Aurora Metro Center
Master Plan Amendment

Traffic Impact Study

Prepared for:

Navona Investors, LLC
631 High Street
Denver, CO 80218

Prepared by:

Felsburg Holt & Ullevig
6400 S Fiddlers Green Circle, Suite 1500
Greenwood Village, CO 80111
303.721.1440

Principal: Lyle E. DeVries, PE, PTOE
Project Manager: Ryan K. Saline, PE

FELSBURG HOLT & ULLEVIG
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Executive Summary

Metro Center is a proposed mixed-use, transit-oriented development in Aurora, Colorado, south of Alameda Avenue/Parkway between Sable Boulevard and Chambers Road. Several evaluations of traffic conditions have been completed to assess the anticipated transportation impacts of the proposed site.

The Metro Center Master Plan Amendment would alter the proposed development by removing a segment of Dawson Street between Alameda Avenue and Centrepoint Drive and replacing the alignment with a bicycle and pedestrian throughway. This traffic impact study (TIS) has been prepared to evaluate anticipated transportation impacts of this amendment and to consider several other changes that have occurred to the Metro Center site since the previous study was approved for the original Master Plan in 2020.

Land uses proposed within Metro Center under the Master Plan Amendment would include:

- 2,130 multifamily dwelling units
- 49,880 square feet of commercial/mixed-use
- 3,500 square feet of office space

These land uses are expected to generate up to 14,060 daily trips, including about 1,040 in the morning peak hour and about 1,315 in the evening peak hour. However, with considerations of internal trip-making, pass-by trips, and mode share reductions, the site would generate about 9,485 net external daily vehicle trips, nearly 845 in the morning peak hour and 920 in the evening peak hour. The development would also generate about 860 internal daily vehicle trips, 20 in the morning peak hour and 48 in the evening peak hour.

The addition of these trips to the surrounding roadway network, as well as the anticipated regional growth of traffic (background traffic), would result in impacts to traffic operations that would fail to meet criteria established by Aurora's TIS guidelines. To mitigate these conditions, the following improvements should be considered:

- **To address existing traffic conditions and regional background traffic growth:**
  - Consider restricting left-turns at several signalized intersections to protected-only phasing during more times of day to address Approach Turn crashes.
  - Consider improving sight distance and signal visibility at several signalized intersections; also consider reviewing progression and clearance times at these intersections to address Broadside crash frequency.
  - Consider restricting southbound access at Alameda Avenue & Municipal Center Access to prohibit left-turns, with exceptions for emergency vehicles, to address Broadside crash frequency.
  - Adjust signal cycle lengths at Alameda Avenue/Parkway & Alameda Drive to match adjacent intersections.
  - Construct new northbound and westbound right-turn lanes and introduce overlap phases for both movements at Alameda Parkway & Chambers Road; also increase left-turn storage lengths for all four approaches.
  - Implement protected/permitted phasing for westbound left-turns at Exposition Avenue & Sable Boulevard (recently completed); also increase left-turn storage for the southbound approach.
  - Consider mitigations to improve sight distance for the westbound approach of Center Avenue & Chambers Road. Also consider signalization based on the Crash Experience warrant.

- Install signing that prohibits northbound U-turns at Exposition Avenue & Chambers Road; construct new eastbound and westbound left-turn lanes with protected/permitted phasing; construct a new southbound right-turn lane; and increase storage length for several turn lanes.
- Periodically review and adjust traffic signal timings to accommodate changing traffic patterns, including at intersections with light rail crossings.

To address new traffic generated by the proposed Metro Center development:

- Implement protected/permitted phasing for westbound left-turns at Alameda Avenue/Parkway & Alameda Drive; increase storage for northbound left-turns at this intersection.
- Restripe the westbound approach at Centrepoint Drive & Sable Boulevard to provide dedicated left-turn, through, and right-turn lanes; increase storage for westbound left-turns.
- Construct a new traffic signal at Center Avenue & Chambers Road; provide protected/permitted phasing for northbound and southbound left-turns.
- Construct a new westbound left-turn lane at Alameda Parkway & Fraser Court.

I. Introduction

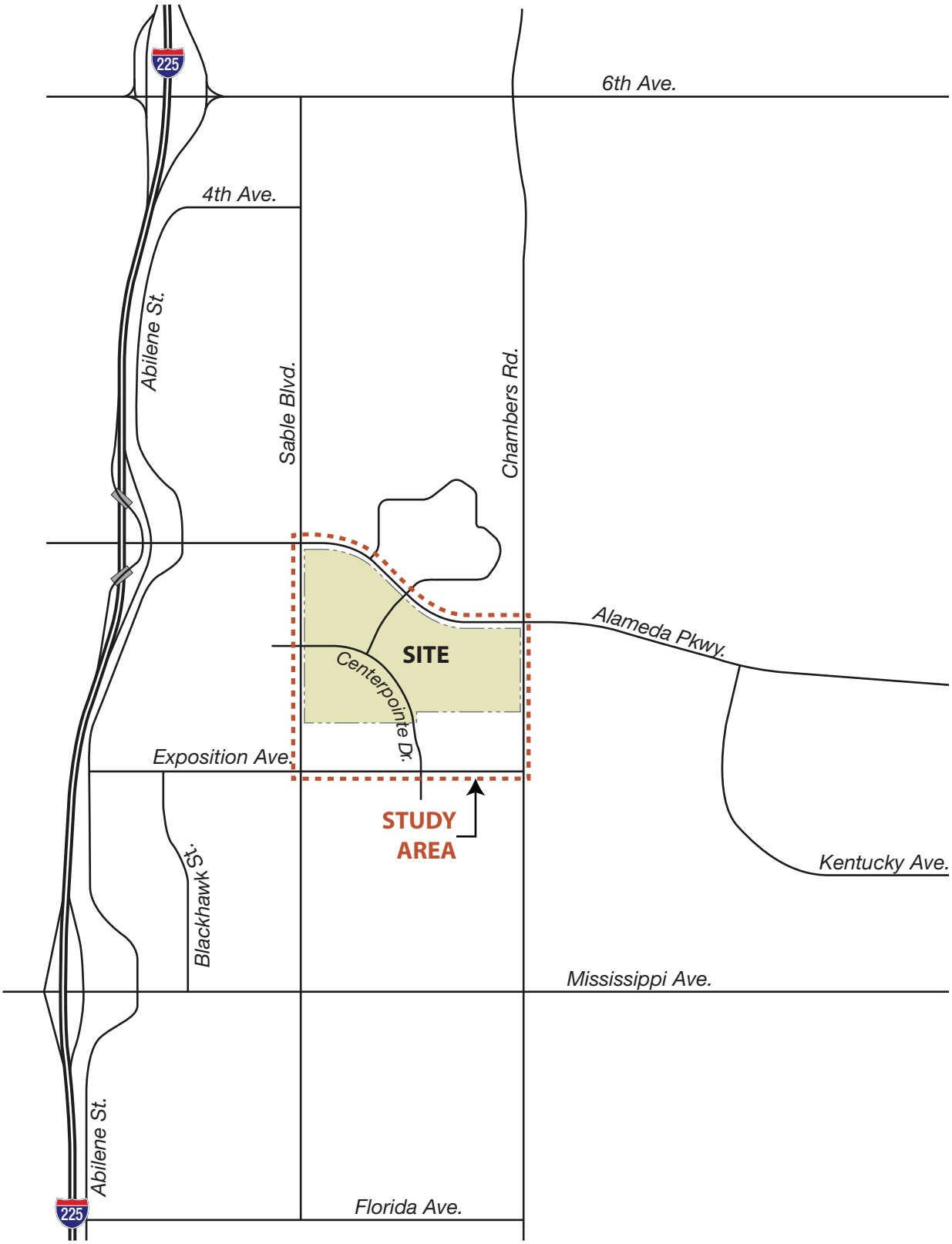
Metro Center is a proposed mixed-use development in Aurora, Colorado, on more than 60 acres, south of Alameda Parkway between Sable Boulevard and Chambers Road as shown on **Figure 1**. Currently, the Regional Transportation District (RTD) Aurora Metro Center Station occupies portions of the site near the intersection of Sable Boulevard & Centrepoint Drive and the Arapahoe County Centrepoint Plaza near the Alameda Parkway & Alameda Drive.

The *Aurora Metro Center Traffic Impact Study*[1] in 2020 (Metro Center Master TIS) previously addressed traffic impacts associated with the proposed Metro Center development. Staff at the City of Aurora approved this study to accompany the Master Plan application for Metro Center. Additional traffic analyses have been conducted to address changes to the Metro Center Master Plan related to land use types/sizes and site access.[2,3]

A new amendment to the Metro Center Master Plan that would alter the proposed roadway network and site access on the western half of the site is being submitted. This traffic impact study (TIS) has been prepared to reevaluate traffic impacts related to the proposed development considering the changes proposed in the Master Plan Amendment, as well as encompassing all other changes that have already been addressed. As such, the analyses, impacts, and recommendations documented in this TIS are intended to supersede all previous traffic analyses conducted for the proposed development. This TIS evaluates traffic impacts and potential mitigations in existing (Year 2024) conditions and a long-term (Year 2040) scenario representing a future planning horizon.

The current version of the proposed Metro Center development evaluated for this TIS envisions approximately 53 thousand square feet (KSF) of office and commercial uses (e.g., retail, dining, grocery) and 2,130 multifamily dwelling units (DUs). **Figure 2** displays a site plan for Metro Center under the Master Plan Amendment.

[1] *Aurora Metro Center Traffic Impact Study*. Felsburg Holt & Ullevig, Greenwood Village, Colorado. November 2020. FHU Reference No. 119405-02.
[2] *Aurora Metro Center PA-B Infrastructure Site Plan Traffic Impact Study*. Felsburg Holt & Ullevig, Greenwood Village, Colorado. September 2022. FHU Reference No. 119405-03.
[3] *Metro Center PA-B2 Sprouts Traffic Impact Study Conformance Letter*. Felsburg Holt & Ullevig, Greenwood Village, Colorado. April 2023. FHU Reference No. 123636-01.



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NOTE: Drawing Not to Scale

FIGURE 1
Vicinity Map

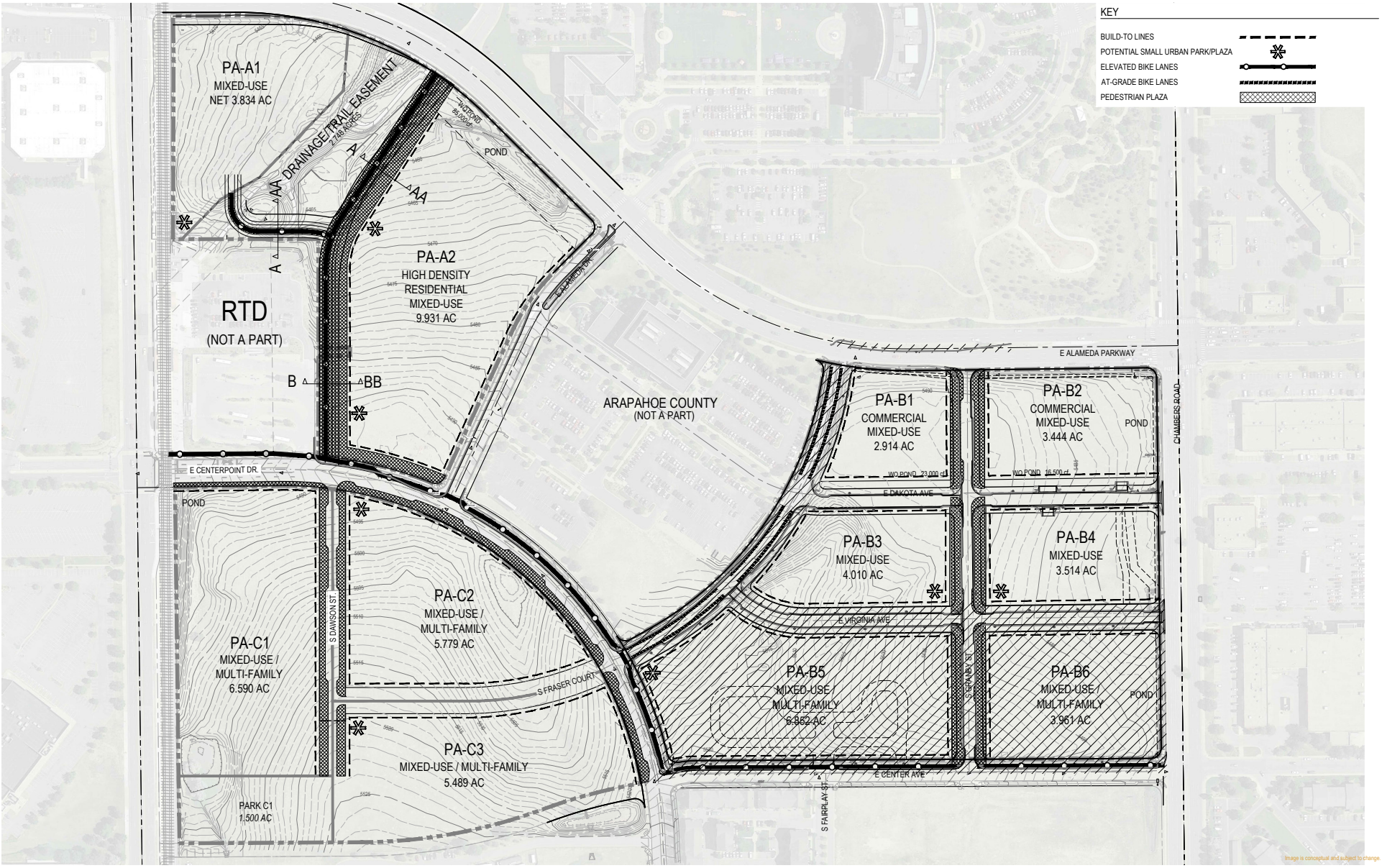

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FIGURE 2
Site Plan

Metro Center Amendment TIS 124-134-01 05/15/24

I.A Master Plan Amendment Changes

Compared to the *Metro Center Master TIS*, this study addresses the following major changes to the proposed roadway network within Metro Center as part of the Master Plan Amendment:

- **Dawson Street,** previously identified as a proposed north-south two-lane roadway, would connect from Fraser Court to Alameda Avenue adjacent to the RTD Aurora Metro Center Station and aligned with the unsignalized Municipal Center Access.
  - Under the Master Plan Amendment, the segment of Dawson Street from Centrepoint Drive to Alameda Avenue would no longer be constructed with vehicular access.
  - Instead, the Dawson Street alignment would serve as a bicycle and pedestrian throughway with allowances for emergency vehicle access.
- **Dakota Avenue,** previously identified as a proposed east-west two-lane roadway, would connect Dawson Street to Chambers Road, passing through the Arapahoe County property.
  - Under the Master Plan Amendment, the segment of Dakota Avenue from Dawson Street to Alameda Drive would not be constructed and the segment from Alameda Drive to Fraser Court would not provide vehicular access for through traffic.
- **Parcel A1** was previously identified to have access via a right-in/right-out (RIRO) only vehicular access to Alameda Avenue and a full-movement access at the Dakota Avenue & Dawson Street intersection.
  - Under the Master Plan Amendment, access via the Dawson Street alignment would be restricted to emergency vehicles only, and the RIRO access to Alameda Avenue would be the only public vehicular access point.
- **Parcels A2 and A3** were previously identified to be located between Dawson Street and Alameda Drive and bifurcated by Dakota Avenue.
  - Under the Master Plan Amendment, these parcels would be combined into a single parcel, Parcel A2. Access to this parcel would come from Alameda Drive.

II. Existing Conditions

II.A Land Use

The area surrounding the Metro Center site primarily consists of retail and office space to the west, north, and east and residential land uses to the south and southeast. Major developments in the vicinity include the Aurora Municipal Center (municipal building, library, and police department) on the north side of Alameda Parkway, Aurora Mall on the west side of Sable Boulevard, City Center Marketplace shopping center on the east side of Chambers Road, and a medical office building south of the site in the northeast corner of the Sable Boulevard & Exposition Avenue intersection. Multifamily residential developments exist south of the site east of Centrepoint Drive and east of Chambers Road. Other residential developments are located south of Exposition Avenue and east of Chambers Road.

The proposed development would surround the Arapahoe County Centrepoint Plaza facility, south of Alameda Parkway between Alameda Drive and Fraser Court. The RTD Aurora Metro Center Station is on the east side of Sable Boulevard north of Centrepoint Drive. The station includes bus and light rail service.

II.B Roadway Network and Study Intersections

Roadway Network

The existing roadway network within the study area consists of the following facilities:

Alameda Avenue/Alameda Parkway

Alameda Avenue/Parkway is a six-lane east-west arterial roadway. To the west, Alameda Avenue provides access to major commercial centers, including Aurora Mall and Aurora City Place, and to Interstate 225 (I-225). To the east, Alameda Parkway provides access to commercial and residential developments before turning south, becoming Tower Road at Mississippi Avenue. Railroad tracks for the RTD R Line cross Alameda Avenue at-grade on the east side of Sable Boulevard within the intersection area. The posted speed limit along Alameda Avenue/Parkway is 40 miles per hour (MPH).

Sable Boulevard

Sable Boulevard is a four-lane north-south roadway that parallels I-225 between 6th Avenue to the north and Iliff Avenue to the south. The RTD R Line crosses Sable Boulevard at-grade within the Exposition Avenue intersection and continues to parallel Sable Boulevard on its east side until it crosses Ellsworth Avenue north of the site. The posted speed limit on Sable Boulevard is 35 MPH.

Chambers Road

Chambers Road, a six-lane north-south arterial roadway, provides regional connectivity through the city of Aurora from 56th Avenue to the north to State Highway 83/Parker Road to the south. The posted speed limit on Chambers Road is 40 MPH.

Exposition Avenue

Exposition Avenue is a three-lane east-west collector roadway with median turn-lanes. West of the site, the RTD R Line is located in the median of Exposition Avenue before crossing at-grade at Sable Boulevard. Bicycle lanes are provided in both directions of Exposition Avenue from east of Sable Boulevard to Chambers Road. The posted speed limit on Exposition Avenue is 30 MPH.

Alameda Drive

Alameda Drive is a two-lane local road that connects Centrepoint Drive to Alameda Avenue/Parkway. North of Alameda Avenue/Parkway, Alameda Drive provides access to the Aurora Municipal Center. The posted speed limit on Alameda Drive is 30 MPH.

Centrepoint Drive

Centrepoint Drive is a three- to four-lane local road that connects Sable Boulevard to Exposition Avenue. Between Sable Boulevard and Alameda Drive, two travel lanes are provided in each direction. Between Alameda Drive and Exposition Avenue, one northbound lane, two southbound lanes, and a continuous two-way left-turn (TWLT) lane are provided. The posted speed limit on Centrepoint Drive is 30 MPH.

Center Avenue

Center Avenue, a two-lane east-west local road, connects Centrepoint Drive to Chambers Road. It also provides access to a multifamily residential development. No speed limit is posted on Center Avenue, but the roadway was analyzed with a speed limit of 30 MPH.

Study Intersections

In the original *Metro Center Master TIS*, 12 study intersections were identified for analysis in consultation with City of Aurora staff. The same 12 intersections were evaluated for this TIS:

1. Alameda Ave & Sable Blvd **– Signalized**
2. Alameda Ave & Municipal Center Access
3. Alameda Ave/Pkwy & Alameda Drive **– Signalized**
4. Alameda Pkwy & Chambers Rd **– Signalized**
5. Centrepoint Dr & Sable Blvd **– Signalized**
6. Exposition Ave & Sable Blvd **– Signalized**
7. Exposition Ave & Centrepoint Dr/Evanston St
8. Exposition Ave & Chambers Rd **– Signalized**
9. Center Ave & Chambers Rd
10. Walsh Dr & Centrepoint Dr
11. Center Ave & Centrepoint Dr
12. Centrepoint Dr & Alameda Dr

In addition to providing traffic signalization for vehicular movements, intersections 1, 5, and 6 also incorporate phases for light rail movements on the RTD R Line.

II.C Site Access

Some access locations to the proposed development already exist. Centrepoint Drive, Alameda Drive, and Center Avenue are all constructed. A curb cut that would be used for RIRO access to Parcel A1 has already been constructed along Alameda Parkway east of Sable Boulevard. Finally, existing RIRO access for the Arapahoe County Centrepoint Plaza building (Fraser Court) would also serve the proposed development.

II.D Traffic Volumes

For the original *Metro Center Master TIS*, traffic counts were conducted in September 2019 to understand daily and peak hour traffic conditions during typical weekdays. For this study, city staff requested that select intersections be recounted to provide an update on travel conditions post-pandemic. New morning and evening peak hour traffic counts were conducted in April 2024 at the following intersections:

1. Alameda Ave & Sable Blvd
3. Alameda Ave/Pkwy & Alameda Dr
4. Alameda Pkwy & Chambers Rd
5. Centrepoint Dr & Sable Blvd
9. Center Ave & Chambers Rd

Compared to data collected in 2019, new 2024 counts demonstrated similar traffic patterns but slight shifts in time of day:

- Morning Peak Hour
  - **2019:** 7:15 a.m. to 8:15 a.m.
  - **2024:** 7:15 a.m. to 8:15 a.m.
- Evening Peak Hour
  - **2019:** 4:30 p.m. to 5:30 p.m.
  - **2024:** 4:45 p.m. to 5:45 p.m.

Historic Traffic Count Comparison

Peak hours from 2024 were chosen for evaluation to represent the most recently available typical conditions. **Table 1** displays comparisons of peak hour traffic volumes, measured in vehicles per hour (VPH), between 2019 and 2024 by approach volume on each street at intersections with new counts.

Table 1. Intersection Approach Volume Comparison

#	Intersection	Peak Hour	North-South Volume (VPH)			East-West Volume (VPH)		
			2019	2024	Delta	2019	2024	Delta
1	Alameda Ave & Sable Blvd	a.m.	892	854	– 4%	3,035	2,915	– 4%
		p.m.	1,456	1,380	– 5%	3,011	3,138	+ 4%
3	Alameda Ave/Pkwy & Alameda Dr	a.m.	75	77	+ 3%	3,009	2,996	– 0%
		p.m.	297	228	– 23%	3,035	3,138	+ 3%
4	Alameda Pkwy & Chambers Rd	a.m.	2,890	2,609	– 10%	2,667	2,973	+ 11%
		p.m.	3,347	3,446	+ 3%	2,764	3,093	+ 12%
5	Centrepoint Dr & Sable Blvd	a.m.	723	775	+ 7%	151	128	– 15%
		p.m.	1,162	1,103	– 5%	388	386	– 1%
9	Center Ave & Chambers Rd	a.m.	2,927	2,570	– 12%	148	91	– 39%
		p.m.	3,162	3,182	+ 1%	144	107	– 26%

As shown in **Table 1,** changes in traffic peak hour traffic volumes vary by location and time of day. East-west volumes along Alameda Parkway in 2024 exhibited marginal decreases during the morning peak hour compared to those of 2019, but slight increases during the evening peak hour. An exception to this is at the

Alameda Parkway & Chambers Road (#4) intersection, where east-west volumes in 2024 increased by 11–12 percent during peak hours compared to those of 2019. This could be attributed to changes in signal timing that increase capacity for east-west traffic.

North-south traffic volumes along Sable Boulevard in 2024 exhibited marginal decreases during morning and evening peak hours compared to those of 2019, except at the Centrepoint Drive & Sable Boulevard (#5) intersection, where 2024 volumes increased by 7 percent during the AM peak hour. North-south traffic volumes along Chambers Road in 2024 exhibited notable decreases during the morning peak hour compared those of 2019 (10–12 percent), and slight increases during the evening peak hour (1–3 percent).

Traffic volumes on minor streets near the Metro Center site (Alameda Drive, Centrepoint Drive, Center Avenue) exhibited the most change between 2019 and 2024 count periods:

- North-south traffic on Alameda Drive decreased by 23 percent during the evening peak hour compared to 2019 volumes.
  - This is likely attributed to less office activity at the Aurora Municipal and Arapahoe County facilities.
- East-west traffic on Centrepoint Drive decreased by 15 percent during the morning peak hour compared to 2019 volumes.
  - This could also be attributed to less activity at Aurora Mall, the RTD Aurora Metro Center Station, or the Arapahoe County facility.
- East-west volumes on Center Avenue decreased by 26–39 percent during morning and evening peak hours compared to 2019 volumes.
  - Center Avenue was closed to through traffic between Centrepoint Drive and Chambers Road during data collection in 2024, which accounts for much of the decrease in volume.
  - Decreased activity on the east side of Chambers Road could also contribute to lower east-west traffic volumes.

2024 Existing Traffic Volumes

Traffic counts from 2019 at other intersections within the study area were adjusted using similar factors to the comparisons shown in **Table 1** to develop a full set of traffic volumes representing 2024 conditions. Because of the closure of Center Avenue from Centrepoint Drive to Chambers Road, 2019 counts were used to estimate peak hour volumes for the eastbound approach of the Center Avenue & Chambers Road (#9) intersection. **Figure 3** displays estimates of existing (2024) daily and peak hour traffic volumes within the Metro Center study area based on new 2024 counts and other traffic data from 2019.

As shown on **Figure 3**, Alameda Avenue/Parkway currently serves between 43,800 and 47,000 vehicles per day (VPD) along the frontage of the proposed development, including an average of 3,050 VPH during the morning peak hour and 3,275 VPH during the evening peak hour.

South of Alameda Avenue, Sable Boulevard serves 13,300 VPD, including approximately 800 VPH during the morning peak hour and 1,150 VPH during the evening peak hour. Alameda Drive serves 2,700 VPD, including approximately 175 VPH during the morning peak hour and 225 VPH during the evening peak hour. Chambers Road serves 37,100 VPD, including approximately 2,575 VPH during the morning peak hour and 3,200 VPH during the evening peak hour.

East of Sable Boulevard, Centrepoint Drive serves 2,900 VPD, including approximately 175 VPH during the morning peak hour and 250 VPH during the evening peak hour. West of Chambers Road, Center Avenue serves 800 VPD, including approximately 75 VPH during the morning peak hour and 50 VPH during the evening peak hour.

LEGEND

XXX(XXX) = AM(PM) Peak Hour Traffic Volumes

XXXX = Daily Traffic Volumes

NOTE: Drawing Not to Scale

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FIGURE 3
Existing Traffic Volumes

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II.E Traffic Operations

Methodology

Traffic operations within the study area were evaluated according to techniques documented in the *Highway Capacity Manual, 7th Edition* (HCM) using Trafficware's Synchro software (version 11). Existing traffic volumes and intersection geometry were used to evaluate operations. Traffic signal timing data from the previous *Metro Center Master TIS* were also used in this study to evaluate traffic operations.

Peak hour factors (PHFs), which are used to account for the variation of traffic arrivals within a peak hour, were calculated for each approach of all study intersections. Like the previous *Metro Center Master TIS*, PHFs for all future year scenarios were adjusted to the average of the existing factor and 0.92, recognized by HCM as a default value. Unsignalized intersections within the study area considered the impacts of upstream traffic signals, which meter traffic flow and provide additional gaps for movements from the minor street approaches.

Level of Service (LOS) is a qualitative measure of traffic operational conditions based on roadway capacity and vehicle delay. LOS is described by a letter designation ranging from A to F, with LOS A representing almost free-flow travel, while LOS F represents congested conditions. LOS is reported as an average for the entire intersection at signalized locations, and by movement for stop sign-controlled intersections (for movements that yield right-of-way).

TIS guidelines established by the City of Aurora indicate that for signalized intersections, peak hour traffic operations should be at LOS D or better, though individual movements at signalized intersections may be allowed to operate at LOS E. Individual unsignalized movements can operate at LOS E or LOS F if there is low traffic demand or viable alternate routes.

Light Rail At-Grade Crossing Intersections

In the *Metro Center Master TIS*, exceptions to the HCM methodology were used to evaluate the Alameda Avenue & Sable Boulevard (#1), Centrepoint Drive & Sable Boulevard (#5), and Exposition Avenue & Sable Boulevard (#6) intersections due to impacts of RTD light rail activity. This study also considered the use of hold phases to stop all traffic for a light rail crossing and Synchro LOS to evaluate these intersections.

As noted in the *Metro Center Master TIS*, this methodology results in conservative estimates of traffic operations since the actual signal controller can incrementally adjust green time for all phases to accommodate a light rail call, but Synchro can only take green time away from the coordinated major street phases. In reality, intersections along Sable Boulevard may operate at a better LOS than what is presented in this study.

Long-term traffic signal timing improvements to Sable Boulevard intersections in the study area have been evaluated in this TIS but may require coordination with the Colorado Public Utilities Commission (PUC) for approval. Physical improvements, such as construction of new turn lanes, would also require coordination with the PUC to begin a formal application process.

Existing Level of Service

Table 2 summarizes existing LOS at all study area intersections based on 2024 traffic volumes, and **Figure 4** shows existing LOS and lane configurations. As indicated, all signalized intersections currently operate at LOS D or better during peak hours. Most unsignalized movements operate at LOS D or better.

Although all signalized intersections currently operate at LOS D or better, some movements operate at LOS F during one or more peak hour, which does not meet Aurora's criteria for signalized traffic operations:

- **Alameda Parkway & Chambers Road (#4):** Westbound through and right-turn movements during the morning peak hour.

- **Exposition Avenue & Sable Boulevard (#6):** Westbound left-turn movements during the evening peak hour.
- **Exposition Avenue & Chambers Road (#8):** Eastbound left-turn and through movements, westbound left- and right-turn movements during the evening peak hour.

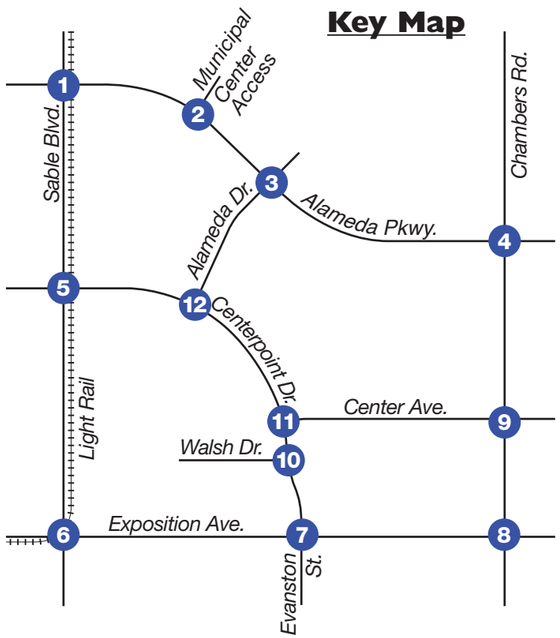
Unsignalized southbound left-turn movements at the Alameda Avenue & Municipal Center Access (#2) intersection operate at LOS F during both peak hours.

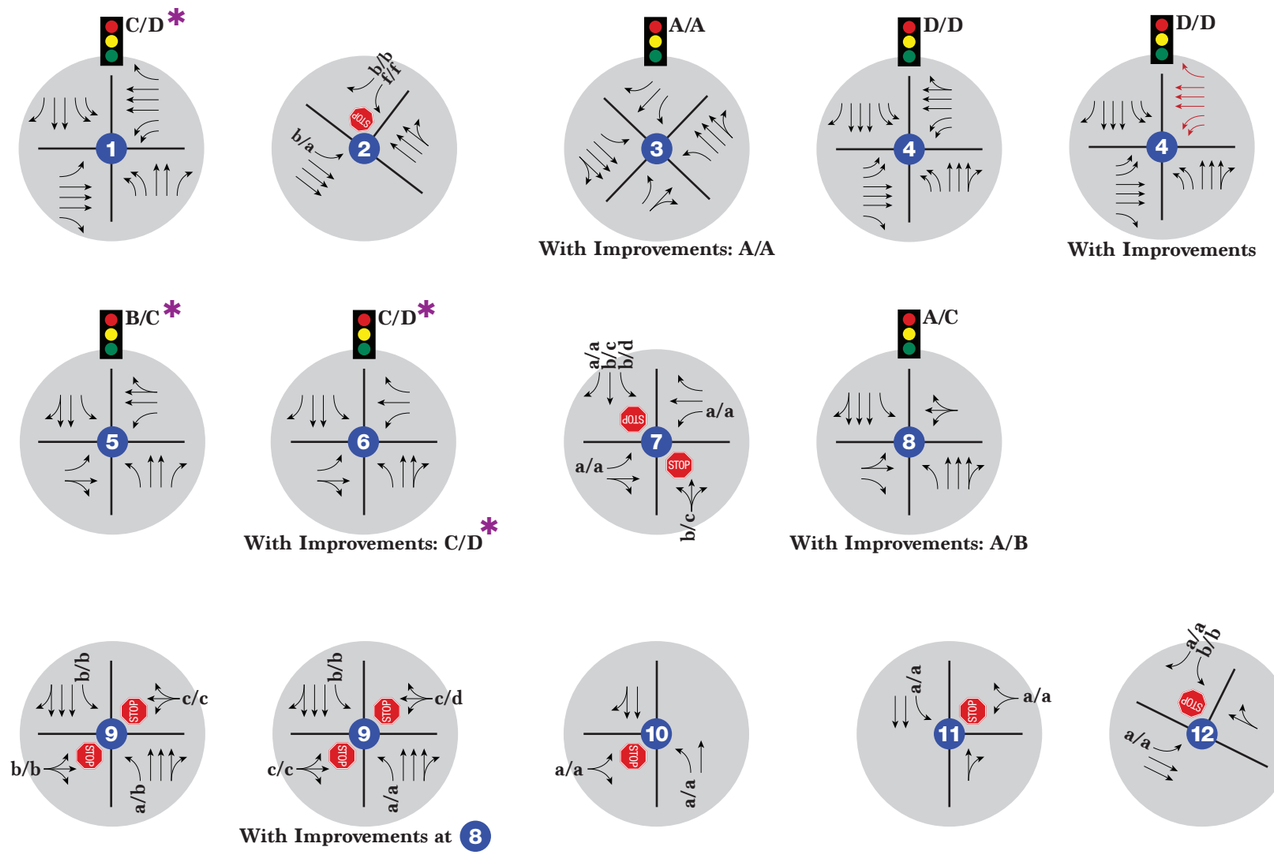
Table 2. Existing Intersection Level of Service

#	Signalized Intersection		Morning Peak Hour	Evening Peak Hour
1	Alameda Ave & Sable Blvd *		C	D
3	Alameda Ave/Pkwy & Alameda Dr		A	A
4	Alameda Pkwy & Chambers Rd		D^	D
5	Centrepoint Dr & Sable Blvd *		B	C
6	Exposition Ave & Sable Blvd *		C	D^
8	Exposition Ave & Chambers Rd		A	C^
#	**Stop-Controlled Intersection**	**Movement**	**Morning Peak Hour**	**Evening Peak Hour**
2	Alameda Ave & Municipal Center Access	EBL	b	a
		SBL	f	f
		SBR	b	b
7	Exposition Ave & Centrepoint Dr/Evanston St	EBL	a	a
		WBL	a	a
		NBL/NBT/NBR	b	c
		SBL	b	d
		SBT	b	c
		SBR	a	a
9	Center Ave & Chambers Rd	EBL/EBT/EBR	b	b
		WBL/WBT/WBR	c	c
		NBL	a	b
		SBL	b	b
10	Walsh Dr & Centrepoint Dr	EBL/EBR	a	a
		NBL	a	a
11	Center Ave & Centrepoint Dr	WBL/WBR	a	a
		SBL	a	a
12	Centrepoint Dr & Alameda Dr	EBL	a	a
		SBL	b	b
		SBR	a	a

Notes: An asterisk (*) indicates that Synchro-based LOS is reported for the intersection
A **yellow highlight** indicates the LOS does not meet Aurora standards
A caret (^) indicates individual movements at LOS F despite overall intersection operations of LOS D or better

Movements are first identified by direction then by movement (i.e., EBL = Eastbound Left-Turn)
EB: Eastbound, **WB:** Westbound, **NB:** Northbound, **SB:** Southbound
L: Left-turn, **T:** Through, **R:** Right-turn





LEGEND

X/X	=	AM/PM Peak Hour Signalized Intersection Level of Service
x/x	=	AM/PM Peak Hour Unsignalized Intersection Level of Service
STOP	=	Stop Sign
	=	Traffic Signal

* HCM LOS results not available.
Synchro LOS reported

NOTE: Drawing Not to Scale

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NORTH

FIGURE 4
Existing Traffic Conditions

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Recommended Mitigations

To mitigate substandard LOS experienced during existing conditions, the City of Aurora should consider implementing the following roadway and traffic signal improvements, sorted by intersection reference number.

2. Alameda Avenue & Municipal Center Access

Although southbound left-turns at the Alameda Avenue & Municipal Center Access (#2) intersection operate at LOS F during peak hours, no mitigation is recommended. This movement serves light traffic demand (less than 10 VPH during peak hours) and alternate routes are available via Alameda Drive.

3. Alameda Avenue/Parkway & Alameda Drive

Based on available traffic signal timing data, the Alameda Avenue/Parkway & Alameda Drive (#3) intersection uses a 90-second cycle length during the evening peak hour, which does not match the 135-second cycle used at the Alameda Parkway & Chambers Road (#4) intersection, a quarter mile to the east. The city should consider increasing the cycle length to 135 seconds, which would improve progression along Alameda Avenue/Parkway but would not significantly hinder intersection operations. The Alameda Avenue/Parkway & Alameda Drive (#3) intersection would continue to operate at LOS A during both peak hours.

4. Alameda Parkway & Chambers Road

Existing counts indicate that during the morning peak hour, approximately 1,750 westbound motorists make through or right-turn movements at the Alameda Parkway & Chambers Road (#4) intersection, resulting in oversaturated traffic flow and LOS F conditions. The city should consider constructing a dedicated westbound turn lane to serve the high volume right-turn movement and providing an overlap phase concurrent with southbound left-turns. Right-of-way constraints may limit the feasibility of this improvement. With a new westbound right-turn lane and overlap phase, the intersection would operate at LOS D during peak hours, but no movements would fall below LOS E conditions.

6. Exposition Avenue & Sable Boulevard

Based on signal timing data used in the *Metro Center Master TIS*, the westbound left-turn movement operates with permitted-only phasing (green ball). As a result, this movement operates at LOS F during the evening peak hour. A dedicated left-turn phase should be added for westbound Exposition Avenue, and westbound left-turns should operate with protected/permitted phasing. With this improvement, the intersection would continue to operate at LOS C/D during morning/evening peak hours, respectively.

Field review of the intersection indicates that this improvement has already been made since signal timing was last provided for the *Metro Center Master TIS*.

8. Exposition Avenue & Chambers Road

Northbound U-turn movements limit capacity of eastbound right-turns at the Exposition Avenue & Chambers Road (#8) intersection based on evaluation techniques from the HCM, resulting in excessive queues for the eastbound approach. Aurora should consider implementing signing explicitly prohibiting U-turns and allowing the eastbound right-turn overlap phase to operate more efficiently. With this improvement, the intersection could operate at LOS A/B during morning/evening peak hours, respectively.

Although westbound movements operate at LOS F during the evening peak hour, several alternate routes to Chambers Road are available approximately 300 feet south of Exposition Avenue and at Ohio Avenue/Ada Place. Therefore, no additional mitigations are recommended for existing conditions.

II.F Safety Conditions

At the request of City of Aurora staff, the team conducted a brief safety analysis to evaluate existing conditions for the study area intersections along arterial roadways, including:

1. Alameda Ave & Sable Blvd
2. Alameda Ave & Municipal Center Access
3. Alameda Ave/Pkwy & Alameda Dr
4. Alameda Pkwy & Chambers Rd
5. Centrepoint Dr & Sable Blvd
6. Exposition Ave & Sable Blvd
8. Exposition Ave & Chambers Rd
9. Center Ave & Chambers Rd

Methodology

The goal of this safety analysis is to determine the magnitude of and nature of existing safety problems using data-driven techniques and statistical analyses. Safety Performance Functions (SPFs) were used to evaluate the magnitude of safety problems, while Direct Diagnostic techniques were used to assess the nature of safety problems.

Data Collection

The team used DiExSys' *Vision Zero Suite* (VZS) to collect historic crash data for the study intersections identified previously. VZS aggregates all crash data collected by the Colorado Department of Transportation (CDOT) and provides safety analyses using methods from the Highway Safety Manual (HSM). VZS crash data was collected for the period from 2018–2022, which represents the most recently available five-year period.

Average annual daily traffic (AADT) volume data was collected along arterial roads using CDOT sources for use in evaluating safety performance with respect to traffic volume. Because the AADTs shown in this section are based on an average of conditions recorded during the 2018–2022 crash data, they do not necessarily match the daily traffic volumes shown in **Section II.D**.

Safety Performance Functions

SPFs were used to assess the magnitude of existing intersection safety problems. The SPF reflects the relationship between traffic exposure, measured in AADT, and crash frequency, measured in crashes per year. The SPF models provide an estimate of the expected crash frequency and severity for a range of AADT among similar intersection types. Two kinds of SPFs were used: the first addresses the total crash frequency, while the second considers the frequency of crashes involving an injury or a fatality (severe crashes).

Level of Service of Safety

Development of SPFs leads to the conceptual formulation of the Level of Service of Safety (LOSS). The concept of level of service uses qualitative measures that characterize safety of a roadway segment in reference to its expected performance. The expected crash frequency predicted by the SPF represents an expected level of safety, and specified percentiles of the SPF can be stratified to represent levels of safety with respect to the expected crash frequency. LOSS boundaries are calibrated by computing the 20th and the 80th percentiles using the Gamma Distribution Probability Density Function, resulting in the following LOSS descriptions:

- **LOSS I:** Below 20th Percentile
  - Indicates low potential for crash reduction.
- **LOSS II:** 20th Percentile to Mean
  - Indicates low-to-moderate potential for crash reduction.

- **LOSS III:** Mean to 80th Percentile
  - Indicates moderate-to-high potential for crash reduction.
- **LOSS IV:** Above 80th Percentile
  - Indicates high potential for crash reduction.

LOSS reflects an intersection's performance with respect to expected crash frequency and severity at a specific level of AADT. It does not provide any information related to the nature of the safety problem itself. If the safety problem is present, LOSS describes only its magnitude from the frequency and severity standpoint.

Correcting for Regression to the Mean Bias

The average of several years of crash history of an intersection provides an estimate of what is likely to be observed in the future. The precision of this estimate, however, can be improved by correcting for the Regression to the Mean (RTM) bias. RTM reflects the tendency for random event occurrences, such as crashes, to move toward the average during an experiment or over time. For instance, if an intersection exhibits unusually high or unusually low crash frequency in a particular year, RTM bias recognizes that over the long run the true average is closer to the mean representing safety performance of similar intersections.

RTM bias is addressed using the Empirical Bayes (EB) method. The EB method combines the known crash history with information regarding the safety of similar intersection types using the expected crash frequency and over-dispersion parameter associated with the SPF. EB-corrected values of frequency and severity of crashes are used in the SPF analysis to assess the magnitude of the existing safety problems.

Direct Diagnostics

While SPFs and LOSS describe the magnitude of safety problems, Direct Diagnostics were used to understand the nature of existing safety problems related to crash types, environmental conditions, and driver conditions. Direct Diagnostics compare the distribution of crashes observed at an intersection to distribution of data used in the formation of SPFs for similar intersection types. Using the binomial distribution, the team evaluated each crash type and contributing factor to determine if the frequency of occurrence at a study intersection was significantly greater than the frequency observed at similar intersections. Crash types and contributing factors with at least five occurrences and exceeding the 95 percent confidence level of the binomial distribution are considered a diagnostic pattern.

Safety Analysis Results

Table 3 summarizes the crash history for the selected study intersections. As shown, the Alameda Avenue & Sable Boulevard (#1) intersection experienced the most crashes over the five-year period (126), over 45 percent of which resulted in injury. This intersection experienced crash frequency consistent with LOSS IV conditions, indicating high potential for crash reduction. The Alameda Parkway & Chambers Road (#4) intersection had the second most crashes over the study period (70); however, this intersection experienced LOSS II (Total) and LOSS III (Severe) conditions.

Other intersections experienced LOSS IV conditions, indicating moderate-to-high potential for crash reduction. The Centrepoint Drive & Sable Boulevard (#5) intersection experienced severe crash frequency consistent with LOSS IV conditions, while the Center Avenue & Chambers Road (#9) intersection experienced total crash frequency consistent with LOSS IV conditions.

One fatal crash was recorded at the study intersections, occurring at the Centrepoint Drive & Sable Boulevard (#5) intersection. This crash involved a southbound motorcyclist fleeing the scene of a different crash who rear ended another motorist and then collided with a tree.

The following subsections describe in further detail the existing safety conditions for each select study intersection. **Appendix D** includes additional crash history data and safety analyses.

Table 3. Select Intersection Crash History (2018–2022)

#	Intersection	Crash Severity				LOSS		Notable Patterns
		PDO	INJ	FAT	Total	Total	Severe	
1	Alameda Ave & Sable Blvd	69	57	0	126	IV	IV	Pedestrian Approach Turn Dark-Lighted
2	Alameda Ave & Municipal Center Access	9	1	0	10	II	II	Broadside
3	Alameda Ave/Pkwy & Alameda Dr	9	10	0	19	I	II	Broadside
4	Alameda Pkwy & Chambers Rd	46	24	0	70	II	III	Broadside
5	Centrepoint Dr & Sable Blvd	12	8	1	21	III	IV	Broadside
6	Exposition Ave & Sable Blvd	8	11	0	19	II	III	Approach Turn
8	Exposition Ave & Chambers Rd	13	13	0	26	II	II	Approach Turn
9	Center Ave & Chambers Rd	21	5	0	26	IV	III	Broadside

Notes: PDO: Property Damage Only, **INJ:** Injury, **FAT:** Fatal, **LOSS:** Level of Service of Safety

1. Alameda Avenue & Sable Boulevard

Major Street: Alameda Avenue **AADT:** 35,400 VPD
Minor Street: Sable Boulevard **AADT:** 14,600 VPD
Classification: Urban Six-Lane Divided Signalized Four-Leg Intersection

Crash History: 126 Total (57 Injury)
LOSS: IV (Total), IV (Severe)
Diagnostic Patterns: Pedestrian, Approach Turn, Dark-Lighted

Pedestrian crashes represented about 4 percent of the crash history (5 of 126); two times higher than the typical rate for similar intersections. All five crashes involved motorists making turning movements and resulted in injury to the pedestrian(s). Over half of crashes (3 of 5) occurred during Dark-Lighted conditions.

Approach Turn crashes represented about 53 percent of the crash history (66 of 126); three times higher than the typical rate for similar intersections. Over half of the Approach Turn crashes (36 of 66) resulted in injury. Approach Turn crashes most commonly involved southbound (23 of 66), eastbound (19 of 66), and northbound (16 of 66) left-turning motorists. Less than half of Approach Turn crashes occurred during dawn, dusk, or dark conditions (25 of 66). Twenty-three of 66 Approach Turn crashes occurred during morning and evening peak periods (7–9 a.m. and 4–6 p.m.)

Dark-Lighted crashes represented about 31 percent of the crash history (39 of 126); about one-third higher than the typical rate for similar intersections. Dark-Lighted crash types primarily included Approach Turns (20 of 39). Rear End, Broadside, Fixed Object, Pedestrian, Sideswipe, and Overtaking Turn crashes were also recorded.

Preliminary Recommendations:

- Review left-turn operations for all directions, especially for southbound, eastbound, and northbound approaches.
- Consider using flashing yellow arrow (FYA) operations to restrict left-turn phases to protected-only during more times of day, especially morning and evening peak periods.
- Review lighting conditions at the intersection, on all approaches, and at the pedestrian level.

2. Alameda Avenue & Municipal Center Access

Major Street: Alameda Avenue **AADT:** 35,400 VPD
Minor Street: Municipal Center Access **AADT:** 3,500 VPD (10% of Major Street)
Classification: Urban Six-Lane Divided Unsignalized Three-Leg Intersection

Crash History: 10 Total (1 Injury)
LOSS: II (Total), II (Severe)
Diagnostic Patterns: Broadside

Broadside crashes represented 80 percent of the crash history (8 of 10); nearly four times higher than the typical rate for similar intersections. One crash resulted in injury. All eight Broadside crashes involved a southbound left-turning motorist colliding with a westbound motorist. Most of the Broadside crashes (6 of 8) occurred between 2 p.m. and 7 p.m. Driver Inexperience or Preoccupation was cited in half of the crashes (4 of 8).

Preliminary Recommendations:

- Consider restricting access to prohibit southbound left-turns from the Municipal Center Access.
  - This may not be feasible due to the proximity to the Aurora Police Department, but the intersection could be designed to permit southbound left-turns for emergency vehicles only.

3. Alameda Avenue/Parkway & Alameda Drive

Major Street: Alameda Avenue/Parkway **AADT:** 35,400 VPD
Minor Street: Alameda Drive **AADT:** 3,500 VPD (10% of Major Street)
Classification: Urban Six-Lane Divided Signalized Four-Leg Intersection

Crash History: 19 Total (10 Injury)
LOSS: I (Total), II (Severe)
Diagnostic Patterns: Broadside

Broadside crashes represented about 37 percent of crashes (7 of 19); about three times higher than the typical rate for similar intersections. Most Broadside crashes resulted in injuries (5 of 7) and involved westbound motorists on Alameda Parkway. Over half of the crashes occurred between 1 p.m. and 6 p.m.

Preliminary Recommendations:

- Consider reviewing/correcting interval clearance timings (yellow & all red) and corridor progression to reduce red-light running.
- Consider mitigations that improve signal visibility such as:
  - Removing sight distance obstructions (like landscaping)

- Placing signal heads on the mast arms above each lane
- Adding reflective backplate tape on signal heads
- Installing near-side signal heads for traffic on curves of Alameda Avenue/Parkway
- Adding advance warning signs and beacons

4. Alameda Parkway & Chambers Road

Major Street: Alameda Parkway **AADT:** 31,500 VPD
Minor Street: Chambers Road **AADT:** 28,300 VPD
Classification: Urban Six-Lane Divided Signalized Four-Leg Intersection

Crash History: 70 Total (24 Injury)
LOSS: II (Total), III (Severe)
Diagnostic Patterns: Broadside

Broadside crashes represented about 20 percent of crashes (14 of 70); about two times higher than the typical rate for similar intersections. Half of the Broadside crashes resulted in injuries (7 of 14) and nearly half occurred during Dark-Lighted conditions. Most Broadside crashes involved northbound and southbound at-fault drivers, and northbound motorists were the most involved overall. All Broadside crashes occurred between 11 a.m. and midnight or between midnight and 5 a.m.

Preliminary Recommendations:

- Consider reviewing/correcting interval clearance timings (yellow & all red) and corridor progression to reduce red-light running.
- Consider mitigations that improve signal visibility such as:
  - Adding reflective backplate tape on signal heads
  - Maintaining signal lenses and visors to reduce sun glare
  - Adding advance warning signs and beacons

5. Centrepoint Drive & Sable Boulevard

Major Street: Sable Boulevard **AADT:** 14,600 VPD
Minor Street: Centrepoint Drive **AADT:** 2,900 VPD (20% of Major Street)
Classification: Urban Four-Lane Divided Signalized Four-Leg Intersection

Crash History: 21 Total (8 Injury, 1 Fatal)
LOSS: III (Total), IV (Severe)
Diagnostic Patterns: Broadside, Snow/Sleet/Hail

Broadside crashes represented about 52 percent of crashes (11 of 21); nearly four times higher than the typical rate for similar intersections. Nearly half of the Broadside crashes resulted in injuries (5 of 11) and most involved northbound and southbound at-fault drivers. All crashes with southbound motorists occurred between approximately 6 a.m. and 2 p.m.; all crashes with northbound motorists occurred between approximately 2 p.m. and 7 p.m.

Preliminary Recommendations:

- Consider reviewing/correcting interval clearance timings (yellow & all red) and corridor progression to reduce red-light running.
- Consider mitigations that improve signal visibility such as:
  - Adding reflective backplate tape on signal heads
  - Maintaining signal lenses and visors to reduce sun glare
  - Adding advance warning signs and beacons

6. Exposition Avenue & Sable Boulevard

Major Street: Sable Boulevard **AADT:** 14,600 VPD
Minor Street: Exposition Avenue **AADT:** 6,300 VPD
Classification: Urban Four-Lane Divided Signalized Four-Leg Intersection

Crash History: 19 Total (11 Injury)
LOSS: II (Total), III (Severe)
Diagnostic Patterns: Approach Turn

Approach Turn crashes represented about 37 percent of the crash history (7 of 19); over two times higher than the typical rate for similar intersections. Over half of the Approach Turn crashes (4 of 7) resulted in injury. Approach Turn crashes most commonly involved westbound (4 of 7) and northbound (2 of 7) left-turning motorists, with most (5 of 7) occurring between 1 p.m. and 7 p.m.

Preliminary Recommendations

- Review left-turn operations for all directions, especially for westbound and northbound approaches.
  - Westbound left-turns were recently modified to provide a protected phase with a flashing yellow arrow (FYA).
- Consider using FYA operations to restrict left-turn phases to protected-only during more times of the day, especially during afternoons and evenings.

8. Exposition Avenue & Chambers Road

Major Street: Chambers Road **AADT:** 28,300 VPD
Minor Street: Exposition Avenue **AADT:** 6,300 VPD
Classification: Urban Six-Lane Divided Signalized Four-Leg Intersection

Crash History: 26 Total (13 Injury)
LOSS: II (Total), II (Severe)
Diagnostic Patterns: Approach Turn

Approach Turn crashes represented about 31 percent of the crash history (8 of 26); nearly two times higher than the typical rate for similar intersections. Less than half of Approach Turn crashes (3 of 8) resulted in injury and most commonly involved northbound (4 of 8) and southbound (3 of 8) left-turning/U-turning motorists. Most crashes (6 of 8) occurred between 11 a.m. and 7 p.m.

Preliminary Recommendations:

- Review left-turn operations for all directions, especially for northbound and southbound approaches.
- Consider replacing "doghouse" style left-turn signals with FYA signals and restricting left-turn phases to protected-only during specific times of day, especially during afternoons and evenings.

9. Center Avenue & Chambers Road

Major Street: Chambers Road **AADT:** 28,300 VPD
Minor Street: Center Avenue **AADT:** 2,800 VPD (10% of Major Street)
Classification: Urban Six-Lane Divided Unsignalized Four-Leg Intersection

Crash History: 26 Total (5 Injury)
LOSS: IV (Total), III (Severe)
Diagnostic Patterns: Broadside

Broadside crashes represented about 77 percent of crashes (20 of 26); over two times higher than the typical rate for similar intersections. Only 5 of the 20 Broadside crashes resulted in injuries. Most Broadside crashes occurred between westbound and northbound motorists (11 of 20) or between westbound and southbound motorists (6 of 20). Nearly all Broadside crashes occurred between 7 a.m. and 9 p.m.

Of the 20 Broadside crashes, 8 occurred in a one-year period between March 2019 to February 2020, meeting the requirement of the Crash Experience warrant for traffic signalization in the Manual on Uniform Traffic Control Devices (MUTCD). Similarly, 17 Broadside crashes occurred in a three-year period from July 2018 to June 2021, which also meets the MUTCD criteria.

Preliminary Recommendations:

- Consider mitigations that improve sight distance from westbound Center Avenue, such as removing or trimming landscaping.
- Consider traffic signalization based on MUTCD Warrant 5 – Crash Experience if criteria for Warrant 1 – Eight-Hour Vehicular Volume are also met.

III. Proposed Conditions

III.A Project Description

As evaluated in the *Metro Center Master TIS*, the proposed Metro Center development evaluated for the Master Plan Amendment would occupy the site bounded by Sable Boulevard to the west, Alameda Parkway to the north, Chambers Road to the east, and Center Avenue to the south. This TIS assumes that Metro Center would include the following land uses across the entire site:

- 2,130 multifamily DUs
- 49.88 KSF commercial/mixed-use
- 3.5 KSF office space

The RTD Aurora Metro Center Station and the Arapahoe County Centrepoint Plaza would remain.

III.B Proposed Roadway Network and Study Intersections

Roadway Network

Modifications and additions to the proposed roadway network within the study area and project site would consist of the following facilities.

Dakota Avenue

Dakota Avenue would be constructed as a two-lane east-west local street that connects Fraser Court to Chambers Road south of Alameda Parkway. At Fraser Court, Dakota Avenue would be aligned with access to the Arapahoe County property. The intersection of Chambers Road & Dakota Avenue would be restricted to RIRO movements only.

Virginia Avenue

Virginia Avenue would be constructed as a two-lane east-west local street that connects Fraser Court to Chambers Road north of Center Avenue. At Chambers Road, Virginia Avenue would be aligned with access to the City Center Marketplace shopping center. The intersection of Chambers Road & Virginia Avenue would be restricted to RIRO movements only. The existing southbound left-turn lane would remain.

Center Avenue

Center Avenue would remain as a two-lane local roadway.

Dawson Street

Dawson Street would be constructed as a two-lane north-south local street between Fraser Court and Centrepoint Drive. North of Centrepoint Drive, the Dawson Street alignment would serve as a bicycle and pedestrian throughway with allowances for emergency vehicle access.

Alameda Drive

Alameda Drive would remain as a two-lane local roadway adjacent to the Arapahoe County property. Dedicated turn lanes at the Centrepoint Drive & Alameda Drive (#12) intersection would be removed.

Fraser Court

Fraser Court would be a two-lane primarily north-south local street east of the Arapahoe County Centrepoint Plaza property. It would connect Alameda Parkway to Dawson Street and have intersections with Dakota Avenue, Virginia Avenue, and Centrepoint Drive. The intersection of Alameda Parkway & Fraser Court would be a three-quarter movement access, allowing left-turns and right-turns in from Alameda Parkway but only right-turns out from Fraser Court.

Granby Street

Granby Street would be a two-lane north-south local street connecting Alameda Parkway to Center Avenue. The intersection of Alameda Parkway & Grandby Street would be restricted to RIRO movements only.

Centrepoint Drive

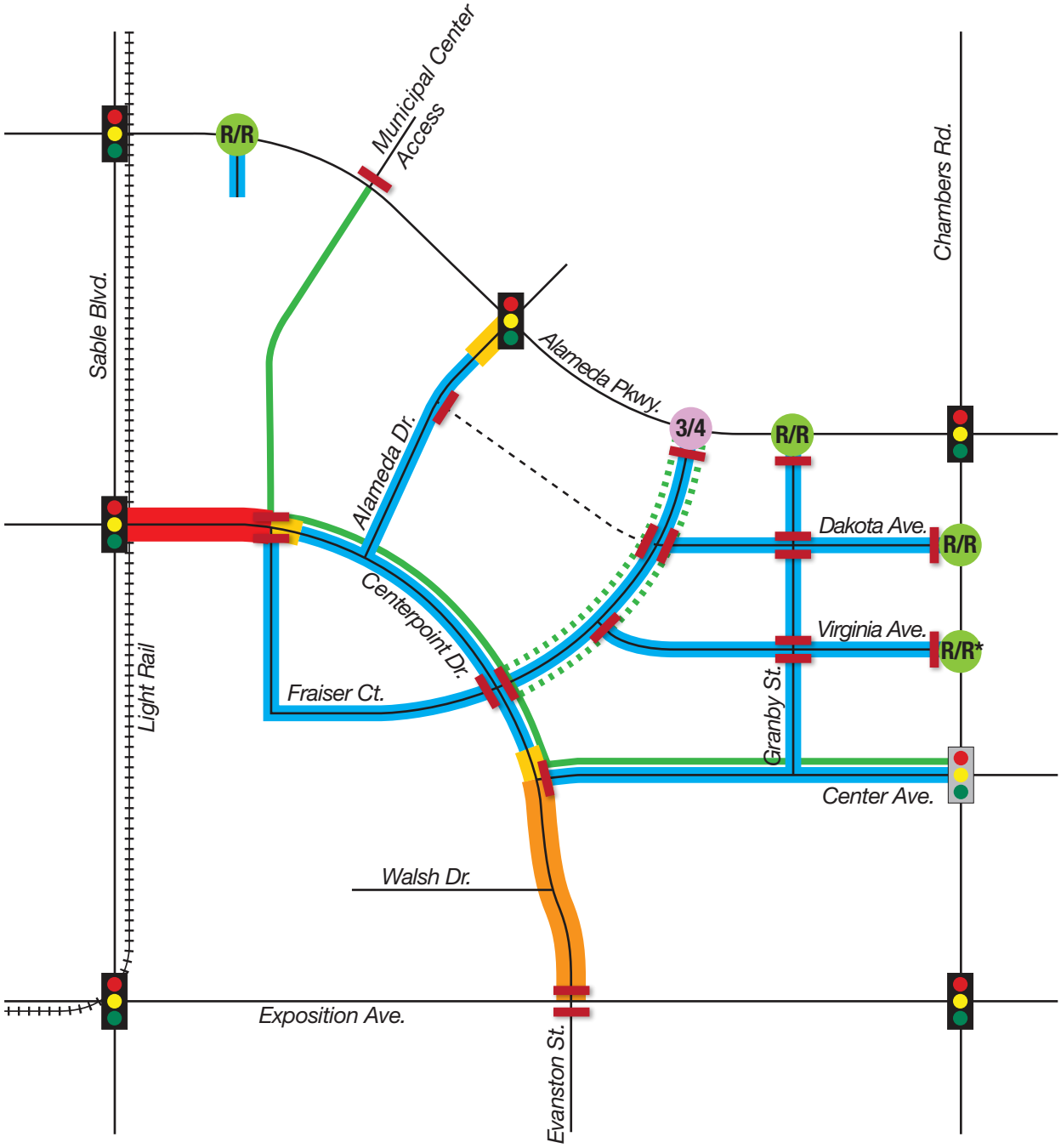
Centrepoint Drive would remain between Sable Boulevard and Exposition Avenue. However, the cross-section of Centrepoint Drive would be reduced from a three-lane collector roadway with a two-way left-turn lane to a two-lane local roadway between Dawson Street and Center Avenue.

Study Intersections

Several new public street intersections would be created as a part of the Metro Center development. The following new intersections were evaluated in this TIS:

13. Alameda Ave & Parcel A1
14. Alameda Pkwy & Fraser Ct
15. Alameda Pkwy & Granby St
17. Parcel A2/Arapahoe County & Alameda Dr
18. Dakota Ave/Arapahoe County & Fraser Ct
19. Dakota Ave & Granby St
20. Dakota Ave & Chambers Rd
21. Centrepoint Dr & Dawson St
22. Fraser Ct & Centrepoint Dr
23. Virginia Ave & Fraser Ct
24. Virginia Ave & Granby St
25. Virginia Ave & Chambers Rd
26. Center Ave & Granby St

Figure 5 displays proposed roadway and intersection characteristics for the proposed Metro Center development area. **Table 4** displays the characteristics of intersections added to the study area because of the proposed changes to the roadway network. Several two-way stop control intersections in the table currently exist but would be modified as part of the development to change intersection geometry or provide additional site access.



LEGEND

Laneage

- 5 Lanes
- 4 Lanes
- 3 Lanes
- 2 Lane
- Two-Way Bike Lane
- One-Way Bike Lane

Traffic Control

- Traffic Signal
- Proposed Traffic Signal
- R/R Right-in/Right-Out
- 3/4 3/4 Movement
- Stop Bar
- * Existing SB Left to Remain

NORTH

FELSBURG HOLT & ULLEVIG

NOTE: Drawing Not to Scale

FIGURE 5

Recommended Roadway/Intersection Characteristics

Metro Center Amendment TIS 124-134-01 05/17/24

Table 4. Proposed Intersection Characteristics

#	Intersection	Access Type	Stop-Control
11	Centrepoint Dr & Center Ave	Full-Movement	Center Ave
12	Centrepoint Dr & Alameda Dr	Full-Movement	Alameda Dr
13	Alameda Ave & Parcel A1	Right-In/Right-Out	Parcel A1
14	Alameda Pkwy & Fraser Ct	Three-Quarter	Fraser Ct
15	Alameda Pkwy & Granby St	Right-In/Right-Out	Granby St
17	Parcel A2/Arapahoe Co & Alameda Dr	Full-Movement	Parcel A2/Arapahoe Co
18	Dakota Ave/Arapahoe Co & Fraser Ct	Full-Movement	Dakota Ave/Arapahoe Co
19	Dakota Ave & Granby St	Full-Movement	Granby St
20	Dakota Ave & Chambers Rd	Right-In/Right-Out	Dakota Ave
21	Centrepoint Dr & Dawson St	Full-Movement	Dawson St
22	Centrepoint Dr & Fraser Ct	Full-Movement	Fraser Ct
23	Virginia Ave & Fraser Ct	Full-Movement	Virginia Ave
24	Virginia Ave & Granby St	Full-Movement	Granby St
25	Virginia Ave & Chambers Rd	Right-In/Right-Out & Southbound Left	Virginia Ave
26	Center Ave & Granby St	Full-Movement	Granby St

III.C Proposed Bicycle and Pedestrian Infrastructure

In addition to improved roadway infrastructure, Metro Center would also provide a robust network for non-motorized transportation modes. The curvilinear grid network proposed on the site would provide viable options for users on all parts of the site to make trips via walking or bicycle. Metro Center would provide enhanced facilities for bicyclists and pedestrians at the following locations:

- Sidewalks on both sides of all internal streets
  - Connectivity provided to external sidewalks and multiuse paths
- Two-way, separated bicycle lanes along multiple internal streets
  - North/east side of Centrepoint Drive between Dawson Street and Center Avenue
  - North side of Center Avenue between Centrepoint Drive and Chambers Road
- One-way striped bicycle lanes on both sides of Fraser Court between Alameda Parkway and Centrepoint Drive
- Dedicated bicycle and pedestrian throughway along the Dawson Street alignment between Alameda Avenue and Centrepoint Drive
  - Allowances for emergency vehicle access

III.D Changes from the *Metro Center Master TIS*

Since the *Metro Center Master TIS* was prepared, several changes to land use and site access are proposed in the Master Plan Amendment development plan that would change the traffic impacts of the site.

Land Use

Proposed land use changes have been identified throughout the Metro Center site, which could alter the estimated traffic volumes generated by the proposed development compared to evaluations in the *Metro Center Master TIS*. **Table 5** summarizes these changes for each planning area.

As shown, the proposed hotel and commercial uses in Parcel A1 are replaced with affordable housing units. Parcel A2 and A3 are combined into a single Parcel A2, with higher multifamily residential density and less commercial/mixed-use space. The supermarket previously proposed in Parcel A2 moves to Parcel B2.

Within Parcel B, office uses would be reduced in size or replaced with commercial/mixed-use space. Multifamily residential density increases were compared to those in the *Metro Center Master TIS*. Senior adult housing replaces market-rate residential units in Parcel B5. Within Parcel C, the distribution of multifamily residential units changes, but overall density within the parcel remains the same.

Table 5. Proposed Land Use Updates

Parcel	Metro Center Master TIS		Master Plan Amendment	
	Land Use	Size	Land Use	Size
A1	Hotel	100 Rm	Affordable Housing	150 DU
	Commercial/Mixed-Use	5.5 KSF		
A2	Supermarket	24 KSF	Multifamily Residential (Mid-Rise) *	600 DU
	Commercial/Mixed-Use	22.5 KSF		
A3	Multifamily Residential (Mid-Rise)	300 DU	Commercial *	15 KSF
	Commercial/Mixed-Use	15 KSF		
B1	Office	40 KSF	Bank	6.5 KSF
			Medical-Dental Office	3.5 KSF
			High-Turnover Sit-Down Restaurant	5.5 KSF
B2	Office	60 KSF	Supermarket	22.88 KSF
B3	Multifamily Residential (Low Rise)	72 DU	Multifamily Residential (Mid-Rise)	99 DU
B4	Multifamily Residential (Low Rise)	63 DU	Multifamily Residential (Mid-Rise)	111 DU
B5	Multifamily Residential (Low Rise)	200 DU	Senior Adult Housing – Multifamily	220 DU
B6	Multifamily Residential (Low Rise)	100 DU	Multifamily Residential (Mid-Rise)	150 DU
C1	Multifamily Residential (Mid-Rise)	350 DU	Multifamily Residential (Mid-Rise)	385 DU
C2	Multifamily Residential (Mid-Rise)	225 DU	Multifamily Residential (Mid-Rise)	215 DU
C3	Multifamily Residential (Mid-Rise)	225 DU	Multifamily Residential (Mid-Rise)	200 DU

Notes: An asterisk (*) indicates that Parcel A2 and A3 are combined in the Master Plan Amendment as Parcel A2.
DU = dwelling units KSF = thousand square feet Rm = rooms

Site Access

Modifications to proposed development access since the *Metro Center Master TIS* include:

- **Virginia Avenue & Chambers Rd (#25)** was previously identified to provide three-quarter movement access, permitting northbound and southbound left- and right-turns but prohibiting eastbound and westbound left-turns.
  - Under the *Aurora Metro Center PA-B Infrastructure Site Plan Traffic Impact Study*[4] (Parcel B TIS), access was modified to prohibit northbound left-turns.
- **Dawson Street** was previously identified to connect from Fraser Court to Alameda Avenue adjacent to the RTD Aurora Metro Center Station and aligned with the Municipal Center Access.
  - Under the Master Plan Amendment, the segment of Dawson Street from Centrepoint Drive to Alameda Avenue would no longer be constructed with vehicular access.
  - Instead, the Dawson Street alignment would serve as a bicycle and pedestrian throughway with allowances for emergency vehicle access.
- **Dakota Avenue** was previously identified to connect Dawson Street to Chambers Road and pass through the Arapahoe County property.
  - Under the Master Plan Amendment, the segment of Dakota Avenue from Dawson Street to Alameda Drive would not be constructed, and the segment from Alameda Drive to Fraser Court would not provide vehicular access for through traffic.
- **Parcel A1** was previously identified to have access via a RIRO vehicular access to Alameda Avenue and a full-movement access at the Dakota Avenue & Dawson Street intersection.
  - Under the Master Plan Amendment, access via the Dawson Street alignment would be restricted to emergency vehicles only, and the RIRO access to Alameda Parkway would be the only public vehicular access point.
- **Parcels A2 and A3** were previously identified to be located between Dawson Street and Alameda Drive and bifurcated by Dakota Avenue.
  - Under the Master Plan Amendment, these parcels would be combined into Parcel A2, and access would come from Alameda Drive.

III.E Site-Generated Trips

Similar to the *Metro Center Master TIS*, the trip generation potential of the Metro Center development proposed under the Master Plan Amendment was evaluated based on land use type and size. Data from *Trip Generation, 11th Edition* (Institute of Transportation Engineers, 2021) was referenced to determine vehicle-trips generated by the proposed development on typical weekdays and during morning and evening peak hours. **Table 6** presents the trip generation information for a typical weekday. As shown, Metro Center could be expected to generate nearly 14,100 total daily trips, including about 1,050 in the morning peak hour and about 1,300 in the evening peak hour.

The mix of land uses in the proposed development would lend itself to internal trip-making. Internal trips were calculated using information contained in *Trip Generation Handbook, 3rd Edition* (Institute of Transportation Engineers, 2017) and the NCHRP 684 Internal Trip Capture Estimation tool. Approximately 2,860 daily trips (20 percent of total) would be made internally, including about 65 during the morning peak hour (6 percent) and 160 during the evening peak hour (12 percent). Like the *Metro Center Master TIS*, 30 percent of internal trips were assumed to be made with vehicles, while 70 percent would be made with non-motorized modes.

[4] *Aurora Metro Center PA-B Infrastructure Site Plan Traffic Impact Study*. Felsburg Holt & Ullevig, Greenwood Village, Colorado. September 2022. FHU Reference No. 119405-03.

Table 6. Trip Generation Summary

Parcel	Land Use	ITE Code	Size	Daily Trips	Morning Peak Hour			Evening Peak Hour		
					In	Out	Total	In	Out	Total
A1	Affordable Housing	223	150 DU	721	22	53	75	41	28	69
A2	Commercial	822	15 KSF	817	21	14	35	50	49	99
	Multifamily Residential (Mid-Rise)	221	600 DU	2,724	58	194	252	143	91	234
B1	Drive-In Bank	912	6.5 KSF	652	38	27	65	69	68	137
	Medical/Dental Office Building	720	3.5 KSF	126	9	3	12	3	8	11
	High-Turnover Sit-Down Restaurant	932	5.5 KSF	590	29	24	53	31	19	50
B2	Supermarket	850	22.88 KSF	2,447	38	27	65	103	102	205
B3	Multifamily Residential (Mid-Rise)	221	99 DU	449	7	25	32	24	15	39
B4	Multifamily Residential (Mid-Rise)	221	111 DU	504	9	28	37	27	17	44
B5	Senior Housing – Multifamily	252	220 DU	713	15	29	44	31	24	55
B6	Multifamily Residential (Mid-Rise)	221	150 DU	681	12	42	54	36	23	59
C1	Multifamily Residential (Mid-Rise)	221	385 DU	1,748	36	122	158	92	58	150
C2	Multifamily Residential (Mid-Rise)	221	215 DU	976	19	64	83	51	33	84
C3	Multifamily Residential (Mid-Rise)	221	200 DU	908	17	59	76	48	30	78
Total Trip Generation				**14,056**	**330**	**711**	**1,041**	**749**	**565**	**1,314**
Internal Trip Capture				2,860	32	32	64	79	79	158
	Vehicular Internal Trips (30%)			*858*	*10*	*10*	*20*	*24*	*24*	*48*
	Non-Motorized Internal Trips (70%)			*2,002*	*22*	*22*	*44*	*55*	*55*	*110*
Total External Trips				**11,196**	**298**	**679**	**977**	**670**	**486**	**1,156**
Transit Mode Share Adjustments				1,381	36	95	131	80	56	136
Pass-By Adjustments				330	0	0	0	51	51	102
Net External Vehicle Trip Generation				**9,485**	**262**	**584**	**846**	**539**	**379**	**918**
Net Internal Vehicle Trip Generation				**858**	**10**	**10**	**20**	**24**	**24**	**48**

Like the *Metro Center Master TIS*, reductions to external trip generation were made to account for transit use based on proximity to the RTD Aurora Metro Center Station. The following transit mode share percentages were reused from the *Metro Center Master TIS*:

- Residential: 15%
- Commercial: 5% (excludes supermarket trips)
- Office: 5%

These assumptions for transit mode share result in a reduction of 12 percent of daily **external** trips, 13 percent of morning peak hour **external** trips, and 12 percent of evening peak hour **external** trips.

Pass-by trip reductions were also considered using assumptions from the *Metro Center Master TIS* using methods from the *Trip Generation Handbook*, including 20 percent for general commercial trips and 40 percent for supermarket trips during the evening peak hour. Morning peak hour pass-by trip reductions were not

applied, and daily pass-by reductions were estimated as one-half of the evening peak hour rates. Overall, this results in a reduction of 3 percent of daily **external** trips and 9 percent of evening peak hour **external** trips.

Including all reductions, the proposed Metro Center development as defined in the Master Plan Amendment is expected to generate about 9,500 net **external** daily vehicle-trips, including nearly 850 in the morning peak hour and 920 in the evening peak hour. Additionally, the development would generate about 860 **internal** daily vehicle-trips, about 20 in the morning peak hour and 50 in the evening peak hour.

Compared to daily trip generation estimates from the *Metro Center Master TIS*, the current iteration of the proposed development would result in a decrease of 23 percent of **total** trips (all modes), including a decrease of 14 percent of **external** vehicle-trips and 49 percent of **internal** vehicle-trips.

III.F Trip Distribution and Traffic Assignment

The distribution of net external vehicle trips traveling to/from the proposed development assumed similar characteristics to what was used in the *Metro Center Master TIS*:

- Alameda Parkway west: 20%
- Sable Boulevard north: 15%
- Chambers Road north: 15%
- Alameda Parkway east: 20%
- Chambers Road south: 15%
- Sable Boulevard south: 10%
- Exposition Avenue west: 5%

This distribution is also depicted on **Figure 6**. Morning and evening peak hour vehicle-trips, including all internal and pass-by trips, were assigned to the proposed network using these distribution assumptions with some judgment to determine the shortest path. **Figure 6** also depicts peak hour site-generated traffic volumes for study area intersections. Of note, application of pass-by trips to the traffic assignment would result in a reduction of traffic volumes for the westbound through movement at the Alameda Avenue/Parkway & Alameda Drive intersection during the evening peak hour.

III.G Existing Plus Site Traffic Volumes

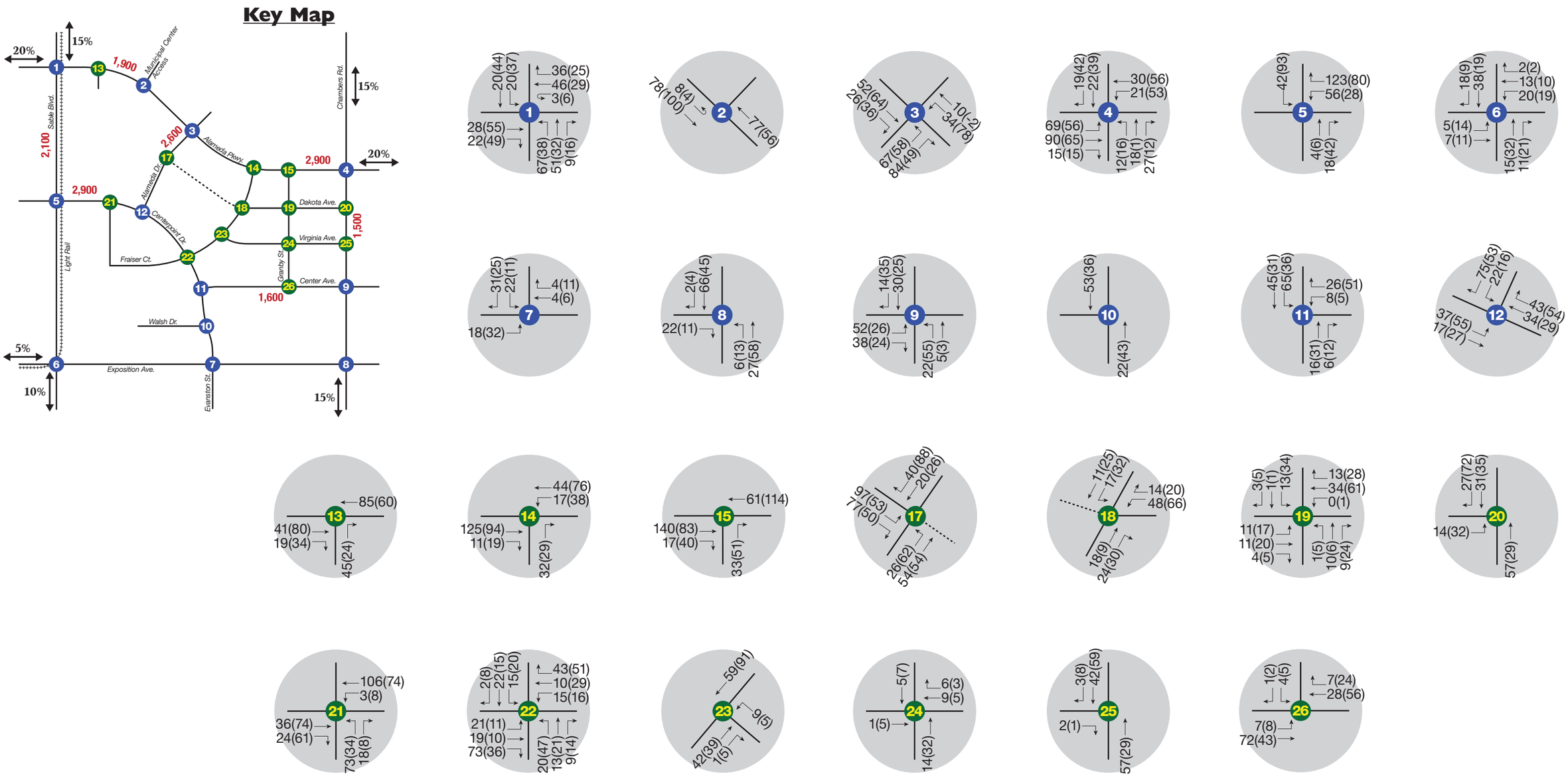
Site-generated traffic volumes shown on **Figure 6** were combined with existing traffic volumes shown on **Figure 3** to create an "Existing Plus Site" scenario. This scenario represents a near-term condition in which Metro Center is built out, but long-term regional background traffic growth has not yet occurred.

Figure 7 displays estimates of daily and peak hour traffic volumes within the study area for the Existing Plus Site scenario. As shown, Alameda Avenue/Parkway would serve between 45,700 and 49,900 VPD including the proposed development, with an average of 3,200 VPH during the morning peak hour and 3,475 VPH during the evening peak hour.

South of Alameda Avenue, Sable Boulevard would serve 15,400 VPD, including 950 VPH during the morning peak hour and 1,350 VPH during the evening peak hour. Alameda Drive would serve 5,300 VPD; 400 VPH during the morning peak hour and 450 VPH during the evening peak hour. Chambers Road would serve 38,600 VPD; 2,700 VPH during the morning peak hour and 3,350 VPH during the evening peak hour.

East of Sable Boulevard, Centrepoint Drive would serve 5,800 VPD, including 425 VPH during the morning peak hour and 500 VPH during the evening peak hour. West of Chambers Road, Center Avenue would serve 2,400 VPD, including 200 VPH during the morning peak hour and 200 VPH during the evening peak hour.

Section V presents results of the operational evaluation of this scenario.



LEGEND

XXX(XXX) = AM(PM) Peak Hour Traffic Volumes

XX% = Site Trip Distribution

X = Proposed Intersection

XXXX = Daily Traffic Volumes

NORTH

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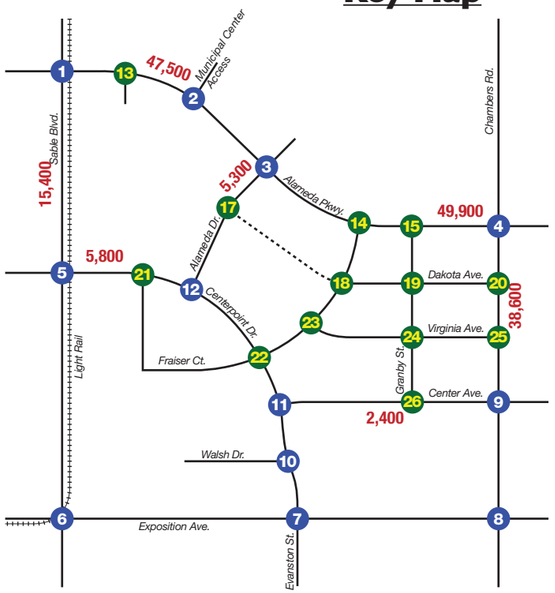
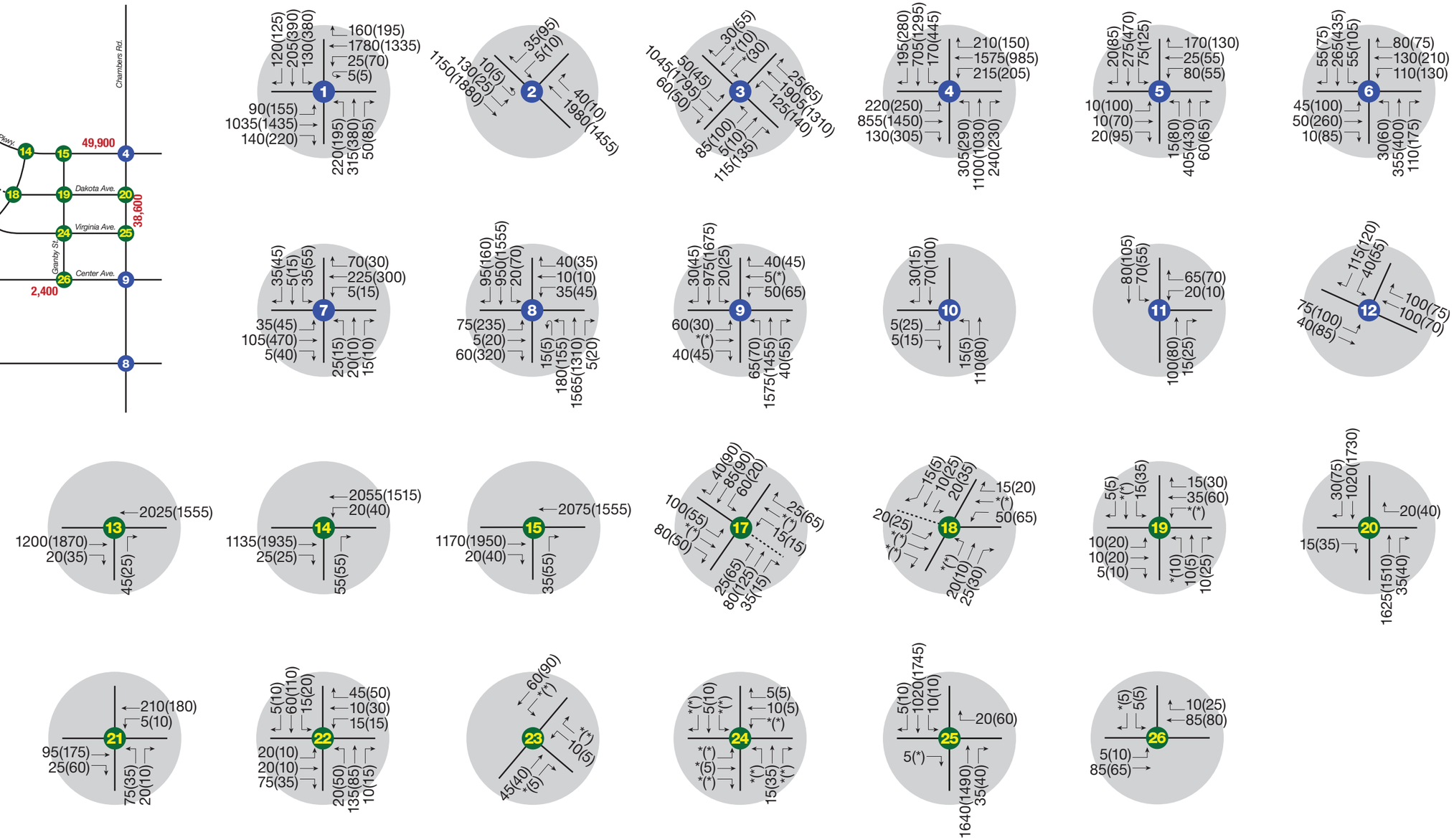
FIGURE 6
Site-Generated Traffic Volumes

Metro Center Amendment TIS 124-134-01 05/17/24

Key Map





LEGEND

XXX(XXX) = AM(PM) Peak Hour Traffic Volumes

X = Proposed Intersection

XXXX = Daily Traffic Volumes

NORTH

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FIGURE 7
Existing Plus Site Traffic Volumes

Metro Center Amendment TIS 124-134-01 05/17/24

IV. Future Conditions

This section evaluates anticipated traffic volume growth expected over a long-term planning horizon of 20 years (Year 2040). The 2040 planning horizon was selected for consistency with the *Metro Center Master TIS*.

IV.A Future (2040) Background Traffic Volumes

Background traffic represents the component of traffic growth independent of the proposed site that is expected to use the surrounding roadway network. Estimates of background traffic growth for roadways within the study area were calculated using assumptions from the *Metro Center Master TIS* of a uniform rate of 1.5 percent per year based on review of the Denver Regional Council of Governments (DRCOG) "Focus" and Northeast Aurora Transportation Study (NEATS) travel demand models.

Figure 8 displays estimates of daily and peak hour traffic volumes within the study area for the Future (2040) Background Traffic scenario. As shown on **Figure 8**, Alameda Avenue/Parkway would serve between 55,700 and 55,500 VPD along the frontage of the proposed development, with an average of 3,850 VPH during the morning peak hour and 4,175 VPH during the evening peak hour by Year 2040.

South of Alameda Avenue, Sable Boulevard would serve 17,000 VPD, including 1,000 VPH during the morning peak hour and 1,475 VPH during the evening peak hour. Alameda Drive would serve 3,600 VPD, including 225 VPH during the morning peak hour and 300 VPH during the evening peak hour. Chambers Road would serve 50,700 VPD, including 3,275 VPH during the morning peak hour and 4,100 VPH during the evening peak hour.

East of Sable Boulevard, Centrepoint Drive would serve 3,800 VPD, including 225 VPH during the morning peak hour and 325 VPH during the evening peak hour. West of Chambers Road, Center Avenue would serve 1,200 VPD, including 100 VPH during the morning peak hour and 75 VPH during the evening peak hour.

Section V presents results of the operational evaluation of this scenario.

IV.B Future (2040) Total Traffic Volumes

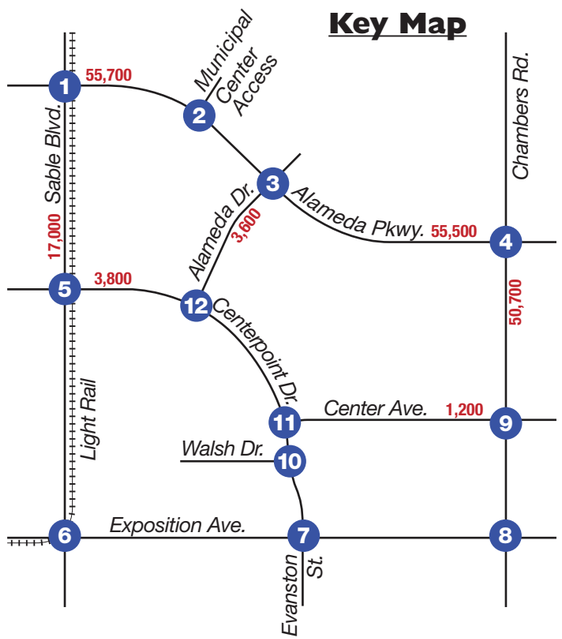
Total traffic represents the future scenario in which vehicle-trips generated by the proposed Metro Center development (shown on **Figure 6**) are added to the Future (2040) Background Traffic volumes (shown on **Figure 8**). Total traffic volumes also account for all internal and pass-by trip-making. **Figure 9** displays estimates of daily and peak hour traffic volumes within the study area for the Future (2040) Total Traffic scenario.

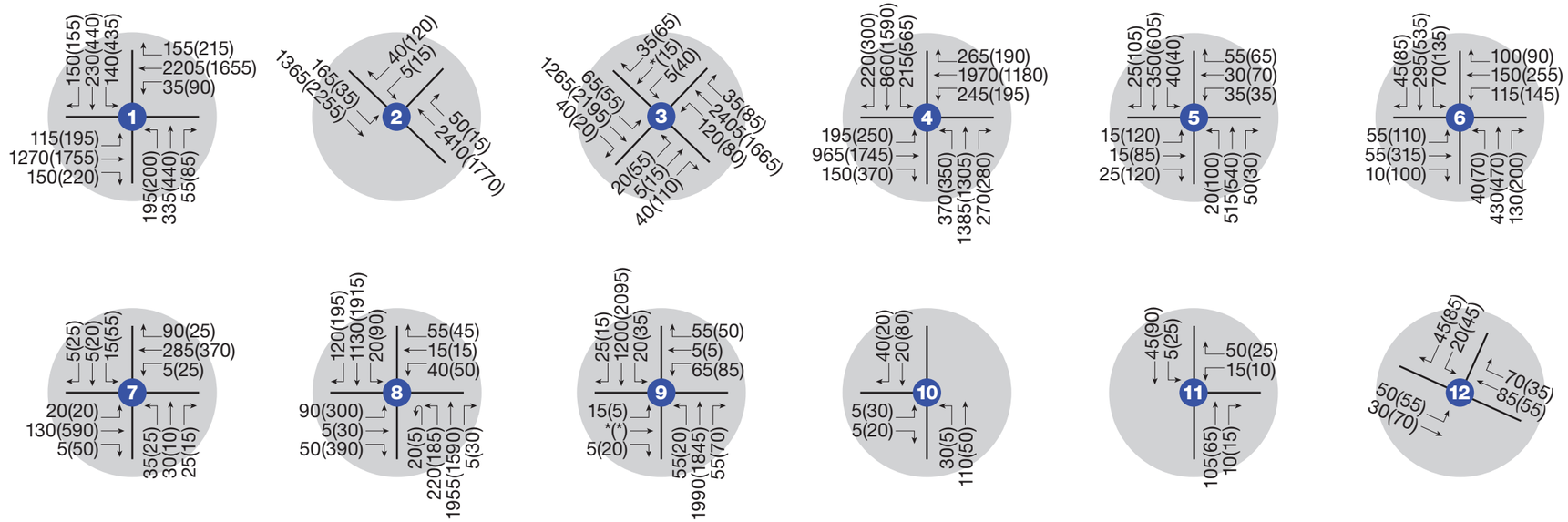
As shown on **Figure 9**, Alameda Avenue/Parkway would serve between 57,600 and 58,400 VPD, including the proposed development, with an average of 4,050 VPH during the morning peak hour and 4,350 VPH during the evening peak hour by Year 2040.

South of Alameda Avenue, Sable Boulevard would serve 19,100 VPD, including 1,175 VPH during the morning peak hour and 1,650 VPH during the evening peak hour. Alameda Drive would serve 6,200 VPD, including 450 VPH during the morning peak hour and 525 VPH during the evening peak hour. Chambers Road would serve 52,200 VPD, including 3,400 VPH during the morning peak hour and 4,225 VPH during the evening peak hour.

East of Sable Boulevard, Centrepoint Drive would serve 6,700 VPD, including 475 VPH during the morning peak hour and 575 VPH during the evening peak hour. West of Chambers Road, Center Avenue would serve 2,800 VPD, including 250 VPH during the morning peak hour and 200 VPH during the evening peak hour.

Section V presents results of the operation evaluation of this scenario.





LEGEND

XXX(XXX) = AM(PM) Peak Hour Traffic Volumes

XXXX = Daily Traffic Volumes

NOTE: Drawing Not to Scale

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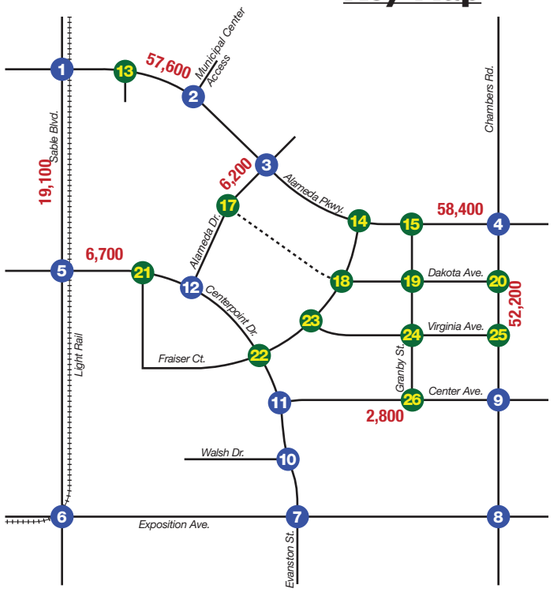
NORTH

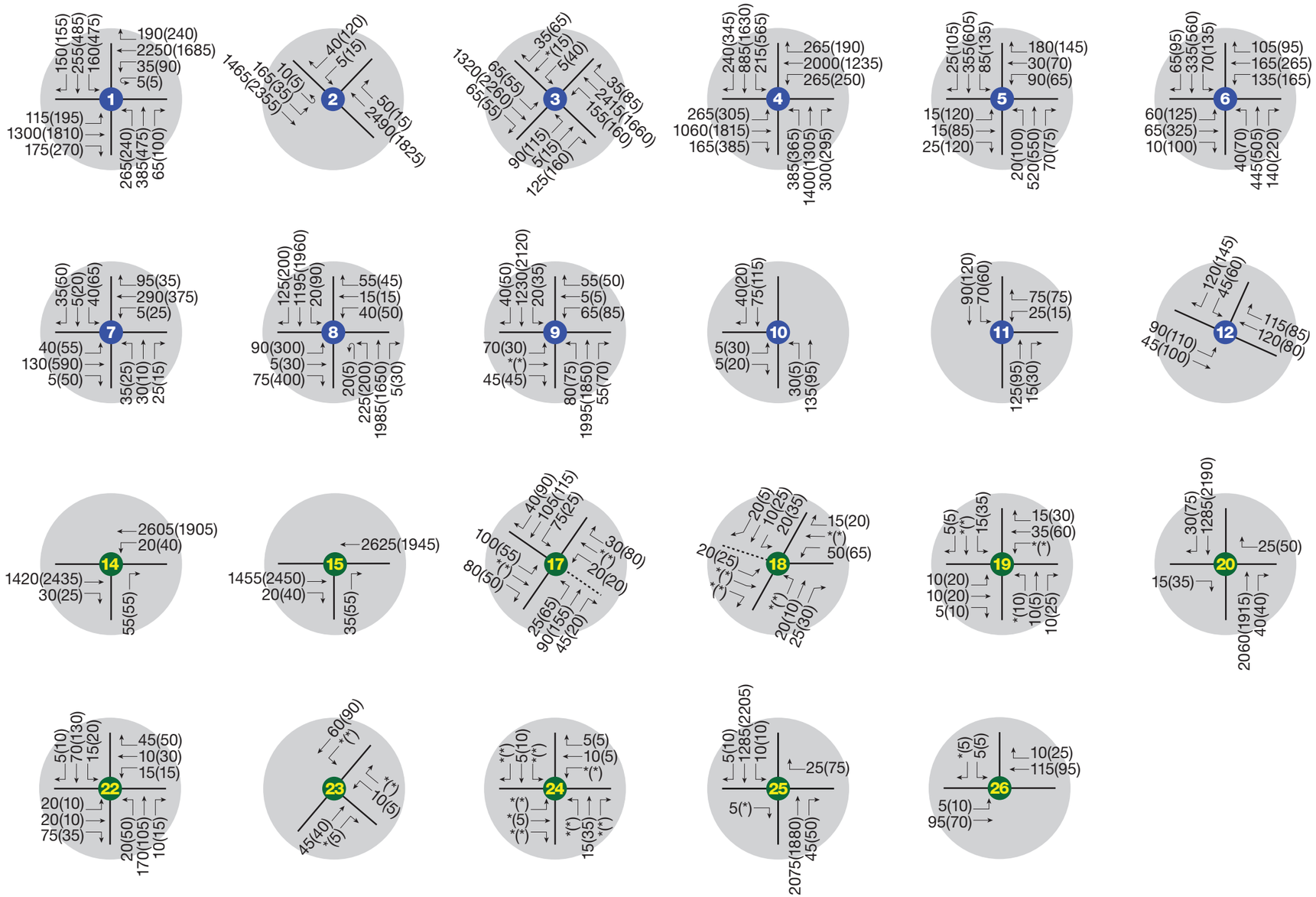
FIGURE 8

Future (2040) Background Traffic Volumes

Metro Center Amendment TIS 124-134-01 05/17/24

Key Map





LEGEND

XXX(XXX) = AM(PM) Peak Hour Traffic Volumes

X = Proposed Intersection

XXXX = Daily Traffic Volumes

NORTH

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FIGURE 9
Future (2040) Total Traffic Volumes

Metro Center Amendment TIS 124-134-01 05/17/24

V. Evaluation and Mitigations

Due to site-generated traffic from the proposed Metro Center development, daily traffic volumes on the surrounding arterial network (Alameda Avenue/Parkway, Sable Boulevard, Chambers Road, and Exposition Avenue) would increase by 5.2 percent to 8.1 percent. The increases in traffic volumes resulting from background traffic growth and site-generated trips would impact traffic conditions on roadway segments and at intersections within the study area. This section evaluates impacts to LOS, vehicle queueing, and safety and provides recommendations for mitigations to meet the TIS guidelines provided by Aurora.

V.A Level of Service

Changes in traffic volumes at intersections also change LOS due to increased delays. Aurora's Traffic Impact Study Guidelines stipulate that peak hour intersection operations should be at LOS D or better. Mitigation measures should be considered for intersections that would not meet these standards, with some exceptions.

Methodology Changes

Similar to the *Metro Center Master TIS*, modifications to PHFs were assumed for LOS analyses in Existing Plus Site and all Future (2040) scenarios. The worst expected PHF 0.75 was averaged with the HCM default of 0.92 to achieve a PHF of 0.84 for all new intersection approaches.

When evaluating LOS for the Future (2040) scenarios, traffic signal timings for non-light rail intersections were assumed to be modified to better serve forecasted traffic volumes, including increased cycle lengths, adjusted phase splits, and modifying sequencing.

Summary of Level of Service Evaluation

LOS was calculated for each signalized intersection and unsignalized intersection movement in the study area for all scenarios. **Table 7** summarizes LOS at all signalized intersections, and **Table 8** summarizes LOS for all unsignalized intersection movements.

Table 7. Signalized Intersection Level of Service Summary

#	Intersection	Morning / Evening Peak Hour Level of Service			
		Existing (2024)	Existing Plus Site	Future (2040) Background	Future (2040) Total
1	Alameda Ave & Sable Blvd *	C / D	C / D	D / E	D / F
3	Alameda Ave/Pkwy & Alameda Dr	A / A	A / B	A / A	A / B
4	Alameda Pkwy & Chambers Rd	D^ / D	E / E	F / E	F / F
5	Centrepoint Dr & Sable Blvd *	B / C	C / C^	C / C^	C / C^
6	Exposition Ave & Sable Blvd *	C / D	C / D^	C / D^	C / E
8	Exposition Ave & Chambers Rd	A / C^	A / C^	B / D^	B / D^

Notes: An asterisk (*) indicates that Synchro-based LOS is reported for the intersection.
A **yellow highlight** indicates the LOS does not meet Aurora standards.
A caret (^) indicates individual movements at LOS F despite overall intersection operations of LOS D or better.

Table 8. Unsignalized Intersection Level of Service Summary

#	Intersection	Movement	Morning / Evening Peak Hour Level of Service			
			Existing (2024)	Existing Plus Site	Future (2040) Background	Future (2040) Total
2	Alameda Ave & Municipal Center Access	EBL	b / a	b / a	c / b	c / b
		SBL	f / f	f / f	f / f	f / f
		SBR	b / b	b / b	c / c	c / c
7	Exposition Ave & Centrepoint Dr/Evanston St	EBL	a / a	a / a	a / a	a / a
		WBL	a / a	a / a	a / a	a / a
		NBL/NBT/NBR	b / c	b / c	b / d	c / e
		SBL	b / d	b / d	c / e	c / f
		SBT	b / c	b / c	b / d	b / d
		SBR	a / a	a / a	a / a	a / b
9	Center Ave & Chambers Rd	EBL/EBT/EBR	b / b	c / d	d / f	f / f
		WBL/WBT/WBR	c / c	d / d	f / f	f / f
		NBL	a / b	a / b	a / b	b / b
		SBL	b / b	b / b	b / b	b / b
10	Walsh Dr & Centrepoint Dr	EBL/EBR	a / a	a / a	b / a	b / a
		NBL	a / a	a / a	a / a	a / a
11	Center Ave & Centrepoint Dr	WBL/WBR	a / a	b / a	a / a	b / a
		SBL	a / a	a / a	a / a	a / a
12	Centrepoint Dr & Alameda Dr	EBL	a / a	a / a	a / a	a / a
		SBL	b / b	b / b	b / b	b / b
		SBR	a / a		a / a	
13	Alameda Ave & Parcel A1	NBR	*Not Built*	b / b	*Not Built*	b / c
14	Alameda Pkwy & Fraser Ct	WBL	*Not Built*	a / b	*Not Built*	b / b
		NBR		b / b		b / c
15	Alameda Pkwy & Granby St	NBR	*Not Built*	b / b	*Not Built*	b / c
17	Parcel A2/Arapahoe Co & Alameda Dr	EBL/EBT/EBR	*Not Built*	b / b	*Not Built*	c / c
		WBL/WBT/WBR		b / b		b / b
		NBL/NBT/NBR		a / a		a / a
		SBL/SBT/SBR		a / a		a / a
18	Dakota Ave/Arapahoe Co & Fraser Ct	EBL/EBT/EBR	*Not Built*	a / a	*Not Built*	a / a
		WBL/WBT/WBR		a / a		a / a
		NBL/NBT/NBR		a / a		a / a
		SBL/SBT/SBR		a / a		a / a
19	Dakota Ave & Granby St	EBL/EBT/EBR	*Not Built*	a / a	*Not Built*	a / a
		WBL/WBT/WBR		a / a		a / a
		NBL/NBT/NBR		a / a		a / a
		SBL/SBT/SBR		a / b		a / b
20	Dakota Ave & Chambers Rd	EBR	*Not Built*	b / b	*Not Built*	b / b
		WBR		b / b		b / b
21	Centrepoint Dr & Dawson St	WBL	*Not Built*	a / a	*Not Built*	a / a
		NBL/NBR		b / b		b / b
22	Fraser Ct & Centrepoint Dr	EBL/EBT/EBR	*Not Built*	b / b	*Not Built*	b / b
		WBL/WBT/WBR		b / b		b / b
		NBL/NBT/NBR		a / a		a / a
		SBL/SBT/SBR		a / a		a / a
23	Virginia Ave & Fraser Ct	WBL/WBR	*Not Built*	a / a	*Not Built*	a / a
		SBL/SBT		a / a		a / a
24	Virginia Ave & Granby St	EBL/EBT/EBR	*Not Built*	a / a	*Not Built*	a / a
		WBL/WBT/WBR		a / a		a / a
		NBL/NBT/NBR		a / a		a / a
		SBL/SBT/SBR		a / a		a / a
25	Virginia Ave & Chambers Rd	EBR	*Not Built*	b / a	*Not Built*	b / a
		WBR		b / b		b / b
		SBL		b / a		b / b
26	Center Ave & Granby St	EBL/EBT	*Not Built*	a / a	*Not Built*	a / a
		SBL/SBR		a / a		a / b

Notes: A **yellow highlight** indicates the LOS does not meet Aurora standards.
Movements are first identified by direction then by movement (i.e., EBL = Eastbound Left-Turn)
EB: Eastbound, **WB:** Westbound, **NB:** Northbound, **SB:** Southbound
L: Left-turn, **T:** Through, **R:** Right-turn

Section II.E presents additional details on LOS for Existing Conditions. The following sections discuss LOS and potential mitigations for each scenario. **Appendix B** includes worksheets for LOS evaluations.

Existing Plus Site

Figure 10 displays LOS and lane configurations for intersections included in the Existing Plus Site evaluation. As shown in **Table 7**, in **Table 8**, and on **Figure 10**, signalized intersection LOS would not meet Aurora standards at Alameda Parkway & Chambers Road (#4), Centrepoint Drive & Sable Boulevard (#5), Exposition Avenue & Sable Boulevard (#6), and Exposition Avenue & Chambers Road (#8). Additionally, southbound left-turns at Alameda Avenue & Municipal Center Access (#2) would operate at LOS F during both peak hours.

Mitigations recommended to address operations for Existing Conditions shown in **Section II.E** would also be suitable to address the Existing Plus Site scenario. New mitigations should be considered at Centrepoint Drive & Sable Boulevard (#5) and Center Avenue & Chambers Road (#9).

2. Alameda Avenue & Municipal Center Access

No improvements are recommended for the southbound left-turn movement at Alameda Avenue & Municipal Center Access (#2). This movement serves light traffic demand (less than 10 VPH during peak hours) and alternate routes are available via Alameda Drive.

3. Alameda Avenue/Parkway & Alameda Drive

Like the Existing Conditions scenario, traffic signal cycle lengths for the Alameda Avenue/Parkway & Alameda Drive (#3) intersection should be increased during the evening peak hour to match the 135-second cycle used at the Alameda Parkway & Chambers Road (#4) intersection. Additionally, westbound left-turn operations should be modified to provide protected/permitted phasing to serve additional traffic volume generated by Metro Center. The Alameda Avenue/Parkway & Alameda Drive (#3) intersection would continue to operate at LOS A/B during morning/evening peak hours, respectively.

4. Alameda Parkway & Chambers Road

A dedicated westbound right-turn lane should be constructed to serve the high-volume right-turn movement and to provide an overlap phase concurrent with southbound left-turns. Right-of-way constraints may limit the feasibility of this improvement. With a new westbound right-turn lane and overlap phase, the intersection would operate at LOS D during peak hours, but no movements would fall below LOS E.

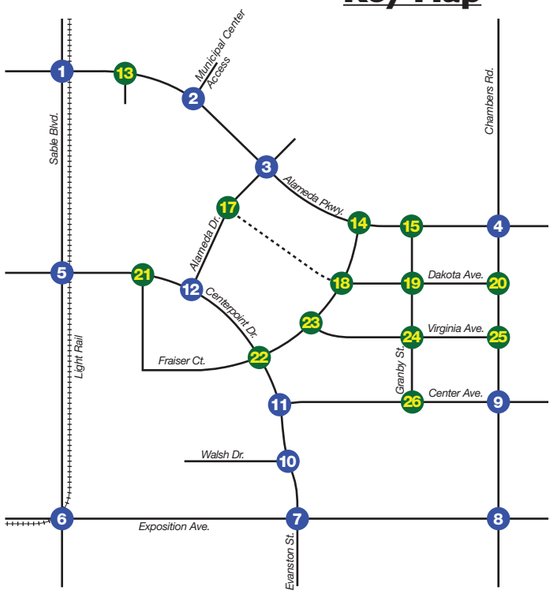
5. Centrepoint Drive & Sable Boulevard

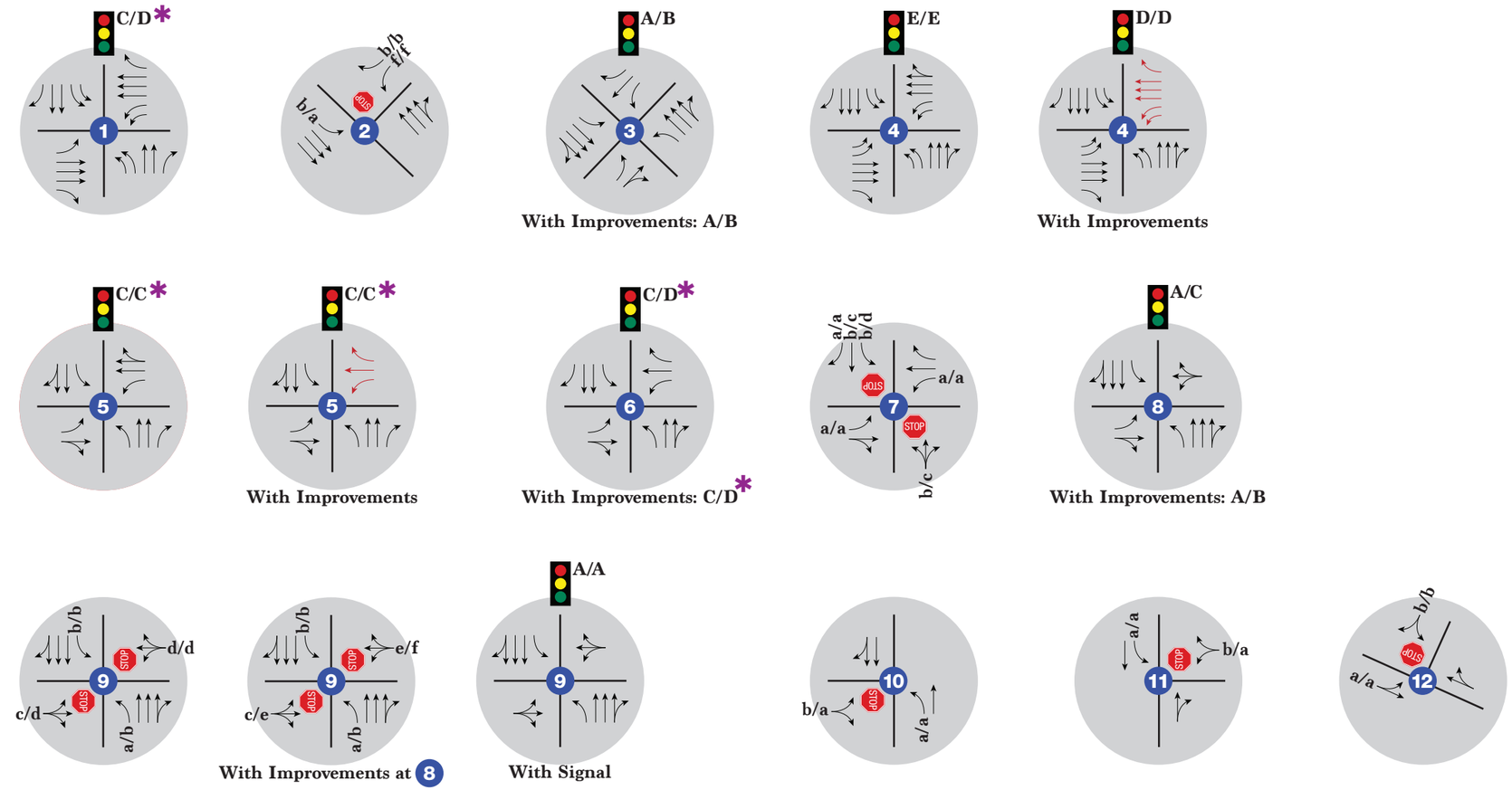
To better serve westbound traffic generated by Metro Center, the shared through/right-turn lane should be restriped as a dedicated westbound right-turn lane. With this improvement, the intersection would continue to operate at LOS C during peak hours, but no movements would fall below LOS E. This improvement may require coordination and approval with the Colorado PUC.

6. Exposition Avenue & Sable Boulevard

A dedicated left-turn phase should be added for westbound Exposition Avenue, and westbound left-turns should operate with protected/permitted phasing. With this improvement, the intersection would continue to operate at LOS C/D during morning/evening peak hours, respectively. Aurora has already implemented this improvement.

Key Map

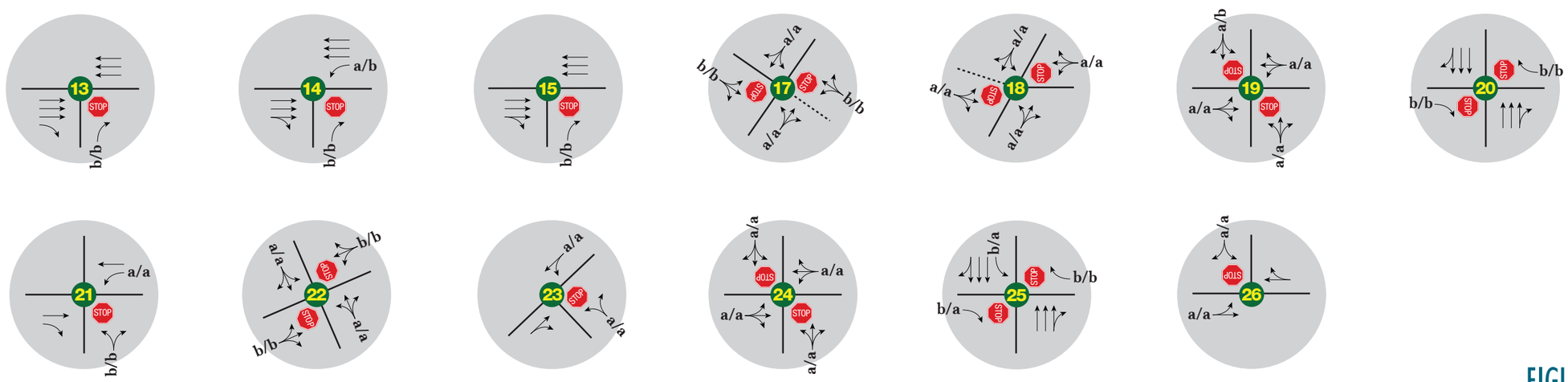




LEGEND

X/X	=	AM/PM Peak Hour Signalized Intersection Level of Service
x/x	=	AM/PM Peak Hour Unsignalized Intersection Level of Service
STOP	=	Stop Sign
	=	Traffic Signal

* HCM LOS results not available. Synchro LOS reported



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NOTE: Drawing Not to Scale

NORTH

FIGURE 10

Existing Plus Site Traffic Operations

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8. Exposition Avenue & Chambers Road

To improve the effectiveness of the eastbound right-turn overlap phase, signs explicitly prohibiting northbound U-turns should be implemented. With this improvement, the intersection could operate at LOS A/B during morning/evening peak hours, respectively. Westbound LOS would not improve, but viable alternatives are available approximately 300 feet south of Exposition Avenue and at Ohio Avenue/Ada Place.

9. Center Avenue & Chambers Road

With the introduction of displaced U-turn traffic from Exposition Avenue & Chambers Road (#8), eastbound and westbound operations at Center Avenue & Chambers Road (#9) would fall below LOS D during one or more peak hours. A new traffic signal should be installed at the intersection to service eastbound and westbound movements. This traffic signal was previously identified as an improvement in the *Metro Center TIS*. With a new traffic signal, including protected/permitted phases for northbound and southbound left-turns, the Center Avenue & Chambers Road (#9) intersection would operate at LOS A during both peak hours.

A signal warrant analysis evaluated existing and forecasted traffic volumes with respect to criteria from the MUTCD. A traffic signal is warranted based on 2024 traffic counts of the intersection and would continue to meet volume warrants in the Existing Plus Site scenario. **Appendix E** presents additional details on the warrant analysis.

Future (2040) Background Traffic

Figure 11 displays LOS and lane configurations for intersections included in the Future (2040) Background Traffic evaluation. As shown in **Table 7**, in **Table 8**, and on **Figure 11**, signalized intersection LOS would not meet Aurora standards at several locations:

- Alameda Avenue & Sable Boulevard (#1)
- Alameda Parkway & Chambers Road (#4)
- Centrepoint Drive & Sable Boulevard (#5)
- Exposition Avenue & Sable Boulevard (#6)
- Exposition Avenue & Chambers Road (#8)

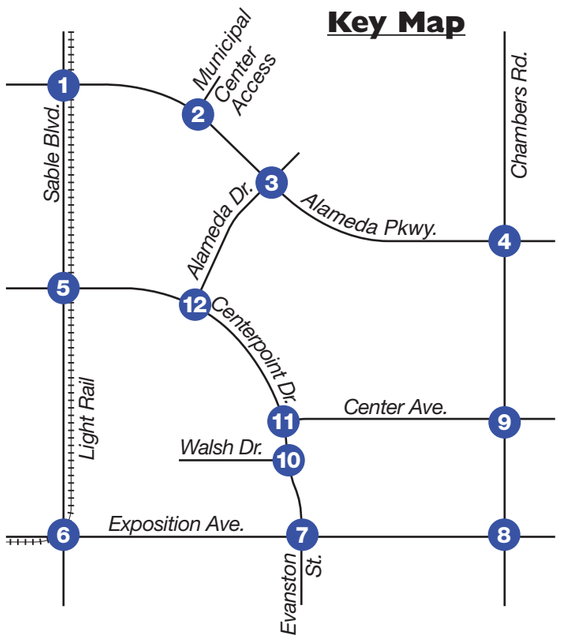
Additionally, several unsignalized movements would operate below LOS D during one or more peak hours:

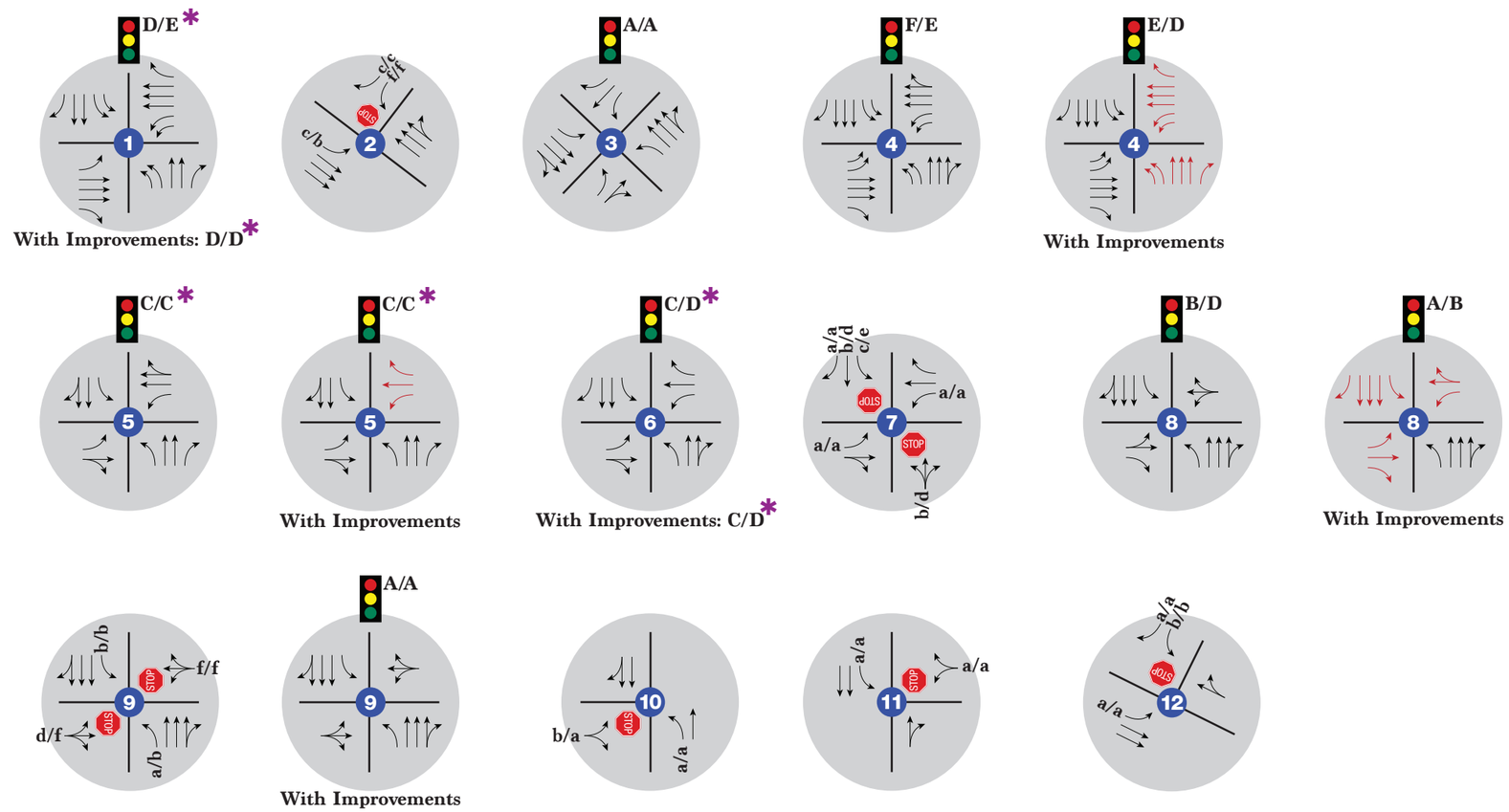
- Alameda Avenue & Municipal Center Access (#2) – southbound left-turns
- Exposition Avenue & Centrepoint Drive (#7) – southbound left-turns
- Center Avenue & Chambers Road (#9) – all eastbound and westbound movements

While some improvements proposed to mitigate traffic operations in the Exiting Plus Site scenario would also be suitable to address substandard LOS for the Future (2040) Background Traffic scenario, additional improvements should also be considered.

1. Alameda Avenue & Sable Boulevard

Eastbound and westbound through movements on Alameda Avenue should be given additional green time to serve forecasted volume growth in the Future (2040) Background Traffic scenario. With periodic signal timing improvements, the intersection could operate at LOS D during both peak hours with no movements falling below LOS E. Signal timing adjustments may require coordination and approval with the Colorado PUC.





LEGEND

X/X	=	AM/PM Peak Hour Signalized Intersection Level of Service
x/x	=	AM/PM Peak Hour Unsignalized Intersection Level of Service
STOP	=	Stop Sign
	=	Traffic Signal

* HCM LOS results not available. Synchro LOS reported

NOTE: Drawing Not to Scale

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NORTH

FIGURE 11

Future (2040) Background Traffic Conditions

Metro Center Amendment TIS 124-134-01 05/17/24

2. Alameda Avenue & Municipal Center Access

No improvements are recommended for the southbound left-turn movement at Alameda Avenue & Municipal Center Access (#2). This movement serves light traffic demand (less than 10 VPH during peak hours) and alternate routes are available via Alameda Drive.

4. Alameda Parkway & Chambers Road

In addition to the westbound right-turn lane and overlap phase proposed to address Existing and Existing Plus Site conditions, a northbound right-turn lane should be constructed and provided with an overlap phase. Right-of-way constraints may limit the feasibility of this improvement. With new right-turn lanes and overlap phases, the intersection would improve to LOS E/D operations during morning/evening peak hours, respectively.

The *Metro Center Master TIS* also identified operational issues with the Alameda Parkway & Chambers Road (#4) intersection in the Future (2040) scenarios. As this intersection is a junction of two arterials, conflicting movements often compete for green time within the traffic signal cycle, making it difficult to improve operations without increasing capacity through capital projects, such as widening to eight through-lanes or constructing new turn-lanes. Innovative intersection alternatives could also be considered, such as displaced left-turns (continuous flow intersection), median U-turns, or a quadrant intersection. However, these alternatives often require extensive right-of-way that is not available at this location.

5. Centrepoint Drive & Sable Boulevard

Like the Existing Plus Site scenario, the shared through/right-turn lane should be restriped as a dedicated westbound right-turn lane. With this improvement, the Centrepoint Drive & Sable Boulevard (#5) intersection would continue to operate at LOS C during peak hours, but no movements would fall below LOS E. This improvement may require coordination and approval with the Colorado PUC.

6. Exposition Avenue & Sable Boulevard

Like the Existing Plus Site scenario, a dedicated left-turn phase should be added for westbound Exposition Avenue, and westbound left-turns should operate with protected/permitted phasing. With this improvement, the intersection would continue to operate at LOS C/D during morning/evening peak hours, respectively. Aurora has already implemented this improvement.

7. Exposition Avenue & Centrepoint Drive/Evanston Street

Although southbound left-turns at the Exposition Avenue & Centrepoint Drive/Evanston Street (#7) intersection operate at LOS E during the evening peak hour, no mitigation is recommended. This movement serves light traffic demand (less than 60 VPH during peak hours) and does not impede other traffic on Centrepoint Drive as there is a dedicated lane and alternate routes available via Center Avenue.

8. Exposition Avenue & Chambers Road

In addition to implementing signs explicitly prohibiting northbound U-turns, dedicated eastbound and westbound left-turn lanes should be constructed to provide additional capacity for those movements. These left-turn movements should operate with protected/permitted phasing. Finally, a dedicated southbound right-turn lane should be constructed to service the high-volume movement. With these improvements, the intersection could operate at LOS A/B during morning/evening peak hours, respectively, and no movements would fall below LOS E conditions.

9. Center Avenue & Chambers Road

Like the Existing Plus Site scenario, a traffic signal should be constructed for the Center Avenue & Chambers Road (#9) intersection with protected/permitted phasing for northbound and southbound left-turns. With this improvement, the intersection would operate at LOS A during both peak hours. Forecasted volumes would continue to meet MUTCD signal warrants in the Future (2040) Background Traffic scenario. **Appendix E** presents additional details on the warrant analysis.

Future (2040) Total Traffic

Figure 12 displays LOS and lane configurations for intersections included in the Future (2040) Total Traffic evaluation. As shown in **Table 7**, in **Table 8**, and on **Figure 12**, signalized intersection LOS would not meet Aurora standards at several locations:

- Alameda Avenue & Sable Boulevard (#1)
- Alameda Avenue/Parkway & Alameda Drive (#3)
- Alameda Parkway & Chambers Road (#4)
- Centrepoint Drive & Sable Boulevard (#5)
- Exposition Avenue & Sable Boulevard (#6)
- Exposition Avenue & Chambers Road (#8)

Additionally, several unsignalized movements would operate below LOS D during one or more peak hours:

- Alameda Avenue & Municipal Center Access (#2) – southbound left-turns
- Exposition Avenue & Centrepoint Drive (#7) – all northbound movements, southbound left-turns
- Center Avenue & Chambers Road (#9) – all eastbound and westbound movements

While some improvements proposed to mitigate traffic operations in the Exiting Plus Site and Future (2040) Background Traffic scenarios would also be suitable to address substandard LOS for the Future (2040) Total Traffic scenario, additional improvements should also be considered.

1. Alameda Avenue & Sable Boulevard

Eastbound and westbound through movements on Alameda Avenue should be given additional green time to serve forecasted volume growth in the Future (2040) Total Traffic scenario. With periodic signal timing improvements, the intersection could operate at LOS D during both peak hours with no movements falling below LOS E. Signal timing adjustments may require coordination and approval with the Colorado PUC.

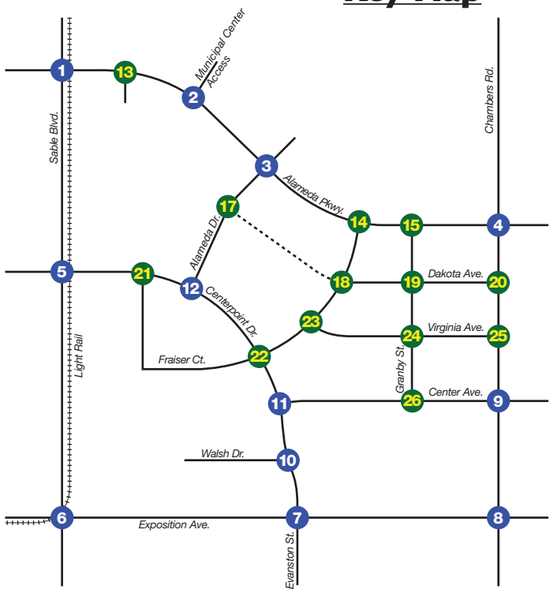
2. Alameda Avenue & Municipal Center Access

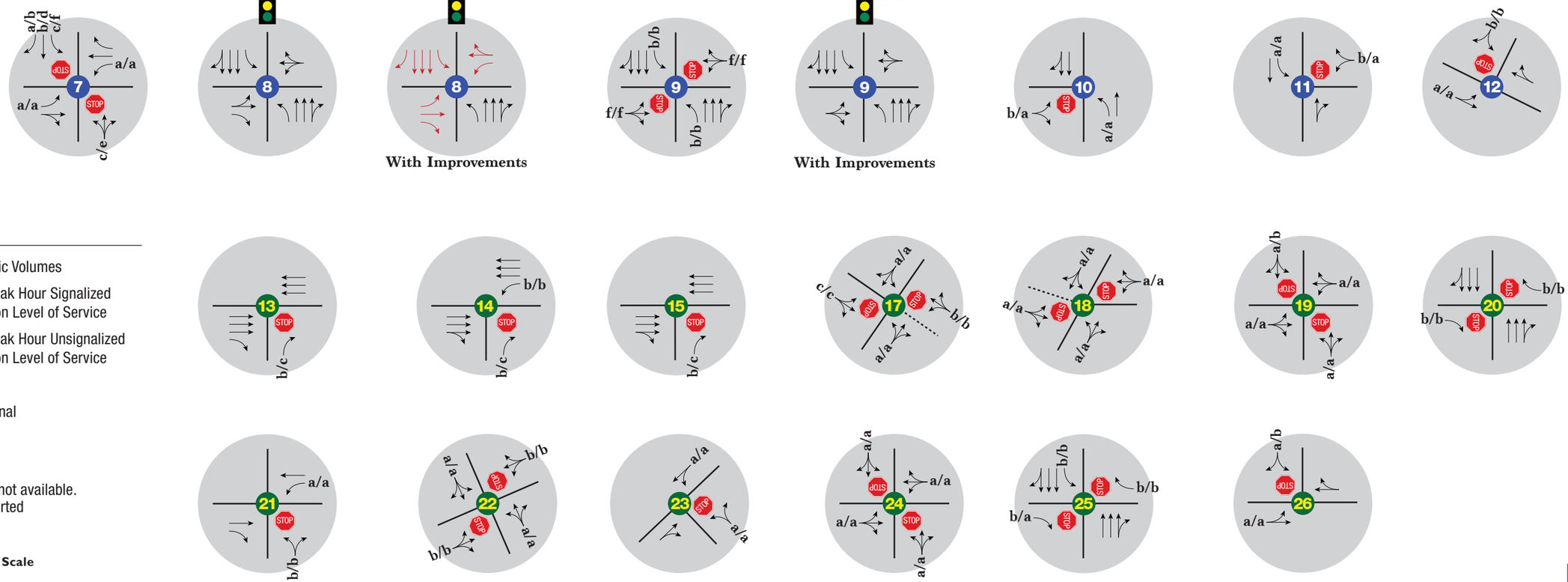
No improvements are recommended for the southbound left-turn movement at Alameda Avenue & Municipal Center Access (#2). This movement serves light traffic demand (less than 10 VPH during peak hours) and alternate routes are available via Alameda Drive.

3. Alameda Avenue/Parkway & Alameda Drive

Like the Existing Plus Site scenario, westbound left-turn operations should be modified to provide protected/permitted phasing to serve additional traffic volume generated by Metro Center. The Alameda Avenue/Parkway & Alameda Drive (#3) intersection would continue to operate at LOS A/B during morning and evening peak hours.

Key Map





LEGEND

XXXX	=	Daily Traffic Volumes
X/X	=	AM/PM Peak Hour Signalized Intersection Level of Service
x/x	=	AM/PM Peak Hour Unsignalized Intersection Level of Service
STOP	=	Stop Sign
	=	Traffic Signal

* HCM LOS results not available. Synchro LOS reported

NOTE: Drawing Not to Scale

FELSBURG HOLT & ULLEVIG

NORTH

FIGURE 12

Future (2040) Total Traffic Conditions

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4. Alameda Parkway & Chambers Road

Like the Future (2040) Background Traffic scenario, northbound and westbound right-turn lanes and overlap phases should be added to the intersection to separate through and right-turning traffic. Right-of-way constraints may limit the feasibility of this improvement. With new right-turn lanes and overlap phases, the intersection would improve to LOS E/D operations during morning/evening peak hours, respectively. Metro Center is not expected to contribute significant right-turn volume to either of these movements.

The *Metro Center Master TIS* also identified operational issues with the Alameda Parkway & Chambers Road (#4) intersection in the Future (2040) scenarios. As this intersection is a junction of two arterials, conflicting movements often compete for green time within the traffic signal cycle, making it difficult to improve operations without increasing capacity through capital projects, such as widening to eight through-lanes or constructing new turn-lanes. Innovative intersection alternatives could also be considered, such as displaced left-turns (continuous flow intersection), median U-turns, or a quadrant intersection. However, these alternatives often require extensive right-of-way that is not available at this location.

5. Centrepoint Drive & Sable Boulevard

Like the Existing Plus Site scenario, the shared through/right-turn lane should be restriped as a dedicated westbound right-turn lane. With this improvement, the Centrepoint Drive & Sable Boulevard (#5) intersection would continue to operate at LOS C during peak hours, but no movements would fall below LOS E. This improvement may require coordination and approval with the Colorado PUC.

6. Exposition Avenue & Sable Boulevard

Like the Existing Plus Site scenario, a dedicated left-turn phase should be added for westbound Exposition Avenue, and westbound left-turns should operate with protected/permitted phasing. With this improvement, the intersection would continue to operate at LOS C/D during morning/evening peak hours, respectively. Aurora has already implemented this improvement.

7. Exposition Avenue & Centrepoint Drive/Evanston Street

No improvements are recommended for the southbound left-turn movement at Exposition Avenue & Centrepoint Drive/Evanston Street (#7). This movement serves light traffic demand (less than 70 VPH during peak hours) and does not impede other traffic on Centrepoint Drive as there is a dedicated lane and alternate routes available via Center Avenue.

Mitigations were also not been identified for northbound Evanston Street, despite operating at LOS E during the evening peak hour. This approach serves a low volume of residential traffic (less than 50 VPH), and alternate routes are available from Walsh Drive (to Exposition Avenue) and from Ohio Avenue and Fraser Way (to Chambers Road).

8. Exposition Avenue & Chambers Road

Like the Future (2040) Background Traffic scenario, signs explicitly prohibiting northbound U-turns, dedicated eastbound and westbound left-turn lanes and protected/permitted phasing, and a dedicated southbound right-turn lane should all be provided. With these improvements, the intersection could operate at LOS A/B during morning/evening peak hours, respectively, and no movements would fall below LOS E conditions.

9. Center Avenue & Chambers Road

Like the Existing Plus Site and Future (2040) Background Traffic scenarios, a traffic signal should be constructed for the Center Avenue & Chambers Road (#9) intersection with protected/permitted phasing for northbound and southbound left-turns. With this improvement, the intersection would operate at LOS A

during both peak hours. Forecasted volumes would continue to meet MUTCD signal warrants in the Future (2040) Total Traffic scenario. **Appendix E** presents additional details on the warrant analysis.

V.B Roundabout Analysis

The original *Metro Center Master TIS* evaluated a single-lane roundabout alternative for the Exposition Avenue & Centrepoint Drive/Evanston Street (#7) intersection based on criteria from Aurora's TIS guidelines. In that study, a roundabout was found to provide reasonable peak hour traffic operations but was not identified as a recommended mitigation. No new roundabout analysis has been conducted for this study. Aurora may consider further evaluation of a roundabout at the Exposition Avenue & Centrepoint Drive/ Evanston Street (#7) intersection to determine feasibility with respect to geometry, right-of-way, sight distance, bicycle accommodations, etc.

V.C Queueing

Like the *Metro Center Master TIS*, a queueing analysis was conducted at all study area intersections to determine desirable storage lengths for turn lanes and feasibility of proposed intersection spacing. The 95th percentile queue length from traffic movements in the Future (2040) Total Traffic scenario (with recommended mitigations included) was used to provide recommendations of turn lane lengths. The following improvements were included in the analysis:

- Revised signal timing at Alameda Avenue & Sable Boulevard (#1)
- Implementation of protected/permitted left-turn phasing for the westbound approach of Alameda Avenue/Parkway & Alameda Drive (#3)
- Construction of northbound and westbound right-turn lanes at the Alameda Parkway & Chambers Road (#4) intersection
  - Overlap phasing for right-turns on all four approaches
- Restriped westbound approach at Centrepoint Drive & Sable Boulevard (#5) to provide a dedicated right-turn lane
- Implementation of protected/permitted left-turn phasing for the westbound approach of Exposition Avenue & Sable Boulevard (#6)
- Construction of eastbound and westbound left-turn lanes and a southbound right-turn lane at Chambers Road & Exposition Avenue (#8)
  - Protected/permitted phasing for eastbound and westbound left-turns
- Construction of a traffic signal at Chambers Road & Center Avenue (#9) with protected/permitted phasing for northbound and southbound left-turns
- Construction of a new westbound left-turn lane along Alameda Parkway at Fraser Court (#14)

Table 9 displays 95th percentile queue lengths for morning and evening peak hours. The table also display storage length criteria as defined by the Colorado State Highway Access Code (SHAC) and storage length recommendations. SHAC criteria shown in the tables assumed the following facility classifications for study area roadways:

- **NR-A:** Alameda Avenue/Parkway, Chambers Road
- **NR-B:** Sable Boulevard
- **NR-C:** Alameda Drive, Exposition Avenue, Centrepoint Drive, Center Avenue
- **Not Applicable:** All other roadways

Table 9. 95th Percentile Queues and Recommended Storage

#	Intersection	Movement	95th Pct-ile Queue (ft)		SHAC Storage Length (ft)	Recommended Storage Length (ft)
			a.m.	p.m.		
1	Alameda Ave & Sable Blvd	EBL	161	#299	421	250
		EBT	#745	#902	*Continuous*	*Continuous*
		EBR	70	159	226	190
		WBL	33	61	271	200
		WBT	#1385	#909	*Continuous*	*Continuous*
		WBR	90	141	226	100
		NBL	156	167	253	270
		NBT	230	306	*Continuous*	*Continuous*
		NBR	29	70	220	275
		SBL	100	#357	358	145
		SBT	157	288	*Continuous*	*Continuous*
		SBR	56	49	275	145
2	Alameda Ave & Municipal Center Access	EBL	63	5	271	175
		EBT/R	—	—	*Continuous*	*Continuous*
		WBT/R	—	—	*Continuous*	*Continuous*
		SBL	38	65	121	100
		SBR	13	38	*Continuous*	*Continuous*
3	Alameda Ave/Pkwy & Alameda Dr	EBL	72	24	286	285
		EBT/R	283	623	*Continuous*	*Continuous*
		WBL	m26	m143	386	190
		WBT/R	m197	m69	*Continuous*	*Continuous*
		NBL	151	182	211	**200**
		NBT/R	67	175	*Continuous*	*Continuous*
		SBL	17	83	141	100
		SBT	0	36	*Continuous*	*Continuous*
		SBR	0	39	156	100
4	Alameda Pkwy & Chambers Rd	EBL	#278	#239	379	**L: 250** / **R: 300**
		EBT	241	#850	*Continuous*	*Continuous*
		EBR	48	212	226	*Continuous*
		WBL	189	#251	359	**L: 200** / R: 325
		WBT	#908	510	*Continuous*	*Continuous*
		WBR	123	79	226	**230**

Table 9. 95th Percentile Queues and Recommended Storage

#	Intersection	Movement	95th Pct-ile Queue (ft)		SHAC Storage Length (ft)	Recommended Storage Length (ft)
			a.m.	p.m.		
4	Alameda Pkwy & Chambers Rd	NBL	#318	#383	419	**L: 225** / **R: 400**
		NBT	#664	#592	*Continuous*	*Continuous*
		NBR	80	#50	226	**230**
		SBL	#221	#463	509	**L: 325** / **R: 500**
		SBT	387	#650	*Continuous*	*Continuous*
		SBR	124	192	226	335
5	Centrepoint Dr & Sable Blvd	EBL	36	173	*Continuous*	*Continuous*
		EBT/R	46	231	*Continuous*	*Continuous*
		WBL	125	88	186	**125**
		WBT	51	92	*Continuous*	*Continuous*
		WBR	53	54	*Continuous*	*Continuous*
		NBL	29	120	220	215
		NBT	238	295	*Continuous*	*Continuous*
		NBR	0	0	190	145
		SBL	132	77	255	235
		SBT/R	238	301	*Continuous*	*Continuous*
6	Exposition Ave & Sable Blvd	EBL	72	120	221	300
		EBT/R	96	#562	*Continuous*	*Continuous*
		WBL	144	#221	261	250
		WBT	200	286	*Continuous*	*Continuous*
		WBR	42	0	201	400
		NBL	63	#118	185	250
		NBT/R	#414	#615	*Continuous*	*Continuous*
		SBL	99	#262	225	**275**
		SBT	200	#464	*Continuous*	*Continuous*
		SBR	10	41	215	325
7	Exposition Ave & Centrepoint Dr/Evanston St	EBL	3	5	146	240
		EBT/R	—	—	*Continuous*	*Continuous*
		WBL	0	3	121	285
		WBT	—	—	*Continuous*	*Continuous*
		WBR	—	—	191	165
		NBL/T/R	25	43	*Continuous*	*Continuous*

Table 9. 95th Percentile Queues and Recommended Storage

#	Intersection	Movement	95th Pct-ile Queue (ft)		SHAC Storage Length (ft)	Recommended Storage Length (ft)
			a.m.	p.m.		
7	Exposition Ave & Centrepoint Dr/Evanston St	SBL	13	78	156	185
		SBT	0	13	*Continuous*	*Continuous*
		SBR	5	5	*Continuous*	*Continuous*
8	Exposition Ave & Chambers Rd	EBL	136	358	396	**375**
		EBT	19	54	*Continuous*	*Continuous*
		EBR	41	423	496	**425**
		WBL	71	70	146	**100**
		WBT/R	82	66	*Continuous*	*Continuous*
		NBL	150	#312	451	250
		NBT/R	382	432	*Continuous*	*Continuous*
		SBL	m16	m#193	316	200
		SBT	177	309	*Continuous*	*Continuous*
		SBR	3	5	226	**230**
9	Center Ave & Chambers Rd	EBL/T/R	124	65	*Continuous*	*Continuous*
		WBL/T/R	178	192	*Continuous*	*Continuous*
		NBL	23	m87	301	225
		NBT/R	143	344	*Continuous*	*Continuous*
		SBL	m7	m5	271	100
		SBT/R	127	m160	*Continuous*	*Continuous*
10	Walsh Dr & Centrepoint Dr	EBL/R	3	5	*Continuous*	*Continuous*
		NBL	3	0	136	100
		NBT	—	—	*Continuous*	*Continuous*
		SBT/R	—	—	*Continuous*	*Continuous*
11	Center Ave & Centrepoint Dr	WBL/R	13	13	*Continuous*	*Continuous*
		NBT/R	—	—	*Continuous*	*Continuous*
		SBL	5	5	161	100
		SBT	—	—	*Continuous*	*Continuous*
12	Centrepoint Dr & Alameda Dr	EBL/T	8	8	*Continuous*	*Continuous*
		WBT/R	—	—	*Continuous*	*Continuous*
		SBL/R	28	35	*Continuous*	*Continuous*
13	Alameda Ave & Parcel A1	EBT	—	—	*Continuous*	*Continuous*
		EBR	—	—	226	210
		WBT	—	—	*Continuous*	*Continuous*
		NBR	8	8	*Continuous*	*Continuous*

Table 9. 95th Percentile Queues and Recommended Storage

#	Intersection	Movement	95th Pct-ile Queue (ft)		SHAC Storage Length (ft)	Recommended Storage Length (ft)
			a.m.	p.m.		
14	Alameda Pkwy & Fraser Ct	EBT/R	—	—	*Continuous*	*Continuous*
		WBL	3	8	271	**275**
		WBT	—	—	*Continuous*	*Continuous*
		NBR	10	18	*Continuous*	*Continuous*
15	Alameda Pkwy & Granby St	EBT/R	—	—	*Continuous*	*Continuous*
		WBT	—	—	*Continuous*	*Continuous*
		NBR	5	18	*Continuous*	*Continuous*
17	Parcel A2/Arapahoe Co & Alameda Dr	EBL/T/R	48	28	*Continuous*	*Continuous*
		WBL/T/R	10	18	*Continuous*	*Continuous*
		NBL/T/R	3	5	*Continuous*	*Continuous*
		SBL/T/R	5	3	*Continuous*	*Continuous*
18	Dakota Ave/Arapahoe Co & Fraser Ct	EBL/T/R	3	3	*Continuous*	*Continuous*
		WBL/T/R	8	10	*Continuous*	*Continuous*
		NBL/T/R	0	0	*Continuous*	*Continuous*
		SBL/T/R	0	3	*Continuous*	*Continuous*
19	Dakota Ave & Granby St	EBL/T/R	0	0	*Continuous*	*Continuous*
		WBL/T/R	0	0	*Continuous*	*Continuous*
		NBL/T/R	3	5	*Continuous*	*Continuous*
		SBL/T/R	3	5	*Continuous*	*Continuous*
20	Dakota Ave & Chambers Rd	EBR	3	8	*Continuous*	*Continuous*
		WBR	5	10	*Continuous*	*Continuous*
		NBT/R	—	—	*Continuous*	*Continuous*
		SBT/R	—	—	*Continuous*	*Continuous*
21	Centrepoint Dr & Dawson St	EBT/R	—	—	*Continuous*	*Continuous*
		WBL	0	0	161	100
		WBT	—	—	*Continuous*	*Continuous*
		NBL/R	15	8	*Continuous*	*Continuous*
22	Fraser Ct & Centrepoint Dr	EBL/T/R	18	8	*Continuous*	*Continuous*
		WBL/T/R	10	18	*Continuous*	*Continuous*
		NBL/T/R	0	3	*Continuous*	*Continuous*
		SBL/T/R	0	3	*Continuous*	*Continuous*
23	Virginia Ave & Fraser Ct	WBL/R	0	0	*Continuous*	*Continuous*
		NBT/R	—	—	*Continuous*	*Continuous*
		SBL/T	—	—	*Continuous*	*Continuous*

Table 9. 95th Percentile Queues and Recommended Storage

#	Intersection	Movement	95th Pct-ile Queue (ft)		SHAC Storage Length (ft)	Recommended Storage Length (ft)
			a.m.	p.m.		
24	Virginia Ave & Granby St	EBL/T/R	0	0	*Continuous*	*Continuous*
		WBL/T/R	0	0	*Continuous*	*Continuous*
		NBL/T/R	3	3	*Continuous*	*Continuous*
		SBL/T/R	0	0	*Continuous*	*Continuous*
25	Virginia Ave & Chambers Rd	EBR	0	0	*Continuous*	*Continuous*
		WBR	5	18	*Continuous*	*Continuous*
		NBT/R	—	—	*Continuous*	*Continuous*
		SBL	3	3	251	100
		SBT/R	—	—	*Continuous*	*Continuous*
26	Center Ave & Granby St	EBL/T	0	0	*Continuous*	*Continuous*
		WBT/R	—	—	*Continuous*	*Continuous*
		SBL/R	0	0	*Continuous*	*Continuous*

Notes: Movements are first identified by direction then by movement (i.e., EBL = Eastbound Left-Turn)
EB: Eastbound, **WB:** Westbound, **NB:** Northbound, **SB:** Southbound
L: Left-turn, **T:** Through, **R:** Right-turn

m: The reported 95th percentile queue length is metered by an upstream signalized intersection
#: The reported 95th percentile volume exceeds the movement capacity
Blue Highlight: Recommended storage length is longer than existing conditions

As shown in **Table 9**, several locations have existing turn lanes that do not meet SHAC storage criteria but would adequately contain anticipated vehicle queues forecasted in the Future (2040) Total Traffic scenario. However, some recommended storage lengths shown in the tables are longer than existing conditions and would require improvements. These locations are discussed further in the following sections.

4. Alameda Parkway & Chambers Road

Several turn lane modifications should be considered to address forecasted queues beginning in the Future (2040) Background Traffic scenario. The eastbound left-turn lanes should be modified to provide 250 feet of storage in the left lane and 300 feet of storage in the right lane. The westbound left-turn lanes should be modified to increase storage to 200 feet in the left lane. Northbound left-turn lanes should be modified to provide 225 feet of storage in the left lane and 400 feet of storage in the right lane. Finally, southbound left-turn lanes should be modified to provide 325 feet of storage in the left lane and 500 feet of storage in the right lane. Significant modifications to the median would be required. Even with these modifications, forecasted queues might still spill out of the available storage length during peak hours.

New northbound and westbound right-turn lanes should be constructed with 230 feet of storage length, subject to change based on availability of right-of-way and other design constraints. These improvements should be completed to address traffic volume growth in the Future (2040) Background Traffic scenario.

5. Centrepoint Drive & Sable Boulevard

The westbound left-turn lane should be restriped to provide 125 feet of storage. No median reconstruction would be required. This improvement should be completed to address Metro Center site-generated traffic introduced in the Existing Plus Site scenario.

6. Exposition Avenue & Sable Boulevard

The southbound left-turn lane should be restriped to provide 275 feet of storage. No median reconstruction would be required. This improvement should be completed to address traffic volume growth in the Future (2040) Background Traffic scenario.

8. Exposition Avenue & Chambers Road

Several turn lane modifications should be considered to address forecasted queues beginning in the Future (2040) Background Traffic scenario. The new eastbound left-turn lane should be constructed with 375 feet of storage. The eastbound right-turn lane should be restriped to provide 425 feet of storage. The proposed westbound left-turn lane should be constructed with 100 feet of storage length. Finally, the proposed southbound right-turn lane should be constructed with 230 feet of storage length. Modifications to curb lines in the northwest corner may be required to implement these turn lane improvements.

14. Alameda Parkway & Fraser Court

The proposed westbound left-turn lane should be constructed with 275 feet of storage. This distance would also accommodate storage and taper lengths for the eastbound left-turn lanes at the Alameda Parkway & Chambers Road (#4) intersection. Significant modifications to the median would be required to construct this left-turn lane.

V.D Safety

Recommendations for Existing Conditions

Based on the evaluations shown in **Section II.F**, the following improvements should be considered to mitigate existing safety conditions.

- Adjust left-turn phasing at several study intersections to use protected-only phasing during more times of the day:
  1. Alameda Avenue & Sable Boulevard
  6. Exposition Avenue & Sable Boulevard
  8. Exposition Avenue & Chambers Road
- Consider restricting access at Alameda Avenue & Municipal Center Access (#2) to prohibit southbound left-turns except for emergency vehicle access.
- Review interval clearances and progression to reduce red-light running and improve signal visibility for several study intersections:
  3. Alameda Avenue/Parkway & Alameda Drive
  4. Alameda Parkway & Chambers Road
  5. Centrepoint Drive & Sable Boulevard
- Consider sight distance improvements at Center Avenue & Chambers Road (#9), or consider signalization based on crash experience warrants from MUTCD.

Recommendations for Proposed Site

The *Metro Center Master TIS* identified several recommendations for site design focused on safety for all road users which still apply to the Master Plan Amendment:

- Construct proposed intersections within the site at or close to right angles.
- Visibly mark crosswalks and install warning signs to alert drivers to the presence of pedestrian activity around the heavily trafficked pedestrian plazas.
- Design bicycle facilities using guidance from the NACTO Urban Bikeway Design Guide and consider design features aimed at enhancing safety.

In general, the roadway network within the site should be designed to encourage slower speeds through traffic calming techniques. Such techniques may include narrow travel lanes, curb extensions, high visibility crosswalks and/or raised crossings and intersections, among others. All these techniques should focus on enhancing bicycle/pedestrian visibility and safety throughout the site, ensuring that the development can effectively support multimodal travel.

V.E Traffic Control Devices

Recommended improvements shown in **Section V.A** include several modifications to traffic control devices to improve traffic operations and safety. **Table 10** summarizes proposed traffic control modifications at intersections but does not include the new intersections proposed as part of the Metro Center development.

Table 10. Traffic Control Recommendations

#	Intersection	Existing Traffic Control	Recommended Changes	Required Timeline	MUTCD Signal Warrants
3	Alameda Ave/Pkwy & Alameda Dr	Signal	Add Prot/Perm for WBL	Existing Plus Site	N/A
4	Alameda Pkwy & Chambers Rd	Signal	Add Overlap for WBR	Existing	N/A
			Add Overlap for NBR	Future (2040) Background	
6	Exposition Ave & Sable Blvd	Signal	Add Prot/Perm for WBL	Existing (Completed)	N/A
8	Exposition Ave & Chambers Rd	Signal	Prohibit NBU	Existing	N/A
			Add Prot/Perm for EBL	Future (2040) Background	
			Add Prot/Perm for WBL	Future (2040) Background	
9	Center Ave & Chambers Rd	Stop-Control (Center Ave)	Signalize	Existing Plus Site	8-Hr: Existing 4-Hr: Existing Pk Hr: Existing
			Add Prot/Perm for NBL	Existing Plus Site	
			Add Prot/Perm for SBL	Existing Plus Site	

Notes: **Prot/Perm:** Protected/Permitted left-turn phasing
Movements are first identified by direction then by movement (i.e., EBL = Eastbound Left-Turn)
EB: Eastbound, **WB:** Westbound, **NB:** Northbound, **SB:** Southbound
U: U-turn, **L:** Left-turn, **T:** Through, **R:** Right-turn

As shown in **Table 10**, a proposed traffic signal for the Center Avenue & Chambers Road (#9) intersection meets signal warrants based on existing traffic volumes, specifically considering westbound Center Avenue. However, signalization is not recommended until the Existing Plus Site scenario with the introduction of site-generated traffic from Metro Center. Unsignalized movement LOS still meets criteria from Aurora's TIS guidelines in existing conditions despite meeting signal warrants.

Table 10 does not display any proposed traffic control changes at the Exposition Avenue & Centrepoint Drive (#7) intersection, despite the previous consideration of a roundabout in the *Metro Center Master TIS*. This intersection should be evaluated further before committing to traffic control changes. Specifically, Aurora may further evaluate to determine feasibility with respect to geometry, right-of-way, sight distance, bicycle accommodations, etc.

VI. Conclusions

Compared to the previous *Metro Center Master TIS*, the proposed development plan associated with the Master Plan Amendment is expected to have similar traffic impacts and proposed mitigations as documented in this TIS. The proposed development would occupy approximately 60 acres south of Alameda Avenue/Parkway between Sable Boulevard and Chambers Road and would include:

- 2,130 multifamily DUs
- 49.88 KSF commercial/mixed-use
- 3.5 KSF office space

These land uses are expected to generate up to 14,060 daily trips, including about 1,040 in the morning peak hour and about 1,315 in the evening peak hour. However, with considerations of internal trip-making, pass-by trips, and mode share reductions, the site would generate about 9,485 net external daily vehicle trips, nearly 845 in the morning peak hour and 920 in the evening peak hour. Additionally, the development would generate about 860 internal daily vehicle trips, 20 in the morning peak hour and 48 in the evening peak hour. Site-generated vehicle trips from Metro Center would decrease under the Master Plan Amendment compared to what was evaluated in the *Metro Center Master TIS*. Internal vehicle trips would also decrease due to the change in development characteristics toward more residential land uses.

Improvements to the external and proposed internal roadway network required to mitigate anticipated background traffic growth and the proposed development. **Table 11** summarizes these improvements. While many improvements are consistent with recommendations from the *Metro Center Master TIS*, additional improvements have been identified to address both background traffic growth and site-generated traffic.

In total, the changes to the site plan proposed under the Master Plan Amendment would result in additional traffic volume using the Alameda Avenue/Parkway & Alameda Drive (#3) and Centrepoint Drive & Sable Boulevard (#5) intersections. Additionally, consolidation of access to Parcel A1 via Alameda Avenue may result in additional U-turn movements at Alameda Avenue & Sable Boulevard (#1) and Alameda Avenue & Municipal Center Access (#2). However, the recommended improvements shown in **Table 13** would address the traffic operations and safety concerns introduced by these changes.

Table 11. Summary of Recommended Improvements

#	Intersection	Improvement Description	Timeline
1	Alameda Ave & Sable Blvd	Consider restricting all left-turns to protected-only phasing during more times of day to address Approach Turn crashes.	Existing
		Adjust signal timing to provide more green time for eastbound and westbound Alameda Ave through movements.	Future (2040) Background
2	Alameda Ave & Municipal Center Access	Consider restricting southbound access to prohibit left-turns with exceptions for emergency vehicles to address Broadside crash frequency.	Existing
3	Alameda Ave/Pkwy & Alameda Dr	Adjust cycle length during evening peak hour to match 135-second cycle at Alameda Pkwy & Chambers Rd (#4).	Existing
		Improve sight distance, signal visibility, and review signal timing parameters to address Broadside crash frequency.	Existing
		Implement protected/permitted phasing for westbound left-turns.	Existing Plus Site
		Increase storage length for northbound left-turns.	Existing Plus Site

Table 11. Summary of Recommended Improvements

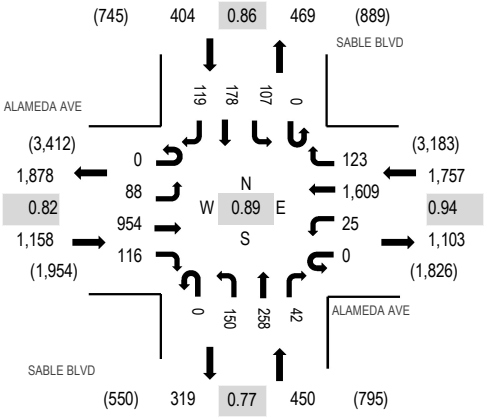
#	Intersection	Improvement Description	Timeline
4	Alameda Pkwy & Chambers Rd	Construct a westbound right-turn lane and implement an overlap phase.	Existing
		Improve sight distance, signal visibility, and review signal timing parameters to address Broadside crash frequency.	Existing
		Construct a northbound right-turn lane and implement an overlap phase.	Future (2040) Background
		Increase storage length for all left turn lanes.	Future (2040) Background
5	Centrepoint Dr & Sable Blvd	Improve sight distance, signal visibility, and review signal timing parameters to address Broadside crash frequency.	Existing
		Restripe westbound Centrepoint Dr to provide dedicated left-turn, through, and right-turn lanes.	Existing Plus Site
		Increase storage length for westbound left-turns.	Existing Plus Site
6	Exposition Ave & Sable Blvd	Implement protected/permitted phasing for westbound left-turns (already completed), consider restricting all left-turns to protected-only during more times of day.	Existing
		Increase storage length for southbound left-turns.	Future (2040) Background
8	Exposition Ave & Chambers Rd	Prohibit northbound U-turns, allowing the eastbound right-turn overlap phase to operate more effectively.	Existing
		Install FYA signals and restrict left-turns to protected-only phasing during more times of day to address Approach Turn crashes.	Existing
		Construct dedicated eastbound and westbound left-turn lanes, and implement protected/permitted phasing for both.	Future (2040) Background
		Construct a dedicated southbound right-turn lane.	Future (2040) Background
		Increase storage length for eastbound right-turns, construct new turn lanes with adequate storage length.	Future (2040) Background
9	Center Ave & Chambers Rd	Improve sight distance, especially for westbound Center Avenue, consider signalization based on Crash Experience.	Existing
		Construct a new traffic signal with protected/permitted phases for northbound and southbound left-turns.	Existing Plus Site
14	Alameda Pkwy & Fraser Ct	Construct a new westbound left-turn lane.	Existing Plus Site

Appendix A. Traffic Counts

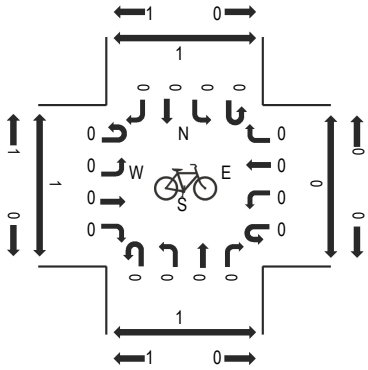
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 SABLE BLVD & ALAMEDA AVE AM
Date: Thursday, April 11, 2024
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

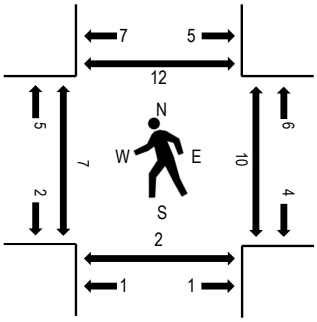
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

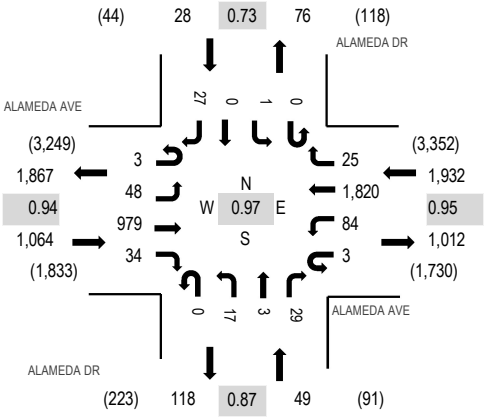
Traffic Counts - Motorized Vehicles

Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				SABLE BLVD Northbound				SABLE BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	24	180	13	0	1	313	17	0	25	47	8	0	19	15	34	696	3,555	2	6	2	5
7:15 AM	0	21	208	15	0	6	406	26	0	35	48	12	0	17	31	29	854	3,769	1	3	0	0
7:30 AM	0	20	220	37	0	7	426	32	0	45	58	9	0	27	37	33	951	3,734	4	2	1	0
7:45 AM	0	26	287	39	0	5	408	37	0	36	98	12	0	28	55	23	1,054	3,499	1	4	1	7
8:00 AM	0	21	239	25	0	7	369	28	0	34	54	9	0	35	55	34	910	3,122	1	1	0	5
8:15 AM	0	26	137	21	0	9	389	40	0	40	52	3	0	21	49	32	819		0	2	0	4
8:30 AM	0	23	156	20	0	8	309	33	0	29	45	5	0	24	30	34	716		1	3	0	2
8:45 AM	0	34	141	21	0	6	275	26	0	31	53	7	0	22	38	23	677		0	2	1	0
Count Total	0	195	1,568	191	0	49	2,895	239	0	275	455	65	0	193	310	242	6,677		10	23	5	23
Peak Hour	0	88	954	116	0	25	1,609	123	0	150	258	42	0	107	178	119	3,769		7	10	2	12

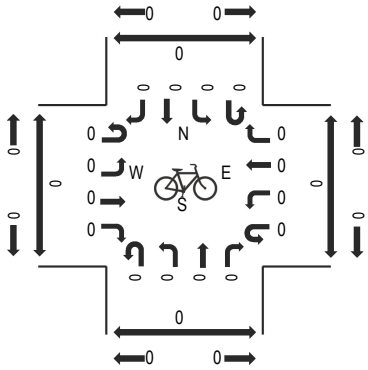
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 ALAMEDA DR & ALAMEDA AVE AM
Date: Thursday, April 11, 2024
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

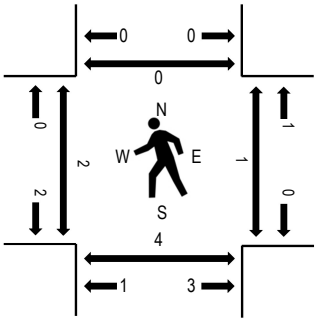
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

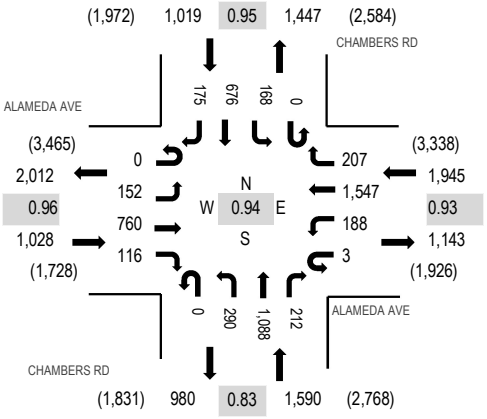
Traffic Counts - Motorized Vehicles

Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				ALAMEDA DR Northbound				ALAMEDA DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	9	190	8	0	6	318	1	0	1	0	4	0	0	0	0	537	2,839	4	0	5	0
7:15 AM	0	4	229	10	0	9	456	7	0	2	1	9	0	0	0	4	731	3,073	0	0	3	0
7:30 AM	0	12	241	7	1	15	488	4	0	6	0	7	0	0	0	7	788	2,975	0	1	0	0
7:45 AM	3	18	248	9	2	30	443	9	0	5	1	5	0	0	0	10	783	2,780	2	0	1	0
8:00 AM	0	14	261	8	0	30	433	5	0	4	1	8	0	1	0	6	771	2,481	0	0	0	0
8:15 AM	0	4	172	12	0	15	406	4	0	4	0	11	0	0	0	5	633		3	1	3	1
8:30 AM	0	9	182	18	1	16	348	2	0	4	0	8	0	0	0	5	593		0	0	0	2
8:45 AM	0	10	146	9	0	20	280	3	0	6	0	4	0	0	1	5	484		1	1	0	1
Count Total	3	80	1,669	81	4	141	3,172	35	0	32	3	56	0	1	1	42	5,320		10	3	12	4
Peak Hour	3	48	979	34	3	84	1,820	25	0	17	3	29	0	1	0	27	3,073		2	1	4	0

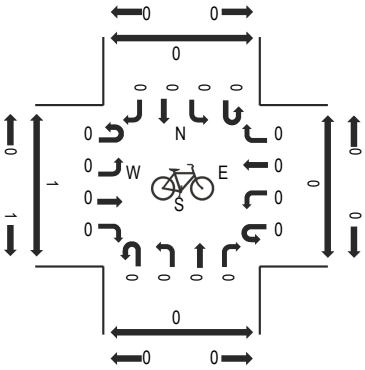
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 CHAMBERS RD & ALAMEDA AVE AM
Date: Thursday, April 11, 2024
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

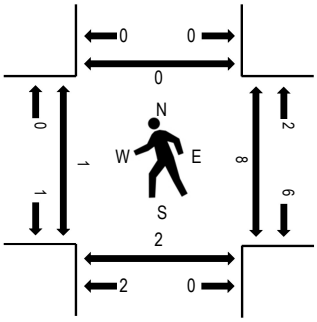
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

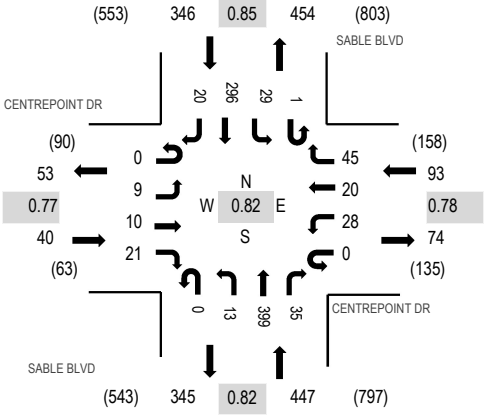
Traffic Counts - Motorized Vehicles

Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	28	126	18	0	15	262	42	0	51	252	32	1	36	118	21	1,002	5,250	1	2	0	0
7:15 AM	0	32	209	20	2	31	390	49	0	88	233	56	0	44	133	41	1,328	5,582	0	3	1	0
7:30 AM	0	36	177	18	0	48	401	36	0	59	337	83	0	46	198	38	1,477	5,418	1	2	0	0
7:45 AM	0	48	180	40	0	62	398	61	0	83	280	40	0	46	153	52	1,443	4,998	0	1	0	0
8:00 AM	0	36	194	38	1	47	358	61	0	60	238	33	0	32	192	44	1,334	4,556	0	2	1	0
8:15 AM	0	34	115	27	0	38	323	53	2	70	202	32	0	46	183	39	1,164		1	1	0	0
8:30 AM	0	38	127	24	1	27	311	51	0	45	165	26	0	43	173	26	1,057		0	0	1	0
8:45 AM	0	25	112	26	0	24	215	31	0	53	215	33	0	54	176	37	1,001		3	2	3	0
Count Total	0	277	1,240	211	4	292	2,658	384	2	509	1,922	335	1	347	1,326	298	9,806		6	13	6	0
Peak Hour	0	152	760	116	3	188	1,547	207	0	290	1,088	212	0	168	676	175	5,582		1	8	2	0

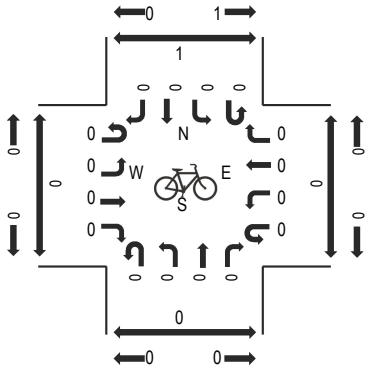
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 4 SABLE BLVD & CENTREPOINT DR AM
Date: Thursday, April 11, 2024
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

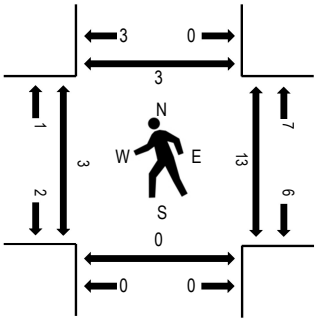
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

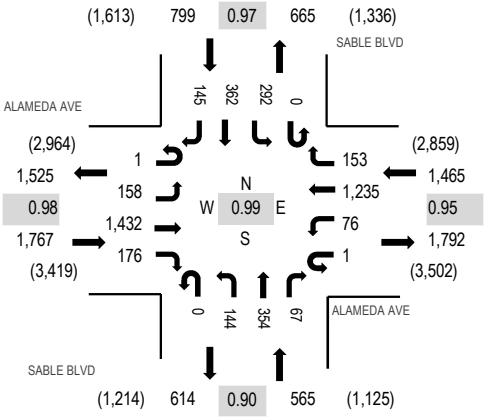
Traffic Counts - Motorized Vehicles

Interval Start Time	CENTREPOINT DR Eastbound				CENTREPOINT DR Westbound				SABLE BLVD Northbound				SABLE BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	1	1	2	0	3	0	15	0	3	67	6	0	8	20	0	126	805	1	4	0	1
7:15 AM	0	1	0	1	0	2	3	10	0	2	85	12	0	4	49	1	170	903	2	3	0	5
7:30 AM	0	1	2	5	0	5	4	11	0	2	110	9	0	10	60	7	226	926	1	1	0	0
7:45 AM	0	3	3	7	0	9	7	14	0	5	123	10	0	10	86	6	283	857	2	2	0	2
8:00 AM	0	3	3	5	0	8	9	12	0	3	84	8	0	7	78	4	224	766	0	8	0	1
8:15 AM	0	2	2	4	0	6	0	8	0	3	82	8	1	2	72	3	193		0	2	0	0
8:30 AM	0	3	1	1	0	4	3	10	0	7	67	4	0	10	46	1	157		1	1	1	2
8:45 AM	0	0	3	9	0	5	6	4	0	7	85	5	1	7	56	4	192		1	0	0	6
Count Total	0	14	15	34	0	42	32	84	0	32	703	62	2	58	467	26	1,571		8	21	1	17
Peak Hour	0	9	10	21	0	28	20	45	0	13	399	35	1	29	296	20	926		3	13	0	3

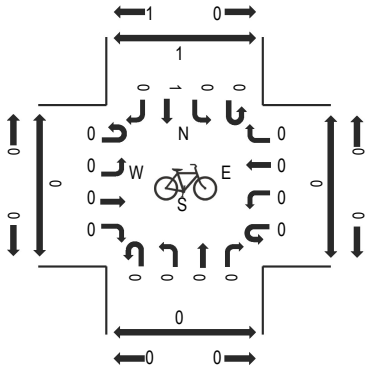
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 SABLE BLVD & ALAMEDA AVE PM
Date: Thursday, April 11, 2024
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

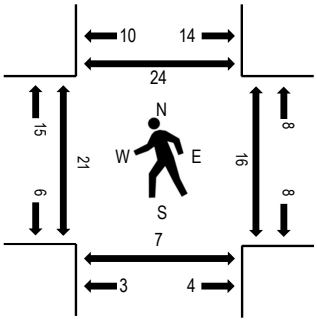
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

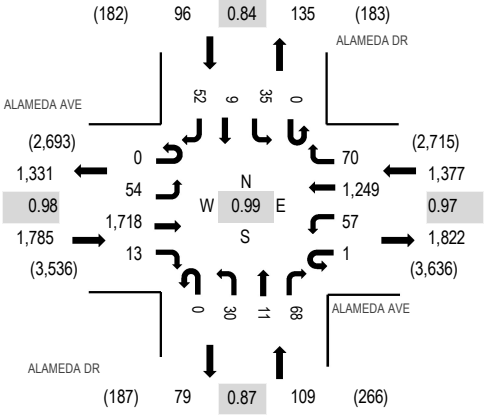
Traffic Counts - Motorized Vehicles

Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				SABLE BLVD Northbound				SABLE BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	31	306	42	0	17	298	37	0	35	93	14	0	69	108	25	1,075	4,517	2	9	2	2
4:15 PM	0	41	367	43	0	19	291	40	0	43	95	14	0	68	90	54	1,165	4,596	11	3	2	10
4:30 PM	1	37	362	48	0	17	300	37	0	37	76	19	0	62	91	25	1,112	4,543	2	7	5	7
4:45 PM	0	49	349	46	0	16	326	42	0	29	78	20	0	88	91	31	1,165	4,518	3	3	0	4
5:00 PM	0	31	354	39	1	24	318	34	0	35	105	14	0	74	90	35	1,154	4,499	5	3	0	3
5:15 PM	0	37	325	42	2	16	293	40	0	46	91	22	1	81	81	35	1,112		7	5	5	3
5:30 PM	0	36	335	45	0	11	276	51	0	47	72	10	0	97	83	24	1,087		4	4	2	2
5:45 PM	0	49	367	37	0	17	283	53	0	38	80	12	0	70	101	39	1,146		5	5	0	3
Count Total	1	311	2,765	342	3	137	2,385	334	0	310	690	125	1	609	735	268	9,016		39	39	16	34
Peak Hour	1	158	1,432	176	1	76	1,235	153	0	144	354	67	0	292	362	145	4,596		21	16	7	24

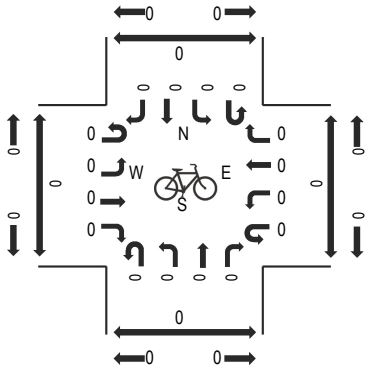
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 ALAMEDA DR & ALAMEDA AVE PM
Date: Thursday, April 11, 2024
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

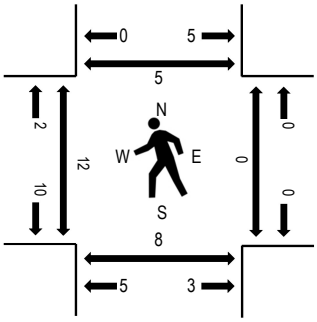
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				ALAMEDA DR Northbound				ALAMEDA DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	13	381	12	2	24	327	3	0	13	2	16	0	6	4	17	820	3,332	2	0	2	1
4:15 PM	3	2	452	9	0	15	296	1	0	10	0	30	0	6	1	13	838	3,344	2	1	0	2
4:30 PM	0	8	420	9	0	14	305	6	0	14	3	29	0	8	3	16	835	3,357	0	1	0	3
4:45 PM	0	3	433	6	1	11	327	6	0	14	1	25	0	5	0	7	839	3,366	2	1	0	1
5:00 PM	0	12	416	0	0	15	312	14	0	5	3	26	0	6	1	22	832	3,367	2	0	1	4
5:15 PM	0	14	426	4	1	13	315	20	0	11	1	17	0	12	4	13	851		1	0	3	0
5:30 PM	0	13	439	5	0	17	293	22	0	12	6	17	0	6	4	10	844		4	0	3	0
5:45 PM	0	15	437	4	0	12	329	14	0	2	1	8	0	11	0	7	840		5	0	1	1
Count Total	3	80	3,404	49	4	121	2,504	86	0	81	17	168	0	60	17	105	6,699		18	3	10	12
Peak Hour	0	54	1,718	13	1	57	1,249	70	0	30	11	68	0	35	9	52	3,367		12	0	8	5

ALL TRAFFIC DATA SERVICES
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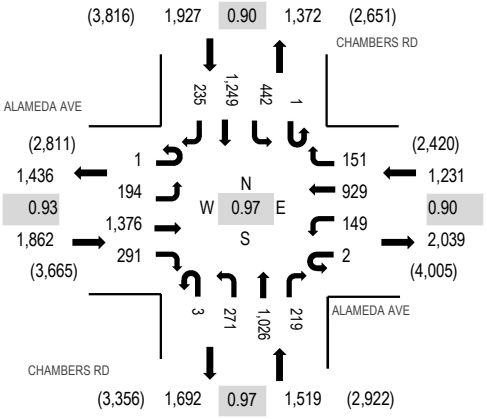
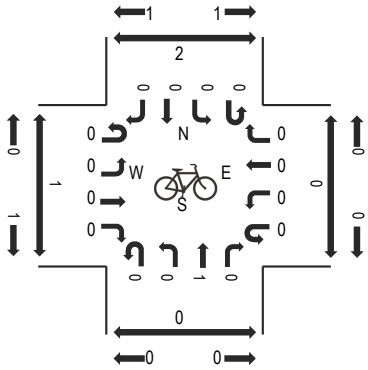
Location: 3 CHAMBERS RD & ALAMEDA AVE PM
Date: Thursday, April 11, 2024
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

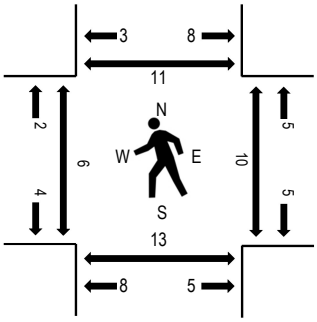
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	41	319	65	0	38	231	42	0	81	256	45	0	97	324	68	1,607	6,415	0	1	4	2
4:15 PM	1	52	361	91	0	48	210	58	1	50	217	56	0	104	299	57	1,605	6,395	1	4	3	5
4:30 PM	0	42	311	60	2	30	183	38	0	74	244	59	0	106	315	62	1,526	6,426	0	7	0	2
4:45 PM	0	41	363	81	0	31	260	50	1	66	274	47	0	92	322	49	1,677	6,539	0	4	2	4
5:00 PM	0	51	340	57	0	43	235	40	0	60	242	51	1	122	274	71	1,587	6,408	1	4	2	0
5:15 PM	1	57	290	80	0	43	205	31	1	67	265	55	0	123	352	66	1,636		1	2	4	4
5:30 PM	0	45	383	73	2	32	229	30	1	78	245	66	0	105	301	49	1,639		4	0	5	3
5:45 PM	0	40	348	72	0	39	231	39	1	61	210	48	0	110	281	66	1,546		1	2	4	4
Count Total	2	369	2,715	579	4	304	1,784	328	5	537	1,953	427	1	859	2,468	488	12,823		8	24	24	24
Peak Hour	1	194	1,376	291	2	149	929	151	3	271	1,026	219	1	442	1,249	235	6,539		6	10	13	11

ALL TRAFFIC DATA SERVICES
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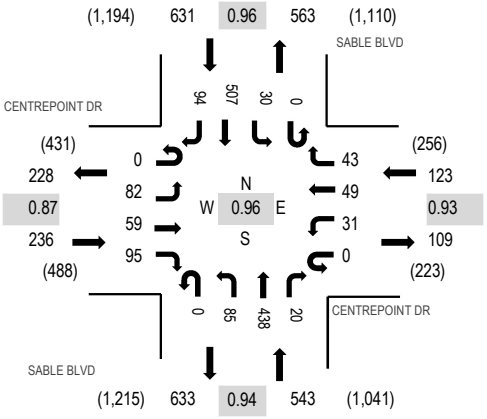
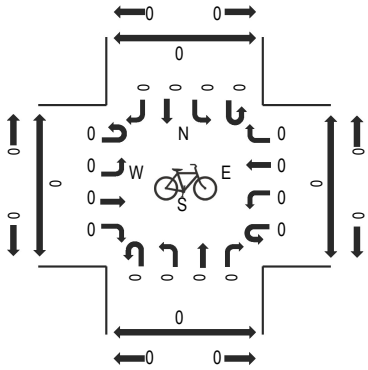
Location: 4 SABLE BLVD & CENTREPOINT DR PM
Date: Thursday, April 11, 2024
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

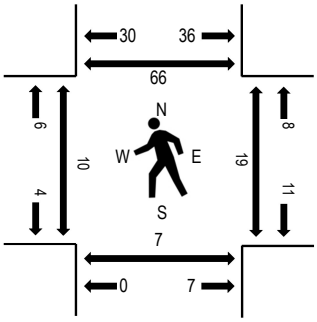
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	CENTREPOINT DR Eastbound				CENTREPOINT DR Westbound				SABLE BLVD Northbound				SABLE BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	14	17	28	0	7	16	15	0	16	107	5	1	6	114	25	371	1,503	2	8	4	15
4:15 PM	0	23	11	22	0	9	14	10	0	15	116	9	0	7	136	22	394	1,533	2	2	1	19
4:30 PM	0	18	9	29	0	5	11	9	0	23	101	1	0	7	131	22	366	1,515	4	7	1	13
4:45 PM	0	23	13	21	0	11	10	9	0	22	105	6	0	8	125	19	372	1,489	1	5	2	22
5:00 PM	0	18	26	23	0	6	14	15	0	25	116	4	0	8	115	31	401	1,476	3	5	3	12
5:15 PM	0	31	17	27	0	4	16	7	0	15	113	3	0	5	122	16	376		4	8	3	10
5:30 PM	0	25	13	22	0	3	13	19	0	15	87	10	0	8	105	20	340		4	3	0	16
5:45 PM	0	20	11	27	0	9	12	12	1	21	96	9	0	10	113	18	359		2	6	3	16
Count Total	0	172	117	199	0	54	106	96	1	152	841	47	1	59	961	173	2,979		22	44	17	123
Peak Hour	0	82	59	95	0	31	49	43	0	85	438	20	0	30	507	94	1,533		10	19	7	66

ALL TRAFFIC DATA SERVICES
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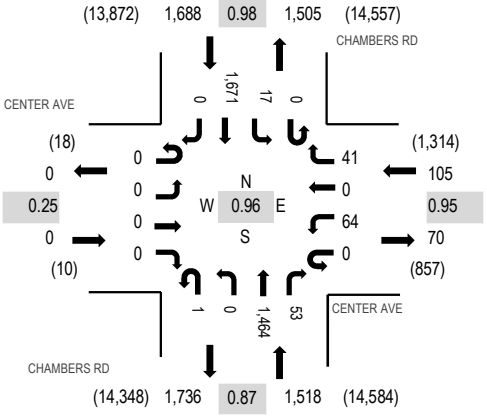
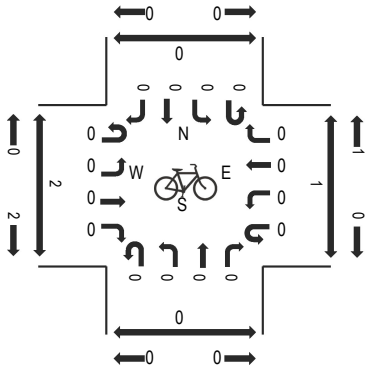
Location: 5 CHAMBERS RD & CENTER AVE AM
Date: Thursday, April 11, 2024
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

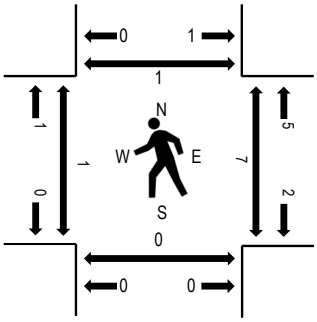
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	CENTER AVE Eastbound				CENTER AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:00 AM	0	0	0	0	0	9	0	10	0	0	138	2	0	1	68	0	228	1,380	0	0	0	0
6:15 AM	0	0	0	0	0	8	0	8	0	0	206	2	0	2	80	0	306	1,628	0	1	0	0
6:30 AM	0	0	0	0	0	6	0	14	0	0	248	1	0	1	106	0	376	1,917	0	0	0	0
6:45 AM	0	0	0	0	0	10	0	9	0	0	312	4	0	3	131	1	470	2,290	1	0	0	0
7:00 AM	0	0	0	0	0	9	0	12	0	1	297	10	1	6	140	0	476	2,507	1	0	0	0
7:15 AM	0	0	0	0	0	13	0	10	0	0	391	4	0	2	175	0	595	2,661	2	3	0	0
7:30 AM	0	0	0	0	0	13	0	14	0	0	449	14	0	3	256	0	749	2,637	0	1	0	0
7:45 AM	0	0	0	0	0	11	0	12	1	0	387	12	0	6	258	0	687	2,403	0	0	0	0
8:00 AM	0	0	0	0	0	14	0	4	0	0	342	10	1	5	254	0	630	2,272	0	0	0	0
8:15 AM	0	0	0	0	0	17	0	10	0	0	268	10	0	5	261	0	571	2,113	1	2	1	0
8:30 AM	0	0	0	0	0	15	0	9	0	0	254	13	0	7	217	0	515	1,982	2	3	0	1
8:45 AM	0	0	0	0	0	13	0	11	1	0	288	6	0	5	232	0	556	1,901	1	2	0	0
9:00 AM	0	0	0	0	0	14	0	9	0	0	232	12	0	3	201	0	471	1,760	2	5	3	1
9:15 AM	0	0	0	0	0	14	0	7	1	0	207	14	0	6	190	1	440	1,705	0	0	0	0
9:30 AM	2	0	0	0	0	22	0	8	0	0	197	14	0	4	187	0	434	1,695	3	4	0	0
9:45 AM	0	0	0	0	0	15	0	5	0	0	185	14	0	7	188	1	415	1,655	0	1	0	0
10:00 AM	0	0	0	0	0	22	0	12	0	0	194	8	0	6	174	0	416	1,664	1	1	0	0
10:15 AM	0	0	0	0	0	18	0	8	0	0	202	11	0	7	183	1	430	1,661	0	1	1	0
10:30 AM	0	0	0	0	0	10	0	8	0	0	192	7	0	3	174	0	394	1,651	1	1	1	0
10:45 AM	0	0	0	0	0	17	0	9	0	0	192	10	0	5	191	0	424	1,686	0	1	1	0
11:00 AM	0	0	0	0	0	16	0	11	0	0	196	7	0	7	174	2	413	1,694	0	2	0	0
11:15 AM	0	0	0	0	0	18	0	8	0	0	180	14	0	4	196	0	420	1,821	0	2	0	0
11:30 AM	0	0	0	0	0	18	0	7	0	0	212	7	0	2	183	0	429	1,882	0	3	0	0
11:45 AM	0	0	0	0	0	22	0	9	0	0	177	12	0	7	205	0	432	1,925	0	3	1	0
12:00 PM	0	0	0	0	0	17	0	5	0	0	223	12	0	6	276	1	540	1,962	1	2	0	0
12:15 PM	0	0	0	1	0	13	0	8	0	0	229	5	0	5	220	0	481	1,883	0	2	0	0
12:30 PM	0	0	0	0	0	19	0	9	0	0	226	10	0	8	200	0	472	1,891	1	0	0	0
12:45 PM	1	0	0	0	0	22	0	16	0	0	201	10	0	3	215	1	469	1,915	0	1	0	0
1:00 PM	0	0	0	0	0	9	0	3	0	0	207	12	0	3	227	0	461	1,962	0	1	0	0
1:15 PM	0	0	0	0	0	20	0	8	0	0	226	10	1	6	216	2	489	2,034	1	2	0	0
1:30 PM	0	0	0	1	0	16	0	11	0	0	217	12	0	7	231	1	496	2,057	0	0	0	0
1:45 PM	0	0	0	1	0	12	0	12	0	0	254	5	1	11	220	0	516	2,198	2	1	0	0
2:00 PM	0	0	0	0	0	17	0	8	0	0	236	16	0	8	248	0	533	2,320	1	1	0	0
2:15 PM	0	0	0	0	0	12	0	12	0	0	233	11	1	11	232	0	512	2,476	2	4	0	0

2:30 PM	0	0	0	0	0	19	0	11	0	0	295	12	0	5	295	0	637	2,707	0	4	0	0
2:45 PM	0	0	0	0	0	12	0	9	0	1	286	14	1	10	305	0	638	2,880	1	1	0	0
3:00 PM	0	1	0	0	0	16	0	9	0	0	264	11	0	11	377	0	689	3,099	0	0	0	0
3:15 PM	0	0	0	1	0	18	0	14	0	0	299	11	0	2	398	0	743	3,213	1	0	0	0
3:30 PM	0	0	0	0	0	14	0	11	0	0	337	17	0	11	419	1	810	3,289	0	0	0	0
3:45 PM	0	0	0	0	0	18	0	14	0	0	370	17	0	3	435	0	857	3,294	1	2	0	0
4:00 PM	0	0	0	0	0	22	0	10	0	0	344	16	0	10	401	0	803	3,248	0	0	0	0
4:15 PM	0	0	0	0	0	17	0	10	0	0	341	10	0	10	431	0	819	3,271	0	1	0	0
4:30 PM	0	0	0	0	0	17	0	11	0	0	374	4	0	2	407	0	815	3,311	0	0	0	0
4:45 PM	0	0	0	0	0	16	0	6	0	0	357	15	0	5	412	0	811	3,289	0	0	0	0
5:00 PM	0	0	0	0	0	19	0	19	0	0	360	16	0	6	406	0	826	3,267	1	2	0	1
5:15 PM	0	0	0	0	0	12	0	5	1	0	373	18	0	4	446	0	859	3,203	0	5	0	0
5:30 PM	0	0	0	0	0	17	0	13	0	0	360	6	0	10	387	0	793	3,011	0	3	0	0
5:45 PM	1	0	0	0	0	17	0	11	0	0	338	9	0	10	403	0	789	2,860	2	3	4	0
6:00 PM	0	1	0	0	0	16	0	9	0	0	318	11	0	6	401	0	762	2,645	0	3	1	0
6:15 PM	0	0	0	0	0	14	0	10	0	0	296	10	0	13	324	0	667		0	3	0	0
6:30 PM	0	0	0	0	0	22	0	15	0	0	271	16	0	13	305	0	642		0	3	0	0
6:45 PM	0	0	0	0	0	13	0	11	0	0	254	9	0	8	279	0	574		0	2	0	0
Count Total	4	2	0	4	0	800	0	514	4	2	14,035	543	6	314	13,540	12	29,780		29	82	13	3
Peak Hour	0	0	0	0	0	64	0	41	1	0	1,464	53	0	17	1,671	0	3,311		1	7	0	1

All Traffic Data Services Inc.

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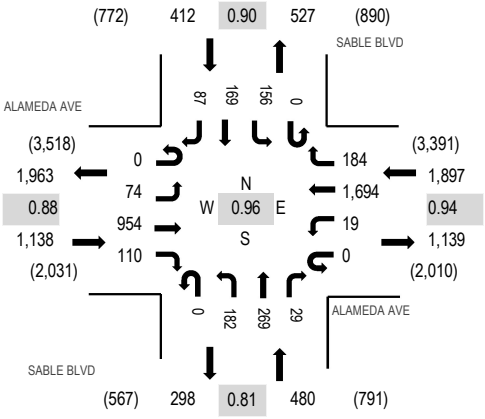
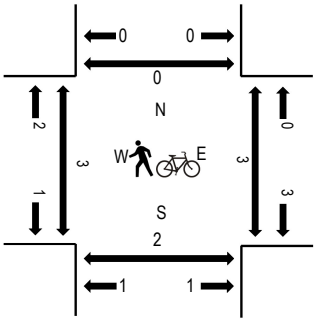
Location: 1 SABLE BLVD & ALAMEDA AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				SABLE BLVD Northbound				SABLE BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	17	168	16	0	3	371	22	0	35	46	8	0	21	23	38	768	3,745	1	2	1	0
7:15 AM	0	11	235	21	0	1	480	24	0	44	60	5	0	36	28	23	968	3,927	0	1	0	0
7:30 AM	0	17	226	21	0	4	416	51	0	58	82	9	0	36	41	22	983	3,763	1	0	1	0
7:45 AM	0	26	264	35	0	4	400	51	0	51	74	11	0	44	44	22	1,026	3,558	1	2	1	0
8:00 AM	0	20	229	33	0	10	398	58	0	29	53	4	0	40	56	20	950	3,240	1	0	0	0
8:15 AM	0	22	211	20	0	10	336	33	0	26	48	5	0	32	45	16	804		2	3	0	5
8:30 AM	1	13	179	20	0	13	372	30	0	24	38	3	0	16	44	25	778		1	2	0	2
8:45 AM	0	17	192	17	0	5	271	28	0	19	49	10	0	26	53	21	708		2	0	0	4
Count Total	1	143	1,704	183	0	50	3,044	297	0	286	450	55	0	251	334	187	6,985		9	10	3	11
Peak Hour	0	74	954	110	0	19	1,694	184	0	182	269	29	0	156	169	87	3,927		3	3	2	0

All Traffic Data Services Inc.

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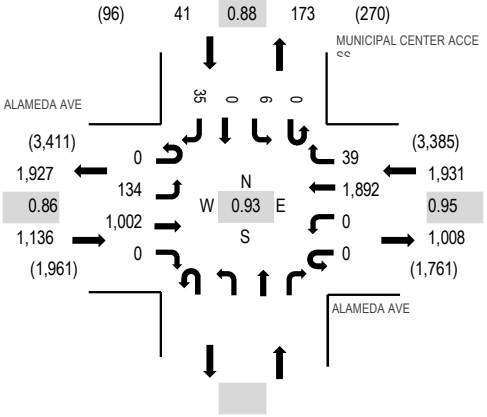
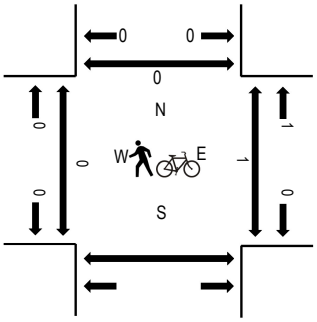
Location: 2 MUNICIPAL CENTER ACCESS & ALAMEDA AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

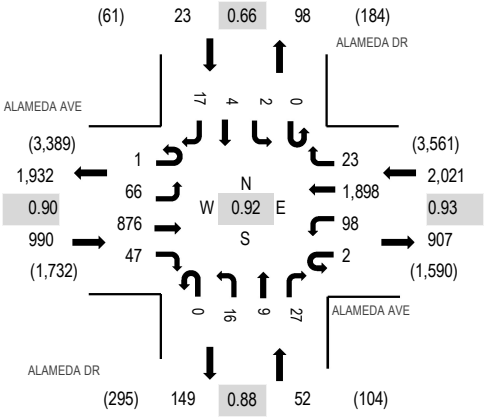
Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				Northbound				MUNICIPAL CENTER ACCESS Southbound					Rolling Hour	Pedestrian Crossings		
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	26	160	0	0	0	402	3					0	0	0	5	596	2,980	0	1		1
7:15 AM	0	30	234	0	0	0	495	4					0	1	0	2	766	3,108	0	0		0
7:30 AM	0	26	238	0	0	0	499	7					0	0	0	10	780	2,987	0	0		0
7:45 AM	0	43	289	0	0	0	476	15					0	4	0	11	838	2,785	0	1		0
8:00 AM	0	35	241	0	0	0	422	13					0	1	0	12	724	2,462	0	0		0
8:15 AM	0	22	223	0	0	0	381	5					0	2	0	12	645		1	0		1
8:30 AM	1	11	160	0	0	0	384	4					0	4	0	14	578		0	0		0
8:45 AM	0	20	202	0	0	0	269	6					0	2	0	16	515		0	1		0
Count Total	1	213	1,747	0	0	0	3,328	57					0	14	0	82	5,442		1	3		2
Peak Hour	0	134	1,002	0	0	0	1,892	39					0	6	0	35	3,108		0	1		0

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

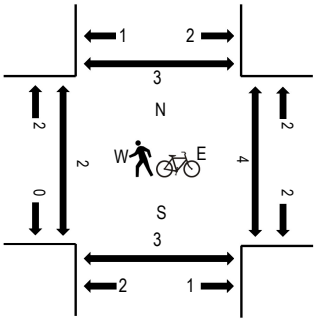
Location: 3 ALAMEDA DR & ALAMEDA AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				ALAMEDA DR Northbound				ALAMEDA DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	8	139	4	5	16	415	3	0	1	2	4	0	0	0	1	598	2,969	0	0	0	0
7:15 AM	0	15	221	4	1	18	490	3	0	4	1	6	0	0	0	4	767	3,086	0	0	2	0
7:30 AM	0	14	212	12	0	18	486	3	0	4	3	7	0	1	1	4	765	2,962	2	1	1	0
7:45 AM	0	20	239	17	1	38	496	8	0	2	4	6	0	0	2	6	839	2,799	0	1	0	2
8:00 AM	1	17	204	14	0	24	426	9	0	6	1	8	0	1	1	3	715	2,489	0	1	0	1
8:15 AM	0	15	186	17	1	24	363	6	0	6	1	10	0	2	2	10	643		4	0	2	0
8:30 AM	0	17	136	18	0	26	380	6	0	5	0	7	0	5	0	2	602		2	1	2	1
8:45 AM	0	13	169	20	2	15	266	12	0	4	3	9	0	8	4	4	529		1	2	1	2
Count Total	1	119	1,506	106	10	179	3,322	50	0	32	15	57	0	17	10	34	5,458		9	6	8	6
Peak Hour	1	66	876	47	2	98	1,898	23	0	16	9	27	0	2	4	17	3,086		2	3	3	3

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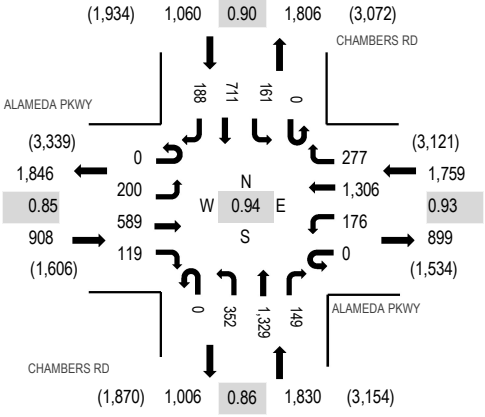
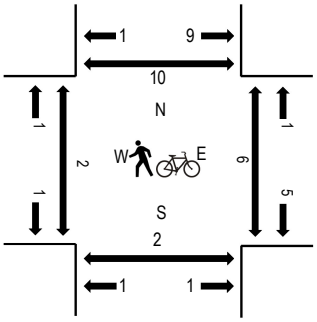
Location: 4 CHAMBERS RD & ALAMEDA PKWY AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	ALAMEDA PKWY Eastbound				ALAMEDA PKWY Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	37	99	25	0	21	311	61	0	73	298	30	0	43	136	17	1,151	5,388	0	2	0	2
7:15 AM	0	44	163	19	0	41	335	75	0	81	300	45	0	38	145	36	1,322	5,557	1	2	1	3
7:30 AM	0	39	135	34	0	40	314	56	0	107	376	49	0	52	189	44	1,435	5,367	0	1	1	2
7:45 AM	0	59	178	31	0	48	352	71	0	97	357	26	0	40	166	55	1,480	4,983	0	2	0	3
8:00 AM	0	58	113	35	0	47	305	75	0	67	296	29	0	31	211	53	1,320	4,427	0	1	0	2
8:15 AM	0	43	129	37	1	39	298	37	0	69	240	23	0	24	154	38	1,132		0	1	1	0
8:30 AM	0	48	89	25	0	37	256	35	0	73	209	29	0	28	168	54	1,051		0	0	0	1
8:45 AM	0	35	94	37	0	31	212	23	0	61	200	19	0	27	154	31	924		0	1	2	0
Count Total	0	363	1,000	243	1	304	2,383	433	0	628	2,276	250	0	283	1,323	328	9,815		1	10	5	13
Peak Hour	0	200	589	119	0	176	1,306	277	0	352	1,329	149	0	161	711	188	5,557		1	6	2	10

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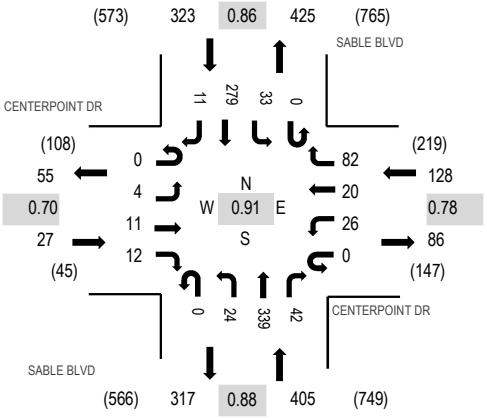
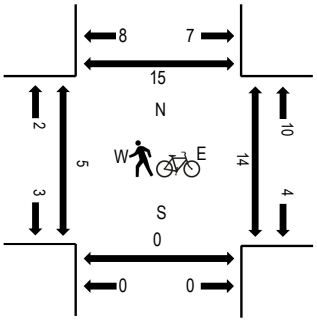
Location: 5 SABLE BLVD & CENTERPOINT DR AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	CENTERPOINT DR Eastbound				CENTERPOINT DR Westbound				SABLE BLVD Northbound				SABLE BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	1	1	0	5	3	15	0	4	75	10	0	5	43	1	163	820	0	1	0	2
7:15 AM	0	0	0	4	0	3	1	18	0	4	89	10	0	5	43	2	179	874	0	2	0	1
7:30 AM	0	2	1	1	0	8	3	30	0	4	113	7	0	7	59	1	236	883	0	1	0	2
7:45 AM	0	0	3	1	0	7	6	23	0	11	96	13	0	7	74	1	242	834	1	4	0	7
8:00 AM	0	1	4	6	0	6	9	14	0	4	65	12	0	12	81	3	217	766	1	0	0	2
8:15 AM	0	1	3	4	0	5	2	15	0	5	65	10	0	7	65	6	188		2	8	0	2
8:30 AM	0	0	1	3	0	10	8	12	0	6	63	8	0	5	64	7	187		0	1	0	8
8:45 AM	0	1	3	4	0	6	3	7	0	7	60	8	0	5	63	7	174		1	2	0	6
Count Total	0	5	16	24	0	50	35	134	0	45	626	78	0	53	492	28	1,586		5	19	0	30
Peak Hour	0	4	11	12	0	26	20	82	0	24	339	42	0	33	279	11	883		4	13	0	13

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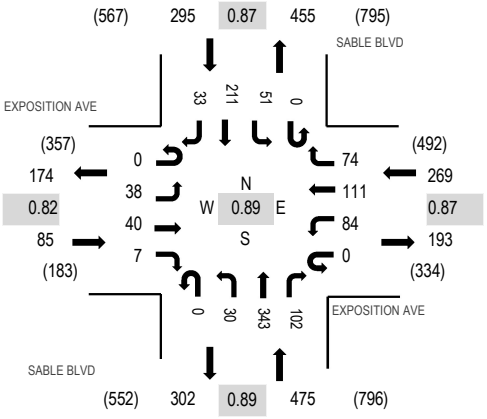
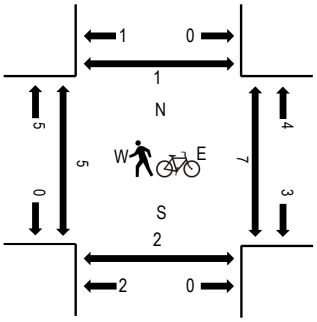
Location: 6 SABLE BLVD & EXPOSITION AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	EXPOSITION AVE Eastbound				EXPOSITION AVE Westbound				SABLE BLVD Northbound				SABLE BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	3	8	0	0	11	16	10	0	2	87	11	0	3	36	10	197	1,046	0	3	1	0
7:15 AM	0	9	11	1	0	21	14	18	0	1	84	28	0	9	39	3	238	1,124	0	1	1	0
7:30 AM	0	8	10	2	0	27	27	20	0	4	109	21	0	11	54	2	295	1,109	0	2	0	0
7:45 AM	0	11	9	3	0	26	31	22	0	7	96	28	0	17	49	17	316	1,065	2	3	1	0
8:00 AM	0	10	10	1	0	10	39	14	0	18	54	25	0	14	69	11	275	992	1	0	0	1
8:15 AM	0	11	14	3	0	16	26	17	0	3	50	16	0	9	48	10	223		0	8	1	0
8:30 AM	0	11	13	2	0	15	31	9	0	9	63	14	0	16	49	19	251		3	2	2	1
8:45 AM	0	14	15	4	0	21	34	17	0	5	48	13	0	9	45	18	243		0	0	0	0
Count Total	0	77	90	16	0	147	218	127	0	49	591	156	0	88	389	90	2,038		6	19	6	2
Peak Hour	0	38	40	7	0	84	111	74	0	30	343	102	0	51	211	33	1,124		3	6	2	1

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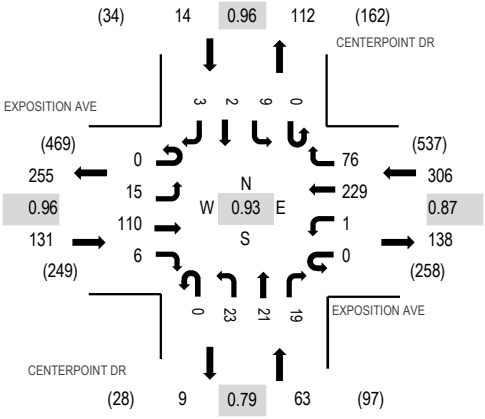
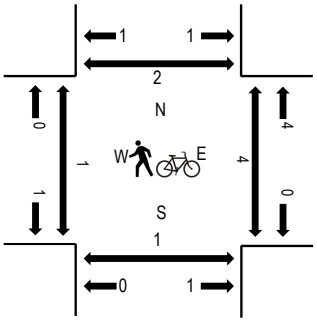
Location: 7 CENTERPOINT DR & EXPOSITION AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	EXPOSITION AVE Eastbound				EXPOSITION AVE Westbound				CENTERPOINT DR Northbound				CENTERPOINT DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	16	2	0	0	26	8	0	6	8	3	0	1	0	1	71	447	0	0	0	0
7:15 AM	0	2	29	2	0	0	41	14	0	9	6	6	0	2	0	1	112	514	0	1	0	1
7:30 AM	0	5	25	1	0	0	52	24	0	7	5	6	0	1	1	0	127	508	0	1	0	0
7:45 AM	0	3	29	1	0	0	76	14	0	2	3	5	0	2	1	1	137	491	0	1	0	0
8:00 AM	0	5	27	2	0	1	60	24	0	5	7	2	0	4	0	1	138	470	1	1	1	1
8:15 AM	0	2	29	2	0	3	47	11	0	2	3	1	0	5	0	1	106		0	0	0	0
8:30 AM	0	4	29	2	0	1	58	5	0	2	3	0	0	2	1	3	110		1	0	1	0
8:45 AM	0	1	29	2	0	4	65	3	0	3	2	1	0	4	2	0	116		0	0	0	0
Count Total	0	22	213	14	0	9	425	103	0	36	37	24	0	21	5	8	917		2	4	2	2
Peak Hour	0	15	110	6	0	1	229	76	0	23	21	19	0	9	2	3	514		1	4	1	2

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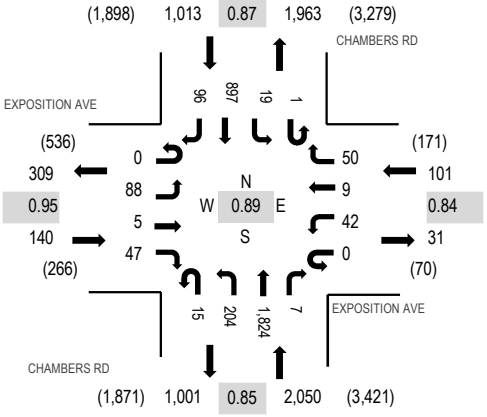
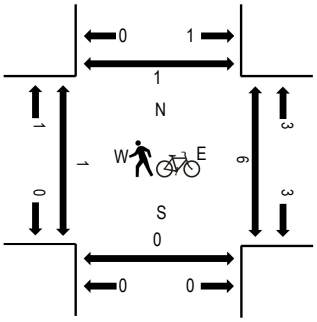
Location: 8 CHAMBERS RD & EXPOSITION AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	EXPOSITION AVE Eastbound				EXPOSITION AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	16	4	2	0	19	2	6	4	23	349	2	0	8	185	7	627	3,182	0	3	1	0
7:15 AM	0	25	0	10	0	13	3	14	5	34	440	2	0	2	187	19	754	3,304	0	2	0	1
7:30 AM	0	23	3	10	0	11	4	19	2	55	544	1	0	5	229	18	924	3,213	0	3	0	0
7:45 AM	0	21	1	11	0	10	1	12	5	61	499	2	0	9	216	29	877	2,892	1	0	0	0
8:00 AM	0	19	1	16	0	8	1	5	3	54	341	2	1	3	265	30	749	2,574	0	1	0	0
8:15 AM	0	16	1	17	0	9	1	7	4	37	333	1	1	7	205	24	663		0	1	0	0
8:30 AM	0	6	2	25	0	9	1	3	1	32	310	3	0	5	175	31	603		0	2	1	0
8:45 AM	0	26	0	11	0	8	1	4	1	32	238	1	1	5	195	36	559		0	2	0	0
Count Total	0	152	12	102	0	87	14	70	25	328	3,054	14	3	44	1,657	194	5,756		1	14	2	1
Peak Hour	0	88	5	47	0	42	9	50	15	204	1,824	7	1	19	897	96	3,304		1	6	0	1

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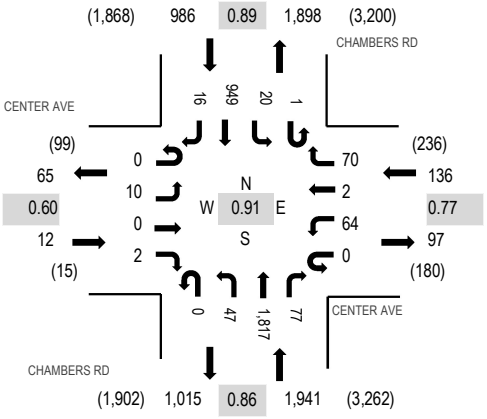
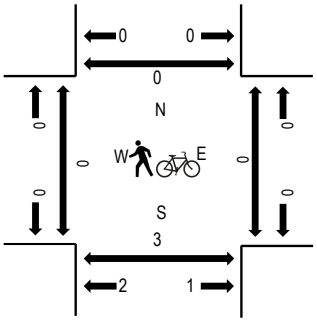
Location: 9 CHAMBERS RD & CENTER AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	CENTER AVE Eastbound				CENTER AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	1	0	0	0	10	1	12	0	3	359	15	0	6	190	4	601	2,972	0	0	0	0
7:15 AM	0	4	0	1	0	14	1	17	0	5	446	15	0	9	195	2	709	3,075	0	0	0	0
7:30 AM	0	1	0	0	0	9	0	16	0	15	533	19	0	6	242	6	847	2,978	0	0	1	0
7:45 AM	0	5	0	0	0	19	0	25	0	17	477	32	0	2	235	3	815	2,687	0	0	0	0
8:00 AM	0	0	0	1	0	22	1	12	0	10	361	11	1	3	277	5	704	2,409	0	0	2	0
8:15 AM	0	0	0	0	0	11	1	15	0	10	328	13	0	6	224	4	612		1	0	1	0
8:30 AM	0	0	0	1	0	10	0	10	0	4	303	17	0	5	202	4	556		0	2	1	0
8:45 AM	0	0	0	1	0	17	0	13	0	1	260	8	1	13	221	2	537		0	0	0	0
Count Total	0	11	0	4	0	112	4	120	0	65	3,067	130	2	50	1,786	30	5,381		1	2	5	0
Peak Hour	0	10	0	2	0	64	2	70	0	47	1,817	77	1	20	949	16	3,075		0	0	3	0

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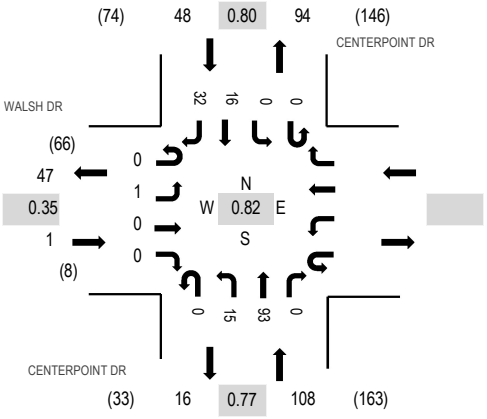
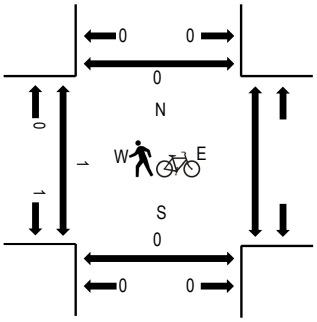
Location: 10 CENTERPOINT DR & WALSH DR AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	WALSH DR Eastbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound U-Turn	Westbound Left	Westbound Thru	Westbound Right	CENTERPOINT DR Northbound U-Turn	Northbound Left	Northbound Thru	Northbound Right	CENTERPOINT DR Southbound U-Turn	Southbound Left	Southbound Thru	Southbound Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
7:00 AM	0	0	0	0					0	2	15	0	0	0	2	0	19	126	0		0	0
7:15 AM	0	1	0	0					0	4	18	0	0	0	3	7	33	155	0		0	0
7:30 AM	0	0	0	0					0	6	30	0	0	0	2	9	47	157	0		0	0
7:45 AM	0	0	0	0					0	3	17	0	0	0	4	3	27	128	0		0	0
8:00 AM	0	0	0	0					0	5	28	0	0	0	5	10	48	119	0		0	0
8:15 AM	0	1	0	0					0	1	18	0	0	0	5	10	35		0		0	0
8:30 AM	0	1	0	0					0	2	8	0	0	0	5	2	18		0		0	0
8:45 AM	0	4	0	1					0	1	5	0	0	0	6	1	18		0		0	0
Count Total	0	7	0	1					0	24	139	0	0	0	32	42	245		0		0	0
Peak Hour	0	1	0	0					0	15	93	0	0	0	16	32	157		0		0	0

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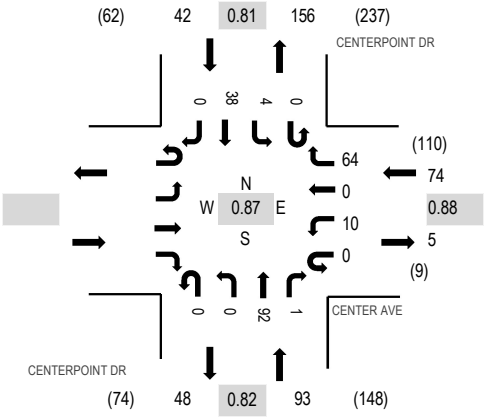
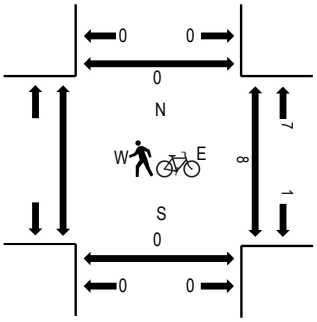
Location: 11 CENTERPOINT DR & CENTER AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Eastbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	CENTER AVE Westbound U-Turn	CENTER AVE Westbound Left	CENTER AVE Westbound Thru	CENTER AVE Westbound Right	CENTERPOINT DR Northbound U-Turn	CENTERPOINT DR Northbound Left	CENTERPOINT DR Northbound Thru	CENTERPOINT DR Northbound Right	CENTERPOINT DR Southbound U-Turn	CENTERPOINT DR Southbound Left	CENTERPOINT DR Southbound Thru	CENTERPOINT DR Southbound Right	Total	Rolling Hour	Pedestrian Crossings West	Pedestrian Crossings East	Pedestrian Crossings South	Pedestrian Crossings North
7:00 AM					0	1	0	8	0	0	16	0	0	0	1	0	26	172		3	0	0
7:15 AM					0	2	0	10	0	0	17	3	0	0	8	0	40	203		3	0	0
7:30 AM					0	2	0	19	0	0	28	1	0	1	9	0	60	209		2	0	0
7:45 AM					0	0	0	21	0	0	17	0	0	1	7	0	46	174		1	0	0
8:00 AM					0	5	0	12	0	0	29	0	0	1	10	0	57	148		3	0	0
8:15 AM					0	3	0	12	0	0	18	0	0	1	12	0	46			2	0	0
8:30 AM					0	1	0	10	0	0	8	0	0	0	6	0	25			2	0	0
8:45 AM					0	2	0	2	0	0	10	1	0	0	5	0	20			0	0	0
Count Total					0	16	0	94	0	0	143	5	0	4	58	0	320			16	0	0
Peak Hour					0	10	0	64	0	0	92	1	0	4	38	0	209			8	0	0

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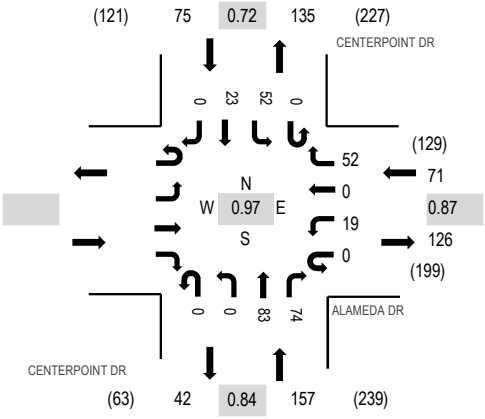
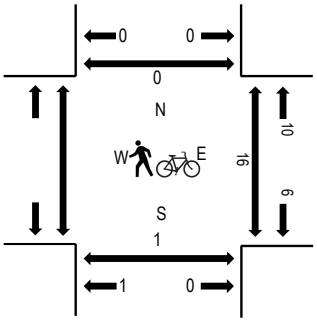
Location: 12 CENTERPOINT DR & ALAMEDA DR AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Eastbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	ALAMEDA DR Westbound U-Turn	ALAMEDA DR Westbound Left	ALAMEDA DR Westbound Thru	ALAMEDA DR Westbound Right	CENTERPOINT DR Northbound U-Turn	CENTERPOINT DR Northbound Left	CENTERPOINT DR Northbound Thru	CENTERPOINT DR Northbound Right	CENTERPOINT DR Southbound U-Turn	CENTERPOINT DR Southbound Left	CENTERPOINT DR Southbound Thru	CENTERPOINT DR Southbound Right	Total	Rolling Hour	Pedestrian Crossings West	Pedestrian Crossings East	Pedestrian Crossings South	Pedestrian Crossings North
7:00 AM					0	0	0	11	0	0	17	9	0	8	2	0	47	252		3	0	0
7:15 AM					0	4	0	11	0	0	16	10	0	8	4	0	53	283		1	0	0
7:30 AM					0	8	0	10	0	0	31	16	0	8	2	0	75	303		4	0	0
7:45 AM					0	2	0	15	0	0	26	13	0	15	6	0	77	277		3	0	0
8:00 AM					0	3	0	12	0	0	17	20	0	18	8	0	78	237		6	0	0
8:15 AM					0	6	0	15	0	0	9	25	0	11	7	0	73			3	0	0
8:30 AM					0	5	0	15	0	0	8	11	0	9	1	0	49			6	0	0
8:45 AM					0	3	0	9	0	0	5	6	0	12	2	0	37			3	0	0
Count Total					0	31	0	98	0	0	129	110	0	89	32	0	489			29	0	0
Peak Hour					0	19	0	52	0	0	83	74	0	52	23	0	303			16	0	0

All Traffic Data Services Inc.

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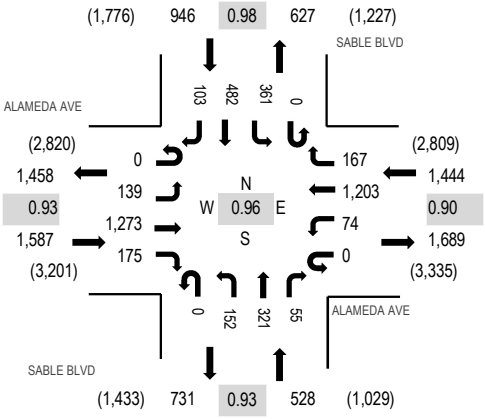
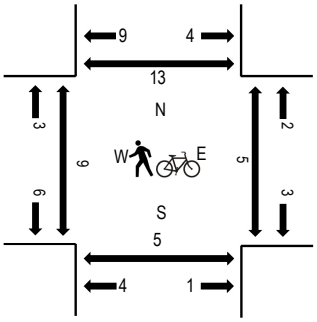
Location: 1 SABLE BLVD & ALAMEDA AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				SABLE BLVD Northbound				SABLE BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	26	303	54	0	25	294	44	0	28	80	14	0	79	100	29	1,076	4,436	7	0	3	3
4:15 PM	0	38	326	39	0	29	305	48	0	35	64	20	0	53	102	27	1,086	4,471	2	3	2	2
4:30 PM	0	38	302	47	0	25	346	48	0	36	80	13	0	100	112	25	1,172	4,505	2	2	0	2
4:45 PM	0	31	330	40	0	19	290	36	0	35	73	14	0	96	118	20	1,102	4,467	2	0	0	3
5:00 PM	0	35	316	39	0	14	284	50	0	41	73	17	0	79	136	27	1,111	4,379	4	1	1	2
5:15 PM	0	35	325	49	0	16	283	33	0	40	95	11	0	86	116	31	1,120		1	2	3	6
5:30 PM	1	31	363	43	0	22	287	39	0	41	88	13	0	69	112	25	1,134		6	1	1	3
5:45 PM	0	42	309	39	0	17	225	30	0	35	70	13	0	84	120	30	1,014		0	2	0	2
Count Total	1	276	2,574	350	0	167	2,314	328	0	291	623	115	0	646	916	214	8,815		24	11	10	23
Peak Hour	0	139	1,273	175	0	74	1,203	167	0	152	321	55	0	361	482	103	4,505		9	5	4	13

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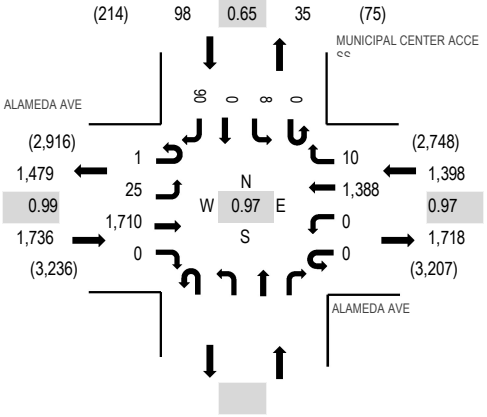
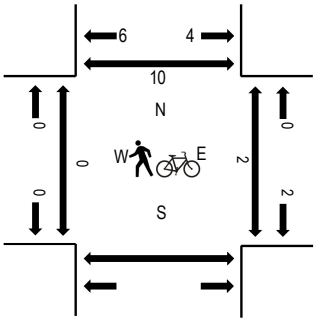
Location: 2 MUNICIPAL CENTER ACCESS & ALAMEDA AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				Northbound				MUNICIPAL CENTER ACCESS Southbound				Total	Rolling Hour	Pedestrian Crossings		
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	7	386	0	0	0	372	3					0	8	0	24	801	3,130	0	1		2
4:15 PM	0	7	361	0	0	0	351	3					0	8	0	18	748	3,158	0	0		0
4:30 PM	1	8	362	0	2	0	363	3					0	1	0	41	781	3,209	1	0		1
4:45 PM	0	7	419	0	0	0	358	2					0	3	0	11	800	3,232	0	0		1
5:00 PM	0	3	429	0	0	0	345	1					0	3	0	48	829	3,068	0	1		3
5:15 PM	0	6	433	0	0	0	334	4					0	1	0	21	799		0	1		1
5:30 PM	1	9	429	0	0	0	351	3					0	1	0	10	804		0	0		1
5:45 PM	0	8	359	0	0	0	252	1					0	2	0	14	636		1	1		2
Count Total	3	55	3,178	0	2	0	2,726	20					0	27	0	187	6,198		2	4		11
Peak Hour	1	25	1,710	0	0	0	1,388	10					0	8	0	90	3,232		0	2		6

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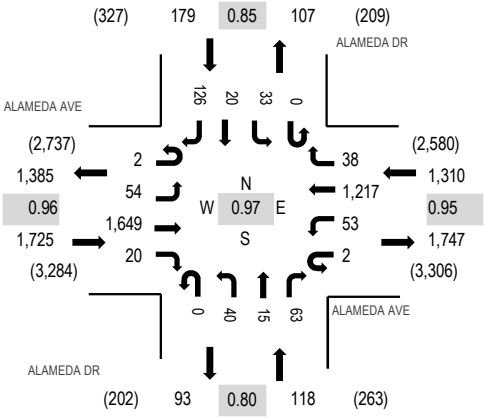
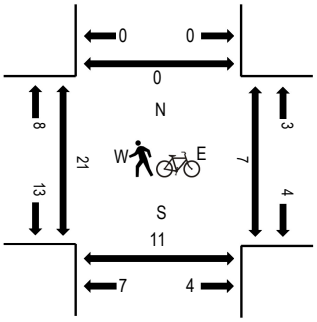
Location: 3 ALAMEDA DR & ALAMEDA AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	ALAMEDA AVE Eastbound				ALAMEDA AVE Westbound				ALAMEDA DR Northbound				ALAMEDA DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	13	393	9	1	15	332	7	0	11	5	15	0	8	8	28	846	3,285	8	1	2	0
4:15 PM	0	14	358	7	0	18	323	6	0	21	3	21	0	11	5	18	805	3,254	5	0	2	0
4:30 PM	0	19	361	6	0	16	309	8	0	31	3	14	0	6	9	28	810	3,287	6	3	3	2
4:45 PM	0	15	405	5	0	12	300	6	0	13	2	13	0	8	6	39	824	3,332	7	0	6	0
5:00 PM	1	10	400	5	1	13	299	5	0	7	6	19	0	10	5	34	815	3,169	7	3	2	0
5:15 PM	1	15	409	8	0	14	309	16	0	6	6	18	0	10	5	21	838		4	1	1	0
5:30 PM	0	14	435	2	1	14	309	11	0	14	1	13	0	5	4	32	855		3	1	2	0
5:45 PM	0	17	356	5	0	7	223	5	0	7	2	12	0	3	4	20	661		3	0	2	0
Count Total	3	117	3,117	47	3	109	2,404	64	0	110	28	125	0	61	46	220	6,454		43	9	20	2
Peak Hour	2	54	1,649	20	2	53	1,217	38	0	40	15	63	0	33	20	126	3,332		21	5	11	0

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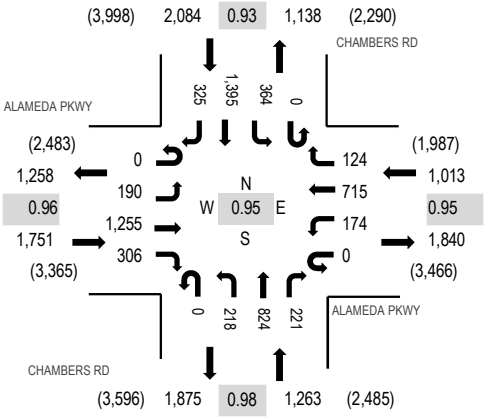
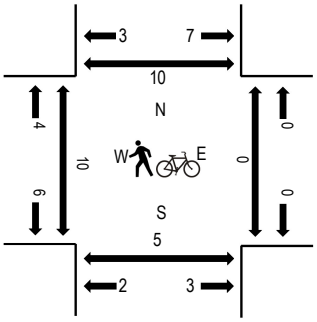
Location: 4 CHAMBERS RD & ALAMEDA PKWY PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	ALAMEDA PKWY Eastbound				ALAMEDA PKWY Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	33	275	80	0	41	183	39	0	61	216	47	0	78	311	109	1,473	5,955	2	0	4	5
4:15 PM	0	54	309	75	0	48	192	31	0	63	197	41	0	96	305	90	1,501	5,988	2	5	3	6
4:30 PM	0	50	282	87	0	39	173	26	0	46	210	43	0	110	364	81	1,511	6,087	1	0	3	2
4:45 PM	0	46	298	72	0	47	182	27	0	64	189	47	0	86	324	88	1,470	6,111	1	0	1	1
5:00 PM	0	55	322	69	0	53	162	27	0	62	207	51	0	98	314	86	1,506	5,880	4	0	2	3
5:15 PM	0	50	332	75	0	35	177	37	0	49	215	59	0	98	401	72	1,600		1	0	1	3
5:30 PM	0	39	303	90	0	39	194	33	0	43	213	64	0	82	356	79	1,535		2	0	0	2
5:45 PM	0	61	240	68	0	43	131	28	0	44	207	47	0	58	260	52	1,239		0	2	1	2
Count Total	0	388	2,361	616	0	345	1,394	248	0	432	1,654	399	0	706	2,635	657	11,835		13	7	15	24
Peak Hour	0	190	1,255	306	0	174	715	124	0	218	824	221	0	364	1,395	325	6,111		8	0	4	9

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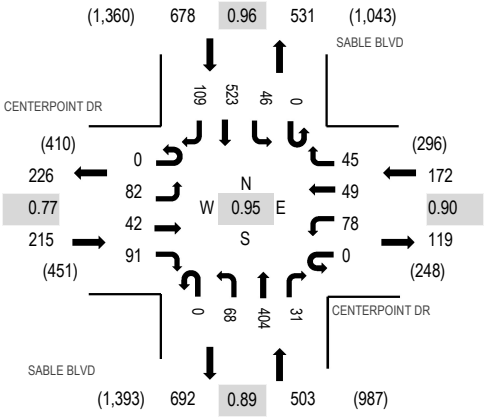
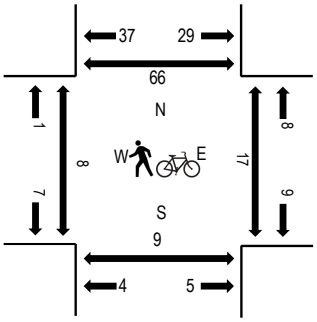
Location: 5 SABLE BLVD & CENTERPOINT DR PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	CENTERPOINT DR Eastbound				CENTERPOINT DR Westbound				SABLE BLVD Northbound				SABLE BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	20	15	27	0	11	13	7	0	24	97	7	0	15	131	21	388	1,544	0	1	0	16
4:15 PM	0	19	12	21	0	18	17	12	0	21	95	9	0	14	128	23	389	1,568	2	8	4	17
4:30 PM	0	16	9	27	0	26	12	10	0	13	113	5	0	14	126	31	402	1,568	2	3	1	16
4:45 PM	0	27	6	20	0	17	11	12	0	19	75	11	0	7	137	23	365	1,550	0	4	2	14
5:00 PM	0	20	15	23	0	17	9	11	0	15	121	6	0	11	132	32	412	1,550	4	2	2	18
5:15 PM	0	25	18	35	0	11	7	17	0	16	86	9	0	11	141	13	389		1	2	0	24
5:30 PM	0	17	13	21	0	12	9	15	0	13	108	5	0	12	140	19	384		1	6	0	17
5:45 PM	0	16	8	21	0	3	9	10	0	16	94	9	0	7	148	24	365		1	3	0	12
Count Total	0	160	96	195	0	115	87	94	0	137	789	61	0	91	1,083	186	3,094		11	29	9	134
Peak Hour	0	82	42	91	0	78	49	45	0	68	404	31	0	46	523	109	1,568		8	17	9	65

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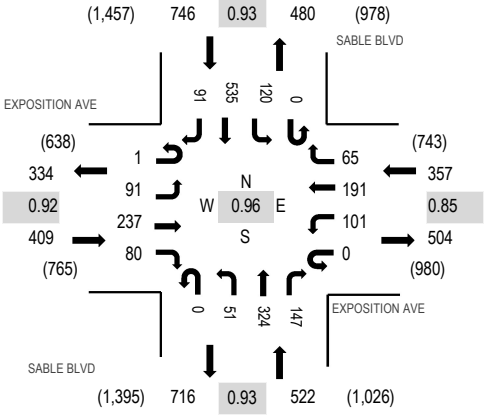
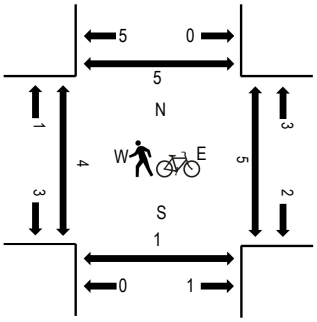
Location: 6 SABLE BLVD & EXPOSITION AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	EXPOSITION AVE Eastbound				EXPOSITION AVE Westbound				SABLE BLVD Northbound				SABLE BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	1	20	56	13	0	29	43	28	0	6	90	28	0	33	109	28	484	1,987	3	5	2	1
4:15 PM	0	23	62	15	0	41	49	24	0	8	73	29	0	34	131	27	516	2,020	2	1	1	2
4:30 PM	1	33	55	17	0	25	51	15	0	10	71	39	0	24	129	27	497	2,034	3	0	0	0
4:45 PM	0	16	51	14	0	30	41	13	0	11	82	36	0	32	140	24	490	2,034	0	0	1	1
5:00 PM	0	28	55	28	0	23	54	19	0	19	87	34	0	27	125	18	517	2,004	1	1	0	1
5:15 PM	0	14	76	21	0	23	45	18	0	11	84	38	0	37	141	22	530		0	3	0	2
5:30 PM	0	19	49	13	0	27	45	15	0	14	95	39	0	28	137	16	497		0	1	1	0
5:45 PM	0	15	51	19	1	31	38	15	0	8	81	33	0	33	114	21	460		0	0	1	0
Count Total	2	168	455	140	1	229	366	147	0	87	663	276	0	248	1,026	183	3,991		9	11	6	7
Peak Hour	1	91	237	80	0	101	191	65	0	51	324	147	0	120	535	91	2,034		4	4	1	4

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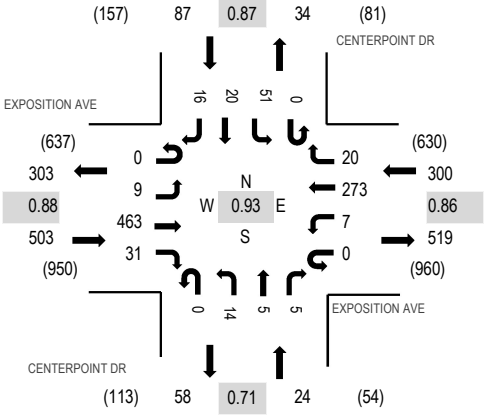
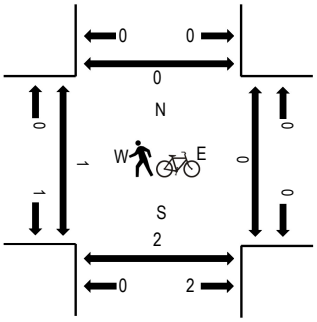
Location: 7 CENTERPOINT DR & EXPOSITION AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	EXPOSITION AVE Eastbound				EXPOSITION AVE Westbound				CENTERPOINT DR Northbound				CENTERPOINT DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	6	96	10	0	3	77	8	0	1	0	1	0	11	3	4	220	908	0	1	0	0
4:15 PM	0	5	96	7	0	2	91	6	0	4	1	2	0	11	3	8	236	905	0	0	0	0
4:30 PM	0	0	120	7	0	3	68	4	0	1	0	1	0	11	7	3	225	914	1	0	0	0
4:45 PM	0	4	103	10	0	1	71	7	0	5	1	0	0	15	4	6	227	906	0	0	1	0
5:00 PM	0	3	108	5	0	1	69	4	0	3	3	3	0	12	3	3	217	883	0	0	1	0
5:15 PM	0	2	132	9	0	2	65	5	0	5	1	1	0	13	6	4	245		0	0	0	0
5:30 PM	0	5	92	13	0	1	76	2	0	2	1	5	0	15	2	3	217		0	0	1	0
5:45 PM	0	5	106	6	0	1	59	4	0	6	4	3	0	3	4	3	204		0	2	0	0
Count Total	0	30	853	67	0	14	576	40	0	27	11	16	0	91	32	34	1,791		1	3	3	0
Peak Hour	0	9	463	31	0	7	273	20	0	14	5	5	0	51	20	16	914		1	0	2	0

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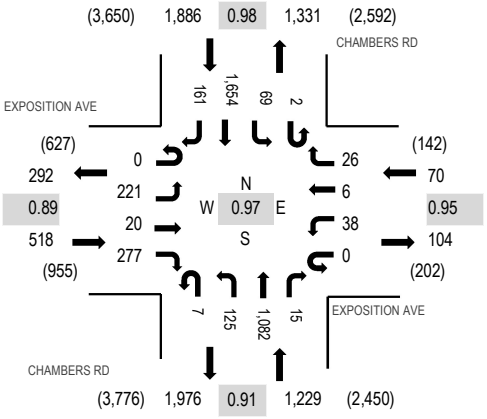
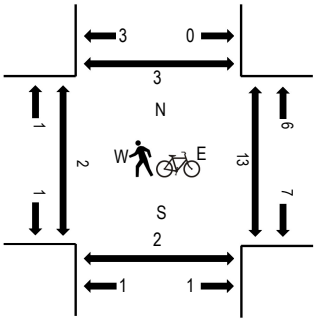
Location: 8 CHAMBERS RD & EXPOSITION AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	EXPOSITION AVE Eastbound				EXPOSITION AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	40	3	59	0	3	2	8	4	44	266	4	2	16	388	44	883	3,578	3	3	0	0
4:15 PM	0	52	3	57	0	12	1	5	4	39	258	1	1	11	385	57	886	3,648	1	4	1	0
4:30 PM	0	61	6	63	0	9	1	4	4	35	256	3	0	11	429	37	919	3,703	2	2	0	0
4:45 PM	0	43	4	66	0	7	2	4	0	34	251	4	0	22	409	44	890	3,694	0	7	2	0
5:00 PM	0	52	5	73	0	10	1	11	1	25	312	4	1	14	400	44	953	3,619	0	2	0	3
5:15 PM	0	65	5	75	0	12	2	7	2	31	263	4	1	22	416	36	941		0	2	0	0
5:30 PM	0	46	4	58	0	9	3	9	2	33	259	5	1	20	417	44	910		3	2	0	2
5:45 PM	0	44	6	65	0	11	1	8	1	35	260	6	2	19	325	32	815		0	5	1	0
Count Total	0	403	36	516	0	73	13	56	18	276	2,125	31	8	135	3,169	338	7,197		9	27	4	5
Peak Hour	0	221	20	277	0	38	6	26	7	125	1,082	15	2	69	1,654	161	3,703		2	13	2	3

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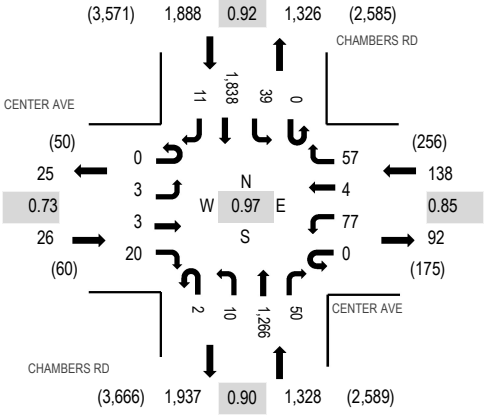
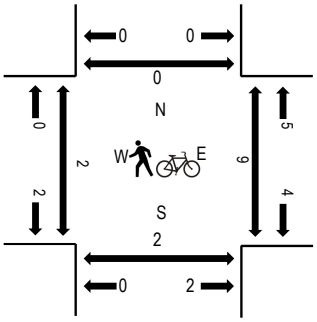
Location: 9 CHAMBERS RD & CENTER AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	CENTER AVE Eastbound				CENTER AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	11	0	20	0	14	0	1	295	18	0	9	396	2	766	3,210	0	4	0	0
4:15 PM	0	2	0	5	0	16	3	20	0	3	294	11	1	10	431	4	800	3,306	1	2	0	0
4:30 PM	0	0	0	6	0	18	3	13	0	1	300	14	0	13	484	6	858	3,380	1	1	1	0
4:45 PM	0	2	2	4	0	24	1	21	1	6	287	12	0	9	415	2	786	3,306	0	3	0	0
5:00 PM	0	1	1	4	0	22	0	16	0	2	360	10	0	9	435	2	862	3,266	0	4	0	0
5:15 PM	0	0	0	6	0	13	0	7	1	1	319	14	0	8	504	1	874		0	1	1	0
5:30 PM	0	0	0	4	0	10	0	6	0	2	307	5	0	8	438	4	784		0	3	0	0
5:45 PM	0	3	1	8	0	23	2	4	0	2	313	10	0	11	367	2	746		1	6	2	0
Count Total	0	8	4	48	0	146	9	101	2	18	2,475	94	1	77	3,470	23	6,476		3	24	4	0
Peak Hour	0	3	3	20	0	77	4	57	2	10	1,266	50	0	39	1,838	11	3,380		1	9	2	0

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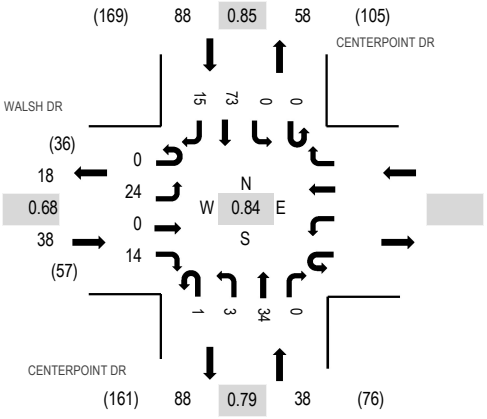
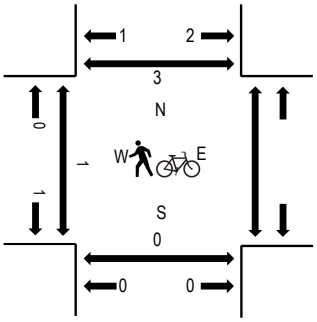
Location: 10 CENTERPOINT DR & WALSH DR PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	WALSH DR Eastbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound U-Turn	Westbound Left	Westbound Thru	Westbound Right	CENTERPOINT DR Northbound U-Turn	Northbound Left	Northbound Thru	Northbound Right	CENTERPOINT DR Southbound U-Turn	Southbound Left	Southbound Thru	Southbound Right	Total	Rolling Hour	Pedestrian Crossings West	East	South	North
4:00 PM	0	3	0	2					0	2	9	0	0	0	14	3	33	154	0		0	0
4:15 PM	0	5	0	3					0	1	11	0	0	0	19	3	42	155	0		0	0
4:30 PM	0	2	0	1					0	0	3	0	0	0	22	6	34	162	0		0	0
4:45 PM	0	4	0	6					0	2	10	0	0	0	21	2	45	164	0		0	3
5:00 PM	0	4	0	4					0	0	9	0	0	0	12	5	34	148	0		0	0
5:15 PM	0	11	0	3					0	1	7	0	0	0	21	6	49		0		0	0
5:30 PM	0	5	0	1					1	0	8	0	0	0	19	2	36		0		0	0
5:45 PM	0	2	0	1					0	0	12	0	0	0	11	3	29		0		0	0
Count Total	0	36	0	21					1	6	69	0	0	0	139	30	302		0		0	3
Peak Hour	0	24	0	14					1	3	34	0	0	0	73	15	164		0		0	3

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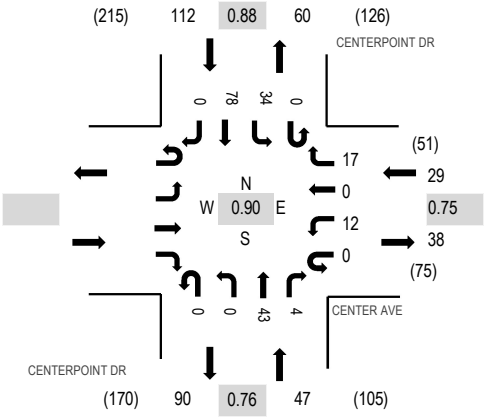
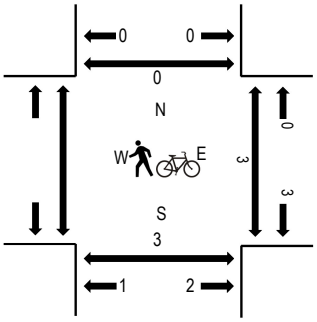
Location: 11 CENTERPOINT DR & CENTER AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Eastbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	CENTER AVE Westbound U-Turn	CENTER AVE Westbound Left	CENTER AVE Westbound Thru	CENTER AVE Westbound Right	CENTERPOINT DR Northbound U-Turn	CENTERPOINT DR Northbound Left	CENTERPOINT DR Northbound Thru	CENTERPOINT DR Northbound Right	CENTERPOINT DR Southbound U-Turn	CENTERPOINT DR Southbound Left	CENTERPOINT DR Southbound Thru	CENTERPOINT DR Southbound Right	Total	Rolling Hour	Pedestrian Crossings West	Pedestrian Crossings East	Pedestrian Crossings South	Pedestrian Crossings North
4:00 PM					0	2	0	3	0	0	11	0	0	13	15	0	44	188		1	0	0
4:15 PM					0	3	0	5	0	0	16	1	0	8	19	0	52	183		2	0	0
4:30 PM					0	4	0	2	0	0	5	0	0	8	24	0	43	184		0	0	0
4:45 PM					0	3	0	7	0	0	11	3	0	5	20	0	49	186		0	3	0
5:00 PM					0	2	0	4	1	0	11	1	0	6	14	0	39	183		3	0	0
5:15 PM					0	1	0	1	0	0	16	3	0	6	26	0	53			0	0	0
5:30 PM					0	0	0	7	0	0	9	3	0	5	21	0	45			2	0	0
5:45 PM					0	1	0	6	0	0	11	3	1	10	14	0	46			2	0	0
Count Total					0	16	0	35	1	0	90	14	1	61	153	0	371			10	3	0
Peak Hour					0	12	0	17	0	0	43	4	0	34	78	0	188			3	3	0

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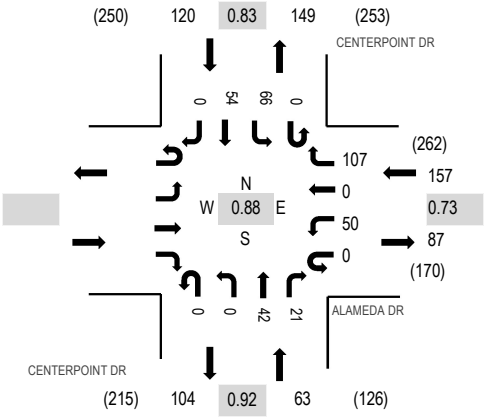
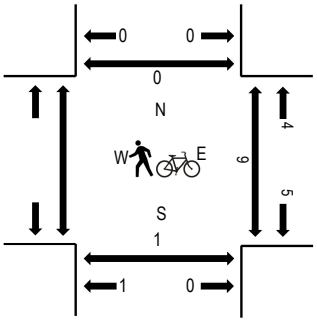
Location: 12 CENTERPOINT DR & ALAMEDA DR PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Eastbound U-Turn	Eastbound Left	Eastbound Thru	Eastbound Right	ALAMEDA DR Westbound U-Turn	ALAMEDA DR Westbound Left	ALAMEDA DR Westbound Thru	ALAMEDA DR Westbound Right	CENTERPOINT DR Northbound U-Turn	CENTERPOINT DR Northbound Left	CENTERPOINT DR Northbound Thru	CENTERPOINT DR Northbound Right	CENTERPOINT DR Southbound U-Turn	CENTERPOINT DR Southbound Left	CENTERPOINT DR Southbound Thru	CENTERPOINT DR Southbound Right	Total	Rolling Hour	Pedestrian Crossings West	Pedestrian Crossings East	Pedestrian Crossings South	Pedestrian Crossings North
4:00 PM					0	8	0	23	0	0	6	7	0	14	20	0	78	337		3	0	0
4:15 PM					0	12	0	28	0	0	14	9	0	19	15	0	97	340		4	1	0
4:30 PM					0	17	0	37	0	0	4	3	0	11	16	0	88	326		0	0	0
4:45 PM					0	10	0	19	0	0	13	5	0	13	14	0	74	313		3	0	0
5:00 PM					0	11	0	23	0	0	11	4	0	23	9	0	81	301		1	0	0
5:15 PM					0	13	0	15	0	0	10	6	0	20	19	0	83			5	0	0
5:30 PM					0	7	0	20	0	0	10	7	0	12	19	0	75			1	0	0
5:45 PM					0	12	0	7	0	0	13	4	0	13	13	0	62			3	0	0
Count Total					0	90	0	172	0	0	81	45	0	125	125	0	638			20	1	0
Peak Hour					0	50	0	107	0	0	42	21	0	66	54	0	340			8	1	0

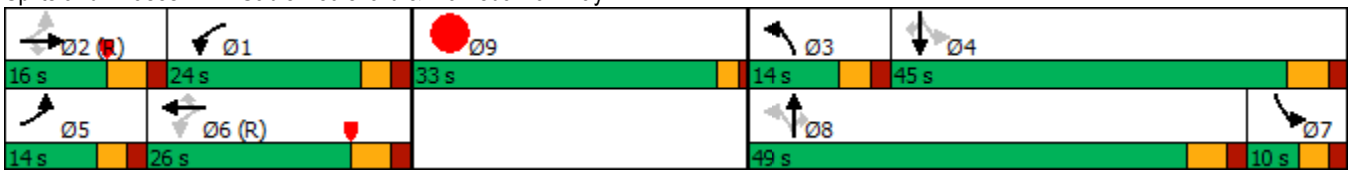
Appendix B. Level of Service Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1004	116	25	1734	123	150	265	42	107	181	119
Future Volume (vph)	88	1004	116	25	1734	123	150	265	42	107	181	119
Satd. Flow (prot)	1787	5085	1524	3502	5085	1583	3400	3539	1615	3400	3471	1599
Flt Permitted	0.074			0.213			0.541			0.545		
Satd. Flow (perm)	139	5085	1499	784	5085	1535	1924	3539	1578	1937	3471	1565
Satd. Flow (RTOR)			190			182			140			147
Lane Group Flow (vph)	107	1224	141	27	1845	131	195	344	55	132	223	147
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Total Split (s)	14.0	16.0	16.0	24.0	26.0	26.0	14.0	49.0	49.0	10.0	45.0	45.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Act Effct Green (s)	69.6	68.6	68.6	68.5	67.5	67.5	19.5	18.5	18.5	15.3	14.3	14.3
Actuated g/C Ratio	0.53	0.52	0.52	0.52	0.51	0.51	0.15	0.14	0.14	0.12	0.11	0.11
v/c Ratio	0.52	0.46	0.16	0.04	0.71	0.15	0.48	0.70	0.16	0.44	0.59	0.49
Control Delay	34.3	25.7	2.2	25.6	28.6	1.9	46.4	54.0	6.3	59.3	62.3	13.5
Queue Delay	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 Delay	34.3	25.7	2.2	25.6	28.6	1.9	46.4	54.0	6.3	59.3	62.3	13.5
LOS	C	C	A	C	C	A	D	D	A	E	E	B
Approach Delay		24.1			26.8			47.1			47.2	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	48	251	0	5	384	0	79	151	1	54	97	0
Queue Length 95th (ft)	121	#454	6	22	#908	16	96	164	25	74	119	43
Internal Link Dist (ft)		573			350			1144			460	
Turn Bay Length (ft)	250		175	175		100	275		275	150		150
Base Capacity (vph)	213	2643	870	797	2601	874	407	1152	608	301	1025	565
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.46	0.16	0.03	0.71	0.15	0.48	0.30	0.09	0.44	0.22	0.26

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 104 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 30.8 — Intersection LOS: C
Intersection Capacity Utilization 74.4% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	33.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	130	1073	1901	38	6	32
Future Vol, veh/h	130	1073	1901	38	6	32
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	95	95	68	68
Heavy Vehicles, %	1	2	1	0	0	6
Mvmt Flow	151	1248	2001	40	9	47

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2041	0	-	0	2823	1021
Stage 1	-	-	-	-	2021	-
Stage 2	-	-	-	-	802	-
Critical Hdwy	5.32	-	-	-	5.7	7.22
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.11	-	-	-	3.8	3.96
Pot Cap-1 Maneuver	*614	-	-	-	*34	*483
Stage 1	-	-	-	-	*503	-
Stage 2	-	-	-	-	*699	-
Platoon blocked, %	1	-	-	-		1
Mov Cap-1 Maneuver	*614	-	-	-	*26	*483
Mov Cap-2 Maneuver	-	-	-	-	*26	-
Stage 1	-	-	-	-	*379	-
Stage 2	-	-	-	-	*699	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	43.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	* 614	-	-	-	26	483
HCM Lane V/C Ratio	0.246	-	-	-	0.339	0.097
HCM Control Delay (s)	12.8	-	-	-	202.8	13.3
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	1	-	-	-	1	0.3

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	994	34	91	1895	26	17	3	29	1	0	27
Future Volume (veh/h)	51	994	34	91	1895	26	17	3	29	1	0	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	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1544	1826	1885	1900	1203	1900	1544	1900	1900	1841
Adj Flow Rate, veh/h	54	1057	36	96	1995	27	18	3	31	1	0	39
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.94	0.94	0.94	0.70	0.70	0.70
Percent Heavy Veh, %	0	1	24	5	1	0	47	0	24	0	0	4
Cap, veh/h	264	4506	153	472	4366	59	89	6	63	83	82	66
Arrive On Green	0.02	0.88	0.88	1.00	1.00	1.00	0.04	0.04	0.04	0.04	0.00	0.04
Sat Flow, veh/h	1810	5111	174	503	5233	71	869	142	1469	1382	1900	1538
Grp Volume(v), veh/h	54	709	384	96	1308	714	18	0	34	1	0	39
Grp Sat Flow(s),veh/h/ln	1810	1716	1853	503	1716	1872	869	0	1611	1382	1900	1538
Q Serve(g_s), s	0.6	4.3	4.3	0.0	0.0	0.0	2.8	0.0	2.9	0.1	0.0	3.5
Cycle Q Clear(g_c), s	0.6	4.3	4.3	0.0	0.0	0.0	2.8	0.0	2.9	3.0	0.0	3.5
Prop In Lane	1.00		0.09	1.00		0.04	1.00		0.91	1.00		1.00
Lane Grp Cap(c), veh/h	264	3025	1634	472	2863	1562	89	0	70	83	82	66
V/C Ratio(X)	0.20	0.23	0.23	0.20	0.46	0.46	0.20	0.00	0.49	0.01	0.00	0.59
Avail Cap(c_a), veh/h	385	3025	1634	472	2863	1562	141	0	167	166	197	159
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	1.3	1.2	1.2	0.0	0.0	0.0	65.4	0.0	65.5	66.9	0.0	65.7
Incr Delay (d2), s/veh	0.1	0.2	0.3	1.0	0.5	1.0	0.4	0.0	2.0	0.0	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.6	0.8	0.1	0.2	0.4	0.6	0.0	1.2	0.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.4	1.4	1.6	1.0	0.5	1.0	65.8	0.0	67.4	66.9	0.0	68.8
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1147			2118			52			40	
Approach Delay, s/veh		1.5			0.7			66.9			68.7	
Approach LOS		A			A			E			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		128.5		11.5	6.6	121.8		11.5				
Change Period (Y+Rc), s		5.0		5.5	4.0	5.0		5.5				
Max Green Setting (Gmax), s		115.0		14.5	12.0	99.0		14.5				
Max Q Clear Time (g_c+I1), s		6.3		4.9	2.6	2.0		5.5				
Green Ext Time (p_c), s		8.7		0.1	0.0	32.8		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	2.8
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)	51	994	34	91	1895	26	17	3	29	1	0	27
Future Volume (veh/h)	51	994	34	91	1895	26	17	3	29	1	0	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	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1544	1826	1885	1900	1203	1900	1544	1900	1900	1841
Adj Flow Rate, veh/h	54	1057	36	96	1995	27	18	3	31	1	0	39
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.94	0.94	0.94	0.70	0.70	0.70
Percent Heavy Veh, %	0	1	24	5	1	0	47	0	24	0	0	4
Cap, veh/h	262	4464	152	467	4322	58	96	7	76	95	98	79
Arrive On Green	0.02	0.87	0.87	1.00	1.00	1.00	0.05	0.05	0.05	0.05	0.00	0.05
Sat Flow, veh/h	1810	5110	174	503	5232	71	871	142	1472	1384	1900	1542
Grp Volume(v), veh/h	54	709	384	96	1308	714	18	0	34	1	0	39
Grp Sat Flow(s),veh/h/ln	1810	1716	1853	503	1716	1872	871	0	1615	1384	1900	1542
Q Serve(g_s), s	0.6	4.6	4.6	0.0	0.0	0.0	2.8	0.0	2.9	0.1	0.0	3.4
Cycle Q Clear(g_c), s	0.6	4.6	4.6	0.0	0.0	0.0	2.8	0.0	2.9	3.0	0.0	3.4
Prop In Lane	1.00		0.09	1.00		0.04	1.00		0.91	1.00		1.00
Lane Grp Cap(c), veh/h	262	2997	1619	467	2834	1547	96	0	83	95	98	79
V/C Ratio(X)	0.21	0.24	0.24	0.21	0.46	0.46	0.19	0.00	0.41	0.01	0.00	0.49
Avail Cap(c_a), veh/h	332	2997	1619	467	2834	1547	241	0	352	325	414	336
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	1.5	1.4	1.4	0.0	0.0	0.0	64.3	0.0	64.3	65.8	0.0	64.6
Incr Delay (d2), s/veh	0.1	0.2	0.3	1.0	0.5	1.0	0.3	0.0	1.2	0.0	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.8	0.9	0.1	0.2	0.4	0.6	0.0	1.2	0.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.6	1.6	1.8	1.0	0.5	1.0	64.6	0.0	65.5	65.8	0.0	66.3
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1147			2118			52			40	
Approach Delay, s/veh		1.7			0.7			65.2			66.3	
Approach LOS		A			A			E			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		127.3		12.7	6.6	120.7		12.7				
Change Period (Y+Rc), s		5.0		5.5	4.0	5.0		5.5				
Max Green Setting (Gmax), s		99.0		30.5	8.0	87.0		30.5				
Max Q Clear Time (g_c+I1), s		6.6		4.9	2.6	2.0		5.4				
Green Ext Time (p_c), s		8.7		0.1	0.0	31.8		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	2.8
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)	152	760	116	191	1547	207	290	1088	212	168	676	175
Future Volume (veh/h)	152	760	116	191	1547	207	290	1088	212	168	676	175
Initial Q (Qb), veh	0	0	0	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	1856	1870	1885	1870	1870	1885	1885	1885	1900	1841	1856	1856
Adj Flow Rate, veh/h	158	792	121	205	1663	223	349	1311	255	187	751	194
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.83	0.83	0.83	0.90	0.90	0.90
Percent Heavy Veh, %	3	2	1	2	2	1	1	1	0	4	3	3
Cap, veh/h	204	1001	664	787	1659	222	766	1413	275	312	1009	403
Arrive On Green	0.12	0.39	0.39	0.23	0.36	0.36	0.44	0.65	0.65	0.09	0.20	0.20
Sat Flow, veh/h	3428	5106	1593	3456	4555	609	3483	4318	840	3401	5066	1554
Grp Volume(v), veh/h	158	792	121	205	1241	645	349	1042	524	187	751	194
Grp Sat Flow(s),veh/h/ln	1714	1702	1593	1728	1702	1760	1742	1716	1727	1700	1689	1554
Q Serve(g_s), s	6.3	19.1	0.0	6.8	51.0	51.0	9.8	37.4	37.4	7.4	19.5	6.4
Cycle Q Clear(g_c), s	6.3	19.1	0.0	6.8	51.0	51.0	9.8	37.4	37.4	7.4	19.5	6.4
Prop In Lane	1.00		1.00	1.00		0.35	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	204	1001	664	787	1240	641	766	1123	565	312	1009	403
V/C Ratio(X)	0.78	0.79	0.18	0.26	1.00	1.01	0.46	0.93	0.93	0.60	0.74	0.48
Avail Cap(c_a), veh/h	245	1860	932	787	1240	641	766	1201	604	312	1303	493
HCM Platoon Ratio	2.00	2.00	2.00	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	60.8	40.0	19.1	44.4	44.5	44.5	33.3	22.7	22.7	61.1	52.7	43.9
Incr Delay (d2), s/veh	12.1	1.4	0.1	0.2	25.8	37.0	0.4	14.3	23.7	3.1	5.0	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	2.9	6.6	1.9	2.9	25.3	28.1	3.7	11.2	12.7	3.3	8.6	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.9	41.5	19.3	44.6	70.3	81.5	33.7	37.0	46.4	64.2	57.7	48.0
LnGrp LOS	E	D	B	D	F	F	C	D	D	E	E	D
Approach Vol, veh/h		1071			2091			1915			1132	
Approach Delay, s/veh		43.6			71.2			39.0			57.1	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	35.8	33.9	13.3	57.0	17.9	51.8	36.9	33.5
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	21.0	36.0	10.0	51.0	8.0	49.0	10.0	51.0
Max Q Clear Time (g_c+I1), s	11.8	21.5	8.3	53.0	9.4	39.4	8.8	21.1
Green Ext Time (p_c), s	0.8	4.8	0.1	0.0	0.0	6.4	0.1	6.2

Intersection Summary	
HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	760	116	191	1547	207	290	1088	212	168	676	175
Future Volume (veh/h)	152	760	116	191	1547	207	290	1088	212	168	676	175
Initial Q (Qb), veh	0	0	0	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	1856	1870	1885	1870	1870	1885	1885	1885	1900	1841	1856	1856
Adj Flow Rate, veh/h	158	792	121	205	1663	223	349	1311	255	187	751	194
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.83	0.83	0.83	0.90	0.90	0.90
Percent Heavy Veh, %	3	2	1	2	2	1	1	1	0	4	3	3
Cap, veh/h	204	1001	679	754	1813	728	799	1413	275	344	1009	403
Arrive On Green	0.12	0.39	0.39	0.22	0.35	0.35	0.46	0.65	0.65	0.10	0.20	0.20
Sat Flow, veh/h	3428	5106	1593	3456	5106	1595	3483	4318	840	3401	5066	1554
Grp Volume(v), veh/h	158	792	121	205	1663	223	349	1042	524	187	751	194
Grp Sat Flow(s),veh/h/ln	1714	1702	1593	1728	1702	1595	1742	1716	1727	1700	1689	1554
Q Serve(g_s), s	6.3	19.1	0.0	6.9	43.6	0.0	9.5	37.4	37.4	7.3	19.5	6.4
Cycle Q Clear(g_c), s	6.3	19.1	0.0	6.9	43.6	0.0	9.5	37.4	37.4	7.3	19.5	6.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	204	1001	679	754	1813	728	799	1123	565	344	1009	403
V/C Ratio(X)	0.78	0.79	0.18	0.27	0.92	0.31	0.44	0.93	0.93	0.54	0.74	0.48
Avail Cap(c_a), veh/h	245	1860	947	754	1860	743	799	1201	604	344	1303	493
HCM Platoon Ratio	2.00	2.00	2.00	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	60.8	40.0	18.5	45.5	43.2	24.1	31.8	22.7	22.7	59.8	52.7	43.9
Incr Delay (d2), s/veh	12.1	1.4	0.1	0.2	7.6	0.2	0.4	14.3	23.7	1.8	5.0	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	2.9	6.6	1.9	3.0	19.2	4.7	3.5	11.2	12.7	3.2	8.6	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.9	41.5	18.7	45.7	50.8	24.3	32.2	37.0	46.4	61.6	57.7	48.0
LnGrp LOS	E	D	B	D	D	C	C	D	D	E	E	D
Approach Vol, veh/h		1071			2091			1915			1132	
Approach Delay, s/veh		43.5			47.5			38.7			56.7	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.1	33.9	13.3	55.7	19.2	51.8	35.6	33.5
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	21.0	36.0	10.0	51.0	8.0	49.0	10.0	51.0
Max Q Clear Time (g_c+I1), s	11.5	21.5	8.3	45.6	9.3	39.4	8.9	21.1
Green Ext Time (p_c), s	0.8	4.8	0.1	4.1	0.0	6.4	0.1	6.2

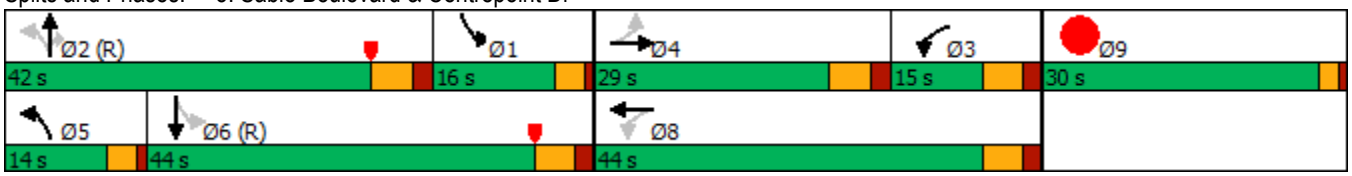
Intersection Summary	
HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	8	18	24	23	47	12	402	39	31	273	18
Future Volume (vph)	8	8	18	24	23	47	12	402	39	31	273	18
Satd. Flow (prot)	1805	1632	0	1492	2827	0	1805	3610	1429	1367	3508	0
Flt Permitted	0.696			0.731			0.506			0.473		
Satd. Flow (perm)	1306	1632	0	1148	2827	0	958	3610	1375	672	3508	0
Satd. Flow (RTOR)		28			60				149		5	
Lane Group Flow (vph)	12	40	0	31	89	0	15	490	48	39	369	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Total Split (s)	29.0	29.0		15.0	44.0		14.0	42.0	42.0	16.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	7.1	7.1		15.1	14.0		93.0	91.0	91.0	97.8	95.8	
Actuated g/C Ratio	0.05	0.05		0.11	0.11		0.70	0.69	0.69	0.74	0.73	
v/c Ratio	0.17	0.35		0.21	0.25		0.02	0.20	0.05	0.07	0.14	
Control Delay	64.2	36.1		53.2	21.3		12.3	10.7	0.1	26.2	23.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	64.2	36.1		53.2	21.3		12.3	10.7	0.1	26.2	23.1	
LOS	E	D		D	C		B	B	A	C	C	
Approach Delay		42.6			29.6			9.8			23.4	
Approach LOS		D			C			A			C	
Queue Length 50th (ft)	10	10		24	11		4	72	0	20	114	
Queue Length 95th (ft)	22	27		47	28		18	161	0	54	175	
Internal Link Dist (ft)		258			396			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	227	307		185	856		738	2488	994	582	2547	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.05	0.13		0.17	0.10		0.02	0.20	0.05	0.07	0.14	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 54 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.35
Intersection Signal Delay: 18.3 — Intersection LOS: B
Intersection Capacity Utilization 47.1% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

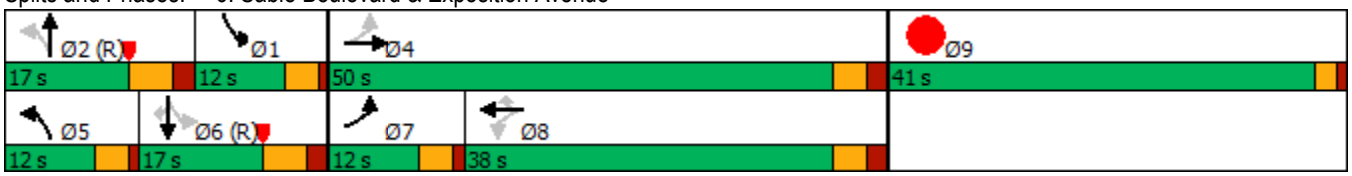
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	42	7	89	117	78	29	335	100	55	225	35
Future Volume (vph)	40	42	7	89	117	78	29	335	100	55	225	35
Satd. Flow (prot)	1556	1854	0	1805	1900	1599	1752	3386	0	1805	3471	1404
Flt Permitted	0.395			0.722			0.535			0.474		
Satd. Flow (perm)	646	1854	0	1368	1900	1577	983	3386	0	895	3471	1367
Satd. Flow (RTOR)		8				127		26				118
Lane Group Flow (vph)	43	54	0	105	138	92	33	488	0	71	288	45
Turn Type	pm+pt	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	12.0	50.0		38.0	38.0	38.0	12.0	17.0		12.0	17.0	17.0
Total Lost Time (s)	4.0	5.0		5.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	25.3	24.3		14.9	14.9	14.9	69.1	67.1		71.5	69.5	69.5
Actuated g/C Ratio	0.21	0.20		0.12	0.12	0.12	0.58	0.56		0.60	0.58	0.58
v/c Ratio	0.23	0.14		0.62	0.59	0.30	0.05	0.26		0.12	0.14	0.05
Control Delay	37.3	31.5		64.9	59.0	5.4	22.8	19.6		22.9	19.3	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	37.3	31.5		64.9	59.0	5.4	22.8	19.6		22.9	19.3	0.1
LOS	D	C		E	E	A	C	B		C	B	A
Approach Delay		34.1			46.1			19.8			17.8	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	27	29		79	103	0	10	85		21	48	0
Queue Length 95th (ft)	54	59		122	149	16	50	238		78	130	0
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	196	700		376	522	525	619	1904		596	2010	841
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.22	0.08		0.28	0.26	0.18	0.05	0.26		0.12	0.14	0.05

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 104 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 26.7 — Intersection LOS: C
Intersection Capacity Utilization 51.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Sable Boulevard & Exposition Avenue



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	42	7	89	117	78	29	335	100	55	225	35
Future Volume (vph)	40	42	7	89	117	78	29	335	100	55	225	35
Satd. Flow (prot)	1556	1854	0	1805	1900	1599	1752	3386	0	1805	3471	1404
Flt Permitted	0.521			0.681			0.536			0.474		
Satd. Flow (perm)	852	1854	0	1290	1900	1577	985	3386	0	895	3471	1367
Satd. Flow (RTOR)		7				127		26				118
Lane Group Flow (vph)	43	54	0	105	138	92	33	488	0	71	288	45
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	12.0	40.0		10.0	38.0	38.0	12.0	17.0		12.0	17.0	17.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	21.6	14.6		20.1	14.1	14.1	69.9	67.9		72.4	70.4	70.4
Actuated g/C Ratio	0.18	0.12		0.17	0.12	0.12	0.58	0.57		0.60	0.59	0.59
v/c Ratio	0.22	0.23		0.43	0.62	0.31	0.05	0.25		0.12	0.14	0.05
Control Delay	38.2	42.2		44.7	62.1	5.7	21.7	18.8		21.8	18.4	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.2	42.2		44.7	62.1	5.7	21.7	18.8		21.8	18.4	0.1
LOS	D	D		D	E	A	C	B		C	B	A
Approach Delay		40.4			41.1			19.0			17.0	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	27	33		67	103	0	10	84		20	47	0
Queue Length 95th (ft)	56	69		105	153	16	48	232		76	126	0
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	205	545		245	522	525	627	1928		603	2035	850
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.21	0.10		0.43	0.26	0.18	0.05	0.25		0.12	0.14	0.05

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 104 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 25.4 — Intersection LOS: C
Intersection Capacity Utilization 51.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Sable Boulevard & Exposition Avenue

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

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	15	102	6	2	222	67	24	20	16	11	2	3
Future Vol, veh/h	15	102	6	2	222	67	24	20	16	11	2	3
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	4	4	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	300	-	100	-	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	85	85	85	75	75	75	70	70	70
Heavy Vehicles, %	0	2	0	0	1	3	4	5	5	22	0	0
Mvmt Flow	16	106	6	2	261	79	32	27	21	16	3	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	342	0	0	113	0	0	451	488	114	436	412	264
Stage 1	-	-	-	-	-	-	142	142	-	267	267	-
Stage 2	-	-	-	-	-	-	309	346	-	169	145	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.14	6.55	6.25	7.32	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.55	-	6.32	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.55	-	6.32	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.536	4.045	3.345	3.698	4	3.3
Pot Cap-1 Maneuver	1244	-	-	1505	-	-	515	476	975	498	533	894
Stage 1	-	-	-	-	-	-	891	791	-	794	737	-
Stage 2	-	-	-	-	-	-	781	663	-	821	798	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	1242	-	-	1504	-	-	504	468	971	458	524	891
Mov Cap-2 Maneuver	-	-	-	-	-	-	504	468	-	458	524	-
Stage 1	-	-	-	-	-	-	879	780	-	782	735	-
Stage 2	-	-	-	-	-	-	772	661	-	763	786	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.1	12.5	12.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	562	1242	-	-	1504	-	-	458	524	891
HCM Lane V/C Ratio	0.142	0.013	-	-	0.002	-	-	0.034	0.005	0.005
HCM Control Delay (s)	12.5	7.9	-	-	7.4	-	-	13.1	11.9	9.1
HCM Lane LOS	B	A	-	-	A	-	-	B	B	A
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.1	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	73	4	39	34	8	41	13	172	1535	6	19	883
Future Volume (veh/h)	73	4	39	34	8	41	13	172	1535	6	19	883
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj	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	1900	1841	1752	1900	1870		1885	1885	1693	1826	1870
Adj Flow Rate, veh/h	75	4	40	46	11	55		202	1806	7	22	1039
Peak Hour Factor	0.97	0.97	0.97	0.74	0.74	0.74		0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	0	4	10	0	2		1	1	14	5	2
Cap, veh/h	182	8	236	78	28	68		476	4035	16	213	3208
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15		0.05	0.76	0.76	1.00	1.00
Sat Flow, veh/h	870	56	1557	276	185	446		1795	5292	21	252	4682
Grp Volume(v), veh/h	79	0	40	112	0	0		202	1171	642	22	755
Grp Sat Flow(s),veh/h/ln	926	0	1557	908	0	0		1795	1716	1881	252	1702
Q Serve(g_s), s	0.0	0.0	3.1	6.8	0.0	0.0		4.5	17.2	17.2	0.9	0.0
Cycle Q Clear(g_c), s	11.9	0.0	3.1	18.7	0.0	0.0		4.5	17.2	17.2	7.3	0.0
Prop In Lane	0.95		1.00	0.41		0.49		1.00		0.01	1.00	
Lane Grp Cap(c), veh/h	191	0	236	174	0	0		476	2616	1434	213	2332
V/C Ratio(X)	0.41	0.00	0.17	0.64	0.00	0.00		0.42	0.45	0.45	0.10	0.32
Avail Cap(c_a), veh/h	257	0	311	248	0	0		594	2616	1434	213	2332
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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	0.0	51.7	59.7	0.0	0.0		5.0	6.0	6.0	0.2	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.3	3.9	0.0	0.0		0.6	0.6	1.0	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
%ile BackOfQ(50%),veh/ln	2.7	0.0	1.3	4.1	0.0	0.0		1.5	5.4	6.2	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	0.0	52.0	63.6	0.0	0.0		5.6	6.6	7.0	1.2	0.4
LnGrp LOS	E	A	D	E	A	A		A	A	A	A	A
Approach Vol, veh/h		119			112				2015			1172
Approach Delay, s/veh		55.2			63.6				6.6			0.5
Approach LOS		E			E				A			A

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		112.7		27.3	10.8	101.9		27.3				
Change Period (Y+Rc), s		6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s		100.0		28.0	16.0	80.0		28.0				
Max Q Clear Time (g_c+I1), s		19.2		13.9	6.5	9.3		20.7				
Green Ext Time (p_c), s		21.5		0.4	0.4	10.7		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	94
Future Volume (veh/h)	94
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1885
Adj Flow Rate, veh/h	111
Peak Hour Factor	0.85
Percent Heavy Veh, %	1
Cap, veh/h	342
Arrive On Green	1.00
Sat Flow, veh/h	499
Grp Volume(v), veh/h	395
Grp Sat Flow(s),veh/h/ln	1778
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.28
Lane Grp Cap(c), veh/h	1218
V/C Ratio(X)	0.32
Avail Cap(c_a), veh/h	1218
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.7
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.2
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.7
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	4	39	34	8	41	172	1548	6	19	896	94
Future Volume (veh/h)	73	4	39	34	8	41	172	1548	6	19	896	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1900	1841	1752	1900	1870	1885	1885	1693	1826	1870	1885
Adj Flow Rate, veh/h	75	4	40	46	11	55	202	1821	7	22	1054	111
Peak Hour Factor	0.97	0.97	0.97	0.74	0.74	0.74	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	0	4	10	0	2	1	1	14	5	2	1
Cap, veh/h	185	9	318	80	29	70	472	4023	15	209	3196	336
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.76	0.76	1.00	1.00	1.00
Sat Flow, veh/h	878	56	1557	283	185	452	1795	5292	20	249	4690	493
Grp Volume(v), veh/h	79	0	40	112	0	0	202	1181	647	22	765	400
Grp Sat Flow(s),veh/h/ln	934	0	1557	920	0	0	1795	1716	1881	249	1702	1779
Q Serve(g_s), s	0.0	0.0	2.9	6.8	0.0	0.0	4.5	17.6	17.6	1.0	0.0	0.0
Cycle Q Clear(g_c), s	11.9	0.0	2.9	18.6	0.0	0.0	4.5	17.6	17.6	7.6	0.0	0.0
Prop In Lane	0.95		1.00	0.41		0.49	1.00		0.01	1.00		0.28
Lane Grp Cap(c), veh/h	194	0	318	178	0	0	472	2608	1430	209	2320	1212
V/C Ratio(X)	0.41	0.00	0.13	0.63	0.00	0.00	0.43	0.45	0.45	0.11	0.33	0.33
Avail Cap(c_a), veh/h	355	0	501	357	0	0	741	2608	1430	209	2320	1212
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	0.0	45.5	59.4	0.0	0.0	5.1	6.1	6.1	0.3	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.2	3.6	0.0	0.0	0.6	0.6	1.0	1.0	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	2.7	0.0	1.2	4.1	0.0	0.0	1.6	5.6	6.3	0.1	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	0.0	45.7	63.0	0.0	0.0	5.7	6.7	7.2	1.3	0.4	0.7
LnGrp LOS	E	A	D	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h		119			112			2030			1187	
Approach Delay, s/veh		52.8			63.0			6.8			0.5	
Approach LOS		D			E			A			A	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		112.4		27.6	11.0	101.4		27.6				
Change Period (Y+Rc), s		6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s		90.0		38.0	28.0	58.0		38.0				
Max Q Clear Time (g_c+I1), s		19.6		13.9	6.5	9.6		20.6				
Green Ext Time (p_c), s		21.4		0.5	0.5	10.6		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	8.0
HCM 6th LOS	A

Notes

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

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	2	51	2	40	40	1569	40	17	943	16
Future Vol, veh/h	9	0	2	51	2	40	40	1569	40	17	943	16
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	84	84	84	87	87	87	91	91	91
Heavy Vehicles, %	0	0	0	2	0	0	0	1	3	0	2	0
Mvmt Flow	15	0	3	61	2	48	46	1803	46	19	1036	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1897	3024	530	2373	3010	925	1054	0	0	1849	0	0
Stage 1	1083	1083	-	1918	1918	-	-	-	-	-	-	-
Stage 2	814	1941	-	455	1092	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.44	6.5	7.1	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.34	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.74	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.82	4	3.9	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*457	64	*713	*404	67	*564	857	-	-	596	-	-
Stage 1	*647	642	-	*376	417	-	-	-	-	-	-	-
Stage 2	*579	402	-	*728	635	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*380	59	*711	*375	61	*564	857	-	-	596	-	-
Mov Cap-2 Maneuver	*380	59	-	*375	61	-	-	-	-	-	-	-
Stage 1	*612	622	-	*356	394	-	-	-	-	-	-	-
Stage 2	*499	380	-	*699	615	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	17.9	0.2	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	857	-	-	415	388	596	-	-
HCM Lane V/C Ratio	0.054	-	-	0.044	0.285	0.031	-	-
HCM Control Delay (s)	9.4	-	-	14.1	17.9	11.2	-	-
HCM Lane LOS	A	-	-	B	C	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	1.2	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	9	0	2	51	2	40	13	40	1569	40	17	943	16
Future Vol, veh/h	9	0	2	51	2	40	13	40	1569	40	17	943	16
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	84	84	84	87	87	87	87	91	91	91
Heavy Vehicles, %	0	0	0	2	0	0	2	0	1	3	0	2	0
Mvmt Flow	15	0	3	61	2	48	15	46	1803	46	19	1036	18

Major/Minor	Minor2			Minor1				Major1			Major2		
Conflicting Flow All	1927	3054	530	2403	3040	925	769	1054	0	0	1849	0	0
Stage 1	1083	1083	-	1948	1948	-	-	-	-	-	-	-	-
Stage 2	844	1971	-	455	1092	-	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.44	6.5	7.1	5.64	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.34	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.74	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.82	4	3.9	2.32	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*365	132	*713	*363	138	*564	*1199	857	-	-	596	-	-
Stage 1	*647	642	-	*348	397	-	-	-	-	-	-	-	-
Stage 2	*579	383	-	*728	635	-	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*305	119	*711	*334	125	*564	*921	921	-	-	596	-	-
Mov Cap-2 Maneuver	*305	119	-	*334	125	-	-	-	-	-	-	-	-
Stage 1	*604	622	-	*325	371	-	-	-	-	-	-	-	-
Stage 2	*492	357	-	*699	615	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.2	17.9	0.3	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	921	-	-	340	388	596	-	-
HCM Lane V/C Ratio	0.066	-	-	0.054	0.285	0.031	-	-
HCM Control Delay (s)	9.2	-	-	16.2	17.9	11.2	-	-
HCM Lane LOS	A	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	1.2	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	2	16	86	14	29
Future Vol, veh/h	2	2	16	86	14	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	77	77	72	72
Heavy Vehicles, %	100	0	0	3	14	0
Mvmt Flow	8	8	21	112	19	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	193	30	59	0	-	0
Stage 1	39	-	-	-	-	-
Stage 2	154	-	-	-	-	-
Critical Hdwy	8.1	6.9	4.1	-	-	-
Critical Hdwy Stg 1	7.3	-	-	-	-	-
Critical Hdwy Stg 2	6.9	-	-	-	-	-
Follow-up Hdwy	4.45	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	589	1044	1558	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	661	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	581	1044	1558	-	-	-
Mov Cap-2 Maneuver	580	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	661	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1558	-	746	-	-
HCM Lane V/C Ratio	0.013	-	0.021	-	-
HCM Control Delay (s)	7.3	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	38	84	4	3	34
Future Vol, veh/h	9	38	84	4	3	34
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	90	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	82	82	84	84
Heavy Vehicles, %	0	0	4	0	0	6
Mvmt Flow	11	45	102	5	4	40

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	142	114	0	0	116	0
Stage 1	114	-	-	-	-	-
Stage 2	28	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	865	944	-	-	1485	-
Stage 1	916	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	854	936	-	-	1472	-
Mov Cap-2 Maneuver	816	-	-	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	1009	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	910	1472	-
HCM Lane V/C Ratio	-	-	0.061	0.002	-
HCM Control Delay (s)	-	-	9.2	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	36	20	66	56	17	35
Future Vol, veh/h	36	20	66	56	17	35
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	79	79	90	90
Heavy Vehicles, %	20	10	3	2	0	25
Mvmt Flow	55	30	84	71	19	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	169	0	-	0	259	134
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	125	-
Critical Hdwy	4.4	-	-	-	6.6	6.575
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.39	-	-	-	3.5	3.5375
Pot Cap-1 Maneuver	1295	-	-	-	724	850
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	893	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1278	-	-	-	675	839
Mov Cap-2 Maneuver	-	-	-	-	702	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	SB
HCM Control Delay, s	5.1	0	9.8
HCM LOS			A

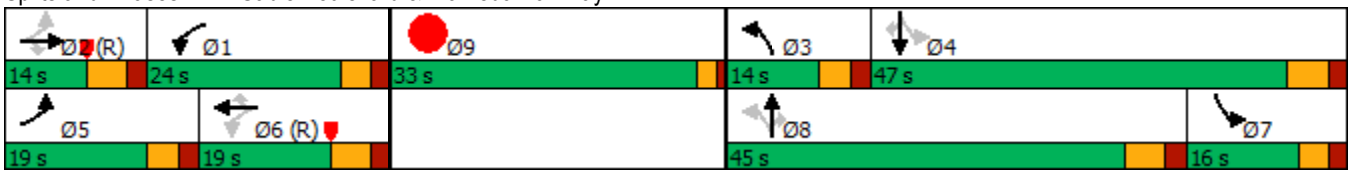
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1278	-	-	-	702	839
HCM Lane V/C Ratio	0.043	-	-	-	0.027	0.046
HCM Control Delay (s)	7.9	-	-	-	10.3	9.5
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	1381	172	70	1304	167	157	346	66	341	345	125
Future Volume (vph)	153	1381	172	70	1304	167	157	346	66	341	345	125
Satd. Flow (prot)	1787	5187	1568	3502	5136	1599	3303	3574	1615	3467	3539	1583
Flt Permitted	0.116			0.151			0.444			0.529		
Satd. Flow (perm)	218	5187	1534	555	5136	1550	1526	3574	1569	1911	3539	1528
Satd. Flow (RTOR)			190			190			149			140
Lane Group Flow (vph)	161	1454	181	74	1373	176	171	376	72	363	367	133
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Total Split (s)	19.0	14.0	14.0	24.0	19.0	19.0	14.0	45.0	45.0	16.0	47.0	47.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Act Effct Green (s)	57.9	56.2	56.2	53.9	52.2	52.2	20.5	19.5	19.5	23.5	22.5	22.5
Actuated g/C Ratio	0.44	0.43	0.43	0.41	0.40	0.40	0.16	0.15	0.15	0.18	0.17	0.17
v/c Ratio	0.52	0.66	0.24	0.12	0.68	0.24	0.45	0.71	0.20	0.73	0.61	0.35
Control Delay	36.4	34.5	6.1	33.7	35.9	6.1	55.3	62.6	11.7	61.6	54.5	8.6
Queue Delay	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 Delay	36.4	34.5	6.1	33.7	35.9	6.1	55.3	62.6	11.7	61.6	54.5	8.6
LOS	D	C	A	C	D	A	E	E	B	E	D	A
Approach Delay		31.8			32.6			54.7			50.4	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	83	352	0	18	324	0	47	108	0	149	155	0
Queue Length 95th (ft)	201	#808	61	53	#807	58	112	229	52	186	193	48
Internal Link Dist (ft)		573			350			1144			460	
Turn Bay Length (ft)	250		175	175		100	275		275	150		150
Base Capacity (vph)	315	2208	762	651	2032	728	379	1055	568	502	1099	571
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.66	0.24	0.11	0.68	0.24	0.45	0.36	0.13	0.72	0.33	0.23

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 2 (2%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 38.2 — Intersection LOS: D
Intersection Capacity Utilization 79.0% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	33.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	1777	1396	10	8	95
Future Vol, veh/h	26	1777	1396	10	8	95
Conflicting Peds, #/hr	6	0	0	6	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	99	99	97	97	48	48
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	26	1795	1439	10	17	198

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1455	0	-	0	2222	731
Stage 1	-	-	-	-	1450	-
Stage 2	-	-	-	-	772	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	*751	-	-	-	*73	*597
Stage 1	-	-	-	-	*613	-
Stage 2	-	-	-	-	*516	-
Platoon blocked, %	1	-	-	-		1
Mov Cap-1 Maneuver	*747	-	-	-	*70	*594
Mov Cap-2 Maneuver	-	-	-	-	*70	-
Stage 1	-	-	-	-	*588	-
Stage 2	-	-	-	-	*513	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	18.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	* 747	-	-	-	70	594
HCM Lane V/C Ratio	0.035	-	-	-	0.238	0.333
HCM Control Delay (s)	10	-	-	-	71.8	14.1
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8	1.5

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1728	15	61	1312	65	42	11	85	29	9	52
Future Volume (veh/h)	42	1728	15	61	1312	65	42	11	85	29	9	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	0.98		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1767	1885	1900	1870	1900	1767	1900	1900	1900
Adj Flow Rate, veh/h	43	1781	15	64	1367	68	48	13	98	38	12	68
Peak Hour Factor	0.97	0.97	0.97	0.96	0.96	0.96	0.87	0.87	0.87	0.76	0.76	0.76
Percent Heavy Veh, %	0	1	0	9	1	0	2	0	9	0	0	0
Cap, veh/h	341	4024	34	240	3504	174	226	22	169	149	226	187
Arrive On Green	0.02	0.76	0.76	0.70	0.70	0.70	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1810	5264	44	248	5020	250	1292	188	1418	1284	1900	1574
Grp Volume(v), veh/h	43	1161	635	64	934	501	48	0	111	38	12	68
Grp Sat Flow(s),veh/h/ln	1810	1716	1877	248	1716	1839	1292	0	1606	1284	1900	1574
Q Serve(g_s), s	0.6	10.8	10.8	11.1	10.2	10.2	3.1	0.0	5.9	2.6	0.5	3.6
Cycle Q Clear(g_c), s	0.6	10.8	10.8	16.0	10.2	10.2	3.6	0.0	5.9	8.5	0.5	3.6
Prop In Lane	1.00		0.02	1.00		0.14	1.00		0.88	1.00		1.00
Lane Grp Cap(c), veh/h	341	2623	1435	240	2395	1284	226	0	191	149	226	187
V/C Ratio(X)	0.13	0.44	0.44	0.27	0.39	0.39	0.21	0.00	0.58	0.26	0.05	0.36
Avail Cap(c_a), veh/h	462	2623	1435	240	2395	1284	238	0	205	160	243	201
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.0	3.8	3.8	7.7	5.6	5.6	36.7	0.0	37.5	41.5	35.2	36.5
Incr Delay (d2), s/veh	0.1	0.5	1.0	2.7	0.5	0.9	0.2	0.0	2.0	0.3	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	0.1	2.4	2.8	0.7	2.9	3.2	1.0	0.0	2.4	0.8	0.2	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.1	4.3	4.8	10.4	6.1	6.5	36.9	0.0	39.5	41.9	35.2	37.0
LnGrp LOS	A	A	A	B	A	A	D	A	D	D	D	D
Approach Vol, veh/h		1839			1499			159			118	
Approach Delay, s/veh		4.5			6.4			38.8			38.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		73.8		16.2	6.0	67.8		16.2				
Change Period (Y+Rc), s		5.0		5.5	4.0	5.0		5.5				
Max Green Setting (Gmax), s		68.0		11.5	8.0	56.0		11.5				
Max Q Clear Time (g_c+I1), s		12.8		7.9	2.6	18.0		10.5				
Green Ext Time (p_c), s		19.5		0.1	0.0	15.3		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	7.9
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)	42	1728	15	61	1312	65	42	11	85	29	9	52
Future Volume (veh/h)	42	1728	15	61	1312	65	42	11	85	29	9	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		1.00	0.98		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1767	1885	1900	1870	1900	1767	1900	1900	1900
Adj Flow Rate, veh/h	43	1781	15	64	1367	68	48	13	98	38	12	68
Peak Hour Factor	0.97	0.97	0.97	0.96	0.96	0.96	0.87	0.87	0.87	0.76	0.76	0.76
Percent Heavy Veh, %	0	1	0	9	1	0	2	0	9	0	0	0
Cap, veh/h	363	4112	35	219	3684	183	229	27	201	153	268	223
Arrive On Green	0.02	0.78	0.78	1.00	1.00	1.00	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1810	5264	44	248	5020	250	1296	189	1422	1286	1900	1579
Grp Volume(v), veh/h	43	1161	635	64	934	501	48	0	111	38	12	68
Grp Sat Flow(s),veh/h/ln	1810	1716	1877	248	1716	1839	1296	0	1611	1286	1900	1579
Q Serve(g_s), s	0.8	15.1	15.1	4.7	0.0	0.0	4.5	0.0	8.6	3.8	0.7	5.2
Cycle Q Clear(g_c), s	0.8	15.1	15.1	13.4	0.0	0.0	5.2	0.0	8.6	12.4	0.7	5.2
Prop In Lane	1.00		0.02	1.00		0.14	1.00		0.88	1.00		1.00
Lane Grp Cap(c), veh/h	363	2680	1466	219	2518	1349	229	0	227	153	268	223
V/C Ratio(X)	0.12	0.43	0.43	0.29	0.37	0.37	0.21	0.00	0.49	0.25	0.04	0.31
Avail Cap(c_a), veh/h	411	2680	1466	219	2518	1349	339	0	364	262	429	357
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	3.8	4.9	4.9	0.6	0.0	0.0	52.4	0.0	53.5	59.2	50.1	52.0
Incr Delay (d2), s/veh	0.1	0.5	0.9	3.3	0.4	0.8	0.2	0.0	0.6	0.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.5	5.1	0.2	0.1	0.3	1.5	0.0	3.5	1.3	0.4	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.8	5.4	5.8	3.9	0.4	0.8	52.5	0.0	54.1	59.5	50.1	52.3
LnGrp LOS	A	A	A	A	A	A	D	A	D	E	D	D
Approach Vol, veh/h		1839			1499			159			118	
Approach Delay, s/veh		5.5			0.7			53.6			54.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		110.5		24.5	6.4	104.1		24.5				
Change Period (Y+Rc), s		5.0		5.5	4.0	5.0		5.5				
Max Green Setting (Gmax), s		94.0		30.5	6.0	84.0		30.5				
Max Q Clear Time (g_c+I1), s		17.1		10.6	2.8	15.4		14.4				
Green Ext Time (p_c), s		20.9		0.5	0.0	17.8		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	7.2
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)	195	1376	291	151	929	151	274	1026	219	443	1249	235
Future Volume (veh/h)	195	1376	291	151	929	151	274	1026	219	443	1249	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	1885	1885	1900	1870	1856	1885	1885	1900	1885	1900	1870
Adj Flow Rate, veh/h	210	1480	313	168	1032	168	295	1103	235	457	1288	242
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.93	0.93	0.93	0.97	0.97	0.97
Percent Heavy Veh, %	2	1	1	0	2	3	1	1	0	1	0	2
Cap, veh/h	265	1525	630	219	1278	208	356	1283	273	560	1913	701
Arrive On Green	0.08	0.30	0.30	0.06	0.29	0.29	0.07	0.20	0.20	0.16	0.37	0.37
Sat Flow, veh/h	3456	5147	1577	3510	4416	718	3483	4240	903	3483	5187	1572
Grp Volume(v), veh/h	210	1480	313	168	795	405	295	892	446	457	1288	242
Grp Sat Flow(s),veh/h/ln	1728	1716	1577	1755	1702	1730	1742	1716	1712	1742	1729	1572
Q Serve(g_s), s	8.1	38.3	13.8	6.4	29.2	29.3	11.3	33.9	33.9	17.1	28.1	13.6
Cycle Q Clear(g_c), s	8.1	38.3	13.8	6.4	29.2	29.3	11.3	33.9	33.9	17.1	28.1	13.6
Prop In Lane	1.00		1.00	1.00		0.41	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	265	1525	630	219	985	501	356	1039	518	560	1913	701
V/C Ratio(X)	0.79	0.97	0.50	0.77	0.81	0.81	0.83	0.86	0.86	0.82	0.67	0.35
Avail Cap(c_a), veh/h	384	1525	630	260	985	501	490	1118	558	560	1913	701
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	61.3	46.9	15.3	62.3	44.5	44.5	61.7	51.0	51.0	54.7	35.8	24.5
Incr Delay (d2), s/veh	7.0	16.5	0.6	10.9	5.0	9.6	8.3	9.2	16.8	9.1	1.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	18.3	4.9	3.1	12.8	13.7	5.5	16.3	17.4	8.1	12.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.3	63.4	15.9	73.2	49.5	54.1	70.1	60.3	67.9	63.8	37.7	25.9
LnGrp LOS	E	E	B	E	D	D	E	E	E	E	D	C
Approach Vol, veh/h		2003			1368			1633			1987	
Approach Delay, s/veh		56.5			53.8			64.1			42.3	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.8	55.8	15.3	45.1	27.7	46.9	14.4	46.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	6.0	* 6	6.0	* 6
Max Green Setting (Gmax), s	19.0	44.0	15.0	35.0	19.0	* 44	10.0	* 40
Max Q Clear Time (g_c+I1), s	13.3	30.1	10.1	31.3	19.1	35.9	8.4	40.3
Green Ext Time (p_c), s	0.5	7.8	0.3	2.4	0.0	4.9	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	53.7
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)	195	1376	291	151	929	151	274	1026	219	443	1249	235
Future Volume (veh/h)	195	1376	291	151	929	151	274	1026	219	443	1249	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	1885	1885	1900	1870	1856	1885	1885	1900	1885	1900	1870
Adj Flow Rate, veh/h	210	1480	313	168	1032	168	295	1103	235	457	1288	242
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.93	0.93	0.93	0.97	0.97	0.97
Percent Heavy Veh, %	2	1	1	0	2	3	1	1	0	1	0	2
Cap, veh/h	265	1525	630	219	1478	702	356	1283	273	560	1913	701
Arrive On Green	0.08	0.30	0.30	0.06	0.29	0.29	0.07	0.20	0.20	0.16	0.37	0.37
Sat Flow, veh/h	3456	5147	1577	3510	5106	1551	3483	4240	903	3483	5187	1572
Grp Volume(v), veh/h	210	1480	313	168	1032	168	295	892	446	457	1288	242
Grp Sat Flow(s),veh/h/ln	1728	1716	1577	1755	1702	1551	1742	1716	1712	1742	1729	1572
Q Serve(g_s), s	8.1	38.3	13.8	6.4	24.3	1.9	11.3	33.9	33.9	17.1	28.1	13.6
Cycle Q Clear(g_c), s	8.1	38.3	13.8	6.4	24.3	1.9	11.3	33.9	33.9	17.1	28.1	13.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	265	1525	630	219	1478	702	356	1039	518	560	1913	701
V/C Ratio(X)	0.79	0.97	0.50	0.77	0.70	0.24	0.83	0.86	0.86	0.82	0.67	0.35
Avail Cap(c_a), veh/h	384	1525	630	260	1478	702	490	1118	558	560	1913	701
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	61.3	46.9	15.3	62.3	42.7	10.1	61.7	51.0	51.0	54.7	35.8	24.5
Incr Delay (d2), s/veh	7.0	16.5	0.6	10.9	1.5	0.2	8.3	9.2	16.8	9.1	1.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	18.3	4.9	3.1	10.3	1.9	5.5	16.3	17.4	8.1	12.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.3	63.4	15.9	73.2	44.2	10.3	70.1	60.3	67.9	63.8	37.7	25.9
LnGrp LOS	E	E	B	E	D	B	E	E	E	E	D	C
Approach Vol, veh/h		2003			1368			1633			1987	
Approach Delay, s/veh		56.5			43.6			64.1			42.3	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.8	55.8	15.3	45.1	27.7	46.9	14.4	46.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	6.0	* 6	6.0	* 6
Max Green Setting (Gmax), s	19.0	44.0	15.0	35.0	19.0	* 44	10.0	* 40
Max Q Clear Time (g_c+I1), s	13.3	30.1	10.1	26.3	19.1	35.9	8.4	40.3
Green Ext Time (p_c), s	0.5	7.8	0.3	4.0	0.0	4.9	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	51.7
HCM 6th LOS	D

Notes

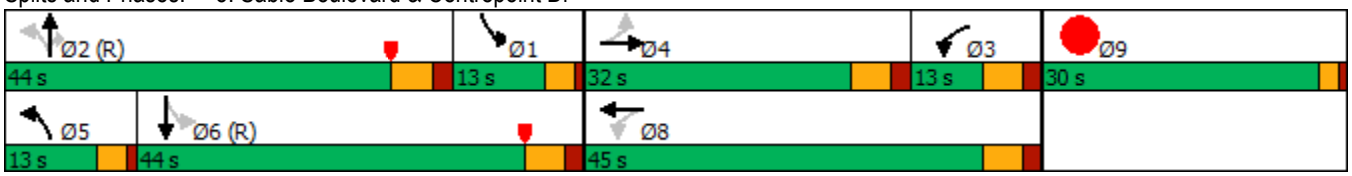
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	69	93	24	53	50	77	422	23	29	472	86
Future Volume (vph)	97	69	93	24	53	50	77	422	23	29	472	86
Satd. Flow (prot)	1805	1712	0	1543	2843	0	1805	3574	1324	1347	3506	0
Flt Permitted	0.678			0.443			0.363			0.492		
Satd. Flow (perm)	1184	1712	0	713	2843	0	686	3574	1257	683	3506	0
Satd. Flow (RTOR)		46			57				149		16	
Lane Group Flow (vph)	113	188	0	27	117	0	82	449	24	30	582	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Total Split (s)	32.0	32.0		13.0	45.0		13.0	44.0	44.0	13.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	17.8	17.8		26.9	24.7		81.1	79.1	79.1	78.7	76.7	
Actuated g/C Ratio	0.13	0.13		0.20	0.19		0.61	0.60	0.60	0.60	0.58	
v/c Ratio	0.71	0.69		0.15	0.20		0.17	0.21	0.03	0.07	0.29	
Control Delay	76.8	53.6		41.2	21.7		20.5	19.0	0.1	14.1	10.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	76.8	53.6		41.2	21.7		20.5	19.0	0.1	14.1	10.5	
LOS	E	D		D	C		C	B	A	B	B	
Approach Delay		62.3			25.4			18.4			10.7	
Approach LOS		E			C			B			B	
Queue Length 50th (ft)	94	118		18	21		29	95	0	6	56	
Queue Length 95th (ft)	143	177		41	43		99	228	0	25	136	
Internal Link Dist (ft)		258			396			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	233	374		197	880		506	2168	821	464	2057	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.48	0.50		0.14	0.13		0.16	0.21	0.03	0.06	0.28	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 113 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 24.3 — Intersection LOS: C
Intersection Capacity Utilization 62.5% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

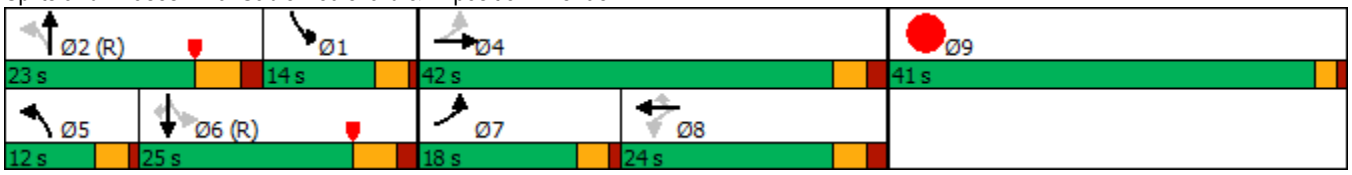
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	249	82	111	199	70	58	368	155	103	415	66
Future Volume (vph)	83	249	82	111	199	70	58	368	155	103	415	66
Satd. Flow (prot)	1656	1823	0	1805	1900	1568	1770	3307	0	1805	3574	1482
Flt Permitted	0.264			0.425			0.413			0.441		
Satd. Flow (perm)	459	1823	0	806	1900	1540	769	3307	0	834	3574	1449
Satd. Flow (RTOR)		14				182		45				118
Lane Group Flow (vph)	97	385	0	121	216	76	62	563	0	111	446	71
Turn Type	pm+pt	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	18.0	42.0		24.0	24.0	24.0	12.0	23.0		14.0	25.0	25.0
Total Lost Time (s)	4.0	5.0		5.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	34.2	33.2		18.3	18.3	18.3	58.5	56.5		60.3	58.3	58.3
Actuated g/C Ratio	0.28	0.28		0.15	0.15	0.15	0.49	0.47		0.50	0.49	0.49
v/c Ratio	0.41	0.75		0.98	0.74	0.20	0.14	0.36		0.23	0.26	0.09
Control Delay	36.3	47.3		128.6	64.5	1.1	26.3	24.0		27.4	24.4	1.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	36.3	47.3		128.6	64.5	1.1	26.3	24.0		27.4	24.4	1.7
LOS	D	D		F	E	A	C	C		C	C	A
Approach Delay		45.1			71.6			24.2			22.3	
Approach LOS		D			E			C			C	
Queue Length 50th (ft)	55	255		92	158	0	22	115		41	97	0
Queue Length 95th (ft)	94	341		#216	#262	0	85	#363		133	#239	9
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	270	577		134	316	408	442	1580		519	1735	764
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.36	0.67		0.90	0.68	0.19	0.14	0.36		0.21	0.26	0.09

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 37.5 Intersection LOS: D
Intersection Capacity Utilization 70.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

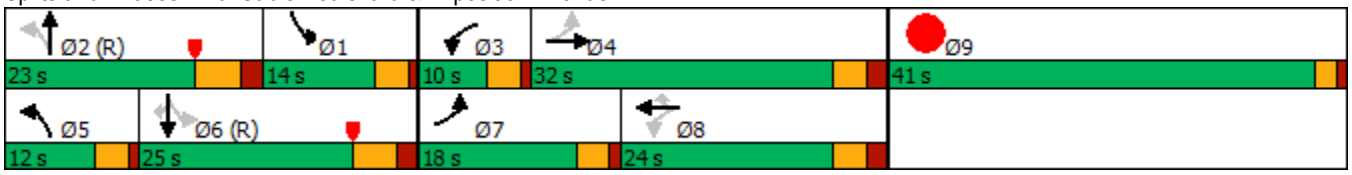
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	249	82	111	199	70	58	368	155	103	415	66
Future Volume (vph)	83	249	82	111	199	70	58	368	155	103	415	66
Satd. Flow (prot)	1656	1823	0	1805	1900	1568	1770	3307	0	1805	3574	1482
Flt Permitted	0.386			0.164			0.391			0.441		
Satd. Flow (perm)	671	1823	0	311	1900	1540	728	3307	0	834	3574	1449
Satd. Flow (RTOR)		13				218		45				155
Lane Group Flow (vph)	97	385	0	121	216	76	62	563	0	111	446	71
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	18.0	32.0		10.0	24.0	24.0	12.0	23.0		14.0	25.0	25.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	36.9	26.3		33.8	24.4	24.4	52.9	50.9		54.7	52.7	52.7
Actuated g/C Ratio	0.31	0.22		0.28	0.20	0.20	0.44	0.42		0.46	0.44	0.44
v/c Ratio	0.33	0.94		0.63	0.56	0.16	0.16	0.39		0.25	0.28	0.10
Control Delay	32.1	76.4		47.4	50.3	0.7	27.7	26.4		29.3	26.7	0.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	32.1	76.4		47.4	50.3	0.7	27.7	26.4		29.3	26.7	0.3
LOS	C	E		D	D	A	C	C		C	C	A
Approach Delay		67.5			40.3			26.5			24.2	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)	52	284		65	149	0	24	126		45	106	0
Queue Length 95th (ft)	94	#433		#161	#262	0	85	#363		133	#239	0
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	336	420		192	385	486	391	1428		480	1568	722
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.29	0.92		0.63	0.56	0.16	0.16	0.39		0.23	0.28	0.10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 37.7 Intersection LOS: D
Intersection Capacity Utilization 69.3% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

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	14	467	37	16	294	18	16	7	10	45	14	17
Future Vol, veh/h	14	467	37	16	294	18	16	7	10	45	14	17
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	300	-	100	-	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	96	96	96	83	83	83	86	86	86
Heavy Vehicles, %	0	0	0	0	0	17	0	0	0	4	0	6
Mvmt Flow	16	549	44	17	306	19	19	8	12	52	16	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	325	0	0	596	0	0	974	965	574	953	968	306
Stage 1	-	-	-	-	-	-	606	606	-	340	340	-
Stage 2	-	-	-	-	-	-	368	359	-	613	628	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.14	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.536	4	3.354
Pot Cap-1 Maneuver	*1275	-	-	976	-	-	233	257	659	237	256	*836
Stage 1	-	-	-	-	-	-	586	523	-	782	693	-
Stage 2	-	-	-	-	-	-	757	677	-	572	506	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	*1275	-	-	973	-	-	211	249	658	222	248	*836
Mov Cap-2 Maneuver	-	-	-	-	-	-	211	249	-	222	248	-
Stage 1	-	-	-	-	-	-	577	515	-	771	682	-
Stage 2	-	-	-	-	-	-	708	666	-	546	498	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	20.2	21.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	277	* 1275	-	-	973	-	-	222	248	836
HCM Lane V/C Ratio	0.144	0.013	-	-	0.017	-	-	0.236	0.066	0.024
HCM Control Delay (s)	20.2	7.9	-	-	8.8	-	-	26.1	20.5	9.4
HCM Lane LOS	C	A	-	-	A	-	-	D	C	A
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.9	0.2	0.1

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	234	20	309	43	9	35	6	142	1249	20	71	1508
Future Volume (veh/h)	234	20	309	43	9	35	6	142	1249	20	71	1508
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99		1.00		0.99	1.00	
Parking Bus, Adj	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	1900	1900	1885	1900	1900	1900		1870	1885	1900	1900	1885
Adj Flow Rate, veh/h	272	23	359	49	10	40		158	1388	22	72	1539
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88		0.90	0.90	0.90	0.98	0.98
Percent Heavy Veh, %	0	0	1	0	0	0		2	1	0	0	1
Cap, veh/h	299	21	435	40	16	11		309	3324	53	249	2627
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27		0.05	0.64	0.64	1.00	1.00
Sat Flow, veh/h	903	76	1589	0	58	39		1781	5218	83	387	4743
Grp Volume(v), veh/h	295	0	359	99	0	0		158	913	497	72	1113
Grp Sat Flow(s),veh/h/ln	980	0	1589	97	0	0		1781	1716	1869	387	1716
Q Serve(g_s), s	0.0	0.0	28.6	0.0	0.0	0.0		5.0	17.8	17.8	3.3	0.0
Cycle Q Clear(g_c), s	37.0	0.0	28.6	37.0	0.0	0.0		5.0	17.8	17.8	9.8	0.0
Prop In Lane	0.92		1.00	0.49		0.40		1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	320	0	435	67	0	0		309	2186	1191	249	1900
V/C Ratio(X)	0.92	0.00	0.82	1.49	0.00	0.00		0.51	0.42	0.42	0.29	0.59
Avail Cap(c_a), veh/h	320	0	435	67	0	0		451	2186	1191	249	1900
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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	0.0	46.0	53.1	0.0	0.0		10.6	12.1	12.1	0.4	0.0
Incr Delay (d2), s/veh	31.1	0.0	12.2	283.1	0.0	0.0		1.3	0.6	1.1	2.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	0.0	12.9	7.6	0.0	0.0		2.0	6.6	7.3	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.8	0.0	58.1	336.1	0.0	0.0		11.9	12.7	13.2	3.3	1.3
LnGrp LOS	F	A	E	F	A	A		B	B	B	A	A
Approach Vol, veh/h		654			99				1568			1767
Approach Delay, s/veh		68.8			336.1				12.8			1.8
Approach LOS		E			F				B			A

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	92.0	43.0	11.2	80.8	43.0
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	6.0
Max Green Setting (Gmax), s	86.0	37.0	18.0	64.0	37.0
Max Q Clear Time (g_c+I1), s	19.8	39.0	7.0	11.8	39.0
Green Ext Time (p_c), s	13.0	0.0	0.3	20.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	153
Future Volume (veh/h)	153
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	156
Peak Hour Factor	0.98
Percent Heavy Veh, %	0
Cap, veh/h	266
Arrive On Green	1.00
Sat Flow, veh/h	480
Grp Volume(v), veh/h	582
Grp Sat Flow(s),veh/h/ln	1792
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.27
Lane Grp Cap(c), veh/h	993
V/C Ratio(X)	0.59
Avail Cap(c_a), veh/h	993
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	2.5
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.7
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	2.5
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	20	309	43	9	35	142	1255	20	71	1514	153
Future Volume (veh/h)	234	20	309	43	9	35	142	1255	20	71	1514	153
Initial Q (Qb), veh	0	0	0	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	1900	1900	1885	1900	1900	1900	1870	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	272	23	359	49	10	40	158	1394	22	72	1545	156
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.90	0.90	0.90	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	1	0	0	0	2	1	0	0	1	0
Cap, veh/h	339	24	599	55	19	23	301	3092	49	224	2397	242
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.06	0.59	0.59	1.00	1.00	1.00
Sat Flow, veh/h	903	76	1590	48	60	73	1781	5218	82	385	4744	479
Grp Volume(v), veh/h	295	0	359	99	0	0	158	917	499	72	1117	584
Grp Sat Flow(s),veh/h/ln	979	0	1590	182	0	0	1781	1716	1869	385	1716	1792
Q Serve(g_s), s	0.0	0.0	24.6	3.3	0.0	0.0	5.5	20.0	20.1	4.9	0.0	0.0
Cycle Q Clear(g_c), s	39.7	0.0	24.6	43.0	0.0	0.0	5.5	20.0	20.1	13.1	0.0	0.0
Prop In Lane	0.92		1.00	0.49		0.40	1.00		0.04	1.00		0.27
Lane Grp Cap(c), veh/h	363	0	599	98	0	0	301	2033	1108	224	1734	905
V/C Ratio(X)	0.81	0.00	0.60	1.01	0.00	0.00	0.52	0.45	0.45	0.32	0.64	0.65
Avail Cap(c_a), veh/h	363	0	599	98	0	0	423	2033	1108	224	1734	905
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	33.9	55.5	0.0	0.0	13.2	15.3	15.3	0.8	0.0	0.0
Incr Delay (d2), s/veh	13.1	0.0	1.7	94.5	0.0	0.0	1.4	0.7	1.3	3.7	1.9	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	9.9	6.0	0.0	0.0	2.3	7.7	8.5	0.2	0.4	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.0	0.0	35.6	150.0	0.0	0.0	14.6	16.0	16.6	4.5	1.9	3.5
LnGrp LOS	E	A	D	F	A	A	B	B	B	A	A	A
Approach Vol, veh/h		654			99			1574			1773	
Approach Delay, s/veh		45.7			150.0			16.1			2.5	
Approach LOS		D			F			B			A	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		86.0		49.0	11.8	74.2		49.0				
Change Period (Y+Rc), s		6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s		80.0		43.0	17.0	59.0		43.0				
Max Q Clear Time (g_c+I1), s		22.1		41.7	7.5	15.1		45.0				
Green Ext Time (p_c), s		13.0		0.5	0.3	19.3		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

Notes

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

User approved ignoring U-Turning movement.

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	4	0	17	64	1	43	13	1450	55	25	1651	8
Future Vol, veh/h	4	0	17	64	1	43	13	1450	55	25	1651	8
Conflicting Peds, #/hr	1	0	0	0	0	1	3	0	11	11	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	76	76	76	98	98	98	95	95	95
Heavy Vehicles, %	0	0	0	0	0	2	0	1	0	0	0	0
Mvmt Flow	5	0	23	84	1	57	13	1480	56	26	1738	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2417	3370	876	2292	3346	780	1749	0	0	1547	0	0
Stage 1	1797	1797	-	1545	1545	-	-	-	-	-	-	-
Stage 2	620	1573	-	747	1801	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.4	6.5	7.14	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.3	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.7	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.8	4	3.92	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*296	*21	*551	*405	*22	*587	*693	-	-	*742	-	-
Stage 1	*565	*537	-	*605	*575	-	-	-	-	-	-	-
Stage 2	*605	*575	-	*565	*537	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*243	*19	*550	*369	*21	*580	*691	-	-	*734	-	-
Mov Cap-2 Maneuver	*243	*19	-	*369	*21	-	-	-	-	-	-	-
Stage 1	*553	*517	-	*588	*558	-	-	-	-	-	-	-
Stage 2	*534	*558	-	*523	*517	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	20.9	0.1	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 691	-	-	443	366	* 734	-	-
HCM Lane V/C Ratio	0.019	-	-	0.063	0.388	0.036	-	-
HCM Control Delay (s)	10.3	-	-	13.7	20.9	10.1	-	-
HCM Lane LOS	B	-	-	B	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	1.8	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	4	0	17	64	1	43	6	13	1450	55	25	1651	8
Future Vol, veh/h	4	0	17	64	1	43	6	13	1450	55	25	1651	8
Conflicting Peds, #/hr	1	0	0	0	0	1	0	3	0	11	11	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	76	76	76	98	98	98	98	95	95	95
Heavy Vehicles, %	0	0	0	0	0	2	2	0	1	0	0	0	0
Mvmt Flow	5	0	23	84	1	57	6	13	1480	56	26	1738	8

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	2429	3382	876	2304	3358	780	1275	1749	0	0	1547	0	0
Stage 1	1797	1797	-	1557	1557	-	-	-	-	-	-	-	-
Stage 2	632	1585	-	747	1801	-	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.4	6.5	7.14	5.64	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.3	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.7	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.8	4	3.92	2.32	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*192	*16	*551	*258	*17	*587	*927	*693	-	-	*742	-	-
Stage 1	*565	*537	-	*605	*575	-	-	-	-	-	-	-	-
Stage 2	*605	*575	-	*565	*537	-	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*155	*15	*550	*234	*16	*580	*745	*745	-	-	*734	-	-
Mov Cap-2 Maneuver	*155	*15	-	*234	*16	-	-	-	-	-	-	-	-
Stage 1	*550	*517	-	*583	*555	-	-	-	-	-	-	-	-
Stage 2	*530	*555	-	*523	*517	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	33.7	0.1	0.1
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 745	-	-	370	263	* 734	-	-
HCM Lane V/C Ratio	0.026	-	-	0.076	0.54	0.036	-	-
HCM Control Delay (s)	10	-	-	15.5	33.7	10.1	-	-
HCM Lane LOS	A	-	-	C	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	3	0.1	-	-

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

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	14	3	36	62	13
Future Vol, veh/h	22	14	3	36	62	13
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	68	68	79	79	81	81
Heavy Vehicles, %	0	14	0	9	3	0
Mvmt Flow	32	21	4	46	77	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	142	47	93	0	-	0
Stage 1	85	-	-	-	-	-
Stage 2	57	-	-	-	-	-
Critical Hdwy	6.6	7.11	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.433	2.2	-	-	-
Pot Cap-1 Maneuver	865	999	1528	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	862	999	1528	-	-	-
Mov Cap-2 Maneuver	830	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	971	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1528	-	888	-	-
HCM Lane V/C Ratio	0.002	-	0.06	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	16	48	10	18	70
Future Vol, veh/h	5	16	48	10	18	70
Conflicting Peds, #/hr	3	0	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	90	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	63	63	76	76	80	80
Heavy Vehicles, %	0	0	6	0	0	2
Mvmt Flow	8	25	63	13	23	88

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	168	75	0	0	81	0
Stage 1	75	-	-	-	-	-
Stage 2	93	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	835	992	-	-	1529	-
Stage 1	953	-	-	-	-	-
Stage 2	940	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	815	987	-	-	1522	-
Mov Cap-2 Maneuver	798	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	923	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	1.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	934	1522	-
HCM Lane V/C Ratio	-	-	0.036	0.015	-
HCM Control Delay (s)	-	-	9	7.4	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	53	38	26	35	66
Future Vol, veh/h	45	53	38	26	35	66
Conflicting Peds, #/hr	10	0	0	10	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	92	92	87	87
Heavy Vehicles, %	13	3	5	5	0	12
Mvmt Flow	54	64	41	28	40	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	79	0	-	0	205	65
Stage 1	-	-	-	-	65	-
Stage 2	-	-	-	-	140	-
Critical Hdwy	4.295	-	-	-	6.6	6.38
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.3235	-	-	-	3.5	3.414
Pot Cap-1 Maneuver	1446	-	-	-	793	969
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1432	-	-	-	748	960
Mov Cap-2 Maneuver	-	-	-	-	751	-
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	9.4
HCM LOS			A

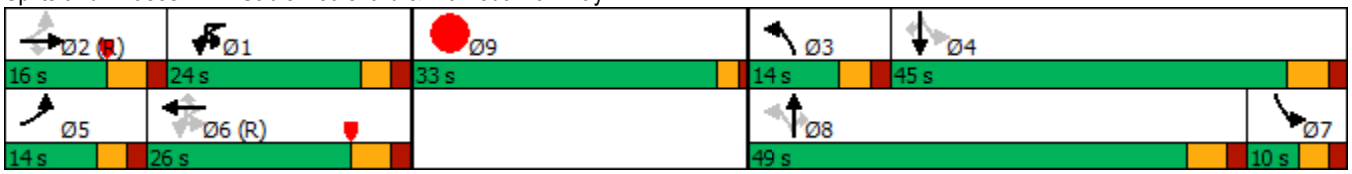
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1432	-	-	-	751	960
HCM Lane V/C Ratio	0.038	-	-	-	0.054	0.079
HCM Control Delay (s)	7.6	-	-	-	10.1	9.1
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	0.3

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	90	1035	140	5	25	1780	160	220	315	50	130	205
Future Volume (vph)	90	1035	140	5	25	1780	160	220	315	50	130	205
Satd. Flow (prot)	1787	5085	1524	0	3502	5085	1583	3400	3539	1615	3400	3471
Flt Permitted	0.081				0.196			0.541			0.512	
Satd. Flow (perm)	152	5085	1499	0	722	5085	1535	1925	3539	1578	1821	3471
Satd. Flow (RTOR)			190				182			140		
Lane Group Flow (vph)	110	1262	171	0	32	1894	170	286	409	65	160	253
Turn Type	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases	2		2	6	6		6	8		8	4	
Total Split (s)	14.0	16.0	16.0	24.0	24.0	26.0	26.0	14.0	49.0	49.0	10.0	45.0
Total Lost Time (s)	5.0	6.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Act Effct Green (s)	65.7	64.7	64.7		64.1	63.1	63.1	22.1	21.1	21.1	16.7	15.7
Actuated g/C Ratio	0.50	0.49	0.49		0.49	0.48	0.48	0.17	0.16	0.16	0.13	0.12
v/c Ratio	0.52	0.51	0.21		0.05	0.78	0.21	0.60	0.72	0.18	0.49	0.61
Control Delay	35.9	28.3	4.6		28.4	32.5	4.9	48.2	53.2	4.8	59.3	61.3
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.9	28.3	4.6		28.4	32.5	4.9	48.2	53.2	4.8	59.3	61.3
LOS	D	C	A		C	C	A	D	D	A	E	E
Approach Delay		26.2				30.2			47.2			47.8
Approach LOS		C				C			D			D
Queue Length 50th (ft)	53	280	0		6	440	0	118	179	2	65	111
Queue Length 95th (ft)	125	#513	30		25	#983	52	132	191	24	85	130
Internal Link Dist (ft)		573				350			1144			460
Turn Bay Length (ft)	250		175		175		100	275		275	150	
Base Capacity (vph)	218	2490	831		750	2431	829	474	1152	608	328	1025
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.51	0.21		0.04	0.78	0.21	0.60	0.36	0.11	0.49	0.25

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 104 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 33.6 — Intersection LOS: C
Intersection Capacity Utilization 76.4% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	SBR	Ø9
Lane Configurations		
Traffic Volume (vph)	120	
Future Volume (vph)	120	
Satd. Flow (prot)	1599	
Flt Permitted		
Satd. Flow (perm)	1565	
Satd. Flow (RTOR)	148	
Lane Group Flow (vph)	148	
Turn Type	Perm	
Protected Phases		9
Permitted Phases	4	
Total Split (s)	45.0	33.0
Total Lost Time (s)	6.0	
Act Effct Green (s)	15.7	
Actuated g/C Ratio	0.12	
v/c Ratio	0.47	
Control Delay	12.4	
Queue Delay	0.0	
Total Delay	12.4	
LOS	B	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	42	
Internal Link Dist (ft)		
Turn Bay Length (ft)	150	
Base Capacity (vph)	566	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.26	

Intersection Summary

Intersection	
Int Delay, s/veh	1.3

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	10	130	1150	1980	40	5	35
Future Vol, veh/h	10	130	1150	1980	40	5	35
Conflicting Peds, #/hr	0	0	0	0	0	1	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	150	-	-	-	0	0
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	86	86	86	95	95	68	68
Heavy Vehicles, %	1	1	2	1	0	0	6
Mvmt Flow	12	151	1337	2084	42	7	51

Major/Minor	Major1			Major2		Minor2	
Conflicting Flow All	1552	2126	0	-	0	2967	1063
Stage 1	-	-	-	-	-	2105	-
Stage 2	-	-	-	-	-	862	-
Critical Hdwy	5.62	5.32	-	-	-	5.7	7.22
Critical Hdwy Stg 1	-	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	-	6	-
Follow-up Hdwy	2.31	3.11	-	-	-	3.8	3.96
Pot Cap-1 Maneuver	*796	*591	-	-	-	*28	*464
Stage 1	-	-	-	-	-	*484	-
Stage 2	-	-	-	-	-	*678	-
Platoon blocked, %	1	1	-	-	-		1
Mov Cap-1 Maneuver	*599	*599	-	-	-	*20	*464
Mov Cap-2 Maneuver	-	-	-	-	-	*20	-
Stage 1	-	-	-	-	-	*352	-
Stage 2	-	-	-	-	-	*678	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	45.3
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	* 599	-	-	-	20	464
HCM Lane V/C Ratio	0.272	-	-	-	0.368	0.111
HCM Control Delay (s)	13.2	-	-	-	266.4	13.7
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	1.1	-	-	-	1	0.4

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1045	60	125	1905	25	85	5	115	0	0	30
Future Volume (veh/h)	50	1045	60	125	1905	25	85	5	115	0	0	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	0.99		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	1900	1885	1544	1826	1885	1900	1203	1900	1544	1900	1900	1841
Adj Flow Rate, veh/h	53	1112	64	132	2005	26	90	5	122	0	0	43
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.94	0.94	0.94	0.70	0.70	0.70
Percent Heavy Veh, %	0	1	24	5	1	0	47	0	24	0	0	4
Cap, veh/h	249	4089	235	410	4053	53	142	7	160	51	197	161
Arrive On Green	0.02	0.82	0.82	1.00	1.00	1.00	0.10	0.10	0.10	0.00	0.00	0.10
Sat Flow, veh/h	1810	4978	286	465	5236	68	873	63	1547	1284	1900	1551
Grp Volume(v), veh/h	53	766	410	132	1313	718	90	0	127	0	0	43
Grp Sat Flow(s),veh/h/ln	1810	1716	1833	465	1716	1873	873	0	1611	1284	1900	1551
Q Serve(g_s), s	0.8	7.2	7.2	0.3	0.0	0.0	14.4	0.0	10.7	0.0	0.0	3.6
Cycle Q Clear(g_c), s	0.8	7.2	7.2	0.9	0.0	0.0	14.4	0.0	10.7	0.0	0.0	3.6
Prop In Lane	1.00		0.16	1.00		0.04	1.00		0.96	1.00		1.00
Lane Grp Cap(c), veh/h	249	2818	1506	410	2656	1450	142	0	167	51	197	161
V/C Ratio(X)	0.21	0.27	0.27	0.32	0.49	0.49	0.63	0.00	0.76	0.00	0.00	0.27
Avail Cap(c_a), veh/h	371	2818	1506	410	2656	1450	142	0	167	51	197	161
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	2.7	2.9	2.9	0.0	0.0	0.0	62.7	0.0	61.1	0.0	0.0	57.9
Incr Delay (d2), s/veh	0.2	0.2	0.4	2.1	0.7	1.2	6.9	0.0	16.7	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.9	2.1	0.2	0.2	0.5	3.5	0.0	5.2	0.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.9	3.1	3.3	2.1	0.7	1.2	69.7	0.0	77.8	0.0	0.0	58.2
LnGrp LOS	A	A	A	A	A	A	E	A	E	A	A	E
Approach Vol, veh/h		1229			2163			217			43	
Approach Delay, s/veh		3.2			0.9			74.4			58.2	
Approach LOS		A			A			E			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		120.0		20.0	6.6	113.4		20.0				
Change Period (Y+Rc), s		5.0		5.5	4.0	5.0		5.5				
Max Green Setting (Gmax), s		115.0		14.5	12.0	99.0		14.5				
Max Q Clear Time (g_c+I1), s		9.2		16.4	2.8	2.9		5.6				
Green Ext Time (p_c), s		9.8		0.0	0.0	35.6		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	6.7
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)	50	1045	60	125	1905	25	85	5	115	0	0	30
Future Volume (veh/h)	50	1045	60	125	1905	25	85	5	115	0	0	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	1900	1885	1544	1826	1885	1900	1203	1900	1544	1900	1900	1841
Adj Flow Rate, veh/h	53	1112	64	132	2005	26	90	5	122	0	0	43
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.94	0.94	0.94	0.70	0.70	0.70
Percent Heavy Veh, %	0	1	24	5	1	0	47	0	24	0	0	4
Cap, veh/h	242	3654	210	419	3929	51	162	8	197	51	241	197
Arrive On Green	0.02	0.73	0.73	0.07	1.00	1.00	0.13	0.13	0.13	0.00	0.00	0.13
Sat Flow, veh/h	1810	4977	286	1739	5236	68	873	63	1549	1284	1900	1553
Grp Volume(v), veh/h	53	766	410	132	1313	718	90	0	127	0	0	43
Grp Sat Flow(s),veh/h/ln	1810	1716	1833	1739	1716	1873	873	0	1612	1284	1900	1553
Q Serve(g_s), s	1.0	10.7	10.7	2.8	0.0	0.0	14.0	0.0	10.4	0.0	0.0	3.5
Cycle Q Clear(g_c), s	1.0	10.7	10.7	2.8	0.0	0.0	14.0	0.0	10.4	0.0	0.0	3.5
Prop In Lane	1.00		0.16	1.00		0.04	1.00		0.96	1.00		1.00
Lane Grp Cap(c), veh/h	242	2518	1345	419	2575	1405	162	0	205	51	241	197
V/C Ratio(X)	0.22	0.30	0.30	0.31	0.51	0.51	0.55	0.00	0.62	0.00	0.00	0.22
Avail Cap(c_a), veh/h	311	2518	1345	457	2575	1405	242	0	351	168	414	338
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	4.4	6.4	6.4	4.4	0.0	0.0	59.5	0.0	57.9	0.0	0.0	54.9
Incr Delay (d2), s/veh	0.2	0.3	0.6	0.4	0.7	1.3	1.1	0.0	1.1	0.0	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	0.4	3.6	3.9	0.8	0.3	0.5	3.2	0.0	4.3	0.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.6	6.7	7.0	4.8	0.7	1.3	60.6	0.0	59.1	0.0	0.0	55.1
LnGrp LOS	A	A	A	A	A	A	E	A	E	A	A	E
Approach Vol, veh/h		1229			2163			217			43	
Approach Delay, s/veh		6.7			1.2			59.7			55.1	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	107.8		23.3	6.7	110.1		23.3
Change Period (Y+Rc), s	4.0	5.0		5.5	4.0	5.0		5.5
Max Green Setting (Gmax), s	8.0	87.0		30.5	8.0	87.0		30.5
Max Q Clear Time (g_c+I1), s	4.8	12.7		16.0	3.0	2.0		5.5
Green Ext Time (p_c), s	0.1	9.8		0.7	0.0	27.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	7.1
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)	220	855	130	215	1575	210	305	1100	240	170	705	195
Future Volume (veh/h)	220	855	130	215	1575	210	305	1100	240	170	705	195
Initial Q (Qb), veh	0	0	0	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	1856	1870	1885	1870	1870	1885	1885	1885	1900	1841	1856	1856
Adj Flow Rate, veh/h	229	891	135	231	1694	226	367	1325	289	189	783	217
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.83	0.83	0.83	0.90	0.90	0.90
Percent Heavy Veh, %	3	2	1	2	2	1	1	1	0	4	3	3
Cap, veh/h	245	1105	669	758	1661	221	707	1411	307	248	1034	430
Arrive On Green	0.14	0.43	0.43	0.22	0.36	0.36	0.41	0.67	0.67	0.07	0.20	0.20
Sat Flow, veh/h	3428	5106	1593	3456	4559	606	3483	4223	920	3401	5066	1554
Grp Volume(v), veh/h	229	891	135	231	1263	657	367	1076	538	189	783	217
Grp Sat Flow(s),veh/h/ln	1714	1702	1593	1728	1702	1760	1742	1716	1712	1700	1689	1554
Q Serve(g_s), s	9.3	21.3	0.0	7.8	51.0	51.0	11.1	39.1	39.2	7.6	20.4	6.3
Cycle Q Clear(g_c), s	9.3	21.3	0.0	7.8	51.0	51.0	11.1	39.1	39.2	7.6	20.4	6.3
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	245	1105	669	758	1240	641	707	1146	572	248	1034	430
V/C Ratio(X)	0.94	0.81	0.20	0.30	1.02	1.02	0.52	0.94	0.94	0.76	0.76	0.51
Avail Cap(c_a), veh/h	245	1860	905	758	1240	641	707	1201	599	248	1303	512
HCM Platoon Ratio	2.00	2.00	2.00	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	59.7	37.1	18.2	45.7	44.5	44.5	36.4	22.0	22.0	63.7	52.4	42.6
Incr Delay (d2), s/veh	40.1	1.4	0.1	0.2	30.3	41.9	0.7	15.5	25.4	12.9	5.2	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	7.2	2.0	3.4	26.1	29.0	4.2	11.5	13.0	3.7	9.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.8	38.6	18.3	45.9	74.8	86.4	37.1	37.4	47.4	76.5	57.6	46.8
LnGrp LOS	F	D	B	D	F	F	D	D	D	E	E	D
Approach Vol, veh/h		1255			2151			1981			1189	
Approach Delay, s/veh		47.6			75.3			40.1			58.7	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.4	34.6	15.0	57.0	15.2	52.8	35.7	36.3
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	21.0	36.0	10.0	51.0	8.0	49.0	10.0	51.0
Max Q Clear Time (g_c+I1), s	13.1	22.4	11.3	53.0	9.6	41.2	9.8	23.3
Green Ext Time (p_c), s	0.8	4.9	0.0	0.0	0.0	5.5	0.0	7.0

Intersection Summary	
HCM 6th Ctrl Delay	56.4
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	855	130	215	1575	210	305	1100	240	170	705	195
Future Volume (veh/h)	220	855	130	215	1575	210	305	1100	240	170	705	195
Initial Q (Qb), veh	0	0	0	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	1856	1870	1885	1870	1870	1885	1885	1885	1900	1841	1856	1856
Adj Flow Rate, veh/h	229	891	135	231	1694	226	367	1325	289	189	783	217
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.83	0.83	0.83	0.90	0.90	0.90
Percent Heavy Veh, %	3	2	1	2	2	1	1	1	0	4	3	3
Cap, veh/h	273	1105	681	731	1779	685	734	1411	307	274	1034	442
Arrive On Green	0.16	0.43	0.43	0.21	0.35	0.35	0.42	0.67	0.67	0.08	0.20	0.20
Sat Flow, veh/h	3428	5106	1593	3456	5106	1595	3483	4223	920	3401	5066	1554
Grp Volume(v), veh/h	229	891	135	231	1694	226	367	1076	538	189	783	217
Grp Sat Flow(s),veh/h/ln	1714	1702	1593	1728	1702	1595	1742	1716	1712	1700	1689	1554
Q Serve(g_s), s	9.1	21.3	0.0	7.9	45.3	1.9	10.8	39.1	39.2	7.6	20.4	5.0
Cycle Q Clear(g_c), s	9.1	21.3	0.0	7.9	45.3	1.9	10.8	39.1	39.2	7.6	20.4	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	273	1105	681	731	1779	685	734	1146	572	274	1034	442
V/C Ratio(X)	0.84	0.81	0.20	0.32	0.95	0.33	0.50	0.94	0.94	0.69	0.76	0.49
Avail Cap(c_a), veh/h	294	1860	917	731	1787	687	734	1201	599	274	1303	525
HCM Platoon Ratio	2.00	2.00	2.00	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	58.0	37.1	17.7	46.6	44.5	26.6	35.1	22.0	22.0	62.6	52.4	41.7
Incr Delay (d2), s/veh	18.0	1.4	0.1	0.2	11.9	0.3	0.5	15.5	25.4	7.1	5.2	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	7.2	2.0	3.4	20.6	5.0	4.0	11.5	13.0	3.5	9.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.0	38.6	17.9	46.9	56.4	26.8	35.6	37.4	47.4	69.7	57.6	45.5
LnGrp LOS	E	D	B	D	E	C	D	D	D	E	E	D
Approach Vol, veh/h		1255			2151			1981			1189	
Approach Delay, s/veh		43.2			52.2			39.8			57.3	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	34.5	34.6	16.1	54.8	16.3	52.8	34.6	36.3
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	21.0	36.0	12.0	49.0	8.0	49.0	10.0	51.0
Max Q Clear Time (g_c+I1), s	12.8	22.4	11.1	47.3	9.6	41.2	9.9	23.3
Green Ext Time (p_c), s	0.8	4.9	0.1	1.5	0.0	5.5	0.0	7.0

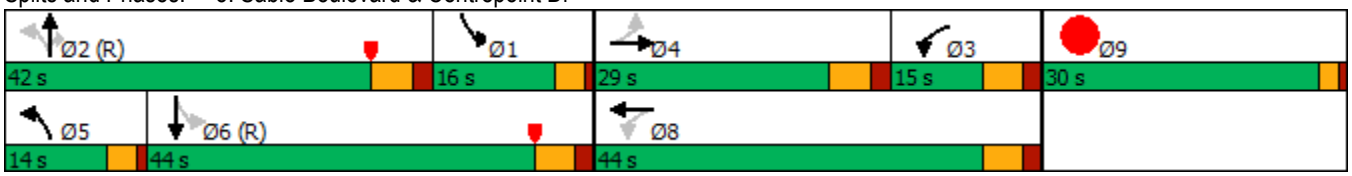
Intersection Summary	
HCM 6th Ctrl Delay	47.7
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	20	80	25	170	15	405	60	75	275	20
Future Volume (vph)	10	10	20	80	25	170	15	405	60	75	275	20
Satd. Flow (prot)	1805	1642	0	1492	2630	0	1805	3610	1429	1367	3504	0
Flt Permitted	0.615			0.727			0.501			0.471		
Satd. Flow (perm)	1157	1642	0	1142	2630	0	949	3610	1375	669	3504	0
Satd. Flow (RTOR)		31			218				149		6	
Lane Group Flow (vph)	15	46	0	103	250	0	18	494	73	95	373	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Total Split (s)	29.0	29.0		15.0	44.0		14.0	42.0	42.0	16.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	7.6	7.6		20.5	20.5		84.4	82.4	82.4	91.2	89.2	
Actuated g/C Ratio	0.06	0.06		0.16	0.16		0.64	0.62	0.62	0.69	0.68	
v/c Ratio	0.23	0.37		0.51	0.42		0.03	0.22	0.08	0.19	0.16	
Control Delay	66.6	36.2		59.2	10.9		14.7	13.8	0.2	33.6	27.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	66.6	36.2		59.2	10.9		14.7	13.8	0.2	33.6	27.5	
LOS	E	D		E	B		B	B	A	C	C	
Approach Delay		43.7			25.0			12.1			28.8	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)	13	12		79	12		5	80	0	56	117	
Queue Length 95th (ft)	26	30		113	31		22	177	0	115	183	
Internal Link Dist (ft)		258			445			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	201	311		209	912		671	2252	914	550	2370	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.07	0.15		0.49	0.27		0.03	0.22	0.08	0.17	0.16	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 54 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 21.8 — Intersection LOS: C
Intersection Capacity Utilization 55.3% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

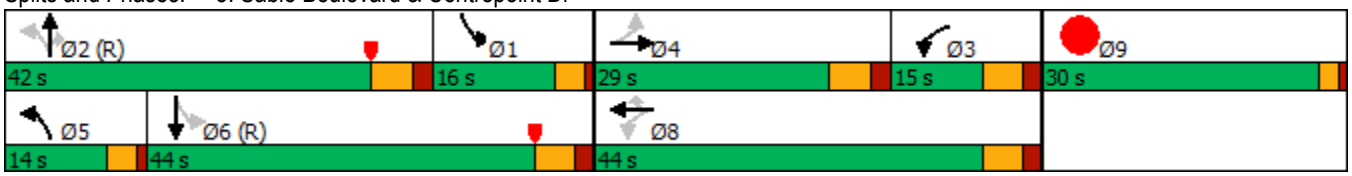
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	20	80	25	170	15	405	60	75	275	20
Future Volume (vph)	10	10	20	80	25	170	15	405	60	75	275	20
Satd. Flow (prot)	1805	1642	0	1492	1900	1357	1805	3610	1429	1367	3501	0
Flt Permitted	0.736			0.727			0.501			0.471		
Satd. Flow (perm)	1379	1642	0	1142	1900	1322	947	3610	1375	669	3501	0
Satd. Flow (RTOR)		31				218			149		6	
Lane Group Flow (vph)	15	46	0	103	32	218	18	494	73	95	373	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Total Split (s)	29.0	29.0		15.0	44.0	44.0	14.0	42.0	42.0	16.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	7.3	7.3		20.4	20.4	20.4	84.4	82.4	82.4	91.2	89.2	
Actuated g/C Ratio	0.06	0.06		0.15	0.15	0.15	0.64	0.62	0.62	0.69	0.68	
v/c Ratio	0.20	0.38		0.51	0.11	0.56	0.03	0.22	0.08	0.19	0.16	
Control Delay	64.4	36.9		59.1	45.2	11.5	14.7	13.8	0.2	33.6	27.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	64.4	36.9		59.1	45.2	11.5	14.7	13.8	0.2	33.6	27.5	
LOS	E	D		E	D	B	B	B	A	C	C	
Approach Delay		43.6			28.5			12.1			28.7	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)	13	13		79	23	0	5	80	0	56	117	
Queue Length 95th (ft)	26	30		113	45	36	22	177	0	115	183	
Internal Link Dist (ft)		258			445			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	240	311		209	546	535	670	2252	914	550	2368	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.06	0.15		0.49	0.06	0.41	0.03	0.22	0.08	0.17	0.16	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 54 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 22.7 — Intersection LOS: C
Intersection Capacity Utilization 55.3% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	50	10	110	130	80	30	355	110	55	265	55
Future Volume (vph)	45	50	10	110	130	80	30	355	110	55	265	55
Satd. Flow (prot)	1556	1848	0	1805	1900	1599	1752	3378	0	1805	3471	1404
Flt Permitted	0.392			0.715			0.504			0.458		
Satd. Flow (perm)	641	1848	0	1355	1900	1577	926	3378	0	865	3471	1367
Satd. Flow (RTOR)		10				127		27				118
Lane Group Flow (vph)	49	65	0	129	153	94	34	523	0	71	340	71
Turn Type	pm+pt	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	12.0	50.0		38.0	38.0	38.0	12.0	17.0		12.0	17.0	17.0
Total Lost Time (s)	4.0	5.0		5.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	27.6	26.6		17.1	17.1	17.1	66.6	64.6		69.1	67.1	67.1
Actuated g/C Ratio	0.23	0.22		0.14	0.14	0.14	0.56	0.54		0.58	0.56	0.56
v/c Ratio	0.24	0.16		0.67	0.56	0.28	0.06	0.29		0.13	0.18	0.09
Control Delay	35.4	29.2		64.6	55.0	5.0	24.6	21.4		24.7	21.0	1.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	35.4	29.2		64.6	55.0	5.0	24.6	21.4		24.7	21.0	1.7
LOS	D	C		E	D	A	C	C		C	C	A
Approach Delay		31.8			45.8			21.6			18.7	
Approach LOS		C			D			C			B	
Queue Length 50th (ft)	30	34		96	112	0	11	97		22	61	0
Queue Length 95th (ft)	57	65		142	158	17	52	#300		81	157	0
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	208	699		372	522	525	571	1829		560	1940	816
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.24	0.09		0.35	0.29	0.18	0.06	0.29		0.13	0.18	0.09

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 104 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 27.4 — Intersection LOS: C
Intersection Capacity Utilization 55.5% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	50	10	110	130	80	30	355	110	55	265	55
Future Volume (vph)	45	50	10	110	130	80	30	355	110	55	265	55
Satd. Flow (prot)	1556	1848	0	1805	1900	1599	1752	3378	0	1805	3471	1404
Flt Permitted	0.531			0.611			0.507			0.458		
Satd. Flow (perm)	869	1848	0	1158	1900	1577	932	3378	0	865	3471	1367
Satd. Flow (RTOR)		8				127		27				118
Lane Group Flow (vph)	49	65	0	129	153	94	34	523	0	71	340	71
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	12.0	38.0		12.0	38.0	38.0	12.0	17.0		12.0	17.0	17.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	21.1	14.1		22.4	15.0	15.0	68.7	66.7		71.3	69.3	69.3
Actuated g/C Ratio	0.18	0.12		0.19	0.12	0.12	0.57	0.56		0.59	0.58	0.58
v/c Ratio	0.25	0.29		0.49	0.65	0.31	0.06	0.28		0.12	0.17	0.08
Control Delay	38.2	43.5		45.2	62.0	5.7	22.5	19.7		22.7	19.2	1.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.2	43.5		45.2	62.0	5.7	22.5	19.7		22.7	19.2	1.6
LOS	D	D		D	E	A	C	B		C	B	A
Approach Delay		41.2			42.2			19.9			17.1	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	30	40		83	114	0	10	93		21	58	0
Queue Length 95th (ft)	60	80		123	165	18	49	253		77	150	0
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	203	514		261	522	525	590	1890		576	2005	839
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.24	0.13		0.49	0.29	0.18	0.06	0.28		0.12	0.17	0.08

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 104 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 26.1 — Intersection LOS: C
Intersection Capacity Utilization 54.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Sable Boulevard & Exposition Avenue

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

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	35	105	5	5	225	70	25	20	15	35	5	35
Future Vol, veh/h	35	105	5	5	225	70	25	20	15	35	5	35
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	4	4	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	300	-	100	-	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	85	85	85	75	75	75	70	70	70
Heavy Vehicles, %	0	2	0	0	1	3	4	5	5	22	0	0
Mvmt Flow	36	109	5	6	265	82	33	27	20	50	7	50

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	349	0	0	115	0	0	533	546	117	490	466	268
Stage 1	-	-	-	-	-	-	185	185	-	279	279	-
Stage 2	-	-	-	-	-	-	348	361	-	211	187	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.14	6.55	6.25	7.32	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.55	-	6.32	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.55	-	6.32	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.536	4.045	3.345	3.698	4	3.3
Pot Cap-1 Maneuver	1236	-	-	*1506	-	-	454	441	*990	457	497	889
Stage 1	-	-	-	-	-	-	859	763	-	780	726	-
Stage 2	-	-	-	-	-	-	738	652	-	791	771	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	1234	-	-	*1504	-	-	412	425	*985	413	479	886
Mov Cap-2 Maneuver	-	-	-	-	-	-	412	425	-	413	479	-
Stage 1	-	-	-	-	-	-	833	741	-	756	722	-
Stage 2	-	-	-	-	-	-	686	648	-	723	748	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.1	13.8	12.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	488	1234	-	-	* 1504	-	-	413	479	886
HCM Lane V/C Ratio	0.164	0.03	-	-	0.004	-	-	0.121	0.015	0.056
HCM Control Delay (s)	13.8	8	-	-	7.4	-	-	14.9	12.6	9.3
HCM Lane LOS	B	A	-	-	A	-	-	B	B	A
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.4	0	0.2

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	75	5	60	35	10	40	15	180	1565	5	20	950
Future Volume (veh/h)	75	5	60	35	10	40	15	180	1565	5	20	950
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj	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	1900	1841	1752	1900	1870		1885	1885	1693	1826	1870
Adj Flow Rate, veh/h	77	5	62	47	14	54		212	1841	6	24	1118
Peak Hour Factor	0.97	0.97	0.97	0.74	0.74	0.74		0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	0	4	10	0	2		1	1	14	5	2
Cap, veh/h	184	10	244	79	32	66		453	4011	13	205	3195
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16		0.05	0.76	0.76	1.00	1.00
Sat Flow, veh/h	854	67	1557	271	203	420		1795	5296	17	244	4715
Grp Volume(v), veh/h	82	0	62	115	0	0		212	1193	654	24	807
Grp Sat Flow(s),veh/h/ln	921	0	1557	894	0	0		1795	1716	1882	244	1702
Q Serve(g_s), s	0.0	0.0	4.9	7.1	0.0	0.0		4.8	18.1	18.1	1.2	0.0
Cycle Q Clear(g_c), s	12.4	0.0	4.9	19.4	0.0	0.0		4.8	18.1	18.1	8.1	0.0
Prop In Lane	0.94		1.00	0.41		0.47		1.00		0.01	1.00	
Lane Grp Cap(c), veh/h	194	0	244	176	0	0		453	2599	1426	205	2306
V/C Ratio(X)	0.42	0.00	0.25	0.65	0.00	0.00		0.47	0.46	0.46	0.12	0.35
Avail Cap(c_a), veh/h	254	0	311	242	0	0		566	2599	1426	205	2306
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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	0.0	51.8	59.5	0.0	0.0		5.3	6.3	6.3	0.3	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.5	4.0	0.0	0.0		0.8	0.6	1.1	1.2	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
%ile BackOfQ(50%),veh/ln	2.8	0.0	2.0	4.3	0.0	0.0		1.7	5.8	6.5	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	0.0	52.4	63.5	0.0	0.0		6.0	6.9	7.4	1.5	0.4
LnGrp LOS	E	A	D	E	A	A		A	A	A	A	A
Approach Vol, veh/h		144			115				2059			1254
Approach Delay, s/veh		54.6			63.5				7.0			0.6
Approach LOS		D			E				A			A

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		112.0		28.0	11.2	100.9		28.0				
Change Period (Y+Rc), s		6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s		100.0		28.0	16.0	80.0		28.0				
Max Q Clear Time (g_c+I1), s		20.1		14.4	6.8	10.1		21.4				
Green Ext Time (p_c), s		22.3		0.5	0.4	12.0		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	95
Future Volume (veh/h)	95
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1885
Adj Flow Rate, veh/h	112
Peak Hour Factor	0.85
Percent Heavy Veh, %	1
Cap, veh/h	320
Arrive On Green	1.00
Sat Flow, veh/h	472
Grp Volume(v), veh/h	423
Grp Sat Flow(s),veh/h/ln	1783
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.26
Lane Grp Cap(c), veh/h	1208
V/C Ratio(X)	0.35
Avail Cap(c_a), veh/h	1208
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.8
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.3
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.8
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	5	60	35	10	40	180	1580	5	20	965	95
Future Volume (veh/h)	75	5	60	35	10	40	180	1580	5	20	965	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1900	1841	1752	1900	1870	1885	1885	1693	1826	1870	1885
Adj Flow Rate, veh/h	77	5	62	47	14	54	212	1859	6	24	1135	112
Peak Hour Factor	0.97	0.97	0.97	0.74	0.74	0.74	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	0	4	10	0	2	1	1	14	5	2	1
Cap, veh/h	187	11	330	80	32	68	378	3999	13	201	3182	314
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.76	0.76	0.45	0.45	0.45
Sat Flow, veh/h	862	67	1557	278	203	426	1795	5296	17	240	4722	466
Grp Volume(v), veh/h	82	0	62	115	0	0	212	1204	661	24	818	429
Grp Sat Flow(s),veh/h/ln	930	0	1557	907	0	0	1795	1716	1882	240	1702	1784
Q Serve(g_s), s	0.0	0.0	4.6	7.1	0.0	0.0	4.9	18.5	18.5	8.8	22.0	22.0
Cycle Q Clear(g_c), s	12.3	0.0	4.6	19.4	0.0	0.0	4.9	18.5	18.5	15.9	22.0	22.0
Prop In Lane	0.94		1.00	0.41		0.47	1.00		0.01	1.00		0.26
Lane Grp Cap(c), veh/h	198	0	330	180	0	0	378	2591	1421	201	2293	1202
V/C Ratio(X)	0.41	0.00	0.19	0.64	0.00	0.00	0.56	0.46	0.46	0.12	0.36	0.36
Avail Cap(c_a), veh/h	352	0	505	351	0	0	643	2591	1421	201	2293	1202
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	54.6	0.0	45.3	59.1	0.0	0.0	9.2	6.5	6.5	19.1	18.6	18.6
Incr Delay (d2), s/veh	1.4	0.0	0.3	3.7	0.0	0.0	1.3	0.6	1.1	1.2	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	1.8	4.2	0.0	0.0	1.8	6.0	6.7	0.6	9.4	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	0.0	45.5	62.8	0.0	0.0	10.5	7.1	7.6	20.3	19.0	19.4
LnGrp LOS	E	A	D	E	A	A	B	A	A	C	B	B
Approach Vol, veh/h		144			115			2077			1271	
Approach Delay, s/veh		51.5			62.8			7.6			19.1	
Approach LOS		D			E			A			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		111.7		28.3	11.4	100.3		28.3				
Change Period (Y+Rc), s		6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s		90.0		38.0	28.0	58.0		38.0				
Max Q Clear Time (g_c+I1), s		20.5		14.3	6.9	24.0		21.4				
Green Ext Time (p_c), s		22.2		0.6	0.5	10.9		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	0	40	50	5	40	65	1575	40	20	975	30
Future Vol, veh/h	60	0	40	50	5	40	65	1575	40	20	975	30
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	84	84	84	87	87	87	91	91	91
Heavy Vehicles, %	0	0	0	2	0	0	0	1	3	0	2	0
Mvmt Flow	100	0	67	60	6	48	75	1810	46	22	1071	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2009	3138	555	2458	3131	928	1104	0	0	1856	0	0
Stage 1	1132	1132	-	1983	1983	-	-	-	-	-	-	-
Stage 2	877	2006	-	475	1148	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.44	6.5	7.1	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.34	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.74	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.82	4	3.9	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*455	47	*695	*327	48	*564	*874	-	-	588	-	-
Stage 1	*683	658	-	*319	375	-	-	-	-	-	-	-
Stage 2	*579	361	-	*709	646	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*338	41	*693	*268	42	*564	*874	-	-	588	-	-
Mov Cap-2 Maneuver	*338	41	-	*268	42	-	-	-	-	-	-	-
Stage 1	*624	634	-	*291	342	-	-	-	-	-	-	-
Stage 2	*476	330	-	*615	622	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.8	30.4	0.4	0.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 874	-	-	425	252	588	-	-
HCM Lane V/C Ratio	0.085	-	-	0.392	0.449	0.037	-	-
HCM Control Delay (s)	9.5	-	-	18.8	30.4	11.4	-	-
HCM Lane LOS	A	-	-	C	D	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.8	2.2	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	60	0	40	50	5	40	15	65	1575	40	20	975	30
Future Vol, veh/h	60	0	40	50	5	40	15	65	1575	40	20	975	30
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	84	84	84	87	87	87	87	91	91	91
Heavy Vehicles, %	0	0	0	2	0	0	2	0	1	3	0	2	0
Mvmt Flow	100	0	67	60	6	48	17	75	1810	46	22	1071	33

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	2043	3172	555	2492	3165	928	806	1104	0	0	1856	0	0
Stage 1	1132	1132	-	2017	2017	-	-	-	-	-	-	-	-
Stage 2	911	2040	-	475	1148	-	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.44	6.5	7.1	5.64	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.34	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.74	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.82	4	3.9	2.32	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*469	39	*695	*263	40	*564	*1168	*874	-	-	588	-	-
Stage 1	*683	658	-	*293	354	-	-	-	-	-	-	-	-
Stage 2	*579	341	-	*709	646	-	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*334	33	*693	*213	34	*564	*909	*909	-	-	588	-	-
Mov Cap-2 Maneuver	*334	33	-	*213	34	-	-	-	-	-	-	-	-
Stage 1	*614	634	-	*263	319	-	-	-	-	-	-	-	-
Stage 2	*468	307	-	*615	622	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	40.5	0.4	0.2
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 909	-	-	421	210	588	-	-
HCM Lane V/C Ratio	0.101	-	-	0.396	0.539	0.037	-	-
HCM Control Delay (s)	9.4	-	-	19	40.5	11.4	-	-
HCM Lane LOS	A	-	-	C	E	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.9	2.8	0.1	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	60	0	40	50	5	40	15	65	1575	40	20	975
Future Volume (veh/h)	60	0	40	50	5	40	15	65	1575	40	20	975
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99		1.00		1.00	1.00	
Parking Bus, Adj	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	1900	1900	1900	1870	1900	1900		1900	1885	1856	1900	1870
Adj Flow Rate, veh/h	100	0	67	60	6	48		75	1810	46	22	1071
Peak Hour Factor	0.60	0.60	0.60	0.84	0.84	0.84		0.87	0.87	0.87	0.91	0.91
Percent Heavy Veh, %	0	0	0	2	0	0		0	1	3	0	2
Cap, veh/h	154	4	78	133	22	84		480	3722	95	267	3602
Arrive On Green	0.14	0.00	0.14	0.14	0.14	0.14		0.07	1.00	1.00	0.04	1.00
Sat Flow, veh/h	821	30	570	684	164	616		1810	5162	131	1810	5089
Grp Volume(v), veh/h	167	0	0	114	0	0		75	1203	653	22	716
Grp Sat Flow(s),veh/h/ln	1421	0	0	1464	0	0		1810	1716	1862	1810	1702
Q Serve(g_s), s	6.1	0.0	0.0	0.0	0.0	0.0		1.6	0.0	0.0	0.5	0.0
Cycle Q Clear(g_c), s	16.2	0.0	0.0	10.0	0.0	0.0		1.6	0.0	0.0	0.5	0.0
Prop In Lane	0.60		0.40	0.53		0.42		1.00		0.07	1.00	
Lane Grp Cap(c), veh/h	236	0	0	240	0	0		480	2474	1342	267	2409
V/C Ratio(X)	0.71	0.00	0.00	0.48	0.00	0.00		0.16	0.49	0.49	0.08	0.30
Avail Cap(c_a), veh/h	286	0	0	290	0	0		561	2474	1342	320	2409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.89	0.89	0.89	1.00	1.00
Uniform Delay (d), s/veh	59.1	0.0	0.0	56.3	0.0	0.0		4.7	0.0	0.0	5.1	0.0
Incr Delay (d2), s/veh	6.2	0.0	0.0	1.5	0.0	0.0		0.1	0.6	1.1	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.0	0.0	3.9	0.0	0.0		0.5	0.2	0.4	0.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.3	0.0	0.0	57.8	0.0	0.0		4.8	0.6	1.1	5.3	0.3
LnGrp LOS	E	A	A	E	A	A		A	A	A	A	A
Approach Vol, veh/h		167			114				1931			1126
Approach Delay, s/veh		65.3			57.8				0.9			0.5
Approach LOS		E			E				A			A

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.9	106.9		25.2	9.7	105.1		25.2
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	92.0		24.0	11.0	88.0		24.0
Max Q Clear Time (g_c+I1), s	2.5	2.0		18.2	3.6	2.0		12.0
Green Ext Time (p_c), s	0.0	23.0		0.4	0.1	8.9		0.4

Intersection Summary	
HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBR
Lanes, Configurations	
Traffic Volume (veh/h)	30
Future Volume (veh/h)	30
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	33
Peak Hour Factor	0.91
Percent Heavy Veh, %	0
Cap, veh/h	111
Arrive On Green	1.00
Sat Flow, veh/h	157
Grp Volume(v), veh/h	388
Grp Sat Flow(s),veh/h/ln	1842
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.09
Lane Grp Cap(c), veh/h	1304
V/C Ratio(X)	0.30
Avail Cap(c_a), veh/h	1304
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.6
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.2
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.6
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	15	110	70	30
Future Vol, veh/h	5	5	15	110	70	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	77	77	72	72
Heavy Vehicles, %	100	0	0	3	14	0
Mvmt Flow	20	20	19	143	97	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	299	70	139	0	-	0
Stage 1	118	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Critical Hdwy	8.1	6.9	4.1	-	-	-
Critical Hdwy Stg 1	7.3	-	-	-	-	-
Critical Hdwy Stg 2	6.9	-	-	-	-	-
Follow-up Hdwy	4.45	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	505	1006	1470	-	-	-
Stage 1	698	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	498	1006	1470	-	-	-
Mov Cap-2 Maneuver	528	-	-	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	638	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1470	-	693	-	-
HCM Lane V/C Ratio	0.013	-	0.058	-	-
HCM Control Delay (s)	7.5	-	10.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	65	100	15	70	80
Future Vol, veh/h	20	65	100	15	70	80
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	90	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	82	82	84	84
Heavy Vehicles, %	0	0	4	0	0	6
Mvmt Flow	24	76	122	18	83	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	401	140	0	0	149	0
Stage 1	140	-	-	-	-	-
Stage 2	261	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	624	913	-	-	1445	-
Stage 1	892	-	-	-	-	-
Stage 2	800	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	583	905	-	-	1433	-
Mov Cap-2 Maneuver	631	-	-	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	753	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	3.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	821	1433	-
HCM Lane V/C Ratio	-	-	0.122	0.058	-
HCM Control Delay (s)	-	-	10	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	75	40	100	100	40	115
Future Vol, veh/h	75	40	100	100	40	115
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	79	79	90	90
Heavy Vehicles, %	20	10	3	2	0	25
Mvmt Flow	114	61	127	127	44	128

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	268	0	-	0	494	205
Stage 1	-	-	-	-	205	-
Stage 2	-	-	-	-	289	-
Critical Hdwy	4.3	-	-	-	6.4	6.45
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.38	-	-	-	3.5	3.525
Pot Cap-1 Maneuver	1198	-	-	-	540	781
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	766	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1182	-	-	-	473	771
Mov Cap-2 Maneuver	-	-	-	-	473	-
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	756	-

Approach	EB	WB	SB
HCM Control Delay, s	5.5	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1182	-	-	-	663
HCM Lane V/C Ratio	0.096	-	-	-	0.26
HCM Control Delay (s)	8.4	0	-	-	12.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱		↑↑↑		↱
Traffic Vol, veh/h	1200	20	0	2025	0	45
Future Vol, veh/h	1200	20	0	2025	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	94	94	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1429	24	0	2154	0	54

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	715
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*638
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*638
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	638	-	-	-
HCM Lane V/C Ratio	0.084	-	-	-
HCM Control Delay (s)	11.2	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1135	25	20	2055	0	55
Future Vol, veh/h	1135	25	20	2055	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	94	94	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1195	26	21	2186	0	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1221	0	-	611
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	-	3.92
Pot Cap-1 Maneuver	-	-	*822	-	0	*654
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	*822	-	-	*654
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	654	-	-	* 822	-
HCM Lane V/C Ratio	0.1	-	-	0.026	-
HCM Control Delay (s)	11.1	-	-	9.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1170	20	0	2075	0	35
Future Vol, veh/h	1170	20	0	2075	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	94	94	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1232	21	0	2207	0	42

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	627
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*654
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*654
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	654	-	-	-
HCM Lane V/C Ratio	0.064	-	-	-
HCM Control Delay (s)	10.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Notes

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

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	100	0	80	15	0	25	25	80	35	60	85	40
Future Vol, veh/h	100	0	80	15	0	25	25	80	35	60	85	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	119	0	95	18	0	30	30	95	42	71	101	48

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	458	464	125	491	467	116	149	0	0	137	0	0
Stage 1	267	267	-	176	176	-	-	-	-	-	-	-
Stage 2	191	197	-	315	291	-	-	-	-	-	-	-
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	513	495	926	488	493	936	1432	-	-	1447	-	-
Stage 1	738	688	-	826	753	-	-	-	-	-	-	-
Stage 2	811	738	-	696	672	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	468	457	926	412	456	936	1432	-	-	1447	-	-
Mov Cap-2 Maneuver	468	457	-	412	456	-	-	-	-	-	-	-
Stage 1	721	651	-	807	736	-	-	-	-	-	-	-
Stage 2	767	721	-	591	636	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	11.1	1.4	2.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1432	-	-	600	634	1447	-	-
HCM Lane V/C Ratio	0.021	-	-	0.357	0.075	0.049	-	-
HCM Control Delay (s)	7.6	0	-	14.3	11.1	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.6	0.2	0.2	-	-

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	0	0	50	0	15	0	20	25	20	10	15
Future Vol, veh/h	20	0	0	50	0	15	0	20	25	20	10	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	0	0	60	0	18	0	24	30	24	12	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	117	123	21	108	117	39	30	0	0	54	0	0
Stage 1	69	69	-	39	39	-	-	-	-	-	-	-
Stage 2	48	54	-	69	78	-	-	-	-	-	-	-
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	859	767	1056	871	773	1033	1583	-	-	1551	-	-
Stage 1	941	837	-	976	862	-	-	-	-	-	-	-
Stage 2	965	850	-	941	830	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	834	755	1056	861	761	1033	1583	-	-	1551	-	-
Mov Cap-2 Maneuver	834	755	-	861	761	-	-	-	-	-	-	-
Stage 1	941	824	-	976	862	-	-	-	-	-	-	-
Stage 2	948	850	-	926	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	9.4	0	3.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1583	-	-	834	895	1551	-	-
HCM Lane V/C Ratio	-	-	-	0.029	0.086	0.015	-	-
HCM Control Delay (s)	0	-	-	9.4	9.4	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	5	0	35	15	0	10	10	15	0	5
Future Vol, veh/h	10	10	5	0	35	15	0	10	10	15	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	12	6	0	42	18	0	12	12	18	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	60	0	0	18	0	0	93	99	15	102	93	51
Stage 1	-	-	-	-	-	-	39	39	-	51	51	-
Stage 2	-	-	-	-	-	-	54	60	-	51	42	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1544	-	-	1599	-	-	891	791	1065	879	797	1017
Stage 1	-	-	-	-	-	-	976	862	-	962	852	-
Stage 2	-	-	-	-	-	-	958	845	-	962	860	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1544	-	-	1599	-	-	880	785	1065	854	791	1017
Mov Cap-2 Maneuver	-	-	-	-	-	-	880	785	-	854	791	-
Stage 1	-	-	-	-	-	-	968	855	-	954	852	-
Stage 2	-	-	-	-	-	-	952	845	-	930	853	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.9	0	9.1	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	904	1544	-	-	1599	-	-	890
HCM Lane V/C Ratio	0.026	0.008	-	-	-	-	-	0.027
HCM Control Delay (s)	9.1	7.3	0	-	0	-	-	9.2
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	15	0	0	20	0	1625	35	0	1020	30
Future Vol, veh/h	0	0	15	0	0	20	0	1625	35	0	1020	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	85	85	85	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	18	0	0	24	0	1912	41	0	1133	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	583	-	-	977	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	*691	0	0	*543	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %			1			1		-	-		-	-
Mov Cap-1 Maneuver	-	-	*691	-	-	*543	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	11.9	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	691	543	-	-
HCM Lane V/C Ratio	-	-	0.026	0.044	-	-
HCM Control Delay (s)	-	-	10.3	11.9	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	95	25	5	210	75	20
Future Vol, veh/h	95	25	5	210	75	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	-	0	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	30	6	250	89	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	143	0	375	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	262	-
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	-	-	1459	-	652	1000
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	782	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1459	-	650	1000
Mov Cap-2 Maneuver	-	-	-	-	650	-
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	779	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	702	-	-	1459	-
HCM Lane V/C Ratio	0.161	-	-	0.004	-
HCM Control Delay (s)	11.1	-	-	7.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0	-

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	20	20	75	15	10	45	20	135	10	15	60	5
Future Vol, veh/h	20	20	75	15	10	45	20	135	10	15	60	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	24	89	18	12	54	24	161	12	18	71	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	358	331	74	382	328	167	77	0	0	173	0	0
Stage 1	110	110	-	215	215	-	-	-	-	-	-	-
Stage 2	248	221	-	167	113	-	-	-	-	-	-	-
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	597	588	988	576	591	877	1522	-	-	1404	-	-
Stage 1	895	804	-	787	725	-	-	-	-	-	-	-
Stage 2	756	720	-	835	802	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	539	570	988	496	573	877	1522	-	-	1404	-	-
Mov Cap-2 Maneuver	539	570	-	496	573	-	-	-	-	-	-	-
Stage 1	880	794	-	774	713	-	-	-	-	-	-	-
Stage 2	686	708	-	727	792	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	10.8	0.9	1.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1522	-	-	776	707	1404	-	-
HCM Lane V/C Ratio	0.016	-	-	0.176	0.118	0.013	-	-
HCM Control Delay (s)	7.4	0	-	10.6	10.8	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	0	45	0	0	60
Future Vol, veh/h	10	0	45	0	0	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	54	0	0	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	125	54	0	0	54	0
Stage 1	54	-	-	-	-	-
Stage 2	71	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	870	1013	-	-	1551	-
Stage 1	969	-	-	-	-	-
Stage 2	952	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	870	1013	-	-	1551	-
Mov Cap-2 Maneuver	870	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	870	1551	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	-	-	9.2	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

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	0	0	0	10	5	0	15	0	0	5	0
Future Vol, veh/h	0	0	0	0	10	5	0	15	0	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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	12	6	0	18	0	0	6	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	18	0	0	1	0	0	19	19	1	25	16	15
Stage 1	-	-	-	-	-	-	1	1	-	15	15	-
Stage 2	-	-	-	-	-	-	18	18	-	10	1	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1599	-	-	1622	-	-	995	875	1084	986	878	1065
Stage 1	-	-	-	-	-	-	1022	895	-	1005	883	-
Stage 2	-	-	-	-	-	-	1001	880	-	1011	895	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1599	-	-	1622	-	-	990	875	1084	970	878	1065
Mov Cap-2 Maneuver	-	-	-	-	-	-	990	875	-	970	878	-
Stage 1	-	-	-	-	-	-	1022	895	-	1005	883	-
Stage 2	-	-	-	-	-	-	994	880	-	991	895	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.2	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	875	1599	-	-	1622	-	-	878
HCM Lane V/C Ratio	0.02	-	-	-	-	-	-	0.007
HCM Control Delay (s)	9.2	0	-	-	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	20	0	1640	35	10	1020	5
Future Vol, veh/h	0	0	5	0	0	20	0	1640	35	10	1020	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	85	85	85	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	6	0	0	24	0	1929	41	11	1133	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	570	-	-	985	-	0	0	1970	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*691	0	0	*543	0	-	-	538	-	-
Stage 1	0	0	-	0	0	-	0	-	-	-	-	-
Stage 2	0	0	-	0	0	-	0	-	-	-	-	-
Platoon blocked, %			1			1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	*691	-	-	*543	-	-	-	538	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	11.9	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	691	543	538	-	-
HCM Lane V/C Ratio	-	-	0.009	0.044	0.021	-	-
HCM Control Delay (s)	-	-	10.3	11.9	11.8	-	-
HCM Lane LOS	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0	0.1	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	85	85	10	5	0
Future Vol, veh/h	5	85	85	10	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	101	101	12	6	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	113	0	-	0	220	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	113	-
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	1476	-	-	-	768	947
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1476	-	-	-	765	947
Mov Cap-2 Maneuver	-	-	-	-	765	-
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	912	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	9.7
HCM LOS			A

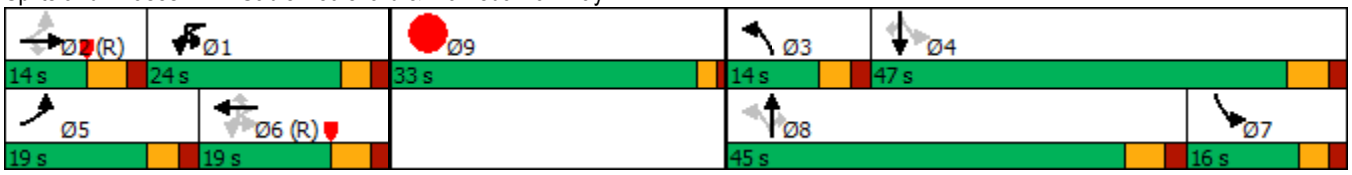
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1476	-	-	-	765
HCM Lane V/C Ratio	0.004	-	-	-	0.008
HCM Control Delay (s)	7.4	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	155	1435	220	5	70	1335	195	195	380	85	380	390
Future Volume (vph)	155	1435	220	5	70	1335	195	195	380	85	380	390
Satd. Flow (prot)	1787	5187	1568	0	3502	5136	1599	3303	3574	1615	3467	3539
Flt Permitted	0.126				0.124			0.426			0.510	
Satd. Flow (perm)	236	5187	1534	0	456	5136	1550	1465	3574	1569	1843	3539
Satd. Flow (RTOR)			190				190			149		
Lane Group Flow (vph)	163	1511	232	0	79	1405	205	212	413	92	404	415
Turn Type	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases	2		2	6	6		6	8		8	4	
Total Split (s)	19.0	14.0	14.0	24.0	24.0	19.0	19.0	14.0	45.0	45.0	16.0	47.0
Total Lost Time (s)	5.0	6.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Act Effct Green (s)	55.2	53.2	53.2		51.3	49.3	49.3	22.0	21.0	21.0	25.4	24.4
Actuated g/C Ratio	0.42	0.40	0.40		0.39	0.37	0.37	0.17	0.16	0.16	0.19	0.18
v/c Ratio	0.53	0.72	0.32		0.14	0.73	0.29	0.52	0.73	0.25	0.75	0.64
Control Delay	38.3	37.4	11.1		36.0	38.8	9.2	54.0	60.3	13.6	61.1	53.6
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	37.4	11.1		36.0	38.8	9.2	54.0	60.3	13.6	61.1	53.6
LOS	D	D	B		D	D	A	D	E	B	E	D
Approach Delay		34.2				35.1			52.5			50.4
Approach LOS		C				D			D			D
Queue Length 50th (ft)	88	388	22		20	351	8	62	125	5	166	176
Queue Length 95th (ft)	207	#880	124		55	#847	92	136	251	63	200	211
Internal Link Dist (ft)		573				350			1144			460
Turn Bay Length (ft)	250		175		175		100	275		275	150	
Base Capacity (vph)	313	2089	731		615	1918	697	406	1055	568	539	1099
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.72	0.32		0.13	0.73	0.29	0.52	0.39	0.16	0.75	0.38

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 2 (2%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 39.9 — Intersection LOS: D
Intersection Capacity Utilization 81.4% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	SBR	Ø9
Lane Configurations		
Traffic Volume (vph)	125	
Future Volume (vph)	125	
Satd. Flow (prot)	1583	
Flt Permitted		
Satd. Flow (perm)	1528	
Satd. Flow (RTOR)	140	
Lane Group Flow (vph)	133	
Turn Type	Perm	
Protected Phases		9
Permitted Phases	4	
Total Split (s)	47.0	33.0
Total Lost Time (s)	6.0	
Act Effct Green (s)	24.4	
Actuated g/C Ratio	0.18	
v/c Ratio	0.34	
Control Delay	8.0	
Queue Delay	0.0	
Total Delay	8.0	
LOS	A	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	47	
Internal Link Dist (ft)		
Turn Bay Length (ft)	150	
Base Capacity (vph)	571	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.23	

Intersection Summary

Intersection	
Int Delay, s/veh	1.4

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	5	25	1880	1455	10	10	95
Future Vol, veh/h	5	25	1880	1455	10	10	95
Conflicting Peds, #/hr	0	6	0	0	6	2	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	150	-	-	-	0	0
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	99	99	99	97	97	48	48
Heavy Vehicles, %	0	0	1	1	0	0	0
Mvmt Flow	5	25	1899	1500	10	21	198

Major/Minor	Major1			Major2		Minor2	
Conflicting Flow All	1103	1516	0	-	0	2333	761
Stage 1	-	-	-	-	-	1511	-
Stage 2	-	-	-	-	-	822	-
Critical Hdwy	5.6	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	-	6	-
Follow-up Hdwy	2.3	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	*1012	*751	-	-	-	*63	*597
Stage 1	-	-	-	-	-	*613	-
Stage 2	-	-	-	-	-	*496	-
Platoon blocked, %	1	1	-	-	-		1
Mov Cap-1 Maneuver	*763	*763	-	-	-	*60	*594
Mov Cap-2 Maneuver	-	-	-	-	-	*60	-
Stage 1	-	-	-	-	-	*585	-
Stage 2	-	-	-	-	-	*493	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	21.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	* 763	-	-	-	60	594
HCM Lane V/C Ratio	0.04	-	-	-	0.347	0.333
HCM Control Delay (s)	9.9	-	-	-	94	14.1
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.3	1.5

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1795	50	140	1310	65	100	10	135	30	10	55
Future Volume (veh/h)	45	1795	50	140	1310	65	100	10	135	30	10	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		0.99	0.98		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1767	1885	1900	1870	1900	1767	1900	1900	1900
Adj Flow Rate, veh/h	46	1851	52	146	1365	68	115	11	155	39	13	72
Peak Hour Factor	0.97	0.97	0.97	0.96	0.96	0.96	0.87	0.87	0.87	0.76	0.76	0.76
Percent Heavy Veh, %	0	1	0	9	1	0	2	0	9	0	0	0
Cap, veh/h	338	3887	109	218	3455	172	237	13	190	112	243	201
Arrive On Green	0.02	0.76	0.76	0.69	0.69	0.69	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1810	5145	144	224	5020	250	1289	106	1489	1226	1900	1576
Grp Volume(v), veh/h	46	1234	669	146	933	500	115	0	166	39	13	72
Grp Sat Flow(s),veh/h/ln	1810	1716	1858	224	1716	1839	1289	0	1594	1226	1900	1576
Q Serve(g_s), s	0.6	12.4	12.4	55.6	10.5	10.5	7.7	0.0	9.1	2.4	0.5	3.8
Cycle Q Clear(g_c), s	0.6	12.4	12.4	61.9	10.5	10.5	8.3	0.0	9.1	11.5	0.5	3.8
Prop In Lane	1.00		0.08	1.00		0.14	1.00		0.93	1.00		1.00
Lane Grp Cap(c), veh/h	338	2592	1404	218	2362	1266	237	0	204	112	243	201
V/C Ratio(X)	0.14	0.48	0.48	0.67	0.40	0.40	0.49	0.00	0.81	0.35	0.05	0.36
Avail Cap(c_a), veh/h	458	2592	1404	218	2362	1266	237	0	204	112	243	201
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.3	4.2	4.2	18.7	6.0	6.0	38.1	0.0	38.2	44.0	34.5	35.9
Incr Delay (d2), s/veh	0.1	0.6	1.2	15.2	0.5	0.9	0.6	0.0	20.6	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	0.2	2.9	3.4	3.5	3.0	3.4	2.4	0.0	4.7	0.9	0.2	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.3	4.8	5.4	33.8	6.5	6.9	38.7	0.0	58.8	44.7	34.5	36.3
LnGrp LOS	A	A	A	C	A	A	D	A	E	D	C	D
Approach Vol, veh/h		1949			1579			281			124	
Approach Delay, s/veh		5.0			9.2			50.6			38.7	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		73.0		17.0	6.1	66.9		17.0				
Change Period (Y+Rc), s		5.0		5.5	4.0	5.0		5.5				
Max Green Setting (Gmax), s		68.0		11.5	8.0	56.0		11.5				
Max Q Clear Time (g_c+I1), s		14.4		11.1	2.6	63.9		13.5				
Green Ext Time (p_c), s		21.6		0.0	0.0	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	11.0
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)	45	1795	50	140	1310	65	100	10	135	30	10	55
Future Volume (veh/h)	45	1795	50	140	1310	65	100	10	135	30	10	55
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	0.99		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1767	1885	1900	1870	1900	1767	1900	1900	1900
Adj Flow Rate, veh/h	46	1851	52	146	1365	68	115	11	155	39	13	72
Peak Hour Factor	0.97	0.97	0.97	0.96	0.96	0.96	0.87	0.87	0.87	0.76	0.76	0.76
Percent Heavy Veh, %	0	1	0	9	1	0	2	0	9	0	0	0
Cap, veh/h	346	3523	99	237	3554	177	261	18	248	139	315	263
Arrive On Green	0.02	0.68	0.68	0.08	1.00	1.00	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1810	5145	144	1682	5020	250	1294	106	1495	1228	1900	1584
Grp Volume(v), veh/h	46	1234	669	146	933	500	115	0	166	39	13	72
Grp Sat Flow(s),veh/h/ln	1810	1716	1858	1682	1716	1839	1294	0	1602	1228	1900	1584
Q Serve(g_s), s	1.0	23.9	23.9	3.6	0.0	0.0	11.1	0.0	13.0	4.1	0.8	5.4
Cycle Q Clear(g_c), s	1.0	23.9	23.9	3.6	0.0	0.0	11.8	0.0	13.0	17.1	0.8	5.4
Prop In Lane	1.00		0.08	1.00		0.14	1.00		0.93	1.00		1.00
Lane Grp Cap(c), veh/h	346	2350	1273	237	2429	1302	261	0	266	139	315	263
V/C Ratio(X)	0.13	0.53	0.53	0.62	0.38	0.38	0.44	0.00	0.62	0.28	0.04	0.27
Avail Cap(c_a), veh/h	393	2350	1273	266	2429	1302	338	0	362	212	429	358
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.1	10.5	10.5	10.9	0.0	0.0	52.2	0.0	52.4	60.4	47.3	49.2
Incr Delay (d2), s/veh	0.1	0.8	1.6	3.5	0.5	0.9	0.4	0.0	0.9	0.4	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	0.4	8.4	9.4	1.6	0.2	0.3	3.6	0.0	5.3	1.3	0.4	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.2	11.3	12.0	14.4	0.5	0.9	52.7	0.0	53.3	60.8	47.3	49.4
LnGrp LOS	A	B	B	B	A	A	D	A	D	E	D	D
Approach Vol, veh/h		1949			1579			281			124	
Approach Delay, s/veh		11.4			1.9			53.0			52.7	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.6	97.4		27.9	6.5	100.6		27.9
Change Period (Y+Rc), s	4.0	5.0		5.5	4.0	5.0		5.5
Max Green Setting (Gmax), s	8.0	82.0		30.5	6.0	84.0		30.5
Max Q Clear Time (g_c+I1), s	5.6	25.9		15.0	3.0	2.0		19.1
Green Ext Time (p_c), s	0.1	21.9		0.8	0.0	13.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	11.9
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)	250	1450	305	205	985	150	290	1030	230	445	1295	280
Future Volume (veh/h)	250	1450	305	205	985	150	290	1030	230	445	1295	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	1885	1885	1900	1870	1856	1885	1885	1900	1885	1900	1870
Adj Flow Rate, veh/h	269	1559	328	228	1094	167	312	1108	247	459	1335	289
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.93	0.93	0.93	0.97	0.97	0.97
Percent Heavy Veh, %	2	1	1	0	2	3	1	1	0	1	0	2
Cap, veh/h	322	1525	638	260	1270	194	372	1281	286	511	1828	701
Arrive On Green	0.09	0.30	0.30	0.07	0.28	0.28	0.07	0.20	0.20	0.15	0.35	0.35
Sat Flow, veh/h	3456	5147	1577	3510	4461	680	3483	4201	936	3483	5187	1572
Grp Volume(v), veh/h	269	1559	328	228	835	426	312	905	450	459	1335	289
Grp Sat Flow(s),veh/h/ln	1728	1716	1577	1755	1702	1737	1742	1716	1706	1742	1729	1572
Q Serve(g_s), s	10.3	40.0	14.1	8.7	31.4	31.4	11.9	34.4	34.4	17.5	30.3	16.9
Cycle Q Clear(g_c), s	10.3	40.0	14.1	8.7	31.4	31.4	11.9	34.4	34.4	17.5	30.3	16.9
Prop In Lane	1.00		1.00	1.00		0.39	1.00		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	322	1525	638	260	969	494	372	1047	520	511	1828	701
V/C Ratio(X)	0.84	1.02	0.51	0.88	0.86	0.86	0.84	0.86	0.87	0.90	0.73	0.41
Avail Cap(c_a), veh/h	384	1525	638	260	969	494	490	1118	556	511	1828	701
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	60.2	47.5	14.6	61.9	45.8	45.8	61.5	51.0	51.0	56.6	38.1	25.4
Incr Delay (d2), s/veh	12.9	28.9	0.7	26.8	8.0	14.5	9.5	9.5	17.3	18.5	2.6	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	20.7	4.9	4.8	14.1	15.3	5.9	16.6	17.6	8.9	13.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.1	76.4	15.3	88.7	53.8	60.3	71.0	60.5	68.3	75.1	40.7	27.2
LnGrp LOS	E	F	B	F	D	E	E	E	E	E	D	C
Approach Vol, veh/h		2156			1489			1667			2083	
Approach Delay, s/veh		66.7			61.0			64.6			46.4	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.4	53.6	17.6	44.4	25.8	47.2	16.0	46.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	6.0	* 6	6.0	* 6
Max Green Setting (Gmax), s	19.0	44.0	15.0	35.0	19.0	* 44	10.0	* 40
Max Q Clear Time (g_c+I1), s	13.9	32.3	12.3	33.4	19.5	36.4	10.7	42.0
Green Ext Time (p_c), s	0.5	7.3	0.2	1.1	0.0	4.7	0.0	0.0

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	1450	305	205	985	150	290	1030	230	445	1295	280
Future Volume (veh/h)	250	1450	305	205	985	150	290	1030	230	445	1295	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	1885	1885	1900	1870	1856	1885	1885	1900	1885	1900	1870
Adj Flow Rate, veh/h	269	1559	328	228	1094	167	312	1108	247	459	1335	289
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.93	0.93	0.93	0.97	0.97	0.97
Percent Heavy Veh, %	2	1	1	0	2	3	1	1	0	1	0	2
Cap, veh/h	326	1601	655	277	1547	700	358	1201	268	509	1747	679
Arrive On Green	0.09	0.31	0.31	0.08	0.30	0.30	0.21	0.57	0.57	0.15	0.34	0.34
Sat Flow, veh/h	3456	5147	1578	3510	5106	1552	3483	4200	936	3483	5187	1571
Grp Volume(v), veh/h	269	1559	328	228	1094	167	312	905	450	459	1335	289
Grp Sat Flow(s),veh/h/ln	1728	1716	1578	1755	1702	1552	1742	1716	1705	1742	1729	1571
Q Serve(g_s), s	10.3	40.4	13.5	8.6	25.7	2.1	11.7	32.3	32.3	17.5	31.0	17.3
Cycle Q Clear(g_c), s	10.3	40.4	13.5	8.6	25.7	2.1	11.7	32.3	32.3	17.5	31.0	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	326	1601	655	277	1547	700	358	981	488	509	1747	679
V/C Ratio(X)	0.82	0.97	0.50	0.82	0.71	0.24	0.87	0.92	0.92	0.90	0.76	0.43
Avail Cap(c_a), veh/h	461	1601	655	286	1547	700	387	1042	518	509	1747	679
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	60.0	46.0	13.7	61.2	41.7	9.6	52.8	27.5	27.5	56.7	40.0	26.7
Incr Delay (d2), s/veh	8.1	16.6	0.6	16.9	1.5	0.2	18.2	15.2	25.5	19.1	3.2	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	19.2	4.6	4.5	10.8	1.7	5.5	11.0	12.4	8.9	13.4	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.1	62.6	14.3	78.1	43.2	9.7	71.0	42.7	53.0	75.8	43.2	28.7
LnGrp LOS	E	E	B	E	D	A	E	D	D	E	D	C
Approach Vol, veh/h		2156			1489			1667			2083	
Approach Delay, s/veh		55.9			44.8			50.8			48.4	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.9	51.5	17.8	46.9	25.7	44.6	16.7	48.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	6.0	* 6	6.0	* 6
Max Green Setting (Gmax), s	15.0	45.0	18.0	35.0	19.0	* 41	11.0	* 42
Max Q Clear Time (g_c+I1), s	13.7	33.0	12.3	27.7	19.5	34.3	10.6	42.4
Green Ext Time (p_c), s	0.2	7.4	0.4	4.3	0.0	4.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	50.4
HCM 6th LOS	D

Notes

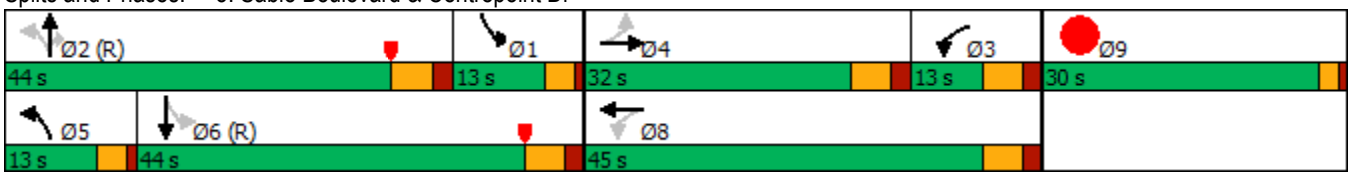
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	70	95	55	55	130	80	430	65	125	470	85
Future Volume (vph)	100	70	95	55	55	130	80	430	65	125	470	85
Satd. Flow (prot)	1805	1737	0	1543	2706	0	1805	3574	1324	1347	3514	0
Flt Permitted	0.594			0.444			0.355			0.489		
Satd. Flow (perm)	1113	1737	0	721	2706	0	674	3574	1291	689	3514	0
Satd. Flow (RTOR)		46			148				149		16	
Lane Group Flow (vph)	116	191	0	63	211	0	85	457	69	130	579	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Total Split (s)	32.0	32.0		13.0	45.0		13.0	44.0	44.0	13.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	18.6	18.6		28.9	27.8		72.9	70.9	70.9	75.4	73.4	
Actuated g/C Ratio	0.14	0.14		0.22	0.21		0.55	0.54	0.54	0.57	0.56	
v/c Ratio	0.74	0.67		0.33	0.31		0.19	0.24	0.09	0.29	0.30	
Control Delay	80.1	51.4		46.2	13.6		22.1	21.4	0.2	15.8	12.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	80.1	51.4		46.2	13.6		22.1	21.4	0.2	15.8	12.6	
LOS	F	D		D	B		C	C	A	B	B	
Approach Delay		62.3			21.1			19.1			13.2	
Approach LOS		E			C			B			B	
Queue Length 50th (ft)	97	120		44	22		30	96	0	24	60	
Queue Length 95th (ft)	148	177		75	50		102	234	0	82	147	
Internal Link Dist (ft)		258			445			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	221	382		209	903		457	1948	771	449	1984	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.52	0.50		0.30	0.23		0.19	0.23	0.09	0.29	0.29	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 113 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 24.1 — Intersection LOS: C
Intersection Capacity Utilization 63.7% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



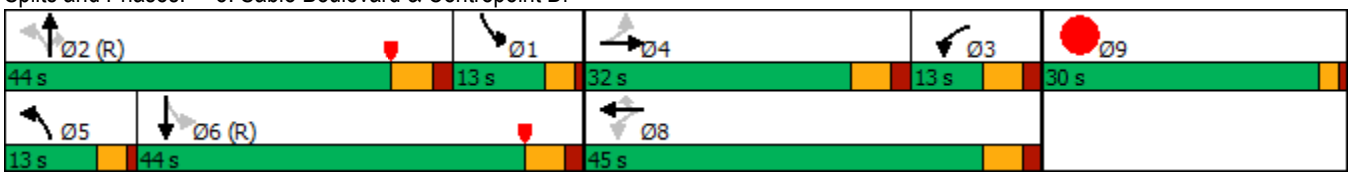
Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	70	95	55	55	130	80	430	65	125	470	85
Future Volume (vph)	100	70	95	55	55	130	80	430	65	125	470	85
Satd. Flow (prot)	1805	1737	0	1543	1900	1302	1805	3574	1324	1347	3508	0
Flt Permitted	0.716			0.424			0.360			0.489		
Satd. Flow (perm)	1337	1737	0	689	1900	1263	683	3574	1291	689	3508	0
Satd. Flow (RTOR)		46				148			149		16	
Lane Group Flow (vph)	116	191	0	63	63	148	85	457	69	130	579	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Total Split (s)	32.0	32.0		13.0	45.0	45.0	13.0	44.0	44.0	13.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	16.9	16.9		27.2	26.1	26.1	74.7	72.7	72.7	77.1	75.1	
Actuated g/C Ratio	0.13	0.13		0.21	0.20	0.20	0.57	0.55	0.55	0.58	0.57	
v/c Ratio	0.68	0.73		0.36	0.17	0.40	0.18	0.23	0.09	0.28	0.29	
Control Delay	73.7	57.3		49.3	41.5	9.2	20.7	20.1	0.2	15.0	12.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	73.7	57.3		49.3	41.5	9.2	20.7	20.1	0.2	15.0	12.2	
LOS	E	E		D	D	A	C	C	A	B	B	
Approach Delay		63.5			25.8			17.9			12.7	
Approach LOS		E			C			B			B	
Queue Length 50th (ft)	96	122		45	44	0	29	93	0	23	59	
Queue Length 95th (ft)	147	182		78	76	50	99	227	0	82	149	
Internal Link Dist (ft)		258			445			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	263	379		195	561	477	471	1981	782	458	2012	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.44	0.50		0.32	0.11	0.31	0.18	0.23	0.09	0.28	0.29	

Intersection Summary	
Cycle Length: 132	
Actuated Cycle Length: 132	
Offset: 113 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 24.5	Intersection LOS: C
Intersection Capacity Utilization 62.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

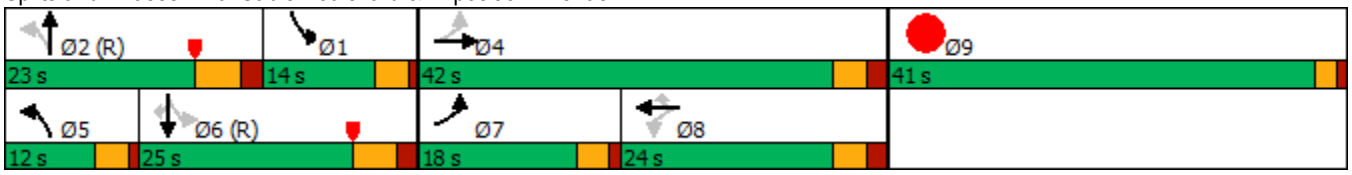
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	260	85	130	210	75	60	400	175	105	435	75
Future Volume (vph)	100	260	85	130	210	75	60	400	175	105	435	75
Satd. Flow (prot)	1656	1823	0	1805	1900	1568	1770	3300	0	1805	3574	1482
Flt Permitted	0.285			0.445			0.385			0.418		
Satd. Flow (perm)	495	1823	0	844	1900	1540	716	3300	0	791	3574	1449
Satd. Flow (RTOR)		14				182		48				118
Lane Group Flow (vph)	116	401	0	141	228	82	65	618	0	113	468	81
Turn Type	pm+pt	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	18.0	42.0		24.0	24.0	24.0	12.0	23.0		14.0	25.0	25.0
Total Lost Time (s)	4.0	5.0		5.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	37.6	36.6		20.9	20.9	20.9	54.7	52.7		56.7	54.7	54.7
Actuated g/C Ratio	0.31	0.30		0.17	0.17	0.17	0.46	0.44		0.47	0.46	0.46
v/c Ratio	0.43	0.71		0.96	0.69	0.20	0.17	0.42		0.26	0.29	0.11
Control Delay	35.2	43.2		114.8	58.5	1.1	27.5	26.1		29.0	26.0	3.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	35.2	43.2		114.8	58.5	1.1	27.5	26.1		29.0	26.0	3.1
LOS	D	D		F	E	A	C	C		C	C	A
Approach Delay		41.4			65.6			26.2			23.7	
Approach LOS		D			E			C			C	
Queue Length 50th (ft)	64	256		107	163	0	25	142		46	110	0
Queue Length 95th (ft)	109	357		#252	#286	0	88	#412		136	#266	19
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	290	587		148	334	421	397	1475		475	1630	724
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.40	0.68		0.95	0.68	0.19	0.16	0.42		0.24	0.29	0.11

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 36.6 Intersection LOS: D
Intersection Capacity Utilization 72.1% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

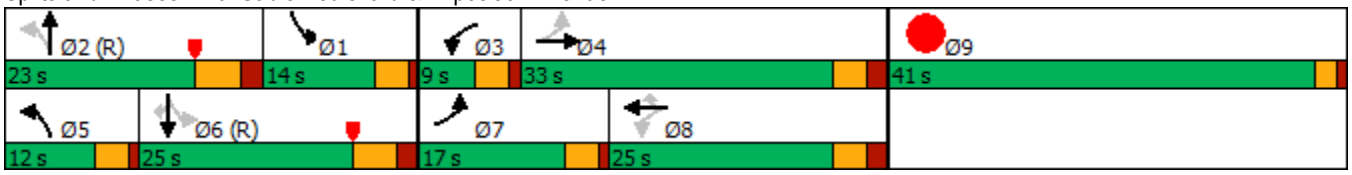
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	260	85	130	210	75	60	400	175	105	435	75
Future Volume (vph)	100	260	85	130	210	75	60	400	175	105	435	75
Satd. Flow (prot)	1656	1823	0	1805	1900	1568	1770	3300	0	1805	3574	1482
Flt Permitted	0.337			0.167			0.375			0.418		
Satd. Flow (perm)	586	1823	0	317	1900	1540	698	3300	0	791	3574	1449
Satd. Flow (RTOR)		13				218		48				155
Lane Group Flow (vph)	116	401	0	141	228	82	65	618	0	113	468	81
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	17.0	33.0		9.0	25.0	25.0	12.0	23.0		14.0	25.0	25.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	37.8	27.3		32.4	23.9	23.9	52.5	50.5		54.5	52.5	52.5
Actuated g/C Ratio	0.32	0.23		0.27	0.20	0.20	0.44	0.42		0.45	0.44	0.44
v/c Ratio	0.41	0.94		0.79	0.60	0.17	0.18	0.44		0.27	0.30	0.11
Control Delay	33.9	76.0		65.1	52.3	0.8	27.9	27.0		29.6	26.8	0.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	33.9	76.0		65.1	52.3	0.8	27.9	27.0		29.6	26.8	0.3
LOS	C	E		E	D	A	C	C		C	C	A
Approach Delay		66.6			47.0			27.1			24.0	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)	64	297		78	162	0	25	142		46	110	0
Queue Length 95th (ft)	109	#449		#207	#273	0	88	#412		136	#266	0
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	310	435		178	378	481	377	1415		460	1563	721
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.37	0.92		0.79	0.60	0.17	0.17	0.44		0.25	0.30	0.11

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 38.9 — Intersection LOS: D
Intersection Capacity Utilization 71.2% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

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	45	470	40	15	300	30	15	10	10	55	15	45
Future Vol, veh/h	45	470	40	15	300	30	15	10	10	55	15	45
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	300	-	100	-	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	96	96	96	83	83	83	86	86	86
Heavy Vehicles, %	0	0	0	0	0	17	0	0	0	4	0	6
Mvmt Flow	53	553	47	16	313	31	18	12	12	64	17	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	344	0	0	603	0	0	1081	1062	580	1040	1054	313
Stage 1	-	-	-	-	-	-	686	686	-	345	345	-
Stage 2	-	-	-	-	-	-	395	376	-	695	709	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.14	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.536	4	3.354
Pot Cap-1 Maneuver	1257	-	-	967	-	-	197	225	652	207	228	*836
Stage 1	-	-	-	-	-	-	502	462	-	776	689	-
Stage 2	-	-	-	-	-	-	725	663	-	487	445	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	1257	-	-	964	-	-	165	211	650	186	214	*836
Mov Cap-2 Maneuver	-	-	-	-	-	-	165	211	-	186	214	-
Stage 1	-	-	-	-	-	-	479	441	-	744	677	-
Stage 2	-	-	-	-	-	-	651	652	-	446	425	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	24.3	23.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	228	1257	-	-	964	-	-	186	214	836
HCM Lane V/C Ratio	0.185	0.042	-	-	0.016	-	-	0.344	0.082	0.063
HCM Control Delay (s)	24.3	8	-	-	8.8	-	-	34.2	23.3	9.6
HCM Lane LOS	C	A	-	-	A	-	-	D	C	A
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0	-	-	1.4	0.3	0.2

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	235	20	320	45	10	35	5	155	1310	20	70	1555
Future Volume (veh/h)	235	20	320	45	10	35	5	155	1310	20	70	1555
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99		1.00		0.99	1.00	
Parking Bus, Adj	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	1900	1900	1885	1900	1900	1900		1870	1885	1900	1900	1885
Adj Flow Rate, veh/h	273	23	372	51	11	40		172	1456	22	71	1587
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88		0.90	0.90	0.90	0.98	0.98
Percent Heavy Veh, %	0	0	1	0	0	0		2	1	0	0	1
Cap, veh/h	301	21	435	40	16	10		307	3327	50	234	2605
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27		0.06	0.64	0.64	1.00	1.00
Sat Flow, veh/h	912	77	1589	0	58	38		1781	5222	79	363	4736
Grp Volume(v), veh/h	296	0	372	102	0	0		172	957	521	71	1149
Grp Sat Flow(s),veh/h/ln	989	0	1589	96	0	0		1781	1716	1870	363	1716
Q Serve(g_s), s	0.0	0.0	30.0	0.0	0.0	0.0		5.5	18.9	18.9	4.0	0.0
Cycle Q Clear(g_c), s	37.0	0.0	30.0	37.0	0.0	0.0		5.5	18.9	18.9	11.2	0.0
Prop In Lane	0.92		1.00	0.50		0.39		1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	322	0	435	66	0	0		307	2186	1191	234	1887
V/C Ratio(X)	0.92	0.00	0.85	1.54	0.00	0.00		0.56	0.44	0.44	0.30	0.61
Avail Cap(c_a), veh/h	322	0	435	66	0	0		442	2186	1191	234	1887
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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.6	0.0	46.4	53.2	0.0	0.0		10.7	12.3	12.3	0.5	0.0
Incr Delay (d2), s/veh	30.1	0.0	15.2	304.8	0.0	0.0		1.6	0.6	1.2	3.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	0.0	13.8	7.9	0.0	0.0		2.2	7.0	7.8	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.6	0.0	61.6	358.1	0.0	0.0		12.3	13.0	13.5	3.9	1.5
LnGrp LOS	F	A	E	F	A	A		B	B	B	A	A
Approach Vol, veh/h		668			102				1650			1821
Approach Delay, s/veh		70.0			358.1				13.1			2.0
Approach LOS		E			F				B			A

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	92.0	43.0	11.7	80.3	43.0
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	6.0
Max Green Setting (Gmax), s	86.0	37.0	18.0	64.0	37.0
Max Q Clear Time (g_c+I1), s	20.9	39.0	7.5	13.2	39.0
Green Ext Time (p_c), s	14.1	0.0	0.3	21.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	160
Future Volume (veh/h)	160
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	163
Peak Hour Factor	0.98
Percent Heavy Veh, %	0
Cap, veh/h	267
Arrive On Green	1.00
Sat Flow, veh/h	486
Grp Volume(v), veh/h	601
Grp Sat Flow(s),veh/h/ln	1791
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.27
Lane Grp Cap(c), veh/h	985
V/C Ratio(X)	0.61
Avail Cap(c_a), veh/h	985
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	2.8
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	2.8
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	20	320	45	10	35	155	1315	20	70	1560	160
Future Volume (veh/h)	235	20	320	45	10	35	155	1315	20	70	1560	160
Initial Q (Qb), veh	0	0	0	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	1900	1900	1885	1900	1900	1900	1870	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	273	23	372	51	11	40	172	1461	22	71	1592	163
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.90	0.90	0.90	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	1	0	0	0	2	1	0	0	1	0
Cap, veh/h	342	24	605	57	20	24	231	3095	47	210	2374	243
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.06	0.59	0.59	0.50	0.50	0.50
Sat Flow, veh/h	912	77	1590	54	62	74	1781	5222	79	361	4737	484
Grp Volume(v), veh/h	296	0	372	102	0	0	172	960	523	71	1152	603
Grp Sat Flow(s),veh/h/ln	989	0	1590	190	0	0	1781	1716	1870	361	1716	1790
Q Serve(g_s), s	0.0	0.0	25.5	3.7	0.0	0.0	6.1	21.4	21.4	18.7	34.1	34.2
Cycle Q Clear(g_c), s	39.3	0.0	25.5	43.0	0.0	0.0	6.1	21.4	21.4	27.7	34.1	34.2
Prop In Lane	0.92		1.00	0.50		0.39	1.00		0.04	1.00		0.27
Lane Grp Cap(c), veh/h	366	0	605	100	0	0	231	2033	1108	210	1719	897
V/C Ratio(X)	0.81	0.00	0.61	1.02	0.00	0.00	0.74	0.47	0.47	0.34	0.67	0.67
Avail Cap(c_a), veh/h	366	0	605	100	0	0	345	2033	1108	210	1719	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	44.7	0.0	33.8	55.9	0.0	0.0	24.7	15.6	15.6	26.9	25.3	25.3
Incr Delay (d2), s/veh	12.7	0.0	1.9	94.2	0.0	0.0	4.7	0.8	1.4	3.8	1.9	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	10.3	6.1	0.0	0.0	3.1	8.2	9.1	1.8	13.8	14.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	0.0	35.7	150.1	0.0	0.0	29.4	16.3	17.0	30.7	27.2	28.9
LnGrp LOS	E	A	D	F	A	A	C	B	B	C	C	C
Approach Vol, veh/h		668			102			1655			1826	
Approach Delay, s/veh		45.3			150.1			17.9			27.9	
Approach LOS		D			F			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		86.0		49.0	12.4	73.6		49.0				
Change Period (Y+Rc), s		6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s		80.0		43.0	17.0	59.0		43.0				
Max Q Clear Time (g_c+I1), s		23.4		41.3	8.1	36.2		45.0				
Green Ext Time (p_c), s		14.0		0.6	0.3	14.2		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

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	30	0	45	65	0	45	70	1455	55	25	1675	45
Future Vol, veh/h	30	0	45	65	0	45	70	1455	55	25	1675	45
Conflicting Peds, #/hr	1	0	0	0	0	1	3	0	11	11	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	76	76	76	98	98	98	95	95	95
Heavy Vehicles, %	0	0	0	0	0	2	0	1	0	0	0	0
Mvmt Flow	40	0	60	86	0	59	71	1485	56	26	1763	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2579	3536	908	2423	3531	783	1813	0	0	1552	0	0
Stage 1	1842	1842	-	1666	1666	-	-	-	-	-	-	-
Stage 2	737	1694	-	757	1865	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.4	6.5	7.14	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.3	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.7	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.8	4	3.92	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*198	*13	*532	*296	*13	*587	*669	-	-	*742	-	-
Stage 1	*546	*519	-	*546	*538	-	-	-	-	-	-	-
Stage 2	*605	*516	-	*546	*519	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*158	*11	*530	*232	*11	*580	*667	-	-	*734	-	-
Mov Cap-2 Maneuver	*158	*11	-	*232	*11	-	-	-	-	-	-	-
Stage 1	*486	*499	-	*483	*476	-	-	-	-	-	-	-
Stage 2	*485	*456	-	*467	*499	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.6	26.8	0.5	0.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 667	-	-	273	307	* 734	-	-
HCM Lane V/C Ratio	0.107	-	-	0.366	0.471	0.036	-	-
HCM Control Delay (s)	11	-	-	25.6	26.8	10.1	-	-
HCM Lane LOS	B	-	-	D	D	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	1.6	2.4	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	30	0	45	65	0	45	5	70	1455	55	25	1675	45
Future Vol, veh/h	30	0	45	65	0	45	5	70	1455	55	25	1675	45
Conflicting Peds, #/hr	1	0	0	0	0	1	0	3	0	11	11	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	76	76	76	98	98	98	98	95	95	95
Heavy Vehicles, %	0	0	0	0	0	2	2	0	1	0	0	0	0
Mvmt Flow	40	0	60	86	0	59	5	71	1485	56	26	1763	47

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	2589	3546	908	2433	3541	783	1322	1813	0	0	1552	0	0
Stage 1	1842	1842	-	1676	1676	-	-	-	-	-	-	-	-
Stage 2	747	1704	-	757	1865	-	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.4	6.5	7.14	5.64	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.3	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.7	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.8	4	3.92	2.32	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*154	*11	*532	*227	*12	*587	*894	*669	-	-	*742	-	-
Stage 1	*546	*519	-	*533	*530	-	-	-	-	-	-	-	-
Stage 2	*605	*507	-	*546	*519	-	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*123	*9	*530	*177	*10	*580	*675	*675	-	-	*734	-	-
Mov Cap-2 Maneuver	*123	*9	-	*177	*10	-	-	-	-	-	-	-	-
Stage 1	*482	*499	-	*468	*464	-	-	-	-	-	-	-	-
Stage 2	*481	*445	-	*467	*499	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.6	38.3	0.5	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 675	-	-	228	247	* 734	-	-
HCM Lane V/C Ratio	0.113	-	-	0.439	0.586	0.036	-	-
HCM Control Delay (s)	11	-	-	32.6	38.3	10.1	-	-
HCM Lane LOS	B	-	-	D	E	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	2.1	3.4	0.1	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	30	0	45	65	0	45	5	70	1455	55	25	1675
Future Volume (veh/h)	30	0	45	65	0	45	5	70	1455	55	25	1675
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		0.99	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No				No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1870		1900	1885	1900	1900	1900
Adj Flow Rate, veh/h	40	0	60	86	0	59		71	1485	56	26	1763
Peak Hour Factor	0.75	0.75	0.75	0.76	0.76	0.76		0.98	0.98	0.98	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	2		0	1	0	0	0
Cap, veh/h	97	15	112	139	5	70		305	3724	140	341	3742
Arrive On Green	0.12	0.00	0.12	0.12	0.00	0.12		0.07	1.00	1.00	0.05	1.00
Sat Flow, veh/h	503	126	943	811	44	587		1810	5088	192	1810	5193
Grp Volume(v), veh/h	100	0	0	145	0	0		71	1001	540	26	1174
Grp Sat Flow(s),veh/h/ln	1572	0	0	1441	0	0		1810	1716	1849	1810	1729
Q Serve(g_s), s	0.0	0.0	0.0	5.5	0.0	0.0		1.4	0.0	0.0	0.5	0.0
Cycle Q Clear(g_c), s	7.9	0.0	0.0	13.3	0.0	0.0		1.4	0.0	0.0	0.5	0.0
Prop In Lane	0.40		0.60	0.59		0.41		1.00		0.10	1.00	
Lane Grp Cap(c), veh/h	225	0	0	214	0	0		305	2511	1353	341	2492
V/C Ratio(X)	0.45	0.00	0.00	0.68	0.00	0.00		0.23	0.40	0.40	0.08	0.47
Avail Cap(c_a), veh/h	313	0	0	299	0	0		390	2511	1353	366	2492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.90	0.90	0.90	1.00	1.00
Uniform Delay (d), s/veh	55.8	0.0	0.0	58.2	0.0	0.0		4.1	0.0	0.0	4.4	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	3.7	0.0	0.0		0.3	0.4	0.8	0.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0	5.1	0.0	0.0		0.4	0.1	0.3	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	0.0	0.0	61.9	0.0	0.0		4.4	0.4	0.8	4.5	0.6
LnGrp LOS	E	A	A	E	A	A		A	A	A	A	A
Approach Vol, veh/h		100			145				1612			1836
Approach Delay, s/veh		57.1			61.9				0.7			0.9
Approach LOS		E			E				A			A

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	104.8		22.1	9.7	103.3		22.1
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	89.0		24.0	11.0	83.0		24.0
Max Q Clear Time (g_c+I1), s	2.5	2.0		9.9	3.4	2.0		15.3
Green Ext Time (p_c), s	0.0	15.7		0.4	0.1	21.5		0.4

Intersection Summary	
HCM 6th Ctrl Delay	4.7
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	45
Future Volume (veh/h)	45
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	47
Peak Hour Factor	0.95
Percent Heavy Veh, %	0
Cap, veh/h	100
Arrive On Green	1.00
Sat Flow, veh/h	138
Grp Volume(v), veh/h	636
Grp Sat Flow(s),veh/h/ln	1874
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.07
Lane Grp Cap(c), veh/h	1350
V/C Ratio(X)	0.47
Avail Cap(c_a), veh/h	1350
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	1.2
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.4
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	1.2
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	15	5	80	100	15
Future Vol, veh/h	25	15	5	80	100	15
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	68	68	79	79	81	81
Heavy Vehicles, %	0	14	0	9	3	0
Mvmt Flow	37	22	6	101	123	19

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	249	71	142	0	-	0
Stage 1	133	-	-	-	-	-
Stage 2	116	-	-	-	-	-
Critical Hdwy	6.6	7.11	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.433	2.2	-	-	-
Pot Cap-1 Maneuver	795	*1017	1514	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	792	*1017	1514	-	-	-
Mov Cap-2 Maneuver	784	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	914	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1514	-	858	-	-
HCM Lane V/C Ratio	0.004	-	0.069	-	-
HCM Control Delay (s)	7.4	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Notes

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

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	70	80	25	55	105
Future Vol, veh/h	10	70	80	25	55	105
Conflicting Peds, #/hr	3	0	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	90	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	63	63	76	76	80	80
Heavy Vehicles, %	0	0	6	0	0	2
Mvmt Flow	16	111	105	33	69	131

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	399	127	0	0	143	0
Stage 1	127	-	-	-	-	-
Stage 2	272	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	634	929	-	-	1452	-
Stage 1	904	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	598	925	-	-	1445	-
Mov Cap-2 Maneuver	641	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	757	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	2.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	876	1445	-
HCM Lane V/C Ratio	-	-	0.145	0.048	-
HCM Control Delay (s)	-	-	9.8	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	100	85	70	75	55	120
Future Vol, veh/h	100	85	70	75	55	120
Conflicting Peds, #/hr	10	0	0	10	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	92	92	87	87
Heavy Vehicles, %	20	10	3	2	0	25
Mvmt Flow	120	102	76	82	63	138

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	168	0	-	0	469	127
Stage 1	-	-	-	-	127	-
Stage 2	-	-	-	-	342	-
Critical Hdwy	4.3	-	-	-	6.4	6.45
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.38	-	-	-	3.5	3.525
Pot Cap-1 Maneuver	1308	-	-	-	568	865
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	732	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1296	-	-	-	502	857
Mov Cap-2 Maneuver	-	-	-	-	502	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	725	-

Approach	EB	WB	SB
HCM Control Delay, s	4.4	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1296	-	-	-	701
HCM Lane V/C Ratio	0.093	-	-	-	0.287
HCM Control Delay (s)	8.1	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.2

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱		↑↑↑		↱
Traffic Vol, veh/h	1870	35	0	1555	0	25
Future Vol, veh/h	1870	35	0	1555	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	96	96	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1928	36	0	1620	0	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	964
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*481
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*481
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	481	-	-	-
HCM Lane V/C Ratio	0.062	-	-	-
HCM Control Delay (s)	13	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1935	25	40	1515	0	55
Future Vol, veh/h	1935	25	40	1515	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2037	26	43	1629	0	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2063	0	-	1032
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	-	3.92
Pot Cap-1 Maneuver	-	-	*602	-	0	*479
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	*602	-	-	*479
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	479	-	-	* 602	-
HCM Lane V/C Ratio	0.137	-	-	0.071	-
HCM Control Delay (s)	13.7	-	-	11.4	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

Notes

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

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1950	40	0	1555	0	55
Future Vol, veh/h	1950	40	0	1555	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2053	42	0	1672	0	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1048
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*479
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*479
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	479	-	-	-
HCM Lane V/C Ratio	0.137	-	-	-
HCM Control Delay (s)	13.7	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.5	-	-	-

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

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	55	0	50	15	0	65	65	125	15	20	90	90
Future Vol, veh/h	55	0	50	15	0	65	65	125	15	20	90	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	0	60	18	0	77	77	149	18	24	107	107

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	560	530	161	551	574	158	214	0	0	167	0	0
Stage 1	209	209	-	312	312	-	-	-	-	-	-	-
Stage 2	351	321	-	239	262	-	-	-	-	-	-	-
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	439	455	884	445	429	887	1356	-	-	1411	-	-
Stage 1	793	729	-	699	658	-	-	-	-	-	-	-
Stage 2	666	652	-	764	691	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	376	418	884	389	394	887	1356	-	-	1411	-	-
Mov Cap-2 Maneuver	376	418	-	389	394	-	-	-	-	-	-	-
Stage 1	743	714	-	655	617	-	-	-	-	-	-	-
Stage 2	570	611	-	698	677	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	10.8	2.5	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1356	-	-	518	715	1411	-	-
HCM Lane V/C Ratio	0.057	-	-	0.241	0.133	0.017	-	-
HCM Control Delay (s)	7.8	0	-	14.1	10.8	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	0	65	0	20	0	10	30	35	25	5
Future Vol, veh/h	25	0	0	65	0	20	0	10	30	35	25	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	0	0	77	0	24	0	12	36	42	30	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	159	165	33	147	150	30	36	0	0	48	0	0
Stage 1	117	117	-	30	30	-	-	-	-	-	-	-
Stage 2	42	48	-	117	120	-	-	-	-	-	-	-
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	807	728	1041	821	742	1044	1575	-	-	1559	-	-
Stage 1	888	799	-	987	870	-	-	-	-	-	-	-
Stage 2	972	855	-	888	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	771	708	1041	804	721	1044	1575	-	-	1559	-	-
Mov Cap-2 Maneuver	771	708	-	804	721	-	-	-	-	-	-	-
Stage 1	888	777	-	987	870	-	-	-	-	-	-	-
Stage 2	950	855	-	863	774	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	9.8	0	4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1575	-	-	771	850	1559	-	-
HCM Lane V/C Ratio	-	-	-	0.039	0.119	0.027	-	-
HCM Control Delay (s)	0	-	-	9.9	9.8	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	20	10	0	60	30	10	5	25	35	0	5
Future Vol, veh/h	20	20	10	0	60	30	10	5	25	35	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	24	12	0	71	36	12	6	30	42	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	107	0	0	36	0	0	170	185	30	185	173	89
Stage 1	-	-	-	-	-	-	78	78	-	89	89	-
Stage 2	-	-	-	-	-	-	92	107	-	96	84	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1484	-	-	1575	-	-	794	709	1044	776	720	969
Stage 1	-	-	-	-	-	-	931	830	-	918	821	-
Stage 2	-	-	-	-	-	-	915	807	-	911	825	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1484	-	-	1575	-	-	779	697	1044	740	708	969
Mov Cap-2 Maneuver	-	-	-	-	-	-	779	697	-	740	708	-
Stage 1	-	-	-	-	-	-	915	816	-	902	821	-
Stage 2	-	-	-	-	-	-	909	807	-	864	811	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	0	9.2	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	910	1484	-	-	1575	-	-	763
HCM Lane V/C Ratio	0.052	0.016	-	-	-	-	-	0.062
HCM Control Delay (s)	9.2	7.5	0	-	0	-	-	10
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	35	0	0	40	0	1510	40	0	1730	75
Future Vol, veh/h	0	0	35	0	0	40	0	1510	40	0	1730	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	95	95	95	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	42	0	0	48	0	1589	42	0	1802	78

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	940	-	-	816	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	*529	0	0	*567	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %			1			1		-	-		-	-
Mov Cap-1 Maneuver	-	-	*529	-	-	*567	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	11.9	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	529	567	-	-
HCM Lane V/C Ratio	-	-	0.079	0.084	-	-
HCM Control Delay (s)	-	-	12.4	11.9	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	-	-

Notes

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

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	175	60	10	180	35	10
Future Vol, veh/h	175	60	10	180	35	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	208	71	12	214	42	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	279	0	446	208
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	238	-
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	-	-	1299	-	605	914
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1299	-	599	914
Mov Cap-2 Maneuver	-	-	-	-	599	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	795	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	649	-	-	1299	-
HCM Lane V/C Ratio	0.083	-	-	0.009	-
HCM Control Delay (s)	11	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

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	10	10	35	15	30	50	50	85	15	20	110	10
Future Vol, veh/h	10	10	35	15	30	50	50	85	15	20	110	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	12	42	18	36	60	60	101	18	24	131	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	463	424	137	442	421	110	143	0	0	119	0	0
Stage 1	185	185	-	230	230	-	-	-	-	-	-	-
Stage 2	278	239	-	212	191	-	-	-	-	-	-	-
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	509	522	911	526	524	943	1440	-	-	1469	-	-
Stage 1	817	747	-	773	714	-	-	-	-	-	-	-
Stage 2	728	708	-	790	742	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	429	490	911	469	492	943	1440	-	-	1469	-	-
Mov Cap-2 Maneuver	429	490	-	469	492	-	-	-	-	-	-	-
Stage 1	780	734	-	738	682	-	-	-	-	-	-	-
Stage 2	617	676	-	728	729	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	11.7	2.5	1.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1440	-	-	670	651	1469	-	-
HCM Lane V/C Ratio	0.041	-	-	0.098	0.174	0.016	-	-
HCM Control Delay (s)	7.6	0	-	11	11.7	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.6	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	40	5	0	90
Future Vol, veh/h	5	0	40	5	0	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	0	48	6	0	107

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	158	51	0	0	54	0
Stage 1	51	-	-	-	-	-
Stage 2	107	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	833	1017	-	-	1551	-
Stage 1	971	-	-	-	-	-
Stage 2	917	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	833	1017	-	-	1551	-
Mov Cap-2 Maneuver	833	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	833	1551	-
HCM Lane V/C Ratio	-	-	0.007	-	-
HCM Control Delay (s)	-	-	9.4	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	0	5	5	0	35	0	0	10	0
Future Vol, veh/h	0	5	0	0	5	5	0	35	0	0	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	0	0	6	6	0	42	0	0	12	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	6	0	0	21	18	6	36	15	9
Stage 1	-	-	-	-	-	-	6	6	-	9	9	-
Stage 2	-	-	-	-	-	-	15	12	-	27	6	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1607	-	-	1615	-	-	992	876	1077	970	879	1073
Stage 1	-	-	-	-	-	-	1016	891	-	1012	888	-
Stage 2	-	-	-	-	-	-	1005	886	-	990	891	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1607	-	-	1615	-	-	982	876	1077	935	879	1073
Mov Cap-2 Maneuver	-	-	-	-	-	-	982	876	-	935	879	-
Stage 1	-	-	-	-	-	-	1016	891	-	1012	888	-
Stage 2	-	-	-	-	-	-	992	886	-	944	891	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.3	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	876	1607	-	-	1615	-	-	879
HCM Lane V/C Ratio	0.048	-	-	-	-	-	-	0.014
HCM Control Delay (s)	9.3	0	-	-	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	60	0	1490	40	10	1745	10
Future Vol, veh/h	0	0	0	0	0	60	0	1490	40	10	1745	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	95	95	95	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	71	0	1568	42	10	1818	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	914	-	-	805	-	0	0	1610	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*510	0	0	*587	0	-	-	*737	-	-
Stage 1	0	0	-	0	0	-	0	-	-	-	-	-
Stage 2	0	0	-	0	0	-	0	-	-	-	-	-
Platoon blocked, %			1			1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	*510	-	-	*587	-	-	-	*737	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	12	0	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	587	* 737	-	-
HCM Lane V/C Ratio	-	-	-	0.122	0.014	-	-
HCM Control Delay (s)	-	-	0	12	10	-	-
HCM Lane LOS	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.4	0	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	65	80	25	5	5
Future Vol, veh/h	10	65	80	25	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	77	95	30	6	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	125	0	-	0	211	110
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	101	-
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	1462	-	-	-	777	943
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1462	-	-	-	770	943
Mov Cap-2 Maneuver	-	-	-	-	770	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.3
HCM LOS			A

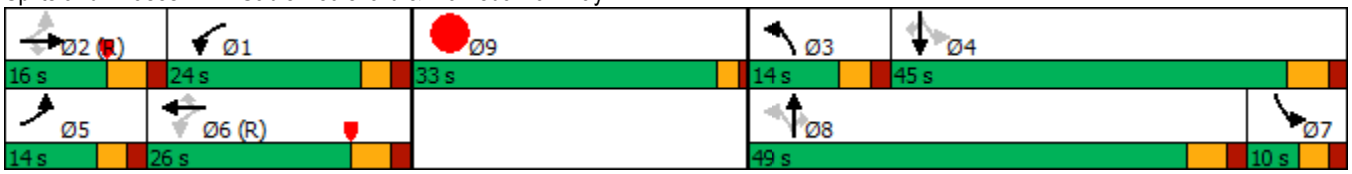
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1462	-	-	-	848
HCM Lane V/C Ratio	0.008	-	-	-	0.014
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	1270	150	35	2205	155	195	335	55	140	230	150
Future Volume (vph)	115	1270	150	35	2205	155	195	335	55	140	230	150
Satd. Flow (prot)	1787	5085	1524	3502	5085	1583	3400	3539	1615	3400	3471	1599
Flt Permitted	0.089			0.142			0.471			0.519		
Satd. Flow (perm)	167	5085	1499	523	5085	1535	1676	3539	1578	1845	3471	1565
Satd. Flow (RTOR)			190			182			140			172
Lane Group Flow (vph)	132	1460	172	38	2371	167	229	394	65	161	264	172
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Total Split (s)	14.0	16.0	16.0	24.0	26.0	26.0	14.0	49.0	49.0	10.0	45.0	45.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Act Effct Green (s)	62.4	61.4	61.4	63.6	62.6	62.6	21.5	20.5	20.5	16.8	15.8	15.8
Actuated g/C Ratio	0.47	0.47	0.47	0.48	0.47	0.47	0.16	0.16	0.16	0.13	0.12	0.12
v/c Ratio	0.56	0.62	0.22	0.06	0.98	0.20	0.53	0.72	0.18	0.50	0.64	0.51
Control Delay	36.7	31.2	4.7	29.3	48.0	4.8	44.6	51.5	6.3	59.8	61.9	12.5
Queue Delay	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 Delay	36.7	31.2	4.7	29.3	48.0	4.8	44.6	51.5	6.3	59.8	61.9	12.5
LOS	D	C	A	C	D	A	D	D	A	E	E	B
Approach Delay		29.0			44.9			45.0			47.1	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	62	332	0	7	649	0	93	172	4	66	115	0
Queue Length 95th (ft)	157	#681	42	29	#1306	49	120	205	40	92	147	57
Internal Link Dist (ft)		573			350			1144			460	
Turn Bay Length (ft)	250		175	175		100	275		275	150		150
Base Capacity (vph)	239	2363	798	680	2412	824	430	1152	608	321	1025	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.62	0.22	0.06	0.98	0.20	0.53	0.34	0.11	0.50	0.26	0.30

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 104 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 40.2 — Intersection LOS: D
Intersection Capacity Utilization 86.4% — ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	33.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

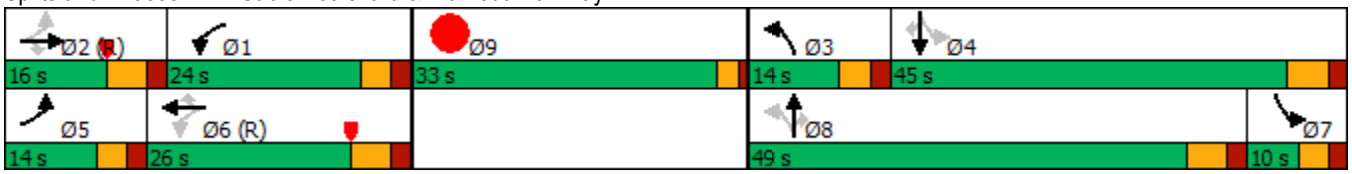
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	1270	150	35	2205	155	195	335	55	140	230	150
Future Volume (vph)	115	1270	150	35	2205	155	195	335	55	140	230	150
Satd. Flow (prot)	1787	5085	1524	3502	5085	1583	3400	3539	1615	3400	3471	1599
Flt Permitted	0.089			0.142			0.471			0.519		
Satd. Flow (perm)	167	5085	1499	523	5085	1535	1676	3539	1578	1845	3471	1565
Satd. Flow (RTOR)			190			182			140			172
Lane Group Flow (vph)	132	1460	172	38	2371	167	229	394	65	161	264	172
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Total Split (s)	14.0	16.0	16.0	24.0	26.0	26.0	14.0	49.0	49.0	10.0	45.0	45.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Act Effct Green (s)	62.4	61.4	61.4	63.6	62.6	62.6	21.5	20.5	20.5	16.8	15.8	15.8
Actuated g/C Ratio	0.47	0.47	0.47	0.48	0.47	0.47	0.16	0.16	0.16	0.13	0.12	0.12
v/c Ratio	0.56	0.62	0.22	0.06	0.98	0.20	0.53	0.72	0.18	0.50	0.64	0.51
Control Delay	36.7	31.2	4.7	29.3	48.0	4.8	43.7	50.8	6.3	59.8	61.9	12.5
Queue Delay	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 Delay	36.7	31.2	4.7	29.3	48.0	4.8	43.7	50.8	6.3	59.8	61.9	12.5
LOS	D	C	A	C	D	A	D	D	A	E	E	B
Approach Delay		29.0			44.9			44.2			47.1	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	62	332	0	7	649	0	92	172	4	66	115	0
Queue Length 95th (ft)	157	#681	42	29	#1306	49	119	203	41	92	147	57
Internal Link Dist (ft)		573			350			1144			460	
Turn Bay Length (ft)	250		175	175		100	275		275	150		150
Base Capacity (vph)	239	2363	798	680	2412	824	430	1152	608	321	1025	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.62	0.22	0.06	0.98	0.20	0.53	0.34	0.11	0.50	0.26	0.30

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 104 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 40.1 — Intersection LOS: D
Intersection Capacity Utilization 86.4% — ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	33.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	165	1365	2410	50	5	40
Future Vol, veh/h	165	1365	2410	50	5	40
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	94	94	80	80
Heavy Vehicles, %	1	2	1	0	0	6
Mvmt Flow	185	1534	2564	53	6	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2617	0	-	0	3576	1309
Stage 1	-	-	-	-	2591	-
Stage 2	-	-	-	-	985	-
Critical Hdwy	5.32	-	-	-	5.7	7.22
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.11	-	-	-	3.8	3.96
Pot Cap-1 Maneuver	*455	-	-	-	*13	*357
Stage 1	-	-	-	-	*372	-
Stage 2	-	-	-	-	*618	-
Platoon blocked, %	1	-	-	-		1
Mov Cap-1 Maneuver	*455	-	-	-	*8	*357
Mov Cap-2 Maneuver	-	-	-	-	*8	-
Stage 1	-	-	-	-	*221	-
Stage 2	-	-	-	-	*618	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	104.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	* 455	-	-	-	8	357
HCM Lane V/C Ratio	0.407	-	-	-	0.781	0.14
HCM Control Delay (s)	18.2	-	-	-$	806.6	16.7
HCM Lane LOS	C	-	-	-	F	C
HCM 95th %tile Q(veh)	1.9	-	-	-	1.4	0.5

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	1265	40	120	2405	35	20	5	40	5	0	35
Future Volume (veh/h)	65	1265	40	120	2405	35	20	5	40	5	0	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1544	1826	1885	1900	1203	1900	1544	1900	1900	1841
Adj Flow Rate, veh/h	70	1360	43	128	2559	37	22	5	43	6	0	43
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.93	0.93	0.93	0.81	0.81	0.81
Percent Heavy Veh, %	0	1	24	5	1	0	47	0	24	0	0	4
Cap, veh/h	182	4464	141	357	4315	62	99	10	86	89	112	91
Arrive On Green	0.02	0.87	0.87	1.00	1.00	1.00	0.06	0.06	0.06	0.06	0.00	0.06
Sat Flow, veh/h	1810	5125	162	375	5227	75	869	169	1452	1369	1900	1544
Grp Volume(v), veh/h	70	911	492	128	1677	919	22	0	48	6	0	43
Grp Sat Flow(s),veh/h/ln	1810	1716	1856	375	1716	1871	869	0	1621	1369	1900	1544
Q Serve(g_s), s	0.9	7.0	7.0	0.1	0.0	0.0	3.7	0.0	4.3	0.6	0.0	4.0
Cycle Q Clear(g_c), s	0.9	7.0	7.0	0.2	0.0	0.0	3.7	0.0	4.3	4.9	0.0	4.0
Prop In Lane	1.00		0.09	1.00		0.04	1.00		0.90	1.00		1.00
Lane Grp Cap(c), veh/h	182	2989	1616	357	2832	1545	99	0	95	89	112	91
V/C Ratio(X)	0.38	0.30	0.30	0.36	0.59	0.59	0.22	0.00	0.50	0.07	0.00	0.47
Avail Cap(c_a), veh/h	244	2989	1616	357	2832	1545	225	0	330	287	386	314
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	1.6	1.7	1.7	0.0	0.0	0.0	68.2	0.0	68.5	70.9	0.0	68.3
Incr Delay (d2), s/veh	0.5	0.3	0.5	2.8	0.9	1.7	0.4	0.0	1.5	0.1	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	1.4	1.6	0.3	0.4	0.7	0.8	0.0	1.8	0.2	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.1	2.0	2.2	2.8	0.9	1.7	68.6	0.0	70.0	71.0	0.0	69.7
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1473			2724			70			49	
Approach Delay, s/veh		2.0			1.3			69.5			69.9	
Approach LOS		A			A			E			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		135.7		14.3	6.8	128.8		14.3				
Change Period (Y+Rc), s		5.0		5.5	4.0	5.0		5.5				
Max Green Setting (Gmax), s		109.0		30.5	8.0	97.0		30.5				
Max Q Clear Time (g_c+I1), s		9.0		6.3	2.9	2.2		6.9				
Green Ext Time (p_c), s		13.2		0.2	0.0	59.2		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	3.4
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)	195	965	150	245	1970	265	370	1385	270	215	860	220
Future Volume (veh/h)	195	965	150	245	1970	265	370	1385	270	215	860	220
Initial Q (Qb), veh	0	0	0	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	1856	1870	1885	1870	1870	1885	1885	1885	1900	1841	1856	1856
Adj Flow Rate, veh/h	207	1027	160	263	2118	285	425	1592	310	236	945	242
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	3	2	1	2	2	1	1	1	0	4	3	3
Cap, veh/h	183	1852	865	313	1825	241	625	1470	284	204	1117	427
Arrive On Green	0.11	0.73	0.73	0.09	0.40	0.40	0.24	0.45	0.45	0.06	0.22	0.22
Sat Flow, veh/h	3428	5106	1595	3456	4562	603	3483	4322	836	3401	5066	1555
Grp Volume(v), veh/h	207	1027	160	263	1570	833	425	1262	640	236	945	242
Grp Sat Flow(s),veh/h/ln	1714	1702	1595	1728	1702	1761	1742	1716	1728	1700	1689	1555
Q Serve(g_s), s	8.0	13.9	1.0	11.2	60.0	60.0	16.6	51.0	51.0	9.0	26.8	12.2
Cycle Q Clear(g_c), s	8.0	13.9	1.0	11.2	60.0	60.0	16.6	51.0	51.0	9.0	26.8	12.2
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	183	1852	865	313	1362	704	625	1167	587	204	1117	427
V/C Ratio(X)	1.13	0.55	0.18	0.84	1.15	1.18	0.68	1.08	1.09	1.16	0.85	0.57
Avail Cap(c_a), veh/h	183	1852	865	415	1362	704	625	1167	587	204	1250	468
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.33	1.33	1.33	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	67.0	15.0	2.8	67.1	45.0	45.0	53.2	41.1	41.1	70.5	56.0	21.2
Incr Delay (d2), s/veh	106.5	0.4	0.1	11.1	77.8	96.1	3.0	51.4	64.0	111.6	7.9	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	3.8	0.6	5.4	39.3	44.2	7.2	27.9	30.1	7.0	12.1	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	173.5	15.4	2.9	78.2	122.8	141.1	56.2	92.4	105.1	182.1	64.0	26.6
LnGrp LOS	F	B	A	E	F	F	E	F	F	F	E	C
Approach Vol, veh/h		1394			2666			2327			1423	
Approach Delay, s/veh		37.5			124.1			89.3			77.2	
Approach LOS		D			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.9	39.1	13.0	66.0	14.0	57.0	18.6	60.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	23.0	37.0	8.0	60.0	9.0	51.0	18.0	50.0
Max Q Clear Time (g_c+I1), s	18.6	28.8	10.0	62.0	11.0	53.0	13.2	15.9
Green Ext Time (p_c), s	0.6	4.3	0.0	0.0	0.0	0.0	0.4	8.9

Intersection Summary	
HCM 6th Ctrl Delay	89.7
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	965	150	245	1970	265	370	1385	270	215	860	220
Future Volume (veh/h)	195	965	150	245	1970	265	370	1385	270	215	860	220
Initial Q (Qb), veh	0	0	0	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	1856	1870	1885	1870	1870	1885	1885	1885	1900	1841	1856	1856
Adj Flow Rate, veh/h	207	1027	160	263	2118	285	425	1592	310	236	945	242
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	3	2	1	2	2	1	1	1	0	4	3	3
Cap, veh/h	229	1920	869	313	2042	755	587	1613	647	249	1106	444
Arrive On Green	0.13	0.75	0.75	0.09	0.40	0.40	0.22	0.42	0.42	0.07	0.22	0.22
Sat Flow, veh/h	3428	5106	1595	3456	5106	1595	3483	5147	1598	3401	5066	1555
Grp Volume(v), veh/h	207	1027	160	263	2118	285	425	1592	310	236	945	242
Grp Sat Flow(s),veh/h/ln	1714	1702	1595	1728	1702	1595	1742	1716	1598	1700	1689	1555
Q Serve(g_s), s	8.9	12.5	0.9	11.2	60.0	3.8	17.0	46.0	13.9	10.4	26.9	12.2
Cycle Q Clear(g_c), s	8.9	12.5	0.9	11.2	60.0	3.8	17.0	46.0	13.9	10.4	26.9	12.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	1920	869	313	2042	755	587	1613	647	249	1106	444
V/C Ratio(X)	0.91	0.53	0.18	0.84	1.04	0.38	0.72	0.99	0.48	0.95	0.85	0.54
Avail Cap(c_a), veh/h	229	1920	869	415	2042	755	587	1613	647	249	1216	478
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.33	1.33	1.33	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	64.5	13.2	2.6	67.1	45.0	12.6	55.0	43.4	14.3	69.2	56.3	20.8
Incr Delay (d2), s/veh	35.2	0.3	0.1	11.1	30.2	0.3	4.4	19.6	2.5	42.3	8.5	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	3.4	0.5	5.4	30.3	4.0	7.4	20.8	4.9	5.9	12.2	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.8	13.5	2.7	78.2	75.2	12.9	59.4	63.0	16.9	111.5	64.8	25.5
LnGrp LOS	F	B	A	E	F	B	E	E	B	F	E	C
Approach Vol, veh/h		1394			2666			2327			1423	
Approach Delay, s/veh		25.0			68.9			56.2			65.9	
Approach LOS		C			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.3	38.7	15.0	66.0	16.0	53.0	18.6	62.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	22.0	36.0	10.0	60.0	11.0	47.0	18.0	52.0
Max Q Clear Time (g_c+I1), s	19.0	28.9	10.9	62.0	12.4	48.0	13.2	14.5
Green Ext Time (p_c), s	0.5	3.8	0.0	0.0	0.0	0.0	0.4	9.0

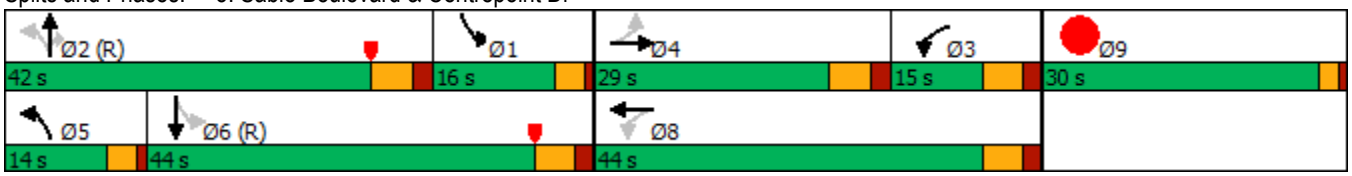
Intersection Summary	
HCM 6th Ctrl Delay	56.7
HCM 6th LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	25	35	30	55	20	515	50	40	350	25
Future Volume (vph)	15	15	25	35	30	55	20	515	50	40	350	25
Satd. Flow (prot)	1805	1659	0	1492	2849	0	1805	3610	1429	1367	3504	0
Flt Permitted	0.689			0.724			0.465			0.428		
Satd. Flow (perm)	1293	1659	0	1137	2849	0	881	3610	1375	609	3504	0
Satd. Flow (RTOR)		32			65				149		5	
Lane Group Flow (vph)	19	51	0	41	100	0	23	592	57	47	441	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Total Split (s)	29.0	29.0		15.0	44.0		14.0	42.0	42.0	16.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	7.7	7.7		17.3	17.3		90.7	88.7	88.7	92.3	90.3	
Actuated g/C Ratio	0.06	0.06		0.13	0.13		0.69	0.67	0.67	0.70	0.68	
v/c Ratio	0.25	0.40		0.25	0.23		0.04	0.24	0.06	0.10	0.18	
Control Delay	66.7	38.0		52.8	20.9		12.6	11.9	0.1	30.6	27.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	66.7	38.0		52.8	20.9		12.6	11.9	0.1	30.6	27.9	
LOS	E	D		D	C		B	B	A	C	C	
Approach Delay		45.8			30.2			10.9			28.2	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)	16	16		31	13		5	92	0	25	152	
Queue Length 95th (ft)	36	46		63	36		26	214	0	70	227	
Internal Link Dist (ft)		258			396			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	225	315		199	866		675	2426	973	518	2398	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.08	0.16		0.21	0.12		0.03	0.24	0.06	0.09	0.18	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 54 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 20.8 — Intersection LOS: C
Intersection Capacity Utilization 53.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



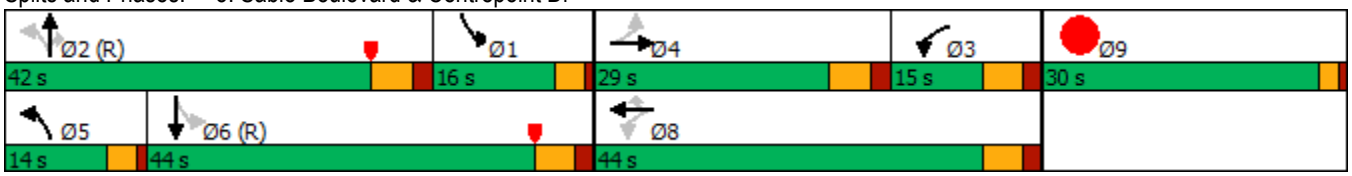
Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	25	35	30	55	20	515	50	40	350	25
Future Volume (vph)	15	15	25	35	30	55	20	515	50	40	350	25
Satd. Flow (prot)	1805	1659	0	1492	1900	1357	1805	3610	1429	1367	3501	0
Flt Permitted	0.734			0.724			0.467			0.428		
Satd. Flow (perm)	1376	1659	0	1137	1900	1322	883	3610	1375	609	3501	0
Satd. Flow (RTOR)		32				132			149		5	
Lane Group Flow (vph)	19	51	0	41	35	65	23	592	57	47	441	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Total Split (s)	29.0	29.0		15.0	44.0	44.0	14.0	42.0	42.0	16.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	7.6	7.6		17.3	17.3	17.3	93.0	92.2	92.2	95.4	93.8	
Actuated g/C Ratio	0.06	0.06		0.13	0.13	0.13	0.70	0.70	0.70	0.72	0.71	
v/c Ratio	0.24	0.40		0.25	0.14	0.23	0.03	0.23	0.06	0.10	0.18	
Control Delay	65.6	38.1		52.9	49.1	1.8	12.6	11.6	0.1	30.5	26.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.6	38.1		52.9	49.1	1.8	12.6	11.6	0.1	30.5	26.7	
LOS	E	D		D	D	A	B	B	A	C	C	
Approach Delay		45.6			28.4			10.7			27.1	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)	16	16		31	27	0	5	92	0	25	152	
Queue Length 95th (ft)	36	46		63	55	0	26	214	0	70	227	
Internal Link Dist (ft)		258			396			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	239	315		199	546	474	692	2522	1005	529	2489	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.08	0.16		0.21	0.06	0.14	0.03	0.23	0.06	0.09	0.18	

Intersection Summary	
Cycle Length: 132	
Actuated Cycle Length: 132	
Offset: 54 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay: 20.1	Intersection LOS: C
Intersection Capacity Utilization 53.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	55	10	115	150	100	40	430	130	70	295	45
Future Volume (vph)	55	55	10	115	150	100	40	430	130	70	295	45
Satd. Flow (prot)	1556	1852	0	1805	1900	1599	1752	3382	0	1805	3471	1404
Flt Permitted	0.358			0.711			0.496			0.416		
Satd. Flow (perm)	586	1852	0	1347	1900	1577	911	3382	0	786	3471	1367
Satd. Flow (RTOR)		9				127		26				118
Lane Group Flow (vph)	60	71	0	129	169	112	44	622	0	82	347	53
Turn Type	pm+pt	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	12.0	50.0		38.0	38.0	38.0	12.0	17.0		12.0	17.0	17.0
Total Lost Time (s)	4.0	5.0		5.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	28.0	27.0		17.4	17.4	17.4	66.2	64.2		66.3	64.3	64.3
Actuated g/C Ratio	0.23	0.22		0.14	0.14	0.14	0.55	0.54		0.55	0.54	0.54
v/c Ratio	0.30	0.17		0.66	0.61	0.33	0.08	0.34		0.16	0.19	0.07
Control Delay	36.9	30.0		63.4	56.7	7.8	24.7	22.2		26.1	22.3	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	36.9	30.0		63.4	56.7	7.8	24.7	22.2		26.1	22.3	0.2
LOS	D	C		E	E	A	C	C		C	C	A
Approach Delay		33.1			45.5			22.4			20.5	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	37	38		96	125	0	14	121		25	62	0
Queue Length 95th (ft)	66	70		149	181	36	65	#410		101	180	0
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	201	700		370	522	525	562	1820		502	1861	787
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.30	0.10		0.35	0.32	0.21	0.08	0.34		0.16	0.19	0.07

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 104 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 28.3 — Intersection LOS: C
Intersection Capacity Utilization 55.8% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	55	10	115	150	100	40	430	130	70	295	45
Future Volume (vph)	55	55	10	115	150	100	40	430	130	70	295	45
Satd. Flow (prot)	1556	1852	0	1805	1900	1599	1752	3382	0	1805	3471	1404
Flt Permitted	0.490			0.610			0.498			0.416		
Satd. Flow (perm)	802	1852	0	1156	1900	1577	915	3382	0	786	3471	1367
Satd. Flow (RTOR)		8				127		26				118
Lane Group Flow (vph)	60	71	0	129	169	112	44	622	0	82	347	53
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	12.0	38.0		12.0	38.0	38.0	12.0	17.0		12.0	17.0	17.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	22.3	15.1		23.4	16.0	16.0	67.6	65.6		67.8	65.8	65.8
Actuated g/C Ratio	0.19	0.13		0.20	0.13	0.13	0.56	0.55		0.56	0.55	0.55
v/c Ratio	0.31	0.30		0.47	0.67	0.35	0.08	0.33		0.16	0.18	0.07
Control Delay	38.9	43.2		43.5	61.7	8.6	23.0	21.1		24.7	20.9	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.9	43.2		43.5	61.7	8.6	23.0	21.1		24.7	20.9	0.2
LOS	D	D		D	E	A	C	C		C	C	A
Approach Delay		41.2			41.5			21.2			19.3	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)	37	44		82	126	0	14	119		25	61	0
Queue Length 95th (ft)	70	85		128	189	38	62	#364		97	173	0
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	202	515		272	522	525	574	1859		512	1903	802
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.30	0.14		0.47	0.32	0.21	0.08	0.33		0.16	0.18	0.07

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 104 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 27.1 — Intersection LOS: C
Intersection Capacity Utilization 55.8% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	130	5	5	285	90	35	30	25	15	5	5
Future Vol, veh/h	20	130	5	5	285	90	35	30	25	15	5	5
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	4	4	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	300	-	100	-	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	89	89	89	84	84	84	81	81	81
Heavy Vehicles, %	0	2	0	0	1	3	4	5	5	22	0	0
Mvmt Flow	21	138	5	6	320	101	42	36	30	19	6	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	423	0	0	144	0	0	574	619	146	554	520	323
Stage 1	-	-	-	-	-	-	184	184	-	334	334	-
Stage 2	-	-	-	-	-	-	390	435	-	220	186	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.14	6.55	6.25	7.32	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.55	-	6.32	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.55	-	6.32	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.536	4.045	3.345	3.698	4	3.3
Pot Cap-1 Maneuver	1155	-	-	1473	-	-	427	400	954	414	463	*853
Stage 1	-	-	-	-	-	-	860	764	-	752	697	-
Stage 2	-	-	-	-	-	-	721	607	-	782	772	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	1152	-	-	1471	-	-	412	390	950	365	451	*851
Mov Cap-2 Maneuver	-	-	-	-	-	-	412	390	-	365	451	-
Stage 1	-	-	-	-	-	-	844	750	-	737	693	-
Stage 2	-	-	-	-	-	-	706	604	-	705	757	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.1	14.7	13.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	478	1152	-	-	1471	-	-	365	451	851
HCM Lane V/C Ratio	0.224	0.018	-	-	0.004	-	-	0.051	0.014	0.007
HCM Control Delay (s)	14.7	8.2	-	-	7.5	-	-	15.4	13.1	9.3
HCM Lane LOS	B	A	-	-	A	-	-	C	B	A
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0	-	-	0.2	0	0

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	90	5	50	40	15	55	20	220	1955	5	20	1130
Future Volume (veh/h)	90	5	50	40	15	55	20	220	1955	5	20	1130
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj	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	1900	1841	1752	1900	1870		1885	1885	1693	1826	1870
Adj Flow Rate, veh/h	95	5	53	48	18	66		247	2197	6	23	1284
Peak Hour Factor	0.95	0.95	0.95	0.83	0.83	0.83		0.89	0.89	0.89	0.88	0.88
Percent Heavy Veh, %	2	0	4	10	0	2		1	1	14	5	2
Cap, veh/h	193	9	308	74	36	77		403	3827	10	138	2959
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20		0.06	0.72	0.72	1.00	1.00
Sat Flow, veh/h	742	46	1558	207	180	387		1795	5299	14	172	4686
Grp Volume(v), veh/h	100	0	53	132	0	0		247	1422	781	23	933
Grp Sat Flow(s),veh/h/ln	787	0	1558	774	0	0		1795	1716	1883	172	1702
Q Serve(g_s), s	0.0	0.0	4.2	8.7	0.0	0.0		7.0	29.5	29.5	4.3	0.0
Cycle Q Clear(g_c), s	18.7	0.0	4.2	27.4	0.0	0.0		7.0	29.5	29.5	20.2	0.0
Prop In Lane	0.95		1.00	0.36		0.50		1.00		0.01	1.00	
Lane Grp Cap(c), veh/h	203	0	308	186	0	0		403	2478	1360	138	2149
V/C Ratio(X)	0.49	0.00	0.17	0.71	0.00	0.00		0.61	0.57	0.57	0.17	0.43
Avail Cap(c_a), veh/h	224	0	332	210	0	0		647	2478	1360	138	2149
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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	0.0	50.0	61.9	0.0	0.0		7.4	9.9	9.9	1.7	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.3	9.3	0.0	0.0		1.5	1.0	1.8	2.6	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
%ile BackOfQ(50%),veh/ln	3.6	0.0	1.7	5.5	0.0	0.0		2.7	10.3	11.6	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	0.0	50.2	71.2	0.0	0.0		8.9	10.9	11.7	4.3	0.6
LnGrp LOS	E	A	D	E	A	A		A	B	B	A	A
Approach Vol, veh/h		153			132				2450			1443
Approach Delay, s/veh		55.0			71.2				10.9			0.9
Approach LOS		E			E				B			A

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		114.3		35.7	13.6	100.7		35.7				
Change Period (Y+Rc), s		6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s		106.0		32.0	30.0	72.0		32.0				
Max Q Clear Time (g_c+I1), s		31.5		20.7	9.0	22.2		29.4				
Green Ext Time (p_c), s		32.0		0.5	0.7	14.9		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	120
Future Volume (veh/h)	120
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1885
Adj Flow Rate, veh/h	136
Peak Hour Factor	0.88
Percent Heavy Veh, %	1
Cap, veh/h	313
Arrive On Green	1.00
Sat Flow, veh/h	496
Grp Volume(v), veh/h	487
Grp Sat Flow(s),veh/h/ln	1778
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.28
Lane Grp Cap(c), veh/h	1123
V/C Ratio(X)	0.43
Avail Cap(c_a), veh/h	1123
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	1.2
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.4
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	1.2
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	5	50	40	15	55	220	1975	5	20	1150	120
Future Volume (veh/h)	90	5	50	40	15	55	220	1975	5	20	1150	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	1900	1841	1752	1900	1870	1885	1885	1693	1826	1870	1885
Adj Flow Rate, veh/h	95	5	53	48	18	66	247	2219	6	23	1307	136
Peak Hour Factor	0.95	0.95	0.95	0.83	0.83	0.83	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %	2	0	4	10	0	2	1	1	14	5	2	1
Cap, veh/h	180	179	234	191	24	89	402	4051	11	148	3482	1085
Arrive On Green	0.06	0.09	0.09	0.03	0.07	0.07	0.06	0.76	0.76	1.00	1.00	1.00
Sat Flow, veh/h	1781	1900	1555	1668	355	1303	1795	5299	14	168	5106	1591
Grp Volume(v), veh/h	95	5	53	48	0	84	247	1437	788	23	1307	136
Grp Sat Flow(s),veh/h/ln	1781	1900	1555	1668	0	1659	1795	1716	1883	168	1702	1591
Q Serve(g_s), s	7.3	0.4	4.5	4.0	0.0	7.5	6.0	25.5	25.5	3.3	0.0	0.0
Cycle Q Clear(g_c), s	7.3	0.4	4.5	4.0	0.0	7.5	6.0	25.5	25.5	16.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.79	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	180	179	234	191	0	113	402	2623	1439	148	3482	1085
V/C Ratio(X)	0.53	0.03	0.23	0.25	0.00	0.74	0.61	0.55	0.55	0.16	0.38	0.13
Avail Cap(c_a), veh/h	191	329	357	200	0	243	493	2623	1439	148	3482	1085
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	0.94	0.94	0.94
Uniform Delay (d), s/veh	58.7	61.7	56.1	62.2	0.0	68.6	5.4	7.2	7.2	1.0	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.1	0.5	0.7	0.0	9.1	1.5	0.8	1.5	2.1	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.2	1.8	1.8	0.0	3.5	2.2	8.3	9.4	0.1	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	61.7	56.5	62.8	0.0	77.7	7.0	8.0	8.7	3.1	0.3	0.2
LnGrp LOS	E	E	E	E	A	E	A	A	A	A	A	A
Approach Vol, veh/h		153			132			2472			1466	
Approach Delay, s/veh		59.5			72.3			8.1			0.3	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		120.7	9.2	20.2	12.4	108.3	13.1	16.2
Change Period (Y+Rc), s		6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s		102.0	6.0	26.0	16.0	82.0	10.0	22.0
Max Q Clear Time (g_c+I1), s		27.5	6.0	6.5	8.0	18.4	9.3	9.5
Green Ext Time (p_c), s		32.7	0.0	0.1	0.4	13.1	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

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	15	0	5	65	5	55	55	1990	55	20	1200	25
Future Vol, veh/h	15	0	5	65	5	55	55	1990	55	20	1200	25
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	88	88	88	89	89	89	91	91	91
Heavy Vehicles, %	0	0	0	2	0	0	0	1	3	0	2	0
Mvmt Flow	20	0	7	74	6	63	62	2236	62	22	1319	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2398	3799	676	2966	3781	1149	1346	0	0	2298	0	0
Stage 1	1377	1377	-	2391	2391	-	-	-	-	-	-	-
Stage 2	1021	2422	-	575	1390	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.44	6.5	7.1	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.34	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.74	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.82	4	3.9	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*315	11	*640	*314	12	*449	*806	-	-	*565	-	-
Stage 1	*655	623	-	*354	370	-	-	-	-	-	-	-
Stage 2	*461	347	-	*654	612	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*149	10	*638	*283	11	*449	*806	-	-	*565	-	-
Mov Cap-2 Maneuver	*149	10	-	*283	11	-	-	-	-	-	-	-
Stage 1	*604	599	-	*327	342	-	-	-	-	-	-	-
Stage 2	*360	321	-	*620	588	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.8	109.1	0.3	0.2
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 806	-	-	184	155	* 565	-	-
HCM Lane V/C Ratio	0.077	-	-	0.143	0.916	0.039	-	-
HCM Control Delay (s)	9.8	-	-	27.8	109.1	11.6	-	-
HCM Lane LOS	A	-	-	D	F	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	6.5	0.1	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	15	0	5	65	5	55	20	55	1990	55	20	1200
Future Volume (veh/h)	15	0	5	65	5	55	20	55	1990	55	20	1200
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99		1.00		1.00	1.00	
Parking Bus, Adj	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	1900	1900	1900	1870	1900	1900		1900	1885	1856	1900	1870
Adj Flow Rate, veh/h	20	0	7	74	6	62		62	2236	62	22	1319
Peak Hour Factor	0.76	0.76	0.76	0.88	0.88	0.88		0.89	0.89	0.89	0.91	0.91
Percent Heavy Veh, %	0	0	0	2	0	0		0	1	3	0	2
Cap, veh/h	150	6	40	127	15	81		407	3845	106	204	3790
Arrive On Green	0.12	0.00	0.12	0.12	0.12	0.12		0.06	1.00	1.00	0.04	1.00
Sat Flow, veh/h	899	52	333	752	123	679		1810	5148	142	1810	5150
Grp Volume(v), veh/h	27	0	0	142	0	0		62	1488	810	22	872
Grp Sat Flow(s),veh/h/ln	1284	0	0	1554	0	0		1810	1716	1860	1810	1702
Q Serve(g_s), s	0.0	0.0	0.0	10.5	0.0	0.0		1.2	0.0	0.0	0.4	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	13.1	0.0	0.0		1.2	0.0	0.0	0.4	0.0
Prop In Lane	0.74		0.26	0.52		0.44		1.00		0.08	1.00	
Lane Grp Cap(c), veh/h	196	0	0	223	0	0		407	2562	1389	204	2505
V/C Ratio(X)	0.14	0.00	0.00	0.64	0.00	0.00		0.15	0.58	0.58	0.11	0.35
Avail Cap(c_a), veh/h	346	0	0	384	0	0		472	2562	1389	252	2505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.79	0.79	0.79	1.00	1.00
Uniform Delay (d), s/veh	59.2	0.0	0.0	63.7	0.0	0.0		4.1	0.0	0.0	4.4	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	3.0	0.0	0.0		0.1	0.8	1.4	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
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	5.5	0.0	0.0		0.4	0.3	0.5	0.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	0.0	0.0	66.7	0.0	0.0		4.2	0.8	1.4	4.7	0.4
LnGrp LOS	E	A	A	E	A	A		A	A	A	A	A
Approach Vol, veh/h		27			142				2360			1368
Approach Delay, s/veh		59.5			66.7				1.1			0.6
Approach LOS		E			E				A			A

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	118.0		24.0	9.6	116.4		24.0
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	92.0		34.0	10.0	89.0		34.0
Max Q Clear Time (g_c+I1), s	2.4	2.0		4.7	3.2	2.0		15.1
Green Ext Time (p_c), s	0.0	37.6		0.1	0.0	12.2		0.7

Intersection Summary	
HCM 6th Ctrl Delay	3.7
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	25
Future Volume (veh/h)	25
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	27
Peak Hour Factor	0.91
Percent Heavy Veh, %	0
Cap, veh/h	78
Arrive On Green	1.00
Sat Flow, veh/h	105
Grp Volume(v), veh/h	474
Grp Sat Flow(s),veh/h/ln	1851
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.06
Lane Grp Cap(c), veh/h	1363
V/C Ratio(X)	0.35
Avail Cap(c_a), veh/h	1363
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.7
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.3
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.7
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	30	110	20	40
Future Vol, veh/h	5	5	30	110	20	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	59	59	85	85	82	82
Heavy Vehicles, %	100	0	0	3	14	0
Mvmt Flow	8	8	35	129	24	49

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	248	37	73	0	-	0
Stage 1	49	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	8.1	6.9	4.1	-	-	-
Critical Hdwy Stg 1	7.3	-	-	-	-	-
Critical Hdwy Stg 2	6.9	-	-	-	-	-
Follow-up Hdwy	4.45	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	538	1034	1540	-	-	-
Stage 1	755	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	526	1034	1540	-	-	-
Mov Cap-2 Maneuver	541	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	623	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1540	-	710	-	-
HCM Lane V/C Ratio	0.023	-	0.024	-	-
HCM Control Delay (s)	7.4	-	10.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	50	105	10	5	45
Future Vol, veh/h	15	50	105	10	5	45
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	90	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	87	87	88	88
Heavy Vehicles, %	0	0	4	0	0	6
Mvmt Flow	17	57	121	11	6	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	174	136	0	0	141	0
Stage 1	136	-	-	-	-	-
Stage 2	38	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	828	918	-	-	1455	-
Stage 1	895	-	-	-	-	-
Stage 2	1001	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	817	910	-	-	1443	-
Mov Cap-2 Maneuver	792	-	-	-	-	-
Stage 1	887	-	-	-	-	-
Stage 2	997	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	880	1443	-
HCM Lane V/C Ratio	-	-	0.084	0.004	-
HCM Control Delay (s)	-	-	9.5	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	30	85	70	20	45
Future Vol, veh/h	50	30	85	70	20	45
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	86	86	91	91
Heavy Vehicles, %	20	10	3	2	0	25
Mvmt Flow	63	38	99	81	22	49

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	194	0	-	0	299	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	145	-
Critical Hdwy	4.4	-	-	-	6.6	6.575
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.39	-	-	-	3.5	3.5375
Pot Cap-1 Maneuver	1266	-	-	-	697	828
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	885	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1249	-	-	-	644	817
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	874	-

Approach	EB	WB	SB
HCM Control Delay, s	5	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1249	-	-	-	680	817
HCM Lane V/C Ratio	0.051	-	-	-	0.032	0.061
HCM Control Delay (s)	8	-	-	-	10.5	9.7
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	1755	220	90	1655	215	200	440	85	435	440	155
Future Volume (vph)	195	1755	220	90	1655	215	200	440	85	435	440	155
Satd. Flow (prot)	1787	5187	1568	3502	5136	1599	3303	3574	1615	3467	3539	1583
Flt Permitted	0.215			0.204			0.331			0.479		
Satd. Flow (perm)	404	5187	1534	751	5136	1550	1140	3574	1569	1733	3539	1528
Satd. Flow (RTOR)			190			190			149			167
Lane Group Flow (vph)	207	1867	234	96	1761	229	217	478	92	468	473	167
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Total Split (s)	19.0	14.0	14.0	24.0	19.0	19.0	14.0	45.0	45.0	16.0	47.0	47.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Act Effct Green (s)	46.3	44.3	44.3	42.0	40.0	40.0	24.7	23.7	23.7	29.5	28.5	28.5
Actuated g/C Ratio	0.35	0.34	0.34	0.32	0.30	0.30	0.19	0.18	0.18	0.22	0.22	0.22
v/c Ratio	0.54	1.07	0.37	0.15	1.13	0.38	0.54	0.74	0.23	0.78	0.62	0.36
Control Delay	41.7	84.0	12.4	39.2	108.4	12.5	56.2	62.8	14.7	59.8	49.8	7.6
Queue Delay	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 Delay	41.7	84.0	12.4	39.2	108.4	12.5	56.2	62.8	14.7	59.8	49.8	7.6
LOS	D	F	B	D	F	B	E	E	B	E	D	A
Approach Delay		73.0			94.7			55.4			47.7	
Approach LOS		E			F			E			D	
Queue Length 50th (ft)	122	564	24	28	~567	23	59	136	0	188	195	0
Queue Length 95th (ft)	#329	#1175	#160	64	#1079	122	139	284	m71	220	228	54
Internal Link Dist (ft)		573			350			1144			460	
Turn Bay Length (ft)	250		175	175		100	275		275	150		150
Base Capacity (vph)	385	1739	640	634	1556	602	404	1055	568	603	1099	589
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	1.07	0.37	0.15	1.13	0.38	0.54	0.45	0.16	0.78	0.43	0.28

Intersection Summary

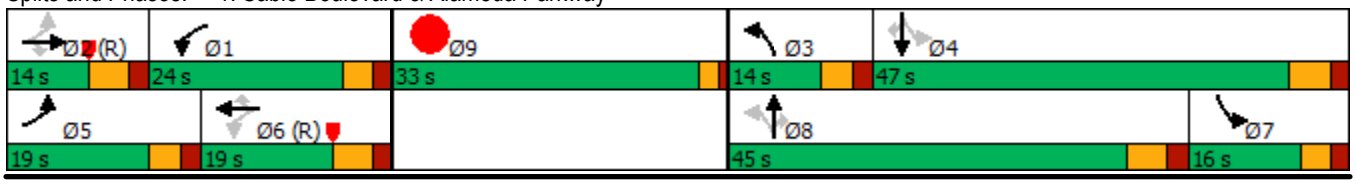
Cycle Length: 132
Actuated Cycle Length: 132
Offset: 2 (2%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 73.5 Intersection LOS: E
Intersection Capacity Utilization 92.4% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	33.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

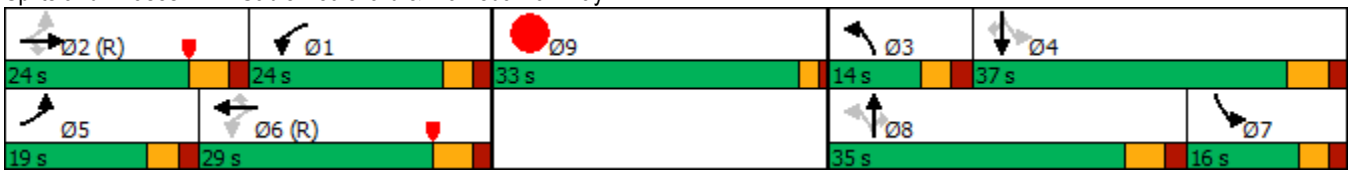
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	1755	220	90	1655	215	200	440	85	435	440	155
Future Volume (vph)	195	1755	220	90	1655	215	200	440	85	435	440	155
Satd. Flow (prot)	1787	5187	1568	3502	5136	1599	3303	3574	1615	3467	3539	1583
Flt Permitted	0.142			0.137			0.339			0.479		
Satd. Flow (perm)	267	5187	1534	504	5136	1550	1168	3574	1569	1733	3539	1528
Satd. Flow (RTOR)			190			182			140			167
Lane Group Flow (vph)	207	1867	234	96	1761	229	217	478	92	468	473	167
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Total Split (s)	19.0	24.0	24.0	24.0	29.0	29.0	14.0	35.0	35.0	16.0	37.0	37.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Act Effct Green (s)	46.6	45.6	45.6	50.5	49.5	49.5	24.4	23.4	23.4	28.2	27.2	27.2
Actuated g/C Ratio	0.35	0.35	0.35	0.38	0.38	0.38	0.18	0.18	0.18	0.21	0.21	0.21
v/c Ratio	0.78	1.04	0.36	0.15	0.91	0.33	0.54	0.76	0.23	0.82	0.65	0.37
Control Delay	55.2	73.7	11.6	36.8	47.5	11.3	57.2	63.7	15.9	64.2	52.1	8.4
Queue Delay	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 Delay	55.2	73.7	11.6	36.8	47.5	11.3	57.2	63.7	15.9	64.2	52.1	8.4
LOS	E	E	B	D	D	B	E	E	B	E	D	A
Approach Delay		65.7			43.0			56.4			50.6	
Approach LOS		E			D			E			D	
Queue Length 50th (ft)	122	564	24	25	503	25	58	134	1	188	195	0
Queue Length 95th (ft)	#346	#1081	123	61	#952	118	141	287	77	#252	247	58
Internal Link Dist (ft)		573			350			1144			460	
Turn Bay Length (ft)	250		175	175		100	275		275	150		150
Base Capacity (vph)	275	1792	654	624	1927	695	403	785	453	572	831	486
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	1.04	0.36	0.15	0.91	0.33	0.54	0.61	0.20	0.82	0.57	0.34

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 2 (2%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 54.4 — Intersection LOS: D
Intersection Capacity Utilization 92.4% — ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	33.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	2255	1770	15	15	120
Future Vol, veh/h	35	2255	1770	15	15	120
Conflicting Peds, #/hr	6	0	0	6	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	70	70
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	37	2374	1863	16	21	171

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1885	0	-	0	2903	946
Stage 1	-	-	-	-	1877	-
Stage 2	-	-	-	-	1026	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	*635	-	-	-	*31	*505
Stage 1	-	-	-	-	*518	-
Stage 2	-	-	-	-	*395	-
Platoon blocked, %	1	-	-	-		1
Mov Cap-1 Maneuver	*632	-	-	-	*29	*502
Mov Cap-2 Maneuver	-	-	-	-	*29	-
Stage 1	-	-	-	-	*484	-
Stage 2	-	-	-	-	*393	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	45.4
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	* 632	-	-	-	29	502
HCM Lane V/C Ratio	0.058	-	-	-	0.739	0.341
HCM Control Delay (s)	11	-	-	-	281.9	15.8
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	2.4	1.5

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	2195	20	80	1665	85	55	15	110	40	15	65
Future Volume (veh/h)	55	2195	20	80	1665	85	55	15	110	40	15	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1767	1885	1900	1870	1900	1767	1900	1900	1900
Adj Flow Rate, veh/h	59	2335	21	85	1771	90	62	17	124	48	18	77
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.89	0.89	0.89	0.84	0.84	0.84
Percent Heavy Veh, %	0	1	0	9	1	0	2	0	9	0	0	0
Cap, veh/h	267	4061	36	134	3633	184	239	30	221	143	296	246
Arrive On Green	0.02	0.77	0.77	1.00	1.00	1.00	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1810	5260	47	143	5014	254	1282	195	1420	1254	1900	1582
Grp Volume(v), veh/h	59	1522	834	85	1211	650	62	0	141	48	18	77
Grp Sat Flow(s),veh/h/ln	1810	1716	1876	143	1716	1838	1282	0	1615	1254	1900	1582
Q Serve(g_s), s	1.2	26.4	26.4	85.5	0.0	0.0	6.3	0.0	11.7	5.3	1.2	6.3
Cycle Q Clear(g_c), s	1.2	26.4	26.4	105.0	0.0	0.0	7.5	0.0	11.7	17.1	1.2	6.3
Prop In Lane	1.00		0.03	1.00		0.14	1.00		0.88	1.00		1.00
Lane Grp Cap(c), veh/h	267	2649	1449	134	2486	1331	239	0	251	143	296	246
V/C Ratio(X)	0.22	0.57	0.58	0.63	0.49	0.49	0.26	0.00	0.56	0.33	0.06	0.31
Avail Cap(c_a), veh/h	331	2649	1449	134	2486	1331	309	0	340	212	400	333
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.4	6.8	6.8	10.1	0.0	0.0	55.4	0.0	56.6	64.5	52.2	54.3
Incr Delay (d2), s/veh	0.2	0.9	1.7	20.7	0.7	1.3	0.2	0.0	0.7	0.5	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	8.3	9.4	2.1	0.2	0.5	2.1	0.0	4.9	1.7	0.6	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.6	7.7	8.5	30.8	0.7	1.3	55.6	0.0	57.4	65.0	52.2	54.6
LnGrp LOS	A	A	A	C	A	A	E	A	E	E	D	D
Approach Vol, veh/h		2415			1946			203			143	
Approach Delay, s/veh		7.9			2.2			56.8			57.8	
Approach LOS		A			A			E			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		116.9		28.1	6.9	110.0		28.1				
Change Period (Y+Rc), s		5.0		5.5	4.0	5.0		5.5				
Max Green Setting (Gmax), s		104.0		30.5	8.0	92.0		30.5				
Max Q Clear Time (g_c+I1), s		28.4		13.7	3.2	107.0		19.1				
Green Ext Time (p_c), s		37.0		0.6	0.0	0.0		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	9.2
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)	250	1745	370	195	1180	190	350	1305	280	565	1590	300
Future Volume (veh/h)	250	1745	370	195	1180	190	350	1305	280	565	1590	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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	1885	1885	1900	1870	1856	1885	1885	1900	1885	1900	1870
Adj Flow Rate, veh/h	272	1897	402	214	1297	209	380	1418	304	601	1691	319
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	1	1	0	2	3	1	1	0	1	0	2
Cap, veh/h	310	1668	789	194	1311	211	605	1600	342	528	1808	690
Arrive On Green	0.18	0.65	0.65	0.06	0.30	0.30	0.35	0.75	0.75	0.15	0.35	0.35
Sat Flow, veh/h	3456	5147	1578	3510	4422	713	3483	4238	906	3483	5187	1571
Grp Volume(v), veh/h	272	1897	402	214	998	508	380	1147	575	601	1691	319
Grp Sat Flow(s),veh/h/ln	1728	1716	1578	1755	1702	1731	1742	1716	1713	1742	1729	1571
Q Serve(g_s), s	11.1	47.0	0.0	8.0	42.3	42.3	13.2	35.9	36.2	22.0	45.7	12.5
Cycle Q Clear(g_c), s	11.1	47.0	0.0	8.0	42.3	42.3	13.2	35.9	36.2	22.0	45.7	12.5
Prop In Lane	1.00		1.00	1.00		0.41	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	310	1668	789	194	1009	513	605	1295	647	528	1808	690
V/C Ratio(X)	0.88	1.14	0.51	1.10	0.99	0.99	0.63	0.89	0.89	1.14	0.94	0.46
Avail Cap(c_a), veh/h	310	1668	789	194	1009	513	605	1295	647	528	1824	695
HCM Platoon Ratio	2.00	2.00	2.00	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	58.7	25.5	10.9	68.5	50.8	50.8	43.4	15.5	15.5	61.5	45.7	14.6
Incr Delay (d2), s/veh	23.6	69.7	0.5	95.6	25.6	36.8	2.1	9.2	16.7	82.8	10.6	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	22.6	4.2	6.1	21.2	23.2	5.1	7.3	8.7	15.7	20.9	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.4	95.2	11.5	164.1	76.3	87.5	45.4	24.6	32.1	144.3	56.2	16.8
LnGrp LOS	F	F	B	F	E	F	D	C	C	F	E	B
Approach Vol, veh/h		2571			1720			2102			2611	
Approach Delay, s/veh		80.7			90.5			30.4			71.7	
Approach LOS		F			F			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.2	56.5	18.0	49.0	27.0	60.7	14.0	53.0
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	6.0	* 6
Max Green Setting (Gmax), s	17.0	* 51	13.0	42.0	22.0	46.0	8.0	* 47
Max Q Clear Time (g_c+I1), s	15.2	47.7	13.1	44.3	24.0	38.2	10.0	49.0
Green Ext Time (p_c), s	0.3	2.8	0.0	0.0	0.0	5.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	68.2
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)	250	1745	370	195	1180	190	350	1305	280	565	1590	300
Future Volume (veh/h)	250	1745	370	195	1180	190	350	1305	280	565	1590	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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	1885	1885	1900	1870	1856	1885	1885	1900	1885	1900	1870
Adj Flow Rate, veh/h	272	1897	402	214	1297	209	380	1418	304	601	1691	319
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	1	1	0	2	3	1	1	0	1	0	2
Cap, veh/h	316	1739	833	242	1646	761	652	1815	674	577	1681	654
Arrive On Green	0.18	0.68	0.68	0.07	0.32	0.32	0.37	0.71	0.71	0.17	0.32	0.32
Sat Flow, veh/h	3456	5147	1579	3510	5106	1553	3483	5147	1596	3483	5187	1570
Grp Volume(v), veh/h	272	1897	402	214	1297	209	380	1418	304	601	1691	319
Grp Sat Flow(s),veh/h/ln	1728	1716	1579	1755	1702	1553	1742	1716	1596	1742	1729	1570
Q Serve(g_s), s	11.1	49.0	0.0	8.8	33.5	11.5	12.7	26.2	4.1	24.0	47.0	13.4
Cycle Q Clear(g_c), s	11.1	49.0	0.0	8.8	33.5	11.5	12.7	26.2	4.1	24.0	47.0	13.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	1739	833	242	1646	761	652	1815	674	577	1681	654
V/C Ratio(X)	0.86	1.09	0.48	0.88	0.79	0.27	0.58	0.78	0.45	1.04	1.01	0.49
Avail Cap(c_a), veh/h	357	1739	833	242	1646	761	652	1815	674	577	1681	654
HCM Platoon Ratio	2.00	2.00	2.00	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	58.4	23.5	9.1	66.9	44.6	22.0	40.8	17.7	6.7	60.5	49.0	16.8
Incr Delay (d2), s/veh	17.3	50.8	0.4	29.6	2.6	0.2	1.3	3.4	2.2	49.0	23.3	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	5.1	19.6	3.6	4.9	14.3	4.2	4.8	6.2	2.2	14.4	23.4	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.7	74.3	9.6	96.5	47.3	22.2	42.2	21.1	8.9	109.5	72.3	19.4
LnGrp LOS	E	F	A	F	D	C	D	C	A	F	F	B
Approach Vol, veh/h		2571			1720			2102			2611	
Approach Delay, s/veh		64.3			50.3			23.2			74.4	
Approach LOS		E			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.1	53.0	18.3	52.7	29.0	57.1	16.0	55.0
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	6.0	* 6
Max Green Setting (Gmax), s	17.0	* 47	15.0	44.0	24.0	40.0	10.0	* 49
Max Q Clear Time (g_c+I1), s	14.7	49.0	13.1	35.5	26.0	28.2	10.8	51.0
Green Ext Time (p_c), s	0.3	0.0	0.2	4.9	0.0	6.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	55.0
HCM 6th LOS	D

Notes

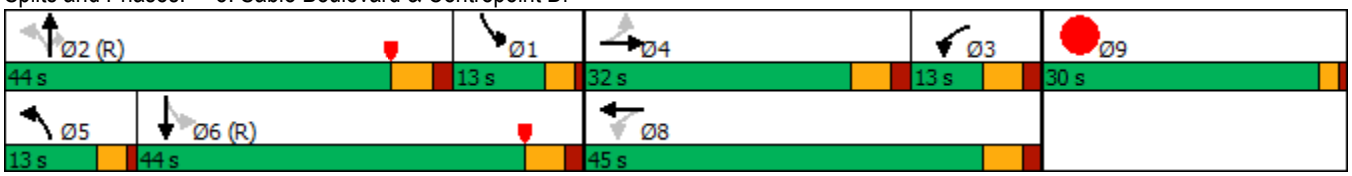
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	85	120	35	70	65	100	540	30	40	605	105
Future Volume (vph)	120	85	120	35	70	65	100	540	30	40	605	105
Satd. Flow (prot)	1805	1708	0	1543	2852	0	1805	3574	1324	1347	3511	0
Flt Permitted	0.657			0.367			0.265			0.433		
Satd. Flow (perm)	1152	1708	0	592	2852	0	502	3574	1257	603	3511	0
Satd. Flow (RTOR)		48			72				149		15	
Lane Group Flow (vph)	135	231	0	39	150	0	108	581	32	43	756	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Total Split (s)	32.0	32.0		13.0	45.0		13.0	44.0	44.0	13.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	20.0	20.0		30.3	29.2		73.6	71.6	71.6	74.0	72.0	
Actuated g/C Ratio	0.15	0.15		0.23	0.22		0.56	0.54	0.54	0.56	0.55	
v/c Ratio	0.78	0.77		0.22	0.22		0.30	0.30	0.04	0.11	0.39	
Control Delay	81.2	59.2		42.5	20.3		23.1	22.3	0.1	15.1	12.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	81.2	59.2		42.5	20.3		23.1	22.3	0.1	15.1	12.3	
LOS	F	E		D	C		C	C	A	B	B	
Approach Delay		67.3			24.9			21.4			12.5	
Approach LOS		E			C			C			B	
Queue Length 50th (ft)	112	152		26	27		42	139	0	8	81	
Queue Length 95th (ft)	177	232		55	54		121	293	0	34	183	
Internal Link Dist (ft)		258			396			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	226	374		193	893		375	1954	754	404	1922	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.60	0.62		0.20	0.17		0.29	0.30	0.04	0.11	0.39	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 113 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 26.4 — Intersection LOS: C
Intersection Capacity Utilization 73.5% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

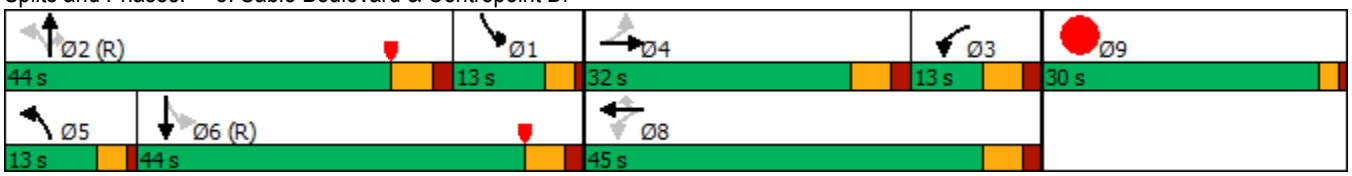
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	85	120	35	70	65	100	540	30	40	605	105
Future Volume (vph)	120	85	120	35	70	65	100	540	30	40	605	105
Satd. Flow (prot)	1805	1708	0	1543	1900	1302	1805	3574	1324	1347	3501	0
Flt Permitted	0.706			0.359			0.267			0.433		
Satd. Flow (perm)	1227	1708	0	579	1900	1165	505	3574	1257	603	3501	0
Satd. Flow (RTOR)		48				132			149		15	
Lane Group Flow (vph)	135	231	0	39	78	72	108	581	32	43	756	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Total Split (s)	32.0	32.0		13.0	45.0	45.0	13.0	44.0	44.0	13.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	19.4	19.4		29.7	28.6	28.6	74.2	72.2	72.2	74.6	72.6	
Actuated g/C Ratio	0.15	0.15		0.22	0.22	0.22	0.56	0.55	0.55	0.57	0.55	
v/c Ratio	0.75	0.79		0.23	0.19	0.20	0.29	0.30	0.04	0.11	0.39	
Control Delay	77.6	61.4		43.3	40.3	1.3	22.8	22.0	0.1	14.6	12.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	77.6	61.4		43.3	40.3	1.3	22.8	22.0	0.1	14.6	12.1	
LOS	E	E		D	D	A	C	C	A	B	B	
Approach Delay		67.4			26.0			21.1			12.2	
Approach LOS		E			C			C			B	
Queue Length 50th (ft)	112	154		26	54	0	41	136	0	8	80	
Queue Length 95th (ft)	175	232		55	92	0	121	293	0	m28	170	
Internal Link Dist (ft)		258			396			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	241	374		188	561	437	378	1968	759	407	1931	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.56	0.62		0.21	0.14	0.16	0.29	0.30	0.04	0.11	0.39	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 113 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 26.3 — Intersection LOS: C
Intersection Capacity Utilization 72.1% — ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	315	100	145	255	90	70	470	200	135	535	85
Future Volume (vph)	110	315	100	145	255	90	70	470	200	135	535	85
Satd. Flow (prot)	1656	1825	0	1805	1900	1568	1770	3304	0	1805	3574	1482
Flt Permitted	0.192			0.304			0.306			0.345		
Satd. Flow (perm)	334	1825	0	577	1900	1540	570	3304	0	653	3574	1449
Satd. Flow (RTOR)		14				182		46				118
Lane Group Flow (vph)	124	466	0	158	277	98	76	728	0	145	575	91
Turn Type	pm+pt	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	18.0	42.0		24.0	24.0	24.0	12.0	23.0		14.0	25.0	25.0
Total Lost Time (s)	4.0	5.0		5.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	38.0	37.0		21.2	21.2	21.2	51.8	49.8		56.1	54.1	54.1
Actuated g/C Ratio	0.32	0.31		0.18	0.18	0.18	0.43	0.42		0.47	0.45	0.45
v/c Ratio	0.53	0.81		1.56	0.83	0.23	0.24	0.52		0.36	0.36	0.13
Control Delay	38.9	50.0		327.9	69.4	1.3	28.4	28.6		31.1	26.6	4.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.9	50.0		327.9	69.4	1.3	28.4	28.6		31.1	26.6	4.2
LOS	D	D		F	E	A	C	C		C	C	A
Approach Delay		47.7			133.5			28.6			24.9	
Approach LOS		D			F			C			C	
Queue Length 50th (ft)	71	324		~174	210	0	30	177		57	135	0
Queue Length 95th (ft)	119	#477		#320	#377	0	100	#514		#185	#364	28
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	260	572		101	334	421	328	1397		401	1611	718
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.48	0.81		1.56	0.83	0.23	0.23	0.52		0.36	0.36	0.13

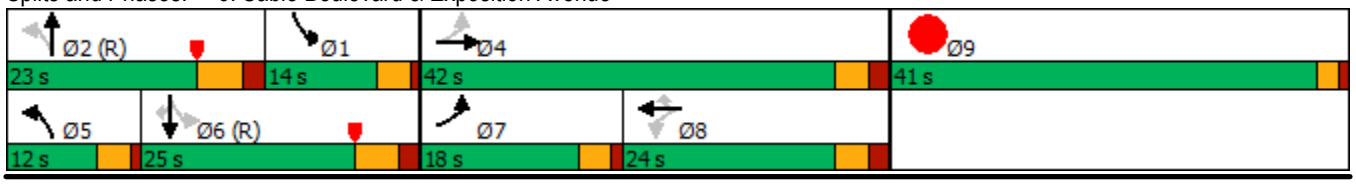
Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.56
Intersection Signal Delay: 52.0 Intersection LOS: D
Intersection Capacity Utilization 78.2% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	315	100	145	255	90	70	470	200	135	535	85
Future Volume (vph)	110	315	100	145	255	90	70	470	200	135	535	85
Satd. Flow (prot)	1656	1825	0	1805	1900	1568	1770	3304	0	1805	3574	1482
Flt Permitted	0.379			0.129			0.287			0.335		
Satd. Flow (perm)	659	1825	0	245	1900	1540	534	3304	0	634	3574	1449
Satd. Flow (RTOR)		13				182		45				118
Lane Group Flow (vph)	124	466	0	158	277	98	76	728	0	145	575	91
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	12.0	36.0		12.0	36.0	36.0	10.0	21.0		10.0	21.0	21.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	39.9	31.0		40.1	31.1	31.1	49.8	47.8		50.5	48.5	48.5
Actuated g/C Ratio	0.33	0.26		0.33	0.26	0.26	0.42	0.40		0.42	0.40	0.40
v/c Ratio	0.44	0.97		0.85	0.56	0.18	0.26	0.54		0.45	0.40	0.14
Control Delay	31.7	77.3		66.5	43.8	0.8	30.4	30.0		36.8	30.2	4.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	31.7	77.3		66.5	43.8	0.8	30.4	30.0		36.8	30.2	4.6
LOS	C	E		E	D	A	C	C		D	C	A
Approach Delay		67.7			42.6			30.1			28.5	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)	65	350		84	187	0	31	184		64	151	0
Queue Length 95th (ft)	110	#553		#188	277	0	#105	#538		#248	#414	29
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	286	481		185	491	533	297	1342		325	1443	655
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.43	0.97		0.85	0.56	0.18	0.26	0.54		0.45	0.40	0.14

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 40.2 Intersection LOS: D
Intersection Capacity Utilization 77.4% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	590	50	25	370	25	25	10	15	55	20	25
Future Vol, veh/h	20	590	50	25	370	25	25	10	15	55	20	25
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	300	-	100	-	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	94	94	94	88	88	88	89	89	89
Heavy Vehicles, %	0	0	0	0	0	17	0	0	0	4	0	6
Mvmt Flow	23	670	57	27	394	27	28	11	17	62	22	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	421	0	0	730	0	0	1235	1223	702	1207	1224	394
Stage 1	-	-	-	-	-	-	748	748	-	448	448	-
Stage 2	-	-	-	-	-	-	487	475	-	759	776	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.14	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.536	4	3.354
Pot Cap-1 Maneuver	*1170	-	-	832	-	-	155	181	577	159	181	*767
Stage 1	-	-	-	-	-	-	490	439	-	703	625	-
Stage 2	-	-	-	-	-	-	665	603	-	473	417	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	*1170	-	-	829	-	-	129	171	575	141	171	*767
Mov Cap-2 Maneuver	-	-	-	-	-	-	129	171	-	141	171	-
Stage 1	-	-	-	-	-	-	479	429	-	689	605	-
Stage 2	-	-	-	-	-	-	597	583	-	438	407	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	34	35.3
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	180	* 1170	-	-	829	-	-	141	171	767
HCM Lane V/C Ratio	0.316	0.019	-	-	0.032	-	-	0.438	0.131	0.037
HCM Control Delay (s)	34	8.1	-	-	9.5	-	-	49.1	29.2	9.9
HCM Lane LOS	D	A	-	-	A	-	-	E	D	A
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.1	-	-	2	0.4	0.1

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	300	30	390	50	15	45	5	185	1590	30	90	1915
Future Volume (veh/h)	300	30	390	50	15	45	5	185	1590	30	90	1915
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99		1.00		0.99	1.00	
Parking Bus, Adj	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	1900	1900	1885	1900	1900	1900		1870	1885	1900	1900	1885
Adj Flow Rate, veh/h	337	34	438	56	17	50		203	1747	33	95	2016
Peak Hour Factor	0.89	0.89	0.89	0.90	0.90	0.90		0.91	0.91	0.91	0.95	0.95
Percent Heavy Veh, %	0	0	1	0	0	0		2	1	0	0	1
Cap, veh/h	293	25	471	36	17	12		227	3227	61	166	2431
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30		0.08	0.62	0.62	0.68	0.68
Sat Flow, veh/h	828	83	1590	0	58	40		1781	5199	98	271	4745
Grp Volume(v), veh/h	371	0	438	123	0	0		203	1153	627	95	1452
Grp Sat Flow(s),veh/h/ln	911	0	1590	98	0	0		1781	1716	1866	271	1716
Q Serve(g_s), s	0.0	0.0	38.8	0.0	0.0	0.0		9.5	27.8	27.8	40.9	44.7
Cycle Q Clear(g_c), s	43.0	0.0	38.8	43.0	0.0	0.0		9.5	27.8	27.8	53.1	44.7
Prop In Lane	0.91		1.00	0.46		0.41		1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	318	0	471	65	0	0		227	2130	1158	166	1758
V/C Ratio(X)	1.17	0.00	0.93	1.88	0.00	0.00		0.89	0.54	0.54	0.57	0.83
Avail Cap(c_a), veh/h	318	0	471	65	0	0		280	2130	1158	166	1758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	0.0	49.5	53.8	0.0	0.0		38.0	15.7	15.7	24.6	18.4
Incr Delay (d2), s/veh	104.3	0.0	25.0	449.8	0.0	0.0		25.0	1.0	1.8	13.6	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.1	0.0	18.8	10.6	0.0	0.0		8.9	10.7	11.9	2.9	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	158.5	0.0	74.5	503.7	0.0	0.0		63.0	16.7	17.5	38.2	23.0
LnGrp LOS	F	A	E	F	A	A		E	B	B	D	C
Approach Vol, veh/h		809			123				1983			2316
Approach Delay, s/veh		113.0			503.7				21.7			25.1
Approach LOS		F			F				C			C

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		96.0		49.0	15.7	80.3		49.0				
Change Period (Y+Rc), s		6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s		90.0		43.0	16.0	70.0		43.0				
Max Q Clear Time (g_c+I1), s		29.8		45.0	11.5	55.1		45.0				
Green Ext Time (p_c), s		19.7		0.0	0.2	12.7		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	48.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	195
Future Volume (veh/h)	195
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	205
Peak Hour Factor	0.95
Percent Heavy Veh, %	0
Cap, veh/h	245
Arrive On Green	0.68
Sat Flow, veh/h	478
Grp Volume(v), veh/h	769
Grp Sat Flow(s),veh/h/ln	1792
Q Serve(g_s), s	46.2
Cycle Q Clear(g_c), s	46.2
Prop In Lane	0.27
Lane Grp Cap(c), veh/h	918
V/C Ratio(X)	0.84
Avail Cap(c_a), veh/h	918
HCM Platoon Ratio	1.33
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	18.6
Incr Delay (d2), s/veh	9.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	17.3
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	27.6
LnGrp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	30	390	50	15	45	185	1595	30	90	1920	195
Future Volume (veh/h)	300	30	390	50	15	45	185	1595	30	90	1920	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	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	1900	1900	1885	1900	1900	1900	1870	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	337	34	438	56	17	50	203	1753	33	95	2021	205
Peak Hour Factor	0.89	0.89	0.89	0.90	0.90	0.90	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	1	0	0	0	2	1	0	0	1	0
Cap, veh/h	474	485	517	223	48	143	261	3109	59	156	2575	795
Arrive On Green	0.18	0.26	0.26	0.04	0.12	0.12	0.07	0.60	0.60	1.00	1.00	1.00
Sat Flow, veh/h	1810	1900	1588	1810	421	1237	1781	5199	98	270	5147	1589
Grp Volume(v), veh/h	337	34	438	56	0	67	203	1157	629	95	2021	205
Grp Sat Flow(s),veh/h/ln	1810	1900	1588	1810	0	1658	1781	1716	1866	270	1716	1589
Q Serve(g_s), s	23.0	2.0	37.0	3.9	0.0	5.4	7.8	29.6	29.7	37.0	0.0	0.0
Cycle Q Clear(g_c), s	23.0	2.0	37.0	3.9	0.0	5.4	7.8	29.6	29.7	52.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.75	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	474	485	517	223	0	191	261	2051	1116	156	2575	795
V/C Ratio(X)	0.71	0.07	0.85	0.25	0.00	0.35	0.78	0.56	0.56	0.61	0.78	0.26
Avail Cap(c_a), veh/h	542	485	517	232	0	191	394	2051	1116	156	2575	795
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	0.77	0.77	0.77
Uniform Delay (d), s/veh	43.2	41.0	45.6	53.8	0.0	59.1	17.9	17.7	17.7	5.6	0.0	0.0
Incr Delay (d2), s/veh	3.7	0.1	12.4	0.6	0.0	1.1	5.5	1.1	2.1	13.0	1.9	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	10.9	0.9	16.6	1.9	0.0	2.4	3.5	11.5	12.9	1.2	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	41.0	58.0	54.4	0.0	60.2	23.5	18.8	19.8	18.6	1.9	0.6
LnGrp LOS	D	D	E	D	A	E	C	B	B	B	A	A
Approach Vol, veh/h		809			123			1989			2321	
Approach Delay, s/veh		52.7			57.6			19.6			2.5	
Approach LOS		D			E			B			A	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		92.7	9.3	43.0	14.2	78.5	29.6	22.7
Change Period (Y+Rc), s		6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s		86.0	6.0	37.0	21.0	61.0	31.0	12.0
Max Q Clear Time (g_c+I1), s		31.7	5.9	39.0	9.8	54.5	25.0	7.4
Green Ext Time (p_c), s		19.3	0.0	0.0	0.4	5.7	0.6	0.1

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

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	110.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	20	85	5	50	20	1845	70	35	2095	15
Future Vol, veh/h	5	0	20	85	5	50	20	1845	70	35	2095	15
Conflicting Peds, #/hr	1	0	0	0	0	1	3	0	11	11	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	95	95	95	94	94	94
Heavy Vehicles, %	0	0	0	0	0	2	0	1	0	0	0	0
Mvmt Flow	6	0	24	101	6	60	21	1942	74	37	2229	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3137	4383	1126	2998	4354	1020	2248	0	0	2027	0	0
Stage 1	2314	2314	-	2032	2032	-	-	-	-	-	-	-
Stage 2	823	2069	-	966	2322	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.4	6.5	7.14	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.3	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.7	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.8	4	3.92	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*79	*1	*433	*124	*~ 1	*484	*545	-	-	*613	-	-
Stage 1	*444	*422	-	*500	*475	-	-	-	-	-	-	-
Stage 2	*500	*475	-	*444	*422	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	-	*1	*432	*107	*~ 1	*479	*543	-	-	*606	-	-
Mov Cap-2 Maneuver	-	*1	-	*107	*~ 1	-	-	-	-	-	-	-
Stage 1	*426	*395	-	*475	*452	-	-	-	-	-	-	-
Stage 2	*415	*452	-	*394	*395	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 2995.1	0.1	0.2
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 543	-	-	-	24	* 606	-	-
HCM Lane V/C Ratio	0.039	-	-	-	6.944	0.061	-	-
HCM Control Delay (s)	11.9	-	-	$ 2995.1	11.3	-	-	-
HCM Lane LOS	B	-	-	-	F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	20.8	0.2	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	5	0	20	85	5	50	5	20	1845	70	35	2095
Future Volume (veh/h)	5	0	20	85	5	50	5	20	1845	70	35	2095
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		0.99	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No				No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1870		1900	1885	1900	1900	1900
Adj Flow Rate, veh/h	6	0	24	101	6	60		21	1942	74	37	2229
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84		0.95	0.95	0.95	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	2		0	1	0	0	0
Cap, veh/h	57	16	174	157	10	71		210	3695	141	254	3897
Arrive On Green	0.13	0.00	0.13	0.13	0.13	0.13		0.04	1.00	1.00	0.05	1.00
Sat Flow, veh/h	211	124	1339	905	75	550		1810	5086	193	1810	5313
Grp Volume(v), veh/h	30	0	0	167	0	0		21	1309	707	37	1450
Grp Sat Flow(s),veh/h/ln	1674	0	0	1530	0	0		1810	1716	1849	1810	1729
Q Serve(g_s), s	0.0	0.0	0.0	13.0	0.0	0.0		0.4	0.0	0.0	0.7	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	15.4	0.0	0.0		0.4	0.0	0.0	0.7	0.0
Prop In Lane	0.20		0.80	0.60		0.36		1.00		0.10	1.00	
Lane Grp Cap(c), veh/h	247	0	0	238	0	0		210	2493	1343	254	2536
V/C Ratio(X)	0.12	0.00	0.00	0.70	0.00	0.00		0.10	0.53	0.53	0.15	0.57
Avail Cap(c_a), veh/h	409	0	0	394	0	0		262	2493	1343	293	2536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.79	0.79	0.79	1.00	1.00
Uniform Delay (d), s/veh	55.9	0.0	0.0	61.4	0.0	0.0		4.6	0.0	0.0	4.4	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	3.7	0.0	0.0		0.2	0.6	1.2	0.3	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
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	6.3	0.0	0.0		0.2	0.2	0.4	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	0.0	0.0	65.1	0.0	0.0		4.8	0.6	1.2	4.6	0.9
LnGrp LOS	E	A	A	E	A	A		A	A	A	A	A
Approach Vol, veh/h		30			167				2037			2282
Approach Delay, s/veh		56.2			65.1				0.9			1.3
Approach LOS		E			E				A			A

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	111.3		24.8	7.9	112.4		24.8
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	87.0		34.0	7.0	87.0		34.0
Max Q Clear Time (g_c+I1), s	2.7	2.0		4.3	2.4	2.0		17.4
Green Ext Time (p_c), s	0.0	27.5		0.1	0.0	34.8		0.8

Intersection Summary	
HCM 6th Ctrl Delay	3.8
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	15
Future Volume (veh/h)	15
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	16
Peak Hour Factor	0.94
Percent Heavy Veh, %	0
Cap, veh/h	28
Arrive On Green	1.00
Sat Flow, veh/h	38
Grp Volume(v), veh/h	795
Grp Sat Flow(s),veh/h/ln	1893
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.02
Lane Grp Cap(c), veh/h	1388
V/C Ratio(X)	0.57
Avail Cap(c_a), veh/h	1388
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	1.7
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.7
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	1.7
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	20	5	50	80	20
Future Vol, veh/h	30	20	5	50	80	20
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	86	86	87	87
Heavy Vehicles, %	0	14	0	9	3	0
Mvmt Flow	38	25	6	58	92	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	177	58	115	0	-	0
Stage 1	104	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.6	7.11	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.433	2.2	-	-	-
Pot Cap-1 Maneuver	824	983	1499	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	820	983	1499	-	-	-
Mov Cap-2 Maneuver	802	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	955	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1499	-	866	-	-
HCM Lane V/C Ratio	0.004	-	0.072	-	-
HCM Control Delay (s)	7.4	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	25	65	15	25	90
Future Vol, veh/h	10	25	65	15	25	90
Conflicting Peds, #/hr	3	0	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	90	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	84	84	86	86
Heavy Vehicles, %	0	0	6	0	0	2
Mvmt Flow	13	32	77	18	29	105

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	205	91	0	0	100	0
Stage 1	91	-	-	-	-	-
Stage 2	114	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	845	972	-	-	1505	-
Stage 1	938	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	823	967	-	-	1498	-
Mov Cap-2 Maneuver	804	-	-	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	945	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	914	1498	-
HCM Lane V/C Ratio	-	-	0.05	0.019	-
HCM Control Delay (s)	-	-	9.1	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	55	70	55	35	45	85
Future Vol, veh/h	55	70	55	35	45	85
Conflicting Peds, #/hr	10	0	0	10	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	92	92	89	89
Heavy Vehicles, %	13	3	5	5	0	12
Mvmt Flow	63	80	60	38	51	96

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	108	0	-	0	255	89
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	166	-
Critical Hdwy	4.295	-	-	-	6.6	6.38
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.3235	-	-	-	3.5	3.414
Pot Cap-1 Maneuver	1410	-	-	-	740	939
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1397	-	-	-	693	930
Mov Cap-2 Maneuver	-	-	-	-	714	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	856	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	9.7
HCM LOS			A

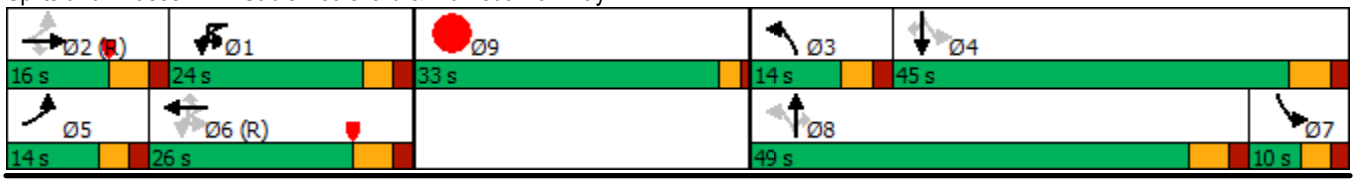
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1397	-	-	-	714	930
HCM Lane V/C Ratio	0.045	-	-	-	0.071	0.103
HCM Control Delay (s)	7.7	-	-	-	10.4	9.3
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	0.3

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	115	1300	175	5	35	2250	190	265	385	65	160	255
Future Volume (vph)	115	1300	175	5	35	2250	190	265	385	65	160	255
Satd. Flow (prot)	1787	5085	1524	0	3502	5085	1583	3400	3539	1615	3400	3471
Flt Permitted	0.098				0.125			0.455			0.491	
Satd. Flow (perm)	184	5085	1499	0	460	5085	1535	1619	3539	1578	1747	3471
Satd. Flow (RTOR)			190				182			140		
Lane Group Flow (vph)	132	1494	201	0	43	2419	204	312	453	76	184	293
Turn Type	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases	2		2	6	6		6	8		8	4	
Total Split (s)	14.0	16.0	16.0	24.0	24.0	26.0	26.0	14.0	49.0	49.0	10.0	45.0
Total Lost Time (s)	5.0	6.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Act Effct Green (s)	58.4	57.4	57.4		59.3	58.3	58.3	24.1	23.1	23.1	18.5	17.5
Actuated g/C Ratio	0.44	0.43	0.43		0.45	0.44	0.44	0.18	0.18	0.18	0.14	0.13
v/c Ratio	0.55	0.68	0.26		0.07	1.08	0.26	0.64	0.73	0.19	0.52	0.64
Control Delay	38.5	34.4	7.4		31.8	77.8	8.2	45.7	49.7	4.5	58.8	60.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	34.4	7.4		31.8	77.8	8.2	45.7	49.7	4.5	58.8	60.1
LOS	D	C	A		C	E	A	D	D	A	E	E
Approach Delay		31.8				71.7			44.1			46.8
Approach LOS		C				E			D			D
Queue Length 50th (ft)	66	365	5		9	725	10	126	196	5	75	128
Queue Length 95th (ft)	161	#745	70		33	#1385	90	157	230	28	100	157
Internal Link Dist (ft)		573				350			1144			460
Turn Bay Length (ft)	250		175		175		100	275		275	150	
Base Capacity (vph)	244	2210	759		644	2245	779	488	1152	608	353	1025
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.68	0.26		0.07	1.08	0.26	0.64	0.39	0.13	0.52	0.29

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 104 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 52.9 Intersection LOS: D
Intersection Capacity Utilization 88.6% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	SBR	Ø9
Lane Configurations		
Traffic Volume (vph)	150	
Future Volume (vph)	150	
Satd. Flow (prot)	1599	
Flt Permitted		
Satd. Flow (perm)	1565	
Satd. Flow (RTOR)	172	
Lane Group Flow (vph)	172	
Turn Type	Perm	
Protected Phases		9
Permitted Phases	4	
Total Split (s)	45.0	33.0
Total Lost Time (s)	6.0	
Act Effct Green (s)	17.5	
Actuated g/C Ratio	0.13	
v/c Ratio	0.48	
Control Delay	11.4	
Queue Delay	0.0	
Total Delay	11.4	
LOS	B	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	56	
Internal Link Dist (ft)		
Turn Bay Length (ft)	150	
Base Capacity (vph)	583	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.30	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	115	1300	175	5	35	2250	190	265	385	65	160	255
Future Volume (vph)	115	1300	175	5	35	2250	190	265	385	65	160	255
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Turn Type	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases	2		2	6	6		6	8		8	4	
Total Split (s)	14.0	16.0	16.0	24.0	24.0	26.0	26.0	14.0	49.0	49.0	10.0	45.0
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Control Delay	38.5	34.4	7.4		31.8	77.8	8.2	45.2	49.2	4.4	58.8	60.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	34.4	7.4		31.8	77.8	8.2	45.2	49.2	4.4	58.8	60.1
LOS	D	C	A		C	E	A	D	D	A	E	E
Approach Delay		31.8				71.7			43.7			46.8
Approach LOS		C				E			D			D
Queue Length 50th (ft)	66	365	5		9	725	10	125	195	5	75	128
Queue Length 95th (ft)	161	#745	70		33	#1385	90	156	230	29	100	157
Internal Link Dist (ft)		573				350			1144			460
Turn Bay Length (ft)	250		175		175		100	275		275	150	
Base Capacity (vph)	244	2210	759		644	2245	779	488	1152	608	353	1025
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.68	0.26		0.07	1.08	0.26	0.64	0.39	0.13	0.52	0.29

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 104 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
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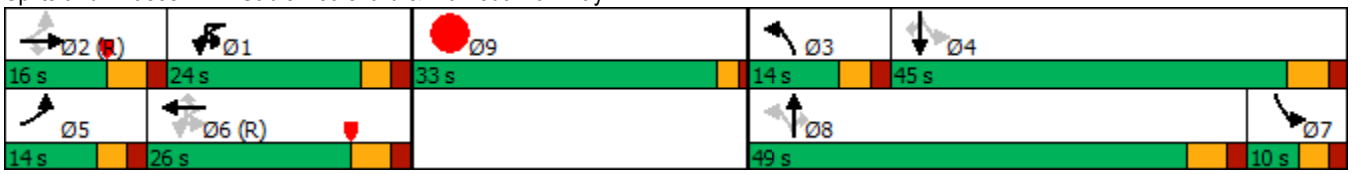


Lane Group	SBR	Ø9
Lane Configurations		
Traffic Volume (vph)	150	
Future Volume (vph)	150	
Satd. Flow (prot)	1599	
Flt Permitted		
Satd. Flow (perm)	1565	
Satd. Flow (RTOR)	172	
Lane Group Flow (vph)	172	
Turn Type	Perm	
Protected Phases		9
Permitted Phases	4	
Total Split (s)	45.0	33.0
Total Lost Time (s)	6.0	
Act Effct Green (s)	17.5	
Actuated g/C Ratio	0.13	
v/c Ratio	0.48	
Control Delay	11.4	
Queue Delay	0.0	
Total Delay	11.4	
LOS	B	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	56	
Internal Link Dist (ft)		
Turn Bay Length (ft)	150	
Base Capacity (vph)	583	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.30	

Intersection Summary

Intersection	
Int Delay, s/veh	2.7

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	10	165	1445	2490	50	5	40
Future Vol, veh/h	10	165	1445	2490	50	5	40
Conflicting Peds, #/hr	0	0	0	0	0	1	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	150	-	-	-	0	0
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	89	89	89	94	94	80	80
Heavy Vehicles, %	1	1	2	1	0	0	6
Mvmt Flow	11	185	1624	2649	53	6	50

Major/Minor	Major1			Major2		Minor2	
Conflicting Flow All	1973	2702	0	-	0	3719	1351
Stage 1	-	-	-	-	-	2676	-
Stage 2	-	-	-	-	-	1043	-
Critical Hdwy	5.62	5.32	-	-	-	5.7	7.22
Critical Hdwy Stg 1	-	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	-	6	-
Follow-up Hdwy	2.31	3.11	-	-	-	3.8	3.96
Pot Cap-1 Maneuver	*554	*411	-	-	-	*11	*323
Stage 1	-	-	-	-	-	*336	-
Stage 2	-	-	-	-	-	*597	-
Platoon blocked, %	1	1	-	-	-		1
Mov Cap-1 Maneuver	*415	*415	-	-	-	*~ 6	*323
Mov Cap-2 Maneuver	-	-	-	-	-	*~ 6	-
Stage 1	-	-	-	-	-	*177	-
Stage 2	-	-	-	-	-	*597	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	143.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	* 415	-	-	-	6	323
HCM Lane V/C Ratio	0.474	-	-	-	1.042	0.155
HCM Control Delay (s)	21.3	-	-	$	1144.8	18.2
HCM Lane LOS	C	-	-	-	F	C
HCM 95th %tile Q(veh)	2.5	-	-	-	1.5	0.5

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	1320	65	155	2415	35	90	5	125	5	0	35
Future Volume (veh/h)	65	1320	65	155	2415	35	90	5	125	5	0	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1900	1885	1544	1826	1885	1900	1203	1900	1544	1900	1900	1841
Adj Flow Rate, veh/h	70	1419	70	165	2569	37	97	5	134	6	0	43
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.93	0.93	0.93	0.81	0.81	0.81
Percent Heavy Veh, %	0	1	24	5	1	0	47	0	24	0	0	4
Cap, veh/h	176	4006	198	296	3920	56	164	8	206	112	252	206
Arrive On Green	0.02	0.80	0.80	1.00	1.00	1.00	0.13	0.13	0.13	0.13	0.00	0.13
Sat Flow, veh/h	1810	5023	248	345	5227	75	874	58	1554	1266	1900	1553
Grp Volume(v), veh/h	70	969	520	165	1684	922	97	0	139	6	0	43
Grp Sat Flow(s),veh/h/ln	1810	1716	1840	345	1716	1871	874	0	1612	1266	1900	1553
Q Serve(g_s), s	1.3	12.0	12.0	8.5	0.0	0.0	16.3	0.0	12.3	0.7	0.0	3.7
Cycle Q Clear(g_c), s	1.3	12.0	12.0	13.3	0.0	0.0	16.3	0.0	12.3	13.0	0.0	3.7
Prop In Lane	1.00		0.13	1.00		0.04	1.00		0.96	1.00		1.00
Lane Grp Cap(c), veh/h	176	2736	1467	296	2573	1403	164	0	214	112	252	206
V/C Ratio(X)	0.40	0.35	0.35	0.56	0.65	0.66	0.59	0.00	0.65	0.05	0.00	0.21
Avail Cap(c_a), veh/h	234	2736	1467	296	2573	1403	226	0	328	202	386	316
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.7	4.3	4.3	0.3	0.0	0.0	63.5	0.0	61.8	67.9	0.0	58.0
Incr Delay (d2), s/veh	0.5	0.4	0.7	7.4	1.3	2.4	1.3	0.0	1.2	0.1	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	0.4	3.6	4.0	0.6	0.5	0.9	3.7	0.0	5.1	0.2	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.2	4.6	5.0	7.7	1.3	2.4	64.8	0.0	63.0	68.0	0.0	58.2
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1559			2771			236			49	
Approach Delay, s/veh		4.7			2.1			63.7			59.4	
Approach LOS		A			A			E			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		124.6		25.4	7.1	117.5		25.4				
Change Period (Y+Rc), s		5.0		5.5	4.0	5.0		5.5				
Max Green Setting (Gmax), s		109.0		30.5	8.0	97.0		30.5				
Max Q Clear Time (g_c+I1), s		14.0		18.3	3.3	15.3		15.0				
Green Ext Time (p_c), s		14.7		0.7	0.0	57.1		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	6.7
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)	65	1320	65	155	2415	35	90	5	125	5	0	35
Future Volume (veh/h)	65	1320	65	155	2415	35	90	5	125	5	0	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1900	1885	1544	1826	1885	1900	1203	1900	1544	1900	1900	1841
Adj Flow Rate, veh/h	70	1419	70	165	2569	37	97	5	134	6	0	43
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.93	0.93	0.93	0.81	0.81	0.81
Percent Heavy Veh, %	0	1	24	5	1	0	47	0	24	0	0	4
Cap, veh/h	176	3675	181	332	3914	56	164	8	206	112	252	206
Arrive On Green	0.02	0.73	0.73	0.08	1.00	1.00	0.13	0.13	0.13	0.13	0.00	0.13
Sat Flow, veh/h	1810	5023	248	1739	5227	75	874	58	1554	1266	1900	1553
Grp Volume(v), veh/h	70	969	520	165	1684	922	97	0	139	6	0	43
Grp Sat Flow(s),veh/h/ln	1810	1716	1840	1739	1716	1871	874	0	1612	1266	1900	1553
Q Serve(g_s), s	1.5	15.9	15.9	3.8	0.0	0.0	16.3	0.0	12.3	0.7	0.0	3.7
Cycle Q Clear(g_c), s	1.5	15.9	15.9	3.8	0.0	0.0	16.3	0.0	12.3	13.0	0.0	3.7
Prop In Lane	1.00		0.13	1.00		0.04	1.00		0.96	1.00		1.00
Lane Grp Cap(c), veh/h	176	2510	1346	332	2569	1401	164	0	214	112	252	206
V/C Ratio(X)	0.40	0.39	0.39	0.50	0.66	0.66	0.59	0.00	0.65	0.05	0.00	0.21
Avail Cap(c_a), veh/h	232	2510	1346	357	2569	1401	226	0	328	202	386	316
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.7	7.5	7.5	5.7	0.0	0.0	63.5	0.0	61.8	67.9	0.0	58.0
Incr Delay (d2), s/veh	0.5	0.5	0.8	1.1	1.3	2.4	1.3	0.0	1.2	0.1	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	5.5	6.0	1.2	0.5	0.9	3.7	0.0	5.1	0.2	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.3	8.0	8.4	6.8	1.3	2.4	64.8	0.0	63.0	68.0	0.0	58.2
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1559			2771			236			49	
Approach Delay, s/veh		8.0			2.0			63.7			59.4	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.9	114.7		25.4	7.3	117.3		25.4
Change Period (Y+Rc), s	4.0	5.0		5.5	4.0	5.0		5.5
Max Green Setting (Gmax), s	8.0	97.0		30.5	8.0	97.0		30.5
Max Q Clear Time (g_c+I1), s	5.8	17.9		18.3	3.5	2.0		15.0
Green Ext Time (p_c), s	0.1	14.6		0.7	0.0	50.9		0.0

Intersection Summary	
HCM 6th Ctrl Delay	7.8
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)	265	1060	165	265	2000	265	385	1400	300	215	885	240
Future Volume (veh/h)	265	1060	165	265	2000	265	385	1400	300	215	885	240
Initial Q (Qb), veh	0	0	0	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	1856	1870	1885	1870	1870	1885	1885	1885	1900	1841	1856	1856
Adj Flow Rate, veh/h	282	1128	176	285	2151	285	443	1609	345	236	973	264
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	3	2	1	2	2	1	1	1	0	4	3	3
Cap, veh/h	183	1820	849	335	1829	238	610	1443	307	204	1139	434
Arrive On Green	0.11	0.71	0.71	0.10	0.40	0.40	0.23	0.45	0.45	0.06	0.22	0.22
Sat Flow, veh/h	3428	5106	1595	3456	4572	594	3483	4244	902	3401	5066	1556
Grp Volume(v), veh/h	282	1128	176	285	1591	845	443	1298	656	236	973	264
Grp Sat Flow(s),veh/h/ln	1714	1702	1595	1728	1702	1762	1742	1716	1715	1700	1689	1556
Q Serve(g_s), s	8.0	17.0	1.2	12.2	60.0	60.0	17.6	51.0	51.0	9.0	27.6	13.5
Cycle Q Clear(g_c), s	8.0	17.0	1.2	12.2	60.0	60.0	17.6	51.0	51.0	9.0	27.6	13.5
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	183	1820	849	335	1362	705	610	1167	583	204	1139	434
V/C Ratio(X)	1.54	0.62	0.21	0.85	1.17	1.20	0.73	1.11	1.12	1.16	0.85	0.61
Avail Cap(c_a), veh/h	183	1820	849	415	1362	705	610	1167	583	204	1250	468
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.33	1.33	1.33	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	67.0	16.3	3.1	66.7	45.0	45.0	54.2	41.1	41.1	70.5	55.8	21.4
Incr Delay (d2), s/veh	269.4	0.6	0.1	13.2	84.0	103.0	4.3	63.0	76.5	111.6	8.2	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	4.5	0.7	5.9	40.4	45.6	7.7	29.8	31.9	7.0	12.5	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	336.4	16.9	3.2	79.8	129.0	148.0	58.5	104.1	117.5	182.1	64.0	27.6
LnGrp LOS	F	B	A	E	F	F	E	F	F	F	E	C
Approach Vol, veh/h		1586			2721			2397			1473	
Approach Delay, s/veh		72.2			129.7			99.4			76.4	
Approach LOS		E			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.3	39.7	13.0	66.0	14.0	57.0	19.5	59.5
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	23.0	37.0	8.0	60.0	9.0	51.0	18.0	50.0
Max Q Clear Time (g_c+I1), s	19.6	29.6	10.0	62.0	11.0	53.0	14.2	19.0
Green Ext Time (p_c), s	0.6	4.1	0.0	0.0	0.0	0.0	0.3	9.8

Intersection Summary	
HCM 6th Ctrl Delay	100.1
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	1060	165	265	2000	265	385	1400	300	215	885	240
Future Volume (veh/h)	265	1060	165	265	2000	265	385	1400	300	215	885	240
Initial Q (Qb), veh	0	0	0	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	1856	1870	1885	1870	1870	1885	1885	1885	1900	1841	1856	1856
Adj Flow Rate, veh/h	282	1128	176	285	2151	285	443	1609	345	236	973	264
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	3	2	1	2	2	1	1	1	0	4	3	3
Cap, veh/h	229	1952	851	337	2111	766	526	1578	647	227	1126	451
Arrive On Green	0.13	0.76	0.76	0.10	0.41	0.41	0.20	0.41	0.41	0.07	0.22	0.22
Sat Flow, veh/h	3428	5106	1595	3456	5106	1595	3483	5147	1598	3401	5066	1556
Grp Volume(v), veh/h	282	1128	176	285	2151	285	443	1609	345	236	973	264
Grp Sat Flow(s),veh/h/ln	1714	1702	1595	1728	1702	1595	1742	1716	1598	1700	1689	1556
Q Serve(g_s), s	10.0	14.0	1.1	12.2	62.0	4.6	18.3	46.0	16.4	10.0	27.7	13.9
Cycle Q Clear(g_c), s	10.0	14.0	1.1	12.2	62.0	4.6	18.3	46.0	16.4	10.0	27.7	13.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	1952	851	337	2111	766	526	1578	647	227	1126	451
V/C Ratio(X)	1.23	0.58	0.21	0.84	1.02	0.37	0.84	1.02	0.53	1.04	0.86	0.59
Avail Cap(c_a), veh/h	229	1952	851	461	2111	766	526	1578	647	227	1216	478
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.33	1.33	1.33	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	65.0	12.5	2.6	66.6	44.0	12.6	58.2	44.4	15.2	70.0	56.2	21.6
Incr Delay (d2), s/veh	137.1	0.4	0.1	10.2	24.6	0.3	11.7	27.7	3.1	70.9	8.9	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	3.6	0.6	5.8	30.1	3.9	8.6	22.0	5.7	6.5	12.6	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	202.1	13.0	2.7	76.7	68.6	12.9	70.0	72.1	18.3	140.9	65.0	27.1
LnGrp LOS	F	B	A	E	F	B	E	F	B	F	E	C
Approach Vol, veh/h		1586			2721			2397			1473	
Approach Delay, s/veh		45.5			63.6			63.9			70.4	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.7	39.3	15.0	68.0	15.0	52.0	19.6	63.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	36.0	10.0	62.0	10.0	46.0	20.0	52.0
Max Q Clear Time (g_c+I1), s	20.3	29.7	12.0	64.0	12.0	48.0	14.2	16.0
Green Ext Time (p_c), s	0.0	3.6	0.0	0.0	0.0	0.0	0.5	10.2

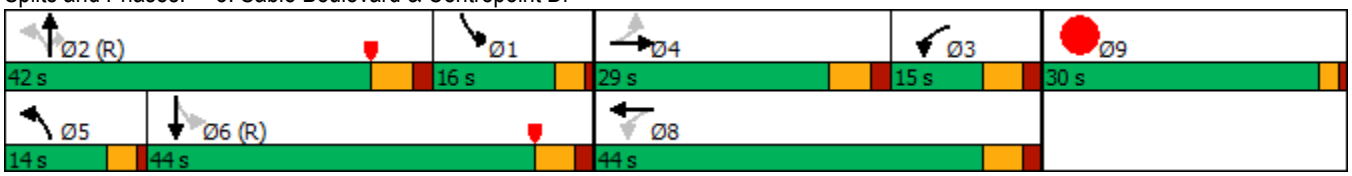
Intersection Summary	
HCM 6th Ctrl Delay	61.4
HCM 6th LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	25	90	30	180	20	520	70	85	355	25
Future Volume (vph)	15	15	25	90	30	180	20	520	70	85	355	25
Satd. Flow (prot)	1805	1659	0	1492	2643	0	1805	3610	1429	1367	3504	0
Flt Permitted	0.580			0.724			0.454			0.426		
Satd. Flow (perm)	1091	1659	0	1137	2643	0	860	3610	1375	606	3504	0
Satd. Flow (RTOR)		32			212				149		5	
Lane Group Flow (vph)	19	51	0	106	247	0	23	598	80	100	447	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Total Split (s)	29.0	29.0		15.0	44.0		14.0	42.0	42.0	16.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	8.0	8.0		22.3	22.3		83.2	81.2	81.2	87.3	85.3	
Actuated g/C Ratio	0.06	0.06		0.17	0.17		0.63	0.62	0.62	0.66	0.65	
v/c Ratio	0.29	0.39		0.48	0.40		0.04	0.27	0.09	0.23	0.20	
Control Delay	69.2	37.1		55.9	10.6		15.4	15.0	0.2	39.1	31.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	69.2	37.1		55.9	10.6		15.4	15.0	0.2	39.1	31.6	
LOS	E	D		E	B		B	B	A	D	C	
Approach Delay		45.8			24.2			13.3			33.0	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)	16	16		81	13		6	104	0	64	158	
Queue Length 95th (ft)	37	46		124	41		29	240	0	132	238	
Internal Link Dist (ft)		258			445			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	190	315		221	911		613	2220	902	494	2265	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.10	0.16		0.48	0.27		0.04	0.27	0.09	0.20	0.20	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 54 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 23.4 — Intersection LOS: C
Intersection Capacity Utilization 55.7% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



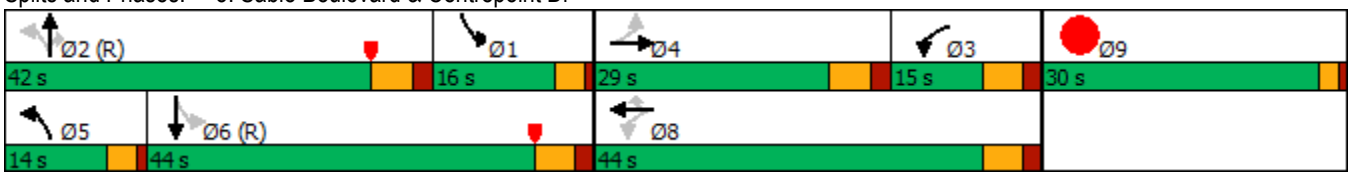
Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	25	90	30	180	20	520	70	85	355	25
Future Volume (vph)	15	15	25	90	30	180	20	520	70	85	355	25
Satd. Flow (prot)	1805	1659	0	1492	1900	1357	1805	3610	1429	1367	3501	0
Flt Permitted	0.734			0.724			0.454			0.426		
Satd. Flow (perm)	1376	1659	0	1137	1900	1322	858	3610	1375	606	3501	0
Satd. Flow (RTOR)		32				212			149		5	
Lane Group Flow (vph)	19	51	0	106	35	212	23	598	80	100	447	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Total Split (s)	29.0	29.0		15.0	44.0	44.0	14.0	42.0	42.0	16.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	7.6	7.6		22.2	22.2	22.2	83.2	81.2	81.2	87.4	85.4	
Actuated g/C Ratio	0.06	0.06		0.17	0.17	0.17	0.63	0.62	0.62	0.66	0.65	
v/c Ratio	0.24	0.40		0.48	0.11	0.53	0.04	0.27	0.09	0.23	0.20	
Control Delay	65.6	38.1		55.9	43.6	10.6	15.3	15.0	0.2	38.9	31.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.6	38.1		55.9	43.6	10.6	15.3	15.0	0.2	38.9	31.5	
LOS	E	D		E	D	B	B	B	A	D	C	
Approach Delay		45.6			27.5			13.3			32.9	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)	16	16		81	25	0	6	104	0	64	158	
Queue Length 95th (ft)	36	46		125	51	53	29	238	0	132	238	
Internal Link Dist (ft)		258			445			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	239	315		221	546	531	612	2221	903	494	2265	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.08	0.16		0.48	0.06	0.40	0.04	0.27	0.09	0.20	0.20	

Intersection Summary	
Cycle Length: 132	
Actuated Cycle Length: 132	
Offset: 54 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 24.1	Intersection LOS: C
Intersection Capacity Utilization 55.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	65	10	135	165	105	40	445	140	70	335	65
Future Volume (vph)	60	65	10	135	165	105	40	445	140	70	335	65
Satd. Flow (prot)	1556	1858	0	1805	1900	1599	1752	3377	0	1805	3471	1404
Flt Permitted	0.354			0.704			0.459			0.405		
Satd. Flow (perm)	579	1858	0	1334	1900	1577	844	3377	0	765	3471	1367
Satd. Flow (RTOR)		7				127		28				118
Lane Group Flow (vph)	65	82	0	152	185	118	44	650	0	82	394	76
Turn Type	pm+pt	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	12.0	50.0		38.0	38.0	38.0	12.0	17.0		12.0	17.0	17.0
Total Lost Time (s)	4.0	5.0		5.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	30.1	29.1		19.5	19.5	19.5	64.1	62.1		64.2	62.2	62.2
Actuated g/C Ratio	0.25	0.24		0.16	0.16	0.16	0.53	0.52		0.54	0.52	0.52
v/c Ratio	0.31	0.18		0.70	0.60	0.33	0.09	0.37		0.17	0.22	0.10
Control Delay	35.4	30.4		63.8	53.7	8.0	26.4	23.5		27.6	23.8	2.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	35.4	30.4		63.8	53.7	8.0	26.4	23.5		27.6	23.8	2.7
LOS	D	C		E	D	A	C	C		C	C	A
Approach Delay		32.6			45.2			23.6			21.4	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	39	45		113	135	0	14	134		27	75	0
Queue Length 95th (ft)	68	78		169	191	40	66	#468		104	#258	10
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	210	701		366	522	525	516	1761		478	1798	765
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.31	0.12		0.42	0.35	0.22	0.09	0.37		0.17	0.22	0.10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 104 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 29.0 — Intersection LOS: C
Intersection Capacity Utilization 56.9% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	65	10	135	165	105	40	445	140	70	335	65
Future Volume (vph)	60	65	10	135	165	105	40	445	140	70	335	65
Satd. Flow (prot)	1556	1858	0	1805	1900	1599	1752	3377	0	1805	3471	1404
Flt Permitted	0.455			0.606			0.464			0.405		
Satd. Flow (perm)	744	1858	0	1148	1900	1577	853	3377	0	765	3471	1367
Satd. Flow (RTOR)		6				127		28				118
Lane Group Flow (vph)	65	82	0	152	185	118	44	650	0	82	394	76
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	12.0	38.0		12.0	38.0	38.0	12.0	17.0		12.0	17.0	17.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	23.4	16.2		24.6	17.2	17.2	66.4	64.4		66.6	64.6	64.6
Actuated g/C Ratio	0.20	0.14		0.20	0.14	0.14	0.55	0.54		0.56	0.54	0.54
v/c Ratio	0.33	0.32		0.54	0.68	0.35	0.08	0.36		0.17	0.21	0.10
Control Delay	38.5	44.5		44.7	60.9	9.1	24.0	22.0		25.7	22.0	2.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.5	44.5		44.7	60.9	9.1	24.0	22.0		25.7	22.0	2.5
LOS	D	D		D	E	A	C	C		C	C	A
Approach Delay		41.8			42.0			22.1			19.8	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)	40	53		97	138	0	14	128		25	72	0
Queue Length 95th (ft)	72	96		144	200	42	63	#414		99	200	10
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	201	515		283	522	525	536	1825		493	1868	790
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.32	0.16		0.54	0.35	0.22	0.08	0.36		0.17	0.21	0.10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 104 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 27.9 — Intersection LOS: C
Intersection Capacity Utilization 56.5% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

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	40	130	5	5	290	95	35	30	25	40	5	35
Future Vol, veh/h	40	130	5	5	290	95	35	30	25	40	5	35
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	4	4	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	300	-	100	-	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	89	89	89	84	84	84	81	81	81
Heavy Vehicles, %	0	2	0	0	1	3	4	5	5	22	0	0
Mvmt Flow	43	138	5	6	326	107	42	36	30	49	6	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	435	0	0	144	0	0	645	675	146	604	570	329
Stage 1	-	-	-	-	-	-	228	228	-	340	340	-
Stage 2	-	-	-	-	-	-	417	447	-	264	230	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.14	6.55	6.25	7.32	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.55	-	6.32	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.55	-	6.32	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.536	4.045	3.345	3.698	4	3.3
Pot Cap-1 Maneuver	1140	-	-	1473	-	-	382	372	954	383	434	849
Stage 1	-	-	-	-	-	-	811	729	-	745	692	-
Stage 2	-	-	-	-	-	-	691	598	-	736	737	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	1138	-	-	1471	-	-	346	355	950	330	414	847
Mov Cap-2 Maneuver	-	-	-	-	-	-	346	355	-	330	414	-
Stage 1	-	-	-	-	-	-	780	701	-	715	688	-
Stage 2	-	-	-	-	-	-	647	594	-	648	708	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.1	16.3	13.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	425	1138	-	-	1471	-	-	330	414	847
HCM Lane V/C Ratio	0.252	0.037	-	-	0.004	-	-	0.15	0.015	0.051
HCM Control Delay (s)	16.3	8.3	-	-	7.5	-	-	17.8	13.8	9.5
HCM Lane LOS	C	A	-	-	A	-	-	C	B	A
HCM 95th %tile Q(veh)	1	0.1	-	-	0	-	-	0.5	0	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	90	5	75	40	15	55	20	225	1985	5	20	1195
Future Volume (veh/h)	90	5	75	40	15	55	20	225	1985	5	20	1195
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj	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	1900	1841	1752	1900	1870		1885	1885	1693	1826	1870
Adj Flow Rate, veh/h	95	5	79	48	18	66		253	2230	6	23	1358
Peak Hour Factor	0.95	0.95	0.95	0.83	0.83	0.83		0.89	0.89	0.89	0.88	0.88
Percent Heavy Veh, %	2	0	4	10	0	2		1	1	14	5	2
Cap, veh/h	194	9	309	74	36	76		388	3825	10	135	2954
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20		0.07	0.72	0.72	1.00	1.00
Sat Flow, veh/h	741	46	1558	206	180	385		1795	5299	14	167	4693
Grp Volume(v), veh/h	100	0	79	132	0	0		253	1444	792	23	985
Grp Sat Flow(s),veh/h/ln	787	0	1558	771	0	0		1795	1716	1883	167	1702
Q Serve(g_s), s	0.0	0.0	6.4	8.8	0.0	0.0		7.2	30.3	30.3	4.6	0.0
Cycle Q Clear(g_c), s	18.7	0.0	6.4	27.5	0.0	0.0		7.2	30.3	30.3	21.1	0.0
Prop In Lane	0.95		1.00	0.36		0.50		1.00		0.01	1.00	
Lane Grp Cap(c), veh/h	203	0	309	186	0	0		388	2476	1359	135	2143
V/C Ratio(X)	0.49	0.00	0.26	0.71	0.00	0.00		0.65	0.58	0.58	0.17	0.46
Avail Cap(c_a), veh/h	223	0	332	209	0	0		629	2476	1359	135	2143
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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	0.0	50.8	61.9	0.0	0.0		7.5	10.0	10.0	1.8	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.4	9.5	0.0	0.0		1.9	1.0	1.8	2.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	2.6	5.5	0.0	0.0		2.8	10.6	12.0	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	0.0	51.2	71.3	0.0	0.0		9.3	11.0	11.9	4.6	0.7
LnGrp LOS	E	A	D	E	A	A		A	B	B	A	A
Approach Vol, veh/h		179			132				2489			1523
Approach Delay, s/veh		54.7			71.3				11.1			1.0
Approach LOS		D			E				B			A

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		114.3		35.7	13.8	100.4		35.7				
Change Period (Y+Rc), s		6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s		106.0		32.0	30.0	72.0		32.0				
Max Q Clear Time (g_c+I1), s		32.3		20.7	9.2	23.1		29.5				
Green Ext Time (p_c), s		32.9		0.6	0.7	16.1		0.1				

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

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	125
Future Volume (veh/h)	125
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1885
Adj Flow Rate, veh/h	142
Peak Hour Factor	0.88
Percent Heavy Veh, %	1
Cap, veh/h	309
Arrive On Green	1.00
Sat Flow, veh/h	491
Grp Volume(v), veh/h	515
Grp Sat Flow(s),veh/h/ln	1779
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.28
Lane Grp Cap(c), veh/h	1120
V/C Ratio(X)	0.46
Avail Cap(c_a), veh/h	1120
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	1.4
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.4
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	1.4
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	5	75	40	15	55	225	2005	5	20	1215	125
Future Volume (veh/h)	90	5	75	40	15	55	225	2005	5	20	1215	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		1.00
Parking Bus, Adj	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	1900	1841	1752	1900	1870	1885	1885	1693	1826	1870	1885
Adj Flow Rate, veh/h	95	5	79	48	18	66	253	2253	6	23	1381	142
Peak Hour Factor	0.95	0.95	0.95	0.83	0.83	0.83	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %	2	0	4	10	0	2	1	1	14	5	2	1
Cap, veh/h	180	179	236	189	24	89	385	4051	11	144	3476	1083
Arrive On Green	0.06	0.09	0.09	0.03	0.07	0.07	0.06	0.76	0.76	1.00	1.00	1.00
Sat Flow, veh/h	1781	1900	1555	1668	355	1303	1795	5299	14	163	5106	1591
Grp Volume(v), veh/h	95	5	79	48	0	84	253	1458	801	23	1381	142
Grp Sat Flow(s),veh/h/ln	1781	1900	1555	1668	0	1659	1795	1716	1883	163	1702	1591
Q Serve(g_s), s	7.3	0.4	6.8	4.0	0.0	7.5	6.1	26.1	26.1	3.6	0.0	0.0
Cycle Q Clear(g_c), s	7.3	0.4	6.8	4.0	0.0	7.5	6.1	26.1	26.1	17.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.79	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	180	179	236	189	0	113	385	2623	1439	144	3476	1083
V/C Ratio(X)	0.53	0.03	0.33	0.25	0.00	0.74	0.66	0.56	0.56	0.16	0.40	0.13
Avail Cap(c_a), veh/h	191	329	359	199	0	243	474	2623	1439	144	3476	1083
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	0.93	0.93	0.93
Uniform Delay (d), s/veh	58.7	61.7	56.9	62.2	0.0	68.6	5.5	7.2	7.2	1.1	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.1	0.8	0.7	0.0	9.1	2.4	0.9	1.6	2.2	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.2	2.8	1.8	0.0	3.5	2.3	8.5	9.7	0.1	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	61.7	57.7	62.8	0.0	77.7	7.8	8.1	8.8	3.3	0.3	0.2
LnGrp LOS	E	E	E	E	A	E	A	A	A	A	A	A
Approach Vol, veh/h		179			132			2512			1546	
Approach Delay, s/veh		59.6			72.3			8.3			0.4	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		120.7	9.2	20.2	12.6	108.1	13.1	16.3
Change Period (Y+Rc), s		6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s		102.0	6.0	26.0	16.0	82.0	10.0	22.0
Max Q Clear Time (g_c+I1), s		28.1	6.0	8.8	8.1	19.1	9.3	9.5
Green Ext Time (p_c), s		33.6	0.0	0.2	0.4	17.1	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	42.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	0	45	65	5	55	80	1995	55	20	1230	40
Future Vol, veh/h	70	0	45	65	5	55	80	1995	55	20	1230	40
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	88	88	88	89	89	89	91	91	91
Heavy Vehicles, %	0	0	0	2	0	0	0	1	3	0	2	0
Mvmt Flow	92	0	59	74	6	63	90	2242	62	22	1352	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2498	3902	701	3041	3893	1152	1396	0	0	2304	0	0
Stage 1	1418	1418	-	2453	2453	-	-	-	-	-	-	-
Stage 2	1080	2484	-	588	1440	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.44	6.5	7.1	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.34	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.74	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.82	4	3.9	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*314	7	*640	*274	8	*449	781	-	-	*565	-	-
Stage 1	*599	588	-	*291	326	-	-	-	-	-	-	-
Stage 2	*461	306	-	*654	570	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*~ 38	6	*638	*220	6	*449	781	-	-	*565	-	-
Mov Cap-2 Maneuver	*~ 38	6	-	*220	6	-	-	-	-	-	-	-
Stage 1	*530	565	-	*257	289	-	-	-	-	-	-	-
Stage 2	*344	271	-	*568	548	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 838	$ 314.4	0.4	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	781	-	-	60	100	* 565	-	-
HCM Lane V/C Ratio	0.115	-	-	2.522	1.42	0.039	-	-
HCM Control Delay (s)	10.2	-	-	$ 838	$ 314.4	11.6	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	15.2	10.4	0.1	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	70	0	45	65	5	55	20	80	1995	55	20	1230
Future Volume (veh/h)	70	0	45	65	5	55	20	80	1995	55	20	1230
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99		1.00		1.00	1.00	
Parking Bus, Adj	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	1900	1900	1900	1870	1900	1900		1900	1885	1856	1900	1870
Adj Flow Rate, veh/h	92	0	59	74	6	62		90	2242	62	22	1352
Peak Hour Factor	0.76	0.76	0.76	0.88	0.88	0.88		0.89	0.89	0.89	0.91	0.91
Percent Heavy Veh, %	0	0	0	2	0	0		0	1	3	0	2
Cap, veh/h	148	6	74	134	19	90		388	3743	103	200	3629
Arrive On Green	0.14	0.00	0.14	0.14	0.14	0.14		0.07	1.00	1.00	0.04	1.00
Sat Flow, veh/h	783	43	530	695	134	643		1810	5149	142	1810	5079
Grp Volume(v), veh/h	151	0	0	142	0	0		90	1492	812	22	906
Grp Sat Flow(s),veh/h/ln	1356	0	0	1472	0	0		1810	1716	1860	1810	1702
Q Serve(g_s), s	2.8	0.0	0.0	0.0	0.0	0.0		2.0	0.0	0.0	0.5	0.0
Cycle Q Clear(g_c), s	16.5	0.0	0.0	13.7	0.0	0.0		2.0	0.0	0.0	0.5	0.0
Prop In Lane	0.61		0.39	0.52		0.44		1.00		0.08	1.00	
Lane Grp Cap(c), veh/h	228	0	0	242	0	0		388	2494	1352	200	2432
V/C Ratio(X)	0.66	0.00	0.00	0.59	0.00	0.00		0.23	0.60	0.60	0.11	0.37
Avail Cap(c_a), veh/h	353	0	0	370	0	0		449	2494	1352	248	2432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.79	0.79	0.79	1.00	1.00
Uniform Delay (d), s/veh	62.6	0.0	0.0	61.3	0.0	0.0		4.9	0.0	0.0	5.2	0.0
Incr Delay (d2), s/veh	3.3	0.0	0.0	2.3	0.0	0.0		0.2	0.8	1.6	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
%ile BackOfQ(50%),veh/ln	5.8	0.0	0.0	5.3	0.0	0.0		0.7	0.3	0.6	0.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.9	0.0	0.0	63.5	0.0	0.0		5.1	0.8	1.6	5.5	0.4
LnGrp LOS	E	A	A	E	A	A		A	A	A	A	A
Approach Vol, veh/h		151			142				2394			1418
Approach Delay, s/veh		65.9			63.5				1.3			0.6
Approach LOS		E			E				A			A

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	115.1		26.9	9.9	113.2		26.9
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	92.0		34.0	10.0	89.0		34.0
Max Q Clear Time (g_c+I1), s	2.5	2.0		18.5	4.0	2.0		15.7
Green Ext Time (p_c), s	0.0	37.8		0.7	0.1	13.0		0.7

Intersection Summary	
HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	40
Future Volume (veh/h)	40
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	44
Peak Hour Factor	0.91
Percent Heavy Veh, %	0
Cap, veh/h	118
Arrive On Green	1.00
Sat Flow, veh/h	165
Grp Volume(v), veh/h	490
Grp Sat Flow(s),veh/h/ln	1841
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.09
Lane Grp Cap(c), veh/h	1315
V/C Ratio(X)	0.37
Avail Cap(c_a), veh/h	1315
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.8
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.3
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.8
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	30	135	75	40
Future Vol, veh/h	5	5	30	135	75	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	59	59	85	85	82	82
Heavy Vehicles, %	100	0	0	3	14	0
Mvmt Flow	8	8	35	159	91	49

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	345	70	140	0	-	0
Stage 1	116	-	-	-	-	-
Stage 2	229	-	-	-	-	-
Critical Hdwy	8.1	6.9	4.1	-	-	-
Critical Hdwy Stg 1	7.3	-	-	-	-	-
Critical Hdwy Stg 2	6.9	-	-	-	-	-
Follow-up Hdwy	4.45	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	467	1006	1469	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	456	1006	1469	-	-	-
Mov Cap-2 Maneuver	496	-	-	-	-	-
Stage 1	683	-	-	-	-	-
Stage 2	599	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1469	-	664	-	-
HCM Lane V/C Ratio	0.024	-	0.026	-	-
HCM Control Delay (s)	7.5	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	75	125	15	70	90
Future Vol, veh/h	25	75	125	15	70	90
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	90	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	87	87	88	88
Heavy Vehicles, %	0	0	4	0	0	6
Mvmt Flow	28	85	144	17	80	102

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	424	162	0	0	170	0
Stage 1	162	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	605	888	-	-	1420	-
Stage 1	872	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	566	880	-	-	1408	-
Mov Cap-2 Maneuver	622	-	-	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	753	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	3.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	797	1408	-
HCM Lane V/C Ratio	-	-	0.143	0.056	-
HCM Control Delay (s)	-	-	10.3	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	90	45	120	115	45	120
Future Vol, veh/h	90	45	120	115	45	120
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	86	86	91	91
Heavy Vehicles, %	20	10	3	2	0	25
Mvmt Flow	114	57	140	134	49	132

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	288	0	-	0	506	221
Stage 1	-	-	-	-	221	-
Stage 2	-	-	-	-	285	-
Critical Hdwy	4.3	-	-	-	6.4	6.45
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.38	-	-	-	3.5	3.525
Pot Cap-1 Maneuver	1178	-	-	-	534	764
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	775	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1162	-	-	-	468	754
Mov Cap-2 Maneuver	-	-	-	-	468	-
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	764	-

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1162	-	-	-	646
HCM Lane V/C Ratio	0.098	-	-	-	0.281
HCM Control Delay (s)	8.4	0	-	-	12.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱		↑↑↑		↱
Traffic Vol, veh/h	1510	20	0	2540	0	45
Future Vol, veh/h	1510	20	0	2540	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1716	23	0	2731	0	54

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	858
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*559
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*559
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	559	-	-	-
HCM Lane V/C Ratio	0.096	-	-	-
HCM Control Delay (s)	12.1	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

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

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1420	30	20	2605	0	55
Future Vol, veh/h	1420	30	20	2605	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1527	32	22	2801	0	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1559	0	-	780
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	-	3.92
Pot Cap-1 Maneuver	-	-	*736	-	0	*585
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	*736	-	-	*585
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	585	-	-	* 736	-
HCM Lane V/C Ratio	0.112	-	-	0.029	-
HCM Control Delay (s)	11.9	-	-	10	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1455	20	0	2625	0	35
Future Vol, veh/h	1455	20	0	2625	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1565	22	0	2823	0	42

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	794
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*585
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*585
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	585	-	-	-
HCM Lane V/C Ratio	0.071	-	-	-
HCM Control Delay (s)	11.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Notes

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

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	100	0	80	20	0	30	25	90	45	75	105	40
Future Vol, veh/h	100	0	80	20	0	30	25	90	45	75	105	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	119	0	95	24	0	36	30	107	54	89	125	48

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	539	548	149	569	545	134	173	0	0	161	0	0
Stage 1	327	327	-	194	194	-	-	-	-	-	-	-
Stage 2	212	221	-	375	351	-	-	-	-	-	-	-
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	453	444	898	433	446	915	1404	-	-	1418	-	-
Stage 1	686	648	-	808	740	-	-	-	-	-	-	-
Stage 2	790	720	-	646	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	405	403	898	360	405	915	1404	-	-	1418	-	-
Mov Cap-2 Maneuver	405	403	-	360	405	-	-	-	-	-	-	-
Stage 1	670	603	-	789	722	-	-	-	-	-	-	-
Stage 2	741	703	-	537	588	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	12.1	1.2	2.6
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1404	-	-	536	566	1418	-	-
HCM Lane V/C Ratio	0.021	-	-	0.4	0.105	0.063	-	-
HCM Control Delay (s)	7.6	0	-	16.1	12.1	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.9	0.4	0.2	-	-

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	20	0	0	50	0	15	0	20	25	20	10	20
Future Vol, veh/h	20	0	0	50	0	15	0	20	25	20	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	0	0	60	0	18	0	24	30	24	12	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	120	126	24	111	123	39	36	0	0	54	0	0
Stage 1	72	72	-	39	39	-	-	-	-	-	-	-
Stage 2	48	54	-	72	84	-	-	-	-	-	-	-
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	855	764	1052	867	767	1033	1575	-	-	1551	-	-
Stage 1	938	835	-	976	862	-	-	-	-	-	-	-
Stage 2	965	850	-	938	825	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	830	752	1052	857	755	1033	1575	-	-	1551	-	-
Mov Cap-2 Maneuver	830	752	-	857	755	-	-	-	-	-	-	-
Stage 1	938	822	-	976	862	-	-	-	-	-	-	-
Stage 2	948	850	-	923	812	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.4	0	2.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1575	-	-	830	892	1551	-	-
HCM Lane V/C Ratio	-	-	-	0.029	0.087	0.015	-	-
HCM Control Delay (s)	0	-	-	9.5	9.4	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	5	0	35	15	0	10	10	15	0	5
Future Vol, veh/h	10	10	5	0	35	15	0	10	10	15	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	12	6	0	42	18	0	12	12	18	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	60	0	0	18	0	0	93	99	15	102	93	51
Stage 1	-	-	-	-	-	-	39	39	-	51	51	-
Stage 2	-	-	-	-	-	-	54	60	-	51	42	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1544	-	-	1599	-	-	891	791	1065	879	797	1017
Stage 1	-	-	-	-	-	-	976	862	-	962	852	-
Stage 2	-	-	-	-	-	-	958	845	-	962	860	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1544	-	-	1599	-	-	880	785	1065	854	791	1017
Mov Cap-2 Maneuver	-	-	-	-	-	-	880	785	-	854	791	-
Stage 1	-	-	-	-	-	-	968	855	-	954	852	-
Stage 2	-	-	-	-	-	-	952	845	-	930	853	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.9	0	9.1	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	904	1544	-	-	1599	-	-	890
HCM Lane V/C Ratio	0.026	0.008	-	-	-	-	-	0.027
HCM Control Delay (s)	9.1	7.3	0	-	0	-	-	9.2
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	15	0	0	25	0	2060	40	0	1285	30
Future Vol, veh/h	0	0	15	0	0	25	0	2060	40	0	1285	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	88	88	88	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	18	0	0	30	0	2341	45	0	1412	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	723	-	-	1193	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	*620	0	0	*430	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %			1			1		-	-		-	-
Mov Cap-1 Maneuver	-	-	*620	-	-	*430	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	14	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	620	430	-	-
HCM Lane V/C Ratio	-	-	0.029	0.069	-	-
HCM Control Delay (s)	-	-	11	14	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-	-

Notes

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

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	25	5	235	75	20
Future Vol, veh/h	115	25	5	235	75	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	-	0	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	30	6	280	89	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	167	0	429	137
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	292	-
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	-	-	1428	-	604	968
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	758	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1428	-	602	968
Mov Cap-2 Maneuver	-	-	-	-	602	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	654	-	-	1428	-
HCM Lane V/C Ratio	0.173	-	-	0.004	-
HCM Control Delay (s)	11.7	-	-	7.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	20	75	15	10	45	20	170	10	15	70	5
Future Vol, veh/h	20	20	75	15	10	45	20	170	10	15	70	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	24	89	18	12	54	24	202	12	18	83	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	411	384	86	435	381	208	89	0	0	214	0	0
Stage 1	122	122	-	256	256	-	-	-	-	-	-	-
Stage 2	289	262	-	179	125	-	-	-	-	-	-	-
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	551	550	973	531	552	832	1506	-	-	1356	-	-
Stage 1	882	795	-	749	696	-	-	-	-	-	-	-
Stage 2	719	691	-	823	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	494	532	973	455	534	832	1506	-	-	1356	-	-
Mov Cap-2 Maneuver	494	532	-	455	534	-	-	-	-	-	-	-
Stage 1	866	784	-	736	683	-	-	-	-	-	-	-
Stage 2	649	679	-	715	781	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	11.2	0.7	1.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1506	-	-	741	662	1356	-	-
HCM Lane V/C Ratio	0.016	-	-	0.185	0.126	0.013	-	-
HCM Control Delay (s)	7.4	0	-	11	11.2	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	0	45	0	0	60
Future Vol, veh/h	10	0	45	0	0	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	54	0	0	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	125	54	0	0	54	0
Stage 1	54	-	-	-	-	-
Stage 2	71	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	870	1013	-	-	1551	-
Stage 1	969	-	-	-	-	-
Stage 2	952	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	870	1013	-	-	1551	-
Mov Cap-2 Maneuver	870	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	870	1551	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	-	-	9.2	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

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	0	0	0	10	5	0	15	0	0	5	0
Future Vol, veh/h	0	0	0	0	10	5	0	15	0	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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	12	6	0	18	0	0	6	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	18	0	0	1	0	0	19	19	1	25	16	15
Stage 1	-	-	-	-	-	-	1	1	-	15	15	-
Stage 2	-	-	-	-	-	-	18	18	-	10	1	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1599	-	-	1622	-	-	995	875	1084	986	878	1065
Stage 1	-	-	-	-	-	-	1022	895	-	1005	883	-
Stage 2	-	-	-	-	-	-	1001	880	-	1011	895	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1599	-	-	1622	-	-	990	875	1084	970	878	1065
Mov Cap-2 Maneuver	-	-	-	-	-	-	990	875	-	970	878	-
Stage 1	-	-	-	-	-	-	1022	895	-	1005	883	-
Stage 2	-	-	-	-	-	-	994	880	-	991	895	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.2	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	875	1599	-	-	1622	-	-	878
HCM Lane V/C Ratio	0.02	-	-	-	-	-	-	0.007
HCM Control Delay (s)	9.2	0	-	-	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	25	0	2075	45	10	1285	5
Future Vol, veh/h	0	0	5	0	0	25	0	2075	45	10	1285	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	88	88	88	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	6	0	0	30	0	2358	51	11	1412	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	709	-	-	1205	-	0	0	2409	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*620	0	0	*430	0	-	-	520	-	-
Stage 1	0	0	-	0	0	-	0	-	-	-	-	-
Stage 2	0	0	-	0	0	-	0	-	-	-	-	-
Platoon blocked, %			1			1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	*620	-	-	*430	-	-	-	520	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	14	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	620	430	520	-	-
HCM Lane V/C Ratio	-	-	0.01	0.069	0.021	-	-
HCM Control Delay (s)	-	-	10.9	14	12.1	-	-
HCM Lane LOS	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0	0.2	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	95	115	10	5	0
Future Vol, veh/h	5	95	115	10	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	113	137	12	6	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	149	0	-	0	268	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	125	-
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	1432	-	-	-	721	905
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	901	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1432	-	-	-	718	905
Mov Cap-2 Maneuver	-	-	-	-	718	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	901	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1432	-	-	-	718
HCM Lane V/C Ratio	0.004	-	-	-	0.008
HCM Control Delay (s)	7.5	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

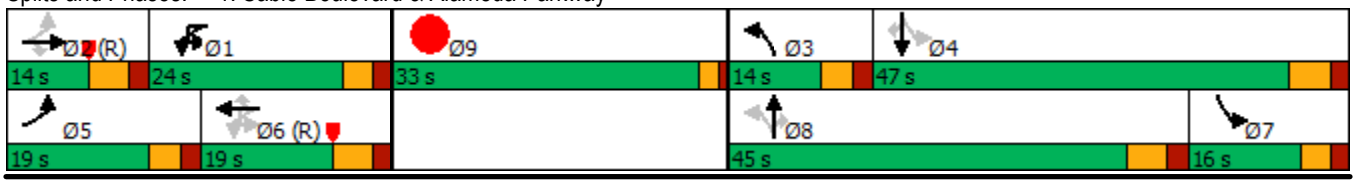
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	195	1810	270	5	90	1685	240	240	475	100	475	485
Future Volume (vph)	195	1810	270	5	90	1685	240	240	475	100	475	485
Satd. Flow (prot)	1787	5187	1568	0	3502	5136	1599	3303	3574	1615	3467	3539
Flt Permitted	0.252				0.237			0.320			0.461	
Satd. Flow (perm)	473	5187	1534	0	873	5136	1550	1103	3574	1569	1668	3539
Satd. Flow (RTOR)			190				190			149		
Lane Group Flow (vph)	207	1926	287	0	101	1793	255	261	516	109	511	522
Turn Type	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases	2		2	6	6		6	8		8	4	
Total Split (s)	19.0	14.0	14.0	24.0	24.0	19.0	19.0	14.0	45.0	45.0	16.0	47.0
Total Lost Time (s)	5.0	6.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Act Effct Green (s)	43.0	41.0	41.0		39.3	37.3	37.3	26.3	25.3	25.3	31.5	30.5
Actuated g/C Ratio	0.33	0.31	0.31		0.30	0.28	0.28	0.20	0.19	0.19	0.24	0.23
v/c Ratio	0.54	1.19	0.47		0.16	1.23	0.44	0.60	0.75	0.26	0.79	0.64
Control Delay	43.9	131.7	17.8		40.6	150.8	15.9	55.0	59.9	14.7	59.3	48.8
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	131.7	17.8		40.6	150.8	15.9	55.0	59.9	14.7	59.3	48.8
LOS	D	F	B		D	F	B	E	E	B	E	D
Approach Delay		110.7				129.6			52.9			47.5
Approach LOS		F				F			D			D
Queue Length 50th (ft)	127	~658	57		30	~645	40	73	153	4	204	215
Queue Length 95th (ft)	#361	#1247	#292		67	#1099	#184	155	289	m69	234	245
Internal Link Dist (ft)		573				350			1144			460
Turn Bay Length (ft)	250		175		175		100	275		275	150	
Base Capacity (vph)	380	1612	607		638	1452	574	433	1055	568	644	1099
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	1.19	0.47		0.16	1.23	0.44	0.60	0.49	0.19	0.79	0.47

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 2 (2%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.23
Intersection Signal Delay: 97.7 Intersection LOS: F
Intersection Capacity Utilization 94.7% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	SBR	Ø9
Lane Configurations		
Traffic Volume (vph)	155	
Future Volume (vph)	155	
Satd. Flow (prot)	1583	
Flt Permitted		
Satd. Flow (perm)	1528	
Satd. Flow (RTOR)	167	
Lane Group Flow (vph)	167	
Turn Type	Perm	
Protected Phases		9
Permitted Phases	4	
Total Split (s)	47.0	33.0
Total Lost Time (s)	6.0	
Act Effct Green (s)	30.5	
Actuated g/C Ratio	0.23	
v/c Ratio	0.35	
Control Delay	7.1	
Queue Delay	0.0	
Total Delay	7.1	
LOS	A	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	52	
Internal Link Dist (ft)		
Turn Bay Length (ft)	150	
Base Capacity (vph)	589	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.28	

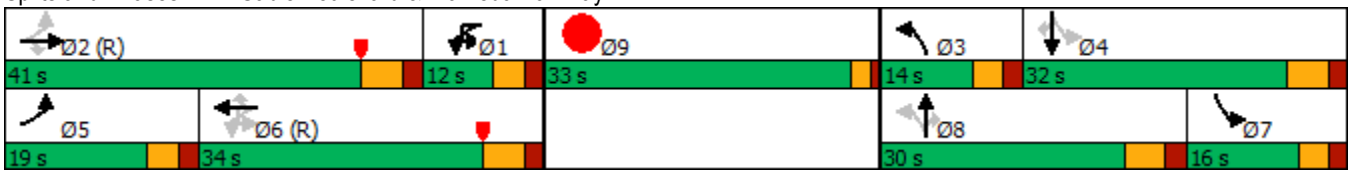
Intersection Summary

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	195	1810	270	5	90	1685	240	240	475	100	475	485
Future Volume (vph)	195	1810	270	5	90	1685	240	240	475	100	475	485
Satd. Flow (prot)	1787	5187	1568	0	3502	5136	1599	3303	3574	1615	3467	3539
Flt Permitted	0.114				0.110			0.377			0.461	
Satd. Flow (perm)	214	5187	1534	0	405	5136	1550	1299	3574	1569	1668	3539
Satd. Flow (RTOR)			190				182			190		
Lane Group Flow (vph)	207	1926	287	0	101	1793	255	261	516	109	511	522
Turn Type	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases	2		2	6	6		6	8		8	4	
Total Split (s)	19.0	41.0	41.0	12.0	12.0	34.0	34.0	14.0	30.0	30.0	16.0	32.0
Total Lost Time (s)	5.0	6.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Act Effct Green (s)	53.7	52.7	52.7		45.6	44.6	44.6	24.6	23.6	23.6	31.7	30.7
Actuated g/C Ratio	0.41	0.40	0.40		0.35	0.34	0.34	0.19	0.18	0.18	0.24	0.23
v/c Ratio	0.78	0.93	0.40		0.33	1.03	0.40	0.59	0.81	0.25	0.76	0.63
Control Delay	50.8	46.9	12.7		45.8	72.7	13.8	64.5	73.0	13.2	57.5	50.0
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.8	46.9	12.7		45.8	72.7	13.8	64.5	73.0	13.2	57.5	50.0
LOS	D	D	B		D	E	B	E	E	B	E	D
Approach Delay		43.2				64.5			63.1			47.2
Approach LOS		D				E			E			D
Queue Length 50th (ft)	112	545	50		29	558	42	106	227	8	199	210
Queue Length 95th (ft)	#299	#902	159		61	#909	141	167	306	70	#357	288
Internal Link Dist (ft)		573				350			1144			460
Turn Bay Length (ft)	250		175		175		100	275		275	150	
Base Capacity (vph)	273	2071	726		304	1736	644	439	672	449	674	823
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.93	0.40		0.33	1.03	0.40	0.59	0.77	0.24	0.76	0.63

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 2 (2%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 53.4 — Intersection LOS: D
Intersection Capacity Utilization 94.7% — ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	SBR	Ø9
Lane Configurations		
Traffic Volume (vph)	155	
Future Volume (vph)	155	
Satd. Flow (prot)	1583	
Flt Permitted		
Satd. Flow (perm)	1528	
Satd. Flow (RTOR)	182	
Lane Group Flow (vph)	167	
Turn Type	Perm	
Protected Phases		9
Permitted Phases	4	
Total Split (s)	32.0	33.0
Total Lost Time (s)	6.0	
Act Effct Green (s)	30.7	
Actuated g/C Ratio	0.23	
v/c Ratio	0.34	
Control Delay	6.6	
Queue Delay	0.0	
Total Delay	6.6	
LOS	A	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	49	
Internal Link Dist (ft)		
Turn Bay Length (ft)	150	
Base Capacity (vph)	495	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.34	

Intersection Summary

Intersection	
Int Delay, s/veh	2.3

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	5	35	2355	1825	15	15	120
Future Vol, veh/h	5	35	2355	1825	15	15	120
Conflicting Peds, #/hr	0	6	0	0	6	2	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	150	-	-	-	0	0
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	70	70
Heavy Vehicles, %	0	0	1	1	0	0	0
Mvmt Flow	5	37	2479	1921	16	21	171

Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	1414	1943	0	-	0	3013	975
Stage 1	-	-	-	-	-	1935	-
Stage 2	-	-	-	-	-	1078	-
Critical Hdwy	5.6	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	-	6	-
Follow-up Hdwy	2.3	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	*856	*635	-	-	-	*27	*505
Stage 1	-	-	-	-	-	*518	-
Stage 2	-	-	-	-	-	*375	-
Platoon blocked, %	1	1	-	-	-		1
Mov Cap-1 Maneuver	*634	*634	-	-	-	*25	*502
Mov Cap-2 Maneuver	-	-	-	-	-	*25	-
Stage 1	-	-	-	-	-	*481	-
Stage 2	-	-	-	-	-	*372	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	53.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	* 634	-	-	-	25	502
HCM Lane V/C Ratio	0.066	-	-	-	0.857	0.341
HCM Control Delay (s)	11.1	-	-	-	$ 354.7	15.8
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	2.6	1.5

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	2260	55	160	1660	85	115	15	160	40	15	65
Future Volume (veh/h)	55	2260	55	160	1660	85	115	15	160	40	15	65
Initial Q (Qb), 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	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1767	1885	1900	1870	1900	1767	1900	1900	1900
Adj Flow Rate, veh/h	59	2404	59	170	1766	90	129	17	180	48	18	77
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.89	0.89	0.89	0.84	0.84	0.84
Percent Heavy Veh, %	0	1	0	9	1	0	2	0	9	0	0	0
Cap, veh/h	263	3862	94	117	3505	178	271	25	265	128	342	286
Arrive On Green	0.02	0.75	0.75	1.00	1.00	1.00	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1810	5166	126	129	5014	255	1284	139	1470	1195	1900	1586
Grp Volume(v), veh/h	59	1593	870	170	1208	648	129	0	197	48	18	77
Grp Sat Flow(s),veh/h/ln	1810	1716	1862	129	1716	1838	1284	0	1609	1195	1900	1586
Q Serve(g_s), s	1.3	31.7	32.1	76.3	0.0	0.0	13.4	0.0	16.6	5.7	1.1	6.1
Cycle Q Clear(g_c), s	1.3	31.7	32.1	101.4	0.0	0.0	14.5	0.0	16.6	22.3	1.1	6.1
Prop In Lane	1.00		0.07	1.00		0.14	1.00		0.91	1.00		1.00
Lane Grp Cap(c), veh/h	263	2565	1392	117	2399	1285	271	0	290	128	342	286
V/C Ratio(X)	0.22	0.62	0.62	1.45	0.50	0.50	0.48	0.00	0.68	0.37	0.05	0.27
Avail Cap(c_a), veh/h	325	2565	1392	117	2399	1285	310	0	338	164	400	334
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.3	8.6	8.7	28.7	0.0	0.0	55.2	0.0	55.5	65.9	49.2	51.2
Incr Delay (d2), s/veh	0.2	1.1	2.1	243.1	0.8	1.4	0.5	0.0	3.0	0.7	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	10.6	12.0	12.1	0.3	0.5	4.4	0.0	7.0	1.8	0.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.5	9.8	10.8	271.8	0.8	1.4	55.7	0.0	58.5	66.6	49.2	51.4
LnGrp LOS	A	A	B	F	A	A	E	A	E	E	D	D
Approach Vol, veh/h		2522			2026			326			143	
Approach Delay, s/veh		10.0			23.7			57.4			56.2	
Approach LOS		B			C			E			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		113.4		31.6	7.0	106.4		31.6				
Change Period (Y+Rc), s		5.0		5.5	4.0	5.0		5.5				
Max Green Setting (Gmax), s		104.0		30.5	8.0	92.0		30.5				
Max Q Clear Time (g_c+I1), s		34.1		18.6	3.3	103.4		24.3				
Green Ext Time (p_c), s		39.1		0.8	0.0	0.0		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	20.0
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)	55	2260	55	160	1660	85	115	15	160	40	15	65
Future Volume (veh/h)	55	2260	55	160	1660	85	115	15	160	40	15	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1767	1885	1900	1870	1900	1767	1900	1900	1900
Adj Flow Rate, veh/h	59	2404	59	170	1766	90	129	17	180	48	18	77
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.89	0.89	0.89	0.84	0.84	0.84
Percent Heavy Veh, %	0	1	0	9	1	0	2	0	9	0	0	0
Cap, veh/h	257	3440	84	189	3498	178	271	25	265	128	342	286
Arrive On Green	0.02	0.67	0.67	0.11	1.00	1.00	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1810	5166	126	1682	5014	255	1284	139	1470	1195	1900	1586
Grp Volume(v), veh/h	59	1593	870	170	1208	648	129	0	197	48	18	77
Grp Sat Flow(s),veh/h/ln	1810	1716	1862	1682	1716	1838	1284	0	1609	1195	1900	1586
Q Serve(g_s), s	1.5	42.0	42.5	5.8	0.0	0.0	13.4	0.0	16.6	5.7	1.1	6.1
Cycle Q Clear(g_c), s	1.5	42.0	42.5	5.8	0.0	0.0	14.5	0.0	16.6	22.3	1.1	6.1
Prop In Lane	1.00		0.07	1.00		0.14	1.00		0.91	1.00		1.00
Lane Grp Cap(c), veh/h	257	2285	1240	189	2394	1282	271	0	290	128	342	286
V/C Ratio(X)	0.23	0.70	0.70	0.90	0.50	0.51	0.48	0.00	0.68	0.37	0.05	0.27
Avail Cap(c_a), veh/h	317	2285	1240	190	2394	1282	310	0	338	164	400	334
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	15.1	15.2	32.3	0.0	0.0	55.2	0.0	55.5	65.9	49.2	51.2
Incr Delay (d2), s/veh	0.2	1.8	3.3	38.8	0.8	1.4	0.5	0.0	3.0	0.7	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	0.6	15.6	17.6	5.9	0.3	0.5	4.4	0.0	7.0	1.8	0.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	16.9	18.5	71.1	0.8	1.4	55.7	0.0	58.5	66.6	49.2	51.4
LnGrp LOS	A	B	B	E	A	A	E	A	E	E	D	D
Approach Vol, veh/h		2522			2026			326			143	
Approach Delay, s/veh		17.2			6.9			57.4			56.2	
Approach LOS		B			A			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.8	101.6		31.6	7.2	106.2		31.6
Change Period (Y+Rc), s	4.0	5.0		5.5	4.0	5.0		5.5
Max Green Setting (Gmax), s	8.0	92.0		30.5	8.0	92.0		30.5
Max Q Clear Time (g_c+I1), s	7.8	44.5		18.6	3.5	2.0		24.3
Green Ext Time (p_c), s	0.0	31.2		0.8	0.0	23.1		0.1

Intersection Summary	
HCM 6th Ctrl Delay	16.8
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)	305	1815	385	250	1235	190	365	1305	295	565	1630	345
Future Volume (veh/h)	305	1815	385	250	1235	190	365	1305	295	565	1630	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	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	1885	1885	1900	1870	1856	1885	1885	1900	1885	1900	1870
Adj Flow Rate, veh/h	332	1973	418	275	1357	209	397	1418	321	601	1734	367
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	1	1	0	2	3	1	1	0	1	0	2
Cap, veh/h	310	1668	699	194	1321	203	408	1329	300	1477	3273	1138
Arrive On Green	0.18	0.65	0.65	0.06	0.30	0.30	0.12	0.32	0.32	0.42	0.63	0.63
Sat Flow, veh/h	3456	5147	1578	3510	4454	686	3483	4190	946	3483	5187	1578
Grp Volume(v), veh/h	332	1973	418	275	1037	529	397	1161	578	601	1734	367
Grp Sat Flow(s),veh/h/ln	1728	1716	1578	1755	1702	1736	1742	1716	1704	1742	1729	1578
Q Serve(g_s), s	13.0	47.0	28.6	8.0	43.0	43.0	16.5	46.0	46.0	17.4	26.9	12.3
Cycle Q Clear(g_c), s	13.0	47.0	28.6	8.0	43.0	43.0	16.5	46.0	46.0	17.4	26.9	12.3
Prop In Lane	1.00		1.00	1.00		0.40	1.00		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	310	1668	699	194	1009	515	408	1088	541	1477	3273	1138
V/C Ratio(X)	1.07	1.18	0.60	1.42	1.03	1.03	0.97	1.07	1.07	0.41	0.53	0.32
Avail Cap(c_a), veh/h	310	1668	699	194	1009	515	408	1088	541	1477	3273	1138
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	25.5	22.5	68.5	51.0	51.0	63.8	49.5	49.5	29.1	14.8	7.4
Incr Delay (d2), s/veh	71.4	88.7	1.4	216.4	35.5	46.9	37.1	46.8	58.8	0.2	0.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	25.5	6.9	9.4	22.9	25.0	9.3	26.3	27.9	7.3	10.2	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	130.9	114.2	23.9	284.9	86.5	97.9	100.9	96.3	108.3	29.2	15.4	8.1
LnGrp LOS	F	F	C	F	F	F	F	F	F	C	B	A
Approach Vol, veh/h		2723			1841			2136			2702	
Approach Delay, s/veh		102.4			119.4			100.4			17.5	
Approach LOS		F			F			F			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	97.6	18.0	49.0	67.6	52.0	14.0	53.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	6.0	* 6	6.0	* 6
Max Green Setting (Gmax), s	17.0	51.0	13.0	42.0	22.0	* 46	8.0	* 47
Max Q Clear Time (g_c+I1), s	18.5	28.9	15.0	45.0	19.4	48.0	10.0	49.0
Green Ext Time (p_c), s	0.0	14.5	0.0	0.0	0.7	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	80.9
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)	305	1815	385	250	1235	190	365	1305	295	565	1630	345
Future Volume (veh/h)	305	1815	385	250	1235	190	365	1305	295	565	1630	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	1885	1885	1900	1870	1856	1885	1885	1900	1885	1900	1870
Adj Flow Rate, veh/h	332	1973	418	275	1357	209	397	1418	321	601	1734	367
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	1	1	0	2	3	1	1	0	1	0	2
Cap, veh/h	374	1810	887	242	1595	724	723	2154	780	528	1846	731
Arrive On Green	0.22	0.70	0.70	0.07	0.31	0.31	0.41	0.84	0.84	0.15	0.36	0.36
Sat Flow, veh/h	3456	5147	1580	3510	5106	1553	3483	5147	1599	3483	5187	1572
Grp Volume(v), veh/h	332	1973	418	275	1357	209	397	1418	321	601	1734	367
Grp Sat Flow(s),veh/h/ln	1728	1716	1580	1755	1702	1553	1742	1716	1599	1742	1729	1572
Q Serve(g_s), s	13.5	51.0	3.9	10.0	36.1	12.1	12.5	14.5	7.0	22.0	46.9	15.6
Cycle Q Clear(g_c), s	13.5	51.0	3.9	10.0	36.1	12.1	12.5	14.5	7.0	22.0	46.9	15.6
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	374	1810	887	242	1595	724	723	2154	780	528	1846	731
V/C Ratio(X)	0.89	1.09	0.47	1.14	0.85	0.29	0.55	0.66	0.41	1.14	0.94	0.50
Avail Cap(c_a), veh/h	405	1810	887	242	1595	724	723	2154	780	528	1860	735
HCM Platoon Ratio	2.00	2.00	2.00	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	55.9	21.5	6.4	67.5	46.7	24.1	37.3	8.0	5.8	61.5	45.2	17.7
Incr Delay (d2), s/veh	19.6	50.2	0.4	99.4	4.6	0.2	0.9	1.6	1.6	82.8	10.8	2.5
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	6.2	19.1	2.9	7.8	15.7	4.5	4.7	3.2	2.0	15.7	21.5	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.5	71.7	6.8	166.9	51.3	24.3	38.2	9.6	7.4	144.3	56.0	20.1
LnGrp LOS	E	F	A	F	D	C	D	A	A	F	E	C
Approach Vol, veh/h		2723			1841			2136			2702	
Approach Delay, s/veh		62.2			65.5			14.6			70.8	
Approach LOS		E			E			B			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.7	57.6	20.7	51.3	27.0	67.3	15.0	57.0
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	* 52	17.0	44.0	22.0	40.0	10.0	51.0
Max Q Clear Time (g_c+I1), s	14.5	48.9	15.5	38.1	24.0	16.5	12.0	53.0
Green Ext Time (p_c), s	0.0	2.7	0.2	4.2	0.0	12.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.5
HCM 6th LOS	D

Notes

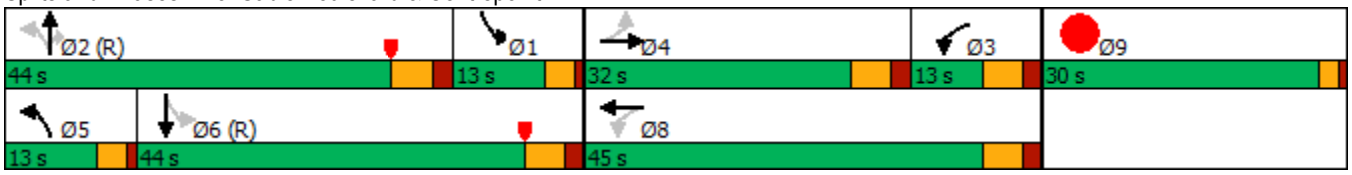
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	85	120	65	70	145	100	550	75	135	605	105
Future Volume (vph)	120	85	120	65	70	145	100	550	75	135	605	105
Satd. Flow (prot)	1805	1733	0	1543	2736	0	1805	3574	1324	1347	3518	0
Flt Permitted	0.557			0.374			0.259			0.429		
Satd. Flow (perm)	1044	1733	0	607	2736	0	492	3574	1291	605	3518	0
Satd. Flow (RTOR)		48			161				149		15	
Lane Group Flow (vph)	135	231	0	72	239	0	108	591	81	144	756	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Total Split (s)	32.0	32.0		13.0	45.0		13.0	44.0	44.0	13.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	20.6	20.6		30.9	29.8		70.4	68.4	68.4	73.3	71.3	
Actuated g/C Ratio	0.16	0.16		0.23	0.23		0.53	0.52	0.52	0.56	0.54	
v/c Ratio	0.83	0.75		0.40	0.32		0.31	0.32	0.11	0.36	0.40	
Control Delay	90.1	56.0		48.8	14.0		23.6	23.0	0.3	18.6	14.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	90.1	56.0		48.8	14.0		23.6	23.0	0.3	18.6	14.6	
LOS	F	E		D	B		C	C	A	B	B	
Approach Delay		68.6			22.1			20.7			15.2	
Approach LOS		E			C			C			B	
Queue Length 50th (ft)	112	151		49	27		43	144	0	35	106	
Queue Length 95th (ft)	#185	231		88	60		120	295	0	88	190	
Internal Link Dist (ft)		258			445			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	205	379		198	921		358	1859	743	402	1907	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.66	0.61		0.36	0.26		0.30	0.32	0.11	0.36	0.40	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 113 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 26.2 — Intersection LOS: C
Intersection Capacity Utilization 66.5% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

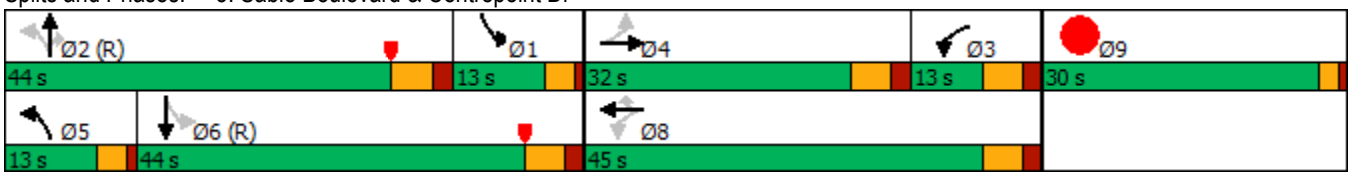
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	85	120	65	70	145	100	550	75	135	605	105
Future Volume (vph)	120	85	120	65	70	145	100	550	75	135	605	105
Satd. Flow (prot)	1805	1733	0	1543	1900	1302	1805	3574	1324	1347	3513	0
Flt Permitted	0.706			0.357			0.264			0.429		
Satd. Flow (perm)	1319	1733	0	580	1900	1263	501	3574	1291	605	3513	0
Satd. Flow (RTOR)		48				161			149		15	
Lane Group Flow (vph)	135	231	0	72	78	161	108	591	81	144	756	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Total Split (s)	32.0	32.0		13.0	45.0	45.0	13.0	44.0	44.0	13.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	19.3	19.3		29.6	28.5	28.5	71.8	69.8	69.8	74.7	72.7	
Actuated g/C Ratio	0.15	0.15		0.22	0.22	0.22	0.54	0.53	0.53	0.57	0.55	
v/c Ratio	0.70	0.79		0.43	0.19	0.40	0.30	0.31	0.11	0.35	0.39	
Control Delay	72.2	60.9		51.5	40.4	8.5	22.8	22.2	0.3	16.8	12.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	72.2	60.9		51.5	40.4	8.5	22.8	22.2	0.3	16.8	12.5	
LOS	E	E		D	D	A	C	C	A	B	B	
Approach Delay		65.1			26.5			20.0			13.2	
Approach LOS		E			C			C			B	
Queue Length 50th (ft)	111	154		50	54	0	41	138	0	29	82	
Queue Length 95th (ft)	173	231		88	92	54	120	295	0	77	301	
Internal Link Dist (ft)		258			445			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	259	379		187	561	486	367	1898	755	408	1941	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.52	0.61		0.39	0.14	0.33	0.29	0.31	0.11	0.35	0.39	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 113 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 25.2 — Intersection LOS: C
Intersection Capacity Utilization 64.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	325	100	165	265	95	70	505	220	135	560	95
Future Volume (vph)	125	325	100	165	265	95	70	505	220	135	560	95
Satd. Flow (prot)	1656	1827	0	1805	1900	1568	1770	3304	0	1805	3574	1482
Flt Permitted	0.162			0.286			0.289			0.308		
Satd. Flow (perm)	282	1827	0	543	1900	1540	538	3304	0	583	3574	1449
Satd. Flow (RTOR)		13				182		47				118
Lane Group Flow (vph)	140	477	0	179	288	103	76	788	0	145	602	102
Turn Type	pm+pt	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	18.0	42.0		24.0	24.0	24.0	12.0	23.0		14.0	25.0	25.0
Total Lost Time (s)	4.0	5.0		5.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	38.0	37.0		20.7	20.7	20.7	51.8	49.8		56.1	54.1	54.1
Actuated g/C Ratio	0.32	0.31		0.17	0.17	0.17	0.43	0.42		0.47	0.45	0.45
v/c Ratio	0.61	0.83		1.92	0.88	0.25	0.24	0.56		0.39	0.37	0.14
Control Delay	42.7	51.7		479.7	76.1	1.4	28.5	29.3		32.2	26.8	5.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	42.7	51.7		479.7	76.1	1.4	28.5	29.3		32.2	26.8	5.6
LOS	D	D		F	E	A	C	C		C	C	A
Approach Delay		49.7			189.4			29.2			25.2	
Approach LOS		D			F			C			C	
Queue Length 50th (ft)	81	335		~216	221	0	30	197		57	143	0
Queue Length 95th (ft)	134	#499		#366	#398	0	100	#567		#190	#388	38
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	249	572		93	328	416	317	1398		374	1611	718
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.56	0.83		1.92	0.88	0.25	0.24	0.56		0.39	0.37	0.14

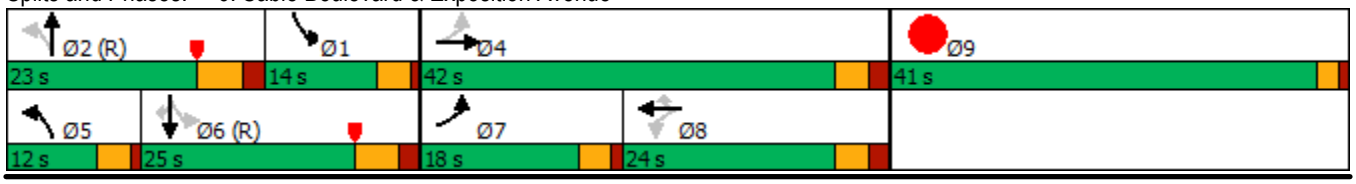
Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.92
Intersection Signal Delay: 63.9 Intersection LOS: E
Intersection Capacity Utilization 79.9% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	325	100	165	265	95	70	505	220	135	560	95
Future Volume (vph)	125	325	100	165	265	95	70	505	220	135	560	95
Satd. Flow (prot)	1656	1827	0	1805	1900	1568	1770	3304	0	1805	3574	1482
Flt Permitted	0.371			0.125			0.257			0.290		
Satd. Flow (perm)	645	1827	0	238	1900	1540	478	3304	0	549	3574	1449
Satd. Flow (RTOR)		13				182		46				118
Lane Group Flow (vph)	140	477	0	179	288	103	76	788	0	145	602	102
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	13.0	37.0		13.0	37.0	37.0	10.0	19.0		10.0	19.0	19.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	41.6	31.8		41.9	31.9	31.9	48.0	46.0		48.7	46.7	46.7
Actuated g/C Ratio	0.35	0.26		0.35	0.27	0.27	0.40	0.38		0.41	0.39	0.39
v/c Ratio	0.47	0.97		0.90	0.57	0.19	0.28	0.61		0.51	0.43	0.16
Control Delay	31.1	76.4		70.3	43.3	0.8	32.4	32.1		40.8	31.7	6.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	31.1	76.4		70.3	43.3	0.8	32.4	32.1		40.8	31.7	6.4
LOS	C	E		E	D	A	C	C		D	C	A
Approach Delay		66.1			44.1			32.1			30.2	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)	72	357		94	193	0	32	212		66	164	0
Queue Length 95th (ft)	120	#562		#221	286	0	#118	#615		#262	#464	41
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	300	496		200	506	544	270	1296		285	1389	635
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.47	0.96		0.90	0.57	0.19	0.28	0.61		0.51	0.43	0.16

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 41.1 Intersection LOS: D
Intersection Capacity Utilization 79.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	590	50	25	375	35	25	10	15	65	20	50
Future Vol, veh/h	55	590	50	25	375	35	25	10	15	65	20	50
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	300	-	100	-	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	94	94	94	88	88	88	89	89	89
Heavy Vehicles, %	0	0	0	0	0	17	0	0	0	4	0	6
Mvmt Flow	63	670	57	27	399	37	28	11	17	73	22	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	436	0	0	730	0	0	1339	1318	702	1292	1309	399
Stage 1	-	-	-	-	-	-	828	828	-	453	453	-
Stage 2	-	-	-	-	-	-	511	490	-	839	856	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.14	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.536	4	3.354
Pot Cap-1 Maneuver	1158	-	-	832	-	-	131	159	577	139	161	*767
Stage 1	-	-	-	-	-	-	408	378	-	697	621	-
Stage 2	-	-	-	-	-	-	638	590	-	393	359	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	1158	-	-	829	-	-	100	145	575	119	147	*767
Mov Cap-2 Maneuver	-	-	-	-	-	-	100	145	-	119	147	-
Stage 1	-	-	-	-	-	-	385	357	-	659	601	-
Stage 2	-	-	-	-	-	-	551	571	-	350	339	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.5	45	44.6
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	145	1158	-	-	829	-	-	119	147	767
HCM Lane V/C Ratio	0.392	0.054	-	-	0.032	-	-	0.614	0.153	0.073
HCM Control Delay (s)	45	8.3	-	-	9.5	-	-	74.5	33.9	10.1
HCM Lane LOS	E	A	-	-	A	-	-	F	D	B
HCM 95th %tile Q(veh)	1.7	0.2	-	-	0.1	-	-	3.1	0.5	0.2

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	300	30	400	50	15	45	5	200	1650	30	90	1960
Future Volume (veh/h)	300	30	400	50	15	45	5	200	1650	30	90	1960
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99		1.00		0.99	1.00	
Parking Bus, Adj	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	1900	1900	1885	1900	1900	1900		1870	1885	1900	1900	1885
Adj Flow Rate, veh/h	337	34	449	56	17	50		220	1813	33	95	2063
Peak Hour Factor	0.89	0.89	0.89	0.90	0.90	0.90		0.91	0.91	0.91	0.95	0.95
Percent Heavy Veh, %	0	0	1	0	0	0		2	1	0	0	1
Cap, veh/h	293	25	471	36	17	12		262	3230	59	156	2475
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30		0.07	0.62	0.62	1.00	1.00
Sat Flow, veh/h	828	83	1590	0	58	40		1781	5203	95	254	4743
Grp Volume(v), veh/h	371	0	449	123	0	0		220	1195	651	95	1486
Grp Sat Flow(s),veh/h/ln	911	0	1590	98	0	0		1781	1716	1867	254	1716
Q Serve(g_s), s	0.0	0.0	40.2	0.0	0.0	0.0		8.0	29.4	29.4	38.1	0.0
Cycle Q Clear(g_c), s	43.0	0.0	40.2	43.0	0.0	0.0		8.0	29.4	29.4	53.2	0.0
Prop In Lane	0.91		1.00	0.46		0.41		1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	318	0	471	65	0	0		262	2130	1159	156	1791
V/C Ratio(X)	1.17	0.00	0.95	1.88	0.00	0.00		0.84	0.56	0.56	0.61	0.83
Avail Cap(c_a), veh/h	318	0	471	65	0	0		332	2130	1159	156	1791
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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	0.0	50.0	53.8	0.0	0.0		18.8	16.0	16.0	5.3	0.0
Incr Delay (d2), s/veh	104.3	0.0	29.7	449.8	0.0	0.0		14.1	1.1	2.0	16.5	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.1	0.0	19.9	10.6	0.0	0.0		4.2	11.3	12.6	1.3	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	158.5	0.0	79.7	503.7	0.0	0.0		32.9	17.1	18.0	21.8	4.6
LnGrp LOS	F	A	E	F	A	A		C	B	B	C	A
Approach Vol, veh/h		820			123				2066			2369
Approach Delay, s/veh		115.3			503.7				19.1			6.8
Approach LOS		F			F				B			A

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		96.0		49.0	14.3	81.7		49.0				
Change Period (Y+Rc), s		6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s		90.0		43.0	16.0	70.0		43.0				
Max Q Clear Time (g_c+I1), s		31.4		45.0	10.0	55.2		45.0				
Green Ext Time (p_c), s		20.9		0.0	0.3	12.8		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	39.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	200
Future Volume (veh/h)	200
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	211
Peak Hour Factor	0.95
Percent Heavy Veh, %	0
Cap, veh/h	250
Arrive On Green	1.00
Sat Flow, veh/h	480
Grp Volume(v), veh/h	788
Grp Sat Flow(s),veh/h/ln	1792
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.27
Lane Grp Cap(c), veh/h	935
V/C Ratio(X)	0.84
Avail Cap(c_a), veh/h	935
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	9.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	2.4
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	9.1
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	30	400	50	15	45	200	1655	30	90	1965	200
Future Volume (veh/h)	300	30	400	50	15	45	200	1655	30	90	1965	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	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	1900	1900	1885	1900	1900	1900	1870	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	337	34	449	56	17	50	220	1819	33	95	2068	211
Peak Hour Factor	0.89	0.89	0.89	0.90	0.90	0.90	0.91	0.91	0.91	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	1	0	0	0	2	1	0	0	1	0
Cap, veh/h	474	485	524	222	48	143	260	3111	56	146	2553	788
Arrive On Green	0.18	0.26	0.26	0.04	0.12	0.12	0.07	0.60	0.60	0.99	0.99	0.99
Sat Flow, veh/h	1810	1900	1588	1810	421	1237	1781	5204	94	253	5147	1589
Grp Volume(v), veh/h	337	34	449	56	0	67	220	1199	653	95	2068	211
Grp Sat Flow(s),veh/h/ln	1810	1900	1588	1810	0	1658	1781	1716	1867	253	1716	1589
Q Serve(g_s), s	23.0	2.0	37.0	3.9	0.0	5.4	8.5	31.3	31.4	52.0	2.4	0.2
Cycle Q Clear(g_c), s	23.0	2.0	37.0	3.9	0.0	5.4	8.5	31.3	31.4	68.5	2.4	0.2
Prop In Lane	1.00		1.00	1.00		0.75	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	474	485	524	222	0	191	260	2051	1116	146	2553	788
V/C Ratio(X)	0.71	0.07	0.86	0.25	0.00	0.35	0.84	0.58	0.58	0.65	0.81	0.27
Avail Cap(c_a), veh/h	542	485	524	231	0	191	325	2051	1116	146	2553	788
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	0.71	0.71	0.71
Uniform Delay (d), s/veh	43.2	41.0	45.4	53.8	0.0	59.1	20.8	18.0	18.0	8.5	0.3	0.3
Incr Delay (d2), s/veh	3.7	0.1	13.2	0.6	0.0	1.1	15.3	1.2	2.2	14.9	2.1	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	10.9	0.9	17.2	1.9	0.0	2.4	4.5	12.2	13.6	1.7	0.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	41.0	58.7	54.4	0.0	60.2	36.0	19.2	20.3	23.3	2.4	0.9
LnGrp LOS	D	D	E	D	A	E	D	B	C	C	A	A
Approach Vol, veh/h		820			123			2072			2374	
Approach Delay, s/veh		53.1			57.6			21.4			3.1	
Approach LOS		D			E			C			A	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		92.7	9.3	43.0	14.8	77.9	29.6	22.7
Change Period (Y+Rc), s		6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s		86.0	6.0	37.0	16.0	66.0	31.0	12.0
Max Q Clear Time (g_c+I1), s		33.4	5.9	39.0	10.5	70.5	25.0	7.4
Green Ext Time (p_c), s		20.4	0.0	0.0	0.3	0.0	0.6	0.1

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

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	23.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	0	45	85	5	50	75	1850	70	35	2120	50
Future Vol, veh/h	30	0	45	85	5	50	75	1850	70	35	2120	50
Conflicting Peds, #/hr	1	0	0	0	0	1	3	0	11	11	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	225	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	95	95	95	94	94	94
Heavy Vehicles, %	0	0	0	0	0	2	0	1	0	0	0	0
Mvmt Flow	36	0	54	101	6	60	79	1947	74	37	2255	53

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3300	4549	1157	3129	4538	1023	2311	0	0	2032	0	0
Stage 1	2359	2359	-	2153	2153	-	-	-	-	-	-	-
Stage 2	941	2190	-	976	2385	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	7.1	6.4	6.5	7.14	5.3	-	-	5.3	-	-
Critical Hdwy Stg 1	7.3	5.5	-	7.3	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.5	-	6.7	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4	3.9	3.8	4	3.92	3.1	-	-	3.1	-	-
Pot Cap-1 Maneuver	*47	*0	*433	*~ 82	*~ 0	*484	*545	-	-	*613	-	-
Stage 1	*444	*422	-	*460	*450	-	-	-	-	-	-	-
Stage 2	*500	*420	-	*444	*422	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*~ 34	*0	*432	*~ 60	*0	*479	*543	-	-	*606	-	-
Mov Cap-2 Maneuver	*~ 34	*0	-	*~ 60	*0	-	-	-	-	-	-	-
Stage 1	*379	*395	-	*389	*381	-	-	-	-	-	-	-
Stage 2	*368	*356	-	*365	*395	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	254.8	$ 511.3	0.5	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 543	-	-	76	89	* 606	-	-
HCM Lane V/C Ratio	0.145	-	-	1.175	1.873	0.061	-	-
HCM Control Delay (s)	12.8	-	-	254.8	$ 511.3	11.3	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.5	-	-	6.7	14.1	0.2	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	30	0	45	85	5	50	5	75	1850	70	35	2120
Future Volume (veh/h)	30	0	45	85	5	50	5	75	1850	70	35	2120
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		0.99	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No				No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1870		1900	1885	1900	1900	1900
Adj Flow Rate, veh/h	36	0	54	101	6	60		79	1947	74	37	2255
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84		0.95	0.95	0.95	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	2		0	1	0	0	0
Cap, veh/h	105	14	127	156	11	71		225	3663	139	251	3721
Arrive On Green	0.14	0.00	0.14	0.14	0.14	0.14		0.07	1.00	1.00	0.05	1.00
Sat Flow, veh/h	517	104	931	852	78	521		1810	5087	193	1810	5213
Grp Volume(v), veh/h	90	0	0	167	0	0		79	1312	709	37	1494
Grp Sat Flow(s),veh/h/ln	1552	0	0	1451	0	0		1810	1716	1849	1810	1729
Q Serve(g_s), s	0.0	0.0	0.0	8.9	0.0	0.0		1.7	0.0	0.0	0.8	0.0
Cycle Q Clear(g_c), s	7.4	0.0	0.0	16.3	0.0	0.0		1.7	0.0	0.0	0.8	0.0
Prop In Lane	0.40		0.60	0.60		0.36		1.00		0.10	1.00	
Lane Grp Cap(c), veh/h	246	0	0	237	0	0		225	2471	1331	251	2468
V/C Ratio(X)	0.37	0.00	0.00	0.70	0.00	0.00		0.35	0.53	0.53	0.15	0.61
Avail Cap(c_a), veh/h	393	0	0	381	0	0		252	2471	1331	290	2468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.78	0.78	0.78	1.00	1.00
Uniform Delay (d), s/veh	57.3	0.0	0.0	61.2	0.0	0.0		4.7	0.0	0.0	4.8	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	3.8	0.0	0.0		0.7	0.6	1.2	0.3	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
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.0	6.3	0.0	0.0		0.6	0.2	0.4	0.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	0.0	0.0	65.0	0.0	0.0		5.4	0.6	1.2	5.1	1.1
LnGrp LOS	E	A	A	E	A	A		A	A	A	A	A
Approach Vol, veh/h		90			167				2100			2345
Approach Delay, s/veh		58.2			65.0				1.0			1.5
Approach LOS		E			E				A			A

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	110.4		25.7	9.8	109.5		25.7
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	87.0		34.0	7.0	87.0		34.0
Max Q Clear Time (g_c+I1), s	2.8	2.0		9.4	3.7	2.0		18.3
Green Ext Time (p_c), s	0.0	27.6		0.5	0.0	37.1		0.8

Intersection Summary	
HCM 6th Ctrl Delay	4.6
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	50
Future Volume (veh/h)	50
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.99
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	53
Peak Hour Factor	0.94
Percent Heavy Veh, %	0
Cap, veh/h	87
Arrive On Green	1.00
Sat Flow, veh/h	122
Grp Volume(v), veh/h	814
Grp Sat Flow(s),veh/h/ln	1877
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.07
Lane Grp Cap(c), veh/h	1340
V/C Ratio(X)	0.61
Avail Cap(c_a), veh/h	1340
HCM Platoon Ratio	2.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	2.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	2.1
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	20	5	95	115	20
Future Vol, veh/h	30	20	5	95	115	20
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	86	86	87	87
Heavy Vehicles, %	0	14	0	9	3	0
Mvmt Flow	38	25	6	110	132	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	269	78	155	0	-	0
Stage 1	144	-	-	-	-	-
Stage 2	125	-	-	-	-	-
Critical Hdwy	6.6	7.11	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.433	2.2	-	-	-
Pot Cap-1 Maneuver	773	*1017	1497	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	770	*1017	1497	-	-	-
Mov Cap-2 Maneuver	770	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	906	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1497	-	853	-	-
HCM Lane V/C Ratio	0.004	-	0.073	-	-
HCM Control Delay (s)	7.4	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Notes

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

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	75	95	30	60	120
Future Vol, veh/h	15	75	95	30	60	120
Conflicting Peds, #/hr	3	0	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	90	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	84	84	86	86
Heavy Vehicles, %	0	0	6	0	0	2
Mvmt Flow	19	97	113	36	70	140

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	419	136	0	0	154	0
Stage 1	136	-	-	-	-	-
Stage 2	283	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	616	918	-	-	1439	-
Stage 1	895	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	581	914	-	-	1432	-
Mov Cap-2 Maneuver	629	-	-	-	-	-
Stage 1	891	-	-	-	-	-
Stage 2	746	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	2.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	850	1432	-
HCM Lane V/C Ratio	-	-	0.138	0.049	-
HCM Control Delay (s)	-	-	9.9	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	110	100	80	85	60	145
Future Vol, veh/h	110	100	80	85	60	145
Conflicting Peds, #/hr	10	0	0	10	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	92	92	89	89
Heavy Vehicles, %	13	3	5	5	0	12
Mvmt Flow	126	115	87	92	67	163

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	189	0	-	0	510	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	367	-
Critical Hdwy	4.23	-	-	-	6.4	6.32
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.317	-	-	-	3.5	3.408
Pot Cap-1 Maneuver	1322	-	-	-	541	879
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	717	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1309	-	-	-	476	871
Mov Cap-2 Maneuver	-	-	-	-	476	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	710	-

Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1309	-	-	-	701
HCM Lane V/C Ratio	0.097	-	-	-	0.329
HCM Control Delay (s)	8	0	-	-	12.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.4

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱		↑↑↑		↱
Traffic Vol, veh/h	2355	35	0	1950	0	25
Future Vol, veh/h	2355	35	0	1950	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2505	37	0	2074	0	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1253
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*363
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*363
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	363	-	-	-
HCM Lane V/C Ratio	0.082	-	-	-
HCM Control Delay (s)	15.8	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2435	25	40	1905	0	55
Future Vol, veh/h	2435	25	40	1905	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2618	27	43	2048	0	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2645	0	-	1323
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	-	3.92
Pot Cap-1 Maneuver	-	-	*452	-	0	*359
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	*452	-	-	*359
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	17.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	359	-	-	* 452	-
HCM Lane V/C Ratio	0.182	-	-	0.095	-
HCM Control Delay (s)	17.3	-	-	13.8	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.7	-	-	0.3	-

Notes

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

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2450	40	0	1945	0	55
Future Vol, veh/h	2450	40	0	1945	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2634	43	0	2091	0	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1339
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*341
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*341
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	341	-	-	-
HCM Lane V/C Ratio	0.192	-	-	-
HCM Control Delay (s)	18	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.7	-	-	-

Notes

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

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	55	0	50	20	0	80	65	155	20	25	115	90
Future Vol, veh/h	55	0	50	20	0	80	65	155	20	25	115	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	0	60	24	0	95	77	185	24	30	137	107

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	650	614	191	632	655	197	244	0	0	209	0	0
Stage 1	251	251	-	351	351	-	-	-	-	-	-	-
Stage 2	399	363	-	281	304	-	-	-	-	-	-	-
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	382	407	851	393	386	844	1322	-	-	1362	-	-
Stage 1	753	699	-	666	632	-	-	-	-	-	-	-
Stage 2	627	625	-	726	663	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	316	370	851	340	351	844	1322	-	-	1362	-	-
Mov Cap-2 Maneuver	316	370	-	340	351	-	-	-	-	-	-	-
Stage 1	703	681	-	622	590	-	-	-	-	-	-	-
Stage 2	520	584	-	658	646	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16	11.8	2.1	0.8
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1322	-	-	451	651	1362	-	-
HCM Lane V/C Ratio	0.059	-	-	0.277	0.183	0.022	-	-
HCM Control Delay (s)	7.9	0	-	16	11.8	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.1	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	0	65	0	20	0	10	30	35	25	5
Future Vol, veh/h	25	0	0	65	0	20	0	10	30	35	25	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	0	0	77	0	24	0	12	36	42	30	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	159	165	33	147	150	30	36	0	0	48	0	0
Stage 1	117	117	-	30	30	-	-	-	-	-	-	-
Stage 2	42	48	-	117	120	-	-	-	-	-	-	-
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	807	728	1041	821	742	1044	1575	-	-	1559	-	-
Stage 1	888	799	-	987	870	-	-	-	-	-	-	-
Stage 2	972	855	-	888	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	771	708	1041	804	721	1044	1575	-	-	1559	-	-
Mov Cap-2 Maneuver	771	708	-	804	721	-	-	-	-	-	-	-
Stage 1	888	777	-	987	870	-	-	-	-	-	-	-
Stage 2	950	855	-	863	774	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	9.8	0	4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1575	-	-	771	850	1559	-	-
HCM Lane V/C Ratio	-	-	-	0.039	0.119	0.027	-	-
HCM Control Delay (s)	0	-	-	9.9	9.8	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	20	10	0	60	30	10	5	25	35	0	5
Future Vol, veh/h	20	20	10	0	60	30	10	5	25	35	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	24	12	0	71	36	12	6	30	42	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	107	0	0	36	0	0	170	185	30	185	173	89
Stage 1	-	-	-	-	-	-	78	78	-	89	89	-
Stage 2	-	-	-	-	-	-	92	107	-	96	84	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1484	-	-	1575	-	-	794	709	1044	776	720	969
Stage 1	-	-	-	-	-	-	931	830	-	918	821	-
Stage 2	-	-	-	-	-	-	915	807	-	911	825	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1484	-	-	1575	-	-	779	697	1044	740	708	969
Mov Cap-2 Maneuver	-	-	-	-	-	-	779	697	-	740	708	-
Stage 1	-	-	-	-	-	-	915	816	-	902	821	-
Stage 2	-	-	-	-	-	-	909	807	-	864	811	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	0	9.2	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	910	1484	-	-	1575	-	-	763
HCM Lane V/C Ratio	0.052	0.016	-	-	-	-	-	0.062
HCM Control Delay (s)	9.2	7.5	0	-	0	-	-	10
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	35	0	0	50	0	1915	40	0	2190	75
Future Vol, veh/h	0	0	35	0	0	50	0	1915	40	0	2190	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	93	93	93	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	42	0	0	60	0	2059	43	0	2330	80

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1205	-	-	1051	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	*413	0	0	*466	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %			1			1		-	-		-	-
Mov Cap-1 Maneuver	-	-	*413	-	-	*466	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	13.9	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	413	466	-	-
HCM Lane V/C Ratio	-	-	0.101	0.128	-	-
HCM Control Delay (s)	-	-	14.7	13.9	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.3	0.4	-	-

Notes

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	200	60	10	215	35	10
Future Vol, veh/h	200	60	10	215	35	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	71	12	256	42	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	309	0	518	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	280	-
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	-	-	1267	-	550	894
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1267	-	545	894
Mov Cap-2 Maneuver	-	-	-	-	545	-
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	760	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	597	-	-	1267	-
HCM Lane V/C Ratio	0.09	-	-	0.009	-
HCM Control Delay (s)	11.6	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	35	15	30	50	50	105	15	20	130	10
Future Vol, veh/h	10	10	35	15	30	50	50	105	15	20	130	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	12	42	18	36	60	60	125	18	24	155	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	511	472	161	490	469	134	167	0	0	143	0	0
Stage 1	209	209	-	254	254	-	-	-	-	-	-	-
Stage 2	302	263	-	236	215	-	-	-	-	-	-	-
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	473	490	884	489	492	915	1411	-	-	1440	-	-
Stage 1	793	729	-	750	697	-	-	-	-	-	-	-
Stage 2	707	691	-	767	725	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	396	459	884	435	461	915	1411	-	-	1440	-	-
Mov Cap-2 Maneuver	396	459	-	435	461	-	-	-	-	-	-	-
Stage 1	757	716	-	716	665	-	-	-	-	-	-	-
Stage 2	597	659	-	706	712	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	12.2	2.3	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1411	-	-	635	616	1440	-	-
HCM Lane V/C Ratio	0.042	-	-	0.103	0.184	0.017	-	-
HCM Control Delay (s)	7.7	0	-	11.3	12.2	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	40	5	0	90
Future Vol, veh/h	5	0	40	5	0	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	0	48	6	0	107

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	158	51	0	0	54	0
Stage 1	51	-	-	-	-	-
Stage 2	107	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	833	1017	-	-	1551	-
Stage 1	971	-	-	-	-	-
Stage 2	917	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	833	1017	-	-	1551	-
Mov Cap-2 Maneuver	833	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	833	1551	-
HCM Lane V/C Ratio	-	-	0.007	-	-
HCM Control Delay (s)	-	-	9.4	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	0	5	5	0	35	0	0	10	0
Future Vol, veh/h	0	5	0	0	5	5	0	35	0	0	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	0	0	6	6	0	42	0	0	12	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	6	0	0	21	18	6	36	15	9
Stage 1	-	-	-	-	-	-	6	6	-	9	9	-
Stage 2	-	-	-	-	-	-	15	12	-	27	6	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1607	-	-	1615	-	-	992	876	1077	970	879	1073
Stage 1	-	-	-	-	-	-	1016	891	-	1012	888	-
Stage 2	-	-	-	-	-	-	1005	886	-	990	891	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1607	-	-	1615	-	-	982	876	1077	935	879	1073
Mov Cap-2 Maneuver	-	-	-	-	-	-	982	876	-	935	879	-
Stage 1	-	-	-	-	-	-	1016	891	-	1012	888	-
Stage 2	-	-	-	-	-	-	992	886	-	944	891	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.3	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	876	1607	-	-	1615	-	-	879
HCM Lane V/C Ratio	0.048	-	-	-	-	-	-	0.014
HCM Control Delay (s)	9.3	0	-	-	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	75	0	1880	50	10	2205	10
Future Vol, veh/h	0	0	0	0	0	75	0	1880	50	10	2205	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	93	93	93	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	89	0	2022	54	11	2346	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1179	-	-	1038	-	0	0	2076	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*413	0	0	*484	0	-	-	*609	-	-
Stage 1	0	0	-	0	0	-	0	-	-	-	-	-
Stage 2	0	0	-	0	0	-	0	-	-	-	-	-
Platoon blocked, %			1			1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	*413	-	-	*484	-	-	-	*609	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	484	* 609	-	-
HCM Lane V/C Ratio	-	-	-	0.184	0.017	-	-
HCM Control Delay (s)	-	-	0	14.1	11	-	-
HCM Lane LOS	-	-	A	B	B	-	-
HCM 95th %tile Q(veh)	-	-	-	0.7	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	70	95	25	5	5
Future Vol, veh/h	10	70	95	25	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	83	113	30	6	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	143	0	-	0	235	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	107	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1440	-	-	-	753	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	917	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1440	-	-	-	746	922
Mov Cap-2 Maneuver	-	-	-	-	746	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	917	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1440	-	-	-	825
HCM Lane V/C Ratio	0.008	-	-	-	0.014
HCM Control Delay (s)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

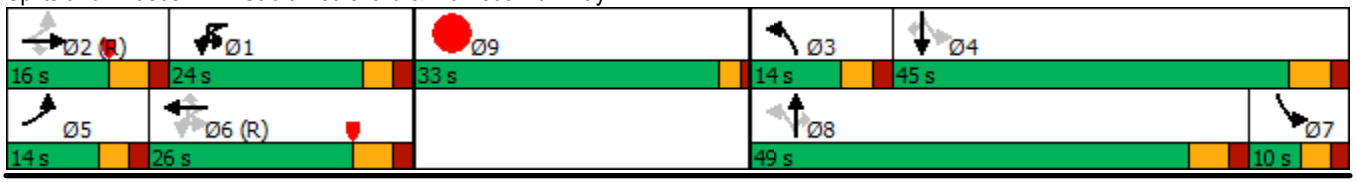
Appendix C. Queueing Worksheets

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	115	1300	175	5	35	2250	190	265	385	65	160	255
Future Volume (vph)	115	1300	175	5	35	2250	190	265	385	65	160	255
Satd. Flow (prot)	1787	5085	1524	0	3502	5085	1583	3400	3539	1615	3400	3471
Flt Permitted	0.098				0.125			0.455			0.491	
Satd. Flow (perm)	184	5085	1499	0	460	5085	1535	1619	3539	1578	1747	3471
Satd. Flow (RTOR)			190				182			140		
Lane Group Flow (vph)	132	1494	201	0	43	2419	204	312	453	76	184	293
Turn Type	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases	2		2	6	6		6	8		8	4	
Total Split (s)	14.0	16.0	16.0	24.0	24.0	26.0	26.0	14.0	49.0	49.0	10.0	45.0
Total Lost Time (s)	5.0	6.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Act Effct Green (s)	58.4	57.4	57.4		59.3	58.3	58.3	24.1	23.1	23.1	18.5	17.5
Actuated g/C Ratio	0.44	0.43	0.43		0.45	0.44	0.44	0.18	0.18	0.18	0.14	0.13
v/c Ratio	0.55	0.68	0.26		0.07	1.08	0.26	0.64	0.73	0.19	0.52	0.64
Control Delay	38.5	34.4	7.4		31.8	77.8	8.2	45.2	49.2	4.4	58.8	60.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	34.4	7.4		31.8	77.8	8.2	45.2	49.2	4.4	58.8	60.1
LOS	D	C	A		C	E	A	D	D	A	E	E
Approach Delay		31.8				71.7			43.7			46.8
Approach LOS		C				E			D			D
Queue Length 50th (ft)	66	365	5		9	725	10	125	195	5	75	128
Queue Length 95th (ft)	161	#745	70		33	#1385	90	156	230	29	100	157
Internal Link Dist (ft)		573				350			1144			460
Turn Bay Length (ft)	250		175		175		100	275		275	150	
Base Capacity (vph)	244	2210	759		644	2245	779	488	1152	608	353	1025
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.68	0.26		0.07	1.08	0.26	0.64	0.39	0.13	0.52	0.29

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 104 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 52.9 — Intersection LOS: D
Intersection Capacity Utilization 88.6% — ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	SBR	Ø9
Lane Configurations		
Traffic Volume (vph)	150	
Future Volume (vph)	150	
Satd. Flow (prot)	1599	
Flt Permitted		
Satd. Flow (perm)	1565	
Satd. Flow (RTOR)	172	
Lane Group Flow (vph)	172	
Turn Type	Perm	
Protected Phases		9
Permitted Phases	4	
Total Split (s)	45.0	33.0
Total Lost Time (s)	6.0	
Act Effct Green (s)	17.5	
Actuated g/C Ratio	0.13	
v/c Ratio	0.48	
Control Delay	11.4	
Queue Delay	0.0	
Total Delay	11.4	
LOS	B	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	56	
Internal Link Dist (ft)		
Turn Bay Length (ft)	150	
Base Capacity (vph)	583	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.30	

Intersection Summary

Intersection	
Int Delay, s/veh	2.7

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	10	165	1445	2490	50	5	40
Future Vol, veh/h	10	165	1445	2490	50	5	40
Conflicting Peds, #/hr	0	0	0	0	0	1	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	150	-	-	-	0	0
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	89	89	89	94	94	80	80
Heavy Vehicles, %	1	1	2	1	0	0	6
Mvmt Flow	11	185	1624	2649	53	6	50

Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	1973	2702	0	-	0	3719	1351
Stage 1	-	-	-	-	-	2676	-
Stage 2	-	-	-	-	-	1043	-
Critical Hdwy	5.62	5.32	-	-	-	5.7	7.22
Critical Hdwy Stg 1	-	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	-	6	-
Follow-up Hdwy	2.31	3.11	-	-	-	3.8	3.96
Pot Cap-1 Maneuver	*554	*411	-	-	-	*11	*323
Stage 1	-	-	-	-	-	*336	-
Stage 2	-	-	-	-	-	*597	-
Platoon blocked, %	1	1	-	-	-		1
Mov Cap-1 Maneuver	*415	*415	-	-	-	*~ 6	*323
Mov Cap-2 Maneuver	-	-	-	-	-	*~ 6	-
Stage 1	-	-	-	-	-	*177	-
Stage 2	-	-	-	-	-	*597	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	143.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	* 415	-	-	-	6	323
HCM Lane V/C Ratio	0.474	-	-	-	1.042	0.155
HCM Control Delay (s)	21.3	-	-	$	1144.8	18.2
HCM Lane LOS	C	-	-	-	F	C
HCM 95th %tile Q(veh)	2.5	-	-	-	1.5	0.5

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	1320	65	155	2415	35	90	5	125	5	0	35
Future Volume (vph)	65	1320	65	155	2415	35	90	5	125	5	0	35
Satd. Flow (prot)	1805	5037	0	1719	5126	0	1228	1302	0	1805	1900	1553
Flt Permitted	0.037			0.141			0.757			0.480		
Satd. Flow (perm)	70	5037	0	255	5126	0	976	1302	0	911	1900	1530
Satd. Flow (RTOR)		10			3			134				87
Lane Group Flow (vph)	70	1489	0	165	2606	0	97	139	0	6	0	43
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm		Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		8
Total Split (s)	12.0	102.0		12.0	102.0		36.0	36.0		36.0	36.0	36.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.5	5.5		5.5	5.5	5.5
Act Effct Green (s)	115.0	107.8		119.5	110.1		19.3	19.3		19.3		19.3
Actuated g/C Ratio	0.77	0.72		0.80	0.73		0.13	0.13		0.13		0.13
v/c Ratio	0.56	0.41		0.58	0.69		0.78	0.49		0.05		0.16
Control Delay	38.4	9.5		16.4	4.4		98.7	15.1		53.4		1.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0		0.0
Total Delay	38.4	9.5		16.4	4.4		98.7	15.1		53.4		1.2
LOS	D	A		B	A		F	B		D		A
Approach Delay		10.8			5.1			49.5			7.6	
Approach LOS		B			A			D			A	
Queue Length 50th (ft)	15	193		22	28		93	4		5		0
Queue Length 95th (ft)	72	283		m26	m197		151	67		17		0
Internal Link Dist (ft)		502			561			270			228	
Turn Bay Length (ft)	285			185			100			100		100
Base Capacity (vph)	151	3624		290	3764		198	371		185		380
Starvation Cap Reductn	0	0		0	0		0	0		0		0
Spillback Cap Reductn	0	0		0	0		0	0		0		0
Storage Cap Reductn	0	0		0	0		0	0		0		0
Reduced v/c Ratio	0.46	0.41		0.57	0.69		0.49	0.37		0.03		0.11

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 32 (21%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 9.3 — Intersection LOS: A
Intersection Capacity Utilization 75.2% — ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Alameda Drive & Alameda Parkway

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	1060	165	265	2000	265	385	1400	300	215	885	240
Future Volume (vph)	265	1060	165	265	2000	265	385	1400	300	215	885	240
Satd. Flow (prot)	3400	5085	1599	3433	5085	1599	3467	5136	1615	3367	5036	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	5085	1575	3431	5085	1599	3465	5136	1576	3363	5036	1545
Satd. Flow (RTOR)			95			102			58			138
Lane Group Flow (vph)	282	1128	176	285	2151	285	443	1609	345	236	973	264
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3
Permitted Phases			8			4			6			2
Total Split (s)	15.0	58.0	25.0	25.0	68.0	15.0	25.0	52.0	25.0	15.0	42.0	15.0
Total Lost Time (s)	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0
Act Effct Green (s)	10.0	54.8	77.4	17.2	62.0	73.0	21.6	46.0	64.2	10.0	34.4	45.4
Actuated g/C Ratio	0.07	0.37	0.52	0.11	0.41	0.49	0.14	0.31	0.43	0.07	0.23	0.30
v/c Ratio	1.25	0.61	0.20	0.72	1.02	0.34	0.89	1.02	0.48	1.05	0.84	0.47
Control Delay	200.2	33.8	4.3	74.9	69.0	10.8	70.1	63.9	11.3	139.7	62.7	14.0
Queue Delay	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 Delay	200.2	33.8	4.3	74.9	69.0	10.8	70.1	63.9	11.3	139.7	62.7	14.0
LOS	F	C	A	E	E	B	E	E	B	F	E	B
Approach Delay		60.1			63.5			57.5			66.3	
Approach LOS		E			E			E			E	
Queue Length 50th (ft)	~181	221	24	140	~817	74	226	~613	131	~129	331	64
Queue Length 95th (ft)	#278	241	48	189	#908	123	#318	#664	80	#221	387	124
Internal Link Dist (ft)		486			518			285			699	
Turn Bay Length (ft)	185		450	200		200	225		125	200		325
Base Capacity (vph)	226	1856	861	457	2101	830	498	1575	741	224	1208	565
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.25	0.61	0.20	0.62	1.02	0.34	0.89	1.02	0.47	1.05	0.81	0.47

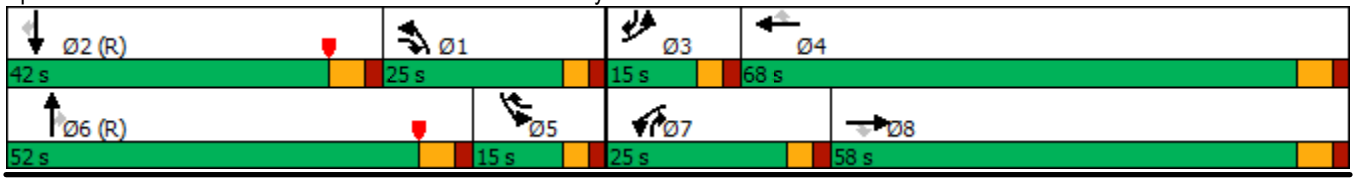
Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 32 (21%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 61.6 Intersection LOS: E
Intersection Capacity Utilization 102.2% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Chambers Road & Alameda Parkway

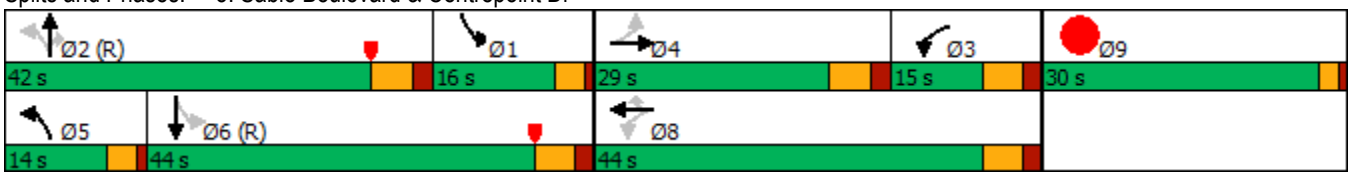


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	25	90	30	180	20	520	70	85	355	25
Future Volume (vph)	15	15	25	90	30	180	20	520	70	85	355	25
Satd. Flow (prot)	1805	1659	0	1492	1900	1357	1805	3610	1429	1367	3501	0
Flt Permitted	0.734			0.724			0.454			0.426		
Satd. Flow (perm)	1376	1659	0	1137	1900	1322	858	3610	1375	606	3501	0
Satd. Flow (RTOR)		32				212			149		5	
Lane Group Flow (vph)	19	51	0	106	35	212	23	598	80	100	447	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Total Split (s)	29.0	29.0		15.0	44.0	44.0	14.0	42.0	42.0	16.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	7.6	7.6		22.2	22.2	22.2	83.2	81.2	81.2	87.4	85.4	
Actuated g/C Ratio	0.06	0.06		0.17	0.17	0.17	0.63	0.62	0.62	0.66	0.65	
v/c Ratio	0.24	0.40		0.48	0.11	0.53	0.04	0.27	0.09	0.23	0.20	
Control Delay	65.6	38.1		55.9	43.6	10.6	15.3	15.0	0.2	38.9	31.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.6	38.1		55.9	43.6	10.6	15.3	15.0	0.2	38.9	31.5	
LOS	E	D		E	D	B	B	B	A	D	C	
Approach Delay		45.6			27.5			13.3			32.9	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)	16	16		81	25	0	6	104	0	64	158	
Queue Length 95th (ft)	36	46		125	51	53	29	238	0	132	238	
Internal Link Dist (ft)		258			445			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	239	315		221	546	531	612	2221	903	494	2265	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.08	0.16		0.48	0.06	0.40	0.04	0.27	0.09	0.20	0.20	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 54 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 24.1 — Intersection LOS: C
Intersection Capacity Utilization 55.7% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	65	10	135	165	105	40	445	140	70	335	65
Future Volume (vph)	60	65	10	135	165	105	40	445	140	70	335	65
Satd. Flow (prot)	1556	1858	0	1805	1900	1599	1752	3377	0	1805	3471	1404
Flt Permitted	0.455			0.606			0.464			0.405		
Satd. Flow (perm)	744	1858	0	1148	1900	1577	853	3377	0	765	3471	1367
Satd. Flow (RTOR)		6				127		28				118
Lane Group Flow (vph)	65	82	0	152	185	118	44	650	0	82	394	76
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	12.0	38.0		12.0	38.0	38.0	12.0	17.0		12.0	17.0	17.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	23.4	16.2		24.6	17.2	17.2	66.4	64.4		66.6	64.6	64.6
Actuated g/C Ratio	0.20	0.14		0.20	0.14	0.14	0.55	0.54		0.56	0.54	0.54
v/c Ratio	0.33	0.32		0.54	0.68	0.35	0.08	0.36		0.17	0.21	0.10
Control Delay	38.5	44.5		44.7	60.9	9.1	24.0	22.0		25.7	22.0	2.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.5	44.5		44.7	60.9	9.1	24.0	22.0		25.7	22.0	2.5
LOS	D	D		D	E	A	C	C		C	C	A
Approach Delay		41.8			42.0			22.1			19.8	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)	40	53		97	138	0	14	128		25	72	0
Queue Length 95th (ft)	72	96		144	200	42	63	#414		99	200	10
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	201	515		283	522	525	536	1825		493	1868	790
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.32	0.16		0.54	0.35	0.22	0.08	0.36		0.17	0.21	0.10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 104 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 27.9 Intersection LOS: C
Intersection Capacity Utilization 56.5% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

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	40	130	5	5	290	95	35	30	25	40	5	35
Future Vol, veh/h	40	130	5	5	290	95	35	30	25	40	5	35
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	4	4	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	300	-	100	-	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	89	89	89	84	84	84	81	81	81
Heavy Vehicles, %	0	2	0	0	1	3	4	5	5	22	0	0
Mvmt Flow	43	138	5	6	326	107	42	36	30	49	6	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	435	0	0	144	0	0	645	675	146	604	570	329
Stage 1	-	-	-	-	-	-	228	228	-	340	340	-
Stage 2	-	-	-	-	-	-	417	447	-	264	230	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.14	6.55	6.25	7.32	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.55	-	6.32	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.55	-	6.32	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.536	4.045	3.345	3.698	4	3.3
Pot Cap-1 Maneuver	1140	-	-	1473	-	-	382	372	954	383	434	849
Stage 1	-	-	-	-	-	-	811	729	-	745	692	-
Stage 2	-	-	-	-	-	-	691	598	-	736	737	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	1138	-	-	1471	-	-	346	355	950	330	414	847
Mov Cap-2 Maneuver	-	-	-	-	-	-	346	355	-	330	414	-
Stage 1	-	-	-	-	-	-	780	701	-	715	688	-
Stage 2	-	-	-	-	-	-	647	594	-	648	708	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.1	16.3	13.9
HCM LOS			C	B

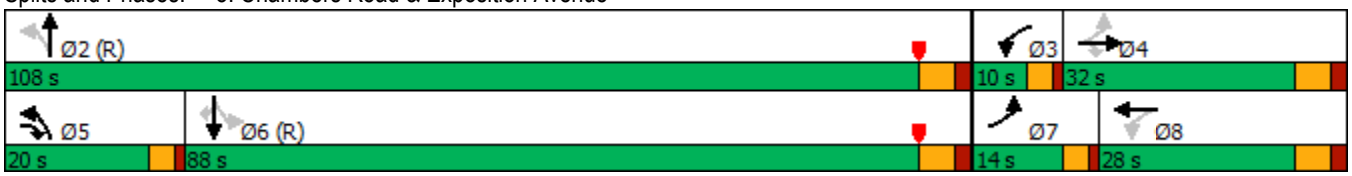
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	425	1138	-	-	1471	-	-	330	414	847
HCM Lane V/C Ratio	0.252	0.037	-	-	0.004	-	-	0.15	0.015	0.051
HCM Control Delay (s)	16.3	8.3	-	-	7.5	-	-	17.8	13.8	9.5
HCM Lane LOS	C	A	-	-	A	-	-	C	B	A
HCM 95th %tile Q(veh)	1	0.1	-	-	0	-	-	0.5	0	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	5	75	40	15	55	225	2005	5	20	1215	125
Future Volume (vph)	90	5	75	40	15	55	225	2005	5	20	1215	125
Satd. Flow (prot)	1770	1900	1553	1641	1633	0	1787	5133	0	1719	5085	1599
Flt Permitted	0.702			0.487			0.142			0.062		
Satd. Flow (perm)	1306	1900	1553	841	1633	0	267	5133	0	112	5085	1562
Satd. Flow (RTOR)			78		45			1				80
Lane Group Flow (vph)	95	5	79	48	84	0	253	2259	0	23	1381	142
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4	5	3	8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Total Split (s)	14.0	32.0	20.0	10.0	28.0		20.0	108.0		88.0	88.0	88.0
Total Lost Time (s)	4.0	6.0	4.0	4.0	6.0		4.0	6.0		6.0	6.0	6.0
Act Effct Green (s)	18.2	12.1	23.7	24.5	9.6		114.6	112.6		94.5	94.5	94.5
Actuated g/C Ratio	0.12	0.08	0.16	0.16	0.06		0.76	0.75		0.63	0.63	0.63
v/c Ratio	0.49	0.03	0.25	0.20	0.57		0.73	0.59		0.33	0.43	0.14
Control Delay	68.9	62.8	11.1	52.4	49.0		23.3	9.5		31.1	21.2	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.1	0.0
Total Delay	68.9	62.8	11.1	52.4	49.0		23.3	9.5		31.1	21.2	10.5
LOS	E	E	B	D	D		C	A		C	C	B
Approach Delay		43.2			50.2			10.9			20.4	
Approach LOS		D			D			B			C	
Queue Length 50th (ft)	91	5	1	40	37		63	336		15	336	61
Queue Length 95th (ft)	136	19	41	71	82		150	382		m16	177	3
Internal Link Dist (ft)		1143			172			328			588	
Turn Bay Length (ft)	150						200			100		100
Base Capacity (vph)	196	329	344	243	277		380	3852		70	3204	1013
Starvation Cap Reductn	0	0	0	0	0		0	0		0	418	0
Spillback Cap Reductn	0	0	0	0	0		0	105		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.48	0.02	0.23	0.20	0.30		0.67	0.60		0.33	0.50	0.14

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 69 (46%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 16.8 — Intersection LOS: B
Intersection Capacity Utilization 73.8% — ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Chambers Road & Exposition Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	70	0	45	65	5	55	20	80	1995	55	20	1230
Future Volume (vph)	70	0	45	65	5	55	20	80	1995	55	20	1230
Satd. Flow (prot)	0	1734	0	0	1725	0	0	1798	5112	0	1805	5063
Flt Permitted		0.684			0.755			0.156			0.052	
Satd. Flow (perm)	0	1223	0	0	1334	0	0	295	5112	0	99	5063
Satd. Flow (RTOR)		58			24				5			6
Lane Group Flow (vph)	0	151	0	0	143	0	0	112	2304	0	22	1396
Turn Type	Perm	NA		Perm	NA		pm+pt	pm+pt	NA		pm+pt	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8			2	2			6	
Total Split (s)	40.0	40.0		40.0	40.0		15.0	15.0	98.0		12.0	95.0
Total Lost Time (s)		6.0			6.0			5.0	6.0		5.0	6.0
Act Effct Green (s)		18.9			18.9			118.5	112.4		113.4	106.5
Actuated g/C Ratio		0.13			0.13			0.79	0.75		0.76	0.71
v/c Ratio		0.74			0.76			0.36	0.60		0.15	0.39
Control Delay		58.8			76.0			6.3	11.5		8.2	6.1
Queue Delay		0.0			0.0			0.0	0.2		0.0	0.0
Total Delay		58.8			76.0			6.3	11.7		8.2	6.1
LOS		E			E			A	B		A	A
Approach Delay		58.8			76.0				11.4			6.2
Approach LOS		E			E				B			A
Queue Length 50th (ft)		90			115			22	593		4	111
Queue Length 95th (ft)		124			178			23	143		m7	127
Internal Link Dist (ft)		215			320				588			291
Turn Bay Length (ft)								225			85	
Base Capacity (vph)		322			320			335	3832		155	3596
Starvation Cap Reductn		0			0			0	502		0	0
Spillback Cap Reductn		0			0			0	0		0	0
Storage Cap Reductn		0			0			0	0		0	0
Reduced v/c Ratio		0.47			0.45			0.33	0.69		0.14	0.39

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 65 (43%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 13.6 — Intersection LOS: B
Intersection Capacity Utilization 68.8% — ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Chambers Road & Center Avenue

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	40
Future Volume (vph)	40
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Total Split (s)	
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	30	135	75	40
Future Vol, veh/h	5	5	30	135	75	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	59	59	85	85	82	82
Heavy Vehicles, %	100	0	0	3	14	0
Mvmt Flow	8	8	35	159	91	49

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	345	70	140	0	-	0
Stage 1	116	-	-	-	-	-
Stage 2	229	-	-	-	-	-
Critical Hdwy	8.1	6.9	4.1	-	-	-
Critical Hdwy Stg 1	7.3	-	-	-	-	-
Critical Hdwy Stg 2	6.9	-	-	-	-	-
Follow-up Hdwy	4.45	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	467	1006	1469	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	456	1006	1469	-	-	-
Mov Cap-2 Maneuver	496	-	-	-	-	-
Stage 1	683	-	-	-	-	-
Stage 2	599	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1469	-	664	-	-
HCM Lane V/C Ratio	0.024	-	0.026	-	-
HCM Control Delay (s)	7.5	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	75	125	15	70	90
Future Vol, veh/h	25	75	125	15	70	90
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	90	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	87	87	88	88
Heavy Vehicles, %	0	0	4	0	0	6
Mvmt Flow	28	85	144	17	80	102

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	424	162	0	0	170	0
Stage 1	162	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	605	888	-	-	1420	-
Stage 1	872	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	566	880	-	-	1408	-
Mov Cap-2 Maneuver	622	-	-	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	753	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	3.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	797	1408	-
HCM Lane V/C Ratio	-	-	0.143	0.056	-
HCM Control Delay (s)	-	-	10.3	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	90	45	120	115	45	120
Future Vol, veh/h	90	45	120	115	45	120
Conflicting Peds, #/hr	14	0	0	14	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	86	86	91	91
Heavy Vehicles, %	20	10	3	2	0	25
Mvmt Flow	114	57	140	134	49	132

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	288	0	-	0	506	221
Stage 1	-	-	-	-	221	-
Stage 2	-	-	-	-	285	-
Critical Hdwy	4.3	-	-	-	6.4	6.45
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.38	-	-	-	3.5	3.525
Pot Cap-1 Maneuver	1178	-	-	-	534	764
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	775	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1162	-	-	-	468	754
Mov Cap-2 Maneuver	-	-	-	-	468	-
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	764	-

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1162	-	-	-	646
HCM Lane V/C Ratio	0.098	-	-	-	0.281
HCM Control Delay (s)	8.4	0	-	-	12.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱		↑↑↑		↱
Traffic Vol, veh/h	1510	20	0	2540	0	45
Future Vol, veh/h	1510	20	0	2540	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1716	23	0	2731	0	54

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	858
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*559
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*559
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	559	-	-	-
HCM Lane V/C Ratio	0.096	-	-	-
HCM Control Delay (s)	12.1	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1420	30	20	2605	0	55
Future Vol, veh/h	1420	30	20	2605	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1527	32	22	2801	0	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1559	0	-	780
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	-	3.92
Pot Cap-1 Maneuver	-	-	*736	-	0	*585
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	*736	-	-	*585
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	585	-	-	* 736	-
HCM Lane V/C Ratio	0.112	-	-	0.029	-
HCM Control Delay (s)	11.9	-	-	10	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1455	20	0	2625	0	35
Future Vol, veh/h	1455	20	0	2625	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1565	22	0	2823	0	42

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	794
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*585
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*585
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	585	-	-	-
HCM Lane V/C Ratio	0.071	-	-	-
HCM Control Delay (s)	11.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Notes

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

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	100	0	80	20	0	30	25	90	45	75	105	40
Future Vol, veh/h	100	0	80	20	0	30	25	90	45	75	105	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	119	0	95	24	0	36	30	107	54	89	125	48

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	539	548	149	569	545	134	173	0	0	161	0	0
Stage 1	327	327	-	194	194	-	-	-	-	-	-	-
Stage 2	212	221	-	375	351	-	-	-	-	-	-	-
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	453	444	898	433	446	915	1404	-	-	1418	-	-
Stage 1	686	648	-	808	740	-	-	-	-	-	-	-
Stage 2	790	720	-	646	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	405	403	898	360	405	915	1404	-	-	1418	-	-
Mov Cap-2 Maneuver	405	403	-	360	405	-	-	-	-	-	-	-
Stage 1	670	603	-	789	722	-	-	-	-	-	-	-
Stage 2	741	703	-	537	588	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	12.1	1.2	2.6
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1404	-	-	536	566	1418	-	-
HCM Lane V/C Ratio	0.021	-	-	0.4	0.105	0.063	-	-
HCM Control Delay (s)	7.6	0	-	16.1	12.1	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.9	0.4	0.2	-	-

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	20	0	0	50	0	15	0	20	25	20	10	20
Future Vol, veh/h	20	0	0	50	0	15	0	20	25	20	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	0	0	60	0	18	0	24	30	24	12	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	120	126	24	111	123	39	36	0	0	54	0	0
Stage 1	72	72	-	39	39	-	-	-	-	-	-	-
Stage 2	48	54	-	72	84	-	-	-	-	-	-	-
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	855	764	1052	867	767	1033	1575	-	-	1551	-	-
Stage 1	938	835	-	976	862	-	-	-	-	-	-	-
Stage 2	965	850	-	938	825	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	830	752	1052	857	755	1033	1575	-	-	1551	-	-
Mov Cap-2 Maneuver	830	752	-	857	755	-	-	-	-	-	-	-
Stage 1	938	822	-	976	862	-	-	-	-	-	-	-
Stage 2	948	850	-	923	812	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.4	0	2.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1575	-	-	830	892	1551	-	-
HCM Lane V/C Ratio	-	-	-	0.029	0.087	0.015	-	-
HCM Control Delay (s)	0	-	-	9.5	9.4	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	5	0	35	15	0	10	10	15	0	5
Future Vol, veh/h	10	10	5	0	35	15	0	10	10	15	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	12	6	0	42	18	0	12	12	18	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	60	0	0	18	0	0	93	99	15	102	93	51
Stage 1	-	-	-	-	-	-	39	39	-	51	51	-
Stage 2	-	-	-	-	-	-	54	60	-	51	42	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1544	-	-	1599	-	-	891	791	1065	879	797	1017
Stage 1	-	-	-	-	-	-	976	862	-	962	852	-
Stage 2	-	-	-	-	-	-	958	845	-	962	860	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1544	-	-	1599	-	-	880	785	1065	854	791	1017
Mov Cap-2 Maneuver	-	-	-	-	-	-	880	785	-	854	791	-
Stage 1	-	-	-	-	-	-	968	855	-	954	852	-
Stage 2	-	-	-	-	-	-	952	845	-	930	853	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.9	0	9.1	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	904	1544	-	-	1599	-	-	890
HCM Lane V/C Ratio	0.026	0.008	-	-	-	-	-	0.027
HCM Control Delay (s)	9.1	7.3	0	-	0	-	-	9.2
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱			↱		↑↑↑↳			↑↑↑↳	
Traffic Vol, veh/h	0	0	15	0	0	25	0	2060	40	0	1285	30
Future Vol, veh/h	0	0	15	0	0	25	0	2060	40	0	1285	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	88	88	88	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	18	0	0	30	0	2341	45	0	1412	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	723	-	-	1193	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	*620	0	0	*430	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %			1			1		-	-		-	-
Mov Cap-1 Maneuver	-	-	*620	-	-	*430	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	14	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	620	430	-	-
HCM Lane V/C Ratio	-	-	0.029	0.069	-	-
HCM Control Delay (s)	-	-	11	14	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-	-

Notes

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

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	25	5	235	75	20
Future Vol, veh/h	115	25	5	235	75	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	-	0	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	30	6	280	89	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	167	0	429	137
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	292	-
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	-	-	1428	-	604	968
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	758	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1428	-	602	968
Mov Cap-2 Maneuver	-	-	-	-	602	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	654	-	-	1428	-
HCM Lane V/C Ratio	0.173	-	-	0.004	-
HCM Control Delay (s)	11.7	-	-	7.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	20	75	15	10	45	20	170	10	15	70	5
Future Vol, veh/h	20	20	75	15	10	45	20	170	10	15	70	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	24	89	18	12	54	24	202	12	18	83	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	411	384	86	435	381	208	89	0	0	214	0	0
Stage 1	122	122	-	256	256	-	-	-	-	-	-	-
Stage 2	289	262	-	179	125	-	-	-	-	-	-	-
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	551	550	973	531	552	832	1506	-	-	1356	-	-
Stage 1	882	795	-	749	696	-	-	-	-	-	-	-
Stage 2	719	691	-	823	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	494	532	973	455	534	832	1506	-	-	1356	-	-
Mov Cap-2 Maneuver	494	532	-	455	534	-	-	-	-	-	-	-
Stage 1	866	784	-	736	683	-	-	-	-	-	-	-
Stage 2	649	679	-	715	781	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	11.2	0.7	1.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1506	-	-	741	662	1356	-	-
HCM Lane V/C Ratio	0.016	-	-	0.185	0.126	0.013	-	-
HCM Control Delay (s)	7.4	0	-	11	11.2	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	0	45	0	0	60
Future Vol, veh/h	10	0	45	0	0	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	54	0	0	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	125	54	0	0	54	0
Stage 1	54	-	-	-	-	-
Stage 2	71	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	870	1013	-	-	1551	-
Stage 1	969	-	-	-	-	-
Stage 2	952	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	870	1013	-	-	1551	-
Mov Cap-2 Maneuver	870	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	870	1551	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	-	-	9.2	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

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	0	0	0	10	5	0	15	0	0	5	0
Future Vol, veh/h	0	0	0	0	10	5	0	15	0	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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	12	6	0	18	0	0	6	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	18	0	0	1	0	0	19	19	1	25	16	15
Stage 1	-	-	-	-	-	-	1	1	-	15	15	-
Stage 2	-	-	-	-	-	-	18	18	-	10	1	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1599	-	-	1622	-	-	995	875	1084	986	878	1065
Stage 1	-	-	-	-	-	-	1022	895	-	1005	883	-
Stage 2	-	-	-	-	-	-	1001	880	-	1011	895	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1599	-	-	1622	-	-	990	875	1084	970	878	1065
Mov Cap-2 Maneuver	-	-	-	-	-	-	990	875	-	970	878	-
Stage 1	-	-	-	-	-	-	1022	895	-	1005	883	-
Stage 2	-	-	-	-	-	-	994	880	-	991	895	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.2	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	875	1599	-	-	1622	-	-	878
HCM Lane V/C Ratio	0.02	-	-	-	-	-	-	0.007
HCM Control Delay (s)	9.2	0	-	-	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	25	0	2075	45	10	1285	5
Future Vol, veh/h	0	0	5	0	0	25	0	2075	45	10	1285	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	88	88	88	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	6	0	0	30	0	2358	51	11	1412	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	709	-	-	1205	-	0	0	2409	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*620	0	0	*430	0	-	-	520	-	-
Stage 1	0	0	-	0	0	-	0	-	-	-	-	-
Stage 2	0	0	-	0	0	-	0	-	-	-	-	-
Platoon blocked, %			1			1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	*620	-	-	*430	-	-	-	520	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	14	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	620	430	520	-	-
HCM Lane V/C Ratio	-	-	0.01	0.069	0.021	-	-
HCM Control Delay (s)	-	-	10.9	14	12.1	-	-
HCM Lane LOS	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0	0.2	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	95	115	10	5	0
Future Vol, veh/h	5	95	115	10	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	113	137	12	6	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	149	0	-	0	268	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	125	-
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	1432	-	-	-	721	905
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	901	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1432	-	-	-	718	905
Mov Cap-2 Maneuver	-	-	-	-	718	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	901	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.1
HCM LOS			B

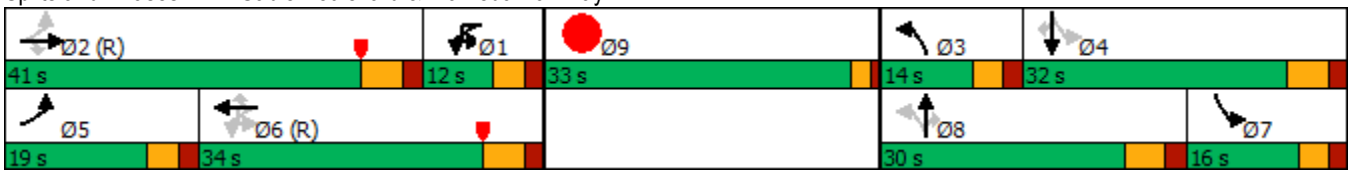
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1432	-	-	-	718
HCM Lane V/C Ratio	0.004	-	-	-	0.008
HCM Control Delay (s)	7.5	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	195	1810	270	5	90	1685	240	240	475	100	475	485
Future Volume (vph)	195	1810	270	5	90	1685	240	240	475	100	475	485
Satd. Flow (prot)	1787	5187	1568	0	3502	5136	1599	3303	3574	1615	3467	3539
Flt Permitted	0.114				0.110			0.377			0.461	
Satd. Flow (perm)	214	5187	1534	0	405	5136	1550	1299	3574	1569	1668	3539
Satd. Flow (RTOR)			190				182			190		
Lane Group Flow (vph)	207	1926	287	0	101	1793	255	261	516	109	511	522
Turn Type	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases	2		2	6	6		6	8		8	4	
Total Split (s)	19.0	41.0	41.0	12.0	12.0	34.0	34.0	14.0	30.0	30.0	16.0	32.0
Total Lost Time (s)	5.0	6.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Act Effct Green (s)	53.7	52.7	52.7		45.6	44.6	44.6	24.6	23.6	23.6	31.7	30.7
Actuated g/C Ratio	0.41	0.40	0.40		0.35	0.34	0.34	0.19	0.18	0.18	0.24	0.23
v/c Ratio	0.78	0.93	0.40		0.33	1.03	0.40	0.59	0.81	0.25	0.76	0.63
Control Delay	50.8	46.9	12.7		45.8	72.7	13.8	64.5	73.0	13.2	57.5	50.0
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.8	46.9	12.7		45.8	72.7	13.8	64.5	73.0	13.2	57.5	50.0
LOS	D	D	B		D	E	B	E	E	B	E	D
Approach Delay		43.2				64.5			63.1			47.2
Approach LOS		D				E			E			D
Queue Length 50th (ft)	112	545	50		29	558	42	106	227	8	199	210
Queue Length 95th (ft)	#299	#902	159		61	#909	141	167	306	70	#357	288
Internal Link Dist (ft)		573				350			1144			460
Turn Bay Length (ft)	250		175		175		100	275		275	150	
Base Capacity (vph)	273	2071	726		304	1736	644	439	672	449	674	823
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.93	0.40		0.33	1.03	0.40	0.59	0.77	0.24	0.76	0.63

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 2 (2%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 53.4 — Intersection LOS: D
Intersection Capacity Utilization 94.7% — ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Sable Boulevard & Alameda Parkway



Lane Group	SBR	Ø9
Lane Configurations		
Traffic Volume (vph)	155	
Future Volume (vph)	155	
Satd. Flow (prot)	1583	
Flt Permitted		
Satd. Flow (perm)	1528	
Satd. Flow (RTOR)	182	
Lane Group Flow (vph)	167	
Turn Type	Perm	
Protected Phases		9
Permitted Phases	4	
Total Split (s)	32.0	33.0
Total Lost Time (s)	6.0	
Act Effct Green (s)	30.7	
Actuated g/C Ratio	0.23	
v/c Ratio	0.34	
Control Delay	6.6	
Queue Delay	0.0	
Total Delay	6.6	
LOS	A	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	49	
Internal Link Dist (ft)		
Turn Bay Length (ft)	150	
Base Capacity (vph)	495	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.34	

Intersection Summary

Intersection	
Int Delay, s/veh	2.3

Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	5	35	2355	1825	15	15	120
Future Vol, veh/h	5	35	2355	1825	15	15	120
Conflicting Peds, #/hr	0	6	0	0	6	2	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	150	-	-	-	0	0
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	70	70
Heavy Vehicles, %	0	0	1	1	0	0	0
Mvmt Flow	5	37	2479	1921	16	21	171

Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	1414	1943	0	-	0	3013	975
Stage 1	-	-	-	-	-	1935	-
Stage 2	-	-	-	-	-	1078	-
Critical Hdwy	5.6	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	-	6	-
Follow-up Hdwy	2.3	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	*856	*635	-	-	-	*27	*505
Stage 1	-	-	-	-	-	*518	-
Stage 2	-	-	-	-	-	*375	-
Platoon blocked, %	1	1	-	-	-		1
Mov Cap-1 Maneuver	*634	*634	-	-	-	*25	*502
Mov Cap-2 Maneuver	-	-	-	-	-	*25	-
Stage 1	-	-	-	-	-	*481	-
Stage 2	-	-	-	-	-	*372	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	53.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	* 634	-	-	-	25	502
HCM Lane V/C Ratio	0.066	-	-	-	0.857	0.341
HCM Control Delay (s)	11.1	-	-	-$	354.7	15.8
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	2.6	1.5

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	2260	55	160	1660	85	115	15	160	40	15	65
Future Volume (vph)	55	2260	55	160	1660	85	115	15	160	40	15	65
Satd. Flow (prot)	1805	5110	0	1656	5093	0	1770	1497	0	1805	1900	1615
Flt Permitted	0.109			0.042			0.746			0.278		
Satd. Flow (perm)	207	5110	0	73	5093	0	1372	1497	0	528	1900	1575
Satd. Flow (RTOR)		5			10			92				77
Lane Group Flow (vph)	59	2463	0	170	1856	0	129	197	0	48	18	77
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		8
Total Split (s)	12.0	97.0		12.0	97.0		36.0	36.0		36.0	36.0	36.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.5	5.5		5.5	5.5	5.5
Act Effct Green (s)	98.3	92.3		117.5	109.1		18.0	18.0		18.0	18.0	18.0
Actuated g/C Ratio	0.68	0.64		0.81	0.75		0.12	0.12		0.12	0.12	0.12
v/c Ratio	0.30	0.76		0.61	0.48		0.76	0.74		0.74	0.08	0.29
Control Delay	8.8	20.4		49.0	3.0		87.1	48.2		113.6	53.5	13.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.8	20.4		49.0	3.0		87.1	48.2		113.6	53.5	13.4
LOS	A	C		D	A		F	D		F	D	B
Approach Delay		20.2			6.8			63.6			52.1	
Approach LOS		C			A			E			D	
Queue Length 50th (ft)	9	567		124	61		120	97		44	15	0
Queue Length 95th (ft)	24	623		m143	m69		182	175		83	36	39
Internal Link Dist (ft)		502			561			270			228	
Turn Bay Length (ft)	285			185			100			100		100
Base Capacity (vph)	232	3254		279	3833		288	387		111	399	392
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.25	0.76		0.61	0.48		0.45	0.51		0.43	0.05	0.20

Intersection Summary

Cycle Length: 145
Actuated Cycle Length: 145
Offset: 64 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 18.5 — Intersection LOS: B
Intersection Capacity Utilization 86.4% — ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Alameda Drive & Alameda Parkway

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	1815	385	250	1235	190	365	1305	295	565	1630	345
Future Volume (vph)	305	1815	385	250	1235	190	365	1305	295	565	1630	345
Satd. Flow (prot)	3433	5136	1599	3502	5085	1568	3467	5136	1615	3467	5187	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3424	5136	1549	3497	5085	1522	3464	5136	1572	3460	5187	1550
Satd. Flow (RTOR)			98			143			98			68
Lane Group Flow (vph)	332	1973	418	275	1357	209	397	1418	321	601	1734	367
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3
Permitted Phases			8			4			6			2
Total Split (s)	22.0	57.0	15.0	15.0	50.0	27.0	15.0	46.0	15.0	27.0	58.0	22.0
Total Lost Time (s)	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0
Act Effct Green (s)	16.6	51.0	62.0	10.0	44.4	67.4	10.0	40.0	51.0	22.0	52.0	69.6
Actuated g/C Ratio	0.11	0.35	0.43	0.07	0.31	0.46	0.07	0.28	0.35	0.15	0.36	0.48
v/c Ratio	0.85	1.09	0.58	1.14	0.87	0.26	1.66	1.00	0.52	1.14	0.93	0.47
Control Delay	96.5	86.1	19.0	159.1	54.9	7.7	347.6	62.7	12.9	138.3	54.9	14.4
Queue Delay	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 Delay	96.5	86.1	19.0	159.1	54.9	7.7	347.6	62.7	12.9	138.3	54.9	14.4
LOS	F	F	B	F	D	A	F	E	B	F	D	B
Approach Delay		77.1			65.1			108.2			68.0	
Approach LOS		E			E			F			E	
Queue Length 50th (ft)	171	~752	128	~155	447	32	~282	~500	93	~341	576	129
Queue Length 95th (ft)	#239	#850	212	#251	510	79	#383	#592	50	#463	#650	192
Internal Link Dist (ft)		486			518			285			699	
Turn Bay Length (ft)	185		450	200		200	225		125	200		325
Base Capacity (vph)	402	1806	721	241	1558	791	239	1416	619	526	1860	787
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	1.09	0.58	1.14	0.87	0.26	1.66	1.00	0.52	1.14	0.93	0.47

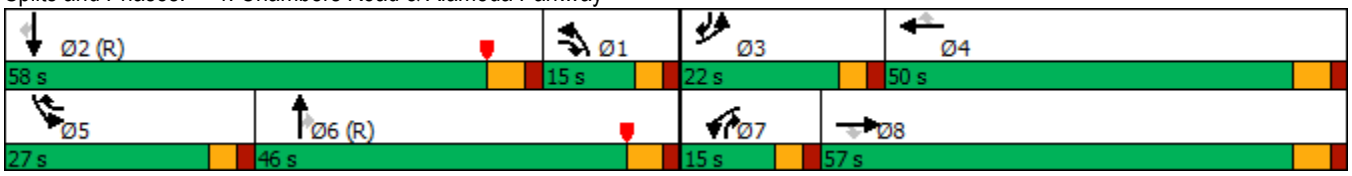
Intersection Summary

Cycle Length: 145
Actuated Cycle Length: 145
Offset: 96 (66%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.66
Intersection Signal Delay: 79.2 Intersection LOS: E
Intersection Capacity Utilization 102.4% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Chambers Road & Alameda Parkway

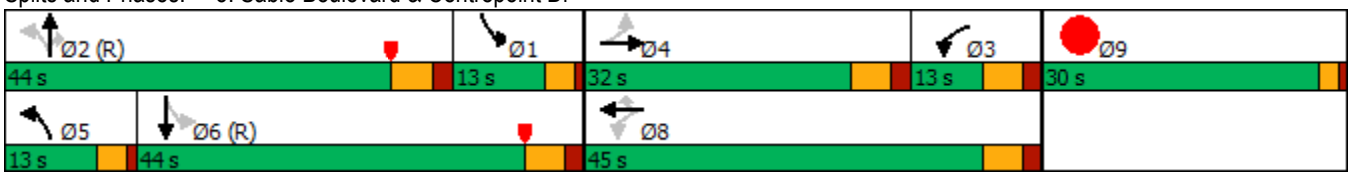


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	85	120	65	70	145	100	550	75	135	605	105
Future Volume (vph)	120	85	120	65	70	145	100	550	75	135	605	105
Satd. Flow (prot)	1805	1733	0	1543	1900	1302	1805	3574	1324	1347	3513	0
Flt Permitted	0.706			0.357			0.264			0.429		
Satd. Flow (perm)	1319	1733	0	580	1900	1263	501	3574	1291	605	3513	0
Satd. Flow (RTOR)		48				161			149		15	
Lane Group Flow (vph)	135	231	0	72	78	161	108	591	81	144	756	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Total Split (s)	32.0	32.0		13.0	45.0	45.0	13.0	44.0	44.0	13.0	44.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	
Act Effct Green (s)	19.3	19.3		29.6	28.5	28.5	71.8	69.8	69.8	74.7	72.7	
Actuated g/C Ratio	0.15	0.15		0.22	0.22	0.22	0.54	0.53	0.53	0.57	0.55	
v/c Ratio	0.70	0.79		0.43	0.19	0.40	0.30	0.31	0.11	0.35	0.39	
Control Delay	72.2	60.9		51.5	40.4	8.5	22.8	22.2	0.3	16.8	12.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	72.2	60.9		51.5	40.4	8.5	22.8	22.2	0.3	16.8	12.5	
LOS	E	E		D	D	A	C	C	A	B	B	
Approach Delay		65.1			26.5			20.0			13.2	
Approach LOS		E			C			C			B	
Queue Length 50th (ft)	111	154		50	54	0	41	138	0	29	82	
Queue Length 95th (ft)	173	231		88	92	54	120	295	0	77	301	
Internal Link Dist (ft)		258			445			1343			1144	
Turn Bay Length (ft)				100			150		150	225		
Base Capacity (vph)	259	379		187	561	486	367	1898	755	408	1941	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.52	0.61		0.39	0.14	0.33	0.29	0.31	0.11	0.35	0.39	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 113 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 25.2 — Intersection LOS: C
Intersection Capacity Utilization 64.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Sable Boulevard & Centrepoint Dr



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	30.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	325	100	165	265	95	70	505	220	135	560	95
Future Volume (vph)	125	325	100	165	265	95	70	505	220	135	560	95
Satd. Flow (prot)	1656	1827	0	1805	1900	1568	1770	3304	0	1805	3574	1482
Flt Permitted	0.371			0.125			0.257			0.290		
Satd. Flow (perm)	645	1827	0	238	1900	1540	478	3304	0	549	3574	1449
Satd. Flow (RTOR)		13				182		46				118
Lane Group Flow (vph)	140	477	0	179	288	103	76	788	0	145	602	102
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	13.0	37.0		13.0	37.0	37.0	10.0	19.0		10.0	19.0	19.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	6.0		4.0	6.0	6.0
Act Effct Green (s)	41.6	31.8		41.9	31.9	31.9	48.0	46.0		48.7	46.7	46.7
Actuated g/C Ratio	0.35	0.26		0.35	0.27	0.27	0.40	0.38		0.41	0.39	0.39
v/c Ratio	0.47	0.97		0.90	0.57	0.19	0.28	0.61		0.51	0.43	0.16
Control Delay	31.1	76.4		70.3	43.3	0.8	32.4	32.1		40.8	31.7	6.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	31.1	76.4		70.3	43.3	0.8	32.4	32.1		40.8	31.7	6.4
LOS	C	E		E	D	A	C	C		D	C	A
Approach Delay		66.1			44.1			32.1			30.2	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)	72	357		94	193	0	32	212		66	164	0
Queue Length 95th (ft)	120	#562		#221	286	0	#118	#615		#262	#464	41
Internal Link Dist (ft)		378			1322			338			1343	
Turn Bay Length (ft)	300			250		400	250			175		325
Base Capacity (vph)	300	496		200	506	544	270	1296		285	1389	635
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.47	0.96		0.90	0.57	0.19	0.28	0.61		0.51	0.43	0.16

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 41.1 Intersection LOS: D
Intersection Capacity Utilization 79.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sable Boulevard & Exposition Avenue

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	590	50	25	375	35	25	10	15	65	20	50
Future Vol, veh/h	55	590	50	25	375	35	25	10	15	65	20	50
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	300	-	100	-	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	94	94	94	88	88	88	89	89	89
Heavy Vehicles, %	0	0	0	0	0	17	0	0	0	4	0	6
Mvmt Flow	63	670	57	27	399	37	28	11	17	73	22	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	436	0	0	730	0	0	1339	1318	702	1292	1309	399
Stage 1	-	-	-	-	-	-	828	828	-	453	453	-
Stage 2	-	-	-	-	-	-	511	490	-	839	856	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.14	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.536	4	3.354
Pot Cap-1 Maneuver	1158	-	-	832	-	-	131	159	577	139	161	*767
Stage 1	-	-	-	-	-	-	408	378	-	697	621	-
Stage 2	-	-	-	-	-	-	638	590	-	393	359	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	1158	-	-	829	-	-	100	145	575	119	147	*767
Mov Cap-2 Maneuver	-	-	-	-	-	-	100	145	-	119	147	-
Stage 1	-	-	-	-	-	-	385	357	-	659	601	-
Stage 2	-	-	-	-	-	-	551	571	-	350	339	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.5	45	44.6
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	145	1158	-	-	829	-	-	119	147	767
HCM Lane V/C Ratio	0.392	0.054	-	-	0.032	-	-	0.614	0.153	0.073
HCM Control Delay (s)	45	8.3	-	-	9.5	-	-	74.5	33.9	10.1
HCM Lane LOS	E	A	-	-	A	-	-	F	D	B
HCM 95th %tile Q(veh)	1.7	0.2	-	-	0.1	-	-	3.1	0.5	0.2

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	30	400	50	15	45	200	1655	30	90	1965	200
Future Volume (vph)	300	30	400	50	15	45	200	1655	30	90	1965	200
Satd. Flow (prot)	1805	1900	1599	1805	1664	0	1770	5114	0	1805	5136	1615
Flt Permitted	0.442			0.735			0.052			0.105		
Satd. Flow (perm)	835	1900	1575	1393	1664	0	97	5114	0	199	5136	1567
Satd. Flow (RTOR)			53		50			3				113
Lane Group Flow (vph)	337	34	449	56	67	0	220	1852	0	95	2068	211
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4	5	3	8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Total Split (s)	35.0	43.0	20.0	10.0	18.0		20.0	92.0		72.0	72.0	72.0
Total Lost Time (s)	4.0	6.0	4.0	4.0	6.0		4.0	6.0		6.0	6.0	6.0
Act Effct Green (s)	40.4	30.4	49.4	14.1	7.6		96.6	94.6		73.6	73.6	73.6
Actuated g/C Ratio	0.28	0.21	0.34	0.10	0.05		0.67	0.65		0.51	0.51	0.51
v/c Ratio	0.79	0.09	0.78	0.37	0.50		0.84	0.55		0.95	0.79	0.25
Control Delay	59.2	44.1	44.4	46.0	36.6		66.0	15.6		88.4	13.7	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.2	0.0
Total Delay	59.2	44.1	44.4	46.0	36.6		66.0	15.6		88.4	13.9	2.2
LOS	E	D	D	D	D		E	B		F	B	A
Approach Delay		50.4			40.9			20.9			15.8	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)	274	26	304	38	16		151	353		~93	241	5
Queue Length 95th (ft)	358	54	423	70	66		#312	432		m#193	309	8
Internal Link Dist (ft)		1143			172			328			588	
Turn Bay Length (ft)	150						200			100		100
Base Capacity (vph)	448	484	584	152	183		271	3337		100	2605	850
Starvation Cap Reductn	0	0	0	0	0		0	0		0	95	0
Spillback Cap Reductn	0	0	0	0	0		0	63		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.75	0.07	0.77	0.37	0.37		0.81	0.57		0.95	0.82	0.25

Intersection Summary

Cycle Length: 145
Actuated Cycle Length: 145
Offset: 126 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 23.6 Intersection LOS: C
Intersection Capacity Utilization 85.8% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Chambers Road & Exposition Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	30	0	45	85	5	50	5	75	1850	70	35	2120
Future Volume (vph)	30	0	45	85	5	50	5	75	1850	70	35	2120
Satd. Flow (prot)	0	1711	0	0	1734	0	0	1803	5098	0	1805	5167
Flt Permitted		0.808			0.740			0.042			0.072	
Satd. Flow (perm)	0	1410	0	0	1321	0	0	80	5098	0	137	5167
Satd. Flow (RTOR)		60			18				7			4
Lane Group Flow (vph)	0	90	0	0	167	0	0	84	2021	0	37	2308
Turn Type	Perm	NA		Perm	NA		pm+pt	pm+pt	NA		pm+pt	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8			2	2			6	
Total Split (s)	40.0	40.0		40.0	40.0		12.0	12.0	93.0		12.0	93.0
Total Lost Time (s)		6.0			6.0			5.0	6.0		5.0	6.0
Act Effct Green (s)		21.4			21.4			110.2	102.4		105.9	98.6
Actuated g/C Ratio		0.15			0.15			0.76	0.71		0.73	0.68
v/c Ratio		0.35			0.80			0.54	0.56		0.22	0.66
Control Delay		24.0			78.0			49.0	7.0		4.9	6.3
Queue Delay		0.0			0.0			0.0	0.1		0.0	0.0
Total Delay		24.0			78.0			49.0	7.1		4.9	6.4
LOS		C			E			D	A		A	A
Approach Delay		24.0			78.0				8.8			6.3
Approach LOS		C			E				A			A
Queue Length 50th (ft)		25			138			29	122		3	115
Queue Length 95th (ft)		65			192			m87	344		m5	m160
Internal Link Dist (ft)		215			320				588			291
Turn Bay Length (ft)								225			85	
Base Capacity (vph)		376			323			159	3603		182	3516
Starvation Cap Reductn		0			0			0	240		0	0
Spillback Cap Reductn		0			0			0	0		0	43
Storage Cap Reductn		0			0			0	0		0	0
Reduced v/c Ratio		0.24			0.52			0.53	0.60		0.20	0.66

Intersection Summary

Cycle Length: 145
Actuated Cycle Length: 145
Offset: 140 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 10.3 — Intersection LOS: B
Intersection Capacity Utilization 73.8% — ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Chambers Road & Center Avenue

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	50
Future Volume (vph)	50
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Total Split (s)	
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	20	5	95	115	20
Future Vol, veh/h	30	20	5	95	115	20
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	86	86	87	87
Heavy Vehicles, %	0	14	0	9	3	0
Mvmt Flow	38	25	6	110	132	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	269	78	155	0	-	0
Stage 1	144	-	-	-	-	-
Stage 2	125	-	-	-	-	-
Critical Hdwy	6.6	7.11	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.433	2.2	-	-	-
Pot Cap-1 Maneuver	773	*1017	1497	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	770	*1017	1497	-	-	-
Mov Cap-2 Maneuver	770	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	906	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1497	-	853	-	-
HCM Lane V/C Ratio	0.004	-	0.073	-	-
HCM Control Delay (s)	7.4	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Notes

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

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	75	95	30	60	120
Future Vol, veh/h	15	75	95	30	60	120
Conflicting Peds, #/hr	3	0	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	90	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	84	84	86	86
Heavy Vehicles, %	0	0	6	0	0	2
Mvmt Flow	19	97	113	36	70	140

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	419	136	0	0	154	0
Stage 1	136	-	-	-	-	-
Stage 2	283	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	616	918	-	-	1439	-
Stage 1	895	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	581	914	-	-	1432	-
Mov Cap-2 Maneuver	629	-	-	-	-	-
Stage 1	891	-	-	-	-	-
Stage 2	746	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	2.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	850	1432	-
HCM Lane V/C Ratio	-	-	0.138	0.049	-
HCM Control Delay (s)	-	-	9.9	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	110	100	80	85	60	145
Future Vol, veh/h	110	100	80	85	60	145
Conflicting Peds, #/hr	10	0	0	10	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	92	92	89	89
Heavy Vehicles, %	13	3	5	5	0	12
Mvmt Flow	126	115	87	92	67	163

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	189	0	-	0	510	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	367	-
Critical Hdwy	4.23	-	-	-	6.4	6.32
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.317	-	-	-	3.5	3.408
Pot Cap-1 Maneuver	1322	-	-	-	541	879
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	717	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1309	-	-	-	476	871
Mov Cap-2 Maneuver	-	-	-	-	476	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	710	-

Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1309	-	-	-	701
HCM Lane V/C Ratio	0.097	-	-	-	0.329
HCM Control Delay (s)	8	0	-	-	12.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.4

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱		↑↑↑		↱
Traffic Vol, veh/h	2355	35	0	1950	0	25
Future Vol, veh/h	2355	35	0	1950	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2505	37	0	2074	0	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1253
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*363
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*363
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	363	-	-	-
HCM Lane V/C Ratio	0.082	-	-	-
HCM Control Delay (s)	15.8	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2435	25	40	1905	0	55
Future Vol, veh/h	2435	25	40	1905	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2618	27	43	2048	0	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2645	0	-	1323
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	-	3.92
Pot Cap-1 Maneuver	-	-	*452	-	0	*359
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	*452	-	-	*359
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	17.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	359	-	-	* 452	-
HCM Lane V/C Ratio	0.182	-	-	0.095	-
HCM Control Delay (s)	17.3	-	-	13.8	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.7	-	-	0.3	-

Notes

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

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2450	40	0	1945	0	55
Future Vol, veh/h	2450	40	0	1945	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2634	43	0	2091	0	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1339
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	*341
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*341
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	341	-	-	-
HCM Lane V/C Ratio	0.192	-	-	-
HCM Control Delay (s)	18	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.7	-	-	-

Notes

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

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	55	0	50	20	0	80	65	155	20	25	115	90
Future Vol, veh/h	55	0	50	20	0	80	65	155	20	25	115	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	0	60	24	0	95	77	185	24	30	137	107

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	650	614	191	632	655	197	244	0	0	209	0	0
Stage 1	251	251	-	351	351	-	-	-	-	-	-	-
Stage 2	399	363	-	281	304	-	-	-	-	-	-	-
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	382	407	851	393	386	844	1322	-	-	1362	-	-
Stage 1	753	699	-	666	632	-	-	-	-	-	-	-
Stage 2	627	625	-	726	663	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	316	370	851	340	351	844	1322	-	-	1362	-	-
Mov Cap-2 Maneuver	316	370	-	340	351	-	-	-	-	-	-	-
Stage 1	703	681	-	622	590	-	-	-	-	-	-	-
Stage 2	520	584	-	658	646	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16	11.8	2.1	0.8
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1322	-	-	451	651	1362	-	-
HCM Lane V/C Ratio	0.059	-	-	0.277	0.183	0.022	-	-
HCM Control Delay (s)	7.9	0	-	16	11.8	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.1	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	0	65	0	20	0	10	30	35	25	5
Future Vol, veh/h	25	0	0	65	0	20	0	10	30	35	25	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	0	0	77	0	24	0	12	36	42	30	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	159	165	33	147	150	30	36	0	0	48	0	0
Stage 1	117	117	-	30	30	-	-	-	-	-	-	-
Stage 2	42	48	-	117	120	-	-	-	-	-	-	-
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	807	728	1041	821	742	1044	1575	-	-	1559	-	-
Stage 1	888	799	-	987	870	-	-	-	-	-	-	-
Stage 2	972	855	-	888	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	771	708	1041	804	721	1044	1575	-	-	1559	-	-
Mov Cap-2 Maneuver	771	708	-	804	721	-	-	-	-	-	-	-
Stage 1	888	777	-	987	870	-	-	-	-	-	-	-
Stage 2	950	855	-	863	774	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	9.8	0	4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1575	-	-	771	850	1559	-	-
HCM Lane V/C Ratio	-	-	-	0.039	0.119	0.027	-	-
HCM Control Delay (s)	0	-	-	9.9	9.8	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	20	10	0	60	30	10	5	25	35	0	5
Future Vol, veh/h	20	20	10	0	60	30	10	5	25	35	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	24	12	0	71	36	12	6	30	42	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	107	0	0	36	0	0	170	185	30	185	173	89
Stage 1	-	-	-	-	-	-	78	78	-	89	89	-
Stage 2	-	-	-	-	-	-	92	107	-	96	84	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1484	-	-	1575	-	-	794	709	1044	776	720	969
Stage 1	-	-	-	-	-	-	931	830	-	918	821	-
Stage 2	-	-	-	-	-	-	915	807	-	911	825	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1484	-	-	1575	-	-	779	697	1044	740	708	969
Mov Cap-2 Maneuver	-	-	-	-	-	-	779	697	-	740	708	-
Stage 1	-	-	-	-	-	-	915	816	-	902	821	-
Stage 2	-	-	-	-	-	-	909	807	-	864	811	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	0	9.2	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	910	1484	-	-	1575	-	-	763
HCM Lane V/C Ratio	0.052	0.016	-	-	-	-	-	0.062
HCM Control Delay (s)	9.2	7.5	0	-	0	-	-	10
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	35	0	0	50	0	1915	40	0	2190	75
Future Vol, veh/h	0	0	35	0	0	50	0	1915	40	0	2190	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	93	93	93	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	42	0	0	60	0	2059	43	0	2330	80

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1205	-	-	1051	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	*413	0	0	*466	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %			1			1		-	-		-	-
Mov Cap-1 Maneuver	-	-	*413	-	-	*466	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	13.9	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	413	466	-	-
HCM Lane V/C Ratio	-	-	0.101	0.128	-	-
HCM Control Delay (s)	-	-	14.7	13.9	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.3	0.4	-	-

Notes

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	200	60	10	215	35	10
Future Vol, veh/h	200	60	10	215	35	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	71	12	256	42	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	309	0	518	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	280	-
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	-	-	1267	-	550	894
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1267	-	545	894
Mov Cap-2 Maneuver	-	-	-	-	545	-
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	760	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	597	-	-	1267	-
HCM Lane V/C Ratio	0.09	-	-	0.009	-
HCM Control Delay (s)	11.6	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	35	15	30	50	50	105	15	20	130	10
Future Vol, veh/h	10	10	35	15	30	50	50	105	15	20	130	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	12	42	18	36	60	60	125	18	24	155	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	511	472	161	490	469	134	167	0	0	143	0	0
Stage 1	209	209	-	254	254	-	-	-	-	-	-	-
Stage 2	302	263	-	236	215	-	-	-	-	-	-	-
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	473	490	884	489	492	915	1411	-	-	1440	-	-
Stage 1	793	729	-	750	697	-	-	-	-	-	-	-
Stage 2	707	691	-	767	725	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	396	459	884	435	461	915	1411	-	-	1440	-	-
Mov Cap-2 Maneuver	396	459	-	435	461	-	-	-	-	-	-	-
Stage 1	757	716	-	716	665	-	-	-	-	-	-	-
Stage 2	597	659	-	706	712	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	12.2	2.3	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1411	-	-	635	616	1440	-	-
HCM Lane V/C Ratio	0.042	-	-	0.103	0.184	0.017	-	-
HCM Control Delay (s)	7.7	0	-	11.3	12.2	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	40	5	0	90
Future Vol, veh/h	5	0	40	5	0	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	0	48	6	0	107

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	158	51	0	0	54	0
Stage 1	51	-	-	-	-	-
Stage 2	107	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	833	1017	-	-	1551	-
Stage 1	971	-	-	-	-	-
Stage 2	917	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	833	1017	-	-	1551	-
Mov Cap-2 Maneuver	833	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	833	1551	-
HCM Lane V/C Ratio	-	-	0.007	-	-
HCM Control Delay (s)	-	-	9.4	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	0	5	5	0	35	0	0	10	0
Future Vol, veh/h	0	5	0	0	5	5	0	35	0	0	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	0	0	6	6	0	42	0	0	12	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	6	0	0	21	18	6	36	15	9
Stage 1	-	-	-	-	-	-	6	6	-	9	9	-
Stage 2	-	-	-	-	-	-	15	12	-	27	6	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1607	-	-	1615	-	-	992	876	1077	970	879	1073
Stage 1	-	-	-	-	-	-	1016	891	-	1012	888	-
Stage 2	-	-	-	-	-	-	1005	886	-	990	891	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1607	-	-	1615	-	-	982	876	1077	935	879	1073
Mov Cap-2 Maneuver	-	-	-	-	-	-	982	876	-	935	879	-
Stage 1	-	-	-	-	-	-	1016	891	-	1012	888	-
Stage 2	-	-	-	-	-	-	992	886	-	944	891	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.3	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	876	1607	-	-	1615	-	-	879
HCM Lane V/C Ratio	0.048	-	-	-	-	-	-	0.014
HCM Control Delay (s)	9.3	0	-	-	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	75	0	1880	50	10	2205	10
Future Vol, veh/h	0	0	0	0	0	75	0	1880	50	10	2205	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	93	93	93	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	89	0	2022	54	11	2346	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1179	-	-	1038	-	0	0	2076	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	-	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	-	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*413	0	0	*484	0	-	-	*609	-	-
Stage 1	0	0	-	0	0	-	0	-	-	-	-	-
Stage 2	0	0	-	0	0	-	0	-	-	-	-	-
Platoon blocked, %			1			1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	*413	-	-	*484	-	-	-	*609	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	484	* 609	-	-
HCM Lane V/C Ratio	-	-	-	0.184	0.017	-	-
HCM Control Delay (s)	-	-	0	14.1	11	-	-
HCM Lane LOS	-	-	A	B	B	-	-
HCM 95th %tile Q(veh)	-	-	-	0.7	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	70	95	25	5	5
Future Vol, veh/h	10	70	95	25	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	83	113	30	6	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	143	0	-	0	235	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	107	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1440	-	-	-	753	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	917	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1440	-	-	-	746	922
Mov Cap-2 Maneuver	-	-	-	-	746	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	917	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1440	-	-	-	825
HCM Lane V/C Ratio	0.008	-	-	-	0.014
HCM Control Delay (s)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Appendix D. Safety Worksheets

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Alameda-Sable Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Crash Severity

By	Crashes:	Number of	People:
FAT:	0	Killed:	0
INJ:	57	Injured:	90
PDO:	69		
TOTAL:	126		

Weather Conditions

None:	117
Rain:	5
Snow/Sleet/Hail:	4
Fog:	0
Dust:	0
Wind:	0
Unknown:	0
TOTAL:	126

Lighting Conditions

Daylight:	81
Dawn/Dusk:	5
Dark-Lighted:	39
Dark-Unlighted:	1
Unknown:	0
TOTAL:	126

Road Conditions

Dry:	112
Wet:	12
Muddy:	0
Snowy:	1
Icy:	1
Slushy:	0
Foreign Material:	0
Road Treatment:	0
Unknown:	0
Dry W/Icy Road Treatment:	0
Wet W/Icy Road Treatment:	0
Snowy W/Icy Road Treatment:	0
Icy W/Icy Road Treatment:	0
Slushy W/Icy Road Treatment:	0
TOTAL:	126

Crash Location

On Road:	120
Off Road Left:	3
Off Road Right:	2
Off Road at Tee:	0
Off in Median:	1
Off Unkown:	0
Unknown:	0
	126

Crash Type

Overturning:	0	Bridge Abutment:	0
Other Non-Collision:	0	Column/Pier:	0
Pedestrian:	5	Culvert/Headwall:	0
Broadside:	13	Embankment:	0
Head On:	0	Curb:	3
Rear End:	23	Delineator Post:	1
Sideswipe (Same):	10	Fence:	0
Sideswipe (Opposite):	0	Tree:	0
Approach Turn:	66	Lrg Bldrs or Rocks:	0
Overtaking Turn:	3	Barricade:	1
Parked Motor Veh:	0	Wall/Building:	0
Railway Veh:	0	Crash Cushion:	0
Bicycle:	0	Mailbox:	0
Motorized Bicycle:	0	Other Fixed Object:	0
Domestic Animal:	0	Total Fixed Objects:	6
Wild Animal:	0	Rocks in Roadway:	0
Light/Utility Pole:	0	Vehicle Cargo/Debris:	0
Traffic Signal Pole:	0	Road Maint Equip:	0
Sign:	1	Involving Other Object:	0
Bridge Rail:	0	Total Other Object:	0
Guard Rail:	0	**TOTAL:**	126
Cable Rail:	0		
Concrete Barrier:	0		

Number of Vehicles

One Car:	9
Two Car:	104
Three or More:	13
Unknown:	0
TOTAL:	126

Road Description Details by Vehicle

At Intersection:	100
At Driveway Access:	0
Intersection Related:	26
Non Intersection:	0
In Alley:	0
Roundabout:	0
Ramp:	0
Parking Lot:	0
Unknown:	0
TOTAL:	126

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Alameda-Sable Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Vehicle Type Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Psgr Car/Psgr Van:	60	63	8
Psgr Car/Psgr Van w/Trl:	0	0	0
Pickup Truck/Utility Van:	13	14	0
Pickup Truck/Utility Van w/Trl:	0	0	1
SUV:	47	37	3
SUV w/Trl:	1	0	0
Truck 10k lbs or Less:	0	0	0
Trucks > 10k lbs/Busses > 15 People:	0	0	0
Motor Home:	0	0	0
School Bus 15 People or Less:	0	0	0
Non School Bus 15 People or Less:	0	0	0
Motorcycle:	0	0	0
Bicycle:	0	0	0
Motorized Bicycle:	0	0	0
Farm Equipment:	0	0	0
Hit and Run/Unknown Vehicle:	5	1	0
Other:	0	2	1
Unknown:	0	0	0
TOTAL:	126	117	13

Mainline/Ramps/Frontage

Crossroad A:	0
B:	0
C:	0
D:	0
E:	0
F:	0
G:	0
H:	0
I:	0
J:	0
Left Frontage Road (L):	0
K:	0
M:	0
N:	0
O:	0
P:	0
Mainline/HOV:	126
Right Frontage Road (R):	0
Rest Area/Truck Ramp (T):	0
Other (Z):	0
TOTAL:	126

Crash Rates

PDO:	69000000 / MVMT
Injury:	57000000 / MVMT
Fatal:	0 / 100MVMT
Total:	126000000 / MVMT

Human Contributing Factor Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Apparent Contributing Factor:	49	114	13
Asleep at the Wheel:	2	0	0
Illness:	0	0	0
Distracted by Passenger:	1	0	0
Driver Inexperience:	14	0	0
Driver Fatigue:	1	0	0
Driver Preoccupied:	15	0	0
Driver Unfamiliar with Area:	5	0	0
Driver Emotionally Upset:	4	0	0
Evading Law Enforcement Officer:	0	0	0
Physical Disability:	0	0	0
Unknown:	35	3	0
TOTAL:	126	117	13

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Alameda-Sable Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Condition of Driver Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Impairment Suspected:	120	116	13
Alcohol Involved:	3	1	0
RX, Meds or Drugs Involved:	0	0	0
Illegal Drugs Involved:	1	0	0
Alcohol and Drugs Involved:	0	0	0
Driver/Ped not Observed:	0	0	0
Unknown:	2	0	0
TOTAL:	126	117	13

Vehicle Direction Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
North:	26	31	3
Northeast:	0	0	0
East:	36	31	1
Southeast:	1	1	0
South:	36	24	3
Southwest:	0	0	0
West:	26	29	4
Northwest:	1	1	0
Unknown:	0	0	2
TOTAL:	126	117	13

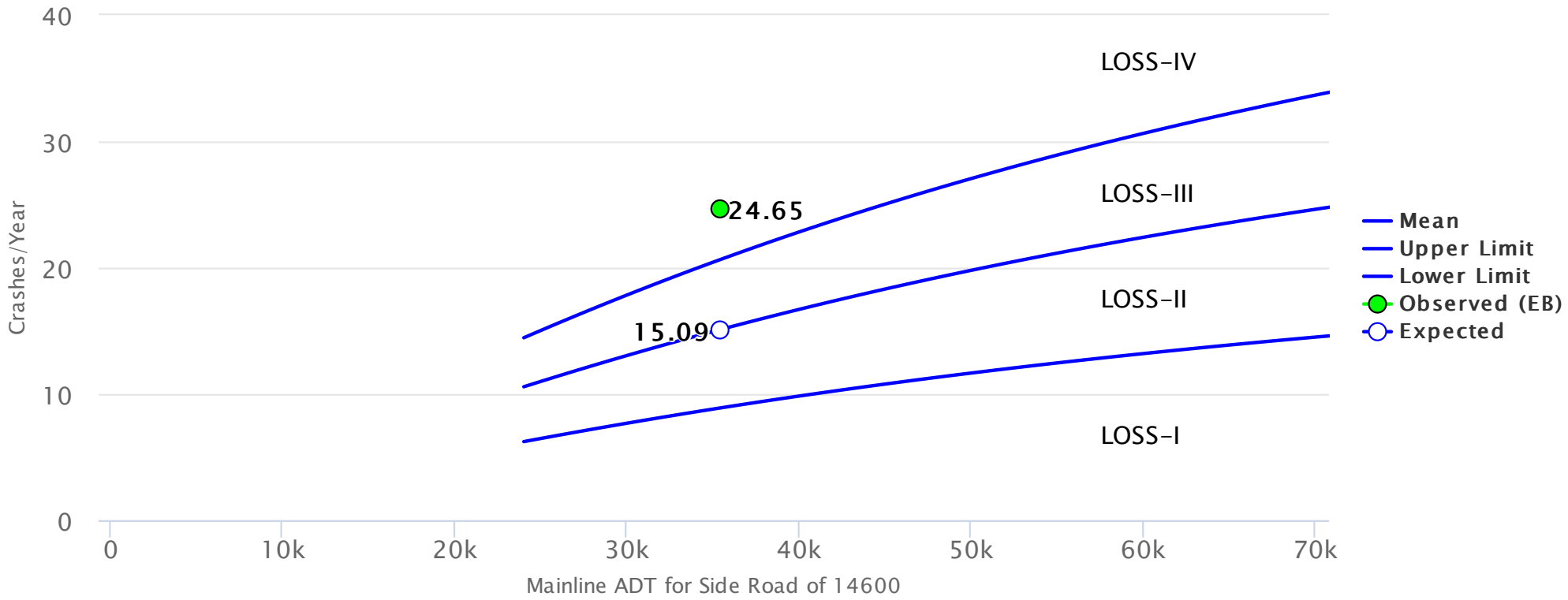
Vehicle Movement Factor Detail by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Going Straight:	27	84	4
Slowing:	5	5	0
Stopped in Traffic:	1	14	7
Making Right Turn:	8	3	0
Making Left Turn:	75	10	1
Making U-Turn:	1	0	0
Passing:	1	0	0
Backing:	0	0	0
Entering/Leaving Parked Position:	0	0	0
Starting in Traffic:	0	0	0
Parked:	0	0	0
Changing Lanes:	6	0	0
Avoiding Objects in Roadway:	0	0	0
Weaving:	0	0	0
Wrong Way:	0	0	0
Other:	2	1	1
Unknown:	0	0	0
TOTAL:	126	117	13

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/05/2024

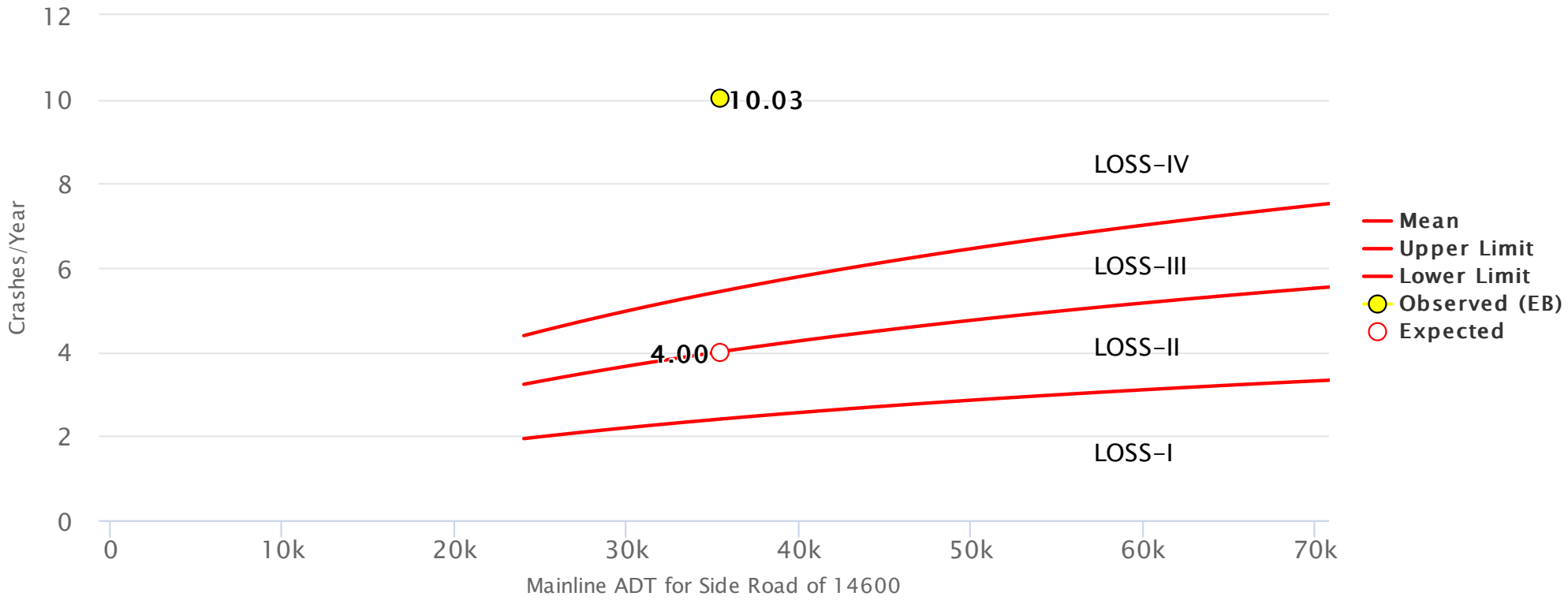
Alameda-Sable **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/05/2024

Alameda-Sable **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
Diagnostics Report

05/05/2024

Alameda-Sable Diagnostics

Cutoff: 5 Acc's @ 95

Category/Trait	Statewide Average %	This Location # Crashes	This Location %	Probability %
Crash Severity				
Injury (INJ)	24.91%	57	45.24%	100%
Number Of Vehicles				
Single Vehicle Accidents	3.45%	9	7.14%	98.77%
Crash Type				
Pedestrian	1.99%	5	3.97%	95.92%
Approach Turn	17.16%	66	52.38%	100%
Lighting Conditions				
Dark - Lighted	23.31%	39	30.95%	98.12%

Highway Class: CO - Urban 6-Lane Divided Signalized 4-Leg Intersections - AADT 0-48000 ADT (2018)

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Alameda-Municipal Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Crash Severity

By Crashes:		Number of People:	
FAT:	0	Killed:	0
INJ:	1	Injured:	1
PDO:	9		
TOTAL:	10		

Weather Conditions

None:	9
Rain:	1
Snow/Sleet/Hail:	0
Fog:	0
Dust:	0
Wind:	0
Unknown:	0
TOTAL:	10

Lighting Conditions

Daylight:	9
Dawn/Dusk:	0
Dark-Lighted:	0
Dark-Unlighted:	1
Unknown:	0
TOTAL:	10

Road Conditions

Dry:	9
Wet:	1
Muddy:	0
Snowy:	0
Icy:	0
Slushy:	0
Foreign Material:	0
Road Treatment:	0
Unknown:	0
Dry W/Icy Road Treatment:	0
Wet W/Icy Road Treatment:	0
Snowy W/Icy Road Treatment:	0
Icy W/Icy Road Treatment:	0
Slushy W/Icy Road Treatment:	0
TOTAL:	10

Crash Location

On Road:	10
Off Road Left:	0
Off Road Right:	0
Off Road at Tee:	0
Off in Median:	0
Off Unkown:	0
Unknown:	0
	10

Crash Type

Overturning:	0	Bridge Abutment:	0
Other Non-Collision:	0	Column/Pier:	0
Pedestrian:	0	Culvert/Headwall:	0
Broadside:	8	Embankment:	0
Head On:	0	Curb:	0
Rear End:	1	Delineator Post:	0
Sideswipe (Same):	1	Fence:	0
Sideswipe (Opposite):	0	Tree:	0
Approach Turn:	0	Lrg Bldrs or Rocks:	0
Overtaking Turn:	0	Barricade:	0
Parked Motor Veh:	0	Wall/Building:	0
Railway Veh:	0	Crash Cushion:	0
Bicycle:	0	Mailbox:	0
Motorized Bicycle:	0	Other Fixed Object:	0
Domestic Animal:	0	Total Fixed Objects:	0
Wild Animal:	0	Rocks in Roadway:	0
Light/Utility Pole:	0	Vehicle Cargo/Debris:	0
Traffic Signal Pole:	0	Road Maint Equip:	0
Sign:	0	Involving Other Object:	0
Bridge Rail:	0	Total Other Object:	0
Guard Rail:	0	**TOTAL:**	10
Cable Rail:	0		
Concrete Barrier:	0		

Number of Vehicles

One Car:	0
Two Car:	10
Three or More:	0
Unknown:	0
TOTAL:	10

Road Description Details by Vehicle

At Intersection:	7
At Driveway Access:	1
Intersection Related:	0
Non Intersection:	2
In Alley:	0
Roundabout:	0
Ramp:	0
Parking Lot:	0
Unknown:	0
TOTAL:	10

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Alameda-Municipal Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Vehicle Type Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Psgr Car/Psgr Van:	7	8	0
Psgr Car/Psgr Van w/Trl:	0	0	0
Pickup Truck/Utility Van:	0	0	0
Pickup Truck/Utility Van w/Trl:	0	0	0
SUV:	2	2	0
SUV w/Trl:	0	0	0
Truck 10k lbs or Less:	0	0	0
Trucks > 10k lbs/Busses > 15 People:	1	0	0
Motor Home:	0	0	0
School Bus 15 People or Less:	0	0	0
Non School Bus 15 People or Less:	0	0	0
Motorcycle:	0	0	0
Bicycle:	0	0	0
Motorized Bicycle:	0	0	0
Farm Equipment:	0	0	0
Hit and Run/Unknown Vehicle:	0	0	0
Other:	0	0	0
Unknown:	0	0	0
TOTAL:	10	10	0

Mainline/Ramps/Frontage

Crossroad A:	0
B:	0
C:	0
D:	0
E:	0
F:	0
G:	0
H:	0
I:	0
J:	0
Left Frontage Road (L):	0
K:	0
M:	0
N:	0
O:	0
P:	0
Mainline/HOV:	10
Right Frontage Road (R):	0
Rest Area/Truck Ramp (T):	0
Other (Z):	0
TOTAL:	10

Crash Rates

PDO:	/ MVMT
Injury:	/ MVMT
Fatal:	/ 100MVMT
Total:	/ MVMT

Human Contributing Factor Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Apparent Contributing Factor:	3	10	0
Asleep at the Wheel:	0	0	0
Illness:	0	0	0
Distracted by Passenger:	0	0	0
Driver Inexperience:	3	0	0
Driver Fatigue:	0	0	0
Driver Preoccupied:	2	0	0
Driver Unfamiliar with Area:	0	0	0
Driver Emotionally Upset:	0	0	0
Evading Law Enforcement Officer:	0	0	0
Physical Disability:	0	0	0
Unknown:	2	0	0
TOTAL:	10	10	0

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Alameda-Municipal Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Condition of Driver Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Impairment Suspected:	10	10	0
Alcohol Involved:	0	0	0
RX, Meds or Drugs Involved:	0	0	0
Illegal Drugs Involved:	0	0	0
Alcohol and Drugs Involved:	0	0	0
Driver/Ped not Observed:	0	0	0
Unknown:	0	0	0
TOTAL:	10	10	0

Vehicle Direction Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
North:	0	0	0
Northeast:	0	0	0
East:	0	0	0
Southeast:	0	0	0
South:	8	0	0
Southwest:	0	0	0
West:	2	10	0
Northwest:	0	0	0
Unknown:	0	0	0
TOTAL:	10	10	0

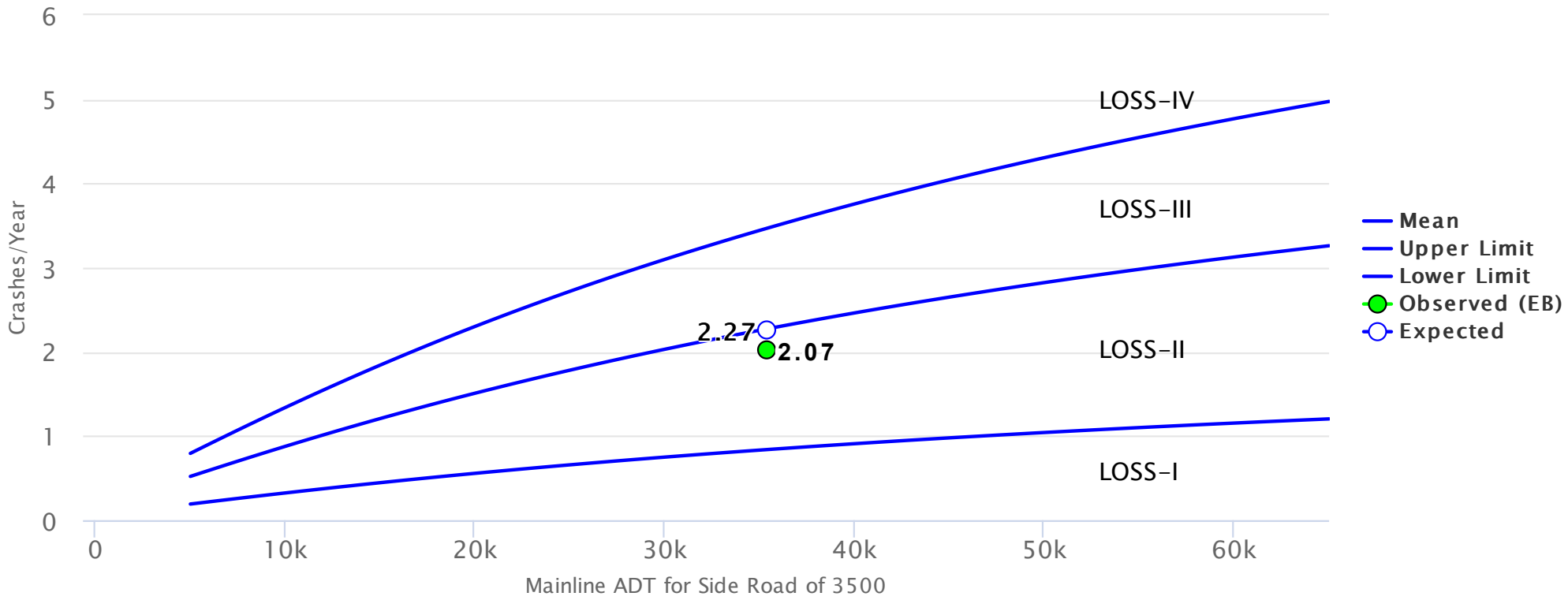
Vehicle Movement Factor Detail by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Going Straight:	1	9	0
Slowing:	0	0	0
Stopped in Traffic:	0	1	0
Making Right Turn:	0	0	0
Making Left Turn:	8	0	0
Making U-Turn:	0	0	0
Passing:	0	0	0
Backing:	0	0	0
Entering/Leaving Parked Position:	0	0	0
Starting in Traffic:	0	0	0
Parked:	0	0	0
Changing Lanes:	1	0	0
Avoiding Objects in Roadway:	0	0	0
Weaving:	0	0	0
Wrong Way:	0	0	0
Other:	0	0	0
Unknown:	0	0	0
TOTAL:	10	10	0

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/05/2024

Alameda-Municipal **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



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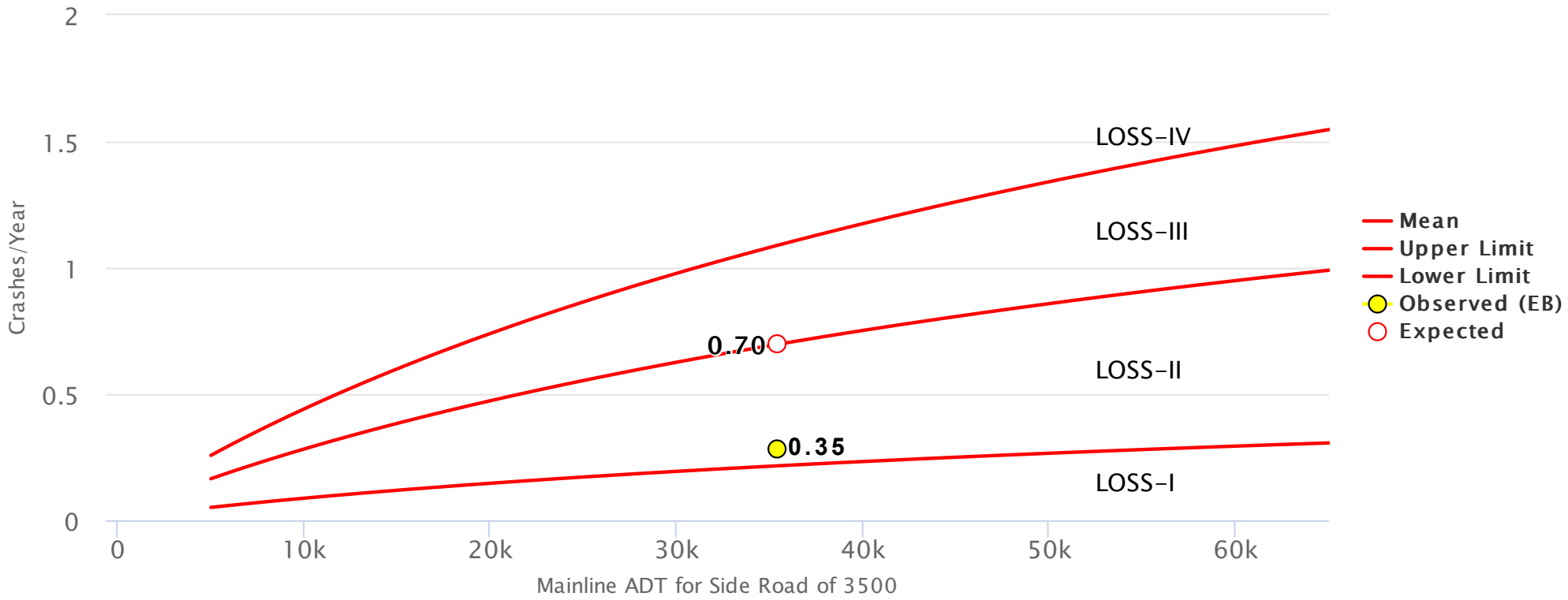
Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/05/2024

Alameda-Municipal **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
Diagnostics Report

05/05/2024

Alameda-Municipal Diagnostics

Cutoff: 5 Acc's @ 95

Category/Trait	Statewide Average %	This Location # Crashes	This Location %	Probability %
Number of Vehicles				
Two Vehicle Accidents	**81.83%**	**10**	**100%**	**100%**
Crash Location				
On Roadway	**93.08%**	**10**	**100%**	**100%**
Crash Type				
Broadside	**22.32%**	**8**	**80.00%**	**100%**

Highway Class: CO - Urban 6-Lane Divided Unsignalized 3-Leg Intersections (2018)

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Alameda-AlamedaDr Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Crash Severity

By Crashes:		Number of People:	
FAT:	0	Killed:	0
INJ:	10	Injured:	13
PDO:	9		
TOTAL:	19		

Weather Conditions

None:	16
Rain:	1
Snow/Sleet/Hail:	2
Fog:	0
Dust:	0
Wind:	0
Unknown:	0
TOTAL:	19

Lighting Conditions

Daylight:	13
Dawn/Dusk:	2
Dark-Lighted:	4
Dark-Unlighted:	0
Unknown:	0
TOTAL:	19

Road Conditions

Dry:	13
Wet:	4
Muddy:	0
Snowy:	1
Icy:	0
Slushy:	0
Foreign Material:	0
Road Treatment:	1
Unknown:	0
Dry W/Icy Road Treatment:	0
Wet W/Icy Road Treatment:	1
Snowy W/Icy Road Treatment:	0
Icy W/Icy Road Treatment:	0
Slushy W/Icy Road Treatment:	0
TOTAL:	19

Crash Location

On Road:	19
Off Road Left:	0
Off Road Right:	0
Off Road at Tee:	0
Off in Median:	0
Off Unkown:	0
Unknown:	0
	19

Crash Type

Overturning:	0	Bridge Abutment:	0
Other Non-Collision:	0	Column/Pier:	0
Pedestrian:	1	Culvert/Headwall:	0
Broadside:	7	Embankment:	0
Head On:	0	Curb:	0
Rear End:	2	Delineator Post:	0
Sideswipe (Same):	1	Fence:	0
Sideswipe (Opposite):	0	Tree:	0
Approach Turn:	4	Lrg Bldrs or Rocks:	0
Overtaking Turn:	1	Barricade:	0
Parked Motor Veh:	0	Wall/Building:	0
Railway Veh:	0	Crash Cushion:	0
Bicycle:	3	Mailbox:	0
Motorized Bicycle:	0	Other Fixed Object:	0
Domestic Animal:	0	Total Fixed Objects:	0
Wild Animal:	0	Rocks in Roadway:	0
Light/Utility Pole:	0	Vehicle Cargo/Debris:	0
Traffic Signal Pole:	0	Road Maint Equip:	0
Sign:	0	Involving Other Object:	0
Bridge Rail:	0	Total Other Object:	0
Guard Rail:	0	**TOTAL:**	19
Cable Rail:	0		
Concrete Barrier:	0		

Number of Vehicles

One Car:	1
Two Car:	17
Three or More:	1
Unknown:	0
TOTAL:	19

Road Description Details by Vehicle

At Intersection:	16
At Driveway Access:	0
Intersection Related:	3
Non Intersection:	0
In Alley:	0
Roundabout:	0
Ramp:	0
Parking Lot:	0
Unknown:	0
TOTAL:	19

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Alameda-AlamedaDr Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Vehicle Type Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Psgr Car/Psgr Van:	13	7	1
Psgr Car/Psgr Van w/Trl:	0	0	0
Pickup Truck/Utility Van:	2	2	0
Pickup Truck/Utility Van w/Trl:	0	0	0
SUV:	2	4	0
SUV w/Trl:	0	0	0
Truck 10k lbs or Less:	0	0	0
Trucks > 10k lbs/Busses > 15 People:	0	2	0
Motor Home:	0	0	0
School Bus 15 People or Less:	0	0	0
Non School Bus 15 People or Less:	1	0	0
Motorcycle:	0	0	0
Bicycle:	0	2	0
Motorized Bicycle:	0	0	0
Farm Equipment:	0	0	0
Hit and Run/Unknown Vehicle:	1	0	0
Other:	0	1	0
Unknown:	0	0	0
TOTAL:	19	18	1

Mainline/Ramps/Frontage

Crossroad A:	0
B:	0
C:	0
D:	0
E:	0
F:	0
G:	0
H:	0
I:	0
J:	0
Left Frontage Road (L):	0
K:	0
M:	0
N:	0
O:	0
P:	0
Mainline/HOV:	19
Right Frontage Road (R):	0
Rest Area/Truck Ramp (T):	0
Other (Z):	0
TOTAL:	19

Crash Rates

PDO:	/ MVMT
Injury:	/ MVMT
Fatal:	/ 100MVMT
Total:	/ MVMT

Human Contributing Factor Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Apparent Contributing Factor:	8	18	1
Asleep at the Wheel:	0	0	0
Illness:	0	0	0
Distracted by Passenger:	2	0	0
Driver Inexperience:	3	0	0
Driver Fatigue:	0	0	0
Driver Preoccupied:	0	0	0
Driver Unfamiliar with Area:	0	0	0
Driver Emotionally Upset:	0	0	0
Evading Law Enforcement Officer:	0	0	0
Physical Disability:	0	0	0
Unknown:	6	0	0
TOTAL:	19	25	1

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Alameda-AlamedaDr Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Condition of Driver Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Impairment Suspected:	17	18	1
Alcohol Involved:	0	0	0
RX, Meds or Drugs Involved:	0	0	0
Illegal Drugs Involved:	0	0	0
Alcohol and Drugs Involved:	1	0	0
Driver/Ped not Observed:	0	0	0
Unknown:	1	0	0
TOTAL:	19	18	1

Vehicle Direction Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
North:	0	2	0
Northeast:	0	1	0
East:	6	4	0
Southeast:	0	0	0
South:	4	2	1
Southwest:	1	1	0
West:	7	8	0
Northwest:	1	0	0
Unknown:	0	0	0
TOTAL:	19	18	1

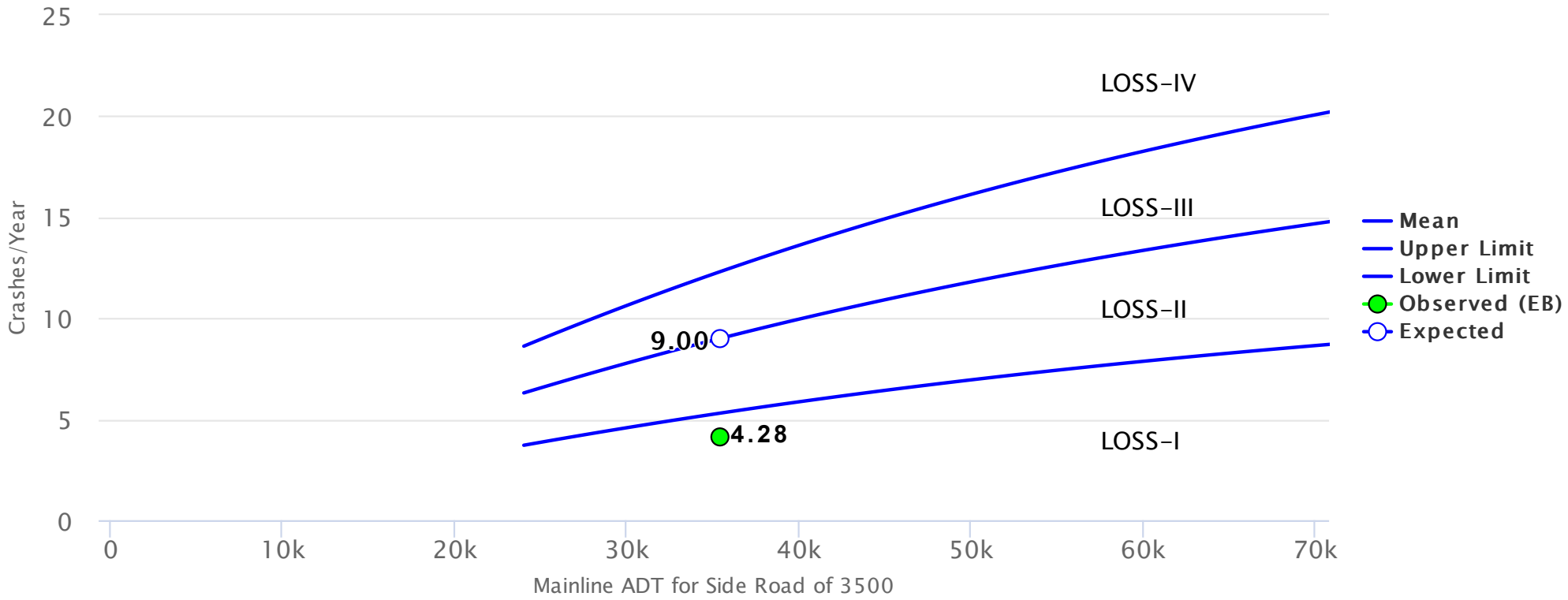
Vehicle Movement Factor Detail by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Going Straight:	8	13	0
Slowing:	0	0	0
Stopped in Traffic:	0	2	1
Making Right Turn:	6	0	0
Making Left Turn:	5	2	0
Making U-Turn:	0	0	0
Passing:	0	0	0
Backing:	0	0	0
Entering/Leaving Parked Position:	0	0	0
Starting in Traffic:	0	0	0
Parked:	0	0	0
Changing Lanes:	0	0	0
Avoiding Objects in Roadway:	0	0	0
Weaving:	0	0	0
Wrong Way:	0	1	0
Other:	0	0	0
Unknown:	0	0	0
TOTAL:	19	18	1

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/05/2024

Alameda-AlamedaDr **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



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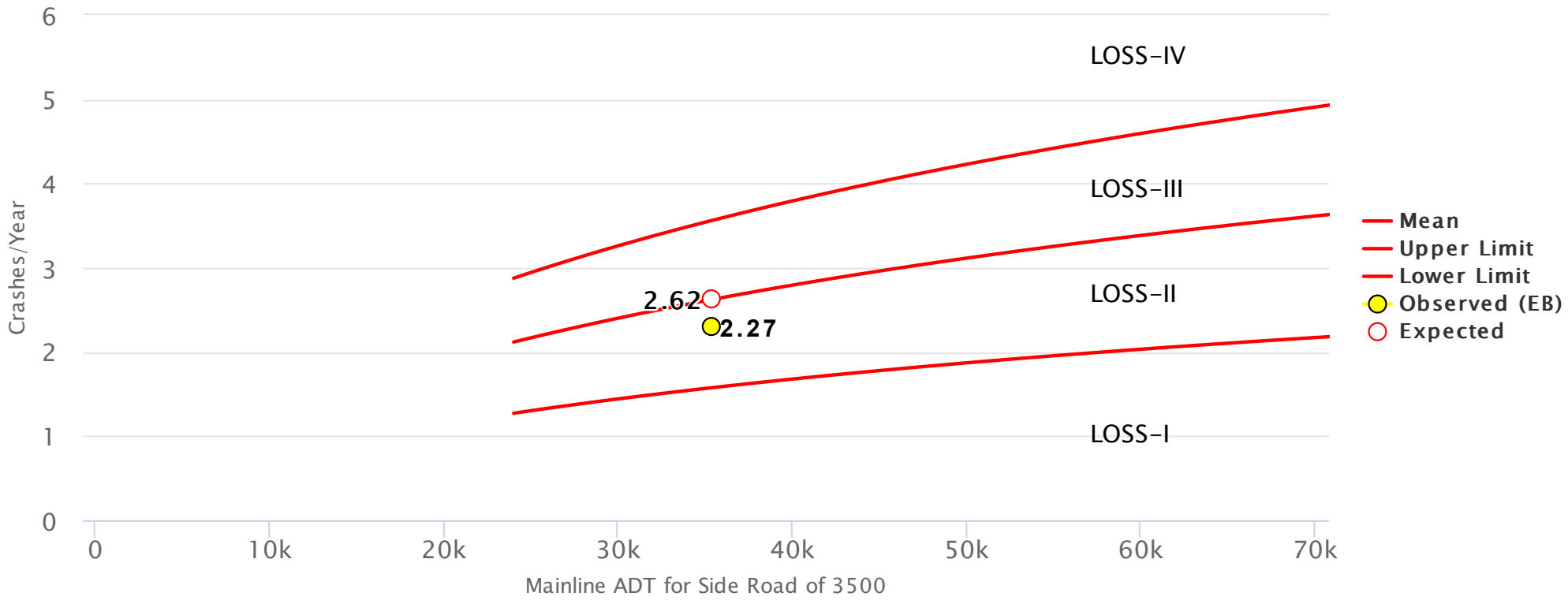
05/05/2024

Alameda-AlamedaDr Severe SPF **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
Diagnostics Report

05/05/2024

Alameda-AlamedaDr Diagnostics

Cutoff: 5 Acc's @ 95

Category/Trait	Statewide Average %	This Location # Crashes	This Location %	Probability %
Crash Severity				
Injury (INJ)	24.91%	10	52.63%	99.78%
Crash Location				
On Roadway	96.85%	19	100%	100%
Crash Type				
Broadside	11.31%	7	36.84%	99.94%

Highway Class: CO - Urban 6-Lane Divided Signalized 4-Leg Intersections - AADT 0-48000 ADT (2018)

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Alameda-Chambers Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Crash Severity

By Crashes:		Number of People:	
FAT:	0	Killed:	0
INJ:	24	Injured:	35
PDO:	46		
TOTAL:	70		

Weather Conditions

None:	66
Rain:	1
Snow/Sleet/Hail:	2
Fog:	0
Dust:	0
Wind:	1
Unknown:	0
TOTAL:	70

Lighting Conditions

Daylight:	50
Dawn/Dusk:	1
Dark-Lighted:	19
Dark-Unlighted:	0
Unknown:	0
TOTAL:	70

Road Conditions

Dry:	63
Wet:	5
Muddy:	0
Snowy:	1
Icy:	1
Slushy:	0
Foreign Material:	0
Road Treatment:	0
Unknown:	0
Dry W/Icy Road Treatment:	0
Wet W/Icy Road Treatment:	0
Snowy W/Icy Road Treatment:	0
Icy W/Icy Road Treatment:	0
Slushy W/Icy Road Treatment:	0
TOTAL:	70

Crash Location

On Road:	70
Off Road Left:	0
Off Road Right:	0
Off Road at Tee:	0
Off in Median:	0
Off Unkown:	0
Unknown:	0
	70

Crash Type

Overturning:	0	Bridge Abutment:	0
Other Non-Collision:	0	Column/Pier:	0
Pedestrian:	2	Culvert/Headwall:	0
Broadside:	14	Embankment:	0
Head On:	3	Curb:	0
Rear End:	33	Delineator Post:	0
Sideswipe (Same):	6	Fence:	0
Sideswipe (Opposite):	2	Tree:	0
Approach Turn:	6	Lrg Bldrs or Rocks:	0
Overtaking Turn:	3	Barricade:	0
Parked Motor Veh:	1	Wall/Building:	0
Railway Veh:	0	Crash Cushion:	0
Bicycle:	0	Mailbox:	0
Motorized Bicycle:	0	Other Fixed Object:	0
Domestic Animal:	0	Total Fixed Objects:	0
Wild Animal:	0	Rocks in Roadway:	0
Light/Utility Pole:	0	Vehicle Cargo/Debris:	0
Traffic Signal Pole:	0	Road Maint Equip:	0
Sign:	0	Involving Other Object:	0
Bridge Rail:	0	Total Other Object:	0
Guard Rail:	0	**TOTAL:**	70
Cable Rail:	0		
Concrete Barrier:	0		

Number of Vehicles

One Car:	1
Two Car:	61
Three or More:	8
Unknown:	0
TOTAL:	70

Road Description Details by Vehicle

At Intersection:	45
At Driveway Access:	0
Intersection Related:	25
Non Intersection:	0
In Alley:	0
Roundabout:	0
Ramp:	0
Parking Lot:	0
Unknown:	0
TOTAL:	70

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Alameda-Chambers Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Vehicle Type Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Psgr Car/Psgr Van:	39	41	4
Psgr Car/Psgr Van w/Trl:	0	0	0
Pickup Truck/Utility Van:	13	4	0
Pickup Truck/Utility Van w/Trl:	0	0	0
SUV:	15	22	3
SUV w/Trl:	0	0	0
Truck 10k lbs or Less:	0	0	0
Trucks > 10k lbs/Busses > 15 People:	0	0	0
Motor Home:	0	0	0
School Bus 15 People or Less:	0	0	0
Non School Bus 15 People or Less:	0	0	0
Motorcycle:	0	0	0
Bicycle:	0	0	0
Motorized Bicycle:	0	0	0
Farm Equipment:	0	0	0
Hit and Run/Unknown Vehicle:	2	0	0
Other:	1	2	0
Unknown:	0	0	1
TOTAL:	70	69	8

Mainline/Ramps/Frontage

Crossroad A:	0
B:	0
C:	0
D:	0
E:	0
F:	0
G:	0
H:	0
I:	0
J:	0
Left Frontage Road (L):	0
K:	0
M:	0
N:	0
O:	0
P:	0
Mainline/HOV:	70
Right Frontage Road (R):	0
Rest Area/Truck Ramp (T):	0
Other (Z):	0
TOTAL:	70

Crash Rates

PDO:	46000000 / MVMT
Injury:	24000000 / MVMT
Fatal:	0 / 100MVMT
Total:	70000000 / MVMT

Human Contributing Factor Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Apparent Contributing Factor:	25	67	7
Asleep at the Wheel:	1	0	0
Illness:	4	0	0
Distracted by Passenger:	1	0	0
Driver Inexperience:	5	0	1
Driver Fatigue:	1	0	0
Driver Preoccupied:	14	0	0
Driver Unfamiliar with Area:	0	0	0
Driver Emotionally Upset:	1	0	0
Evading Law Enforcement Officer:	0	0	0
Physical Disability:	0	0	0
Unknown:	18	2	0
TOTAL:	70	69	8

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Alameda-Chambers Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Condition of Driver Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Impairment Suspected:	63	69	8
Alcohol Involved:	2	0	0
RX, Meds or Drugs Involved:	0	0	0
Illegal Drugs Involved:	0	0	0
Alcohol and Drugs Involved:	1	0	0
Driver/Ped not Observed:	0	0	0
Unknown:	4	0	0
TOTAL:	70	69	8

Vehicle Direction Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
North:	24	17	1
Northeast:	0	0	0
East:	14	13	5
Southeast:	0	0	0
South:	16	20	0
Southwest:	0	0	0
West:	15	19	0
Northwest:	0	0	0
Unknown:	1	0	2
TOTAL:	70	69	8

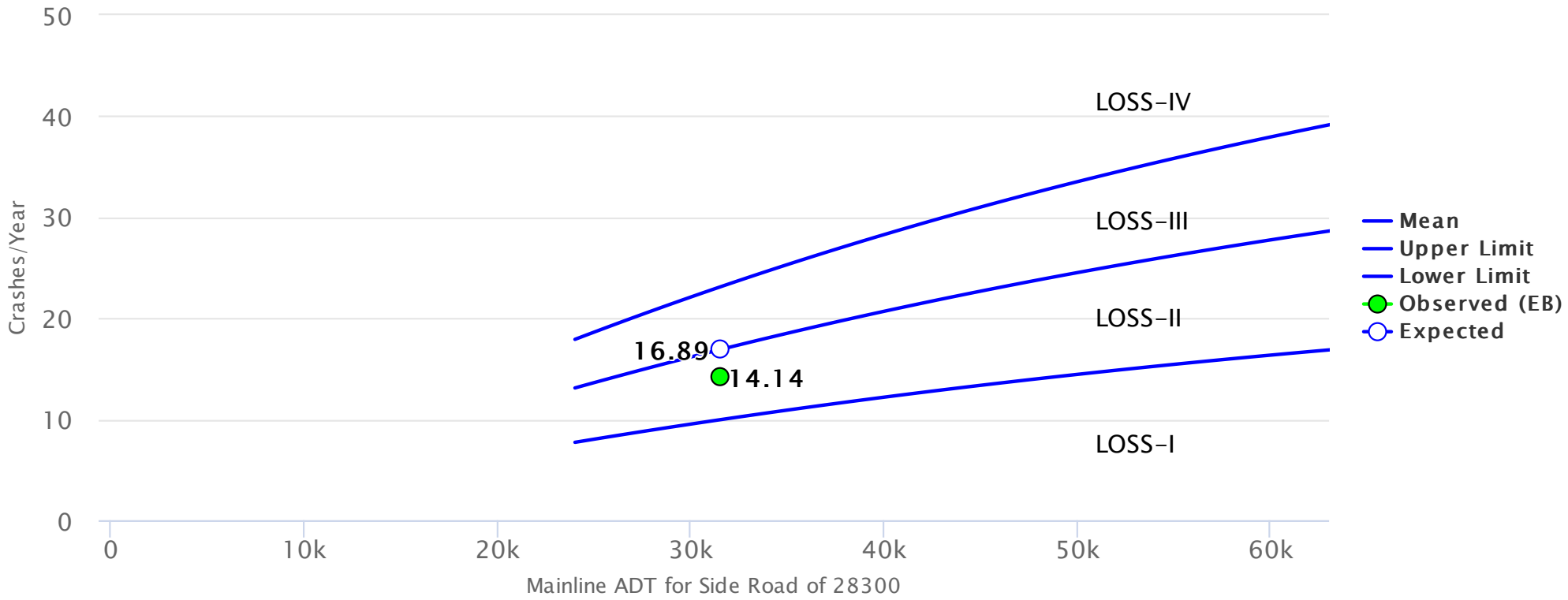
Vehicle Movement Factor Detail by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Going Straight:	39	27	3
Slowing:	4	7	0
Stopped in Traffic:	3	24	3
Making Right Turn:	4	1	0
Making Left Turn:	8	8	1
Making U-Turn:	1	0	0
Passing:	0	0	0
Backing:	2	0	0
Entering/Leaving Parked Position:	0	0	0
Starting in Traffic:	0	0	0
Parked:	0	1	0
Changing Lanes:	4	1	0
Avoiding Objects in Roadway:	0	0	0
Weaving:	0	0	0
Wrong Way:	1	0	0
Other:	3	0	0
Unknown:	1	0	1
TOTAL:	70	69	8

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/18/2024

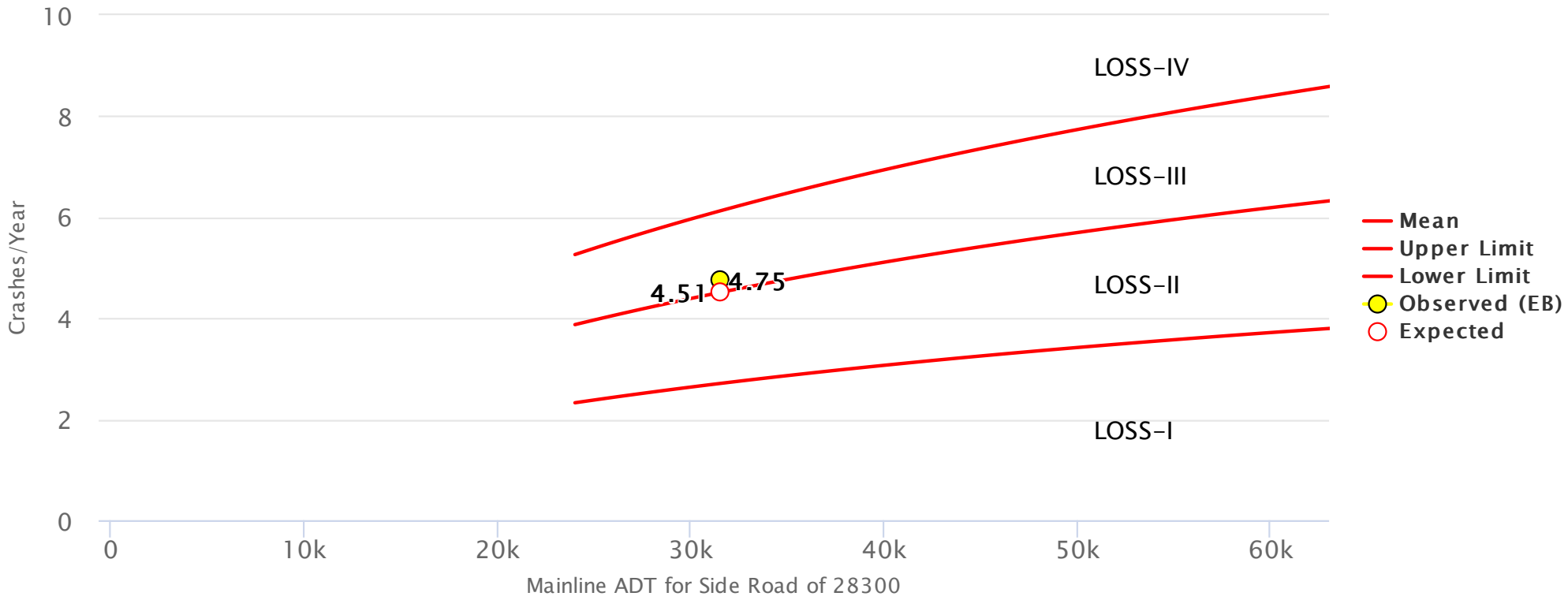
Alameda-Chambers **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/18/2024

Alameda-Chambers **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
Diagnostics Report

05/18/2024

Alameda-Chambers | **Cutoff:** 5 Acc's @ 95

Category/Trait	Statewide Average %	This Location # Crashes	This Location %	Probability %
Crash Severity				
Injury (INJ)	24.91%	24	33.8%	**96.58%**
Crash Type				
Broadside	11.31%	14	19.72%	**98.79%**

Highway Class: CO - Urban 6-Lane Divided Signalized 4-Leg Intersections - AADT 0-48000 ADT (2018)

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Sable-Centrepoint Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Crash Severity

By	Crashes:	Number of	People:
FAT:	1	Killed:	1
INJ:	8	Injured:	11
PDO:	12		
TOTAL:	21		

Weather Conditions

None:	16
Rain:	0
Snow/Sleet/Hail:	5
Fog:	0
Dust:	0
Wind:	0
Unknown:	0
TOTAL:	21

Lighting Conditions

Daylight:	15
Dawn/Dusk:	1
Dark-Lighted:	5
Dark-Unlighted:	0
Unknown:	0
TOTAL:	21

Road Conditions

Dry:	15
Wet:	4
Muddy:	0
Snowy:	0
Icy:	2
Slushy:	0
Foreign Material:	0
Road Treatment:	0
Unknown:	0
Dry W/Icy Road Treatment:	0
Wet W/Icy Road Treatment:	0
Snowy W/Icy Road Treatment:	0
Icy W/Icy Road Treatment:	0
Slushy W/Icy Road Treatment:	0
TOTAL:	21

Crash Location

On Road:	21
Off Road Left:	0
Off Road Right:	0
Off Road at Tee:	0
Off in Median:	0
Off Unkown:	0
Unknown:	0
	21

Crash Type

Overturning:	0	Bridge Abutment:	0
Other Non-Collision:	0	Column/Pier:	0
Pedestrian:	0	Culvert/Headwall:	0
Broadside:	11	Embankment:	0
Head On:	0	Curb:	0
Rear End:	4	Delineator Post:	0
Sideswipe (Same):	0	Fence:	0
Sideswipe (Opposite):	0	Tree:	0
Approach Turn:	4	Lrg Bldrs or Rocks:	0
Overtaking Turn:	2	Barricade:	0
Parked Motor Veh:	0	Wall/Building:	0
Railway Veh:	0	Crash Cushion:	0
Bicycle:	0	Mailbox:	0
Motorized Bicycle:	0	Other Fixed Object:	0
Domestic Animal:	0	Total Fixed Objects:	0
Wild Animal:	0	Rocks in Roadway:	0
Light/Utility Pole:	0	Vehicle Cargo/Debris:	0
Traffic Signal Pole:	0	Road Maint Equip:	0
Sign:	0	Involving Other Object:	0
Bridge Rail:	0	Total Other Object:	0
Guard Rail:	0	**TOTAL:**	21
Cable Rail:	0		
Concrete Barrier:	0		

Number of Vehicles

One Car:	0
Two Car:	21
Three or More:	0
Unknown:	0
TOTAL:	21

Road Description Details by Vehicle

At Intersection:	19
At Driveway Access:	0
Intersection Related:	2
Non Intersection:	0
In Alley:	0
Roundabout:	0
Ramp:	0
Parking Lot:	0
Unknown:	0
TOTAL:	21

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Sable-Centrepoint Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Vehicle Type Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Psgr Car/Psgr Van:	11	10	0
Psgr Car/Psgr Van w/Trl:	0	0	0
Pickup Truck/Utility Van:	4	1	0
Pickup Truck/Utility Van w/Trl:	0	0	0
SUV:	6	9	0
SUV w/Trl:	0	0	0
Truck 10k lbs or Less:	0	0	0
Trucks > 10k lbs/Busses > 15 People:	0	1	0
Motor Home:	0	0	0
School Bus 15 People or Less:	0	0	0
Non School Bus 15 People or Less:	0	0	0
Motorcycle:	0	0	0
Bicycle:	0	0	0
Motorized Bicycle:	0	0	0
Farm Equipment:	0	0	0
Hit and Run/Unknown Vehicle:	0	0	0
Other:	0	0	0
Unknown:	0	0	0
TOTAL:	21	21	0

Mainline/Ramps/Frontage

Crossroad A:	0
B:	0
C:	0
D:	0
E:	0
F:	0
G:	0
H:	0
I:	0
J:	0
Left Frontage Road (L):	0
K:	0
M:	0
N:	0
O:	0
P:	0
Mainline/HOV:	21
Right Frontage Road (R):	0
Rest Area/Truck Ramp (T):	0
Other (Z):	0
TOTAL:	21

Crash Rates

PDO:	12000000 / MVMT
Injury:	8000000 / MVMT
Fatal:	100000000 / 100MVMT
Total:	21000000 / MVMT

Human Contributing Factor Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Apparent Contributing Factor:	8	21	0
Asleep at the Wheel:	0	0	0
Illness:	0	0	0
Distracted by Passenger:	1	0	0
Driver Inexperience:	1	0	0
Driver Fatigue:	0	0	0
Driver Preoccupied:	4	0	0
Driver Unfamiliar with Area:	0	0	0
Driver Emotionally Upset:	1	0	0
Evading Law Enforcement Officer:	0	0	0
Physical Disability:	0	0	0
Unknown:	6	0	0
TOTAL:	21	21	0

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/05/2024

Sable-Centrepoint Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Condition of Driver Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Impairment Suspected:	20	21	0
Alcohol Involved:	1	0	0
RX, Meds or Drugs Involved:	0	0	0
Illegal Drugs Involved:	0	0	0
Alcohol and Drugs Involved:	0	0	0
Driver/Ped not Observed:	0	0	0
Unknown:	0	0	0
TOTAL:	21	21	0

Vehicle Direction Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
North:	8	3	0
Northeast:	0	0	0
East:	4	7	0
Southeast:	0	0	0
South:	8	4	0
Southwest:	0	0	0
West:	1	7	0
Northwest:	0	0	0
Unknown:	0	0	0
TOTAL:	21	21	0

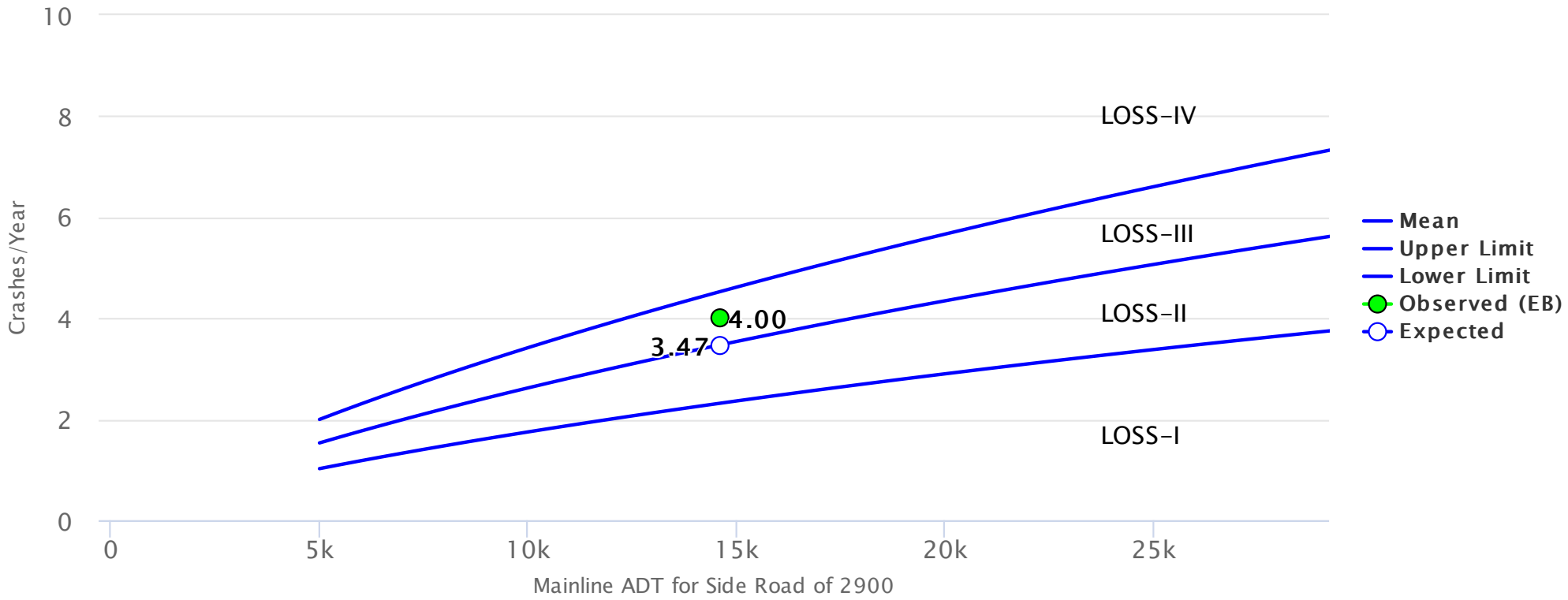
Vehicle Movement Factor Detail by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Going Straight:	11	13	0
Slowing:	0	0	0
Stopped in Traffic:	0	3	0
Making Right Turn:	1	0	0
Making Left Turn:	5	5	0
Making U-Turn:	1	0	0
Passing:	1	0	0
Backing:	0	0	0
Entering/Leaving Parked Position:	0	0	0
Starting in Traffic:	0	0	0
Parked:	0	0	0
Changing Lanes:	1	0	0
Avoiding Objects in Roadway:	0	0	0
Weaving:	0	0	0
Wrong Way:	1	0	0
Other:	0	0	0
Unknown:	0	0	0
TOTAL:	21	21	0

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/05/2024

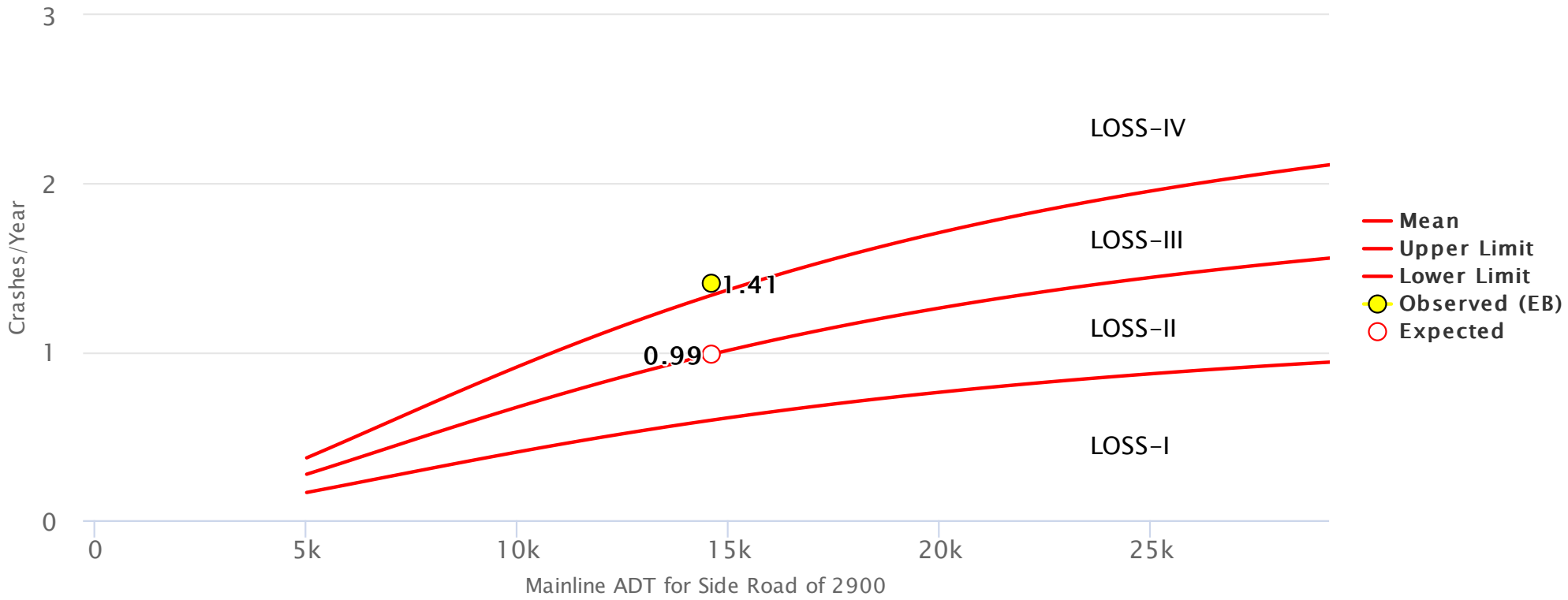
Sable-Centrepoint **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/05/2024

Sable-Centrepoint **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
Diagnostics Report

05/05/2024

Sable-Centrepoint Diagnostics

Cutoff: 5 Acc's @ 95

Category/Trait	Statewide Average %	This Location # Crashes	This Location %	Probability %
Number Of Vehicles				
Two Vehicle Accidents	87.66%	21	100%	100%
Crash Location				
On Road	95.78%	21	100%	100%
Crash Type				
Broadside	14.44%	11	52.38%	100%
Weather Conditions				
Snow or Sleet or Hail	5.86%	5	23.81%	99.9%

Highway Class: CO - Urban 4-Lane Divided Signalized 4-Leg Intersections - AADT 0-32000 ADT (2018)

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Sable-Exposition Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Crash Severity

By Crashes:		Number of People:	
FAT:	0	Killed:	0
INJ:	11	Injured:	15
PDO:	8		
TOTAL:	19		

Weather Conditions

None:	15
Rain:	2
Snow/Sleet/Hail:	1
Fog:	0
Dust:	0
Wind:	1
Unknown:	0
TOTAL:	19

Lighting Conditions

Daylight:	15
Dawn/Dusk:	1
Dark-Lighted:	2
Dark-Unlighted:	1
Unknown:	0
TOTAL:	19

Road Conditions

Dry:	14
Wet:	1
Muddy:	0
Snowy:	1
Icy:	3
Slushy:	0
Foreign Material:	0
Road Treatment:	0
Unknown:	0
Dry W/Icy Road Treatment:	0
Wet W/Icy Road Treatment:	0
Snowy W/Icy Road Treatment:	0
Icy W/Icy Road Treatment:	0
Slushy W/Icy Road Treatment:	0
TOTAL:	19

Crash Location

On Road:	17
Off Road Left:	0
Off Road Right:	1
Off Road at Tee:	0
Off in Median:	1
Off Unkown:	0
Unknown:	0
	19

Crash Type

Overturning:	0	Bridge Abutment:	0
Other Non-Collision:	0	Column/Pier:	0
Pedestrian:	0	Culvert/Headwall:	0
Broadside:	4	Embankment:	0
Head On:	1	Curb:	0
Rear End:	4	Delineator Post:	0
Sideswipe (Same):	2	Fence:	0
Sideswipe (Opposite):	0	Tree:	0
Approach Turn:	7	Lrg Bldrs or Rocks:	0
Overtaking Turn:	0	Barricade:	0
Parked Motor Veh:	0	Wall/Building:	0
Railway Veh:	0	Crash Cushion:	0
Bicycle:	0	Mailbox:	0
Motorized Bicycle:	0	Other Fixed Object:	1
Domestic Animal:	0	Total Fixed Objects:	1
Wild Animal:	0	Rocks in Roadway:	0
Light/Utility Pole:	0	Vehicle Cargo/Debris:	0
Traffic Signal Pole:	0	Road Maint Equip:	0
Sign:	0	Involving Other Object:	0
Bridge Rail:	0	Total Other Object:	0
Guard Rail:	0	**TOTAL:**	19
Cable Rail:	0		
Concrete Barrier:	0		

Number of Vehicles

One Car:	1
Two Car:	15
Three or More:	3
Unknown:	0
TOTAL:	19

Road Description Details by Vehicle

At Intersection:	13
At Driveway Access:	0
Intersection Related:	6
Non Intersection:	0
In Alley:	0
Roundabout:	0
Ramp:	0
Parking Lot:	0
Unknown:	0
TOTAL:	19

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Sable-Exposition Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Vehicle Type Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Psgr Car/Psgr Van:	11	7	2
Psgr Car/Psgr Van w/Trl:	0	0	0
Pickup Truck/Utility Van:	1	2	0
Pickup Truck/Utility Van w/Trl:	0	0	0
SUV:	7	9	1
SUV w/Trl:	0	0	0
Truck 10k lbs or Less:	0	0	0
Trucks > 10k lbs/Busses > 15 People:	0	0	0
Motor Home:	0	0	0
School Bus 15 People or Less:	0	0	0
Non School Bus 15 People or Less:	0	0	0
Motorcycle:	0	0	0
Bicycle:	0	0	0
Motorized Bicycle:	0	0	0
Farm Equipment:	0	0	0
Hit and Run/Unknown Vehicle:	0	0	0
Other:	0	0	0
Unknown:	0	0	0
TOTAL:	19	18	3

Mainline/Ramps/Frontage

Crossroad A:	0
B:	0
C:	0
D:	0
E:	0
F:	0
G:	0
H:	0
I:	0
J:	0
Left Frontage Road (L):	0
K:	0
M:	0
N:	0
O:	0
P:	0
Mainline/HOV:	19
Right Frontage Road (R):	0
Rest Area/Truck Ramp (T):	0
Other (Z):	0
TOTAL:	19

Crash Rates

PDO:	8000000 / MVMT
Injury:	11000000 / MVMT
Fatal:	0 / 100MVMT
Total:	19000000 / MVMT

Human Contributing Factor Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Apparent Contributing Factor:	8	18	3
Asleep at the Wheel:	1	0	0
Illness:	0	0	0
Distracted by Passenger:	0	0	0
Driver Inexperience:	2	0	0
Driver Fatigue:	0	0	0
Driver Preoccupied:	3	0	0
Driver Unfamiliar with Area:	0	0	0
Driver Emotionally Upset:	2	0	0
Evading Law Enforcement Officer:	0	0	0
Physical Disability:	0	0	0
Unknown:	3	0	0
TOTAL:	19	18	3

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Sable-Exposition Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Condition of Driver Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Impairment Suspected:	18	18	3
Alcohol Involved:	1	0	0
RX, Meds or Drugs Involved:	0	0	0
Illegal Drugs Involved:	0	0	0
Alcohol and Drugs Involved:	0	0	0
Driver/Ped not Observed:	0	0	0
Unknown:	0	0	0
TOTAL:	19	18	3

Vehicle Direction Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
North:	3	1	2
Northeast:	0	0	0
East:	2	6	0
Southeast:	0	0	0
South:	5	3	0
Southwest:	0	0	0
West:	9	8	1
Northwest:	0	0	0
Unknown:	0	0	0
TOTAL:	19	18	3

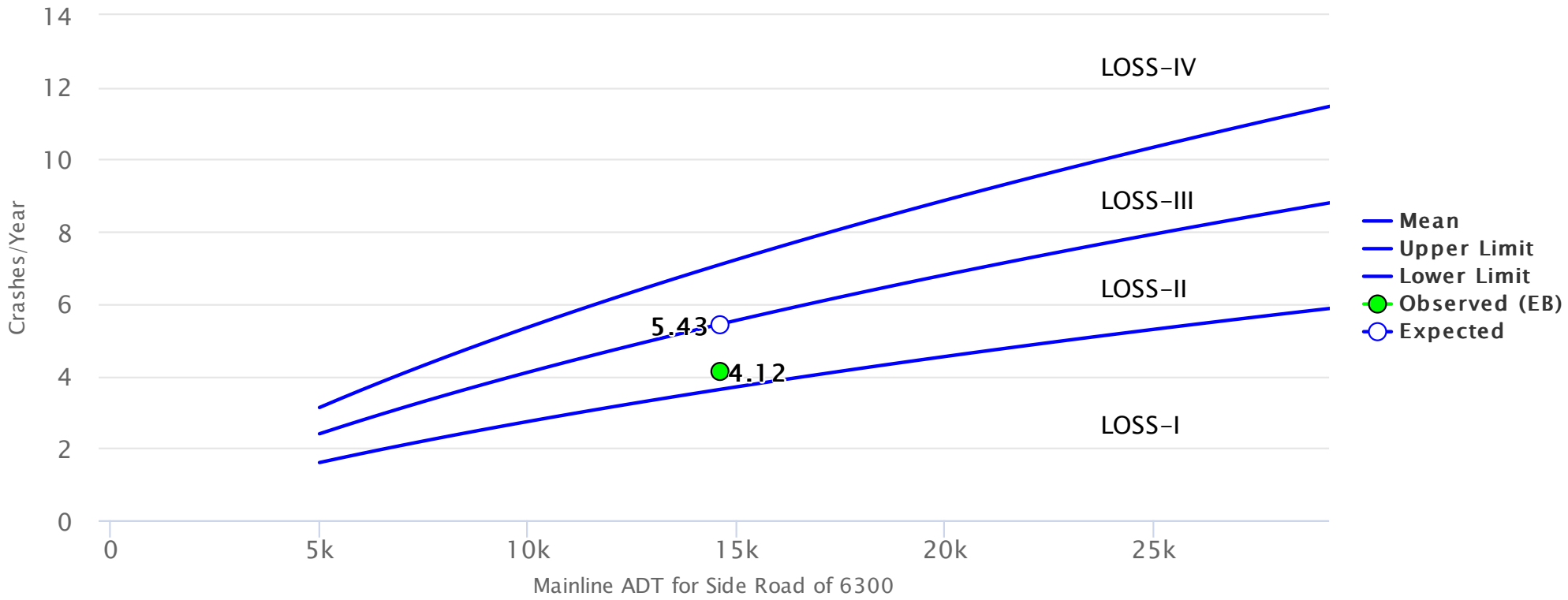
Vehicle Movement Factor Detail by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Going Straight:	9	9	0
Slowing:	1	0	0
Stopped in Traffic:	0	5	3
Making Right Turn:	0	1	0
Making Left Turn:	8	3	0
Making U-Turn:	0	0	0
Passing:	0	0	0
Backing:	0	0	0
Entering/Leaving Parked Position:	0	0	0
Starting in Traffic:	0	0	0
Parked:	0	0	0
Changing Lanes:	0	0	0
Avoiding Objects in Roadway:	0	0	0
Weaving:	0	0	0
Wrong Way:	0	0	0
Other:	1	0	0
Unknown:	0	0	0
TOTAL:	19	18	3

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/18/2024

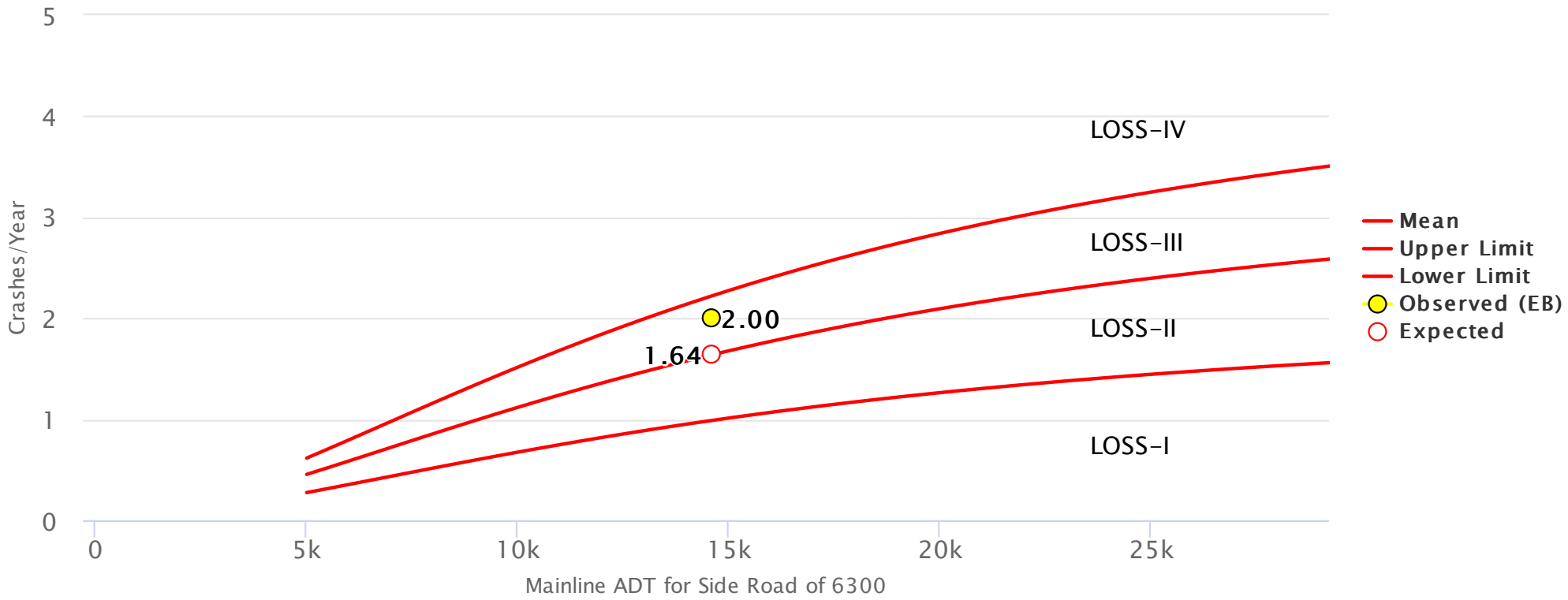
Sable-Exposition **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/18/2024

Sable-Exposition **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Any intentional or inadvertent release of this data or any data derived from its use shall not constitute a waiver of privilege pursuant to 23 USC 409.

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
Diagnostics Report

05/18/2024

Sable-Exposition

Cutoff: 5 Acc's @ 95

Category/Trait	Statewide Average	This Location		Probability
	%	# Crashes	%	%
Crash Severity				
Injury (INJ)	28.51%	11	57.89%	99.83%
Crash Type				
Approach Turn	16.02%	7	36.84%	99.38%

Highway Class: CO - Urban 4-Lane Divided Signalized 4-Leg Intersections - AADT 0-32000 ADT (2018)

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Exposition-Chambers Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Crash Severity

By Crashes:		Number of People:	
FAT:	0	Killed:	0
INJ:	13	Injured:	21
PDO:	13		
TOTAL:	26		

Weather Conditions

None:	25
Rain:	0
Snow/Sleet/Hail:	1
Fog:	0
Dust:	0
Wind:	0
Unknown:	0
TOTAL:	26

Lighting Conditions

Daylight:	20
Dawn/Dusk:	0
Dark-Lighted:	5
Dark-Unlighted:	1
Unknown:	0
TOTAL:	26

Road Conditions

Dry:	22
Wet:	1
Muddy:	0
Snowy:	1
Icy:	1
Slushy:	1
Foreign Material:	0
Road Treatment:	0
Unknown:	0
Dry W/Icy Road Treatment:	0
Wet W/Icy Road Treatment:	0
Snowy W/Icy Road Treatment:	0
Icy W/Icy Road Treatment:	0
Slushy W/Icy Road Treatment:	0
TOTAL:	26

Crash Location

On Road:	25
Off Road Left:	1
Off Road Right:	0
Off Road at Tee:	0
Off in Median:	0
Off Unkown:	0
Unknown:	0
	26

Crash Type

Overturning:	0	Bridge Abutment:	0
Other Non-Collision:	0	Column/Pier:	0
Pedestrian:	2	Culvert/Headwall:	0
Broadside:	5	Embankment:	0
Head On:	1	Curb:	1
Rear End:	4	Delineator Post:	0
Sideswipe (Same):	1	Fence:	0
Sideswipe (Opposite):	0	Tree:	0
Approach Turn:	8	Lrg Bldrs or Rocks:	0
Overtaking Turn:	4	Barricade:	0
Parked Motor Veh:	0	Wall/Building:	0
Railway Veh:	0	Crash Cushion:	0
Bicycle:	0	Mailbox:	0
Motorized Bicycle:	0	Other Fixed Object:	0
Domestic Animal:	0	Total Fixed Objects:	1
Wild Animal:	0	Rocks in Roadway:	0
Light/Utility Pole:	0	Vehicle Cargo/Debris:	0
Traffic Signal Pole:	0	Road Maint Equip:	0
Sign:	0	Involving Other Object:	0
Bridge Rail:	0	Total Other Object:	0
Guard Rail:	0	**TOTAL:**	26
Cable Rail:	0		
Concrete Barrier:	0		

Number of Vehicles

One Car:	1
Two Car:	20
Three or More:	5
Unknown:	0
TOTAL:	26

Road Description Details by Vehicle

At Intersection:	20
At Driveway Access:	0
Intersection Related:	6
Non Intersection:	0
In Alley:	0
Roundabout:	0
Ramp:	0
Parking Lot:	0
Unknown:	0
TOTAL:	26

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Exposition-Chambers Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Vehicle Type Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Psgr Car/Psgr Van:	10	15	2
Psgr Car/Psgr Van w/Trl:	0	0	0
Pickup Truck/Utility Van:	3	2	0
Pickup Truck/Utility Van w/Trl:	0	0	0
SUV:	10	5	3
SUV w/Trl:	0	0	0
Truck 10k lbs or Less:	0	0	0
Trucks > 10k lbs/Busses > 15 People:	0	1	0
Motor Home:	2	0	0
School Bus 15 People or Less:	0	0	0
Non School Bus 15 People or Less:	0	0	0
Motorcycle:	0	0	0
Bicycle:	0	0	0
Motorized Bicycle:	0	0	0
Farm Equipment:	0	0	0
Hit and Run/Unknown Vehicle:	1	0	0
Other:	0	2	0
Unknown:	0	0	0
TOTAL:	26	25	5

Mainline/Ramps/Frontage

Crossroad A:	0
B:	0
C:	0
D:	0
E:	0
F:	0
G:	0
H:	0
I:	0
J:	0
Left Frontage Road (L):	0
K:	0
M:	0
N:	0
O:	0
P:	0
Mainline/HOV:	26
Right Frontage Road (R):	0
Rest Area/Truck Ramp (T):	0
Other (Z):	0
TOTAL:	26

Crash Rates

PDO:	13000000 / MVMT
Injury:	13000000 / MVMT
Fatal:	0 / 100MVMT
Total:	26000000 / MVMT

Human Contributing Factor Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Apparent Contributing Factor:	12	22	5
Asleep at the Wheel:	0	0	0
Illness:	0	0	0
Distracted by Passenger:	0	0	0
Driver Inexperience:	2	0	0
Driver Fatigue:	0	0	0
Driver Preoccupied:	3	1	0
Driver Unfamiliar with Area:	0	0	0
Driver Emotionally Upset:	0	1	0
Evading Law Enforcement Officer:	0	0	0
Physical Disability:	0	0	0
Unknown:	9	1	0
TOTAL:	26	25	5

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Exposition-Chambers Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Condition of Driver Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Impairment Suspected:	24	24	4
Alcohol Involved:	0	0	0
RX, Meds or Drugs Involved:	0	0	0
Illegal Drugs Involved:	0	0	0
Alcohol and Drugs Involved:	0	0	0
Driver/Ped not Observed:	0	0	0
Unknown:	2	1	1
TOTAL:	26	25	5

Vehicle Direction Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
North:	8	6	0
Northeast:	0	0	0
East:	4	6	1
Southeast:	0	0	0
South:	11	11	1
Southwest:	1	0	0
West:	2	2	0
Northwest:	0	0	0
Unknown:	0	0	3
TOTAL:	26	25	5

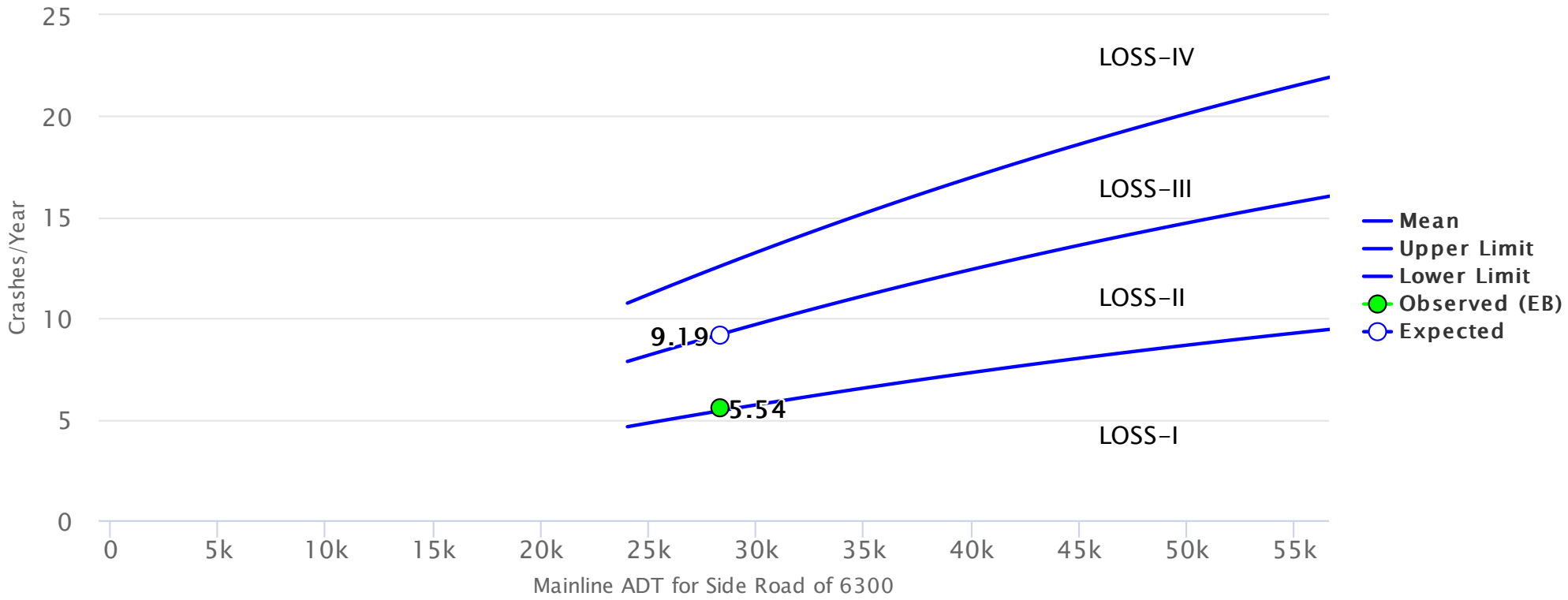
Vehicle Movement Factor Detail by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Going Straight:	11	17	1
Slowing:	0	1	0
Stopped in Traffic:	1	2	3
Making Right Turn:	4	3	1
Making Left Turn:	8	2	0
Making U-Turn:	1	0	0
Passing:	0	0	0
Backing:	0	0	0
Entering/Leaving Parked Position:	0	0	0
Starting in Traffic:	0	0	0
Parked:	0	0	0
Changing Lanes:	1	0	0
Avoiding Objects in Roadway:	0	0	0
Weaving:	0	0	0
Wrong Way:	0	0	0
Other:	0	0	0
Unknown:	0	0	0
TOTAL:	26	25	5

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/18/2024

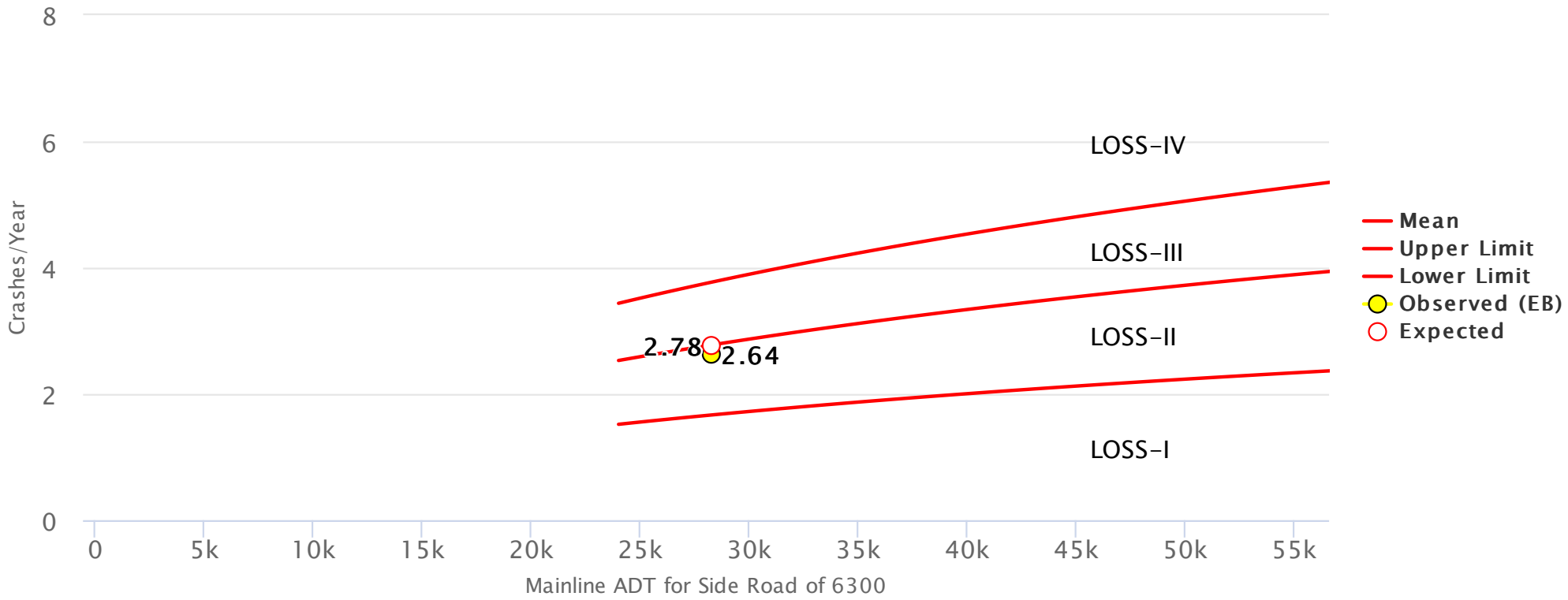
Exposition-Chambers **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/18/2024

Exposition-Chambers **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
Diagnostics Report

05/18/2024

Exposition-Chambers

Cutoff: 5 Acc's @ 95

Category/Trait	Statewide Average %	This Location # Crashes	This Location %	Probability %
Crash Severity				
Injury (INJ)	24.91%	13	50%	99.85%
Number Of Vehicles				
Three or More Vehicle Accidents	9.46%	5	19.23%	96.85%
Crash Type				
Approach Turn	17.16%	8	30.77%	97.55%

Highway Class: CO - Urban 6-Lane Divided Signalized 4-Leg Intersections - AADT 0-48000 ADT (2018)

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Center-Chambers Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Crash Severity

By	Crashes:	Number of	People:
FAT:	0	Killed:	0
INJ:	5	Injured:	10
PDO:	21		
TOTAL:	26		

Weather Conditions

None:	23
Rain:	0
Snow/Sleet/Hail:	3
Fog:	0
Dust:	0
Wind:	0
Unknown:	0
TOTAL:	26

Lighting Conditions

Daylight:	20
Dawn/Dusk:	0
Dark-Lighted:	3
Dark-Unlighted:	3
Unknown:	0
TOTAL:	26

Road Conditions

Dry:	22
Wet:	0
Muddy:	0
Snowy:	3
Icy:	1
Slushy:	0
Foreign Material:	0
Road Treatment:	0
Unknown:	0
Dry W/Icy Road Treatment:	0
Wet W/Icy Road Treatment:	0
Snowy W/Icy Road Treatment:	0
Icy W/Icy Road Treatment:	0
Slushy W/Icy Road Treatment:	0
TOTAL:	26

Crash Location

On Road:	26
Off Road Left:	0
Off Road Right:	0
Off Road at Tee:	0
Off in Median:	0
Off Unkown:	0
Unknown:	0
	26

Crash Type

Overturning:	0	Bridge Abutment:	0
Other Non-Collision:	0	Column/Pier:	0
Pedestrian:	0	Culvert/Headwall:	0
Broadside:	20	Embankment:	0
Head On:	0	Curb:	0
Rear End:	2	Delineator Post:	0
Sideswipe (Same):	1	Fence:	0
Sideswipe (Opposite):	0	Tree:	0
Approach Turn:	2	Lrg Bldrs or Rocks:	0
Overtaking Turn:	0	Barricade:	0
Parked Motor Veh:	0	Wall/Building:	0
Railway Veh:	0	Crash Cushion:	0
Bicycle:	1	Mailbox:	0
Motorized Bicycle:	0	Other Fixed Object:	0
Domestic Animal:	0	Total Fixed Objects:	0
Wild Animal:	0	Rocks in Roadway:	0
Light/Utility Pole:	0	Vehicle Cargo/Debris:	0
Traffic Signal Pole:	0	Road Maint Equip:	0
Sign:	0	Involving Other Object:	0
Bridge Rail:	0	Total Other Object:	0
Guard Rail:	0	**TOTAL:**	26
Cable Rail:	0		
Concrete Barrier:	0		

Number of Vehicles

One Car:	1
Two Car:	23
Three or More:	2
Unknown:	0
TOTAL:	26

Road Description Details by Vehicle

At Intersection:	21
At Driveway Access:	0
Intersection Related:	5
Non Intersection:	0
In Alley:	0
Roundabout:	0
Ramp:	0
Parking Lot:	0
Unknown:	0
TOTAL:	26

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Center-Chambers Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Vehicle Type Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Psgr Car/Psgr Van:	13	12	2
Psgr Car/Psgr Van w/Trl:	1	0	0
Pickup Truck/Utility Van:	6	3	0
Pickup Truck/Utility Van w/Trl:	0	0	0
SUV:	6	10	0
SUV w/Trl:	0	0	0
Truck 10k lbs or Less:	0	0	0
Trucks > 10k lbs/Busses > 15 People:	0	0	0
Motor Home:	0	0	0
School Bus 15 People or Less:	0	0	0
Non School Bus 15 People or Less:	0	0	0
Motorcycle:	0	0	0
Bicycle:	0	0	0
Motorized Bicycle:	0	0	0
Farm Equipment:	0	0	0
Hit and Run/Unknown Vehicle:	0	0	0
Other:	0	0	0
Unknown:	0	0	0
TOTAL:	26	25	2

Mainline/Ramps/Frontage

Crossroad A:	0
B:	0
C:	0
D:	0
E:	0
F:	0
G:	0
H:	0
I:	0
J:	0
Left Frontage Road (L):	0
K:	0
M:	0
N:	0
O:	0
P:	0
Mainline/HOV:	26
Right Frontage Road (R):	0
Rest Area/Truck Ramp (T):	0
Other (Z):	0
TOTAL:	26

Crash Rates

PDO:	21000000 / MVMT
Injury:	5000000 / MVMT
Fatal:	0 / 100MVMT
Total:	26000000 / MVMT

Human Contributing Factor Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Apparent Contributing Factor:	12	24	2
Asleep at the Wheel:	0	0	0
Illness:	0	0	0
Distracted by Passenger:	0	0	0
Driver Inexperience:	4	0	0
Driver Fatigue:	0	0	0
Driver Preoccupied:	1	0	0
Driver Unfamiliar with Area:	0	0	0
Driver Emotionally Upset:	0	0	0
Evading Law Enforcement Officer:	0	0	0
Physical Disability:	0	0	0
Unknown:	9	1	0
TOTAL:	26	25	2

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
General Summary Report

05/18/2024

Center-Chambers Summary **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022

Condition of Driver Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
No Impairment Suspected:	23	25	2
Alcohol Involved:	1	0	0
RX, Meds or Drugs Involved:	0	0	0
Illegal Drugs Involved:	0	0	0
Alcohol and Drugs Involved:	0	0	0
Driver/Ped not Observed:	0	0	0
Unknown:	2	0	0
TOTAL:	26	25	2

Vehicle Direction Details by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
North:	1	17	1
Northeast:	0	0	0
East:	4	0	0
Southeast:	0	0	0
South:	4	6	1
Southwest:	0	0	0
West:	17	2	0
Northwest:	0	0	0
Unknown:	0	0	0
TOTAL:	26	25	2

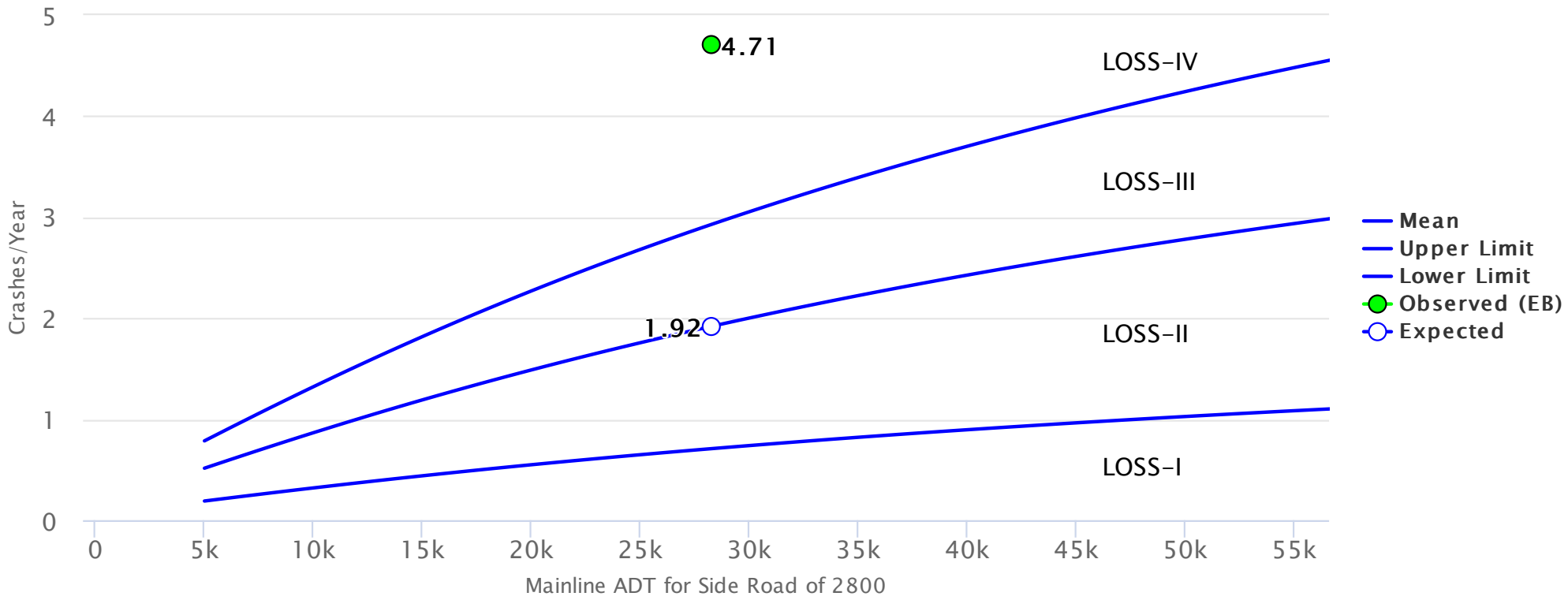
Vehicle Movement Factor Detail by Vehicle

Veh:	Vehicle 1	Vehicle 2	Vehicle 3
Going Straight:	10	23	2
Slowing:	0	0	0
Stopped in Traffic:	1	1	0
Making Right Turn:	1	0	0
Making Left Turn:	12	0	0
Making U-Turn:	0	0	0
Passing:	0	0	0
Backing:	1	0	0
Entering/Leaving Parked Position:	0	0	0
Starting in Traffic:	0	0	0
Parked:	0	0	0
Changing Lanes:	0	0	0
Avoiding Objects in Roadway:	0	0	0
Weaving:	0	0	0
Wrong Way:	0	0	0
Other:	1	1	0
Unknown:	0	0	0
TOTAL:	26	25	2

Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/18/2024

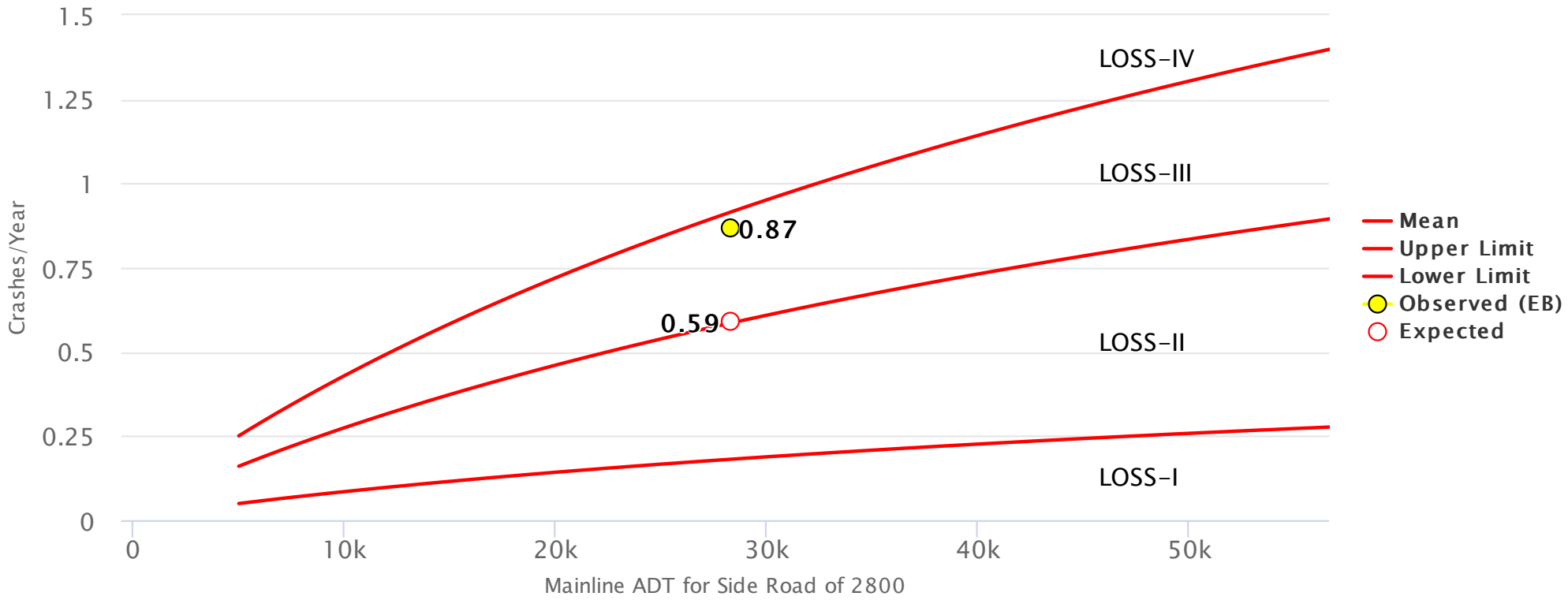
Center-Chambers **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite

05/18/2024

Center-Chambers **Type:** Intersection **Search Name:** Map Boundary Search **From:** 1/1/2018 **To:** 12/31/2022



Felsburg Holt & Ullevig
DiExSys™ Vision Zero Suite
Diagnostics Report

05/18/2024

Center-Chambers Diagnostics

Cutoff: 5 Acc's @ 95

Category/Trait	Statewide Average	This Location		Probability
	%	# Crashes	%	%
Crash Location				
On Road	93.94%	26	100%	100%
Crash Type				
Broadside	32.77%	20	76.92%	100%

Highway Class: CO - Urban 6-Lane Divided Unsignalized 4-Leg Intersections (2018)

Appendix E. Center Ave & Chambers Rd Signal Warrant Analysis

May 22, 2024

Mr. Bill Parkhill
Navona Investors, LLC
631 High Street
Denver, CO 80218

RE: Metro Center Master Plan Amendment – Aurora, Colorado
Center Avenue & Chambers Road Traffic Signal Warrants
FHU No. 124134-01

Dear Mr. Parkhill:

Felsburg Holt & Ullevig (FHU) has prepared this letter to document signal warrant analyses for the Center Avenue & Chambers Road intersection on the southeast corner of the Metro Center site. We have conducted these analyses at the request of City of Aurora staff in support of the Traffic Impact Study (TIS) prepared for the Metro Center Master Plan Amendment. We have prepared this letter to document new traffic signal warrant analyses for the intersection based on new traffic counts conducted at the intersection in April 2024 and on traffic volume forecasts presented in the Metro Center Master Plan Amendment TIS.

Methodology

The Manual on Uniform Traffic Control Devices (MUTCD) identifies several warrants justifying the use and installation of traffic control signals. Three of these warrants are based on traffic volume:

- Warrant 1 – Eight-Hour Vehicular Volume
- Warrant 2 – Four-Hour Vehicular Volume
- Warrant 3 – Peak Hour

Using April 2024 traffic counts and traffic volume forecasts from the Metro Center Master Plan Amendment TIS, FHU evaluated each of these three volume-based warrants for Existing Conditions, Existing Plus Site, Future (2040) Background Traffic, and Future (2040) Total Traffic scenarios to understand the timeline of when the Center Avenue & Chambers Road intersection may warrant signalization based on traffic volume.

Warrant Criteria Thresholds

The MUTCD provides the option that, if the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 miles per hour (MPH), or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the thresholds for traffic volumes meeting Warrants 1, 2, and 3 may be reduced to 70 percent of the original values. The posted speed limit on Chambers Road (the major street) is 40 MPH, and the intersection is not located within the built-up area of an isolated community. Therefore, we did not use the 70 percent thresholds in the signal warrant analyses.

MUTCD thresholds also vary based on the lane configurations of the major and minor streets. Chambers Road has four approach lanes in each direction (1 left-turn lane, 2 through lanes, and 1 shared through/right-turn lane). Center Avenue has single approach lanes in each direction (1 shared left-turn/through/right-turn lane). Based on this configuration, it is appropriate to use the MUTCD thresholds for intersections with 2-or-more lanes on the major street and 1 lane on the minor street.

Minor Street Right-Turn Reductions

The MUTCD notes that traffic signal warrant studies should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count when evaluating the count against the signal

warrants. Because of the single-lane approaches, it is expected that approximately 25 percent of right-turning traffic would not benefit from the presence of a traffic signal as they would be able to turn right on red and avoid incurring additional delay.

Traffic Volume Forecasts

Turning movement counts for the Center Avenue & Chambers Road intersection were conducted in April 2024 and included the period from 6:00 a.m. to 7:00 p.m. Consistent with the conditions evaluated in the Master Plan Amendment TIS, we applied a uniform annual growth rate of 1.5 percent to the entire study area to develop traffic volume forecasts for the Future (2040) Background Traffic scenario.

Existing Plus Site and Future (2040) Total Traffic scenario traffic volume forecasts included existing/background traffic volumes and site-generated traffic from proposed development within Metro Center. Although site-generated traffic was evaluated only during morning and evening peak hours in the Master TIS, the Institute of Transportation Engineers provides tools within *Trip Generation* (11th Edition) to estimate distribution of site-generated trips over typical weekdays for most land-use types. We used these tools to approximate the portion of traffic related to Metro Center at the Center Avenue & Chambers Road intersection in 15-minute increments relative to the sum of morning and evening peak hour trips for the site.

Signal Warrant Analyses

The following subsections describe the results of signal warrant analyses for Center Avenue & Chambers Road.

Warrant 1 – Eight-Hour Vehicular Volume

Warrant 1 is satisfied when, for eight or more hours of an average day, traffic volumes along the major street (total of both approaches) and the higher-volume minor street approach exceed the threshold values specified in Table 4C-1 of the MUTCD. The threshold values for Condition A – Minimum Vehicular Volume are useful when the high approach volumes are the primary reason for signalization. The Condition B – Interruption of Continuous Traffic thresholds are used when major street volumes cause minor street vehicles to suffer excessive delay or experience conflicts when attempting to cross the major street. These threshold values are adjusted downward to account for higher roadway speeds or rural (<10,000 population) conditions. These thresholds also change relative to the number of lanes provided along each intersection approach. Warrant 1 is satisfied when Condition A **or** Condition B is met. Warrant 1 is also satisfied when 80 percent of the threshold traffic volumes in Condition A **and** Condition B are exceeded.

Table 1 summarizes Warrant 1 analyses. As shown, traffic volumes in all four scenarios would meet criteria for Condition B – Interruption of Continuous Traffic, indicating that the intersection **currently** meets Warrant 1 based on traffic counts from April 2024.

Of note, the addition of traffic volumes from proposed development within Metro Center would not change the higher minor street approach. Westbound Center Avenue would still have higher approach volumes than those of eastbound Center Avenue.

Table 1. Center Avenue & Chambers Road Warrant 1 Evaluation

Hour	Scenario							
	Existing		Existing Plus Site		Future (2040) Background		Future (2040) Total	
	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street
3:45 p.m. – 4:45 p.m.	3,201	115	3,305	115	4,065	150	4,165	150
5:45 p.m. – 6:45 p.m.	2,769	108	2,875	110	3,515	135	3,620	135
9:30 a.m. – 10:30 a.m.	1,614	106	1,675	105	2,050	135	2,110	135
12:00 p.m. – 1:00 p.m.	1,880	104	1,970	105	2,385	130	2,475	130
11:00 a.m. – 12:00 p.m.	1,616	104	1,700	105	2,055	130	2,140	130
2:30 p.m. – 3:30 p.m.	2,631	101	2,700	100	3,340	125	3,405	125
1:15 p.m. – 2:15 p.m.	1,961	98	2,020	100	2,485	125	2,545	125
4:45 p.m. – 5:45 p.m.	3,203	97	3,320	95	4,065	125	4,185	125
Criteria A	**600**	**150**	**600**	**150**	**600**	**150**	**600**	**150**
Criteria B	**900**	**75**	**900**	**75**	**900**	**75**	**900**	**75**

Notes: 8-hour Warrant Criteria for a Major Street with 2+ Lanes and a Minor Street with 1 Lane
Blue Highlight: Meets Criteria A & B
Green Highlight: Meets Criteria B

Warrant 2 – Four-Hour Vehicular Volume

Warrant 2 is fulfilled when traffic volumes for the major street (total of both approaches) and the higher volume minor street plot above the threshold guidelines as represented on Figure 4C-1 or 4C-2 of the MUTCD for any four hours of an average day for the existing combination of approach lanes.

Attachment 1 summarizes the four-hour vehicular volumes and graphs for Warrant 2. As shown, traffic volumes in all four scenarios would meet criteria for Warrant 2 (the appropriate threshold line for this intersection is highlighted in yellow), indicating that the intersection **currently** meets Warrant 2.

Of note, the addition of traffic volumes from proposed development within Metro Center would not change the higher minor street approach. Westbound Center Avenue would still have higher approach volumes than those of eastbound Center Avenue.

Warrant 3 – Peak Hour

Warrant 3 is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. Warrant 3 may also be satisfied when traffic volumes for the major street (total of both approaches) and the higher volume minor street approach plot above the threshold guidelines as represented on Figure 4C-3 or 4C-4 of the MUTCD for the existing combination of approach lanes during the peak hour of the day.

The 2009 Edition of the MUTCD includes the following statement in the Peak Hour Warrant description:

> *This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.*

As a result of this statement, Warrant 3 must be used with caution and should not be used for typical public street intersections. Therefore, this warrant is not applicable to Center Avenue & Chambers Road.

Attachment 2 summarizes the peak hour vehicular volumes and graphs for Warrant 3. As shown on the graphs, traffic volumes in all four scenarios would meet criteria for Warrant 3 (the appropriate threshold line for this intersection is highlighted in yellow). This indicates that the intersection **currently** meets Warrant 3. However, MUTCD's clarification for applying Warrant 3 as described previously precludes the use of this warrant for justifying the signalization of the Center Avenue & Chambers Road intersection.

Of note, the addition of traffic volumes from proposed development within Metro Center would not change the higher minor street approach. Westbound Center Avenue would still have higher approach volumes than those of eastbound Center Avenue.

Summary

Traffic volume forecasts for the Center Avenue & Chambers Road intersection based on the Metro Center Master Plan Amendment TIS indicate that signalization of the intersection is **currently** warranted based on April 2024 traffic counts using Warrant 1 – Eight-Hour Vehicular Volume and Warrant 2 – Four-Hour Vehicular Volume from the MUTCD. Existing traffic volumes also meet Warrant 3 – Peak Hour, but the application of this warrant should not be considered for the Center Avenue & Chambers Road intersection.

Future traffic volumes anticipated at the intersection also indicate that a traffic signal would be warranted after proposed development occurs in Metro Center. However, it is important to note that new development is not expected to change the higher minor street approach. Westbound Center Avenue would still have higher approach volumes than those of eastbound Center Avenue.

The results of this signal warrant analysis are consistent with the outcomes and recommendations of the Metro Center Master Plan Amendment TIS. Although existing traffic operations meet LOS criteria for Aurora, signalization of this intersection should be considered as soon as possible to accommodate minor street traffic from Center Avenue, both from anticipated development on the west side of Chambers Road and from commercial and residential land uses on the east side of Chambers Road.

If you have any questions about this letter, please contact Lyle DeVries (lyle.devries@fhueng.com) or Ryan Saline (ryan.saline@fhueng.com) or call 303-721-1440.

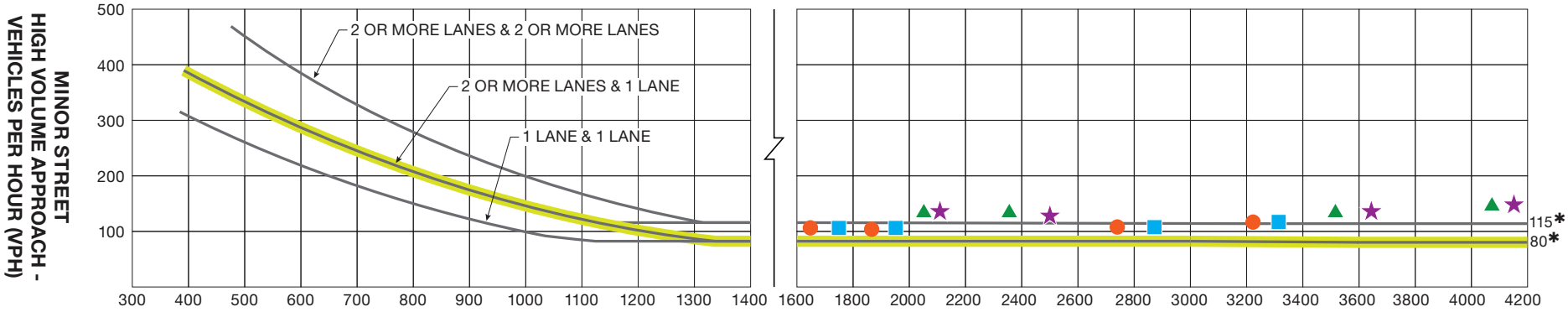
Sincerely,

FELSBURG HOLT & ULLEVIG

Lyle E. DeVries, PE, PTOE
Principal

Ryan K. Saline, PE
Transportation Engineer

Attachment 1 – Warrant 2 (Four-Hour Vehicular Volume)
Attachment 2 – Warrant 3 (Peak Hour)



MAJOR STREET - TOTAL OF BOTH APPROACHES - VEHICLES PER HOUR (VPH)

* Note:115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor street approach with one lane.

HOUR RANK	● EXISTING		■ EXISTING PLUS SITE		▲ FUTURE (2040) BACKGROUND		★ FUTURE (2040) TOTAL	
	MINOR ST	MAJOR ST	MINOR ST	MAJOR ST	MINOR ST	MAJOR ST	MINOR ST	MAJOR ST
1	3,201	115	3,305	115	4,065	150	4,165	150
2	2,769	108	2,875	110	3,515	135	3,620	135
3	1,614	106	1,675	105	2,050	135	2,110	135
4	1,880	104	1,970	105	2,385	130	2,475	130

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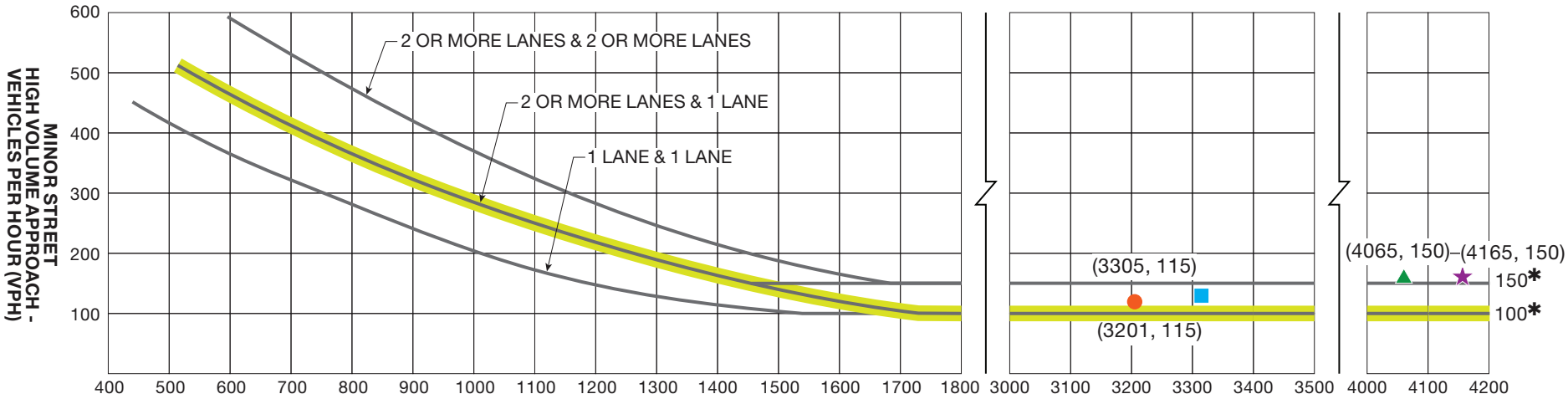
WARRANT 2

Chambers Road/Center Avenue
Existing Four-Hour Vehicular Volume



MAJOR STREET - TOTAL OF BOTH APPROACHES - VEHICLES PER HOUR (VPH)

* 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.

LEGEND

- ● = Existing (2020)
- ■ = Existing Plus Site (2020)
- ▲ = Future (2040) Background
- ★ = Future (2040) Total

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WARRANT 3

Chambers Road/Center Avenue Peak Hour