Approach Delay, s/veh		45.7			72.2			9.3			59.5	
Approach LOS		D			E			A			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	38.5	74.5	9.0	28.0	54.5	58.5	23.1	13.9
Change Period (Y+Rc), s	4.6	* 5.3	3.0	4.1	4.6	5.3	4.1	* 3.5
Max Green Setting (Gmax), s	11.9	* 69	9.0	45.4	25.4	53.2	19.4	* 35
Max Q Clear Time (g_c+I1), s	16.9	10.1	5.4	6.3	13.1	47.9	18.9	6.7
Green Ext Time (p_c), s	0.0	7.7	0.0	0.3	0.3	3.3	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	50	110	230	50	70	150	1860	200	40	1780	40
Future Volume (veh/h)	90	50	110	230	50	70	150	1860	200	40	1780	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	51	91	235	51	35	153	1898	197	41	1816	40
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	55	98	294	88	60	460	2345	728	351	2046	45
Arrive On Green	0.15	0.15	0.15	0.09	0.09	0.09	0.26	0.46	0.46	0.20	0.40	0.40
Sat Flow, veh/h	675	374	668	3456	1033	709	1781	5106	1585	1781	5141	113
Grp Volume(v), veh/h	234	0	0	235	0	86	153	1898	197	41	1202	654
Grp Sat Flow(s),veh/h/ln	1716	0	0	1728	0	1743	1781	1702	1585	1781	1702	1850
Q Serve(g_s), s	20.2	0.0	0.0	10.0	0.0	7.1	10.5	48.0	11.5	2.8	49.3	49.4
Cycle Q Clear(g_c), s	20.2	0.0	0.0	10.0	0.0	7.1	10.5	48.0	11.5	2.8	49.3	49.4
Prop In Lane	0.39		0.39	1.00		0.41	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	252	0	0	294	0	148	460	2345	728	351	1355	736
V/C Ratio(X)	0.93	0.00	0.00	0.80	0.00	0.58	0.33	0.81	0.27	0.12	0.89	0.89
Avail Cap(c_a), veh/h	252	0	0	829	0	418	460	2345	728	351	1355	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.2	0.0	0.0	67.3	0.0	66.0	45.2	34.9	25.0	49.5	42.0	42.0
Incr Delay (d2), s/veh	37.6	0.0	0.0	1.9	0.0	1.3	0.2	3.1	0.9	0.1	8.9	15.0
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	11.4	0.0	0.0	4.5	0.0	3.3	4.6	19.8	4.4	1.3	21.7	24.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.8	0.0	0.0	69.2	0.0	67.3	45.3	38.0	26.0	49.6	50.9	57.0
LnGrp LOS	F	A	A	E	A	E	D	D	C	D	D	E
Approach Vol, veh/h		234			321			2248			1897	
Approach Delay, s/veh		100.8			68.7			37.5			53.0	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	33.0	74.2		26.0	42.2	65.0		16.8
Change Period (Y+Rc), s	3.5	5.3		4.0	3.5	5.3		4.0
Max Green Setting (Gmax), s	6.3	68.9		22.0	15.5	59.7		36.0
Max Q Clear Time (g_c+I1), s	14.8	50.0		22.2	12.5	51.4		12.0
Green Ext Time (p_c), s	0.0	11.5		0.0	0.1	5.7		0.8

Intersection Summary	
HCM 6th Ctrl Delay	49.0
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	440	70	80	470	160	120	160	180	130	80	50
Future Volume (veh/h)	90	440	70	80	470	160	120	160	180	130	80	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	118	579	0	105	618	198	158	211	53	171	105	30
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	150	729		134	713	603	197	282	239	212	222	63
Arrive On Green	0.08	0.39	0.00	0.08	0.38	0.38	0.11	0.15	0.15	0.12	0.16	0.16
Sat Flow, veh/h	1767	1856	1572	1767	1856	1570	1767	1856	1572	1767	1387	396
Grp Volume(v), veh/h	118	579	0	105	618	198	158	211	53	171	0	135
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	1856	1570	1767	1856	1572	1767	0	1783
Q Serve(g_s), s	4.5	19.1	0.0	4.1	21.4	6.2	6.1	7.6	2.1	6.5	0.0	4.8
Cycle Q Clear(g_c), s	4.5	19.1	0.0	4.1	21.4	6.2	6.1	7.6	2.1	6.5	0.0	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	150	729		134	713	603	197	282	239	212	0	285
V/C Ratio(X)	0.79	0.79		0.78	0.87	0.33	0.80	0.75	0.22	0.81	0.00	0.47
Avail Cap(c_a), veh/h	191	895		191	895	758	267	548	464	267	0	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	18.6	0.0	31.5	19.7	15.1	30.1	28.2	25.8	29.8	0.0	26.5
Incr Delay (d2), s/veh	15.3	4.1	0.0	12.5	7.5	0.3	11.6	4.0	0.5	13.5	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	7.9	0.0	2.1	9.4	2.0	3.1	3.5	0.7	3.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	22.7	0.0	44.0	27.3	15.4	41.7	32.1	26.3	43.3	0.0	27.7
LnGrp LOS	D	C		D	C	B	D	C	C	D	A	C
Approach Vol, veh/h		697	A		921			422			306	
Approach Delay, s/veh		26.7			26.6			35.0			36.4	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	15.1	9.8	31.8	12.3	15.6	10.4	31.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	20.5	7.5	33.5	10.5	20.5	7.5	33.5
Max Q Clear Time (g_c+I1), s	8.5	9.6	6.1	21.1	8.1	6.8	6.5	23.4
Green Ext Time (p_c), s	0.1	0.9	0.0	2.8	0.1	0.5	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	730	20	30	660	50	110
Future Vol, veh/h	730	20	30	660	50	110
Conflicting Peds, #/hr	0	4	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	986	27	41	892	68	149

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1017	0	1532	512
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	528	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	672	-	106	504
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	553	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	669	-	99	502
Mov Cap-2 Maneuver	-	-	-	-	211	-
Stage 1	-	-	-	-	293	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	19.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	211	502	-	-	669	-
HCM Lane V/C Ratio	0.32	0.296	-	-	0.061	-
HCM Control Delay (s)	29.9	15.2	-	-	10.7	-
HCM Lane LOS	D	C	-	-	B	-
HCM 95th %tile Q(veh)	1.3	1.2	-	-	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	100	530	130	90	160	450	1770	80	170	1840	120
Future Volume (veh/h)	230	100	530	130	90	160	450	1770	80	170	1840	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	235	102	499	133	92	15	459	1806	80	173	1878	118
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	232	512	643	156	424	359	463	2078	92	418	2553	160
Arrive On Green	0.13	0.28	0.28	0.09	0.23	0.23	0.04	0.14	0.14	0.24	0.52	0.52
Sat Flow, veh/h	1767	1856	1561	1767	1856	1570	3428	4973	220	1767	4872	305
Grp Volume(v), veh/h	235	102	499	133	92	15	459	1226	660	173	1300	696
Grp Sat Flow(s),veh/h/ln	1767	1856	1561	1767	1856	1570	1714	1689	1816	1767	1689	1800
Q Serve(g_s), s	19.0	6.1	40.0	10.8	5.8	0.9	19.4	51.5	51.7	12.0	43.2	43.5
Cycle Q Clear(g_c), s	19.0	6.1	40.0	10.8	5.8	0.9	19.4	51.5	51.7	12.0	43.2	43.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.17
Lane Grp Cap(c), veh/h	232	512	643	156	424	359	463	1411	759	418	1770	943
V/C Ratio(X)	1.01	0.20	0.78	0.85	0.22	0.04	0.99	0.87	0.87	0.41	0.73	0.74
Avail Cap(c_a), veh/h	232	512	643	171	448	379	463	1411	759	418	1770	943
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	40.2	37.0	65.2	45.4	27.3	69.2	58.6	58.6	46.8	26.7	26.8
Incr Delay (d2), s/veh	63.0	0.1	5.4	28.2	0.5	0.1	39.2	7.5	13.0	0.2	2.8	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	2.8	16.1	6.1	2.8	0.4	11.5	24.8	27.9	5.2	17.2	19.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	126.0	40.3	42.4	93.4	45.9	27.4	108.3	66.1	71.6	47.1	29.5	31.9
LnGrp LOS	F	D	D	F	D	C	F	E	E	D	C	C
Approach Vol, veh/h		836			240			2345			2169	
Approach Delay, s/veh		65.6			71.1			75.9			31.6	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.7	65.9	15.8	44.1	24.2	81.4	22.6	37.3
Change Period (Y+Rc), s	5.3	* 5.3	3.0	4.1	4.6	5.3	3.6	* 4.1
Max Green Setting (Gmax), s	15.0	* 61	14.0	40.0	19.6	54.4	19.0	* 35
Max Q Clear Time (g_c+I1), s	14.0	53.7	12.8	42.0	21.4	45.5	21.0	7.8
Green Ext Time (p_c), s	0.0	4.5	0.0	0.0	0.0	5.7	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	57.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	50	180	280	60	80	110	2140	400	100	2310	110
Future Volume (veh/h)	80	50	180	280	60	80	110	2140	400	100	2310	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	82	51	145	286	61	48	112	2184	393	102	2357	110
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	158	38	109	396	110	87	338	3108	964	116	2357	109
Arrive On Green	0.09	0.09	0.09	0.12	0.12	0.12	0.19	0.61	0.61	0.07	0.48	0.48
Sat Flow, veh/h	1767	426	1211	3428	956	752	1767	5066	1571	1767	4961	230
Grp Volume(v), veh/h	82	0	196	286	0	109	112	2184	393	102	1599	868
Grp Sat Flow(s),veh/h/ln	1767	0	1637	1714	0	1708	1767	1689	1571	1767	1689	1813
Q Serve(g_s), s	6.4	0.0	13.0	11.7	0.0	8.7	7.9	42.5	18.7	8.3	68.4	68.9
Cycle Q Clear(g_c), s	6.4	0.0	13.0	11.7	0.0	8.7	7.9	42.5	18.7	8.3	68.4	68.9
Prop In Lane	1.00		0.74	1.00		0.44	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	158	0	147	396	0	197	338	3108	964	116	1605	862
V/C Ratio(X)	0.52	0.00	1.34	0.72	0.00	0.55	0.33	0.70	0.41	0.88	1.00	1.01
Avail Cap(c_a), veh/h	158	0	147	851	0	424	338	3108	964	116	1605	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	0.0	66.0	61.9	0.0	60.6	50.6	19.0	14.4	67.2	37.9	38.1
Incr Delay (d2), s/veh	1.4	0.0	189.6	0.9	0.0	0.9	0.2	1.4	1.3	47.6	21.6	32.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	13.1	5.2	0.0	3.9	3.5	15.8	6.6	5.2	31.5	36.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.4	0.0	255.6	62.8	0.0	61.5	50.8	20.4	15.7	114.8	59.6	70.5
LnGrp LOS	E	A	F	E	A	E	D	C	B	F	E	F
Approach Vol, veh/h		278			395			2689			2569	
Approach Delay, s/veh		199.2			62.5			21.0			65.5	
Approach LOS		F			E			C			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	94.3		17.0	33.1	74.2		20.7
Change Period (Y+Rc), s	3.5	5.3		4.0	5.3	* 5.3		4.0
Max Green Setting (Gmax), s	9.5	69.7		13.0	10.3	* 69		36.0
Max Q Clear Time (g_c+I1), s	10.3	44.5		15.0	9.9	70.9		13.7
Green Ext Time (p_c), s	0.0	16.9		0.0	0.0	0.0		1.0

Intersection Summary	
HCM 6th Ctrl Delay	51.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	3. County Center Dr / Bell Rd
Scenario	Cumulative Plus PCGC Master Plan Update (Mitigated)

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*		*Stop*					*Free*	*Free*	*Yield*	*Free*	
AM Peak Hour Volume	10		60					650	30	100	520	
AM Peak Hour Delay (s)	25.7		25.7					0	0	11	0	
PM Peak Hour Volume	50		110					730	20	30	660	
PM Peak Hour Delay (s)	29.9		29.9					0	0	15.2	0	

AM Delay	**17.1**
AM LOS	**C**

PM Delay	**27.6**
PM LOS	**D**

FEHR PEERS

MEMORANDUM

Date: October 30, 2018

To: Gregory Tonello, Williams + Paddon

From: Albee Wei and David B. Robinson, Fehr & Peers

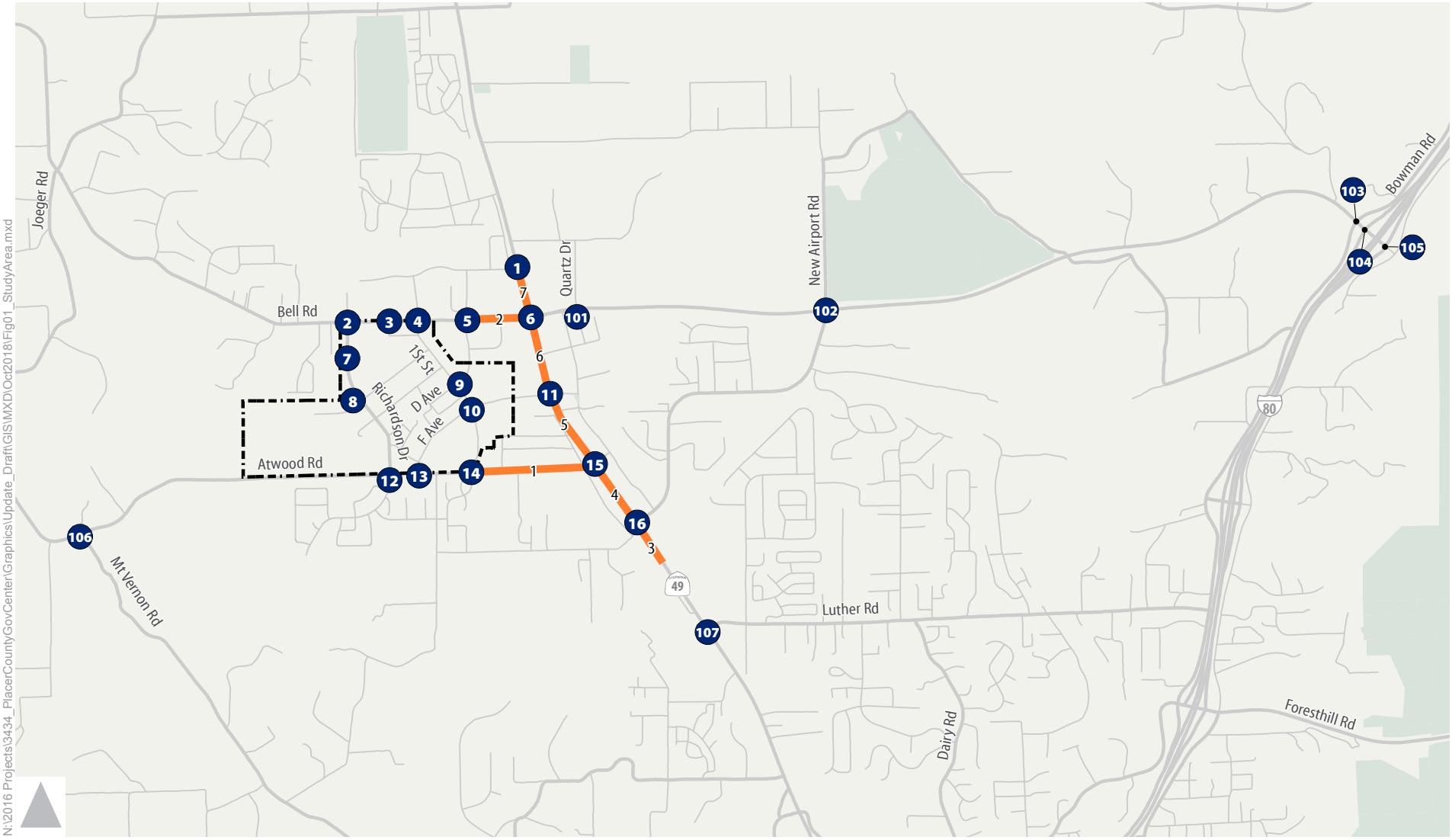
Subject: ***Placer County Government Center Master Plan Update – Transportation Impact Study for Additional Study Intersections***

RS16-3434

This memorandum documents the transportation and traffic impacts of the Placer County Government Center (PCGC) Master Plan Update at seven additional study intersections. It provides supplemental information to the *Revised Transportation Impact Study for Placer County Government Center Master Plan Update* (Fehr & Peers, August 2018) *(Revised TIS),* which contains detailed description of the project, study methodology, and analysis of 16 study intersections and 7 roadway segments on or around the PCGC campus.

Study Intersections

This study analyzes potential transportation and traffic impacts to seven additional intersections around the PCGC campus. **Figure 1** shows the location of these intersections. **Table 1** presents the list of study intersections and identify the presiding jurisdiction and LOS standard for each intersection. As noted in Revised TIS, several local transportation policies and regulations apply to the PCGC study area, including the Placer County General Plan (May 2013), the Auburn/Bowman Community Plan (1994), and Caltrans Transportation Concept Reports (TCR) (2017).



101 Study Intersection

Study Roadway Segment

PCGC Boundary

Figure 1

Study Area

Table 1: Study Intersections – Level of Service Standards

Intersection	Jurisdiction	LOS Standard	Source
101. Bell Rd. / Quartz Dr.	Placer County	D[1]	Placer County General Plan Policy 3.A.7
102. Bell Rd. / New Airport Rd.	Placer County	C	Placer County General Plan Policy 3.A.7
103. Bell Rd. / Bowman Rd.	Placer County	D[1]	Placer County General Plan Policy 3.A.7
104. Bell Rd. / I-80 WB Ramps	Caltrans	D[2]	I-80 TCR Concept LOS – Segment 10
105. Bell Rd. / I-80 EB Ramps	Caltrans	D[2]	I-80 TCR Concept LOS – Segment 10
106. Atwood Rd. / Mt Vernon Rd.	Placer County	C	Placer County General Plan Policy 3.A.7
107. SR 49 / Luther Rd.	Caltrans	E[3]	Auburn/Bowman Community Plan Policy 5

Notes:

1. Placer County intersections within one-half mile of an intersection on state highways have a LOS D standard per Policy 3.A.7 in the *Placer County General Plan*.
2. The *Interstate 80 Transportation Concept Report* (2017) identifies a Concept LOS D on segments of I-80 in the study area. By definition, the Concept LOS is the minimum acceptable LOS.
3. The *Auburn/Bowman Community Plan* establishes a minimum standard of LOS C, but also identifies exceptions to this standard. SR 49 / Luther Rd. is included in the list of that exceptions, with a LOS E standard.

Source: *Placer County General Plan*, 2013; *State Route 49 Transportation Concept Report*, 2017; *Interstate 80 Transportation Concept Report*, 2017; *Auburn/Bowman Community Plan*, 1994.

Analysis Scenarios

This study analyzes traffic conditions for the following scenarios:

- Existing Conditions: represents current conditions and the existing setting upon which project-specific impacts are judged.
- Existing Plus PCGC Master Plan Update (MPU): represents existing conditions plus the full buildout of the proposed PCGC Master Plan Update. This includes proposed land development and proposed transportation and circulation changes on the PCGC campus.
- Existing Plus Multifamily Residential (MFR): represents existing conditions plus the construction of a 100-unit multifamily residential development in the northeastern portion of the project site. For this scenario, only intersections that were identified as being impacted by the addition of the PCGC MPU were analyzed.
- Existing Plus Health & Human Services (HHS): represents existing conditions plus the construction of a new Health & Human Service building. For this scenario, only intersections that were identified as being impacted by the addition of the PCGC MPU were analyzed.
- Cumulative No Project: represents future (i.e., 2036) conditions, including the completion of reasonably foreseeable land development projects and transportation projects. This includes land development as forecasted in the North Auburn sub-area travel forecasting model. This travel forecasting model includes regional background growth originally developed by the Sacramento Area Council of Governments (SACOG) as well as more detailed forecasts in Placer County. On the PCGC campus, this scenario assumes additional County employees to support projected population

growth in Placer County, but does not assume any additional development (i.e., new non-governmental buildings or demolition and replacement of existing buildings). At the Bell Road / I-80 interchange, this scenario assumes implementation of a planned safety and congestion improvement project.

- Cumulative Plus PCGC Master Plan Update: represents cumulative no project conditions plus the full buildout of the proposed PCGC Master Plan Update. This includes proposed land development and proposed transportation and circulation changes on the PCGC campus.
- Cumulative Plus Multifamily Residential (MFR): represents cumulative no project conditions plus the construction of a 100-unit multifamily residential development in the northeastern portion of the project site. For this scenario, only intersections that were identified as being impacted by the addition of the PCGC MPU were analyzed.
- Cumulative Plus Health & Human Services (HHS): represents cumulative no project conditions plus the construction of a new Health & Human Service building. For this scenario, only intersections that were identified as being impacted by the addition of the PCGC MPU were analyzed.

Regulatory Setting and Significance Criteria

This study analyzes impacts to traffic operations by comparing the LOS analysis results against LOS policies and standards established by Placer County and Caltrans. Refer to *Revised TIS* for Information regarding regulatory setting and significance criteria. This information provides context for the impact discussion related to the proposed project's consistency with applicable regulatory conditions. In addition to the documents listed in the *Revised TIS*, the following document provides guidance on expectations related to traffic operations relevant to this analysis and the potential effects of the proposed project.

Transportation Concept Report, I-80

The I-80 TCR (Caltrans, 2017) documents existing operations on I-80 at LOS C at Bell Road. The TCR identifies a Concept LOS of LOS D for I-80 at Bell Road. By definition, the Concept LOS is the minimum acceptable LOS over the next 20 years.

Traffic Operations

The following presents the traffic operations analysis results for all analysis scenarios. Traffic operations at all study intersections were analyzed for weekday a.m. and p.m. peak hour conditions based on guidance contained in the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) for calculating delay at intersections. Due to their close proximity, the three Bell Road intersections at the I-80 interchange (Bowman Road, I-80 Westbound Ramps, and I-80 Eastbound Ramps) were analyzed using the SimTraffic microsimulation software under existing and existing plus PCGC Master Plan Update conditions, which considers the effects of lane utilization, turn pocket storage lengths, upstream/downstream queue spillbacks, and coordinated signal timings on intersection queuing and delays. The SimTraffic model was

validated against observed queues. Reported results are based on an average of 10 runs. Under cumulative scenarios, these intersections were analyzed using the Synchro 9 software program, which considers traffic volumes, lane configurations, signal timings, signal coordination, and other pertinent parameters of intersection operations. The other four intersections were also analyzed in Synchro 9 software program.

Existing Conditions

This section describes the existing physical and operational characteristics of the study intersections.

Intersection turning movement counts were collected at all study intersections on Tuesday, August 21, 2018 during the weekday a.m. (i.e., 7:00 to 9:00 a.m.) and p.m. (i.e., 4:00 to 6:00 p.m.) peak periods. Due to inherent variation in daily traffic volumes, volume differences were observed between the new study intersections and their adjacent, previously studied intersections, which were collected on April 28. 2016. To maintain consistency in the analysis, the newly collected traffic counts were adjusted to match the level of traffic volumes used in the *Revised TIS*.

Figure 2 presents the intersection turning lane geometrics, traffic control, and existing a.m. and p.m. peak hour traffic volumes for the seven study intersections. The a.m. peak hour is defined as the one hour of peak traffic flow (which is the highest total volume count over four consecutive 15-minute count periods) counted between 7:00 a.m. and 9:00 a.m. on a typical weekday. The p.m. peak hour is defined as the one hour of peak traffic flow counted between 4:00 p.m. and 6:00 p.m. on a typical weekday.

Table 2 presents the existing weekday a.m. and p.m. peak hour traffic operations analysis results at the seven study intersections (refer to **Appendix A** for technical calculations). As shown, most study intersections operate at an acceptable LOS under existing conditions except for the following intersection, which operates at an unacceptable LOS F:

- SR 49 / Luther Road – LOS F during the a.m. peak hour

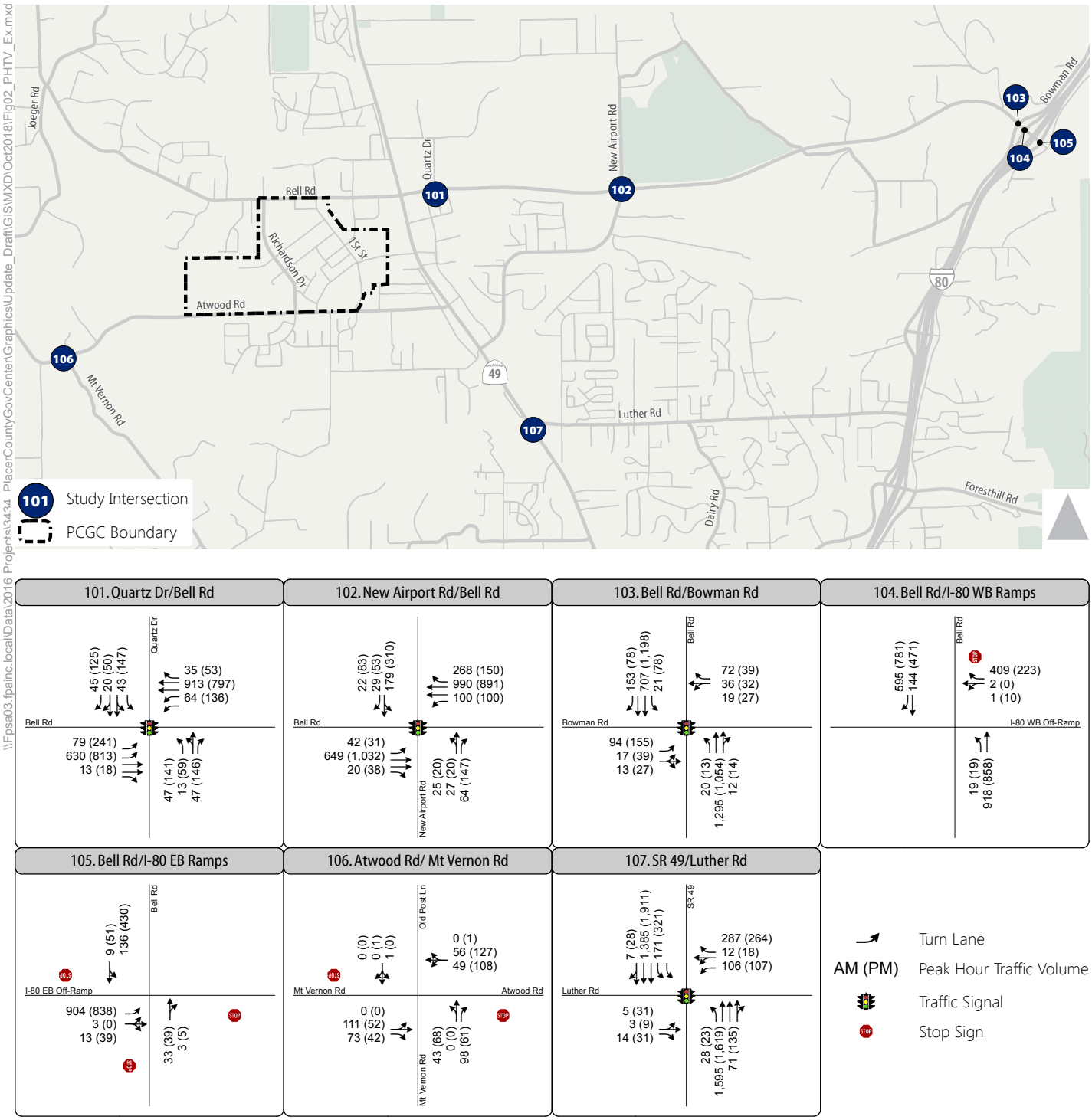


Figure 2

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

\\Fpsa03.fpainc.local\Data\2016 Projects\3434 PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Oct2018\Fig02_PHTV_Ex.mxd

Table 2: Peak Hour Intersection Operations – Existing Conditions

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions	
			Delay[2]	LOS[3]
101. Bell Rd. / Quartz Dr.	Signal	A.M.	32.8	C
		P.M.	43.6	D
102. Bell Rd. / New Airport Rd.	Signal	A.M.	17.5	B
		P.M.	21.8	C
103. Bell Rd. / Bowman Rd.	Signal	A.M.	15.7	B
		P.M.	21.1	C
104. Bell Rd. / I-80 WB Ramps	SSSC	A.M.	8.0	A
		P.M.	5.7	A
105. Bell Rd. / I-80 EB Ramps	AWSC	A.M.	16.5	C
		P.M.	26.6	D
106. Atwood Rd. / Mt Vernon Rd.	SSSC	A.M.	6.8	A
		P.M.	8.6	A
107. SR 49 / Luther Rd.	Signal	A.M.	**81.1**	**F**
		P.M.	55.3	E

Notes:

1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized and AWSC intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.

Bold text indicates unacceptable operations.

Source: Fehr & Peers, 2018.

Existing Plus Project Conditions

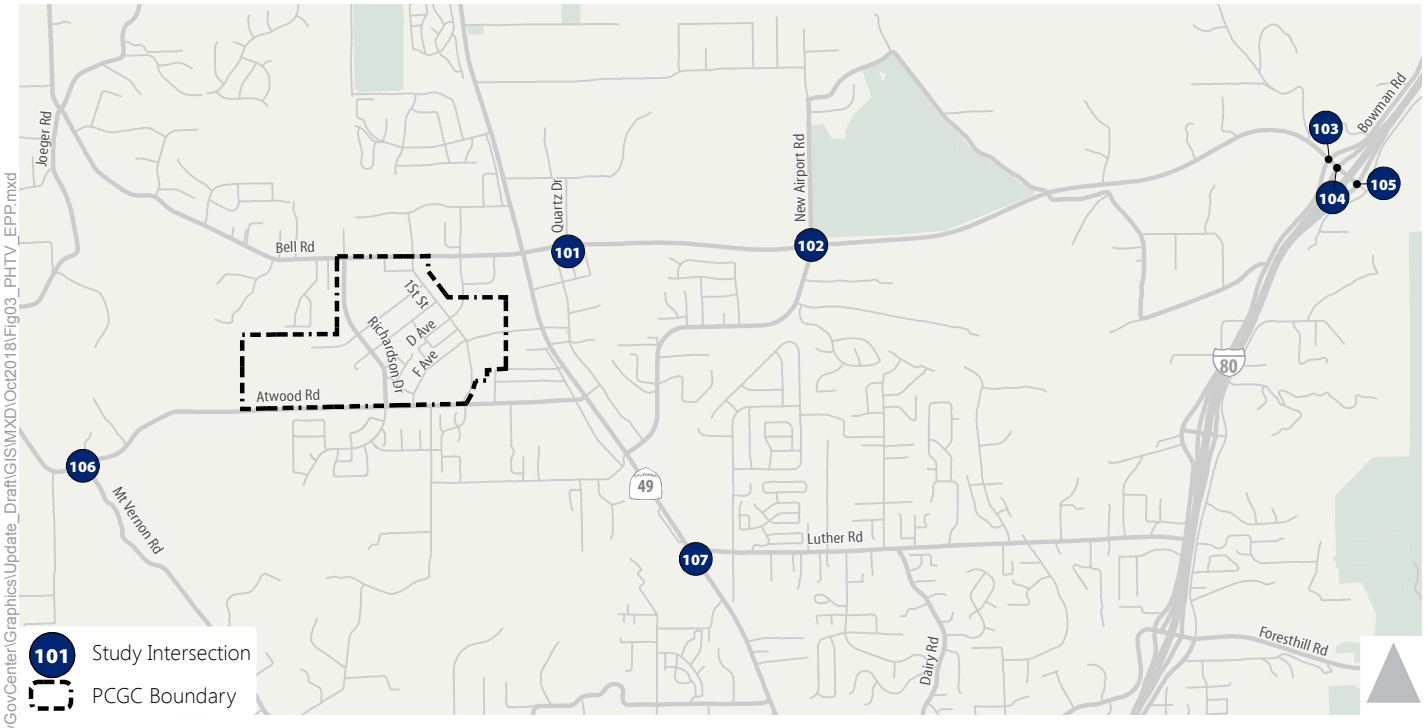
Figure 3 presents the weekday a.m. and p.m. peak hour turning movement forecasts at study intersections under existing plus PCGC Master Plan Update conditions at all study intersections and at the SR 49 / Luther Road intersection under MFR and HHS conditions. These turning movement forecasts represent the increase in vehicle traffic caused by implementation of the proposed PCGC Master Plan Update, the MFR, and HHS on existing conditions.

Table 3 presents the average delay and LOS at the study intersections under existing plus project conditions during the weekday a.m. and p.m. peak hours (refer to **Appendix B** for technical calculations).

As shown, most of the study intersections would continue to operate at an acceptable LOS under existing plus MPU, MFR, and HHS conditions except the following intersection, which would operate at an unacceptable LOS F under existing plus MPU, MFR, and HHS conditions:

- SR 49 / Luther Road – LOS F during the a.m. peak hour

The proposed MPU and HHS would cause the average control delay to increase by one or more seconds during the a.m. peak hour at the SR 49 / Luther Road intersection, which currently operates at an unacceptable LOS. This is considered a significant impact, per Caltrans significance criteria.



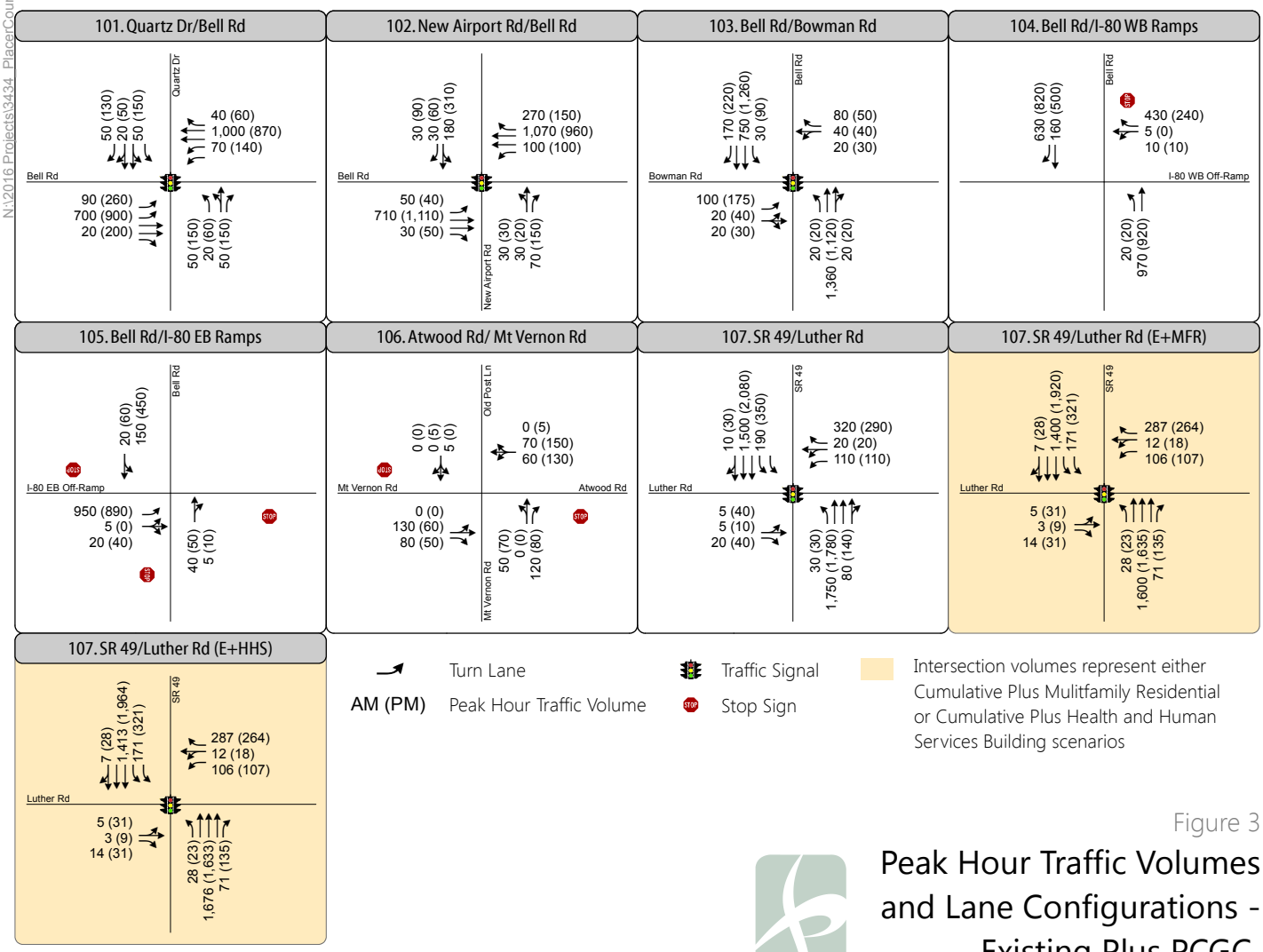


Figure 3

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus PCGC Master Plan Update

N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Oct2018\Fig03_PHTV_EPP.mxd

Table 3: Peak Hour Intersection Operations – Existing Plus PCGC Master Plan Update

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions		Existing + MPU		Existing + MFR		Existing + HHS	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
101. Bell Rd. / Quartz Dr.	Signal	A.M.	32.8	C	33.5	C				
		P.M.	43.6	D	45.4	D				
102. Bell Rd. / New Airport Rd.	Signal	A.M.	17.5	B	19.2	B				
		P.M.	21.8	C	24.7	C				
103. Bell Rd. / Bowman Rd.	Signal	A.M.	15.7	B	18.9	B				
		P.M.	21.1	C	23.3	C				
104. Bell Rd. / I-80 WB Ramps	SSSC	A.M.	8.0	A	14.4	B				
		P.M.	5.7	A	7.5	A				
105. Bell Rd. / I-80 EB Ramps	AWSC	A.M.	16.5	C	32.5	D				
		P.M.	26.6	D	34.5	D				
106. Atwood Rd. / Mt Vernon Rd.	SSSC	A.M.	6.8	A	7.4	A				
		P.M.	8.6	A	9.2	A				
107. SR 49 / Luther Rd.	Signal	A.M.	**81.1**	**F**	**106.2**	**F**	**81.5**	**F**	**95.5**	**F**
		P.M.	55.3	E	74.6	E	57.4	E	56.6	E

Notes:

1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized, AWSC, and roundabout intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.

Bold indicates unacceptable operations. **Bold and highlighted** indicates significant impacts.

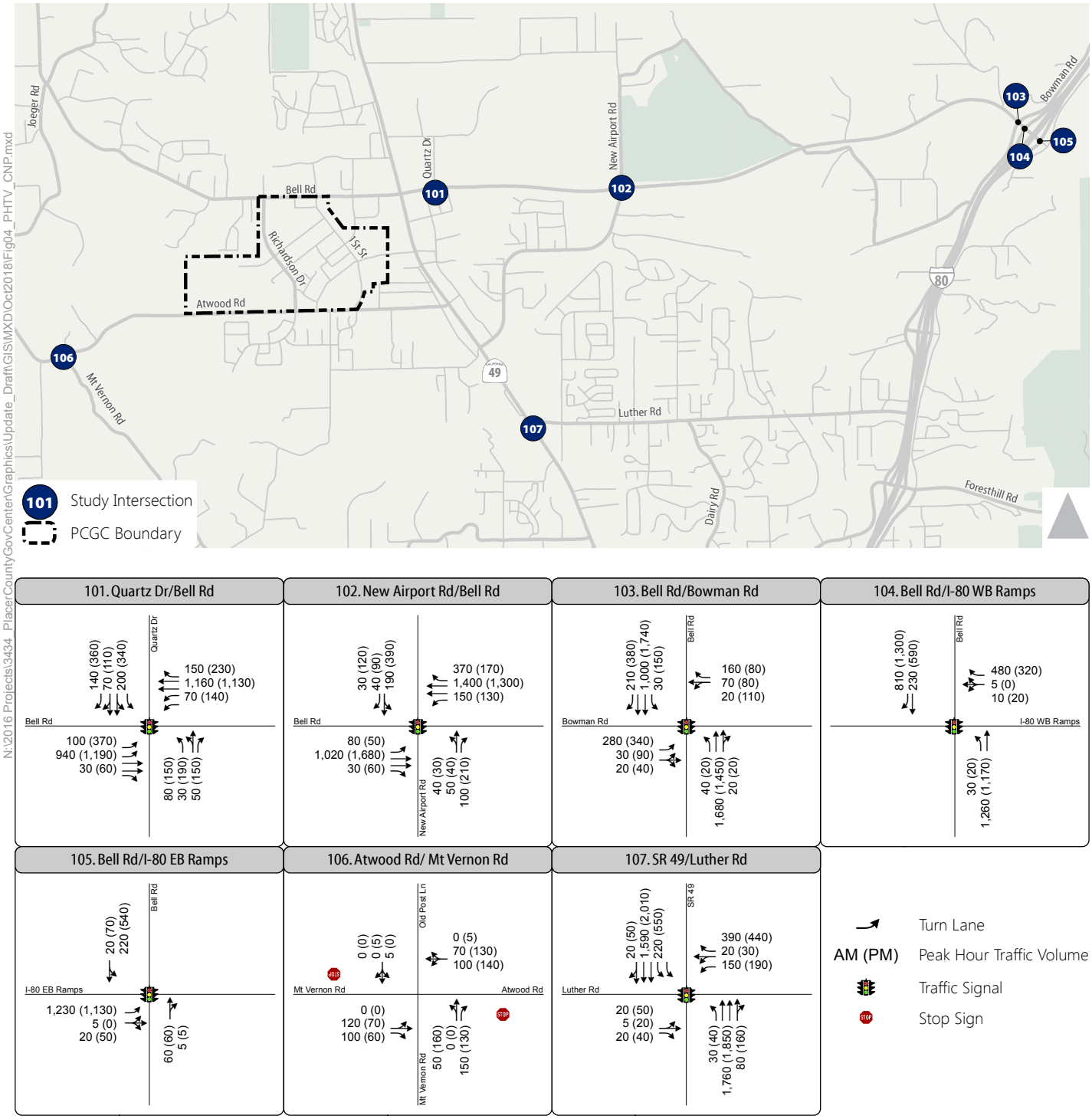
Source: Fehr & Peers, 2018.

Cumulative No Project Conditions

The cumulative no project conditions scenario reflects future conditions without the proposed PCGC Master Plan Update or the associated Multifamily Residential (MFR) or Health & Human Services Building (HHS) projects. This scenario includes reasonably foreseeable growth in the region as well as funded transportation improvements as described in the Cumulative Setting of the TIS. It should be noted that Placer County is pursuing an upgrade project for the I-80 / Bell Road interchange, which would affect the Bell Road / Bowman Road, Bell Road / I-80 WB Ramps, and Bell Road / I-80 EB Ramps intersections (#103, 104, and 105, respectively). This upgrade project will provide improved operations, consistent with County and Caltrans performance standards. Various intersection control types and interchange configurations will be considered during the programming studies, including traffic signal control. For purposes of this study, all three intersections are assumed to be signalized under cumulative conditions. **Figure 4** presents the intersection turning lane geometrics, traffic control, and cumulative no project a.m. and p.m. peak hour traffic forecasts for the seven study intersections.

Table 4 presents the average delay and LOS at the study intersections under cumulative no project conditions during the weekday a.m. and p.m. peak hours (refer to **Appendix C** for technical calculations). As shown, the following three intersections would operate at an unacceptable LOS under Cumulative No Project Conditions:

- Bell Road / Quartz Drive – LOS E during the p.m. peak hour
- Bell Road / New Airport Road – LOS E during the p.m. peak hour
- SR 49 / Luther Road – LOS F during the a.m. peak hour



N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Oct2018\Fig04_PHTV_CNP.mxd

Figure 4

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions

Table 4: Peak Hour Intersection Operations – Cumulative No Project Conditions

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions		Cumulative NP	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
101. Bell Rd. / Quartz Dr.	Signal	A.M.	32.8	C	41.0	D
		P.M.	43.6	D	**76.0**	**E**
102. Bell Rd. / New Airport Rd.	Signal	A.M.	17.5	B	32.2	C
		P.M.	21.8	C	**58.4**	**E**
103. Bell Rd. / Bowman Rd.[4]	Signal	A.M.	15.7	B	23.8	C
		P.M.	21.1	C	42.8	D
104. Bell Rd. / I-80 WB Ramps[4]	SSSC/Signal	A.M.	8.0	A	13.4	B
		P.M.	5.7	A	6.6	A
105. Bell Rd. / I-80 EB Ramps[4]	AWSC/Signal	A.M.	16.5	C	5.2	A
		P.M.	26.6	D	5.7	A
106. Atwood Rd. / Mt Vernon Rd.	SSSC	A.M.	6.8	A	7.5	A
		P.M.	8.6	A	14.3	B
107. SR 49 / Luther Rd.	Signal	A.M.	**81.1**	**F**	**102.0**	**F**
		P.M.	55.3	E	79.8	E

Notes:

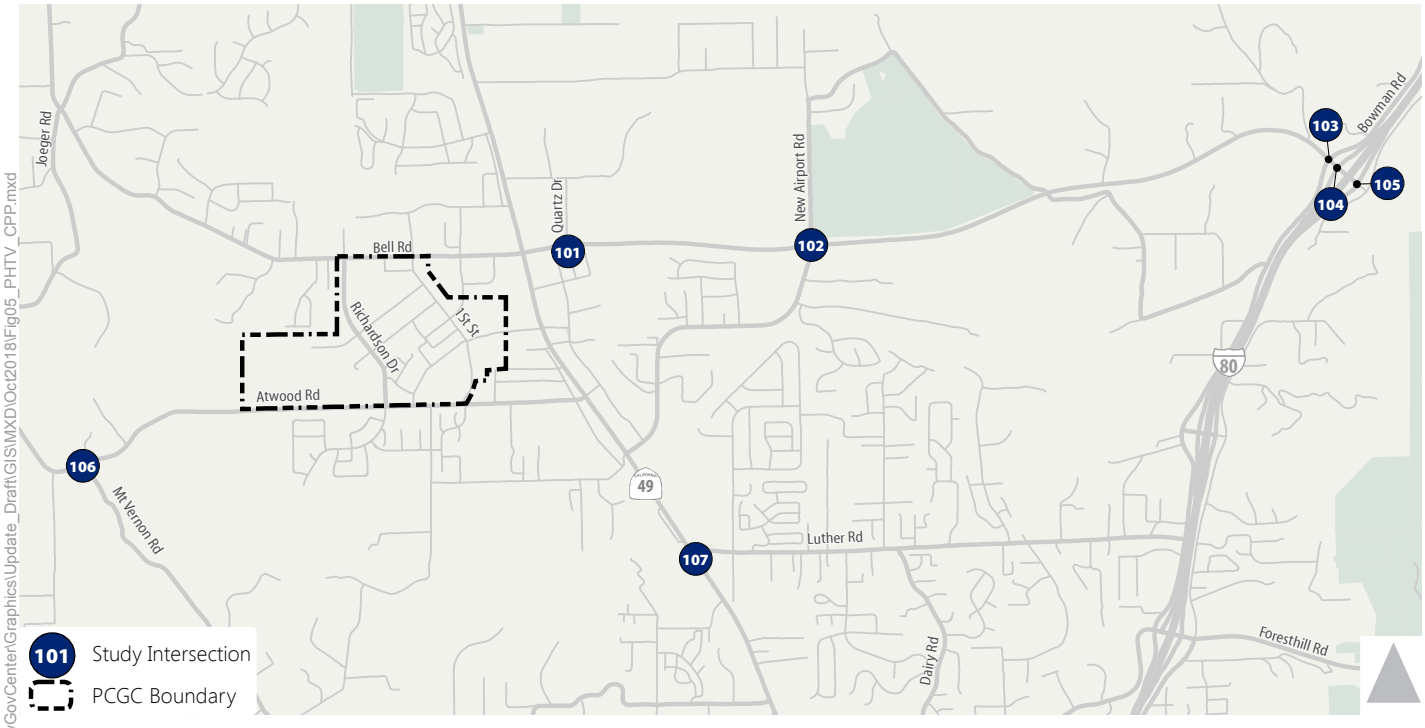
1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized, AWSC, and roundabout intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.
4. Traffic signal control assumed at the I-80/Bell Road intersection under cumulative conditions. The County is pursuing an upgrade project for the interchange that will provide improved operations, consistent with County and Caltrans performance standards. Various intersection control types and interchange configurations will be considered during the programming studies, including traffic signal control.

Bold indicates unacceptable operations.

Source: Fehr & Peers, 2018.

Cumulative Plus Project Conditions

The Cumulative Plus PCGC Master Plan Update scenario assesses the incremental cumulative traffic effects of the implementation of the proposed PCGC Master Plan Update when viewed along with reasonably foreseeable land development and transportation projects. **Figure 5** presents the weekday a.m. and p.m. peak hour turning movement forecasts at study intersections under cumulative plus PCGC Master Plan Update conditions at all study intersections. **Figure 6** presents the weekday a.m. and p.m. peak hour turning movements at the Quartz Drive / Bell Road, New Airport Road / Bell Road, and SR 49 / Luther Road intersection under MFR and HHS conditions. These turning movement forecasts represent the increase in vehicle traffic caused by implementation of the proposed PCGC Master Plan Update, the MFR, and HHS on cumulative no project conditions.



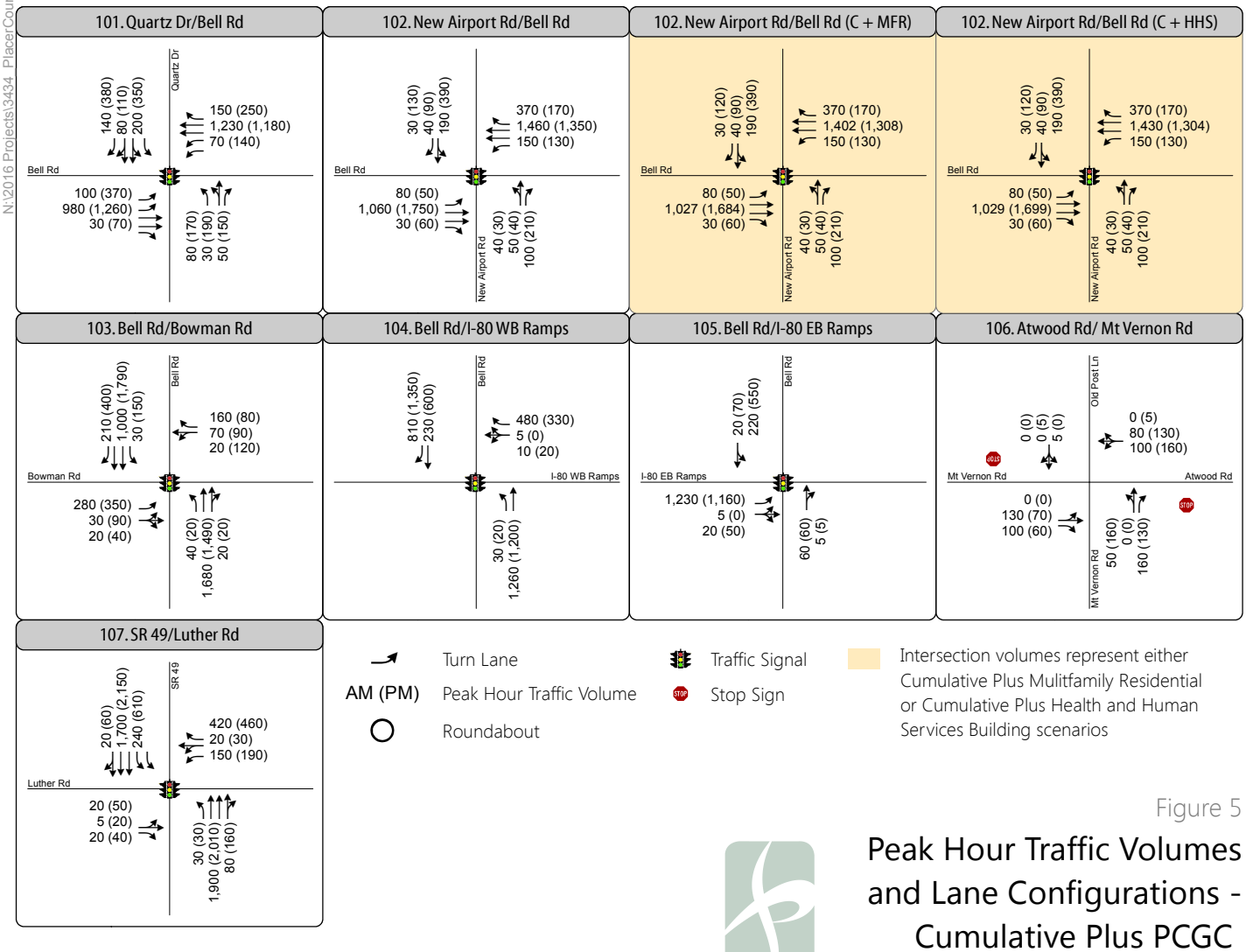
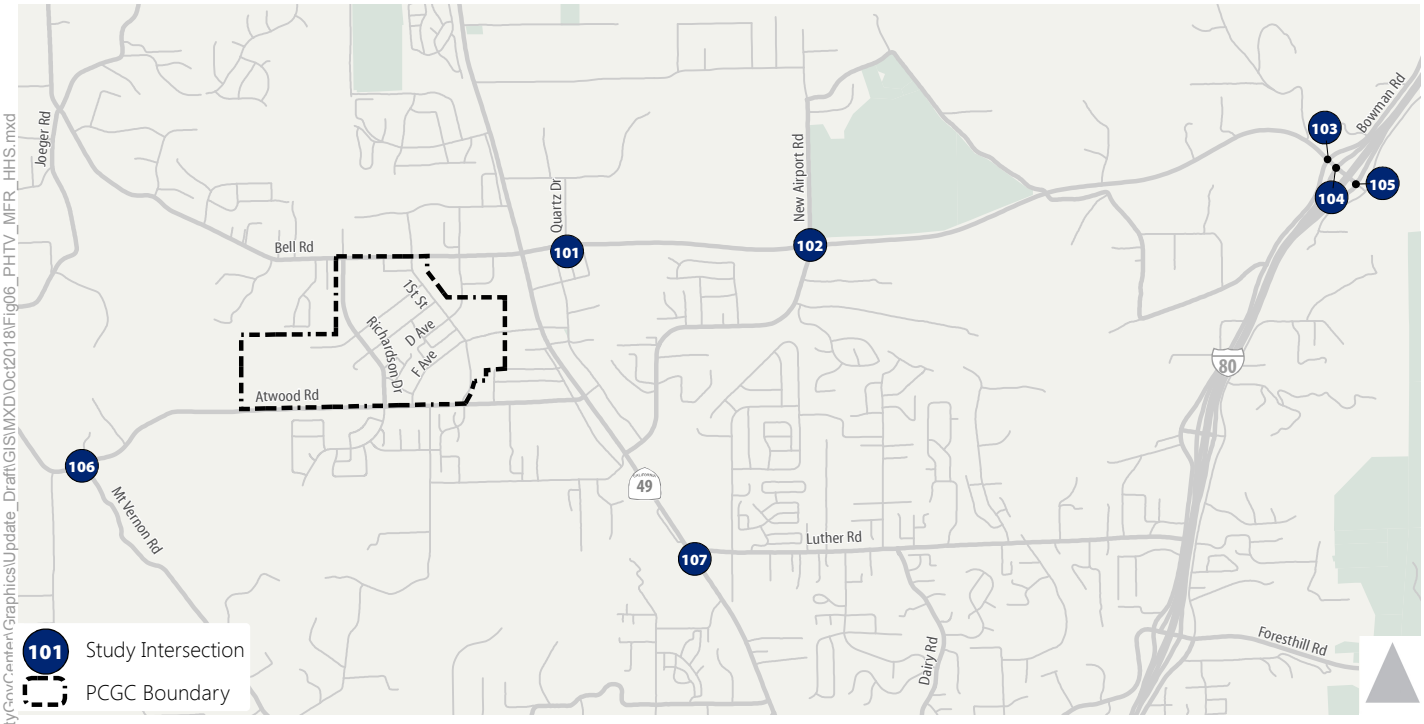


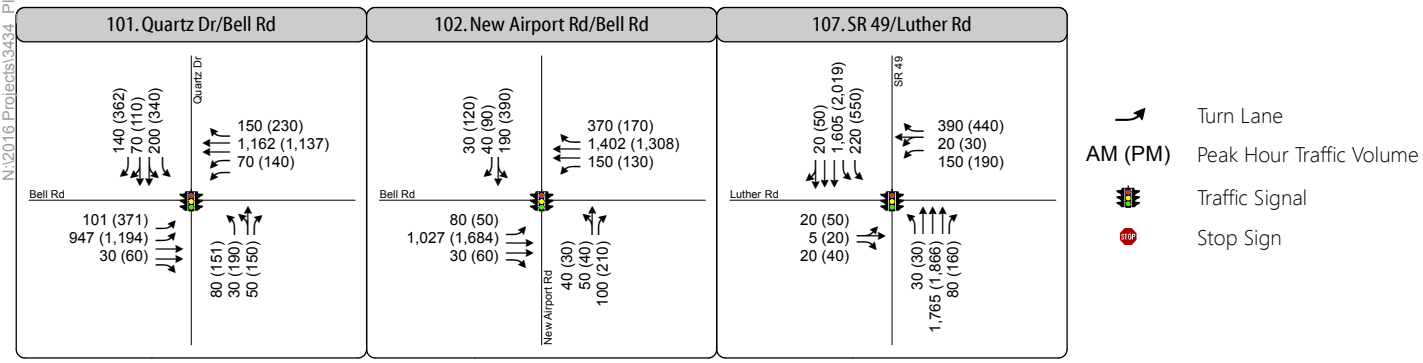
Figure 5

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus PCGC Master Plan Update

N:\2016 Projects\3434_PlacerCountyGovCenterGraphics\Update_Draft\GIS\MXD\Oct2018\Fig05_PHTV_CPP.mxd



Cumulative Plus MFR



Cumulative Plus HHS

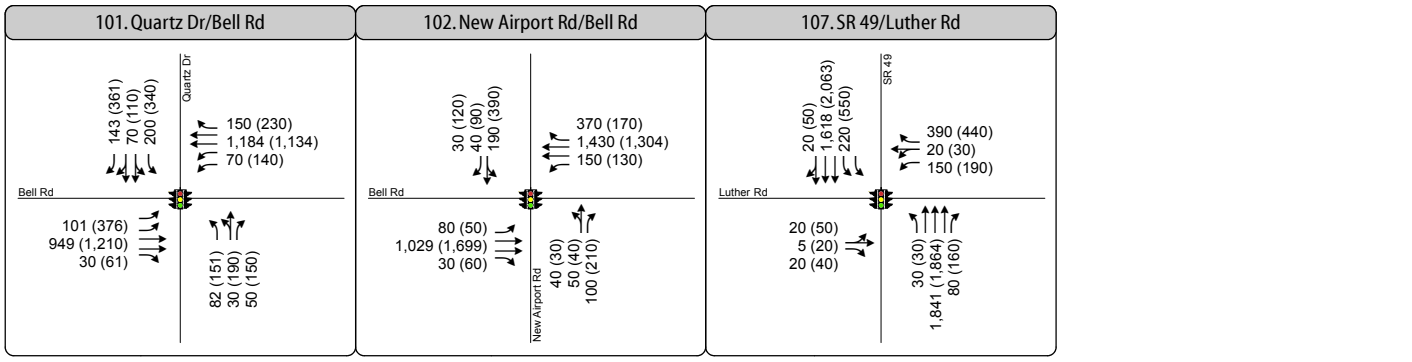


Figure 6

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus MFR and Cumulative Plus HHS

N:\2016 Projects\3434_PlacerCountyGovCenter\Graphics\Update_Draft\GIS\MXD\Oct2018\Fig06_PHTV_MFR_HHS.mxd

Table 5 presents the average delay and LOS at the study intersections under cumulative plus project conditions during the weekday a.m. and p.m. peak hours (refer to **Appendix D** for technical calculations).

As shown, the following three intersections would operate at an unacceptable LOS under cumulative plus MPU conditions:

- Bell Road / Quartz Drive – LOS E during the p.m. peak hour
- Bell Road / New Airport Road – LOS E during the p.m. peak hour
- SR 49 / Luther Road – LOS F during the a.m. and p.m. peak hour

The proposed PCGC Master Plan Update would increase the average control delay by less than 4 seconds at Bell Road / New Airport Road during the p.m. peak hour, which would operate at an unacceptable LOS E under cumulative no project conditions. This increase in delay is considered less than significant per the Placer County *Impact Analysis Methodology of Assessment* memorandum.

The proposed PCGC Master Plan Update would increase the average control delay by 13 seconds at Bell Road / Quartz Drive during the p.m. peak hour, which would operate at an unacceptable LOS under cumulative no project conditions. This incremental increase in delay is considered a significant cumulative impact.

The proposed PCGC Master Plan Update would also increase the average control delay at SR 49 / Luther Road by 21 seconds during the a.m. peak hour and by 19 seconds during the p.m. peak hour, which would operate at an unacceptable LOS under cumulative no project conditions. This is considered a significant impact, per Caltrans significance criteria.

The proposed MFR project would also increase the average control delay at SR 49 / Luther Road by 2 seconds during the p.m. peak hour, which would operate at an unacceptable LOS under cumulative no project conditions. This is considered a significant impact per Caltrans significance criteria.

The proposed HHS project would also increase the average control delay at SR 49 / Luther Road by 14 seconds during the a.m. peak hour and by a little more than 1 second during the p.m. peak hour, which would operate at an unacceptable LOS under cumulative no project conditions. This is considered a significant impact, per Caltrans significance criteria.

Table 5: Peak Hour Intersection Operations – Cumulative Plus Project Conditions

Intersection	Traffic Control[1]	Peak Hour	Cumulative NP		Cumulative + MPU		Cumulative + MFR		Cumulative + HHS	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
101. Bell Rd. / Quartz Dr.	Signal	A.M.	41.0	D	43.8	D	41.4	D	41.3	D
		P.M.	**76.0**	**E**	**89.0**	**F**	**78.9**	**E**	**81.6**	**F**
102. Bell Rd. / New Airport Rd.	Signal	A.M.	32.2	C	33.5	C	32.2	C	32.8	C
		P.M.	**58.4**	**E**	**62.2**	**E**	**58.6**	**E**	**59.3**	**E**
103. Bell Rd. / Bowman Rd.[4]	Signal	A.M.	23.8	C	25.4	C				
		P.M.	42.8	D	50.3	D				
104. Bell Rd. / I-80 WB Ramps[4]	Signal	A.M.	13.4	B	20.0	B				
		P.M.	6.6	A	7.2	A				
105. Bell Rd. / I-80 EB Ramps[4]	Signal	A.M.	5.2	A	5.2	A				
		P.M.	5.7	A	5.3	A				
106. Atwood Rd. / Mt Vernon Rd.	SSSC	A.M.	7.5	A	7.7	A				
		P.M.	14.3	B	16.0	C				
107. SR 49 / Luther Rd.	Signal	A.M.	**102.0**	**F**	**123.3**	**F**	**102.1**	**F**	**115.8**	**F**
		P.M.	79.8	E	**98.8**	**F**	**81.9**	**F**	**80.9**	**F**

Notes:

1. Signal = traffic signal-controlled intersection; AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. Average control delay (rounded to nearest second) for signalized, AWSC, and roundabout intersections is the weighted average for all movements. Average control delay at side-street stop-controlled intersections is calculated as the "overall weighted average delay for movements yielding the right-of-way."
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.
4. Traffic signal control assumed at the I-80/Bell Road intersection under cumulative conditions. The County is pursuing an upgrade project for the interchange that will provide improved operations, consistent with County and Caltrans performance standards. Various intersection control types and interchange configurations will be considered during the programming studies, including traffic signal control.

Bold indicates unacceptable operations. **Bold and highlighted** indicates significant impacts.

Source: Fehr & Peers, 2018.

Impacts and Mitigation Measures

This section summarizes the significance of transportation and traffic impacts (both project-specific and cumulatively considerable) using the criteria described in *Revised TIS*. Where impacts are deemed significant, mitigation measures are recommended to lessen their significance. This study identifies the transportation and traffic impacts in addition to those identified in the *Revised TIS*.

Project-Specific Impacts

Impact-20 – MPU, MFR, HHS: Vehicle trips generated by the implementation of the MPU, MFR, or HHS would increase traffic volumes at study intersections. These project trips would cause the average control delay to increase by more than 5 seconds at the SR 49 / Luther Road intersection during the a.m. peak hour, which currently operate at an unacceptable LOS. Therefore, this is considered a significant impact.

The proposed MPU, MFR, and HHS would add vehicle trips to study intersections. Most study intersections would continue to operate at an acceptable LOS, which is a less-than-significant impact. However, the proposed MPU, MFR, and HHS would worsen operations at the SR 49 / Luther Road intersection and increase the average control delay by 19, 2, and 1 second(s), respectively, during the a.m. peak hour with the proposed MPU, MFR, and HHS projects. Since this intersection operates at an unacceptable LOS under existing conditions, this is considered a **significant** impact, per Caltrans significance criteria.

Mitigation Measure-20: Optimize the signal timings at the SR 49 / Luther Road intersection.

This measure would optimize the existing signal operations to provide additional green time to the northbound and southbound through movements. This modification to the signal timing would improve operations to LOS C during the a.m. and p.m. peak hour. This improvement would occur through Caltrans regular maintenance of its traffic signals. Therefore, this mitigation would require implementation by other agencies.

Mitigation Measure-20 would improve the LOS at these intersections and/or reduce the average control delay to levels equal to or less than existing conditions. However, since these improvements are not within Placer County's jurisdiction to control, it cannot be guaranteed that this measure will be implemented. Therefore, this impact remains **significant and unavoidable**.

Cumulative Impacts

<u>Impact-21 – MPU, MFR, HHS</u>: Vehicle trips generated by the implementation of the MPU, MFR, or HHS in combination with background traffic from reasonably foreseeable projects would increase traffic volumes at study intersections. These project trips would exacerbate average control delay to at intersections which operate at an unacceptable LOS under cumulative no project conditions. This is considered a significant impact.

The proposed MPU, MFR, and HHS would add vehicle trips to study intersections. Most study intersections would continue to operate at an acceptable LOS, which is a less-than-significant impact. The proposed MPU results in unacceptable LOS during the a.m. peak hour and would increase the average control delay by more than 4 seconds at Bell Road / New Airport Road during the p.m. peak hour. This is considered a **significant** cumulative impact per Placer County's significance criteria for signalized intersections.

The proposed MPU would also increase the average control delay 11 seconds at Bell Road / Quartz Drive during the p.m. peak hour, and by 12 seconds or more at SR 49 / Luther Road during the a.m. and p.m. peak hour. Both intersections would operate at an unacceptable LOS under cumulative no project conditions. This incremental increase in delay is considered a **significant** cumulative impact, per Caltrans and/or Placer County significance criteria.

The proposed MFR project would also increase the average control delay by 2 seconds at SR 49 / Luther Road during the p.m. peak hour. This incremental increase in delay is considered a **significant** cumulative impact, per Caltrans significance criteria.

The proposed HHS project would also increase the average control delay by 14 during the a.m. peak hour and by 1 second at SR 49 / Luther Road during the p.m. peak hour. This incremental increase in delay is considered a **significant** cumulative impact, per Caltrans significance criteria.

<u>Mitigation Measure-21a</u>: Optimize the signal timings at the SR 49 / Luther Road intersection.

This measure would optimize the existing signal operations to provide additional green time to the northbound and southbound through, southbound left-turn, and westbound right-turn movements. This modification to the signal timing would improve operations to LOS C during the a.m. peak hour and LOS D during the p.m. peak hour. This improvement would occur through Caltrans regular maintenance of its traffic signals. Therefore, the mitigation would require implementation by other agencies.

<u>Mitigation Measure-21b</u>: Optimize the signal timings at the Bell Road / Quartz Drive intersection.

This measure would optimize the existing signal operations to provide additional green time to the eastbound through, westbound through, and southbound movements. This modification to the signal timing would improve operations to LOS D during the p.m. peak hour. This intersection is within Placer County's jurisdiction. Therefore, the County will have control over ultimate signal timing, with coordination of Caltrans.

<u>Mitigation Measure-21c</u>: Optimize Lane Configuration and signal timings at the Bell Road / New Airport Road intersection.

This measure would reconfigure the southbound approach lane to provide one left-turn lane and one shared through / right turn lane. In addition, this measure would optimize the existing signal operations to efficiently allocate green time among different movements. These modifications would reduce the average control delay to less than cumulative no project conditions. Operations at this intersection would remain at LOS E during the p.m. peak hour.

This improvement is included in the Auburn/Bowman CIP; therefore, payment of these fees would provide adequate mitigation.

Mitigation Measure-21a would improve the LOS at these intersections and/or reduce the average control delay to levels equal to or less than cumulative no project conditions. However, Mitigation Measure-21a would require implementation by Caltrans, it cannot be guaranteed that these measures will be implemented. Therefore, this impact remains **significant and unavoidable**.

Mitigation Measure-21b would improve the LOS at these intersections and/or reduce the average control delay to levels equal to or less than cumulative no project conditions. Since these improvements are within Placer County's jurisdiction to control this impact is **less than significant**.

Mitigation Measure-21c is included in the Auburn/Bowman CIP and payment of applicable fees would mitigate the project's impact to the intersection. This Mitigation Measure would improve the LOS at these intersections and/or reduce the average control delay to levels equal to or less than cumulative no project conditions. Since these improvements are within Placer County's jurisdiction and funded through the County's Capital Improvement Program this impact is **less than significant**.

Appendix A
Existing Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	630	13	64	913	35	47	13	47	43	20	45
Future Volume (veh/h)	79	630	13	64	913	35	47	13	47	43	20	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	85	677	8	69	982	25	32	40	0	48	19	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	150	866	384	1650	2476	1103	111	117	99	197	103	87
Arrive On Green	0.01	0.08	0.08	0.49	0.71	0.71	0.06	0.06	0.00	0.06	0.06	0.00
Sat Flow, veh/h	3401	3497	1552	3401	3497	1558	1753	1841	1560	3506	1841	1560
Grp Volume(v), veh/h	85	677	8	69	982	25	32	40	0	48	19	0
Grp Sat Flow(s),veh/h/ln	1700	1749	1552	1700	1749	1558	1753	1841	1560	1753	1841	1560
Q Serve(g_s), s	3.2	24.7	0.6	1.4	14.8	0.6	2.3	2.7	0.0	1.7	1.3	0.0
Cycle Q Clear(g_c), s	3.2	24.7	0.6	1.4	14.8	0.6	2.3	2.7	0.0	1.7	1.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	866	384	1650	2476	1103	111	117	99	197	103	87
V/C Ratio(X)	0.57	0.78	0.02	0.04	0.40	0.02	0.29	0.34	0.00	0.24	0.18	0.00
Avail Cap(c_a), veh/h	576	1049	466	1650	2476	1103	432	453	384	547	287	244
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.8	56.2	45.2	17.6	7.7	5.6	58.1	58.3	0.0	58.7	58.5	0.0
Incr Delay (d2), s/veh	0.9	5.3	0.1	0.0	0.5	0.0	0.5	0.6	0.0	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	12.2	0.2	0.5	4.9	0.2	1.0	1.3	0.0	0.8	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	61.5	45.3	17.6	8.2	5.7	58.6	58.9	0.0	59.0	58.8	0.0
LnGrp LOS	E	E	D	B	A	A	E	E	A	E	E	A
Approach Vol, veh/h		770			1076			72			67	
Approach Delay, s/veh		61.6			8.7			58.8			58.9	
Approach LOS		E			A			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	69.1	38.2		11.0	9.2	98.0		11.8
Change Period (Y+Rc), s	6.0	* 6		3.7	3.5	6.0		3.5
Max Green Setting (Gmax), s	14.0	* 39		20.3	22.0	39.0		32.0
Max Q Clear Time (g_c+I1), s	3.4	26.7		3.7	5.2	16.8		4.7
Green Ext Time (p_c), s	0.1	5.5		0.1	0.1	11.7		0.2

Intersection Summary	
HCM 6th Ctrl Delay	32.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	649	20	100	990	268	25	27	64	179	29	22
Future Volume (veh/h)	42	649	20	100	990	268	25	27	64	179	29	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	49	764	8	118	1165	164	29	32	0	211	34	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	62	1684	750	151	1861	813	38	42	70	259	42	266
Arrive On Green	0.03	0.48	0.48	0.09	0.53	0.53	0.04	0.04	0.00	0.17	0.17	0.17
Sat Flow, veh/h	1767	3526	1571	1767	3526	1540	862	951	1572	1532	247	1572
Grp Volume(v), veh/h	49	764	8	118	1165	164	61	0	0	245	0	1
Grp Sat Flow(s),veh/h/ln	1767	1763	1571	1767	1763	1540	1812	0	1572	1779	0	1572
Q Serve(g_s), s	2.1	11.1	0.2	5.0	17.9	4.3	2.6	0.0	0.0	10.2	0.0	0.0
Cycle Q Clear(g_c), s	2.1	11.1	0.2	5.0	17.9	4.3	2.6	0.0	0.0	10.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.48		1.00	0.86		1.00
Lane Grp Cap(c), veh/h	62	1684	750	151	1861	813	81	0	70	301	0	266
V/C Ratio(X)	0.79	0.45	0.01	0.78	0.63	0.20	0.76	0.00	0.00	0.81	0.00	0.00
Avail Cap(c_a), veh/h	459	3666	1633	459	3666	1601	589	0	511	809	0	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.8	13.4	10.6	34.5	12.8	9.6	36.3	0.0	0.0	30.8	0.0	26.6
Incr Delay (d2), s/veh	8.2	0.3	0.0	3.3	0.6	0.2	5.3	0.0	0.0	2.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.6	0.1	2.1	5.4	1.2	1.2	0.0	0.0	4.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	13.7	10.6	37.8	13.4	9.8	41.6	0.0	0.0	32.9	0.0	26.6
LnGrp LOS	D	B	B	D	B	A	D	A	A	C	A	C
Approach Vol, veh/h		821			1447			61			246	
Approach Delay, s/veh		15.6			15.0			41.6			32.8	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.6	42.7		17.1	5.7	46.6		7.5
Change Period (Y+Rc), s	3.0	6.0		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	20.0	80.0		35.0	20.0	80.0		25.0
Max Q Clear Time (g_c+I1), s	7.0	13.1		12.2	4.1	19.9		4.6
Green Ext Time (p_c), s	0.1	9.8		0.9	0.0	20.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	111	73	49	56	0	43	0	98	1	0	0
Future Vol, veh/h	0	111	73	49	56	0	43	0	98	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	90	-	-	-	-	-	60	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	134	88	59	67	0	52	0	118	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	67	0	0	134	0	0	319	319	134	319	319	67
Stage 1	-	-	-	-	-	-	134	134	-	185	185	-
Stage 2	-	-	-	-	-	-	185	185	-	134	134	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1541	-	-	1457	-	-	636	599	918	636	599	999
Stage 1	-	-	-	-	-	-	872	787	-	819	749	-
Stage 2	-	-	-	-	-	-	819	749	-	872	787	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1541	-	-	1457	-	-	616	574	918	536	574	999
Mov Cap-2 Maneuver	-	-	-	-	-	-	616	574	-	536	574	-
Stage 1	-	-	-	-	-	-	872	787	-	819	718	-
Stage 2	-	-	-	-	-	-	785	718	-	760	787	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.5	10.1	11.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	616	918	1541	-	-	1457	-	-	536
HCM Lane V/C Ratio	0.084	0.129	-	-	-	0.041	-	-	0.002
HCM Control Delay (s)	11.4	9.5	0	-	-	7.6	0	-	11.7
HCM Lane LOS	B	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.4	0	-	-	0.1	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	3	14	106	12	287	28	1595	71	171	1385	7
Future Volume (veh/h)	5	3	14	106	12	287	28	1595	71	171	1385	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	5	3	0	124	0	66	30	1734	39	186	1505	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	17	10	24	247	0	867	54	1388	425	1652	3840	20
Arrive On Green	0.02	0.02	0.00	0.07	0.00	0.07	0.03	0.28	0.28	0.97	1.00	1.00
Sat Flow, veh/h	1116	669	1560	3506	0	1547	1753	5025	1538	3401	5158	27
Grp Volume(v), veh/h	8	0	0	124	0	66	30	1734	39	186	977	536
Grp Sat Flow(s),veh/h/ln	1785	0	1560	1753	0	1547	1753	1675	1538	1700	1675	1836
Q Serve(g_s), s	0.6	0.0	0.0	4.4	0.0	0.0	2.2	35.9	2.4	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	4.4	0.0	0.0	2.2	35.9	2.4	0.2	0.0	0.0
Prop In Lane	0.62		1.00	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	28	0	24	247	0	867	54	1388	425	1652	2494	1367
V/C Ratio(X)	0.29	0.00	0.00	0.50	0.00	0.08	0.56	1.25	0.09	0.11	0.39	0.39
Avail Cap(c_a), veh/h	220	0	192	1079	0	1234	270	1388	425	1652	2494	1367
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	63.3	0.0	0.0	58.2	0.0	13.4	62.2	47.0	34.9	1.0	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.6	0.0	0.0	3.4	118.4	0.4	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	2.0	0.0	0.9	1.0	29.6	1.0	0.1	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.4	0.0	0.0	58.8	0.0	13.4	65.5	165.5	35.4	1.0	0.4	0.7
LnGrp LOS	E	A	A	E	A	B	E	F	D	A	A	A
Approach Vol, veh/h		8			190			1803			1699	
Approach Delay, s/veh		65.4			43.0			161.0			0.6	
Approach LOS		E			D			F			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	68.9	41.7		6.1	8.1	102.6		13.2
Change Period (Y+Rc), s	5.8	* 5.8		4.1	4.1	5.8		4.1
Max Green Setting (Gmax), s	20.0	* 36		16.0	20.0	35.9		40.0
Max Q Clear Time (g_c+I1), s	2.2	37.9		2.6	4.2	2.0		6.4
Green Ext Time (p_c), s	0.1	0.0		0.0	0.0	3.5		0.1

Intersection Summary	
HCM 6th Ctrl Delay	81.1
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

SimTraffic Post-Processor | **Placer County Government Center**
Average Results from 10 Runs | **Existing Conditions**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 103 **Bell Rd/Bowman Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	20	21	104.9%	50.5	23.1	D
	Through	1,295	1,247	96.3%	8.2	0.7	A
	Right Turn	12	10	83.1%	5.2	6.1	A
	Subtotal	1,327	1,278	96.3%	8.8	0.8	A
SB	Left Turn	21	21	98.3%	39.3	10.6	D
	Through	707	701	99.1%	23.7	5.1	C
	Right Turn	153	152	99.4%	13.7	3.5	B
	Subtotal	881	873	99.1%	22.4	4.5	C
EB	Left Turn	94	92	97.7%	32.8	3.5	C
	Through	17	15	91.1%	38.1	16.2	D
	Right Turn	13	13	103.2%	14.0	6.3	B
	Subtotal	124	121	97.4%	31.6	3.1	C
WB	Left Turn	19	26	135.8%	36.5	7.3	D
	Through	36	34	95.6%	35.4	7.0	D
	Right Turn	72	75	104.2%	10.9	2.9	B
	Subtotal	127	135	106.5%	22.4	4.3	C
Total		2,459	2,407	97.9%	15.7	2.1	B

Intersection 104 **Bell Rd/I-80 WB Ramps** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	19	17	90.5%	21.7	8.5	C
	Through	918	884	96.3%	11.2	2.7	B
	Right Turn						
	Subtotal	937	901	96.2%	11.4	2.6	B
SB	Left Turn						
	Through	144	133	92.5%	0.9	0.2	A
	Right Turn	595	605	101.7%	3.1	0.3	A
	Subtotal	739	738	99.9%	2.7	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	1	0	0.0%	0.0	0.0	A
	Through	2	1	68.8%	22.0	32.1	C
	Right Turn	409	401	98.0%	9.7	1.3	A
	Subtotal	412	402	97.6%	9.8	1.4	A
Total		2,088	2,041	97.8%	8.0	1.2	A

SimTraffic Post-Processor **Placer County Government Center**
Average Results from 10 Runs **Existing Conditions**
Volume and Delay by Movement **AM Peak Hour**

Intersection 105 **Bell Rd/I-80 EB Ramps** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	33	30	90.7%	8.3	1.5	A
	Right Turn	3	3	103.2%	1.2	1.3	A
	Subtotal	36	33	91.7%	7.9	1.7	A
SB	Left Turn	136	125	91.8%	8.4	1.7	A
	Through	9	9	103.2%	10.4	4.3	B
	Right Turn						
	Subtotal	145	134	92.5%	8.4	1.6	A
EB	Left Turn	904	880	97.3%	18.1	2.9	C
	Through	3	4	137.6%	15.2	7.8	C
	Right Turn	13	13	100.6%	9.0	3.9	A
	Subtotal	920	897	97.5%	18.0	2.9	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,101	1,064	96.7%	16.5	2.4	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	241	813	18	136	797	53	141	59	146	147	50	125
Future Volume (veh/h)	241	813	18	136	797	53	141	59	146	147	50	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	265	893	9	149	876	29	110	128	5	166	65	20
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	326	1029	458	1443	2247	1002	155	163	138	230	121	101
Arrive On Green	0.03	0.09	0.09	0.41	0.63	0.63	0.09	0.09	0.09	0.06	0.06	0.06
Sat Flow, veh/h	3483	3582	1593	3483	3582	1597	1795	1885	1598	3591	1885	1568
Grp Volume(v), veh/h	265	893	9	149	876	29	110	128	5	166	65	20
Grp Sat Flow(s),veh/h/ln	1742	1791	1593	1742	1791	1597	1795	1885	1598	1795	1885	1568
Q Serve(g_s), s	9.8	32.0	0.7	3.4	15.7	0.9	7.8	8.7	0.4	5.9	4.3	1.6
Cycle Q Clear(g_c), s	9.8	32.0	0.7	3.4	15.7	0.9	7.8	8.7	0.4	5.9	4.3	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	326	1029	458	1443	2247	1002	155	163	138	230	121	101
V/C Ratio(X)	0.81	0.87	0.02	0.10	0.39	0.03	0.71	0.79	0.04	0.72	0.54	0.20
Avail Cap(c_a), veh/h	589	1075	478	1443	2247	1002	442	464	393	561	294	245
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.9	56.4	42.2	23.3	12.0	9.2	57.8	58.2	54.4	59.7	59.0	57.7
Incr Delay (d2), s/veh	1.3	6.9	0.1	0.0	0.5	0.1	2.2	3.1	0.0	1.6	1.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	16.3	0.3	1.4	5.9	0.3	3.6	4.3	0.2	2.7	2.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.1	63.3	42.3	23.3	12.5	9.2	60.0	61.3	54.5	61.3	60.3	58.0
LnGrp LOS	E	E	D	C	B	A	E	E	D	E	E	E
Approach Vol, veh/h		1167			1054			243			251	
Approach Delay, s/veh		63.1			13.9			60.6			60.8	
Approach LOS		E			B			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	59.9	43.4		12.0	15.7	87.6		14.7
Change Period (Y+Rc), s	6.0	* 6		3.7	3.5	6.0		3.5
Max Green Setting (Gmax), s	14.0	* 39		20.3	22.0	39.0		32.0
Max Q Clear Time (g_c+I1), s	5.4	34.0		7.9	11.8	17.7		10.7
Green Ext Time (p_c), s	0.1	3.4		0.4	0.3	10.2		0.6

Intersection Summary	
HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1032	38	100	891	150	20	20	147	310	53	83
Future Volume (veh/h)	31	1032	38	100	891	150	20	20	147	310	53	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1086	15	105	938	70	21	21	2	326	56	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	1607	717	134	1785	796	28	28	49	373	64	386
Arrive On Green	0.03	0.45	0.45	0.08	0.50	0.50	0.03	0.03	0.03	0.24	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	912	912	1585	1531	263	1585
Grp Volume(v), veh/h	33	1086	15	105	938	70	42	0	2	382	0	34
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1825	0	1585	1794	0	1585
Q Serve(g_s), s	1.6	20.9	0.5	5.0	15.5	2.0	2.0	0.0	0.1	17.8	0.0	1.4
Cycle Q Clear(g_c), s	1.6	20.9	0.5	5.0	15.5	2.0	2.0	0.0	0.1	17.8	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	0.50		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	45	1607	717	134	1785	796	56	0	49	437	0	386
V/C Ratio(X)	0.73	0.68	0.02	0.78	0.53	0.09	0.75	0.00	0.04	0.87	0.00	0.09
Avail Cap(c_a), veh/h	411	3277	1462	411	3277	1462	526	0	457	724	0	639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.0	18.7	13.1	39.4	14.6	11.2	41.7	0.0	40.8	31.6	0.0	25.4
Incr Delay (d2), s/veh	8.2	0.9	0.0	3.7	0.4	0.1	7.3	0.0	0.1	3.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	7.4	0.1	2.2	5.2	0.6	1.0	0.0	0.0	7.8	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.2	19.6	13.2	43.1	15.0	11.3	49.0	0.0	40.9	35.1	0.0	25.4
LnGrp LOS	D	B	B	D	B	B	D	A	D	D	A	C
Approach Vol, veh/h		1134			1113			44			416	
Approach Delay, s/veh		20.4			17.4			48.6			34.3	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	45.2		25.2	5.2	49.6		6.8
Change Period (Y+Rc), s	3.0	6.0		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	20.0	80.0		35.0	20.0	80.0		25.0
Max Q Clear Time (g_c+I1), s	7.0	22.9		19.8	3.6	17.5		4.0
Green Ext Time (p_c), s	0.1	16.3		1.4	0.0	13.8		0.1

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

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	52	42	108	127	1	68	0	61	0	1	0
Future Vol, veh/h	0	52	42	108	127	1	68	0	61	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	90	-	-	-	-	-	60	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	68	55	140	165	1	88	0	79	0	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	166	0	0	68	0	0	514	514	68	514	514	166
Stage 1	-	-	-	-	-	-	68	68	-	446	446	-
Stage 2	-	-	-	-	-	-	446	446	-	68	68	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1418	-	-	1540	-	-	473	466	998	473	466	881
Stage 1	-	-	-	-	-	-	945	840	-	593	576	-
Stage 2	-	-	-	-	-	-	593	576	-	945	840	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1418	-	-	1540	-	-	436	419	998	402	419	881
Mov Cap-2 Maneuver	-	-	-	-	-	-	436	419	-	402	419	-
Stage 1	-	-	-	-	-	-	945	840	-	593	518	-
Stage 2	-	-	-	-	-	-	532	518	-	870	840	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.5	12.3	13.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	436	998	1418	-	-	1540	-	-	419
HCM Lane V/C Ratio	0.203	0.079	-	-	-	0.091	-	-	0.003
HCM Control Delay (s)	15.3	8.9	0	-	-	7.6	0	-	13.6
HCM Lane LOS	C	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0.3	0	-	-	0.3	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	9	31	107	18	264	23	1619	135	321	1911	28
Future Volume (veh/h)	31	9	31	107	18	264	23	1619	135	321	1911	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	32	9	1	124	0	78	24	1669	95	331	1970	28
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	68	19	77	253	0	835	48	1421	435	1578	3741	53
Arrive On Green	0.05	0.05	0.05	0.07	0.00	0.07	0.03	0.28	0.28	0.91	1.00	1.00
Sat Flow, veh/h	1416	398	1598	3591	0	1584	1795	5147	1574	3483	5229	74
Grp Volume(v), veh/h	41	0	1	124	0	78	24	1669	95	331	1292	706
Grp Sat Flow(s),veh/h/ln	1814	0	1598	1795	0	1584	1795	1716	1574	1742	1716	1872
Q Serve(g_s), s	2.9	0.0	0.1	4.3	0.0	0.0	1.7	35.9	6.0	1.4	0.0	0.0
Cycle Q Clear(g_c), s	2.9	0.0	0.1	4.3	0.0	0.0	1.7	35.9	6.0	1.4	0.0	0.0
Prop In Lane	0.78		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	87	0	77	253	0	835	48	1421	435	1578	2455	1339
V/C Ratio(X)	0.47	0.00	0.01	0.49	0.00	0.09	0.50	1.17	0.22	0.21	0.53	0.53
Avail Cap(c_a), veh/h	223	0	197	1105	0	1211	276	1421	435	1578	2455	1339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Uniform Delay (d), s/veh	60.3	0.0	58.9	58.2	0.0	15.5	62.4	47.1	36.2	3.4	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.5	0.0	0.0	3.0	86.2	1.2	0.0	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	2.0	0.0	1.2	0.8	26.1	2.4	0.5	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	0.0	59.0	58.7	0.0	15.5	65.4	133.3	37.4	3.4	0.5	1.0
LnGrp LOS	E	A	E	E	A	B	E	F	D	A	A	A
Approach Vol, veh/h		42			202			1788			2329	
Approach Delay, s/veh		61.7			42.0			127.3			1.1	
Approach LOS		E			D			F			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	64.7	41.7		10.3	7.6	98.8		13.3
Change Period (Y+Rc), s	5.8	* 5.8		4.1	4.1	5.8		4.1
Max Green Setting (Gmax), s	20.0	* 36		16.0	20.0	35.9		40.0
Max Q Clear Time (g_c+I1), s	3.4	37.9		4.9	3.7	2.0		6.3
Green Ext Time (p_c), s	0.2	0.0		0.0	0.0	5.2		0.1

Intersection Summary	
HCM 6th Ctrl Delay	55.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

SimTraffic Post-Processor | **Placer County Government Center**
Average Results from 10 Runs | **Existing Plus Project Conditions**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 103 **Bell Rd/Bowman Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	13	12	92.6%	49.1	27.2	D
	Through	1,054	947	89.8%	11.0	0.8	B
	Right Turn	14	12	83.5%	9.8	10.3	A
	Subtotal	1,081	970	89.8%	11.5	0.9	B
SB	Left Turn	78	71	90.9%	41.0	8.6	D
	Through	1,198	1,034	86.3%	25.9	5.4	C
	Right Turn	78	66	84.2%	15.1	4.5	B
	Subtotal	1,354	1,171	86.5%	26.2	5.3	C
EB	Left Turn	155	142	91.7%	33.1	5.1	C
	Through	39	37	96.1%	34.4	11.3	C
	Right Turn	27	28	104.5%	28.9	7.4	C
	Subtotal	221	208	94.0%	33.1	4.4	C
WB	Left Turn	27	24	87.9%	33.1	13.0	C
	Through	32	31	96.8%	45.8	11.0	D
	Right Turn	39	29	75.0%	8.2	3.2	A
	Subtotal	98	84	85.6%	29.6	6.7	C
Total		2,754	2,433	88.3%	21.1	3.1	C

Intersection 104 **Bell Rd/I-80 WB Ramps** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	19	17	88.7%	28.3	12.8	D
	Through	858	771	89.8%	9.1	2.2	A
	Right Turn						
	Subtotal	877	787	89.8%	9.6	2.3	A
SB	Left Turn						
	Through	471	409	86.9%	1.6	1.1	A
	Right Turn	781	675	86.5%	3.6	0.3	A
	Subtotal	1,252	1,085	86.6%	2.8	0.4	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	10	8	79.1%	23.1	18.6	C
	Through						
	Right Turn	223	202	90.4%	4.6	1.7	A
	Subtotal	233	209	89.9%	5.4	2.0	A
Total		2,362	2,082	88.1%	5.7	1.1	A

SimTraffic Post-Processor | **Placer County Government Center**
Average Results from 10 Runs | **Existing Plus Project Conditions**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 105 **Bell Rd/I-80 EB Ramps** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	39	30	75.9%	10.9	3.6	B
	Right Turn	5	5	103.2%	2.9	2.3	A
	Subtotal	44	35	79.0%	9.9	3.1	A
SB	Left Turn	430	369	85.9%	31.6	13.0	D
	Through	51	47	93.1%	30.7	12.7	D
	Right Turn						
	Subtotal	481	417	86.7%	31.5	13.0	D
EB	Left Turn	838	758	90.5%	24.8	3.6	C
	Through						
	Right Turn	39	37	95.3%	13.6	3.9	B
	Subtotal	877	795	90.7%	24.2	3.6	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,402	1,247	88.9%	26.6	5.4	D

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	104. Bell Rd / I-80 WB Ramps
Scenario	Existing Conditions

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*			*Free*	*Free*				*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	19	918			144	595				1	2	409
AM Peak Hour Delay (s)	21.7	11.2			0.9	3.1				0	22	9.7
PM Peak Hour Volume	19	858			471	781				10	0	23
PM Peak Hour Delay (s)	28.3	9.1			1.6	3.6				23.1		4.6

AM Delay	**10.3**
AM LOS	**B**

PM Delay	**16.8**
PM LOS	**C**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	106. Atwood Rd / Mt Vernon Rd
Scenario	Existing Conditions

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Yield*	*Free*	*Yield*	*Yield*	*Free*	*Free*
AM Peak Hour Volume	43	0	98	1	0	0	0	111	73	49	56	0
AM Peak Hour Delay (s)	11.4	0	9.5	11.7	0	0	0	0	0	7.6	0	0
PM Peak Hour Volume	68	0	61	0	1	0	0	52	42	108	127	1
PM Peak Hour Delay (s)	15.3	0	8.9	0	13.6	0	0	0	0	7.6	0	0

AM Delay	**6.8**
AM LOS	**A**

PM Delay	**8.6**
PM LOS	**A**

Appendix B
Existing Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	700	20	70	1000	40	50	20	50	50	20	50
Future Volume (veh/h)	90	700	20	70	1000	40	50	20	50	50	20	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	97	753	11	75	1075	28	38	44	1	55	20	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	152	929	413	1579	2463	1097	114	120	100	201	106	90
Arrive On Green	0.01	0.09	0.09	0.46	0.70	0.70	0.06	0.06	0.06	0.06	0.06	0.00
Sat Flow, veh/h	3401	3497	1553	3401	3497	1558	1753	1841	1546	3506	1841	1560
Grp Volume(v), veh/h	97	753	11	75	1075	28	38	44	1	55	20	0
Grp Sat Flow(s),veh/h/ln	1700	1749	1553	1700	1749	1558	1753	1841	1546	1753	1841	1560
Q Serve(g_s), s	3.7	27.5	0.8	1.6	17.1	0.7	2.7	3.0	0.1	2.0	1.3	0.0
Cycle Q Clear(g_c), s	3.7	27.5	0.8	1.6	17.1	0.7	2.7	3.0	0.1	2.0	1.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	929	413	1579	2463	1097	114	120	100	201	106	90
V/C Ratio(X)	0.64	0.81	0.03	0.05	0.44	0.03	0.33	0.37	0.01	0.27	0.19	0.00
Avail Cap(c_a), veh/h	576	1049	466	1579	2463	1097	432	453	380	547	287	244
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.0	56.1	43.9	19.1	8.2	5.8	58.1	58.2	56.9	58.7	58.4	0.0
Incr Delay (d2), s/veh	1.2	5.7	0.1	0.0	0.6	0.0	0.6	0.7	0.0	0.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	13.6	0.3	0.6	5.7	0.2	1.2	1.4	0.0	0.9	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	61.8	44.0	19.1	8.8	5.8	58.7	58.9	56.9	58.9	58.7	0.0
LnGrp LOS	E	E	D	B	A	A	E	E	E	E	E	A
Approach Vol, veh/h		861			1178			83			75	
Approach Delay, s/veh		61.8			9.4			58.8			58.9	
Approach LOS		E			A			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	66.3	40.5		11.2	9.3	97.6		11.9
Change Period (Y+Rc), s	6.0	* 6		3.7	3.5	6.0		3.5
Max Green Setting (Gmax), s	14.0	* 39		20.3	22.0	39.0		32.0
Max Q Clear Time (g_c+I1), s	3.6	29.5		4.0	5.7	19.1		5.0
Green Ext Time (p_c), s	0.1	5.1		0.1	0.1	12.0		0.2

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	710	30	100	1070	270	30	30	70	180	30	30
Future Volume (veh/h)	50	710	30	100	1070	270	30	30	70	180	30	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	59	835	13	118	1259	182	35	35	0	212	35	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	76	1764	786	149	1910	834	47	47	81	255	42	262
Arrive On Green	0.04	0.50	0.50	0.08	0.54	0.54	0.05	0.05	0.00	0.17	0.17	0.17
Sat Flow, veh/h	1767	3526	1571	1767	3526	1540	905	905	1572	1527	252	1572
Grp Volume(v), veh/h	59	835	13	118	1259	182	70	0	0	247	0	2
Grp Sat Flow(s),veh/h/ln	1767	1763	1571	1767	1763	1540	1810	0	1572	1779	0	1572
Q Serve(g_s), s	2.9	13.5	0.4	5.7	22.2	5.4	3.3	0.0	0.0	11.7	0.0	0.1
Cycle Q Clear(g_c), s	2.9	13.5	0.4	5.7	22.2	5.4	3.3	0.0	0.0	11.7	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	0.50		1.00	0.86		1.00
Lane Grp Cap(c), veh/h	76	1764	786	149	1910	834	93	0	81	297	0	262
V/C Ratio(X)	0.78	0.47	0.02	0.79	0.66	0.22	0.75	0.00	0.00	0.83	0.00	0.01
Avail Cap(c_a), veh/h	405	3234	1441	405	3234	1413	519	0	451	714	0	631
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.3	14.3	11.0	39.2	14.2	10.4	40.8	0.0	0.0	35.2	0.0	30.3
Incr Delay (d2), s/veh	6.3	0.3	0.0	3.5	0.7	0.2	4.5	0.0	0.0	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.5	0.1	2.4	7.1	1.5	1.6	0.0	0.0	5.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	14.6	11.0	42.7	14.9	10.6	45.3	0.0	0.0	37.5	0.0	30.3
LnGrp LOS	D	B	B	D	B	B	D	A	A	D	A	C
Approach Vol, veh/h		907			1559			70			249	
Approach Delay, s/veh		16.7			16.5			45.3			37.5	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	49.6		18.6	6.7	53.2		8.6
Change Period (Y+Rc), s	3.0	6.0		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	20.0	80.0		35.0	20.0	80.0		25.0
Max Q Clear Time (g_c+I1), s	7.7	15.5		13.7	4.9	24.2		5.3
Green Ext Time (p_c), s	0.1	11.1		0.9	0.0	23.0		0.2

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	130	80	60	70	0	50	0	120	5	0	0
Future Vol, veh/h	0	130	80	60	70	0	50	0	120	5	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	90	-	-	-	-	-	60	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	157	96	72	84	0	60	0	145	6	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	84	0	0	157	0	0	385	385	157	385	385	84
Stage 1	-	-	-	-	-	-	157	157	-	228	228	-
Stage 2	-	-	-	-	-	-	228	228	-	157	157	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1519	-	-	1429	-	-	575	550	891	575	550	978
Stage 1	-	-	-	-	-	-	848	770	-	777	717	-
Stage 2	-	-	-	-	-	-	777	717	-	848	770	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1519	-	-	1429	-	-	552	521	891	462	521	978
Mov Cap-2 Maneuver	-	-	-	-	-	-	552	521	-	462	521	-
Stage 1	-	-	-	-	-	-	848	770	-	777	679	-
Stage 2	-	-	-	-	-	-	736	679	-	710	770	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.5	10.5	12.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	552	891	1519	-	-	1429	-	-	462
HCM Lane V/C Ratio	0.109	0.162	-	-	-	0.051	-	-	0.013
HCM Control Delay (s)	12.3	9.8	0	-	-	7.7	0	-	12.9
HCM Lane LOS	B	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.6	0	-	-	0.2	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	20	110	20	320	30	1750	80	190	1500	10
Future Volume (veh/h)	5	5	20	110	20	320	30	1750	80	190	1500	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	5	5	0	136	0	77	33	1902	44	207	1630	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	17	17	29	247	0	862	56	1388	425	1641	3809	26
Arrive On Green	0.02	0.02	0.00	0.07	0.00	0.07	0.03	0.28	0.28	0.96	1.00	1.00
Sat Flow, veh/h	898	898	1560	3506	0	1547	1753	5025	1538	3401	5150	35
Grp Volume(v), veh/h	10	0	0	136	0	77	33	1902	44	207	1060	581
Grp Sat Flow(s),veh/h/ln	1796	0	1560	1753	0	1547	1753	1675	1538	1700	1675	1834
Q Serve(g_s), s	0.7	0.0	0.0	4.9	0.0	0.0	2.4	35.9	2.8	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	0.0	4.9	0.0	0.0	2.4	35.9	2.8	0.3	0.0	0.0
Prop In Lane	0.50		1.00	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	33	0	29	247	0	862	56	1388	425	1641	2478	1357
V/C Ratio(X)	0.30	0.00	0.00	0.55	0.00	0.09	0.59	1.37	0.10	0.13	0.43	0.43
Avail Cap(c_a), veh/h	221	0	192	1079	0	1229	270	1388	425	1641	2478	1357
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	62.9	0.0	0.0	58.4	0.0	13.7	62.1	47.0	35.1	1.2	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.7	0.0	0.0	3.5	171.4	0.5	0.0	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	2.2	0.0	1.1	1.1	36.4	1.1	0.1	0.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.8	0.0	0.0	59.1	0.0	13.7	65.6	218.5	35.5	1.2	0.4	0.8
LnGrp LOS	E	A	A	E	A	B	E	F	D	A	A	A
Approach Vol, veh/h		10			213			1979			1848	
Approach Delay, s/veh		64.8			42.7			211.9			0.6	
Approach LOS		E			D			F			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	68.5	41.7		6.5	8.3	101.9		13.3
Change Period (Y+Rc), s	5.8	* 5.8		4.1	4.1	5.8		4.1
Max Green Setting (Gmax), s	20.0	* 36		16.0	20.0	35.9		40.0
Max Q Clear Time (g_c+I1), s	2.3	37.9		2.7	4.4	2.0		6.9
Green Ext Time (p_c), s	0.1	0.0		0.0	0.0	3.9		0.1

Intersection Summary	
HCM 6th Ctrl Delay	106.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

SimTraffic Post-Processor | **Placer County Government Center**
Average Results from 10 Runs | **Existing Plus Project Conditions**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 103 **Bell Rd/Bowman Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	20	24	122.1%	46.4	11.4	D
	Through	1,360	1,305	96.0%	9.4	0.7	A
	Right Turn	20	22	111.8%	7.0	3.8	A
	Subtotal	1,400	1,352	96.6%	10.1	0.9	B
SB	Left Turn	30	32	106.6%	44.6	8.1	D
	Through	750	737	98.2%	28.7	4.9	C
	Right Turn	170	172	101.2%	19.1	4.5	B
	Subtotal	950	940	99.0%	27.4	4.5	C
EB	Left Turn	100	99	99.4%	40.9	7.7	D
	Through	20	19	94.6%	36.2	13.3	D
	Right Turn	20	23	115.2%	24.8	5.0	C
	Subtotal	140	141	101.0%	38.2	5.1	D
WB	Left Turn	20	17	84.3%	47.1	20.3	D
	Through	40	36	89.4%	45.2	8.6	D
	Right Turn	80	80	100.6%	14.6	4.0	B
	Subtotal	140	133	95.1%	27.0	3.5	C
Total		2,630	2,567	97.6%	18.9	2.1	B

Intersection 104 **Bell Rd/I-80 WB Ramps** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	20	15	74.0%	38.4	10.8	E
	Through	970	932	96.1%	22.8	2.7	C
	Right Turn						
	Subtotal	990	947	95.6%	23.0	2.6	C
SB	Left Turn						
	Through	160	155	96.8%	0.8	0.2	A
	Right Turn	630	616	97.8%	3.4	0.3	A
	Subtotal	790	771	97.6%	2.9	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	10	8	75.7%	38.5	31.3	E
	Through	5	4	82.6%	39.6	29.1	E
	Right Turn	430	417	97.0%	15.1	5.4	C
	Subtotal	445	429	96.4%	16.0	5.4	C
Total		2,225	2,147	96.5%	14.4	1.2	B

SimTraffic Post-Processor | **Placer County Government Center**
Average Results from 10 Runs | **Existing Plus Project Conditions**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 105 **Bell Rd/I-80 EB Ramps** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	40	42	104.1%	11.3	1.8	B
	Right Turn	5	4	89.4%	3.6	3.1	A
	Subtotal	45	46	102.4%	10.7	1.9	B
SB	Left Turn	150	142	94.9%	9.0	1.2	A
	Through	20	19	94.6%	9.3	2.2	A
	Right Turn						
	Subtotal	170	161	94.9%	9.0	1.2	A
EB	Left Turn	950	919	96.8%	37.7	9.5	E
	Through	5	6	117.0%	31.9	15.4	D
	Right Turn	20	21	104.9%	28.5	14.8	D
	Subtotal	975	946	97.0%	37.5	9.5	E
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,190	1,153	96.9%	32.5	7.9	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	900	200	140	870	60	150	60	150	150	50	130
Future Volume (veh/h)	260	900	200	140	870	60	150	60	150	150	50	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	286	989	161	154	956	33	116	135	6	165	55	20
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	347	1068	475	1394	2213	986	162	170	144	228	120	100
Arrive On Green	0.03	0.10	0.10	0.40	0.62	0.62	0.09	0.09	0.09	0.06	0.06	0.06
Sat Flow, veh/h	3483	3582	1593	3483	3582	1597	1795	1885	1598	3591	1885	1567
Grp Volume(v), veh/h	286	989	161	154	956	33	116	135	6	165	55	20
Grp Sat Flow(s),veh/h/ln	1742	1791	1593	1742	1791	1597	1795	1885	1598	1795	1885	1567
Q Serve(g_s), s	10.6	35.6	12.3	3.6	18.1	1.0	8.2	9.1	0.4	5.9	3.7	1.6
Cycle Q Clear(g_c), s	10.6	35.6	12.3	3.6	18.1	1.0	8.2	9.1	0.4	5.9	3.7	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	347	1068	475	1394	2213	986	162	170	144	228	120	100
V/C Ratio(X)	0.82	0.93	0.34	0.11	0.43	0.03	0.71	0.79	0.04	0.72	0.46	0.20
Avail Cap(c_a), veh/h	589	1075	478	1394	2213	986	442	464	393	561	294	245
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.7	57.2	46.7	24.5	13.0	9.7	57.5	57.9	54.0	59.7	58.7	57.7
Incr Delay (d2), s/veh	1.2	10.3	1.2	0.0	0.6	0.1	2.2	3.1	0.0	1.6	1.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	18.6	5.3	1.5	6.9	0.4	3.8	4.5	0.2	2.7	1.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.9	67.5	47.9	24.5	13.6	9.8	59.7	61.1	54.0	61.4	59.7	58.1
LnGrp LOS	E	E	D	C	B	A	E	E	D	E	E	E
Approach Vol, veh/h		1436			1143			257			240	
Approach Delay, s/veh		64.4			14.9			60.3			60.7	
Approach LOS		E			B			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	58.0	44.7		12.0	16.5	86.3		15.2
Change Period (Y+Rc), s	6.0	* 6		3.7	3.5	6.0		3.5
Max Green Setting (Gmax), s	14.0	* 39		20.3	22.0	39.0		32.0
Max Q Clear Time (g_c+I1), s	5.6	37.6		7.9	12.6	20.1		11.1
Green Ext Time (p_c), s	0.1	1.1		0.4	0.4	10.3		0.6

Intersection Summary	
HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1110	50	100	960	150	30	20	150	310	60	90
Future Volume (veh/h)	40	1110	50	100	960	150	30	20	150	310	60	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1168	22	105	1011	77	32	21	2	326	63	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1658	739	133	1817	810	43	28	62	366	71	385
Arrive On Green	0.03	0.47	0.47	0.07	0.51	0.51	0.04	0.04	0.04	0.24	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1096	719	1585	1504	291	1585
Grp Volume(v), veh/h	42	1168	22	105	1011	77	53	0	2	389	0	38
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1816	0	1585	1795	0	1585
Q Serve(g_s), s	2.3	25.5	0.7	5.7	19.0	2.4	2.8	0.0	0.1	20.4	0.0	1.8
Cycle Q Clear(g_c), s	2.3	25.5	0.7	5.7	19.0	2.4	2.8	0.0	0.1	20.4	0.0	1.8
Prop In Lane	1.00		1.00	1.00		1.00	0.60		1.00	0.84		1.00
Lane Grp Cap(c), veh/h	53	1658	739	133	1817	810	71	0	62	437	0	385
V/C Ratio(X)	0.79	0.70	0.03	0.79	0.56	0.10	0.74	0.00	0.03	0.89	0.00	0.10
Avail Cap(c_a), veh/h	365	2916	1300	365	2916	1300	465	0	406	644	0	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.0	20.7	14.1	44.4	16.3	12.2	46.4	0.0	45.1	35.7	0.0	28.6
Incr Delay (d2), s/veh	9.0	1.0	0.0	3.9	0.5	0.1	5.6	0.0	0.1	7.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	9.3	0.2	2.5	6.6	0.8	1.4	0.0	0.0	9.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	21.6	14.1	48.3	16.7	12.3	52.0	0.0	45.1	43.5	0.0	28.7
LnGrp LOS	E	C	B	D	B	B	D	A	D	D	A	C
Approach Vol, veh/h		1232			1193			55			427	
Approach Delay, s/veh		22.7			19.2			51.7			42.2	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.3	51.5		27.8	5.9	55.8		7.9
Change Period (Y+Rc), s	3.0	6.0		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	20.0	80.0		35.0	20.0	80.0		25.0
Max Q Clear Time (g_c+I1), s	7.7	27.5		22.4	4.3	21.0		4.8
Green Ext Time (p_c), s	0.1	18.0		1.3	0.0	15.4		0.1

Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	60	50	130	150	5	70	0	80	0	5	0
Future Vol, veh/h	0	60	50	130	150	5	70	0	80	0	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	90	-	-	-	-	-	60	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	78	65	169	195	6	91	0	104	0	6	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	201	0	0	78	0	0	617	617	78	614	614	198
Stage 1	-	-	-	-	-	-	78	78	-	536	536	-
Stage 2	-	-	-	-	-	-	539	539	-	78	78	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1377	-	-	1527	-	-	404	407	985	405	408	846
Stage 1	-	-	-	-	-	-	933	832	-	530	525	-
Stage 2	-	-	-	-	-	-	528	523	-	933	832	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1377	-	-	1527	-	-	360	356	985	328	357	846
Mov Cap-2 Maneuver	-	-	-	-	-	-	360	356	-	328	357	-
Stage 1	-	-	-	-	-	-	933	832	-	530	459	-
Stage 2	-	-	-	-	-	-	455	458	-	835	832	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.5	13.4	15.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	360	985	1377	-	-	1527	-	-	357
HCM Lane V/C Ratio	0.253	0.105	-	-	-	0.111	-	-	0.018
HCM Control Delay (s)	18.3	9.1	0	-	-	7.7	0	-	15.3
HCM Lane LOS	C	A	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	1	0.4	0	-	-	0.4	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	10	40	110	20	290	30	1780	140	350	2080	30
Future Volume (veh/h)	40	10	40	110	20	290	30	1780	140	350	2080	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	41	10	1	128	0	122	31	1835	99	361	2144	30
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	76	19	83	253	0	829	56	1421	435	1564	3698	52
Arrive On Green	0.05	0.05	0.05	0.07	0.00	0.07	0.03	0.28	0.28	0.90	1.00	1.00
Sat Flow, veh/h	1457	355	1598	3591	0	1584	1795	5147	1574	3483	5230	73
Grp Volume(v), veh/h	51	0	1	128	0	122	31	1835	99	361	1406	768
Grp Sat Flow(s),veh/h/ln	1812	0	1598	1795	0	1584	1795	1716	1574	1742	1716	1872
Q Serve(g_s), s	3.6	0.0	0.1	4.5	0.0	0.0	2.2	35.9	6.3	1.7	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.1	4.5	0.0	0.0	2.2	35.9	6.3	1.7	0.0	0.0
Prop In Lane	0.80		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	94	0	83	253	0	829	56	1421	435	1564	2426	1324
V/C Ratio(X)	0.54	0.00	0.01	0.51	0.00	0.15	0.56	1.29	0.23	0.23	0.58	0.58
Avail Cap(c_a), veh/h	223	0	197	1105	0	1205	276	1421	435	1564	2426	1324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.57	0.57	0.57
Uniform Delay (d), s/veh	60.1	0.0	58.4	58.2	0.0	16.3	62.1	47.1	36.3	3.7	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.6	0.0	0.0	3.2	136.4	1.2	0.0	0.6	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	1.7	0.0	0.0	2.1	0.0	1.9	1.0	32.7	2.5	0.6	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.9	0.0	58.5	58.8	0.0	16.3	65.3	183.5	37.6	3.8	0.6	1.1
LnGrp LOS	E	A	E	E	A	B	E	F	D	A	A	A
Approach Vol, veh/h		52			250			1965			2535	
Approach Delay, s/veh		61.8			38.1			174.2			1.2	
Approach LOS		E			D			F			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	64.2	41.7		10.9	8.1	97.7		13.3
Change Period (Y+Rc), s	5.8	* 5.8		4.1	4.1	5.8		4.1
Max Green Setting (Gmax), s	20.0	* 36		16.0	20.0	35.9		40.0
Max Q Clear Time (g_c+I1), s	3.7	37.9		5.6	4.2	2.0		6.5
Green Ext Time (p_c), s	0.2	0.0		0.0	0.0	6.1		0.2

Intersection Summary	
HCM 6th Ctrl Delay	74.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

SimTraffic Post-Processor | **Placer County Government Center**
Average Results from 10 Runs | **Existing Plus Project Conditions**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 103 **Bell Rd/Bowman Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	20	15	77.4%	39.4	13.8	D
	Through	1,120	998	89.1%	11.5	1.2	B
	Right Turn	20	17	84.3%	8.9	6.8	A
	Subtotal	1,160	1,031	88.8%	11.8	1.2	B
SB	Left Turn	90	79	87.9%	48.8	7.1	D
	Through	1,260	1,093	86.8%	29.8	3.8	C
	Right Turn	220	207	94.3%	20.6	3.6	C
	Subtotal	1,570	1,380	87.9%	29.5	3.5	C
EB	Left Turn	175	149	85.1%	37.4	7.5	D
	Through	40	29	72.2%	35.8	11.4	D
	Right Turn	30	26	86.0%	30.5	12.2	C
	Subtotal	245	204	83.1%	36.0	6.4	D
WB	Left Turn	30	22	73.4%	43.5	8.9	D
	Through	40	36	91.2%	45.5	7.3	D
	Right Turn	50	45	90.1%	9.3	1.0	A
	Subtotal	120	104	86.3%	29.7	3.6	C
Total		3,095	2,718	87.8%	23.3	1.9	C

Intersection 104 **Bell Rd/I-80 WB Ramps** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	20	12	61.9%	32.1	15.5	D
	Through	920	794	86.3%	12.3	2.3	B
	Right Turn						
	Subtotal	940	807	85.8%	12.6	2.3	B
SB	Left Turn						
	Through	500	430	85.9%	3.0	3.1	A
	Right Turn	820	709	86.5%	3.7	0.2	A
	Subtotal	1,320	1,139	86.3%	3.5	1.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	10	11	106.6%	46.5	15.1	E
	Through						
	Right Turn	240	228	95.2%	7.3	1.7	A
	Subtotal	250	239	95.6%	9.0	2.1	A
Total		2,510	2,185	87.0%	7.5	0.7	A

SimTraffic Post-Processor | **Placer County Government Center**
Average Results from 10 Runs | **Existing Plus Project Conditions**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 105 **Bell Rd/I-80 EB Ramps** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	50	43	86.0%	11.5	2.0	B
	Right Turn	10	8	82.6%	5.3	2.2	A
	Subtotal	60	51	85.4%	10.4	1.7	B
SB	Left Turn	450	377	83.9%	44.7	16.9	E
	Through	60	52	86.0%	44.0	18.6	E
	Right Turn						
	Subtotal	510	429	84.1%	44.7	17.0	E
EB	Left Turn	890	768	86.3%	31.0	9.5	D
	Through						
	Right Turn	40	40	98.9%	17.4	8.3	C
	Subtotal	930	807	86.8%	30.4	9.3	D
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,500	1,288	85.8%	34.5	7.9	D

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	104. Bell Rd / I-80 WB Ramps
Scenario	Existing Plus Project Conditions

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Yield*	*Free*			*Free*	*Free*				*Stop*	*Stop*	*Stop*
AM Peak Hour Volume	20	970			160	630				10	5	430
AM Peak Hour Delay (s)	38.4	22.8			0.8	3.4				38.5	39.6	15.1
PM Peak Hour Volume	20	920			500	820				10	0	240
PM Peak Hour Delay (s)	32.1	12.3			3	3.7				46.5	0	7.3

AM Delay	**16.9**
AM LOS	**C**

PM Delay	**10.6**
PM LOS	**B**

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	106. Atwood Rd / Mt Vernon Rd
Scenario	Existing Plus Project Conditions

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Yield*	*Free*	*Yield*	*Yield*	*Free*	*Free*
AM Peak Hour Volume	50	0	120	5	0	0	0	130	80	60	70	0
AM Peak Hour Delay (s)	12.3	0	9.8	12.9	0	0	0	0	0	7.7	0	0
PM Peak Hour Volume	70	0	80	0	5	0	0	60	50	130	150	5
PM Peak Hour Delay (s)	18.3	0	9.1	0	15.3	0	0	0	0	7.7	0	0

AM Delay	**7.4**
AM LOS	**A**

PM Delay	**9.2**
PM LOS	**A**

Appendix C
Cumulative No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	940	30	70	1160	150	80	30	50	200	70	140
Future Volume (veh/h)	100	940	30	70	1160	150	80	30	50	200	70	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		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	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	108	1011	16	75	1247	131	59	70	1	216	73	35
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	160	1049	466	1377	2368	1055	118	124	104	280	147	123
Arrive On Green	0.02	0.10	0.10	0.40	0.68	0.68	0.07	0.07	0.07	0.08	0.08	0.08
Sat Flow, veh/h	3401	3497	1554	3401	3497	1558	1753	1841	1546	3506	1841	1542
Grp Volume(v), veh/h	108	1011	16	75	1247	131	59	70	1	216	73	35
Grp Sat Flow(s),veh/h/ln	1700	1749	1554	1700	1749	1558	1753	1841	1546	1753	1841	1542
Q Serve(g_s), s	4.1	37.4	1.2	1.7	23.3	3.9	4.2	4.8	0.1	7.9	4.9	2.8
Cycle Q Clear(g_c), s	4.1	37.4	1.2	1.7	23.3	3.9	4.2	4.8	0.1	7.9	4.9	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	1049	466	1377	2368	1055	118	124	104	280	147	123
V/C Ratio(X)	0.68	0.96	0.03	0.05	0.53	0.12	0.50	0.56	0.01	0.77	0.50	0.28
Avail Cap(c_a), veh/h	576	1049	466	1377	2368	1055	432	453	381	547	287	241
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	57.9	41.5	23.5	10.5	7.4	58.5	58.8	56.6	58.6	57.3	56.3
Incr Delay (d2), s/veh	1.1	14.5	0.1	0.0	0.8	0.2	1.2	1.5	0.0	1.7	1.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	19.6	0.5	0.7	8.1	1.2	1.9	2.3	0.0	3.6	2.3	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.1	72.3	41.6	23.5	11.4	7.6	59.7	60.3	56.6	60.3	58.2	56.8
LnGrp LOS	E	E	D	C	B	A	E	E	E	E	E	E
Approach Vol, veh/h		1135			1453			130			324	
Approach Delay, s/veh		71.1			11.7			60.0			59.5	
Approach LOS		E			B			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	58.6	45.0		14.1	9.6	94.0		12.3
Change Period (Y+Rc), s	6.0	* 6		3.7	3.5	6.0		3.5
Max Green Setting (Gmax), s	14.0	* 39		20.3	22.0	39.0		32.0
Max Q Clear Time (g_c+I1), s	3.7	39.4		9.9	6.1	25.3		6.8
Green Ext Time (p_c), s	0.1	0.0		0.5	0.1	10.5		0.3

Intersection Summary	
HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	1020	30	150	1400	370	40	50	100	190	40	30
Future Volume (veh/h)	80	1020	30	150	1400	370	40	50	100	190	40	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	94	1200	14	176	1647	299	47	59	0	224	47	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	117	1809	806	201	1977	864	59	74	115	250	53	267
Arrive On Green	0.07	0.51	0.51	0.11	0.56	0.56	0.07	0.07	0.00	0.17	0.17	0.17
Sat Flow, veh/h	1767	3526	1571	1767	3526	1540	805	1010	1572	1473	309	1572
Grp Volume(v), veh/h	94	1200	14	176	1647	299	106	0	0	271	0	1
Grp Sat Flow(s),veh/h/ln	1767	1763	1571	1767	1763	1540	1815	0	1572	1782	0	1572
Q Serve(g_s), s	6.9	33.2	0.6	13.0	50.9	14.0	7.6	0.0	0.0	19.7	0.0	0.1
Cycle Q Clear(g_c), s	6.9	33.2	0.6	13.0	50.9	14.0	7.6	0.0	0.0	19.7	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	0.44		1.00	0.83		1.00
Lane Grp Cap(c), veh/h	117	1809	806	201	1977	864	133	0	115	303	0	267
V/C Ratio(X)	0.81	0.66	0.02	0.88	0.83	0.35	0.80	0.00	0.00	0.89	0.00	0.00
Avail Cap(c_a), veh/h	267	2134	951	267	2134	932	343	0	297	472	0	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	60.9	23.8	15.8	57.6	23.9	15.8	60.3	0.0	0.0	53.7	0.0	45.5
Incr Delay (d2), s/veh	4.9	0.9	0.0	17.8	3.1	0.4	4.1	0.0	0.0	9.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	12.8	0.2	6.6	19.6	4.6	3.7	0.0	0.0	9.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	24.6	15.8	75.4	27.0	16.2	64.4	0.0	0.0	62.8	0.0	45.5
LnGrp LOS	E	C	B	E	C	B	E	A	A	E	A	D
Approach Vol, veh/h		1308			2122			106			272	
Approach Delay, s/veh		27.5			29.5			64.4			62.8	
Approach LOS		C			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.0	73.8		26.6	11.7	80.1		13.8
Change Period (Y+Rc), s	3.0	6.0		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	20.0	80.0		35.0	20.0	80.0		25.0
Max Q Clear Time (g_c+I1), s	15.0	35.2		21.7	8.9	52.9		9.6
Green Ext Time (p_c), s	0.1	17.7		0.8	0.1	21.2		0.3

Intersection Summary	
HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	30	20	20	70	150	40	1640	20	30	960	210
Future Volume (veh/h)	270	30	20	20	70	150	40	1640	20	30	960	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	332	0	0	22	76	9	43	1783	22	33	1043	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	437	229	0	29	99	108	54	1989	25	44	2064	919
Arrive On Green	0.12	0.00	0.00	0.07	0.07	0.07	0.03	0.56	0.56	0.02	0.59	0.59
Sat Flow, veh/h	3534	1856	0	412	1423	1549	1767	3565	44	1767	3526	1570
Grp Volume(v), veh/h	332	0	0	98	0	9	43	880	925	33	1043	120
Grp Sat Flow(s),veh/h/ln	1767	1856	0	1835	0	1549	1767	1763	1847	1767	1763	1570
Q Serve(g_s), s	8.2	0.0	0.0	4.7	0.0	0.5	2.2	39.8	40.0	1.7	15.7	3.1
Cycle Q Clear(g_c), s	8.2	0.0	0.0	4.7	0.0	0.5	2.2	39.8	40.0	1.7	15.7	3.1
Prop In Lane	1.00		0.00	0.22		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	437	229	0	128	0	108	54	983	1030	44	2064	919
V/C Ratio(X)	0.76	0.00	0.00	0.77	0.00	0.08	0.79	0.89	0.90	0.75	0.51	0.13
Avail Cap(c_a), veh/h	1062	557	0	148	0	125	139	1110	1162	129	2200	980
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	0.0	0.0	41.2	0.0	39.3	43.5	17.6	17.7	43.7	11.0	8.4
Incr Delay (d2), s/veh	1.0	0.0	0.0	15.1	0.0	0.1	9.4	8.6	8.5	9.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	2.6	0.0	0.2	1.0	14.8	15.5	0.8	4.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	0.0	0.0	56.4	0.0	39.4	52.8	26.2	26.2	52.7	11.2	8.4
LnGrp LOS	D	A	A	E	A	D	D	C	C	D	B	A
Approach Vol, veh/h		332			107			1848			1196	
Approach Delay, s/veh		39.3			55.0			26.8			12.0	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.3	56.3		10.4	5.8	58.8		15.3
Change Period (Y+Rc), s	6.0	* 6		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	6.6	* 57		7.3	7.1	56.3		27.1
Max Q Clear Time (g_c+I1), s	3.7	42.0		6.7	4.2	17.7		10.2
Green Ext Time (p_c), s	0.0	8.3		0.0	0.0	6.3		0.5

Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	5	470	30	1230	0	0	210	790
Future Volume (veh/h)	0	0	0	10	5	470	30	1230	0	0	210	790
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				0	0	311	33	1337	0	0	228	568
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				0	235	399	60	1436	0	0	1281	1086
Arrive On Green				0.00	0.00	0.13	0.03	0.77	0.00	0.00	0.69	0.69
Sat Flow, veh/h				0	1856	3145	1767	1856	0	0	1856	1572
Grp Volume(v), veh/h				0	0	311	33	1337	0	0	228	568
Grp Sat Flow(s),veh/h/ln				0	1856	1572	1767	1856	0	0	1856	1572
Q Serve(g_s), s				0.0	0.0	6.8	1.3	41.1	0.0	0.0	3.1	12.3
Cycle Q Clear(g_c), s				0.0	0.0	6.8	1.3	41.1	0.0	0.0	3.1	12.3
Prop In Lane				0.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				0	235	399	60	1436	0	0	1281	1086
V/C Ratio(X)				0.00	0.00	0.78	0.55	0.93	0.00	0.00	0.18	0.52
Avail Cap(c_a), veh/h				0	303	513	150	1881	0	0	1631	1382
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	0.0	29.8	33.5	6.4	0.0	0.0	3.8	5.3
Incr Delay (d2), s/veh				0.0	0.0	4.2	3.0	6.5	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	2.6	0.6	10.0	0.0	0.0	0.8	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	0.0	34.1	36.5	13.0	0.0	0.0	3.9	5.4
LnGrp LOS				A	A	C	D	B	A	A	A	A
Approach Vol, veh/h					311			1370			796	
Approach Delay, s/veh					34.1			13.5			5.0	
Approach LOS					C			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	58.1		5.9	52.2		12.4
Change Period (Y+Rc), s	3.5		3.5	3.5		3.5
Max Green Setting (Gmax), s	71.5		6.0	62.0		11.5
Max Q Clear Time (g_c+I1), s	43.1		3.3	14.3		8.8
Green Ext Time (p_c), s	11.5		0.0	2.0		0.2

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	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1200	5	20	0	0	0	0	60	5	200	20	0
Future Volume (veh/h)	1200	5	20	0	0	0	0	60	5	200	20	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	1326	0	0				0	65	2	217	22	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	1770	929	0				0	374	12	0	388	0
Arrive On Green	0.50	0.00	0.00				0.00	0.21	0.21	0.00	0.21	0.00
Sat Flow, veh/h	3534	1856	0				0	1789	55	0	1856	0
Grp Volume(v), veh/h	1326	0	0				0	0	67	0	22	0
Grp Sat Flow(s),veh/h/ln	1767	1856	0				0	0	1844	0	1856	0
Q Serve(g_s), s	7.2	0.0	0.0				0.0	0.0	0.7	0.0	0.2	0.0
Cycle Q Clear(g_c), s	7.2	0.0	0.0				0.0	0.0	0.7	0.0	0.2	0.0
Prop In Lane	1.00		0.00				0.00		0.03	0.00		0.00
Lane Grp Cap(c), veh/h	1770	929	0				0	0	386	0	388	0
V/C Ratio(X)	0.75	0.00	0.00				0.00	0.00	0.17	0.00	0.06	0.00
Avail Cap(c_a), veh/h	4322	2269	0				0	0	1452	0	2192	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	0.00				0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	4.8	0.0	0.0				0.0	0.0	7.8	0.0	7.6	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0				0.0	0.0	0.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0				0.0	0.0	0.2	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.1	0.0	0.0				0.0	0.0	7.9	0.0	7.7	0.0
LnGrp LOS	A	A	A				A	A	A	A	A	A
Approach Vol, veh/h		1326						67			22	
Approach Delay, s/veh		5.1						7.9			7.7	
Approach LOS		A						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	0.0	8.5		15.6		8.5
Change Period (Y+Rc), s	3.5	3.5		3.5		3.5
Max Green Setting (Gmax), s	6.0	19.0		29.5		28.5
Max Q Clear Time (g_c+I1), s	0.0	2.7		9.2		2.2
Green Ext Time (p_c), s	0.0	0.1		2.9		0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	120	100	100	70	0	50	0	150	5	0	0
Future Vol, veh/h	0	120	100	100	70	0	50	0	150	5	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	90	-	-	-	-	-	60	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	145	120	120	84	0	60	0	181	6	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	84	0	0	145	0	0	469	469	145	469	469	84
Stage 1	-	-	-	-	-	-	145	145	-	324	324	-
Stage 2	-	-	-	-	-	-	324	324	-	145	145	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1519	-	-	1443	-	-	506	494	905	506	494	978
Stage 1	-	-	-	-	-	-	860	779	-	690	651	-
Stage 2	-	-	-	-	-	-	690	651	-	860	779	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1519	-	-	1443	-	-	472	451	905	378	451	978
Mov Cap-2 Maneuver	-	-	-	-	-	-	472	451	-	378	451	-
Stage 1	-	-	-	-	-	-	860	779	-	690	594	-
Stage 2	-	-	-	-	-	-	630	594	-	688	779	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.5	10.9	14.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	472	905	1519	-	-	1443	-	-	378
HCM Lane V/C Ratio	0.128	0.2	-	-	-	0.083	-	-	0.016
HCM Control Delay (s)	13.7	10	0	-	-	7.7	0	-	14.7
HCM Lane LOS	B	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.7	0	-	-	0.3	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	5	20	150	20	390	30	1760	80	220	1590	20
Future Volume (veh/h)	20	5	20	150	20	390	30	1760	80	220	1590	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		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	22	5	0	179	0	200	33	1913	41	239	1728	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	55	13	60	266	0	831	56	1388	425	1555	3654	47
Arrive On Green	0.04	0.04	0.00	0.08	0.00	0.08	0.03	0.28	0.28	0.91	1.00	1.00
Sat Flow, veh/h	1441	328	1560	3506	0	1548	1753	5025	1538	3401	5114	65
Grp Volume(v), veh/h	27	0	0	179	0	200	33	1913	41	239	1132	618
Grp Sat Flow(s),veh/h/ln	1769	0	1560	1753	0	1548	1753	1675	1538	1700	1675	1829
Q Serve(g_s), s	1.9	0.0	0.0	6.5	0.0	0.0	2.4	35.9	2.6	0.9	0.0	0.0
Cycle Q Clear(g_c), s	1.9	0.0	0.0	6.5	0.0	0.0	2.4	35.9	2.6	0.9	0.0	0.0
Prop In Lane	0.81		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	68	0	60	266	0	831	56	1388	425	1555	2394	1307
V/C Ratio(X)	0.40	0.00	0.00	0.67	0.00	0.24	0.59	1.38	0.10	0.15	0.47	0.47
Avail Cap(c_a), veh/h	218	0	192	1079	0	1190	270	1388	425	1555	2394	1307
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	61.0	0.0	0.0	58.5	0.0	16.2	62.1	47.0	35.0	3.0	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	1.1	0.0	0.1	3.5	174.9	0.5	0.0	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.9	0.0	3.3	1.1	36.9	1.0	0.3	0.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.4	0.0	0.0	59.6	0.0	16.3	65.6	222.0	35.4	3.1	0.5	0.9
LnGrp LOS	E	A	A	E	A	B	E	F	D	A	A	A
Approach Vol, veh/h		27			379			1987			1989	
Approach Delay, s/veh		62.4			36.8			215.5			0.9	
Approach LOS		E			D			F			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	65.3	41.7		9.1	8.3	98.7		14.0
Change Period (Y+Rc), s	5.8	* 5.8		4.1	4.1	5.8		4.1
Max Green Setting (Gmax), s	20.0	* 36		16.0	20.0	35.9		40.0
Max Q Clear Time (g_c+I1), s	2.9	37.9		3.9	4.4	2.0		8.5
Green Ext Time (p_c), s	0.1	0.0		0.0	0.0	4.3		0.3

Intersection Summary	
HCM 6th Ctrl Delay	101.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	1190	60	140	1130	230	150	190	150	340	110	360
Future Volume (veh/h)	370	1190	60	140	1130	230	150	190	150	340	110	360
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	407	1308	20	154	1242	176	165	209	13	389	168	90
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	469	1075	478	1023	1714	764	235	247	209	458	240	202
Arrive On Green	0.04	0.10	0.10	0.29	0.48	0.48	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	3483	3582	1593	3483	3582	1597	1795	1885	1598	3591	1885	1583
Grp Volume(v), veh/h	407	1308	20	154	1242	176	165	209	13	389	168	90
Grp Sat Flow(s),veh/h/ln	1742	1791	1593	1742	1791	1597	1795	1885	1598	1795	1885	1583
Q Serve(g_s), s	15.1	39.0	1.5	4.2	36.0	8.4	11.4	14.1	0.9	13.8	11.1	6.8
Cycle Q Clear(g_c), s	15.1	39.0	1.5	4.2	36.0	8.4	11.4	14.1	0.9	13.8	11.1	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	469	1075	478	1023	1714	764	235	247	209	458	240	202
V/C Ratio(X)	0.87	1.22	0.04	0.15	0.72	0.23	0.70	0.85	0.06	0.85	0.70	0.45
Avail Cap(c_a), veh/h	589	1075	478	1023	1714	764	442	464	393	561	294	247
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.22	0.22	0.22	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.0	58.6	41.7	33.9	27.1	19.9	54.0	55.2	49.5	55.5	54.3	52.5
Incr Delay (d2), s/veh	2.3	99.8	0.0	0.0	2.7	0.7	1.4	3.1	0.0	8.6	3.6	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	7.2	33.6	0.6	1.8	15.2	3.2	5.3	7.0	0.4	6.8	5.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	158.4	41.7	34.0	29.8	20.6	55.5	58.3	49.5	64.1	57.9	53.0
LnGrp LOS	E	F	D	C	C	C	E	E	D	E	E	D
Approach Vol, veh/h		1735			1572			387			647	
Approach Delay, s/veh		134.7			29.2			56.8			60.9	
Approach LOS		F			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	44.2	45.0		20.3	21.0	68.2		20.5
Change Period (Y+Rc), s	6.0	* 6		3.7	3.5	6.0		3.5
Max Green Setting (Gmax), s	14.0	* 39		20.3	22.0	39.0		32.0
Max Q Clear Time (g_c+I1), s	6.2	41.0		15.8	17.1	38.0		16.1
Green Ext Time (p_c), s	0.1	0.0		0.8	0.4	0.9		1.0

Intersection Summary	
HCM 6th Ctrl Delay	78.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1680	60	130	1300	170	30	40	210	390	90	120
Future Volume (veh/h)	50	1680	60	130	1300	170	30	40	210	390	90	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	1768	37	137	1368	121	32	42	43	411	95	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	1839	820	159	2020	901	43	56	86	332	77	361
Arrive On Green	0.04	0.52	0.52	0.09	0.57	0.57	0.05	0.05	0.05	0.23	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	792	1039	1585	1460	337	1585
Grp Volume(v), veh/h	53	1768	37	137	1368	121	74	0	43	506	0	63
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1831	0	1585	1797	0	1585
Q Serve(g_s), s	4.5	73.5	1.8	11.7	41.6	5.5	6.1	0.0	4.1	35.0	0.0	4.9
Cycle Q Clear(g_c), s	4.5	73.5	1.8	11.7	41.6	5.5	6.1	0.0	4.1	35.0	0.0	4.9
Prop In Lane	1.00		1.00	1.00		1.00	0.43		1.00	0.81		1.00
Lane Grp Cap(c), veh/h	68	1839	820	159	2020	901	99	0	86	409	0	361
V/C Ratio(X)	0.78	0.96	0.05	0.86	0.68	0.13	0.75	0.00	0.50	1.24	0.00	0.17
Avail Cap(c_a), veh/h	232	1848	824	232	2020	901	297	0	258	409	0	361
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.3	35.6	18.3	69.2	23.3	15.5	71.7	0.0	70.8	59.4	0.0	47.8
Incr Delay (d2), s/veh	6.9	13.1	0.0	14.4	1.1	0.1	4.2	0.0	1.7	126.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	32.6	0.6	5.8	16.4	1.9	3.0	0.0	1.7	30.2	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.3	48.7	18.4	83.6	24.4	15.6	75.9	0.0	72.4	185.8	0.0	47.9
LnGrp LOS	F	D	B	F	C	B	E	A	E	F	A	D
Approach Vol, veh/h		1858			1626			117			569	
Approach Delay, s/veh		49.0			28.7			74.6			170.6	
Approach LOS		D			C			E			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.7	85.6		39.1	8.9	93.5		12.4
Change Period (Y+Rc), s	3.0	6.0		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	20.0	80.0		35.0	20.0	80.0		25.0
Max Q Clear Time (g_c+I1), s	13.7	75.5		37.0	6.5	43.6		8.1
Green Ext Time (p_c), s	0.1	4.1		0.0	0.0	20.4		0.2

Intersection Summary	
HCM 6th Ctrl Delay	58.4
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	90	40	110	80	80	20	1450	20	150	1740	380
Future Volume (veh/h)	340	90	40	110	80	80	20	1450	20	150	1740	380
Initial Q (Qb), veh	0	0	0	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	239	249	35	113	82	8	21	1495	20	155	1794	249
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	282	40	124	90	186	15	1633	22	164	2004	894
Arrive On Green	0.18	0.18	0.18	0.12	0.12	0.12	0.01	0.46	0.44	0.09	0.56	0.56
Sat Flow, veh/h	1781	1604	225	1053	764	1585	1781	3589	48	1781	3554	1585
Grp Volume(v), veh/h	239	0	284	195	0	8	21	739	776	155	1794	249
Grp Sat Flow(s),veh/h/ln	1781	0	1830	1818	0	1585	1781	1777	1861	1781	1777	1585
Q Serve(g_s), s	15.2	0.0	18.1	12.7	0.0	0.5	1.0	46.3	46.5	10.3	53.0	9.7
Cycle Q Clear(g_c), s	15.2	0.0	18.1	12.7	0.0	0.5	1.0	46.3	46.5	10.3	53.0	9.7
Prop In Lane	1.00		0.12	0.58		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	314	0	322	213	0	186	15	809	847	164	2004	894
V/C Ratio(X)	0.76	0.00	0.88	0.91	0.00	0.04	1.40	0.91	0.92	0.94	0.90	0.28
Avail Cap(c_a), veh/h	405	0	416	213	0	186	60	848	888	164	2004	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	47.9	52.0	0.0	46.7	59.1	30.3	30.4	53.8	22.9	13.4
Incr Delay (d2), s/veh	4.4	0.0	13.8	38.0	0.0	0.0	208.5	13.8	13.5	53.1	5.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	9.3	7.9	0.0	0.2	1.3	20.9	21.8	6.8	20.5	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	0.0	61.7	90.1	0.0	46.7	267.6	44.1	43.9	106.9	28.5	13.6
LnGrp LOS	D	A	E	F	A	D	F	D	D	F	C	B
Approach Vol, veh/h		523			203			1536			2198	
Approach Delay, s/veh		56.9			88.4			47.0			32.4	
Approach LOS		E			F			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.0	58.3		18.0	5.0	71.3		25.0
Change Period (Y+Rc), s	6.0	* 6		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	12.0	* 55		13.9	5.0	61.9		27.0
Max Q Clear Time (g_c+I1), s	12.3	48.5		14.7	3.0	55.0		20.1
Green Ext Time (p_c), s	0.0	3.8		0.0	0.0	5.2		0.8

Intersection Summary	
HCM 6th Ctrl Delay	42.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	20	0	320	20	1170	0	0	590	1300
Future Volume (veh/h)	0	0	0	20	0	320	20	1170	0	0	590	1300
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				0	0	161	21	1206	0	0	608	0
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				0	160	272	26	1374	0	0	1179	
Arrive On Green				0.00	0.00	0.09	0.01	0.73	0.00	0.00	0.63	0.00
Sat Flow, veh/h				0	1870	3170	1781	1870	0	0	1870	1585
Grp Volume(v), veh/h				0	0	161	21	1206	0	0	608	0
Grp Sat Flow(s),veh/h/ln				0	1870	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				0.0	0.0	2.2	0.5	21.5	0.0	0.0	7.9	0.0
Cycle Q Clear(g_c), s				0.0	0.0	2.2	0.5	21.5	0.0	0.0	7.9	0.0
Prop In Lane				0.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				0	160	272	26	1374	0	0	1179	
V/C Ratio(X)				0.00	0.00	0.59	0.82	0.88	0.00	0.00	0.52	
Avail Cap(c_a), veh/h				0	776	1316	220	2665	0	0	2266	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				0.0	0.0	19.6	21.9	4.4	0.0	0.0	4.5	0.0
Incr Delay (d2), s/veh				0.0	0.0	0.8	19.9	0.7	0.0	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				0.0	0.0	0.7	0.3	1.7	0.0	0.0	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	0.0	20.4	41.8	5.2	0.0	0.0	4.6	0.0
LnGrp LOS				A	A	C	D	A	A	A	A	
Approach Vol, veh/h					161			1227			608	A
Approach Delay, s/veh					20.4			5.8			4.6	
Approach LOS					C			A			A	

Timer - Assigned Phs	2	5	6	8
Phs Duration (G+Y+Rc), s	36.7	4.6	32.1	7.8
Change Period (Y+Rc), s	3.5	3.5	3.5	3.5
Max Green Setting (Gmax), s	64.0	6.0	54.5	19.0
Max Q Clear Time (g_c+I1), s	23.5	2.5	9.9	4.2
Green Ext Time (p_c), s	9.8	0.0	2.9	0.3

Intersection Summary	
HCM 6th Ctrl Delay	6.6
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1130	0	50	0	0	0	0	60	5	540	70	0
Future Volume (veh/h)	1130	0	50	0	0	0	0	60	5	540	70	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	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	1165	0	0				0	62	3	557	72	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1556	817	0				0	358	17	0	379	0
Arrive On Green	0.44	0.00	0.00				0.00	0.20	0.23	0.00	0.20	0.00
Sat Flow, veh/h	3563	1870	0				0	1767	86	0	1870	0
Grp Volume(v), veh/h	1165	0	0				0	0	65	0	72	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0				0	0	1853	0	1870	0
Q Serve(g_s), s	6.1	0.0	0.0				0.0	0.0	0.6	0.0	0.7	0.0
Cycle Q Clear(g_c), s	6.1	0.0	0.0				0.0	0.0	0.6	0.0	0.7	0.0
Prop In Lane	1.00		0.00				0.00		0.05	0.00		0.00
Lane Grp Cap(c), veh/h	1556	817	0				0	0	376	0	379	0
V/C Ratio(X)	0.75	0.00	0.00				0.00	0.00	0.17	0.00	0.19	0.00
Avail Cap(c_a), veh/h	3049	1601	0				0	0	1544	0	2359	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	0.00				0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	5.2	0.0	0.0				0.0	0.0	7.3	0.0	7.3	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0				0.0	0.0	0.1	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	0.1	0.0	0.0				0.0	0.0	0.1	0.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.5	0.0	0.0				0.0	0.0	7.4	0.0	7.4	0.0
LnGrp LOS	A	A	A				A	A	A	A	A	A
Approach Vol, veh/h		1165						65			72	
Approach Delay, s/veh		5.5						7.4			7.4	
Approach LOS		A						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	0.0	8.5		13.7		8.5
Change Period (Y+Rc), s	3.5	3.5		3.5		3.5
Max Green Setting (Gmax), s	6.0	19.0		19.5		28.5
Max Q Clear Time (g_c+I1), s	0.0	2.6		8.1		2.7
Green Ext Time (p_c), s	0.0	0.1		2.1		0.2

Intersection Summary	
HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	70	60	140	130	5	160	0	130	0	5	0
Future Vol, veh/h	0	70	60	140	130	5	160	0	130	0	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	90	-	-	-	-	-	60	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	91	78	182	169	6	208	0	169	0	6	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	175	0	0	91	0	0	630	630	91	627	627	172
Stage 1	-	-	-	-	-	-	91	91	-	536	536	-
Stage 2	-	-	-	-	-	-	539	539	-	91	91	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1407	-	-	1510	-	-	396	400	969	397	401	874
Stage 1	-	-	-	-	-	-	919	821	-	530	525	-
Stage 2	-	-	-	-	-	-	528	523	-	919	821	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1407	-	-	1510	-	-	350	346	969	294	347	874
Mov Cap-2 Maneuver	-	-	-	-	-	-	350	346	-	294	347	-
Stage 1	-	-	-	-	-	-	919	821	-	530	455	-
Stage 2	-	-	-	-	-	-	451	453	-	759	821	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.9	20.4	15.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	350	969	1407	-	-	1510	-	-	347
HCM Lane V/C Ratio	0.594	0.174	-	-	-	0.12	-	-	0.019
HCM Control Delay (s)	29.2	9.5	0	-	-	7.7	0	-	15.6
HCM Lane LOS	D	A	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	3.6	0.6	0	-	-	0.4	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	20	40	190	30	440	40	1850	160	550	2010	50
Future Volume (veh/h)	50	20	40	190	30	440	40	1850	160	550	2010	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	52	21	2	218	0	299	41	1907	119	567	2072	51
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	74	30	92	307	0	820	64	1421	435	1493	3524	87
Arrive On Green	0.06	0.06	0.06	0.09	0.00	0.09	0.04	0.28	0.28	0.86	1.00	1.00
Sat Flow, veh/h	1297	524	1598	3591	0	1586	1795	5147	1574	3483	5166	127
Grp Volume(v), veh/h	73	0	2	218	0	299	41	1907	119	567	1375	748
Grp Sat Flow(s),veh/h/ln	1820	0	1598	1795	0	1586	1795	1716	1574	1742	1716	1862
Q Serve(g_s), s	5.1	0.0	0.2	7.7	0.0	0.0	2.9	35.9	7.7	4.5	0.0	0.0
Cycle Q Clear(g_c), s	5.1	0.0	0.2	7.7	0.0	0.0	2.9	35.9	7.7	4.5	0.0	0.0
Prop In Lane	0.71		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	105	0	92	307	0	820	64	1421	435	1493	2340	1270
V/C Ratio(X)	0.70	0.00	0.02	0.71	0.00	0.36	0.64	1.34	0.27	0.38	0.59	0.59
Avail Cap(c_a), veh/h	224	0	197	1105	0	1173	276	1421	435	1493	2340	1270
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.35	0.35	0.35
Uniform Delay (d), s/veh	60.2	0.0	57.8	57.9	0.0	18.9	61.9	47.1	36.8	5.6	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	0.0	1.1	0.0	0.1	3.9	158.6	1.6	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.1	3.6	0.0	5.5	1.4	35.7	3.1	1.3	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	0.0	57.9	59.0	0.0	19.0	65.8	205.7	38.4	5.7	0.4	0.7
LnGrp LOS	E	A	E	E	A	B	E	F	D	A	A	A
Approach Vol, veh/h		75			517			2067			2690	
Approach Delay, s/veh		63.1			35.9			193.3			1.6	
Approach LOS		E			D			F			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	61.5	41.7		11.6	8.7	94.5		15.2
Change Period (Y+Rc), s	5.8	* 5.8		4.1	4.1	5.8		4.1
Max Green Setting (Gmax), s	20.0	* 36		16.0	20.0	35.9		40.0
Max Q Clear Time (g_c+I1), s	6.5	37.9		7.1	4.9	2.0		9.7
Green Ext Time (p_c), s	0.3	0.0		0.1	0.0	5.8		0.4

Intersection Summary	
HCM 6th Ctrl Delay	79.8
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	106. Atwood Rd / Mt Vernon Rd
Scenario	Cumulative No Project Conditions

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Yield*	*Free*	*Yield*	*Yield*	*Free*	*Free*
AM Peak Hour Volume	50	0	150	5	0	0	0	120	100	100	70	0
AM Peak Hour Delay (s)	13.7	0	10	14.7	0	0	0	0	0	7.7	0	0
PM Peak Hour Volume	160	0	130	0	5	0	0	70	60	140	130	5
PM Peak Hour Delay (s)	29.2	0	9.5	0	15.6	0	0	0	0	7.7	0	0

AM Delay	**7.5**
AM LOS	**A**

PM Delay	**14.3**
PM LOS	**B**

Appendix D
Cumulative Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	980	30	70	1230	150	80	30	50	200	80	140
Future Volume (veh/h)	100	980	30	70	1230	150	80	30	50	200	80	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		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	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	108	1054	16	75	1323	132	59	70	1	220	79	35
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	160	1049	466	1373	2364	1053	118	124	104	285	150	125
Arrive On Green	0.02	0.10	0.10	0.40	0.68	0.68	0.07	0.07	0.07	0.08	0.08	0.08
Sat Flow, veh/h	3401	3497	1554	3401	3497	1558	1753	1841	1546	3506	1841	1543
Grp Volume(v), veh/h	108	1054	16	75	1323	132	59	70	1	220	79	35
Grp Sat Flow(s),veh/h/ln	1700	1749	1554	1700	1749	1558	1753	1841	1546	1753	1841	1543
Q Serve(g_s), s	4.1	39.0	1.2	1.7	25.6	3.9	4.2	4.8	0.1	8.0	5.4	2.8
Cycle Q Clear(g_c), s	4.1	39.0	1.2	1.7	25.6	3.9	4.2	4.8	0.1	8.0	5.4	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	1049	466	1373	2364	1053	118	124	104	285	150	125
V/C Ratio(X)	0.68	1.00	0.03	0.05	0.56	0.13	0.50	0.56	0.01	0.77	0.53	0.28
Avail Cap(c_a), veh/h	576	1049	466	1373	2364	1053	432	453	381	547	287	241
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.58	0.58	0.58	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	58.6	41.5	23.6	11.0	7.5	58.5	58.8	56.6	58.5	57.3	56.1
Incr Delay (d2), s/veh	1.1	22.3	0.1	0.0	1.0	0.2	1.2	1.5	0.0	1.7	1.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	21.5	0.5	0.7	9.0	1.2	1.9	2.3	0.0	3.6	2.5	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.1	80.8	41.6	23.6	11.9	7.7	59.7	60.3	56.6	60.2	58.4	56.6
LnGrp LOS	E	F	D	C	B	A	E	E	E	E	E	E
Approach Vol, veh/h		1178			1530			130			334	
Approach Delay, s/veh		78.8			12.2			60.0			59.4	
Approach LOS		E			B			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	58.5	45.0		14.3	9.6	93.9		12.3
Change Period (Y+Rc), s	6.0	* 6		3.7	3.5	6.0		3.5
Max Green Setting (Gmax), s	14.0	* 39		20.3	22.0	39.0		32.0
Max Q Clear Time (g_c+I1), s	3.7	41.0		10.0	6.1	27.6		6.8
Green Ext Time (p_c), s	0.1	0.0		0.6	0.1	9.2		0.3

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	1060	30	150	1460	370	40	50	100	190	40	30
Future Volume (veh/h)	80	1060	30	150	1460	370	40	50	100	190	40	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	94	1247	14	176	1718	304	47	59	0	224	47	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	116	1823	812	200	1991	869	59	74	115	250	52	267
Arrive On Green	0.07	0.52	0.52	0.11	0.56	0.56	0.07	0.07	0.00	0.17	0.17	0.17
Sat Flow, veh/h	1767	3526	1571	1767	3526	1540	805	1010	1572	1473	309	1572
Grp Volume(v), veh/h	94	1247	14	176	1718	304	106	0	0	271	0	1
Grp Sat Flow(s),veh/h/ln	1767	1763	1571	1767	1763	1540	1815	0	1572	1782	0	1572
Q Serve(g_s), s	7.1	35.7	0.6	13.3	56.0	14.5	7.8	0.0	0.0	20.1	0.0	0.1
Cycle Q Clear(g_c), s	7.1	35.7	0.6	13.3	56.0	14.5	7.8	0.0	0.0	20.1	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	0.44		1.00	0.83		1.00
Lane Grp Cap(c), veh/h	116	1823	812	200	1991	869	132	0	115	302	0	267
V/C Ratio(X)	0.81	0.68	0.02	0.88	0.86	0.35	0.80	0.00	0.00	0.90	0.00	0.00
Avail Cap(c_a), veh/h	261	2086	930	261	2086	911	336	0	291	461	0	407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	62.3	24.4	15.9	59.0	25.0	16.0	61.7	0.0	0.0	55.0	0.0	46.6
Incr Delay (d2), s/veh	5.0	1.0	0.0	19.2	4.2	0.4	4.2	0.0	0.0	10.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	13.9	0.2	6.8	21.8	4.8	3.7	0.0	0.0	9.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.3	25.5	15.9	78.2	29.2	16.4	65.9	0.0	0.0	65.2	0.0	46.6
LnGrp LOS	E	C	B	E	C	B	E	A	A	E	A	D
Approach Vol, veh/h		1355			2198			106			272	
Approach Delay, s/veh		28.3			31.3			65.9			65.1	
Approach LOS		C			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.3	75.9		27.0	11.9	82.3		13.9
Change Period (Y+Rc), s	3.0	6.0		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	20.0	80.0		35.0	20.0	80.0		25.0
Max Q Clear Time (g_c+I1), s	15.3	37.7		22.1	9.1	58.0		9.8
Green Ext Time (p_c), s	0.1	18.3		0.8	0.1	18.4		0.3

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	30	20	20	70	160	40	1680	20	30	1000	210
Future Volume (veh/h)	280	30	20	20	70	160	40	1680	20	30	1000	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	343	0	0	22	76	20	43	1826	22	33	1087	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	445	233	0	29	100	109	54	2006	24	44	2075	924
Arrive On Green	0.13	0.00	0.00	0.07	0.07	0.07	0.03	0.56	0.56	0.02	0.59	0.59
Sat Flow, veh/h	3534	1856	0	412	1423	1549	1767	3567	43	1767	3526	1570
Grp Volume(v), veh/h	343	0	0	98	0	20	43	901	947	33	1087	120
Grp Sat Flow(s),veh/h/ln	1767	1856	0	1835	0	1549	1767	1763	1847	1767	1763	1570
Q Serve(g_s), s	8.8	0.0	0.0	4.9	0.0	1.1	2.3	42.6	43.0	1.7	17.1	3.2
Cycle Q Clear(g_c), s	8.8	0.0	0.0	4.9	0.0	1.1	2.3	42.6	43.0	1.7	17.1	3.2
Prop In Lane	1.00		0.00	0.22		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	445	233	0	129	0	109	54	991	1038	44	2075	924
V/C Ratio(X)	0.77	0.00	0.00	0.76	0.00	0.18	0.79	0.91	0.91	0.76	0.52	0.13
Avail Cap(c_a), veh/h	1024	537	0	144	0	121	135	1078	1129	123	2133	950
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	0.0	0.0	42.5	0.0	40.8	44.9	18.3	18.3	45.2	11.4	8.5
Incr Delay (d2), s/veh	1.1	0.0	0.0	15.7	0.0	0.3	9.3	10.4	10.4	9.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0	2.7	0.0	0.4	1.1	16.3	17.2	0.8	5.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.5	0.0	0.0	58.3	0.0	41.1	54.2	28.7	28.7	54.7	11.6	8.6
LnGrp LOS	D	A	A	E	A	D	D	C	C	D	B	A
Approach Vol, veh/h		343			118			1891			1240	
Approach Delay, s/veh		40.5			55.4			29.3			12.4	
Approach LOS		D			E			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.3	58.4		10.7	5.9	60.9		15.8
Change Period (Y+Rc), s	6.0	* 6		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	6.5	* 57		7.3	7.1	56.4		27.0
Max Q Clear Time (g_c+I1), s	3.7	45.0		6.9	4.3	19.1		10.8
Green Ext Time (p_c), s	0.0	7.5		0.0	0.0	6.7		0.6

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	5	480	30	1260	0	0	230	810
Future Volume (veh/h)	0	0	0	10	5	480	30	1260	0	0	230	810
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				0	0	333	33	1370	0	0	250	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				0	242	410	58	1447	0	0	1303	
Arrive On Green				0.00	0.00	0.13	0.03	0.78	0.00	0.00	0.70	0.00
Sat Flow, veh/h				0	1856	3145	1767	1856	0	0	1856	1572
Grp Volume(v), veh/h				0	0	333	33	1370	0	0	250	0
Grp Sat Flow(s),veh/h/ln				0	1856	1572	1767	1856	0	0	1856	1572
Q Serve(g_s), s				0.0	0.0	8.0	1.4	48.5	0.0	0.0	3.6	0.0
Cycle Q Clear(g_c), s				0.0	0.0	8.0	1.4	48.5	0.0	0.0	3.6	0.0
Prop In Lane				0.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				0	242	410	58	1447	0	0	1303	
V/C Ratio(X)				0.00	0.00	0.81	0.57	0.95	0.00	0.00	0.19	
Avail Cap(c_a), veh/h				0	278	471	136	1694	0	0	1468	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				0.0	0.0	33.0	37.2	7.2	0.0	0.0	4.0	0.0
Incr Delay (d2), s/veh				0.0	0.0	8.0	3.3	10.1	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	3.3	0.7	13.9	0.0	0.0	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	0.0	41.0	40.5	17.3	0.0	0.0	4.0	0.0
LnGrp LOS				A	A	D	D	B	A	A	A	
Approach Vol, veh/h					333			1403			250	A
Approach Delay, s/veh					41.0			17.8			4.0	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	64.4		6.1	58.4		13.7
Change Period (Y+Rc), s	3.5		3.5	3.5		3.5
Max Green Setting (Gmax), s	71.3		6.0	61.8		11.7
Max Q Clear Time (g_c+I1), s	50.5		3.4	5.6		10.0
Green Ext Time (p_c), s	10.4		0.0	1.0		0.1

Intersection Summary	
HCM 6th Ctrl Delay	20.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1230	5	20	0	0	0	0	60	5	220	20	0
Future Volume (veh/h)	1230	5	20	0	0	0	0	60	5	220	20	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	1359	0	0				0	65	2	239	22	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	1798	944	0				0	368	11	0	382	0
Arrive On Green	0.51	0.00	0.00				0.00	0.21	0.21	0.00	0.21	0.00
Sat Flow, veh/h	3534	1856	0				0	1789	55	0	1856	0
Grp Volume(v), veh/h	1359	0	0				0	0	67	0	22	0
Grp Sat Flow(s),veh/h/ln	1767	1856	0				0	0	1844	0	1856	0
Q Serve(g_s), s	7.5	0.0	0.0				0.0	0.0	0.7	0.0	0.2	0.0
Cycle Q Clear(g_c), s	7.5	0.0	0.0				0.0	0.0	0.7	0.0	0.2	0.0
Prop In Lane	1.00		0.00				0.00		0.03	0.00		0.00
Lane Grp Cap(c), veh/h	1798	944	0				0	0	380	0	382	0
V/C Ratio(X)	0.76	0.00	0.00				0.00	0.00	0.18	0.00	0.06	0.00
Avail Cap(c_a), veh/h	4253	2233	0				0	0	1429	0	2157	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	0.00				0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	4.8	0.0	0.0				0.0	0.0	8.0	0.0	7.8	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0				0.0	0.0	0.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0				0.0	0.0	0.2	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.1	0.0	0.0				0.0	0.0	8.1	0.0	7.8	0.0
LnGrp LOS	A	A	A				A	A	A	A	A	A
Approach Vol, veh/h		1359						67			22	
Approach Delay, s/veh		5.1						8.1			7.8	
Approach LOS		A						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.0	8.5		16.0		8.5
Change Period (Y+Rc), s	3.5	3.5		3.5		3.5
Max Green Setting (Gmax), s	6.5	19.0		29.5		28.5
Max Q Clear Time (g_c+I1), s	10.0	2.7		9.5		2.2
Green Ext Time (p_c), s	0.0	0.1		2.9		0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	130	100	100	80	0	50	0	160	5	0	0
Future Vol, veh/h	0	130	100	100	80	0	50	0	160	5	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	90	-	-	-	-	-	60	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	157	120	120	96	0	60	0	193	6	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	96	0	0	157	0	0	493	493	157	493	493	96
Stage 1	-	-	-	-	-	-	157	157	-	336	336	-
Stage 2	-	-	-	-	-	-	336	336	-	157	157	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1504	-	-	1429	-	-	488	478	891	488	478	963
Stage 1	-	-	-	-	-	-	848	770	-	680	644	-
Stage 2	-	-	-	-	-	-	680	644	-	848	770	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1504	-	-	1429	-	-	455	435	891	356	435	963
Mov Cap-2 Maneuver	-	-	-	-	-	-	455	435	-	356	435	-
Stage 1	-	-	-	-	-	-	848	770	-	680	587	-
Stage 2	-	-	-	-	-	-	619	587	-	665	770	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.3	11.1	15.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	455	891	1504	-	-	1429	-	-	356
HCM Lane V/C Ratio	0.132	0.216	-	-	-	0.084	-	-	0.017
HCM Control Delay (s)	14.1	10.2	0	-	-	7.8	0	-	15.3
HCM Lane LOS	B	B	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0.8	0	-	-	0.3	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	5	20	150	20	420	30	1900	80	240	1700	20
Future Volume (veh/h)	20	5	20	150	20	420	30	1900	80	240	1700	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		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	22	5	0	179	0	233	33	2065	41	261	1848	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	55	13	60	266	0	831	56	1388	425	1555	3656	44
Arrive On Green	0.04	0.04	0.00	0.08	0.00	0.08	0.03	0.28	0.28	0.91	1.00	1.00
Sat Flow, veh/h	1441	328	1560	3506	0	1548	1753	5025	1538	3401	5119	61
Grp Volume(v), veh/h	27	0	0	179	0	233	33	2065	41	261	1209	661
Grp Sat Flow(s),veh/h/ln	1769	0	1560	1753	0	1548	1753	1675	1538	1700	1675	1830
Q Serve(g_s), s	1.9	0.0	0.0	6.5	0.0	0.0	2.4	35.9	2.6	1.0	0.0	0.0
Cycle Q Clear(g_c), s	1.9	0.0	0.0	6.5	0.0	0.0	2.4	35.9	2.6	1.0	0.0	0.0
Prop In Lane	0.81		1.00	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	68	0	60	266	0	831	56	1388	425	1555	2393	1307
V/C Ratio(X)	0.40	0.00	0.00	0.67	0.00	0.28	0.59	1.49	0.10	0.17	0.51	0.51
Avail Cap(c_a), veh/h	218	0	192	1079	0	1189	270	1388	425	1555	2393	1307
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.63	0.63	0.63
Uniform Delay (d), s/veh	61.0	0.0	0.0	58.5	0.0	16.6	62.1	47.0	35.0	3.1	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	1.1	0.0	0.1	3.5	223.5	0.5	0.0	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.9	0.0	3.9	1.1	43.1	1.0	0.3	0.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.4	0.0	0.0	59.6	0.0	16.7	65.6	270.6	35.4	3.1	0.5	0.9
LnGrp LOS	E	A	A	E	A	B	E	F	D	A	A	A
Approach Vol, veh/h		27			412			2139			2131	
Approach Delay, s/veh		62.4			35.3			262.9			0.9	
Approach LOS		E			D			F			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	65.2	41.7		9.1	8.3	98.7		14.0
Change Period (Y+Rc), s	5.8	* 5.8		4.1	4.1	5.8		4.1
Max Green Setting (Gmax), s	20.0	* 36		16.0	20.0	35.9		40.0
Max Q Clear Time (g_c+I1), s	3.0	37.9		3.9	4.4	2.0		8.5
Green Ext Time (p_c), s	0.1	0.0		0.0	0.0	4.8		0.3

Intersection Summary	
HCM 6th Ctrl Delay	123.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	1260	70	140	1180	250	170	190	150	350	110	380
Future Volume (veh/h)	370	1260	70	140	1180	250	170	190	150	350	110	380
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	407	1385	22	154	1297	194	187	209	14	399	171	93
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	469	1075	478	1013	1704	759	236	248	210	467	245	206
Arrive On Green	0.04	0.10	0.10	0.29	0.48	0.48	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	3483	3582	1593	3483	3582	1597	1795	1885	1598	3591	1885	1583
Grp Volume(v), veh/h	407	1385	22	154	1297	194	187	209	14	399	171	93
Grp Sat Flow(s),veh/h/ln	1742	1791	1593	1742	1791	1597	1795	1885	1598	1795	1885	1583
Q Serve(g_s), s	15.1	39.0	1.6	4.3	38.7	9.4	13.1	14.1	1.0	14.1	11.3	7.1
Cycle Q Clear(g_c), s	15.1	39.0	1.6	4.3	38.7	9.4	13.1	14.1	1.0	14.1	11.3	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	469	1075	478	1013	1704	759	236	248	210	467	245	206
V/C Ratio(X)	0.87	1.29	0.05	0.15	0.76	0.26	0.79	0.84	0.07	0.85	0.70	0.45
Avail Cap(c_a), veh/h	589	1075	478	1013	1704	759	442	464	393	561	294	247
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.17	0.17	0.17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.0	58.6	41.7	34.2	28.0	20.3	54.8	55.2	49.5	55.3	54.1	52.3
Incr Delay (d2), s/veh	1.8	131.3	0.0	0.0	3.3	0.8	2.3	3.0	0.0	9.3	3.8	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	7.2	38.3	0.6	1.8	16.4	3.6	6.1	7.0	0.4	7.0	5.6	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.8	189.8	41.8	34.2	31.3	21.2	57.0	58.2	49.5	64.6	57.9	52.8
LnGrp LOS	E	F	D	C	C	C	E	E	D	E	E	D
Approach Vol, veh/h		1814			1645			410			663	
Approach Delay, s/veh		159.5			30.4			57.4			61.2	
Approach LOS		F			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	43.8	45.0		20.6	21.0	67.8		20.6
Change Period (Y+Rc), s	6.0	* 6		3.7	3.5	6.0		3.5
Max Green Setting (Gmax), s	14.0	* 39		20.3	22.0	39.0		32.0
Max Q Clear Time (g_c+I1), s	6.3	41.0		16.1	17.1	40.7		16.1
Green Ext Time (p_c), s	0.1	0.0		0.8	0.4	0.0		1.0

Intersection Summary	
HCM 6th Ctrl Delay	89.0
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1750	60	130	1350	170	30	40	210	390	90	130
Future Volume (veh/h)	50	1750	60	130	1350	170	30	40	210	390	90	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	1842	37	137	1421	123	32	42	44	411	95	68
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	1843	822	159	2023	902	43	56	86	331	77	360
Arrive On Green	0.04	0.52	0.52	0.09	0.57	0.57	0.05	0.05	0.05	0.23	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	792	1039	1585	1460	337	1585
Grp Volume(v), veh/h	53	1842	37	137	1421	123	74	0	44	506	0	68
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1831	0	1585	1797	0	1585
Q Serve(g_s), s	4.6	79.9	1.8	11.7	44.3	5.6	6.1	0.0	4.2	35.0	0.0	5.3
Cycle Q Clear(g_c), s	4.6	79.9	1.8	11.7	44.3	5.6	6.1	0.0	4.2	35.0	0.0	5.3
Prop In Lane	1.00		1.00	1.00		1.00	0.43		1.00	0.81		1.00
Lane Grp Cap(c), veh/h	68	1843	822	159	2023	902	99	0	86	408	0	360
V/C Ratio(X)	0.78	1.00	0.05	0.86	0.70	0.14	0.75	0.00	0.51	1.24	0.00	0.19
Avail Cap(c_a), veh/h	231	1843	822	231	2023	902	297	0	257	408	0	360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.5	37.1	18.3	69.3	23.8	15.5	71.9	0.0	71.0	59.6	0.0	48.2
Incr Delay (d2), s/veh	6.9	20.9	0.0	14.6	1.3	0.1	4.2	0.0	1.8	127.8	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	37.1	0.6	5.8	17.5	2.0	3.0	0.0	1.7	30.3	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.5	58.0	18.4	83.9	25.1	15.6	76.1	0.0	72.8	187.4	0.0	48.3
LnGrp LOS	F	E	B	F	C	B	E	A	E	F	A	D
Approach Vol, veh/h		1932			1681			118			574	
Approach Delay, s/veh		57.9			29.2			74.9			170.9	
Approach LOS		E			C			E			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.7	86.0		39.1	8.9	93.8		12.4
Change Period (Y+Rc), s	3.0	6.0		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	20.0	80.0		35.0	20.0	80.0		25.0
Max Q Clear Time (g_c+I1), s	13.7	81.9		37.0	6.6	46.3		8.1
Green Ext Time (p_c), s	0.1	0.0		0.0	0.0	20.4		0.2

Intersection Summary	
HCM 6th Ctrl Delay	62.2
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	90	40	120	90	80	20	1490	20	150	1790	400
Future Volume (veh/h)	350	90	40	120	90	80	20	1490	20	150	1790	400
Initial Q (Qb), veh	0	0	0	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	244	256	35	124	93	8	21	1536	20	155	1845	270
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	283	39	130	97	198	29	1632	21	163	1962	875
Arrive On Green	0.18	0.18	0.18	0.12	0.12	0.12	0.02	0.45	0.45	0.09	0.55	0.55
Sat Flow, veh/h	1781	1611	220	1039	779	1585	1781	3591	47	1781	3554	1585
Grp Volume(v), veh/h	244	0	291	217	0	8	21	759	797	155	1845	270
Grp Sat Flow(s),veh/h/ln	1781	0	1831	1818	0	1585	1781	1777	1861	1781	1777	1585
Q Serve(g_s), s	17.2	0.0	20.5	15.6	0.0	0.6	1.5	53.5	53.7	11.4	63.6	12.1
Cycle Q Clear(g_c), s	17.2	0.0	20.5	15.6	0.0	0.6	1.5	53.5	53.7	11.4	63.6	12.1
Prop In Lane	1.00		0.12	0.57		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	313	0	322	227	0	198	29	807	845	163	1962	875
V/C Ratio(X)	0.78	0.00	0.90	0.96	0.00	0.04	0.72	0.94	0.94	0.95	0.94	0.31
Avail Cap(c_a), veh/h	366	0	376	227	0	198	68	843	883	163	1962	875
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	0.0	53.1	57.2	0.0	50.6	64.4	34.2	34.2	59.5	27.4	15.9
Incr Delay (d2), s/veh	7.3	0.0	20.7	47.2	0.0	0.0	11.9	17.7	17.4	56.2	9.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.0	11.1	10.0	0.0	0.2	0.8	25.1	26.3	7.5	26.3	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	0.0	73.7	104.4	0.0	50.6	76.3	51.9	51.6	115.7	37.0	16.0
LnGrp LOS	E	A	E	F	A	D	E	D	D	F	D	B
Approach Vol, veh/h		535			225			1577			2270	
Approach Delay, s/veh		67.0			102.4			52.1			39.9	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.0	65.7		20.5	5.1	78.6		27.2
Change Period (Y+Rc), s	6.0	* 6		4.1	3.0	6.0		4.1
Max Green Setting (Gmax), s	12.0	* 62		16.4	5.0	69.4		27.0
Max Q Clear Time (g_c+I1), s	13.4	55.7		17.6	3.5	65.6		22.5
Green Ext Time (p_c), s	0.0	4.0		0.0	0.0	3.1		0.7

Intersection Summary	
HCM 6th Ctrl Delay	50.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	20	0	330	20	1200	0	0	600	1350
Future Volume (veh/h)	0	0	0	20	0	330	20	1200	0	0	600	1350
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				0	0	228	21	1237	0	0	619	0
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				0	208	353	45	1402	0	0	1224	
Arrive On Green				0.00	0.00	0.11	0.03	0.75	0.00	0.00	0.65	0.00
Sat Flow, veh/h				0	1870	3170	1781	1870	0	0	1870	1585
Grp Volume(v), veh/h				0	0	228	21	1237	0	0	619	0
Grp Sat Flow(s),veh/h/ln				0	1870	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				0.0	0.0	3.5	0.6	24.6	0.0	0.0	8.6	0.0
Cycle Q Clear(g_c), s				0.0	0.0	3.5	0.6	24.6	0.0	0.0	8.6	0.0
Prop In Lane				0.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				0	208	353	45	1402	0	0	1224	
V/C Ratio(X)				0.00	0.00	0.65	0.47	0.88	0.00	0.00	0.51	
Avail Cap(c_a), veh/h				0	707	1198	213	3497	0	0	3144	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				0.0	0.0	21.4	24.2	4.7	0.0	0.0	4.5	0.0
Incr Delay (d2), s/veh				0.0	0.0	0.7	2.8	0.8	0.0	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				0.0	0.0	1.1	0.3	2.5	0.0	0.0	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	0.0	22.1	26.9	5.4	0.0	0.0	4.6	0.0
LnGrp LOS				A	A	C	C	A	A	A	A	
Approach Vol, veh/h					228			1258			619	A
Approach Delay, s/veh					22.1			5.8			4.6	
Approach LOS					C			A			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	41.2		4.8	36.4		9.1
Change Period (Y+Rc), s	3.5		3.5	3.5		3.5
Max Green Setting (Gmax), s	94.0		6.0	84.5		19.0
Max Q Clear Time (g_c+I1), s	26.6		2.6	10.6		5.5
Green Ext Time (p_c), s	11.1		0.0	3.0		0.4

Intersection Summary	
HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1160	0	50	0	0	0	0	60	5	550	70	0
Future Volume (veh/h)	1160	0	50	0	0	0	0	60	5	550	70	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	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	1196	0	0				0	62	3	567	72	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1642	862	0				0	397	19	0	420	0
Arrive On Green	0.46	0.00	0.00				0.00	0.22	0.22	0.00	0.22	0.00
Sat Flow, veh/h	3563	1870	0				0	1767	86	0	1870	0
Grp Volume(v), veh/h	1196	0	0				0	0	65	0	72	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0				0	0	1853	0	1870	0
Q Serve(g_s), s	6.1	0.0	0.0				0.0	0.0	0.6	0.0	0.7	0.0
Cycle Q Clear(g_c), s	6.1	0.0	0.0				0.0	0.0	0.6	0.0	0.7	0.0
Prop In Lane	1.00		0.00				0.00		0.05	0.00		0.00
Lane Grp Cap(c), veh/h	1642	862	0				0	0	416	0	420	0
V/C Ratio(X)	0.73	0.00	0.00				0.00	0.00	0.16	0.00	0.17	0.00
Avail Cap(c_a), veh/h	3121	1638	0				0	0	1581	0	2394	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	0.00				0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	4.9	0.0	0.0				0.0	0.0	6.9	0.0	7.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0				0.0	0.0	0.1	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	0.1	0.0	0.0				0.0	0.0	0.1	0.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.1	0.0	0.0				0.0	0.0	7.0	0.0	7.0	0.0
LnGrp LOS	A	A	A				A	A	A	A	A	A
Approach Vol, veh/h		1196						65			72	
Approach Delay, s/veh		5.1						7.0			7.0	
Approach LOS		A						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	0.0	8.5		13.8		8.5
Change Period (Y+Rc), s	3.5	3.5		3.5		3.5
Max Green Setting (Gmax), s	6.0	19.0		19.5		28.5
Max Q Clear Time (g_c+I1), s	0.0	2.6		8.1		2.7
Green Ext Time (p_c), s	0.0	0.1		2.2		0.2

Intersection Summary	
HCM 6th Ctrl Delay	5.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	11.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	70	60	160	130	5	160	0	130	0	5	0
Future Vol, veh/h	0	70	60	160	130	5	160	0	130	0	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	90	-	-	-	-	-	60	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	91	78	208	169	6	208	0	169	0	6	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	175	0	0	91	0	0	682	682	91	679	679	172
Stage 1	-	-	-	-	-	-	91	91	-	588	588	-
Stage 2	-	-	-	-	-	-	591	591	-	91	91	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1407	-	-	1510	-	-	365	373	969	367	375	874
Stage 1	-	-	-	-	-	-	919	821	-	497	498	-
Stage 2	-	-	-	-	-	-	495	496	-	919	821	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1407	-	-	1510	-	-	317	316	969	268	318	874
Mov Cap-2 Maneuver	-	-	-	-	-	-	317	316	-	268	318	-
Stage 1	-	-	-	-	-	-	919	821	-	497	422	-
Stage 2	-	-	-	-	-	-	413	420	-	759	821	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.2	23.9	16.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	317	969	1407	-	-	1510	-	-	318
HCM Lane V/C Ratio	0.655	0.174	-	-	-	0.138	-	-	0.02
HCM Control Delay (s)	35.6	9.5	0	-	-	7.8	0	-	16.6
HCM Lane LOS	E	A	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	4.3	0.6	0	-	-	0.5	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	20	40	190	30	460	30	2010	160	610	2150	60
Future Volume (veh/h)	50	20	40	190	30	460	30	2010	160	610	2150	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	52	21	2	218	0	320	31	2072	118	629	2216	61
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	74	30	92	308	0	820	56	1421	435	1492	3535	97
Arrive On Green	0.06	0.06	0.06	0.09	0.00	0.09	0.03	0.28	0.28	0.86	1.00	1.00
Sat Flow, veh/h	1297	524	1598	3591	0	1586	1795	5147	1574	3483	5149	141
Grp Volume(v), veh/h	73	0	2	218	0	320	31	2072	118	629	1474	803
Grp Sat Flow(s),veh/h/ln	1820	0	1598	1795	0	1586	1795	1716	1574	1742	1716	1860
Q Serve(g_s), s	5.1	0.0	0.2	7.7	0.0	0.0	2.2	35.9	7.6	5.3	0.0	0.0
Cycle Q Clear(g_c), s	5.1	0.0	0.2	7.7	0.0	0.0	2.2	35.9	7.6	5.3	0.0	0.0
Prop In Lane	0.71		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	105	0	92	308	0	820	56	1421	435	1492	2356	1277
V/C Ratio(X)	0.70	0.00	0.02	0.71	0.00	0.39	0.56	1.46	0.27	0.42	0.63	0.63
Avail Cap(c_a), veh/h	224	0	197	1105	0	1173	276	1421	435	1492	2356	1277
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.17	0.17	0.17
Uniform Delay (d), s/veh	60.2	0.0	57.8	57.8	0.0	19.2	62.1	47.1	36.8	5.7	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	0.0	1.1	0.0	0.1	3.2	210.0	1.5	0.0	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.1	3.6	0.0	6.0	1.0	42.4	3.1	1.4	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	0.0	57.9	59.0	0.0	19.3	65.3	257.1	38.4	5.7	0.2	0.4
LnGrp LOS	E	A	E	E	A	B	E	F	D	A	A	A
Approach Vol, veh/h		75			538			2221			2906	
Approach Delay, s/veh		63.1			35.4			242.8			1.5	
Approach LOS		E			D			F			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	61.5	41.7		11.6	8.1	95.1		15.2
Change Period (Y+Rc), s	5.8	* 5.8		4.1	4.1	5.8		4.1
Max Green Setting (Gmax), s	20.0	* 36		16.0	20.0	35.9		40.0
Max Q Clear Time (g_c+I1), s	7.3	37.9		7.1	4.2	2.0		9.7
Green Ext Time (p_c), s	0.4	0.0		0.1	0.0	6.6		0.4

Intersection Summary	
HCM 6th Ctrl Delay	98.8
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

PLACER COUNTY SSSC INTERSECTION DELAY & LOS

Intersection	106. Atwood Rd / Mt Vernon Rd
Scenario	Cumulative Plus Project Conditions

Movement	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
Control	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Stop*	*Yield*	*Free*	*Yield*	*Yield*	*Free*	*Free*
AM Peak Hour Volume	50	0	160	5	0	0	0	130	100	100	80	0
AM Peak Hour Delay (s)	14.1	0	10.2	15.3	0	0	0	0	0	7.8	0	0
PM Peak Hour Volume	160	0	130	0	5	0	0	70	60	160	130	5
PM Peak Hour Delay (s)	35.6	0	9.5	0	16.6	0	0	0	0	7.8	0	0

AM Delay	**7.7**
AM LOS	**A**

PM Delay	**16.0**
PM LOS	**C**