Appendix F

Transportation Analysis

Arica and Victory Pass Solar Projects

Draft Transportation Analysis

Prepared for:
Aspen Environmental Group

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SD20-0350

FEHR PEERS

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Executive Summary

This report summarizes the results of the transportation analysis that Fehr & Peers completed for the proposed Arica Solar Project and Victory Pass Solar Project sites (Projects) located near Desert Center, California. Our assessment consists of the following:

- Review of intersection sightlines near the proposed Projects' access from SR-177
- Level of Service assessment under Existing, Existing Plus Project, Ambient No Project, and Ambient Plus Project conditions
- Qualitative vehicle miles traveled (VMT) assessment for the Projects' traffic

This report is divided into the following sections:

- Introduction
- Existing Conditions
- Project Characteristics
- Existing Plus Project Conditions
- Ambient No Project Conditions
- Ambient Plus Project Conditions
- Transportation Improvement Recommendations

Construction of the Projects will temporarily increase delays at intersections in the study area. Recommended delay reduction measures include working with nearby and concurrent developments to stagger arrival/departure times and peak construction periods and/or the potential installation of temporary traffic control during the duration of the Projects' construction.

Given the Projects' distance to both the Coachella Valley and Blythe, the Projects are expected to generate approximately 120 daily VMT per worker. This is consistent with the VMT associated with most trips to and from the Desert Center area. Given that the Projects' construction is temporary, and that the Projects will produce few daily trips under normal operations, they are considered to have a less than significant impact on VMT.

Introduction

Figure 1 displays the location of the Projects and the surrounding roadway network. Fehr & Peers evaluated roadway and intersection operations for the following scenarios:

- **Existing Conditions** – Due to the effect of State and County public health COVID-19 orders on travel patterns starting in March 2020 and traffic related to ongoing temporary solar construction in the study area, new traffic counts were not collected at the study intersections. Alternatively, existing 2020 volumes were developed using traffic counts collected on March 22, 2018 in the study area and grown by three percent per year, consistent with the average yearly traffic growth in the study area derived from the Riverside County Transportation Analysis Model (RIVTAM). 2018 traffic counts are provided in **Appendix A**.
- **Existing Plus Project Conditions** – Existing roadway volumes plus traffic expected from construction related activity for the Projects.
- **Ambient No Project Conditions** – Existing roadway volumes plus traffic expected from concurrent development in the area near the Projects.
- **Ambient Plus Project Construction Conditions** – Ambient No Project Conditions plus traffic expected from construction related activity for the Projects.

Existing Conditions

Analysis Methodologies

Fehr & Peers calculated the Level of Service (LOS) at the study intersections using Transportation Research Board (TRB) Highway Capacity Manual (HCM) 6th Edition methodologies, 2016. All study intersections are Caltrans facilities. **Table 1** shows the HCM LOS criteria. A peak hour factor of 0.95 was used for all scenarios including the Projects' and concurrent projects' construction traffic, as the volume of construction traffic is many times greater than the existing traffic on the roadway. Peak hour factors under existing conditions were determined to not be representative of the distribution of construction traffic across the peak hour.

Roadways

Interstate 10 (I-10): I-10 is a major east/west interstate freeway spanning the United States from Santa Monica, California to Jacksonville, Florida. It connects Southern California to Phoenix, Arizona and destinations further east. I-10 is a four-lane freeway with interchanges near the Projects at SR-177. The posted speed limit on I-10 is 70 mph. In the study area, I-10 carries 26,000 average daily trips (ADT).

State Route 177 (SR-177): SR-177 is a north/south highway running between Desert Center/I-10 and State Route 62 (approximately 25 miles northeast of Desert Center). SR-177 is a two-lane road, and the posted speed limit is 65 mph. It carries approximately 2,800 ADT.

Ragsdale Road: Ragsdale Road is a two-lane east/west local roadway located in Desert Center, CA. It connects SR-177 to dirt roads which lead to BLM Route DC 379.

BLM Route DC 379: BLM Route DC 379 is a dirt road in Desert Center, CA. It can be accessed from SR-177 via an unpaved road intersecting Ragsdale Road and an unpaved roadway following the power lines and intersecting SR-177 approximately 4,500 feet north of the SR-177/Ragsdale Road intersection. It provides access to the Project sites and will be used by all Project related traffic.

Table 1: Intersection Level of Service Criteria

Level of Service	Description	Signalized Delay (Seconds)	Unsignalized Delay (Seconds)
A	Progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	≤ 10.0	≤ 10.0
B	Progression is good, cycle lengths are short, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10.0 to 20.0	> 10.0 to 15.0
C	Higher congestion may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, though many still pass through the intersection without stopping.	> 20.0 to 35.0	> 15.0 to 25.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0	> 25.0 to 35.0
E	This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0	> 35.0 to 50.0
F	This level is considered unacceptable with oversaturation, which is when arrival flow rates exceed the capacity of the intersection. This level may also occur at high V/C ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to such delay levels.	> 80.0	> 50.0

Source: Highway Capacity Manual (Transportation Research Board, 2016).

Intersections

Field observations were completed on May 28, 2020. **Figure 1** shows the locations of the study intersections. Field observations at SR-177/Ragsdale Road and the unpaved roadway access points leading to BLM Route DC 379 indicate that no sightlines are obstructed, and sight distance appears appropriate for construction traffic accessing the Project sites via SR-177/Ragsdale Road. Views and sightlines along Ragsdale Road at the BLM Route DC 379 access point, SR-177 at Ragsdale Road, and SR-177 at the BLM Route DC 379 access point are shown on **Figure 2**, **Figure 3**, and **Figure 4**, respectively.

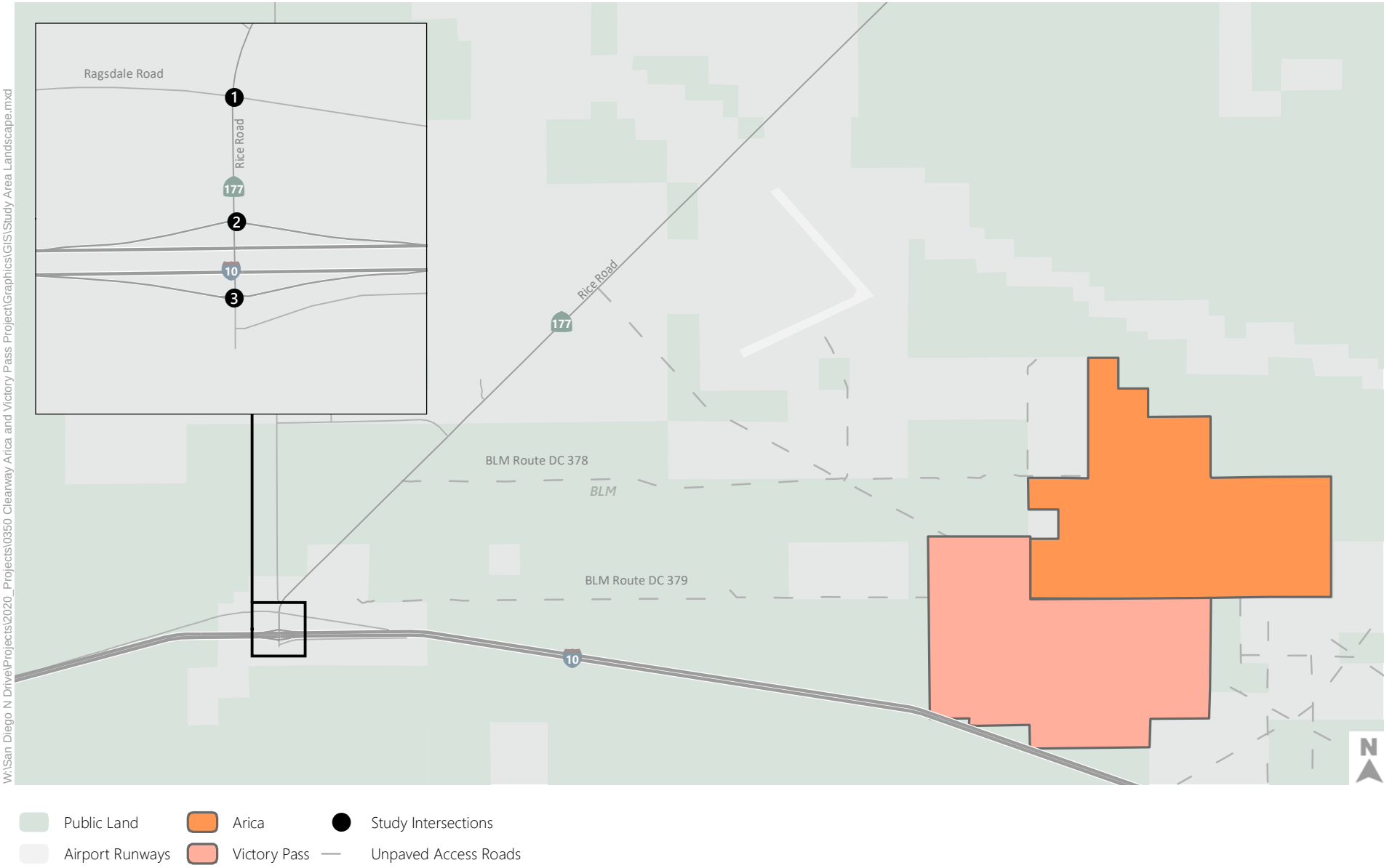


Figure 1

Study Area

Figure 2
West and East Views along Ragsdale Road at Access to BLM Route DC 379

Figure 3
North and South Views along SR-177 at Ragsdale Road

Figure 4
North and South Views along SR-177 at Access to BLM Route DC 379

Existing Traffic Volumes

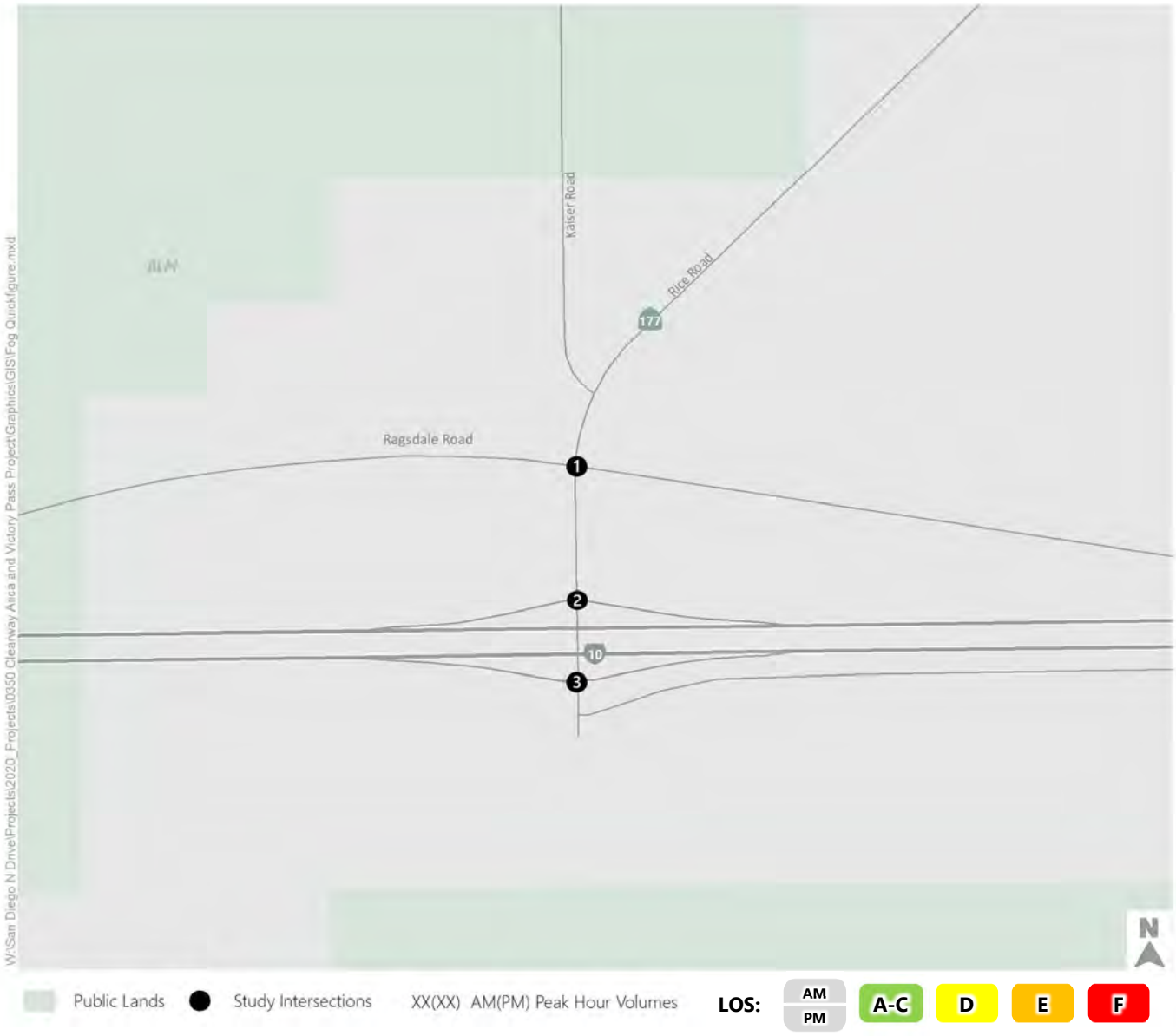
Existing traffic volumes and intersection configurations are shown on **Figure 5**.

LOS results for existing conditions are shown in **Table 2**. The results indicate that all study intersections operate with little delay during both peak hours. This is consistent with field observations, where gaps in traffic of more than 30 seconds were frequently observed along SR-177. Detailed results can be found in **Appendix B**.

Table 2: Existing Conditions LOS

Intersection	Control	Peak Period	Delay	LOS
SR-177 & Ragsdale Road	SSSC	AM	9.7	A
	SSSC	PM	9.8	A
I-10 WB Ramps & SR-177	SSSC	AM	9.0	A
	SSSC	PM	9.0	A
I-10 EB Ramps & SR-177	SSSC	AM	9.5	A
	SSSC	PM	9.2	A

Notes
Calculated using methodologies consistent with HCM 6th Edition. Worst case movement reported for side street stop-controlled intersections.
SSSC = Side Street Stop Control
Source: Fehr & Peers, 2020.



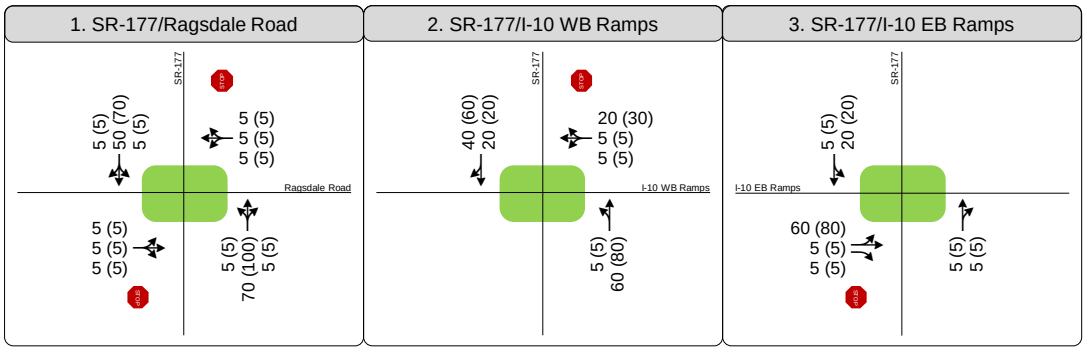


Figure 5

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

Project Conditions

Construction Trip Generation

Trip generation for the Projects was developed for the construction phase using daily worker estimates and heavy vehicle activity for each week of construction provided by the applicant. The Arica and Victory Pass Projects are both expected to begin construction mid-2022. Maximum trips generated by the construction of both Arica and Victory Pass concurrently is the sum of the maximum trips generated by each separately since their peak construction periods will overlap. Detailed trip generation by week for both projects is provided in **Appendix C**.

Peak hour trips estimated for the construction period of the Projects are shown in **Table 3**. Note that delivery trucks for the proposed Projects represent just under 1% of the total trips generated by the Projects and are assumed to be made outside of the AM and PM peak hours.

The sites will generate fewer than 20 daily trips during the operation phase, not warranting a VMT or operations analysis.

Table 3: Construction Trip Generation (Worst Case Scenario – All Workers Arriving and Departing During the Peak Hours)

Trip Type	Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Auto	2032	1016	0	1016	0	1016	1016
Trucks	130	0	0	0	0	0	0

Source: Fehr & Peers, 2020.

Trip distribution and assignment for the Projects is shown on **Figure 6**. All trips were conservatively assumed to use Ragsdale Road to access BLM Route DC 379.

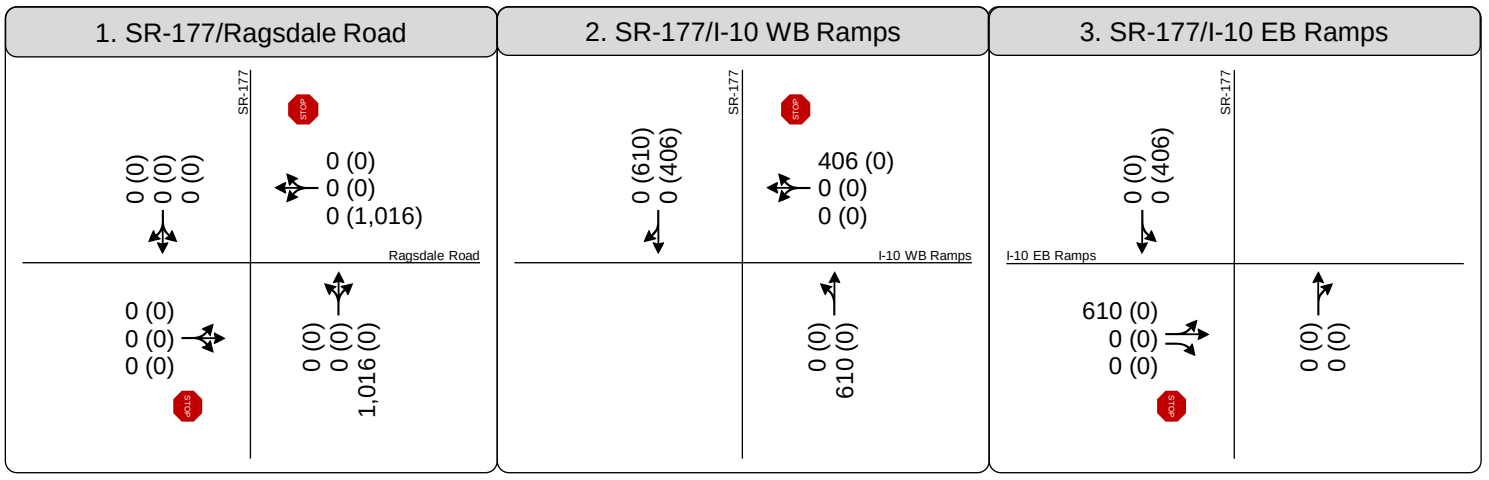


Figure 6

Trip Assignment and Trip Distribution

Existing Plus Project Conditions

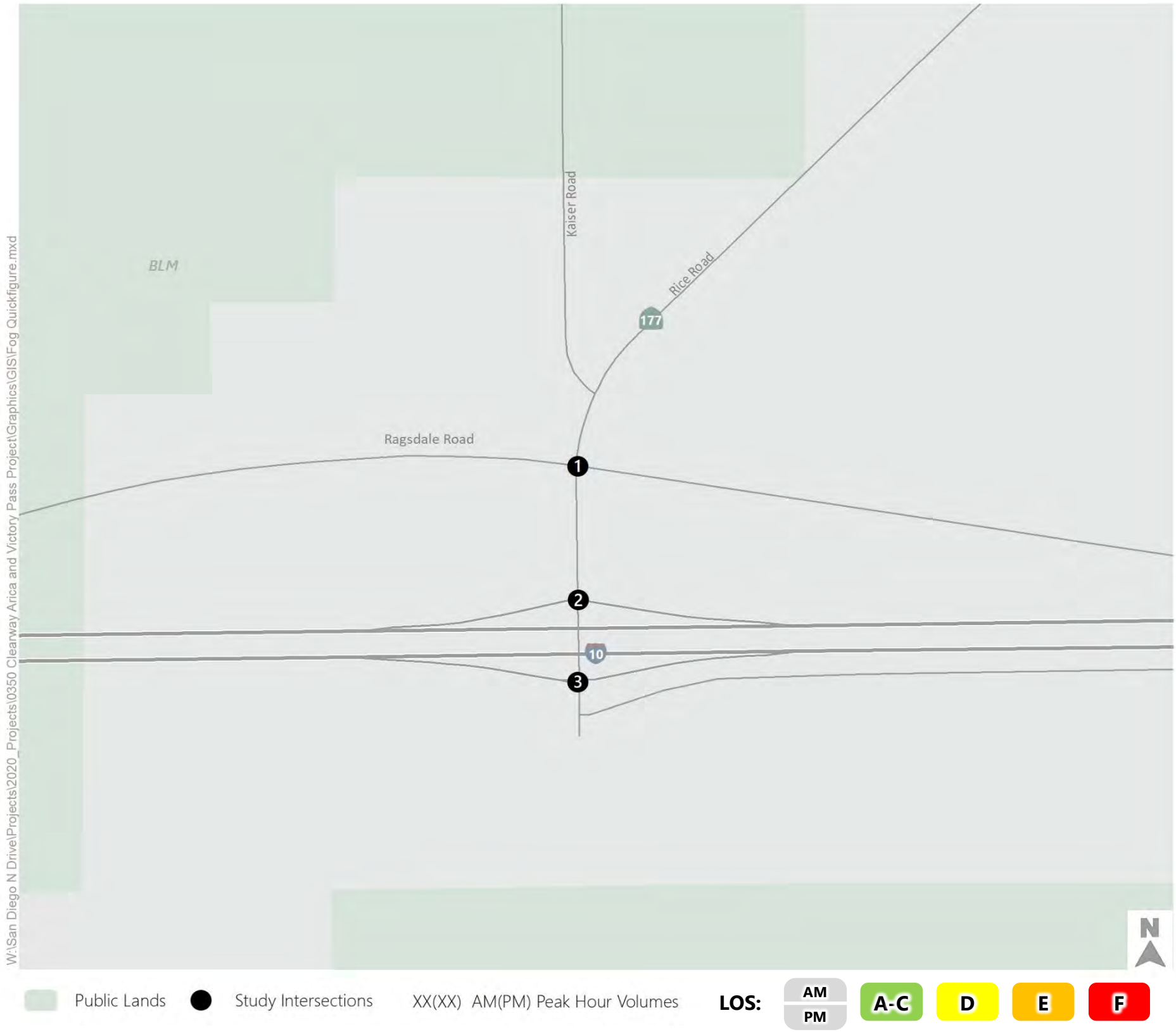
Figure 7 shows the Existing Plus Project Volumes for the study intersections.

Table 4 shows the LOS results at the study intersections for Existing Plus Project Conditions. Detailed results can be found in **Appendix B**. The westbound approach at SR-177 and Ragsdale Road is forecast to operate with large delays in the PM peak hour due to workers leaving the site (and making a left-turn onto SR-177).

Table 4: Existing Plus Project Conditions LOS

Intersection	Control	Peak Period	Existing		Existing Plus Project	
			Delay	LOS	Delay	LOS
SR-177 & Ragsdale Road	SSSC	AM	9.7	A	17.2	C
	SSSC	PM	9.8	A	>100	F
I-10 WB Ramps & SR-177	SSSC	AM	9.0	A	89.6	F
	SSSC	PM	9.0	A	11.0	B
I-10 EB Ramps & SR-177	SSSC	AM	9.5	A	19.6	C
	SSSC	PM	9.2	A	32.1	D

Notes
Calculated using methodologies consistent with HCM 6th Edition. Worst case movement reported for side street stop-controlled intersections.
SSSC = Side Street Stop Control
Source: Fehr & Peers, 2020.



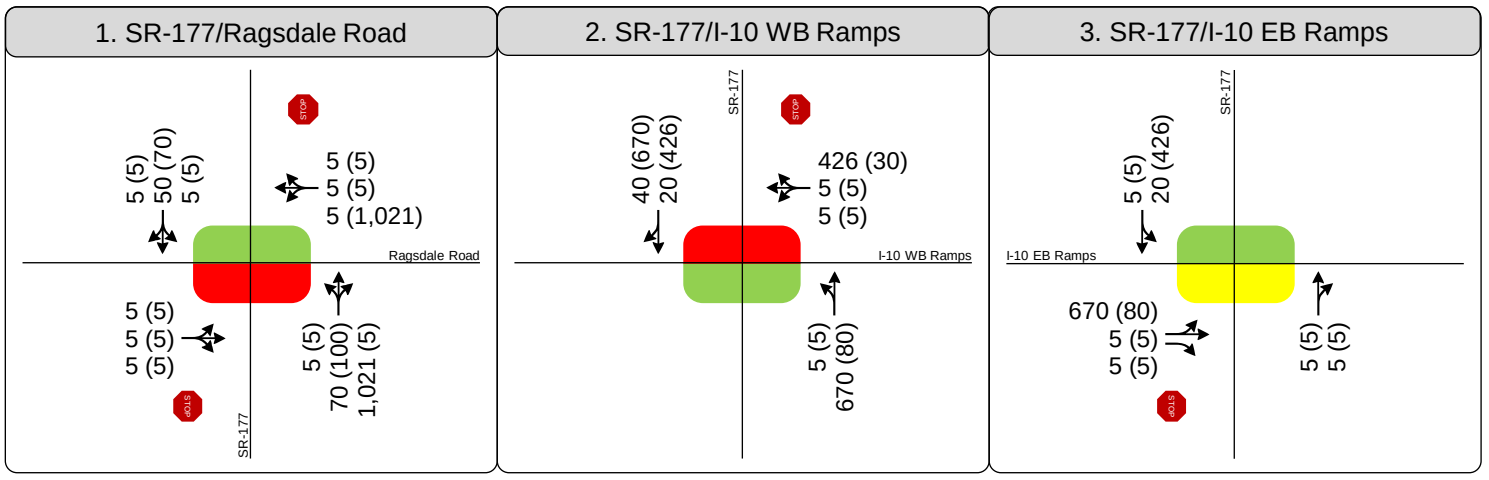


Figure 7

Peak Hour Traffic Volumes and Lane Configurations - Existing (2020) Plus Project Conditions

Ambient Conditions

Concurrently Constructed Projects

Other developments were included in the Ambient Conditions analysis if they were determined to likely overlap with the late 2021 to 2023 construction schedule for the Projects. Based on current information from the BLM, the Oberon solar project is likely to be constructed during a similar timeframe as the Projects.

Because an EIR and traffic analysis has not been completed for the Oberon solar project it was necessary to estimate project traffic for Oberon. It is not likely that the peak trip generation for Oberon will align with the Projects; therefore, the trips generated by the construction phase of Oberon project was estimated per MW based on the average Arica and Victory Pass Project trip generation rate over the entire construction period (1.02 trips/MW). The peak hour trips generated by the Oberon project is shown in **Table 5**. Trip distribution for Oberon was assumed to be the same as the Arica and Victory Pass trip distribution. Access for Oberon was assumed to be north of Ragsdale Road along SR-177.

Table 5: Trip Generation for Projects Included in Ambient Conditions

Nearby Projects	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Oberon (up to 500 MW)	512	0	512	0	512	512

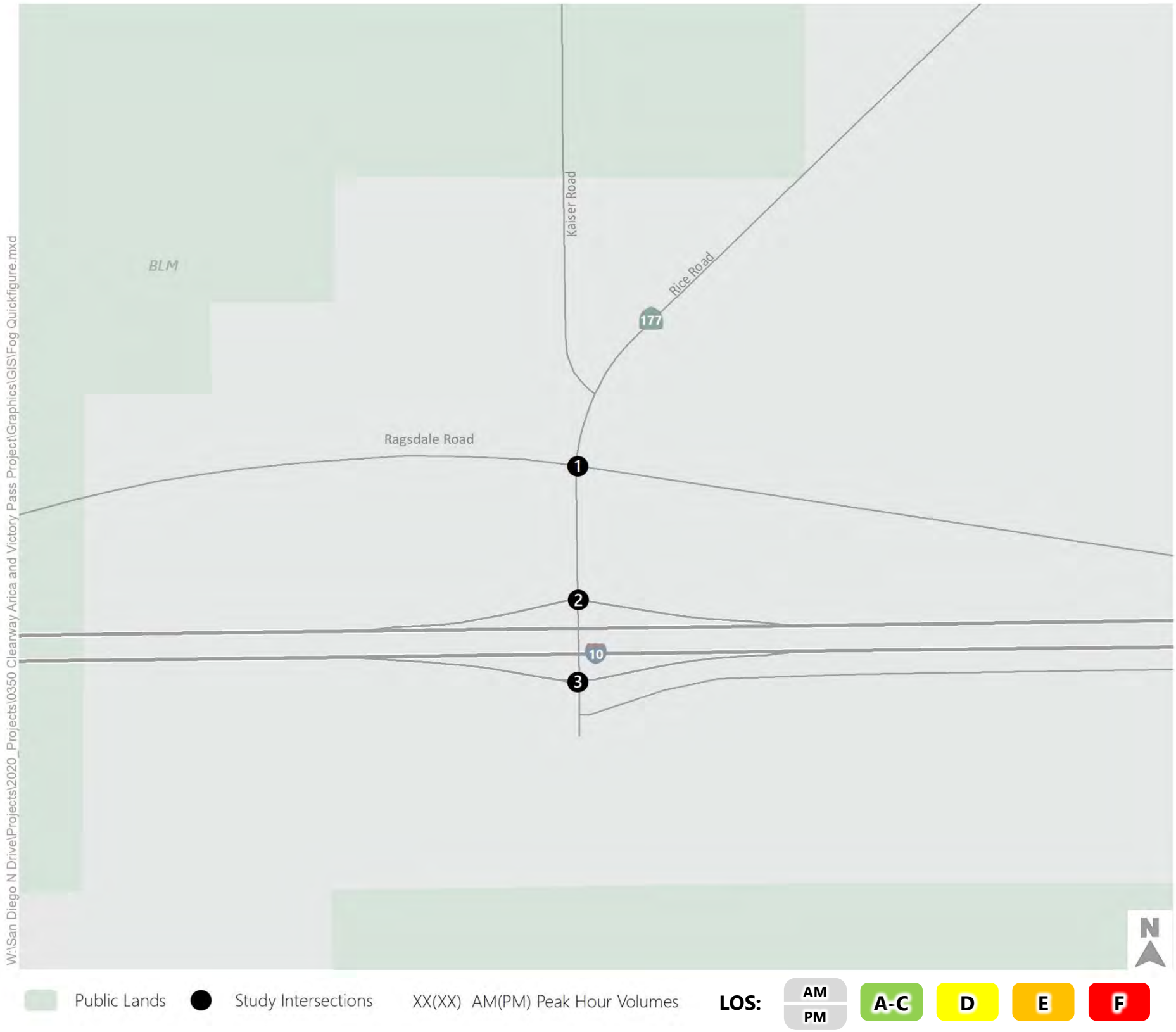
Source: Fehr & Peers, 2020.

Figure 8 shows the Ambient Volumes for the study intersections, and **Table 6** shows the LOS results at the study intersections for Ambient Conditions. Detailed results can be found in **Appendix B**.

Table 6: Ambient Conditions LOS

Intersection	Control	Peak Period	Delay	LOS
SR-177 & Ragsdale Road	SSSC	AM	14.6	B
	SSSC	PM	15.2	C
I-10 WB Ramps & SR-177	SSSC	AM	13.7	B
	SSSC	PM	9.4	A
I-10 EB Ramps & SR-177	SSSC	AM	11.5	B
	SSSC	PM	14.7	B

Notes
Calculated using methodologies consistent with HCM 6th Edition. Worst case movement reported for side street stop-controlled intersections.
SSSC = Side Street Stop Control
Source: Fehr & Peers, 2020.



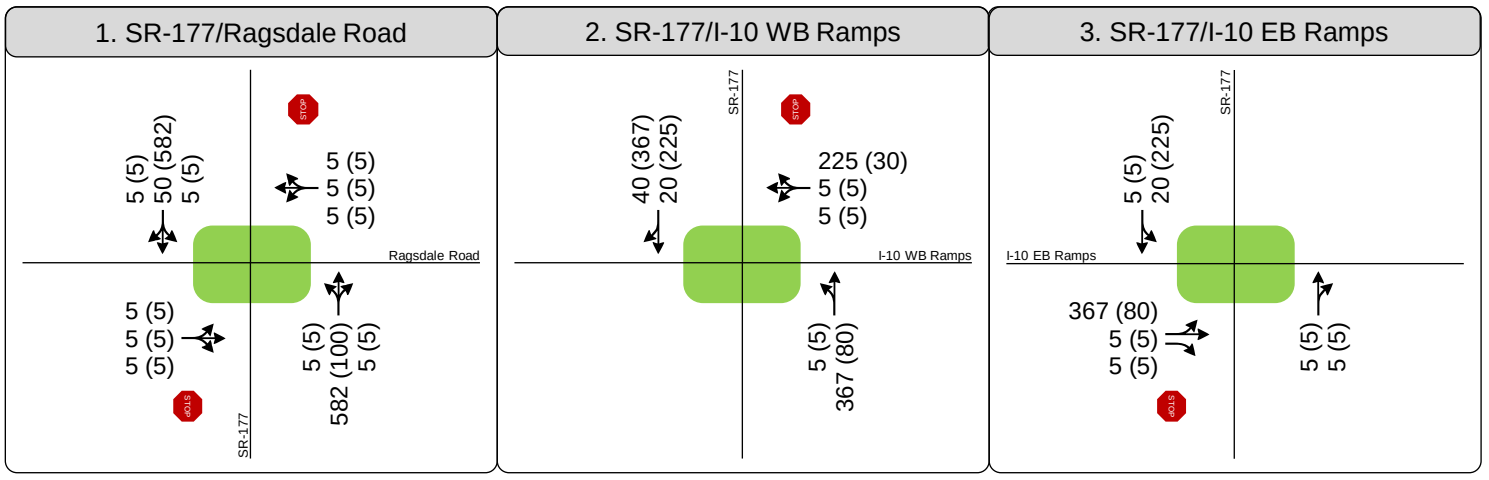


Figure 8

Peak Hour Traffic Volumes and Lane Configurations - Ambient Conditions

Ambient Plus Project Conditions

Figure 9 shows the Ambient Plus Project Volumes for the study intersections.

Table 7 shows the LOS results at the study intersections for Ambient Plus Project Conditions. Detailed results can be found in **Appendix B**.

Table 7: Ambient Plus Project Conditions LOS

Intersection	Control	Peak Period	Ambient		Ambient Plus Project	
			Delay	LOS	Delay	LOS
SR-177 & Ragsdale Road	SSSC	AM	14.6	B	31.6	D
	SSSC	PM	15.2	C	>100	F
I-10 WB Ramps & SR-177	SSSC	AM	13.7	B	>100	F
	SSSC	PM	9.4	A	14.7	B
I-10 EB Ramps & SR-177	SSSC	AM	11.5	B	79.8	F
	SSSC	PM	14.7	B	>100	F

Notes
Calculated using methodologies consistent with HCM 6th Edition. Worst case movement reported for side street stop-controlled intersections.
SSSC = Side Street Stop Control
Source: Fehr & Peers, 2020.

The side street movements at the study intersections are projected to experience large delays during at least one peak hour under Ambient Plus Project conditions:

- SR-177 & Ragsdale Road –LOS F (PM Peak Hour)
- I-10 WB Ramps & SR-177 – LOS F (AM Peak Hour)
- I-10 EB Ramps & SR-177 – LOS F (AM Peak Hour), LOS F (PM Peak Hour)

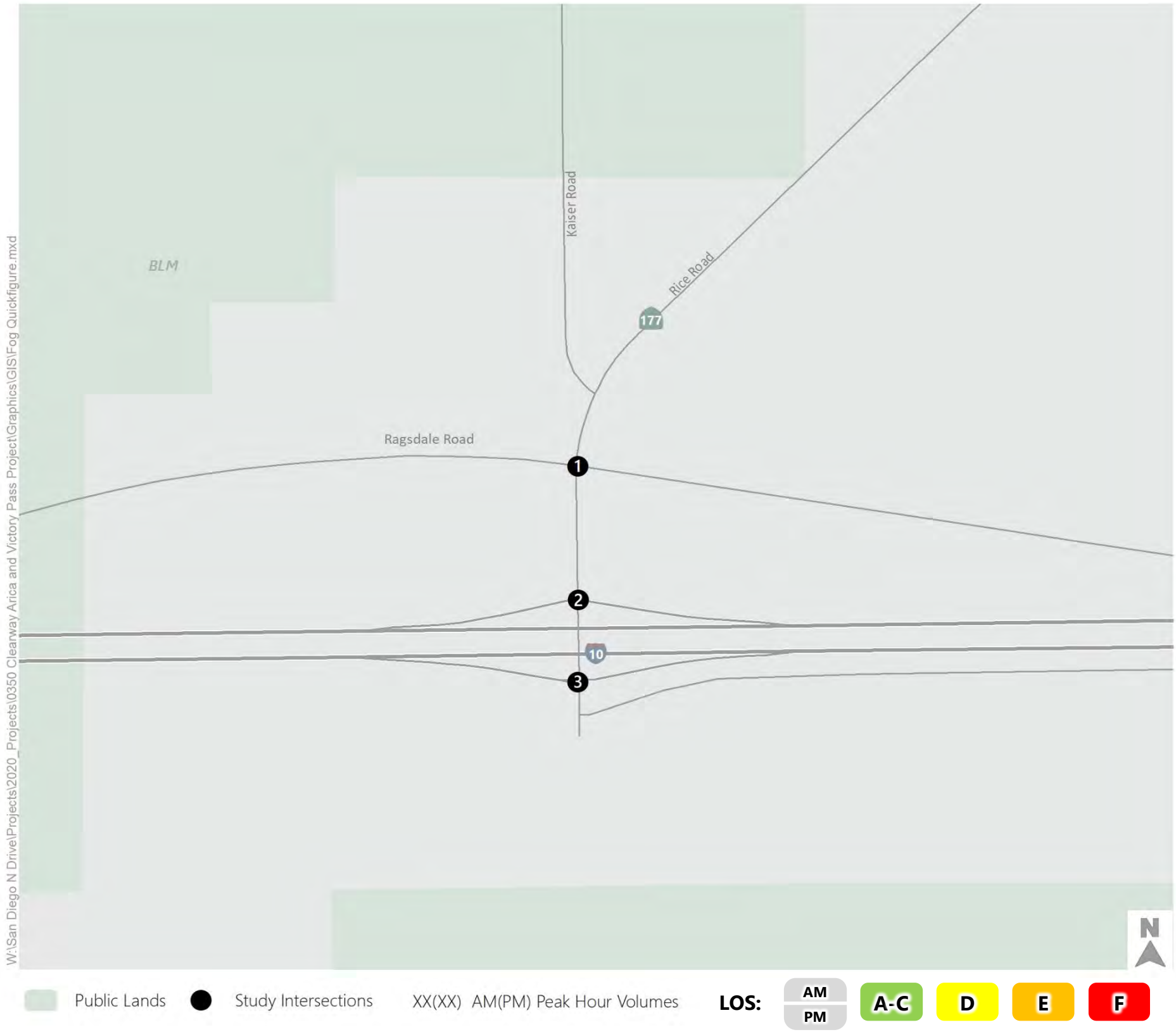
Note that the assumption that all workers for the Projects arrive during the morning peak hour and depart during the PM peak hour is contributing to the poor LOS at the side street approaches of the study intersections. If the workers arrivals and departures were staggered over multiple shifts, the LOS would improve (as demonstrated in the following section of this document).

Vehicle queuing on the I-10/SR-177 exit ramps was evaluated to determine if the addition of trips generated by the Projects would cause queuing that extends to the I-10 mainline. The results of the queuing analysis are shown in **Table 8**. As shown, the I-10 westbound off-ramp may experience a vehicle queue that extends beyond the off-ramp length. The queuing will be reduced if the Project's workers arrive on a staggered/shift schedule as discussed in the following section of this document.

Table 8: Off-Ramp Queues Under Ambient and Ambient Plus Project Conditions

Ramp	Storage Capacity (ft)	Peak Hour	Ambient Conditions Queue (ft)	Ambient Plus Project Conditions Queue (ft)
I-10 WB Ramps	1,000	AM	50	1,350
		PM	25	25
I-10 EB Ramps	1,000	AM	75	675
		PM	25	150

Notes
Queues provided are 95th percentile queues.
Assumes 25 feet per vehicle, consistent with HCM 6th Edition.



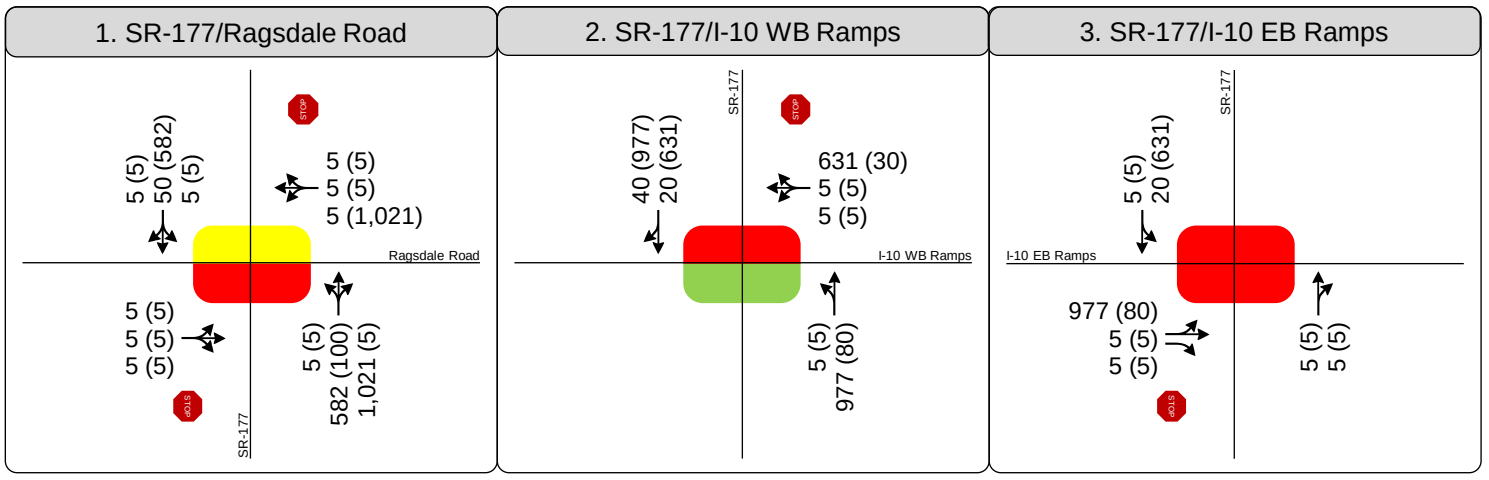


Figure 9

Peak Hour Traffic Volumes and Lane Configurations - Ambient Plus Project Conditions

Intersection Improvement Measures

The addition of Project Traffic to Ambient Conditions causes delays at the study intersections. Fehr & Peers evaluated several measures to reduce the intersection delays and vehicle queuing on the I-10 off-ramps. The following three options were evaluated (independent of each other):

1. 50% of workers arrive and depart outside of the peak hours.
2. Encourage carpooling that results in 5% reducing in worker trips (assuming all worker trips occur during peak hours).
3. Install temporary signals/manual intersection control (assuming all worker trips occur during peak hours).

The results of these options are presented below.

Shifting Workers Schedules

Our analysis conservatively assumes that all commute trips by workers would take place during the peak hour. If the Arica and Victory Pass Projects staggered their workers arrivals and departure times so that only 50% of arrivals and departures were occurring during the peak hour, the delays would be substantially reduced and off-ramp queues would not spill back to the mainline. Reducing the peak hour construction activity can be achieved by staggering worker schedules. Analysis was completed to demonstrate how shifting schedules to move 50% of the worker trips to non-peak hours affects intersection delay, LOS, and queues. The results of the analysis are shown in **Table 9**. By shifting 50% of worker trips to off-peak times, delay and LOS are improved. Detailed analysis results are provided in **Appendix B**.

Table 9: Ambient Plus Project Conditions With 50% of Project Worker Trips Occurring Outside of Peak Hours

Intersection	Control	Peak Period	Ambient Plus Project		Ambient Plus 50% Project	
			Delay	LOS	Delay	LOS
SR-177 & Ragsdale Road	SSSC	AM	31.6	D	19.3	C
	SSSC	PM	>100	F	>100	F
I-10 WB Ramps & SR-177	SSSC	AM	>100	F	91.8	F
	SSSC	PM	11.4	B	11.0	B
I-10 EB Ramps & SR-177	SSSC	AM	79.8	F	19.7	C
	SSSC	PM	>100	F	32.6	D

Notes
Calculated using methodologies consistent with HCM 6th Edition. Worst case movement reported for side street stop-controlled intersections.
SSSC = Side Street Stop Control
Source: Fehr & Peers, 2020.

As described previously, vehicle queues on the I-10 off-ramps could potentially extend to the freeway mainline under Ambient Plus Project Conditions. Shifting 50% of the Projects' worker trips to off-peak times would improve queuing conditions and vehicle queues would be accommodated by the existing ramp storage. The results of the queueing analysis are shown in **Table 10**.

Table 10: Ambient Plus Project Conditions LOS

Ramp	Storage Capacity (ft)	Peak Hour	Ambient Plus Project Conditions Queue (ft)	Ambient Plus 50% Project Conditions Queue (ft)
I-10 WB Ramps	1,000	AM	1,350	375
		PM	25	25
I-10 EB Ramps	1,000	AM	675	200
		PM	150	50

Notes
Queues provided are 95th percentile queues.
Assumes 25 feet per vehicle, consistent with HCM 6th Edition.

Carpool Encouragement

Queueing on the I-10 off-ramps was further evaluated to determine the minimum reduction in project generated traffic during the peak hour to prevent the 95th percentile queue from spilling back to the freeway mainline.

Detailed analysis results are provided in **Appendix B**, which show that potential queue spillback can be reduced by reducing the number of worker trips in the peak hours by 17%. A 17% reduction in project traffic may be possible through a strong carpool program. However, if carpooling remains low, shifting worker trips to off-peak hours may be needed to achieve a 17% reduction in peak hour trips.

Temporary Traffic Signals/Manual Control at Ramp Intersections

Alternatively, intersection delays and queues can also be improved through the installation of a temporary signal or use of manual intersection control at the freeway terminal intersections during the construction period. The effect of temporary signal control or manual traffic control at the ramp intersection was performed by coding traffic signals into the analysis software (Synchro). For purposes of the analysis, all worker trips were assumed to occur during the peak hours (the same assumption used for the Existing Plus Project and Ambient Plus Project Conditions). This analysis was performed for the ramp-terminal intersections for the AM peak hour only because delays and queue lengths are highest at that time. The delay and LOS results are in **Table 11**. Queueing results are shown in **Table 12**.

While analysis was not provided for the SR-177/Ragsdale Road intersection, operations at this intersection can be improved through manual intersection control when workers are leaving the construction site. While staggering outbound trips to outside of the peak hour would improve operations here, manual control is needed if delays and queues along Ragsdale Road are determined to be undesirable.

Table 11: Ambient Plus Project Conditions With Signal AM Peak Hour

Intersection	Control	Peak Period	Ambient Plus Project		Ambient Plus Project Signals	
			Delay	LOS	Delay	LOS
SR-177 & Ragsdale Road	SSSC	AM	31.6	D	31.6	D
I-10 WB Ramps & SR-177	SSSC	AM	>100	F	61.6	E
I-10 EB Ramps & SR-177	SSSC	AM	79.8	F	60.8	E

Notes
Calculated using methodologies consistent with HCM 6th Edition. Worst case movement reported for side street stop-controlled intersections.
SSSC = Side Street Stop Control
Source: Fehr & Peers, 2020.

Table 12: Ambient Plus Project Conditions LOS

Ramp	Storage Capacity (ft)	Peak Hour	Ambient Plus Project Conditions Queue (ft)	Ambient Plus Project With Signal Conditions Queue (ft)
I-10 WB Ramps	1,000	AM	1,350	612
I-10 EB Ramps	1,000	AM	675	376

Notes
Queues provided are 95th percentile queues.
Assumes 25 feet per vehicle, consistent with HCM 6th Edition.

While the ramp terminal intersections operate at LOS E when signalized, delays are reduced substantially, and queues do not spill back to the freeway mainline. The detailed analysis results are shown in **Appendix B**.

Summary

Based on the improvement options evaluated, shifting 50% of worker trips to off-peak times improves both LOS/delay and vehicle queuing.

The increased delay and vehicle queuing at the study intersections only occurs during the peak construction conditions. Once the Projects are constructed, or prior to or after peak construction, the study intersections are expected to operate similarly to how they operate under existing conditions. The normal operating conditions at solar land uses generate little peak hour and daily traffic. Therefore, the delays identified in this study are a temporary, worst-case scenario condition.

VMT Assessment

SB 743, signed by the Governor in 2013, changed the way transportation impacts are identified in CEQA. Specifically, the legislation has directed the Office of Planning and Research (OPR) to look at different metrics for identifying transportation as a CEQA impact. The updated CEQA Guidelines (December 2018) and the Final Office of Planning and Research (OPR) technical advisory for evaluating transportation impacts (December 2018) identify vehicle miles of travel (VMT) as the preferred metric for traffic impact analysis moving forward. In addition, the use of roadway capacity/delay metrics, such as LOS, as a CEQA impact is specifically prohibited. The evaluation of construction impacts to LOS is no longer allowed under CEQA.

Also, the OPR technical advisory indicates that any construction effects on transportation will be temporary and evaluation of VMT during the construction phase of a project can be a qualitative/high-level assessment.

The Projects are roughly 60 miles on average from cities in the Coachella Valley to the west and Blythe, CA and Quartzsite, AZ to the east. The Projects are therefore expected to produce approximately 120 average daily VMT per worker during construction. This is higher than the average daily VMT per person for Riverside County or for nearby communities in the Coachella Valley and Blythe. However, it is consistent with the average VMT for the Desert Center area, as few services are available to residents and most visitors or temporary workers must travel from the Coachella Valley, Blythe, or further to reach Desert Center.

The increase in VMT associated with Projects' construction is expected to be temporary and would therefore not cause a significant impact. Once completed, the Projects can be considered "small projects" per the OPR technical advisory given that they collectively generate less than 20 daily trips once operational and would therefore be presumed to have a less than significant impact.

It should be noted that delay reduction measures such as carpooling also reduce VMT generated by the Projects, both reducing delay on roadways and reducing emissions associated with the Projects.

Appendix A: Counts

Prepared by National Data & Surveying Services

SR 177 & I 10 EB Ramps

Peak Hour Turning Movement Count

ID: 18-06034-001
City: Desert Center

Day: Thursday
Date: 03/22/2018

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SR 177 — SOUTHBOUND

AM	0	0	15	0	50	AM
NOON	0	0	0	0	0	NOON
PM	0	3	12	0	70	PM

I 10 EB Ramps — EASTBOUND

AM	NOON	PM		
0	0	0		
0	0	0	0	
49	0	65	0.5	
2	0	3	0.5	
0	0	4	1	
AM	NOON	PM		

CONTROL

1-Way Stop(EB)

TEV	69	0	94
	AM	NOON	PM
PHF	0.62		0.98

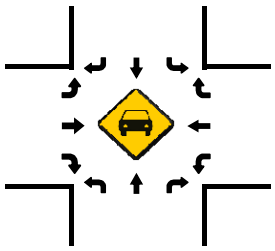
I 10 EB Ramps — WESTBOUND

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
17	0	18	
PM	NOON	AM	

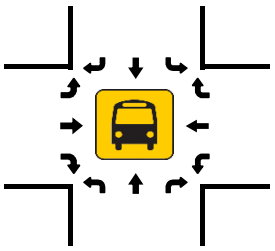
SR 177 — NORTHBOUND

PM	7	0	0	5	2	PM
NOON	0	0	0	0	0	NOON
AM	1	1	0	1	1	AM

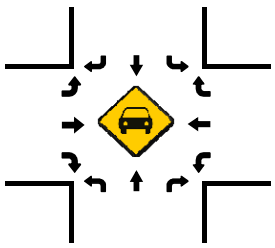
Total Vehicles (AM)



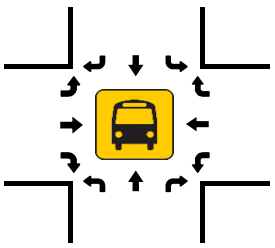
Total Vehicles (AM)



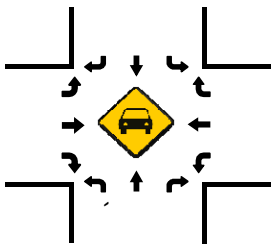
Total Vehicles (NOON)



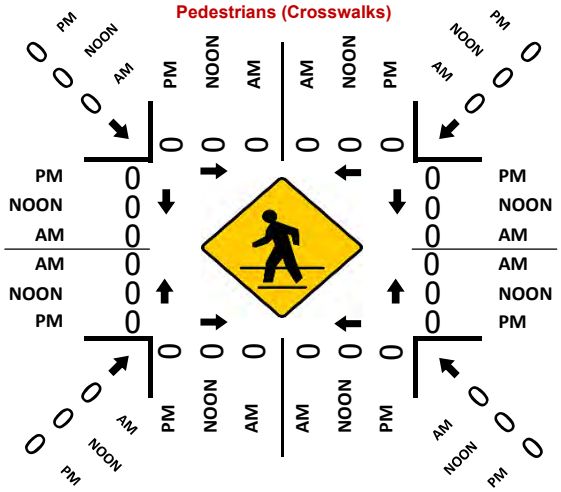
Total Vehicles (NOON)



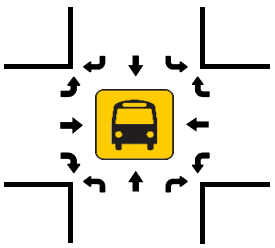
Total Vehicles (PM)



Pedestrians (Crosswalks)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

SR 177 & I 10 WB Ramps

Peak Hour Turning Movement Count

ID: 18-06034-002
City: Desert Center

Day: Thursday
Date: 03/22/2018

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

SR 177 — SOUTHBOUND

	L	T	R	U	Total	
AM	37	13	0	0	60	AM
NOON	0	0	0	0	0	NOON
PM	53	11	0	0	91	PM

I 10 WB Ramps — EASTBOUND

	L	T	R	U	Total	
AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

I 10 WB Ramps — WESTBOUND

	L	T	R	U	Total	
PM	24	0	17	0	41	PM
NOON	5	0	3	1	9	NOON
AM	1	0	2	0	3	AM

SR 177 — NORTHBOUND

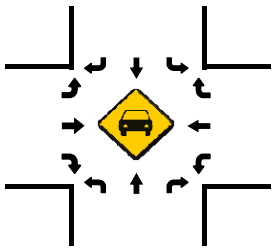
	L	T	R	U	Total	
PM	12	0	2	67	81	PM
NOON	0	0	0	0	0	NOON
AM	15	0	2	43	60	AM

CONTROL

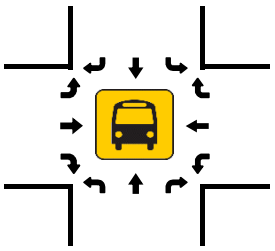
1-Way Stop(WB)

TEV	117 AM	0 NOON	163 PM
PHF	0.75		0.93

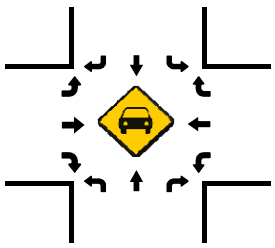
Total Vehicles (AM)



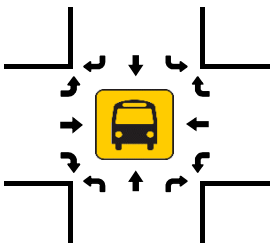
Total Vehicles (AM)



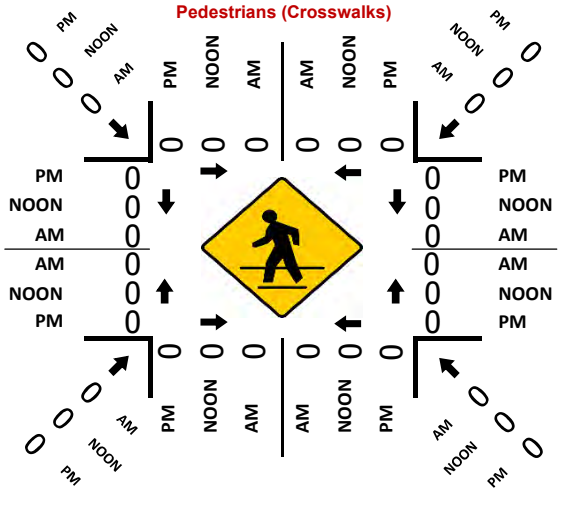
Total Vehicles (NOON)



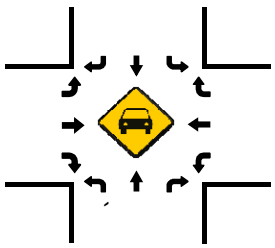
Total Vehicles (NOON)



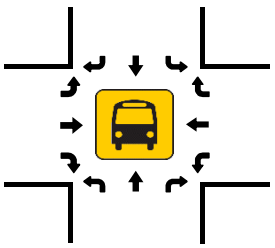
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

SR 177 & Oasis Rd

Peak Hour Turning Movement Count

ID: 18-06034-005
City: Desert Center

Day: Thursday
Date: 03/22/2018

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SR 177 — SOUTHBOUND

AM	3	17	0	0	57	AM
NOON	0	0	0	0	0	NOON
PM	1	40	0	0	72	PM

EASTBOUND — Oasis Rd

AM	NOON	PM	
3	0	2	
0	0	0	0
2	0	3	0
0	0	0	1
1	0	0	0
AM	NOON	PM	

WESTBOUND — Oasis Rd

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

CONTROL

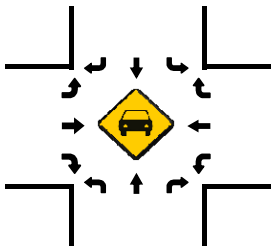
1-Way Stop(EB)

TEV	78	0	114
	AM	NOON	PM
PHF	0.65		0.75

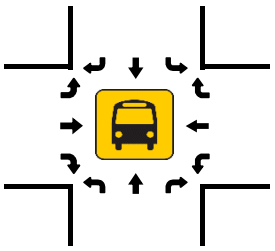
NORTHBOUND — SR 177

PM	40	0	1	69	0	PM
NOON	0	0	0	0	0	NOON
AM	18	0	0	55	0	AM

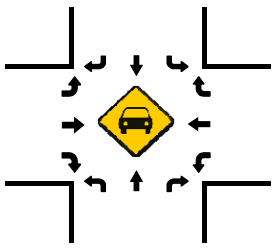
Total Vehicles (AM)



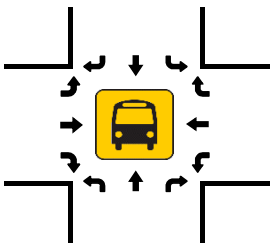
Total Vehicles (AM)



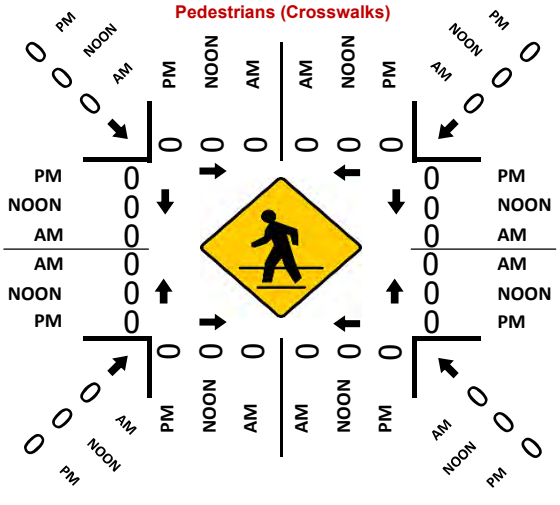
Total Vehicles (NOON)



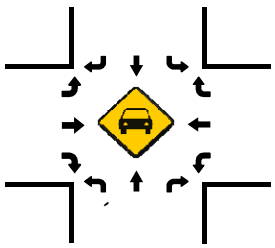
Total Vehicles (NOON)



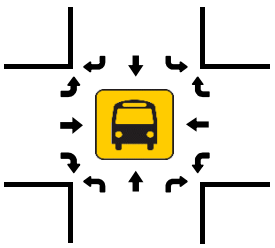
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Appendix B: LOS Worksheets

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	70	5	5	50	5
Future Vol, veh/h	5	5	5	5	5	5	5	70	5	5	50	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	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	7	7	7	7	7	7	93	7	7	67	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	203	199	71	203	199	97	74	0	0	100	0	0
Stage 1	85	85	-	111	111	-	-	-	-	-	-	-
Stage 2	118	114	-	92	88	-	-	-	-	-	-	-
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	755	697	991	755	697	959	1526	-	-	1493	-	-
Stage 1	923	824	-	894	804	-	-	-	-	-	-	-
Stage 2	887	801	-	915	822	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	738	690	991	738	690	959	1526	-	-	1493	-	-
Mov Cap-2 Maneuver	738	690	-	738	690	-	-	-	-	-	-	-
Stage 1	918	820	-	890	800	-	-	-	-	-	-	-
Stage 2	869	797	-	897	818	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	9.7	0.5	0.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1526	-	-	787	780	1493	-	-
HCM Lane V/C Ratio	0.004	-	-	0.025	0.026	0.004	-	-
HCM Control Delay (s)	7.4	0	-	9.7	9.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	5	20	5	60	0	0	20	40
Future Vol, veh/h	0	0	0	5	5	20	5	60	0	0	20	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, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	7	7	27	7	80	0	0	27	53

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	148	174	80	80	0	-	-	-	0
Stage 1	94	94	-	-	-	-	-	-	-
Stage 2	54	80	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	844	719	980	1518	-	0	0	-	-
Stage 1	930	817	-	-	-	0	0	-	-
Stage 2	969	828	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	840	0	980	1518	-	-	-	-	-
Mov Cap-2 Maneuver	840	0	-	-	-	-	-	-	-
Stage 1	925	0	-	-	-	-	-	-	-
Stage 2	969	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1518	-	948	-	-
HCM Lane V/C Ratio	0.004	-	0.042	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	5	5	0	0	0	0	5	5	20	5	0
Future Vol, veh/h	60	5	5	0	0	0	0	5	5	20	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	20	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	62	62	62	62	62	62	62	62	62	62	62	62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	8	8	0	0	0	0	8	8	32	8	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	84	88	8	-	0	0	16	0	0
Stage 1	72	72	-	-	-	-	-	-	-
Stage 2	12	16	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	918	802	1074	0	-	-	1602	-	0
Stage 1	951	835	-	0	-	-	-	-	0
Stage 2	1011	882	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	900	0	1074	-	-	-	1602	-	-
Mov Cap-2 Maneuver	900	0	-	-	-	-	-	-	-
Stage 1	951	0	-	-	-	-	-	-	-
Stage 2	991	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0	5.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	900	1074	1602	-
HCM Lane V/C Ratio	-	-	0.116	0.008	0.02	-
HCM Control Delay (s)	-	-	9.5	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	100	5	5	70	5
Future Vol, veh/h	5	5	5	5	5	5	5	100	5	5	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	5	5	5	5	108	5	5	75	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	214	211	78	214	211	111	80	0	0	113	0	0
Stage 1	88	88	-	121	121	-	-	-	-	-	-	-
Stage 2	126	123	-	93	90	-	-	-	-	-	-	-
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	743	686	983	743	686	942	1518	-	-	1476	-	-
Stage 1	920	822	-	883	796	-	-	-	-	-	-	-
Stage 2	878	794	-	914	820	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	730	681	983	730	681	942	1518	-	-	1476	-	-
Mov Cap-2 Maneuver	730	681	-	730	681	-	-	-	-	-	-	-
Stage 1	916	819	-	879	793	-	-	-	-	-	-	-
Stage 2	864	791	-	899	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	9.8	0.3	0.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1518	-	-	778	769	1476	-	-
HCM Lane V/C Ratio	0.004	-	-	0.021	0.021	0.004	-	-
HCM Control Delay (s)	7.4	0	-	9.7	9.8	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	5	30	5	80	0	0	20	60
Future Vol, veh/h	0	0	0	5	5	30	5	80	0	0	20	60
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, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	5	32	5	86	0	0	22	65

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	151	183	86	87	0	-	-	-	0
Stage 1	96	96	-	-	-	-	-	-	-
Stage 2	55	87	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	841	711	973	1509	-	0	0	-	-
Stage 1	928	815	-	-	-	0	0	-	-
Stage 2	968	823	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	838	0	973	1509	-	-	-	-	-
Mov Cap-2 Maneuver	838	0	-	-	-	-	-	-	-
Stage 1	925	0	-	-	-	-	-	-	-
Stage 2	968	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1509	-	951	-	-
HCM Lane V/C Ratio	0.004	-	0.045	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	5	5	0	0	0	0	5	5	20	5	0
Future Vol, veh/h	80	5	5	0	0	0	0	5	5	20	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	20	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	82	5	5	0	0	0	0	5	5	20	5	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	53	55	5	-	0	0	10	0	0
Stage 1	45	45	-	-	-	-	-	-	-
Stage 2	8	10	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	955	836	1078	0	-	-	1610	-	0
Stage 1	977	857	-	0	-	-	-	-	0
Stage 2	1015	887	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	944	0	1078	-	-	-	1610	-	-
Mov Cap-2 Maneuver	944	0	-	-	-	-	-	-	-
Stage 1	977	0	-	-	-	-	-	-	-
Stage 2	1003	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	5.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	944	1078	1610	-
HCM Lane V/C Ratio	-	-	0.092	0.005	0.013	-
HCM Control Delay (s)	-	-	9.2	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	70	1021	5	50	5
Future Vol, veh/h	5	5	5	5	5	5	5	70	1021	5	50	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	5	5	5	5	74	1075	5	53	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	693	1225	56	693	690	612	58	0	0	1149	0	0
Stage 1	66	66	-	622	622	-	-	-	-	-	-	-
Stage 2	627	1159	-	71	68	-	-	-	-	-	-	-
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	358	179	1011	358	368	493	1546	-	-	608	-	-
Stage 1	945	840	-	474	479	-	-	-	-	-	-	-
Stage 2	471	270	-	939	838	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	344	175	1011	342	360	493	1546	-	-	608	-	-
Mov Cap-2 Maneuver	344	175	-	342	360	-	-	-	-	-	-	-
Stage 1	933	832	-	468	473	-	-	-	-	-	-	-
Stage 2	455	266	-	920	830	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.2	14.7	0	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1546	-	-	312	388	608	-	-
HCM Lane V/C Ratio	0.003	-	-	0.051	0.041	0.009	-	-
HCM Control Delay (s)	7.3	0	-	17.2	14.7	11	0	-
HCM Lane LOS	A	A	-	C	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	33.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	5	426	5	670	0	0	20	40
Future Vol, veh/h	0	0	0	5	5	426	5	670	0	0	20	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, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	5	448	5	705	0	0	21	42

Major/Minor	Minor1		Major1			Major2			
Conflicting Flow All	757	778	705	63	0	-	-	-	0
Stage 1	715	715	-	-	-	-	-	-	-
Stage 2	42	63	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	375	328	~ 436	1540	-	0	0	-	-
Stage 1	485	434	-	-	-	0	0	-	-
Stage 2	980	842	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	373	0	~ 436	1540	-	-	-	-	-
Mov Cap-2 Maneuver	373	0	-	-	-	-	-	-	-
Stage 1	483	0	-	-	-	-	-	-	-
Stage 2	980	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	89.6	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1540	-	435	-	-
HCM Lane V/C Ratio	0.003	-	1.055	-	-
HCM Control Delay (s)	7.3	0	89.6	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	14.7	-	-

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

Intersection	
Int Delay, s/veh	18.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	670	5	5	0	0	0	0	5	5	20	5	0
Future Vol, veh/h	670	5	5	0	0	0	0	5	5	20	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	20	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	705	5	5	0	0	0	0	5	5	21	5	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	55	57	5	-	0	0	10	0	0
Stage 1	47	47	-	-	-	-	-	-	-
Stage 2	8	10	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	953	834	1078	0	-	-	1610	-	0
Stage 1	975	856	-	0	-	-	-	-	0
Stage 2	1015	887	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	941	0	1078	-	-	-	1610	-	-
Mov Cap-2 Maneuver	941	0	-	-	-	-	-	-	-
Stage 1	975	0	-	-	-	-	-	-	-
Stage 2	1002	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.5	0	5.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	941	1078	1610	-
HCM Lane V/C Ratio	-	-	0.755	0.005	0.013	-
HCM Control Delay (s)	-	-	19.6	8.4	7.3	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	7.4	0	0	-

Intersection	
Int Delay, s/veh	199.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	5	1021	5	5	5	100	5	5	70	5
Future Vol, veh/h	5	5	5	1021	5	5	5	100	5	5	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	1075	5	5	5	105	5	5	74	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	210	207	77	210	207	108	79	0	0	110	0	0
Stage 1	87	87	-	118	118	-	-	-	-	-	-	-
Stage 2	123	120	-	92	89	-	-	-	-	-	-	-
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	747	690	984	~ 747	690	946	1519	-	-	1480	-	-
Stage 1	921	823	-	~ 887	798	-	-	-	-	-	-	-
Stage 2	881	796	-	~ 915	821	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	734	684	984	~ 734	684	946	1519	-	-	1480	-	-
Mov Cap-2 Maneuver	734	684	-	~ 734	684	-	-	-	-	-	-	-
Stage 1	917	820	-	~ 883	795	-	-	-	-	-	-	-
Stage 2	867	793	-	~ 901	818	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	238.6	0.3	0.5
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1519	-	-	781	735	1480	-	-
HCM Lane V/C Ratio	0.003	-	-	0.02	1.477	0.004	-	-
HCM Control Delay (s)	7.4	0	-	9.7	238.6	7.4	0	-
HCM Lane LOS	A	A	-	A	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	51.7	0	-	-

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	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	5	30	5	80	0	0	426	670
Future Vol, veh/h	0	0	0	5	5	30	5	80	0	0	426	670
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, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	5	32	5	84	0	0	448	705

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	895	1247	84	1153	0	-	-	-	0	
Stage 1	94	94	-	-	-	-	-	-	-	
Stage 2	801	1153	-	-	-	-	-	-	-	
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-	
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-	
Pot Cap-1 Maneuver	311	173	975	606	-	0	0	-	-	
Stage 1	930	817	-	-	-	0	0	-	-	
Stage 2	442	272	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	308	0	975	606	-	-	-	-	-	
Mov Cap-2 Maneuver	308	0	-	-	-	-	-	-	-	
Stage 1	922	0	-	-	-	-	-	-	-	
Stage 2	442	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	606	-	745	-	-
HCM Lane V/C Ratio	0.009	-	0.057	-	-
HCM Control Delay (s)	11	0	10.1	-	-
HCM Lane LOS	B	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	11.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	5	5	0	0	0	0	5	5	426	5	0
Future Vol, veh/h	80	5	5	0	0	0	0	5	5	426	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	20	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	5	5	0	0	0	0	5	5	448	5	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	909	911	5	-	0	0	10	0	0
Stage 1	901	901	-	-	-	-	-	-	-
Stage 2	8	10	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	305	274	1078	0	-	-	1610	-	0
Stage 1	396	357	-	0	-	-	-	-	0
Stage 2	1015	887	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	220	0	1078	-	-	-	1610	-	-
Mov Cap-2 Maneuver	220	0	-	-	-	-	-	-	-
Stage 1	396	0	-	-	-	-	-	-	-
Stage 2	732	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.8	0	8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	220	1078	1610	-
HCM Lane V/C Ratio	-	-	0.407	0.005	0.279	-
HCM Control Delay (s)	-	-	32.1	8.4	8.1	0
HCM Lane LOS	-	-	D	A	A	A
HCM 95th %tile Q(veh)	-	-	1.8	0	1.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	582	5	5	50	5
Future Vol, veh/h	5	5	5	5	5	5	5	582	5	5	50	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	5	5	5	5	613	5	5	53	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	697	694	56	697	694	616	58	0	0	618	0	0
Stage 1	66	66	-	626	626	-	-	-	-	-	-	-
Stage 2	631	628	-	71	68	-	-	-	-	-	-	-
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	356	366	1011	356	366	491	1546	-	-	962	-	-
Stage 1	945	840	-	472	477	-	-	-	-	-	-	-
Stage 2	469	476	-	939	838	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	346	362	1011	347	362	491	1546	-	-	962	-	-
Mov Cap-2 Maneuver	346	362	-	347	362	-	-	-	-	-	-	-
Stage 1	940	836	-	470	475	-	-	-	-	-	-	-
Stage 2	457	474	-	924	834	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	14.6	0.1	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1546	-	-	452	391	962	-	-
HCM Lane V/C Ratio	0.003	-	-	0.035	0.04	0.005	-	-
HCM Control Delay (s)	7.3	0	-	13.3	14.6	8.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	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	0	0	0	5	5	225	5	367	0	0	20	40
Future Vol, veh/h	0	0	0	5	5	225	5	367	0	0	20	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, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	5	237	5	386	0	0	21	42

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	438	459	386	63	0	-	-	-	0
Stage 1	396	396	-	-	-	-	-	-	-
Stage 2	42	63	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	576	499	662	1540	-	0	0	-	-
Stage 1	680	604	-	-	-	0	0	-	-
Stage 2	980	842	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	574	0	662	1540	-	-	-	-	-
Mov Cap-2 Maneuver	574	0	-	-	-	-	-	-	-
Stage 1	677	0	-	-	-	-	-	-	-
Stage 2	980	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1540	-	660	-	-
HCM Lane V/C Ratio	0.003	-	0.375	-	-
HCM Control Delay (s)	7.3	0	13.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.7	-	-

Intersection	
Int Delay, s/veh	10.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	367	5	5	0	0	0	0	5	5	20	5	0
Future Vol, veh/h	367	5	5	0	0	0	0	5	5	20	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	20	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	386	5	5	0	0	0	0	5	5	21	5	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	55	57	5	-	0	0	10	0	0
Stage 1	47	47	-	-	-	-	-	-	-
Stage 2	8	10	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	953	834	1078	0	-	-	1610	-	0
Stage 1	975	856	-	0	-	-	-	-	0
Stage 2	1015	887	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	941	0	1078	-	-	-	1610	-	-
Mov Cap-2 Maneuver	941	0	-	-	-	-	-	-	-
Stage 1	975	0	-	-	-	-	-	-	-
Stage 2	1002	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0	5.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	941	1078	1610	-
HCM Lane V/C Ratio	-	-	0.416	0.005	0.013	-
HCM Control Delay (s)	-	-	11.5	8.4	7.3	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	2.1	0	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	100	5	5	582	5
Future Vol, veh/h	5	5	5	5	5	5	5	100	5	5	582	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	5	5	5	5	105	5	5	613	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	749	746	616	749	746	108	618	0	0	110	0	0
Stage 1	626	626	-	118	118	-	-	-	-	-	-	-
Stage 2	123	120	-	631	628	-	-	-	-	-	-	-
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	328	342	491	328	342	946	962	-	-	1480	-	-
Stage 1	472	477	-	887	798	-	-	-	-	-	-	-
Stage 2	881	796	-	469	476	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	319	338	491	318	338	946	962	-	-	1480	-	-
Mov Cap-2 Maneuver	319	338	-	318	338	-	-	-	-	-	-	-
Stage 1	469	475	-	882	793	-	-	-	-	-	-	-
Stage 2	865	791	-	457	474	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	13.9	0.4	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	962	-	-	369	419	1480	-	-
HCM Lane V/C Ratio	0.005	-	-	0.043	0.038	0.004	-	-
HCM Control Delay (s)	8.8	0	-	15.2	13.9	7.4	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	5	30	5	80	0	0	225	367
Future Vol, veh/h	0	0	0	5	5	30	5	80	0	0	225	367
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, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	5	32	5	84	0	0	237	386

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	524	717	84	623	0	-	-	-	0
Stage 1	94	94	-	-	-	-	-	-	-
Stage 2	430	623	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	514	355	975	958	-	0	0	-	-
Stage 1	930	817	-	-	-	0	0	-	-
Stage 2	656	478	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	511	0	975	958	-	-	-	-	-
Mov Cap-2 Maneuver	511	0	-	-	-	-	-	-	-
Stage 1	925	0	-	-	-	-	-	-	-
Stage 2	656	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	958	-	863	-	-
HCM Lane V/C Ratio	0.005	-	0.049	-	-
HCM Control Delay (s)	8.8	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	5	5	0	0	0	0	5	5	225	5	0
Future Vol, veh/h	80	5	5	0	0	0	0	5	5	225	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	20	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	5	5	0	0	0	0	5	5	237	5	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	487	489	5	-	0	0	10	0	0
Stage 1	479	479	-	-	-	-	-	-	-
Stage 2	8	10	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	540	480	1078	0	-	-	1610	-	0
Stage 1	623	555	-	0	-	-	-	-	0
Stage 2	1015	887	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	460	0	1078	-	-	-	1610	-	-
Mov Cap-2 Maneuver	460	0	-	-	-	-	-	-	-
Stage 1	623	0	-	-	-	-	-	-	-
Stage 2	865	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	0	7.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	460	1078	1610	-
HCM Lane V/C Ratio	-	-	0.195	0.005	0.147	-
HCM Control Delay (s)	-	-	14.7	8.4	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0	0.5	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	582	1021	5	50	5
Future Vol, veh/h	5	5	5	5	5	5	5	582	1021	5	50	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	5	5	5	5	613	1075	5	53	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1232	1764	56	1232	1229	1151	58	0	0	1688	0	0
Stage 1	66	66	-	1161	1161	-	-	-	-	-	-	-
Stage 2	1166	1698	-	71	68	-	-	-	-	-	-	-
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	154	84	1011	154	178	241	1546	-	-	378	-	-
Stage 1	945	840	-	238	270	-	-	-	-	-	-	-
Stage 2	236	148	-	939	838	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	146	83	1011	144	176	241	1546	-	-	378	-	-
Mov Cap-2 Maneuver	146	83	-	144	176	-	-	-	-	-	-	-
Stage 1	945	828	-	238	270	-	-	-	-	-	-	-
Stage 2	226	148	-	915	826	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.6	27	0	1.2
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1546	-	-	151	179	378	-	-
HCM Lane V/C Ratio	0.003	-	-	0.105	0.088	0.014	-	-
HCM Control Delay (s)	7.3	0	-	31.6	27	14.7	0	-
HCM Lane LOS	A	A	-	D	D	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-

Intersection	
Int Delay, s/veh	250.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	5	631	5	977	0	0	20	40
Future Vol, veh/h	0	0	0	5	5	631	5	977	0	0	20	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, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	5	664	5	1028	0	0	21	42

Major/Minor	Minor1		Major1			Major2			
Conflicting Flow All	1080	1101	1028	63	0	-	-	-	0
Stage 1	1038	1038	-	-	-	-	-	-	-
Stage 2	42	63	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	241	212	~ 284	1540	-	0	0	-	-
Stage 1	341	308	-	-	-	0	0	-	-
Stage 2	980	842	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	239	0	~ 284	1540	-	-	-	-	-
Mov Cap-2 Maneuver	239	0	-	-	-	-	-	-	-
Stage 1	338	0	-	-	-	-	-	-	-
Stage 2	980	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 658	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1540	-	284	-	-
HCM Lane V/C Ratio	0.003	-	2.376	-	-
HCM Control Delay (s)	7.3	0	$ 658	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	53.6	-	-

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

Intersection	
Int Delay, s/veh	76.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	977	5	5	0	0	0	0	5	5	20	5	0
Future Vol, veh/h	977	5	5	0	0	0	0	5	5	20	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	20	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1028	5	5	0	0	0	0	5	5	21	5	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	55	57	5	-	0	0	10	0	0
Stage 1	47	47	-	-	-	-	-	-	-
Stage 2	8	10	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 953	834	1078	0	-	-	1610	-	0
Stage 1	~ 975	856	-	0	-	-	-	-	0
Stage 2	~ 1015	887	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	~ 941	0	1078	-	-	-	1610	-	-
Mov Cap-2 Maneuver	~ 941	0	-	-	-	-	-	-	-
Stage 1	~ 975	0	-	-	-	-	-	-	-
Stage 2	~ 1002	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	79.4	0	5.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	941	1078	1610	-
HCM Lane V/C Ratio	-	-	1.098	0.005	0.013	-
HCM Control Delay (s)	-	-	79.8	8.4	7.3	0
HCM Lane LOS	-	-	F	A	A	A
HCM 95th %tile Q(veh)	-	-	26.3	0	0	-

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

Intersection	
Int Delay, s/veh	656.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	5	1021	5	5	5	100	5	5	582	5
Future Vol, veh/h	5	5	5	1021	5	5	5	100	5	5	582	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	1075	5	5	5	105	5	5	613	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	749	746	616	749	746	108	618	0	0	110	0	0
Stage 1	626	626	-	118	118	-	-	-	-	-	-	-
Stage 2	123	120	-	631	628	-	-	-	-	-	-	-
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	328	342	491	~ 328	342	946	962	-	-	1480	-	-
Stage 1	472	477	-	~ 887	798	-	-	-	-	-	-	-
Stage 2	881	796	-	~ 469	476	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	319	338	491	~ 318	338	946	962	-	-	1480	-	-
Mov Cap-2 Maneuver	319	338	-	~ 318	338	-	-	-	-	-	-	-
Stage 1	469	475	-	~ 882	793	-	-	-	-	-	-	-
Stage 2	865	791	-	~ 457	474	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	$ 1113	0.4	0.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	962	-	-	369	319	1480	-	-
HCM Lane V/C Ratio	0.005	-	-	0.043	3.402	0.004	-	-
HCM Control Delay (s)	8.8	0	-	15.2	$ 1113	7.4	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	99.9	0	-	-

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

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	5	5	30	5	80	0	0	631	977
Future Vol, veh/h	0	0	0	5	5	30	5	80	0	0	631	977
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, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	5	32	5	84	0	0	664	1028

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	1272	1786	84	1692	0	-	-	-	0	
Stage 1	94	94	-	-	-	-	-	-	-	
Stage 2	1178	1692	-	-	-	-	-	-	-	
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-	
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-	
Pot Cap-1 Maneuver	185	81	975	377	-	0	0	-	-	
Stage 1	930	817	-	-	-	0	0	-	-	
Stage 2	292	149	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	182	0	975	377	-	-	-	-	-	
Mov Cap-2 Maneuver	182	0	-	-	-	-	-	-	-	
Stage 1	917	0	-	-	-	-	-	-	-	
Stage 2	292	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	377	-	601	-	-
HCM Lane V/C Ratio	0.014	-	0.07	-	-
HCM Control Delay (s)	14.7	0	11.4	-	-
HCM Lane LOS	B	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	24.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	5	5	0	0	0	0	5	5	631	5	0
Future Vol, veh/h	80	5	5	0	0	0	0	5	5	631	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	20	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	5	5	0	0	0	0	5	5	664	5	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1341	1343	5	-	0	0	10	0	0
Stage 1	1333	1333	-	-	-	-	-	-	-
Stage 2	8	10	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	168	152	1078	0	-	-	1610	-	0
Stage 1	246	223	-	0	-	-	-	-	0
Stage 2	1015	887	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	98	0	1078	-	-	-	1610	-	-
Mov Cap-2 Maneuver	98	0	-	-	-	-	-	-	-
Stage 1	246	0	-	-	-	-	-	-	-
Stage 2	595	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	138.9	0	8.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	98	1078	1610	-
HCM Lane V/C Ratio	-	-	0.913	0.005	0.413	-
HCM Control Delay (s)	-	-	146.6	8.4	8.8	0
HCM Lane LOS	-	-	F	A	A	A
HCM 95th %tile Q(veh)	-	-	5.3	0	2.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	582	513	5	50	5
Future Vol, veh/h	5	5	5	5	5	5	5	582	513	5	50	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	5	5	5	5	613	540	5	53	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	964	1229	56	964	961	883	58	0	0	1153	0	0
Stage 1	66	66	-	893	893	-	-	-	-	-	-	-
Stage 2	898	1163	-	71	68	-	-	-	-	-	-	-
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	235	178	1011	235	256	345	1546	-	-	606	-	-
Stage 1	945	840	-	336	360	-	-	-	-	-	-	-
Stage 2	334	269	-	939	838	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	224	174	1011	225	251	345	1546	-	-	606	-	-
Mov Cap-2 Maneuver	224	174	-	225	251	-	-	-	-	-	-	-
Stage 1	935	832	-	332	356	-	-	-	-	-	-	-
Stage 2	320	266	-	920	830	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.3	19.4	0	0.9
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1546	-	-	268	265	606	-	-
HCM Lane V/C Ratio	0.003	-	-	0.059	0.06	0.009	-	-
HCM Control Delay (s)	7.3	0	-	19.3	19.4	11	0	-
HCM Lane LOS	A	A	-	C	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-

Intersection	
Int Delay, s/veh	34.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	5	428	5	672	0	0	20	40
Future Vol, veh/h	0	0	0	5	5	428	5	672	0	0	20	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, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	5	451	5	707	0	0	21	42

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	759	780	707	63	0	-	-	-	0
Stage 1	717	717	-	-	-	-	-	-	-
Stage 2	42	63	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	374	327	~ 435	1540	-	0	0	-	-
Stage 1	484	434	-	-	-	0	0	-	-
Stage 2	980	842	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	372	0	~ 435	1540	-	-	-	-	-
Mov Cap-2 Maneuver	372	0	-	-	-	-	-	-	-
Stage 1	482	0	-	-	-	-	-	-	-
Stage 2	980	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	91.8	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1540	-	434	-	-
HCM Lane V/C Ratio	0.003	-	1.062	-	-
HCM Control Delay (s)	7.3	0	91.8	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	14.9	-	-

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

Intersection	
Int Delay, s/veh	18.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	672	5	5	0	0	0	0	5	5	20	5	0
Future Vol, veh/h	672	5	5	0	0	0	0	5	5	20	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	20	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	707	5	5	0	0	0	0	5	5	21	5	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	55	57	5	-	0	0	10	0	0
Stage 1	47	47	-	-	-	-	-	-	-
Stage 2	8	10	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	953	834	1078	0	-	-	1610	-	0
Stage 1	975	856	-	0	-	-	-	-	0
Stage 2	1015	887	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	941	0	1078	-	-	-	1610	-	-
Mov Cap-2 Maneuver	941	0	-	-	-	-	-	-	-
Stage 1	975	0	-	-	-	-	-	-	-
Stage 2	1002	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.6	0	5.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	941	1078	1610	-
HCM Lane V/C Ratio	-	-	0.757	0.005	0.013	-
HCM Control Delay (s)	-	-	19.7	8.4	7.3	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	7.4	0	0	-

Intersection	
Int Delay, s/veh	154.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	5	5	513	5	5	5	100	5	5	582	5
Future Vol, veh/h	5	5	5	513	5	5	5	100	5	5	582	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	540	5	5	5	105	5	5	613	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	749	746	616	749	746	108	618	0	0	110	0	0
Stage 1	626	626	-	118	118	-	-	-	-	-	-	-
Stage 2	123	120	-	631	628	-	-	-	-	-	-	-
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	328	342	491	~ 328	342	946	962	-	-	1480	-	-
Stage 1	472	477	-	887	798	-	-	-	-	-	-	-
Stage 2	881	796	-	~ 469	476	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	319	338	491	~ 318	338	946	962	-	-	1480	-	-
Mov Cap-2 Maneuver	319	338	-	~ 318	338	-	-	-	-	-	-	-
Stage 1	469	475	-	882	793	-	-	-	-	-	-	-
Stage 2	865	791	-	~ 457	474	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	$ 365.4	0.4	0.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	962	-	-	369	320	1480	-	-
HCM Lane V/C Ratio	0.005	-	-	0.043	1.72	0.004	-	-
HCM Control Delay (s)	8.8	0	-	15.2	$ 365.4	7.4	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	34.8	0	-	-

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	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	5	30	5	80	0	0	428	672
Future Vol, veh/h	0	0	0	5	5	30	5	80	0	0	428	672
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, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	5	32	5	84	0	0	451	707

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	899	1252	84	1158	0	-	-	-	0
Stage 1	94	94	-	-	-	-	-	-	-
Stage 2	805	1158	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	309	172	975	603	-	0	0	-	-
Stage 1	930	817	-	-	-	0	0	-	-
Stage 2	440	270	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	306	0	975	603	-	-	-	-	-
Mov Cap-2 Maneuver	306	0	-	-	-	-	-	-	-
Stage 1	922	0	-	-	-	-	-	-	-
Stage 2	440	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	603	-	743	-	-
HCM Lane V/C Ratio	0.009	-	0.057	-	-
HCM Control Delay (s)	11	0	10.1	-	-
HCM Lane LOS	B	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	11.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	5	5	0	0	0	0	5	5	428	5	0
Future Vol, veh/h	80	5	5	0	0	0	0	5	5	428	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	20	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	5	5	0	0	0	0	5	5	451	5	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	915	917	5	-	0	0	10	0	0
Stage 1	907	907	-	-	-	-	-	-	-
Stage 2	8	10	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	303	272	1078	0	-	-	1610	-	0
Stage 1	394	355	-	0	-	-	-	-	0
Stage 2	1015	887	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	218	0	1078	-	-	-	1610	-	-
Mov Cap-2 Maneuver	218	0	-	-	-	-	-	-	-
Stage 1	394	0	-	-	-	-	-	-	-
Stage 2	730	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31.3	0	8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	218	1078	1610	-
HCM Lane V/C Ratio	-	-	0.41	0.005	0.28	-
HCM Control Delay (s)	-	-	32.6	8.4	8.1	0
HCM Lane LOS	-	-	D	A	A	A
HCM 95th %tile Q(veh)	-	-	1.9	0	1.2	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	582	848	5	50	5
Future Vol, veh/h	5	5	5	5	5	5	5	582	848	5	50	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	5	5	5	5	613	893	5	53	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1141	1582	56	1141	1138	1060	58	0	0	1506	0	0
Stage 1	66	66	-	1070	1070	-	-	-	-	-	-	-
Stage 2	1075	1516	-	71	68	-	-	-	-	-	-	-
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	178	109	1011	178	201	272	1546	-	-	444	-	-
Stage 1	945	840	-	268	298	-	-	-	-	-	-	-
Stage 2	266	182	-	939	838	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	163	102	1011	162	189	272	1546	-	-	444	-	-
Mov Cap-2 Maneuver	163	102	-	162	189	-	-	-	-	-	-	-
Stage 1	898	830	-	255	283	-	-	-	-	-	-	-
Stage 2	243	173	-	917	828	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.3	24.8	0	1.1
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1546	-	-	177	198	444	-	-
HCM Lane V/C Ratio	0.003	-	-	0.089	0.08	0.012	-	-
HCM Control Delay (s)	7.3	0	-	27.3	24.8	13.2	0	-
HCM Lane LOS	A	A	-	D	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-

Intersection	
Int Delay, s/veh	157.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	5	562	5	873	0	0	20	40
Future Vol, veh/h	0	0	0	5	5	562	5	873	0	0	20	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, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	5	592	5	919	0	0	21	42

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	971	992	919	63	0	-	-	-	0
Stage 1	929	929	-	-	-	-	-	-	-
Stage 2	42	63	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	280	246	~ 329	1540	-	0	0	-	-
Stage 1	385	346	-	-	-	0	0	-	-
Stage 2	980	842	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	278	0	~ 329	1540	-	-	-	-	-
Mov Cap-2 Maneuver	278	0	-	-	-	-	-	-	-
Stage 1	382	0	-	-	-	-	-	-	-
Stage 2	980	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 414.8	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1540	-	328	-	-
HCM Lane V/C Ratio	0.003	-	1.836	-	-
HCM Control Delay (s)	7.3	0	$ 414.8	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	39.9	-	-

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

Intersection	
Int Delay, s/veh	44.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	873	5	5	0	0	0	0	5	5	20	5	0
Future Vol, veh/h	873	5	5	0	0	0	0	5	5	20	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	20	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	919	5	5	0	0	0	0	5	5	21	5	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	55	57	5	-	0	0	10	0	0
Stage 1	47	47	-	-	-	-	-	-	-
Stage 2	8	10	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	953	834	1078	0	-	-	1610	-	0
Stage 1	975	856	-	0	-	-	-	-	0
Stage 2	1015	887	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	941	0	1078	-	-	-	1610	-	-
Mov Cap-2 Maneuver	941	0	-	-	-	-	-	-	-
Stage 1	975	0	-	-	-	-	-	-	-
Stage 2	1002	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	45.9	0	5.8
HCM LOS	E		

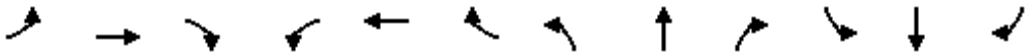
Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	941	1078	1610	-
HCM Lane V/C Ratio	-	-	0.982	0.005	0.013	-
HCM Control Delay (s)	-	-	46.1	8.4	7.3	0
HCM Lane LOS	-	-	E	A	A	A
HCM 95th %tile Q(veh)	-	-	17.6	0	0	-

Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	674	1033	63
v/c Ratio	1.08	1.01	0.07
Control Delay	86.2	52.6	4.7
Queue Delay	0.0	34.1	0.0
Total Delay	86.2	86.7	4.7
Queue Length 50th (ft)	~397	~569	5
Queue Length 95th (ft)	#612	#858	23
Internal Link Dist (ft)	920	207	540
Turn Bay Length (ft)			
Base Capacity (vph)	624	1023	951
Starvation Cap Reductn	0	280	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.08	1.39	0.07

Intersection Summary

~ 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.



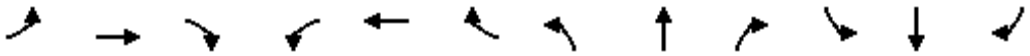
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	5	5	631	5	977	0	0	20	40
Future Volume (veh/h)	0	0	0	5	5	631	5	977	0	0	20	40
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1870	1900	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				5	5	605	5	1028	0	0	21	23
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				5	5	547	41	1027	0	0	449	491
Arrive On Green				0.35	0.35	0.35	0.55	0.55	0.00	0.00	0.55	0.55
Sat Flow, veh/h				13	13	1563	2	1867	0	0	816	894
Grp Volume(v), veh/h				615	0	0	1033	0	0	0	0	44
Grp Sat Flow(s),veh/h/ln				1588	0	0	1870	0	0	0	0	1710
Q Serve(g_s), s				31.5	0.0	0.0	12.3	0.0	0.0	0.0	0.0	1.1
Cycle Q Clear(g_c), s				31.5	0.0	0.0	49.5	0.0	0.0	0.0	0.0	1.1
Prop In Lane				0.01		0.98	0.00		0.00	0.00		0.52
Lane Grp Cap(c), veh/h				556	0	0	1068	0	0	0	0	940
V/C Ratio(X)				1.11	0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.05
Avail Cap(c_a), veh/h				556	0	0	1068	0	0	0	0	940
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				29.3	0.0	0.0	20.4	0.0	0.0	0.0	0.0	9.4
Incr Delay (d2), s/veh				70.6	0.0	0.0	20.6	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				22.3	0.0	0.0	25.4	0.0	0.0	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				99.9	0.0	0.0	41.0	0.0	0.0	0.0	0.0	9.4
LnGrp LOS				F	A	A	D	A	A	A	A	A
Approach Vol, veh/h					615			1033			44	
Approach Delay, s/veh					99.9			41.0			9.4	
Approach LOS					F			D			A	

Timer - Assigned Phs	2				6		8					
Phs Duration (G+Y+Rc), s	54.0				54.0		36.0					
Change Period (Y+Rc), s	4.5				4.5		4.5					
Max Green Setting (Gmax), s	49.5				49.5		31.5					
Max Q Clear Time (g_c+I1), s	51.5				3.1		33.5					
Green Ext Time (p_c), s	0.0				0.2		0.0					

Intersection Summary		
HCM 6th Ctrl Delay	61.6	
HCM 6th LOS	E	

Lane Group	EBT	EBR	NBT	SBT
Lane Group Flow (vph)	1033	5	10	26
v/c Ratio	0.64	0.00	0.10	0.32
Control Delay	4.7	0.4	81.0	132.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.7	0.4	81.0	132.9
Queue Length 50th (ft)	318	0	9	46
Queue Length 95th (ft)	376	1	37	91
Internal Link Dist (ft)	272		49	207
Turn Bay Length (ft)		20		
Base Capacity (vph)	1613	1439	104	82
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.64	0.00	0.10	0.32

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	977	5	5	0	0	0	0	5	5	20	5	0
Future Volume (veh/h)	977	5	5	0	0	0	0	5	5	20	5	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	1028	5	5				0	5	1	21	5	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1071	5	958				0	549	110	455	106	0
Arrive On Green	0.60	0.60	0.60				0.00	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	1773	9	1585				0	1513	303	1188	292	0
Grp Volume(v), veh/h	1033	0	5				0	0	6	26	0	0
Grp Sat Flow(s),veh/h/ln	1782	0	1585				0	0	1816	1480	0	0
Q Serve(g_s), s	147.5	0.0	0.3				0.0	0.0	0.6	2.5	0.0	0.0
Cycle Q Clear(g_c), s	147.5	0.0	0.3				0.0	0.0	0.6	3.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.17	0.81		0.00
Lane Grp Cap(c), veh/h	1076	0	958				0	0	658	561	0	0
V/C Ratio(X)	0.96	0.00	0.01				0.00	0.00	0.01	0.05	0.00	0.00
Avail Cap(c_a), veh/h	1620	0	1441				0	0	658	561	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	50.3	0.0	21.2				0.0	0.0	55.0	55.8	0.0	0.0
Incr Delay (d2), s/veh	10.8	0.0	0.0				0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	69.1	0.0	0.1				0.0	0.0	0.3	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	0.0	21.2				0.0	0.0	55.1	56.0	0.0	0.0
LnGrp LOS	E	A	C				A	A	E	E	A	A
Approach Vol, veh/h		1038						6			26	
Approach Delay, s/veh		60.9						55.1			56.0	
Approach LOS		E						E			E	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		102.4		167.6		102.4						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		15.5		245.5		15.5						
Max Q Clear Time (g_c+I1), s		2.6		149.5		5.0						
Green Ext Time (p_c), s		0.0		13.7		0.0						

Intersection Summary												
HCM 6th Ctrl Delay			60.8									
HCM 6th LOS			E									

Appendix C: Detailed Trip Generation

REV E - 4/10 - ISSUED TO ASPEN
REV F - 7/29 - reduced peak months to 400 EPC CRAFT FOR BOTH PROJECTS
REDUCED PEAK DELIVERIES FROM 32 / WEEK TO 35 FOR arica
scaled deliveries for HP based on MAXIC CAPACITY to determine total delivery.
reduced arica equipement by * 10%
reduced arica equipement by * 10%

Stage 1 - Mobilization, site prep, fencing, laydown, trenching
Stage 2 - Cable install, trench backfill, pile and racking install, inverter install, module install, bess insta
Stage 3 - inverter, pile racking, module, bess install, commissioning/testing
HV WORK

Arica 272 Mwac - CRAFT ESTIMATE

Construction Month	
Construction Week	
EPC	
HV	
BESS	
CEG	
Total Craft	

total craft 19546 0.1511161

Type of work	equipment	HP	hours/week	Avg QTY per week
PV - General construction support	Skid Steer	73	20	4.6
PV - general construction support	Water Truck	54	20	3.4
PV - general construction support	Welder	78	20	5.0
PV - Site supervision	Pickup Truck (on-road)	19	20	5.9
PV and HV - Site Clearing and Grading, Roads	Bulldozer	215	35	2.4
PV and HV - Site Clearing and Grading, Roads	Front-End Loader	225	35	2.8
PV and HV - Site Clearing and Grading, Roads	Grader	175	35	5.0
PV and HV - Site Compaction	Roller Compactor	191	35	5.0
PV and HV - Site Compaction	Trencher	78	35	4.0
PV - Material Receipt and Distribution / general support	Forklift	89	35	4.7
PV - Pile installation	Pile Driver	680	35	15.0
PV - Backfill DC and AC trenches	Backhoe	127	35	4.5
PV - Setting inverter equipment	Crane	81	20	1.0
PV - DC and AC Collection	Trencher	78	35	4.0
PV - Foundation Excavation and trenching	Backhoe	127	35	3.0
HV - Setting Equipment and poles	Crane	81	35	2.0
PV - Site Supervision Trucks	Pickup Truck (on-road)	19	20	3.0
PV - Material Receipt and Distribution	Forklift	89	35	3.0
Electrical and Equipement Deliveries - PV		HV	25	25

total on site equipment q 4052
total material deliveries 15571

rev e 4541
rev e 19182

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