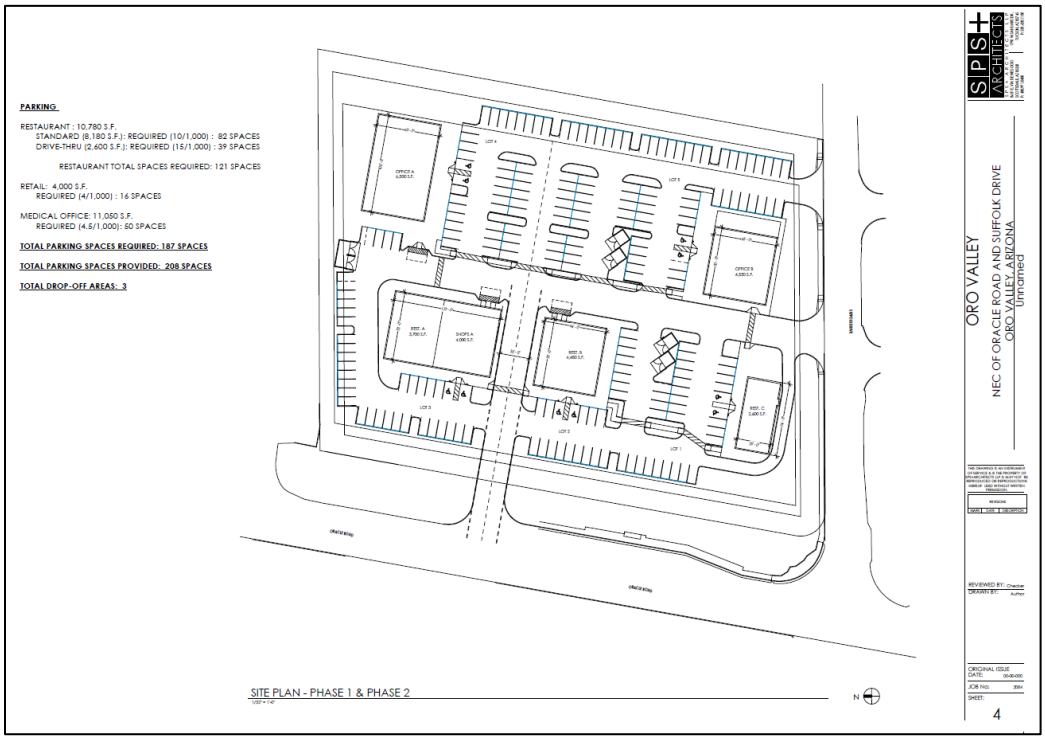
NEC SR 77-Suffolk Drive

SR 77 Milepost (MP) 75.44

Traffic Impact Analysis



Prepared for submittal to:

Arizona Department of Transportation

Town of Oro Valley

M Esparza Engineering

2934 W. Salvia Drive

Tucson, Arizona 85745

July 28, 2020

Updated December 11, 2020

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Table of Contents

Appendix

List of Exhibits

1. Introduction and Executive Summary

This traffic impact analysis (TIA) identifies the transportation-related impacts on the surrounding transportation system of a proposed commercial development on a vacant parcel located on the northeast corner of SR 77 (Oracle Road) and Suffolk Drive. The project location is shown in Exhibit 1. The conceptual site plan, shown in Exhibit 2 and in the Appendix, shows five buildings within five lots and the following land uses:

Lot 1: Fast-Food Restaurant with Drive-Thru Lane - 2,600 SF
Lot 2: Restaurant – 4,480 SF
Lot 3: Restaurant – 3,700 SF; Retail – 4,000 SF
Lot 4: Medical Office – 6,500 SF
Lot 5: Medical Office – 4,550 SF

This report is part of the rezoning application submittal for this project which includes both the vacant parcel and an existing office complex south of Suffolk Drive (Scarritt Site). The rezoning area is now zoned Residential Service (R-S) and the proposed zoning is Commercial (C-1). The vacant parcel is the subject of this TIA since the office complex is already developed and is already included in the background contributing traffic in the TIA. For the purpose of this traffic study, the project/site from here forward only references the vacant portion of the rezoning request. The project is estimated to be built out by 2021. Because one of the three access locations will be on SR 77, this traffic study will be reviewed by Arizona Department of Transportation (ADOT) and Town of Oro Valley staff.

The conceptual site plan for the vacant/new development portion of the rezoning shows two new project access locations on Suffolk Drive and one on SR 77.

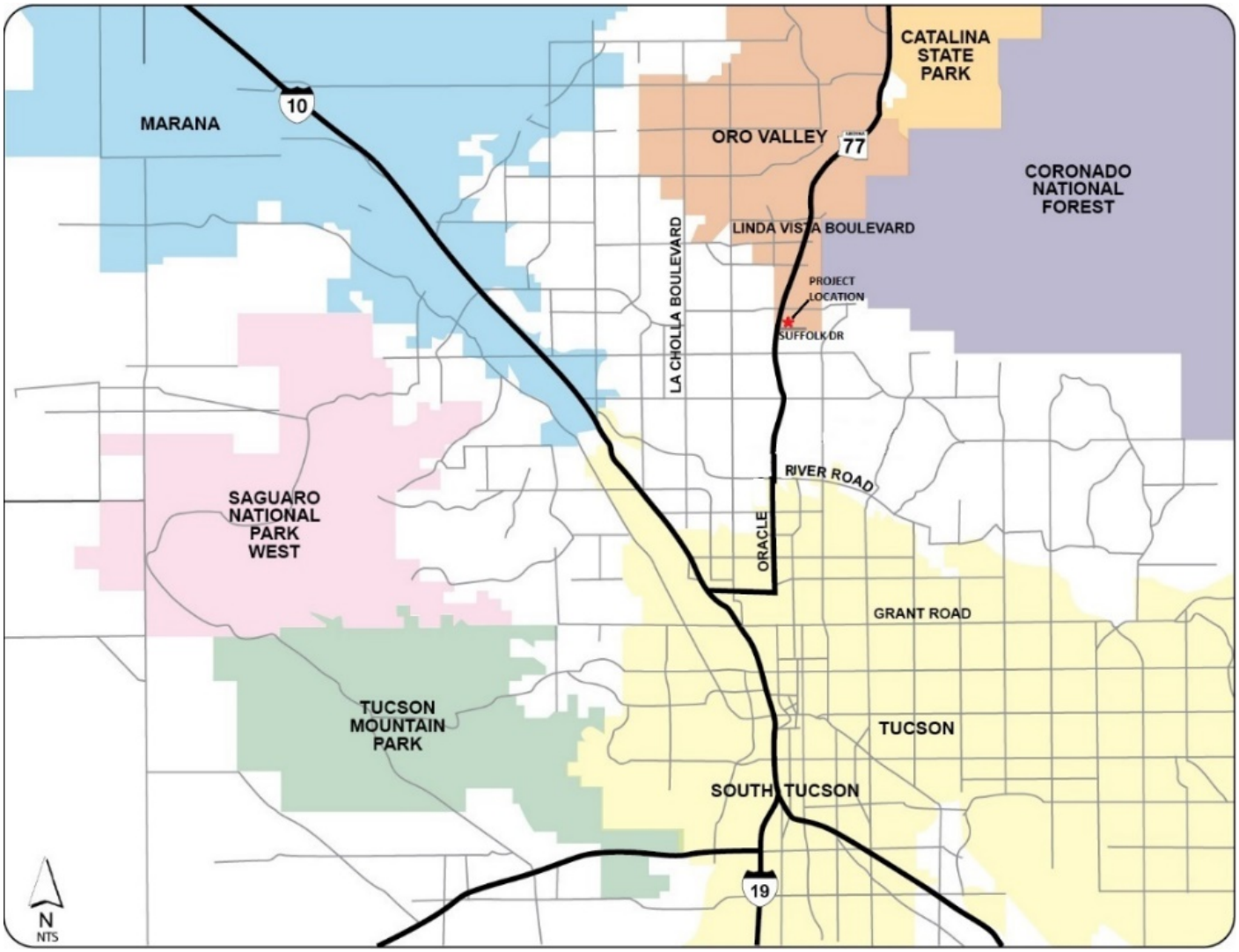
This TIA, along with other documents, is part of the project's rezoning application submittal (which also includes the Scarritt office complex) to the Town of Oro Valley and is subject to approval by the Town. The Town has indicated that approval by ADOT is required. This study has been conducted in accordance with the procedures for conducting a TIA in ADOT's *Traffic Impact Analysis* guidelines.

The project is a moderate development estimated to generate 220 AM peak hour trips, 253 PM peak hour trips and 3,200 weekday trips. Reductions in pass-by trips result in 169 new AM peak hour trips, 159 new PM peak hour trips and 2,282 new daily trips. Accordingly, we have prepared a Category 1 TIA.

The specific study objectives reflect the most conservative requirements from the two agencies (ADOT and Oro Valley):

- Evaluate ADOT intersections within 1/2 mile of the project site including:
  - SR 77/Ina Road (Signalized)
  - SR 77/Suffolk Drive (Signalized)
  - SR 77/Magee Road (Signalized)
- Evaluate the impact of the project on the following streets:
  - Suffolk Drive
  - SR 77
- Evaluate the feasibility and operations of the proposed driveway locations.
- Evaluate the effects the proposed development will have on pedestrian, bicycle, and transit activity in the area.
- Provide recommendations to mitigate (if necessary) undesirable traffic conditions that the project may create.

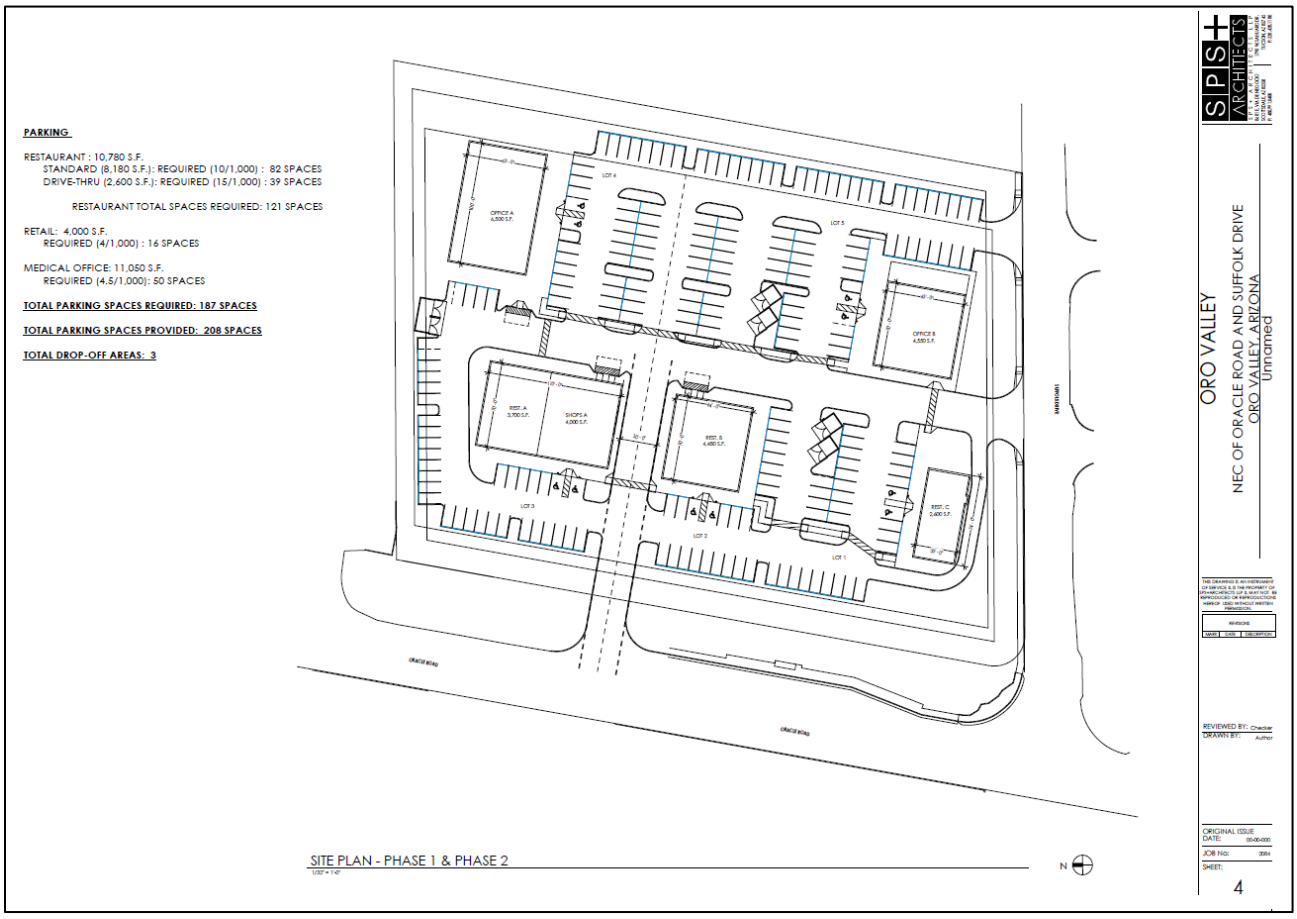
Exhibit 1 Project Site



Development Description

Proposed uses include restaurant uses, medical office and retail. The general land uses "shopping center", "medical-dental office building", "high-turnover restaurant" and "fast-food restaurant with drive-thru" were applied in the trip generation estimate. Based on these land uses and rates, and accounting for pass-by trips, the proposed project will generate approximately 169 net AM peak hour trips, 159 net PM peak hour trips and 2,282 net daily trips.

Exhibit 2 Site Plan for Vacant/New Development Portion of Rezoning



Principal Findings

This project is located on the northeast corner of SR 77 (Oracle Road)/Suffolk Drive, a signalized intersection.

The project will generate:

- 169 net morning peak hour trips,
- 159 net evening peak hour trips,
- 2,282 net weekday trips.

For the purposes of this report, the project build out is projected to be 2021.

Access to the project will be right-in, right-out at the driveway on SR 77 and at the east Suffolk Drive driveway and full access at the west driveway on Suffolk Drive.

A northbound right turn lane is warranted at the SR 77 driveway based on ADOT turn lane warrant guidelines (ADOT Traffic Engineering Guidelines and Processes "TGP", Subsection 245 – Turn Lane Warrants). The turn lane is shown on the site plan. A bus bay will be constructed within the turn lane storage area. The length of the turn lane is approximately 182 feet and the design of the turn lane was discussed with ADOT during the project development. The site and utilities plan that shows the off-site improvement plan for this turn lane is provided in the Appendix.

A left turn lane is warranted at the west Suffolk Drive driveway. This turn lane should be 110 feet in length based on Oro Valley guidelines, or as close to this length as possible given the proximity to the westbound left turn lane at the SR 77/Suffolk Drive intersection.

The SR 77 project area intersections will operate at the same levels of service under the 2024 with project condition as the 2024 no project condition during the peak hours. The impact of the project at these intersections is proportionally low compared to the background, or "no-project" volumes in 2024.

The westbound right turn movement at the SR 77 driveway will operate at LOS F during the afternoon peak hours. All other driveway movements will operate at LOS D or better. Drivers entering major arterials from a driveway or minor roadway typically experience long delays.

A queue analysis, summarized in Exhibit 27 of this report, shows that the projected 95th percentile queues, measured in feet, at some of the existing turn lanes at the study area intersections will exceed the storage lengths at these turn lanes under the 2024 No Project condition. Adding project trips at these locations will not increase queues at these locations substantially. As indicated in Exhibit 27, adding the project trips at the SR 77/Suffolk Drive intersection may increase the PM peak hour queue on the eastbound and northbound left turn lanes slightly longer than the existing left turn lane lengths.

Intersection sight distance at the SR 77 project driveway should be 480 feet for a stopped passenger car to turn right onto a 50-mph roadway based on American Association of State Highway and Transportation Officials (AASHTO) guidelines. Intersection sight distance at the Suffolk Drive project driveways should be 240 feet for a stopped passenger car to turn left (west driveway only) and 190 feet for a stopped passenger car to turn right onto a 25-mph roadway based on Oro Valley standards[1]. The Site Civil designer will verify the sight distances.

At the SR 77/Suffolk Drive intersection, reducing the signal cycle length to 110 seconds and revising the east/west phasing to protected/permitted phasing from split phasing will improve operations and reduce queue lengths on some of the approaches. To remove the split phasing, it is recommended that the eastbound approach reduce the dual left turn lanes to one left turn lane. This will align the east and west approaches better to remove the split phase at the intersection.

With the mitigation at the SR 77/Suffolk Drive intersection described in the last paragraphs, the southbound left turn lane queue length will be reduced from 101 feet to 77 feet. The turn lane is currently striped for a 100-foot lane. ADOT has required that the turn lane be extended to meet the minimum ADOT queue length (85 feet) and braking distance (200 feet) to be 285 feet, but that ADOT would be willing to work with the developer on a Joint Project Agreement (JPA) to determine responsibilities for extending the turn lane. ADOT has recommended that Oro Valley also participate in this as well as for the construction of a currently warranted northbound right turn lane at the same intersection. This right turn lane would also need to be constructed to a 285-foot length to meet ADOT's minimum queue and braking distances for a 50 mph roadway.

All signs and pavement markings must conform to the MUTCD, ADOT and Town of Oro Valley requirements.

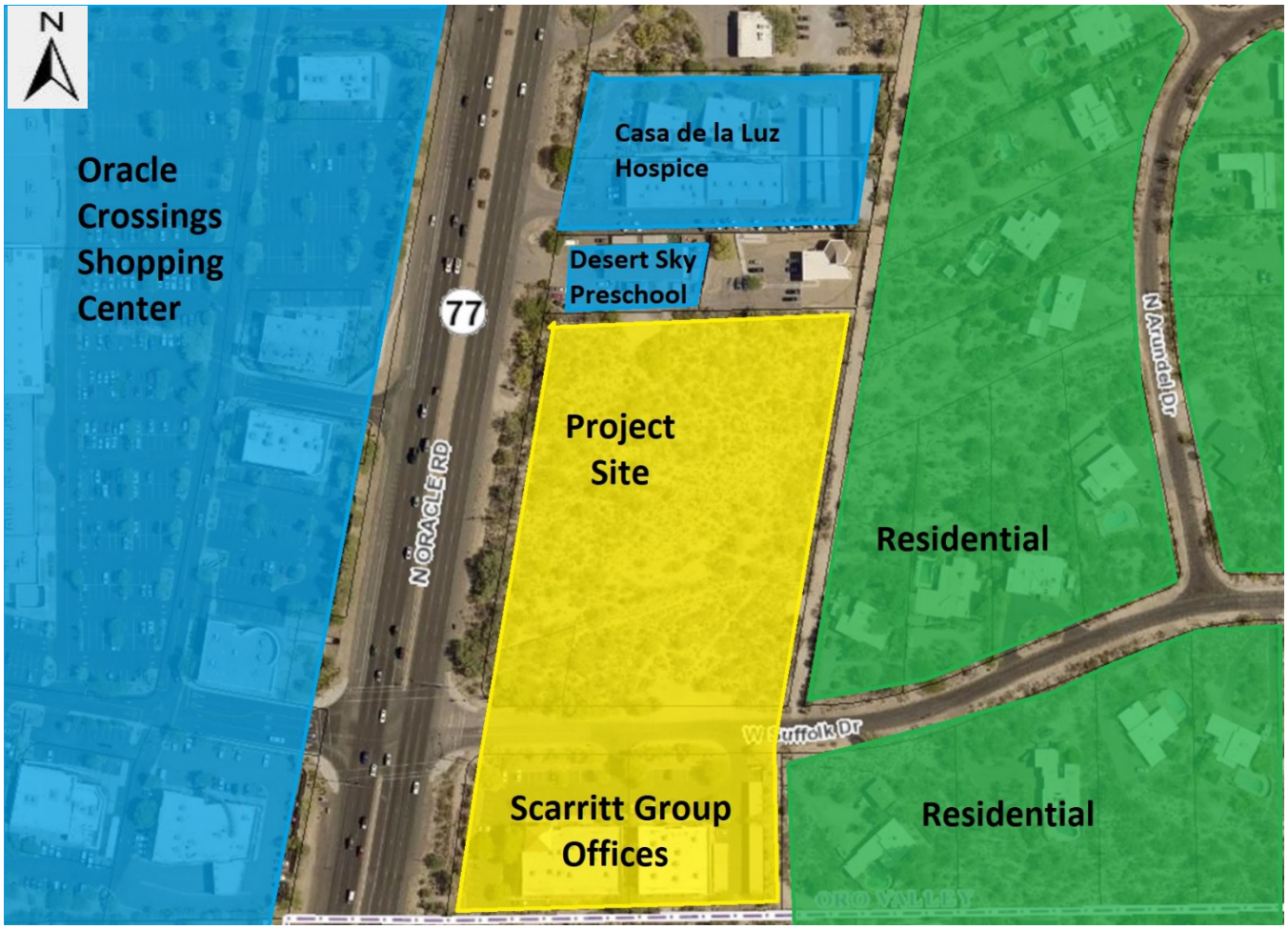
[1] Oro Valley Subdivision Standards and Policies Manual, May 2004.

2. Proposed Development

Site Location

The project is within the jurisdictional boundaries of the Town of Oro Valley. It is along the north side of Suffolk Drive, and east of SR 77 with proposed access from both roads. The site is vacant. To the north of the site is the Desert Sky Pre-school and the Casa de la Luz Hospice. On the south side of Suffolk Drive are the Scarritt Group offices. The Oracle Crossing Shopping Center is on the west side of SR 77. There are residential subdivisions east of the project site. A map showing the surrounding land use types is shown in Exhibit 3.

Exhibit 3 Surrounding Land Use Types



Land Use and Intensity

The project includes 8,180 square feet of High-Turnover Restaurant, 2,600 square feet of Fast-Food Restaurant with Drive Through, 4,000 square feet of commercial/retail and 11,050 square feet of medical office as shown in the site plan.

Site Plan

The site plan is provided in Exhibit 2 and in the Appendix.

Access Geometrics

Access to the site will be at three new driveways. One driveway will be on SR 77 and will be a 30-foot wide right-in, right-out only driveway due to the raised median on SR 77. The east driveway on Suffolk Drive will also be a right-in, right-out driveway. The west driveway on Suffolk Drive will be a full access driveway. Both Suffolk Drive driveways will be opposite existing driveways on the south side of Suffolk Drive. The western driveway will be 30 feet in width and the eastern driveway will be 24 feet in width.

Development Phasing and Timing

For the purpose of this traffic report, the project is estimated to build out in 2021. The impact analysis assumes this year to be the opening year.

3. Study Area Conditions

Study Area

This TIA follows the protocol of a Category 1 TIA, required for small developments which generate 100 or more peak hour trips but fewer than 500 trips during the morning or afternoon peak hour. These criteria are found in the *Traffic Impact Analysis* section of ADOT's Traffic Engineering Guidelines and Processes.

The study area includes the site access drives and ADOT intersections within 1/2 mile. These include the intersection of SR 77/Ina Road, SR 77/Suffolk Drive and SR 77/Magee Road.

The analysis also includes operations at the project access driveways, and the segments of SR 77 and Suffolk Drive within the 1/2-mile study area boundaries.

Area of Significant Traffic Impact and Influence Area

The significant impact from the project will be along Suffolk Drive and SR 77 in the vicinity of the project. The influence area includes the area accessed via Suffolk Drive and SR 77 in the vicinity of the project.

Land Use

Existing Land Use

The project site is vacant. To the north of the site is the Desert Sky Pre-school and the Casa de la Luz Hospice. On the south side of Suffolk Drive are the Scarritt Group offices. The Oracle Crossing Shopping Center is on the west side of SR 77. There are residential subdivisions east of the project site.

Anticipated Future Development

There are no known major planned developments in the vicinity of the project.

Site Accessibility

The site will be accessed from Suffolk Drive and SR 77. Access will be limited to right-in/right-out movements at the SR 77 driveway. Although the site design is preliminary and may change, it is anticipated that delivery trucks will enter the site via the Suffolk Drive access locations to access the rear loading areas of the commercial/retail/restaurant uses.

Existing and Future Area Roadway System

SR 77 is a six (6) lane, urban arterial along the frontage of the property. SR 77 is uncurbed with paved shoulders with the posted speed limit of 50 mph. Daily volumes on SR 77 are about 38,000 vehicles per day in the vicinity of the project. The capacity of a six-lane arterial is about 59,900 vehicles per day (vpd), applying FDOT 2012 Level of Service Guidelines for a State Highway with a posted speed limit over 40 mph. There are bus routes and bike lanes on SR 77 in the vicinity of the project. There are no sidewalks. The existing right-of-way on SR 77 is generally around 200 feet in the vicinity of the project.

Suffolk Drive is a two (2) lane undivided, local roadway east of SR 77. The west leg of the SR 77/Suffolk Drive intersection is an entrance to the Oracle Crossings Shopping Center. The posted speed limit is 25 MPH on Suffolk Drive. Daily volumes on Suffolk Drive are about 900 vehicles per day east of SR 77. The capacity of a two-lane roadway is about 10,660 vehicles per day (vpd) for a non-state roadway applying FDOT 2012 Level of Service Guidelines. There are no bus routes or sidewalks on Suffolk Drive. The existing right-of-way on Suffolk Drive east of SR 77 along the project frontage is 60 feet.

Site Circulation

The site circulation will be as shown on the site plan with no on-site access restrictions between the proposed and existing land uses.

4. Analysis of Existing Conditions

Physical Characteristics

Roadway Characteristics

Exhibit 4 is an inventory of the physical features and daily traffic volumes of the major roadways within the project study area. Exhibit 5 includes ground photos of the study area intersections.

Exhibit 4 Roadway Inventory – Existing Conditions

Street Name	From	To	Average Daily Trip (ADT) Volume	Data Source	Data Year	Roadway Classification	R/W Width (ft)	Travel Lanes	Daily Capacity (vpd)*	Speed Limit	Bike Facilities**	Pedestrian Facilities
Oracle Road (State Route 77)	North of Suffolk Drive		37,039	ADOT/PAG	2019,2020	Major Arterial	200	6	59,900	50	BRw/SS	None
Oracle Road (State Route 77)	South of Suffolk Drive		38,027	ADOT	2020	Major Arterial	200	6	59,900	50	BRw/SS	None
Suffolk Drive	Oracle Road	1st Avenue	900	PAG	2019	Local Street	60	2	10,660	25	Residential Street	None
Magee Road	Oracle Road	West of Oracle Road	13,700	PAG	2019	Minor Arterial	150	4	29,160	35	BRw/SS	Sidewalk, South Side
Magee Road	Oracle Road	East of Oracle Road	1,363	PAG	2019	Major Collector	150	2	10,660	25	BRw/SS	Sidewalk, South Side
Ina Road	Oracle Road	West of Oracle Road	30,030	PAG	2019	Major Arterial	140	4	29,160	45	BRw/SS	Sidewalk, both sides.
Ina Road	Oracle Road	East of Oracle Road	39,679	PAG	2019	Major Arterial	140	4	29,160	45	BRw/SS	Sidewalk, both sides.

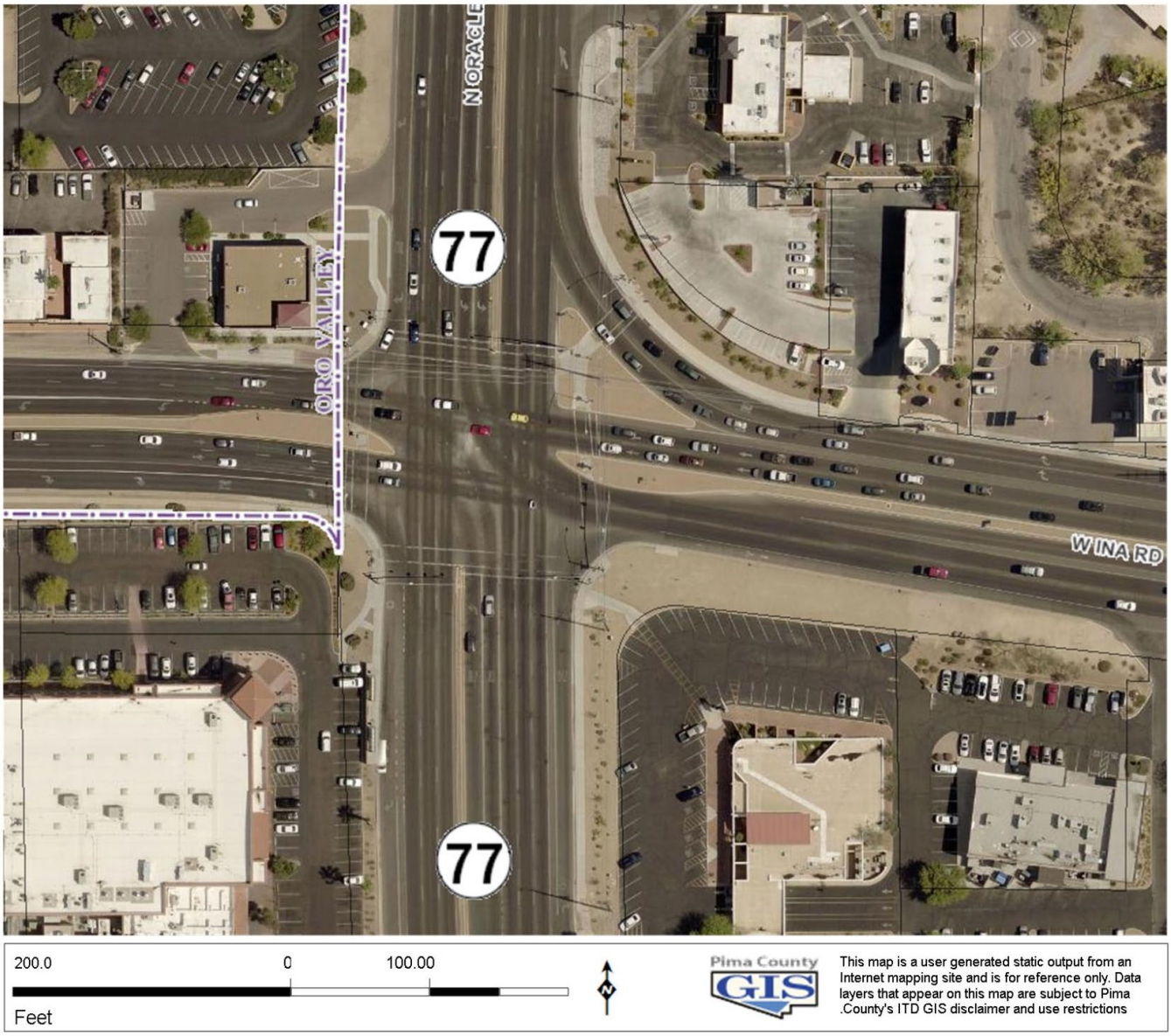
*LOS D Capacities from Florida DOT 2012 Level of Service Handbook Tables.
**Designations from the Tucson Bike Map
Note: Some volumes estimated from intersection peak hour volumes (PAG).

BRwSS –Bike Route with Striped Shoulder
Source of ADT: ADOT, PAG

Traffic Control Devices

The intersections of SR 77/Ina Road, SR 77/Suffolk Drive and SR 77/Magee Road are signalized.

Exhibit 5 Aerial and Ground Photos

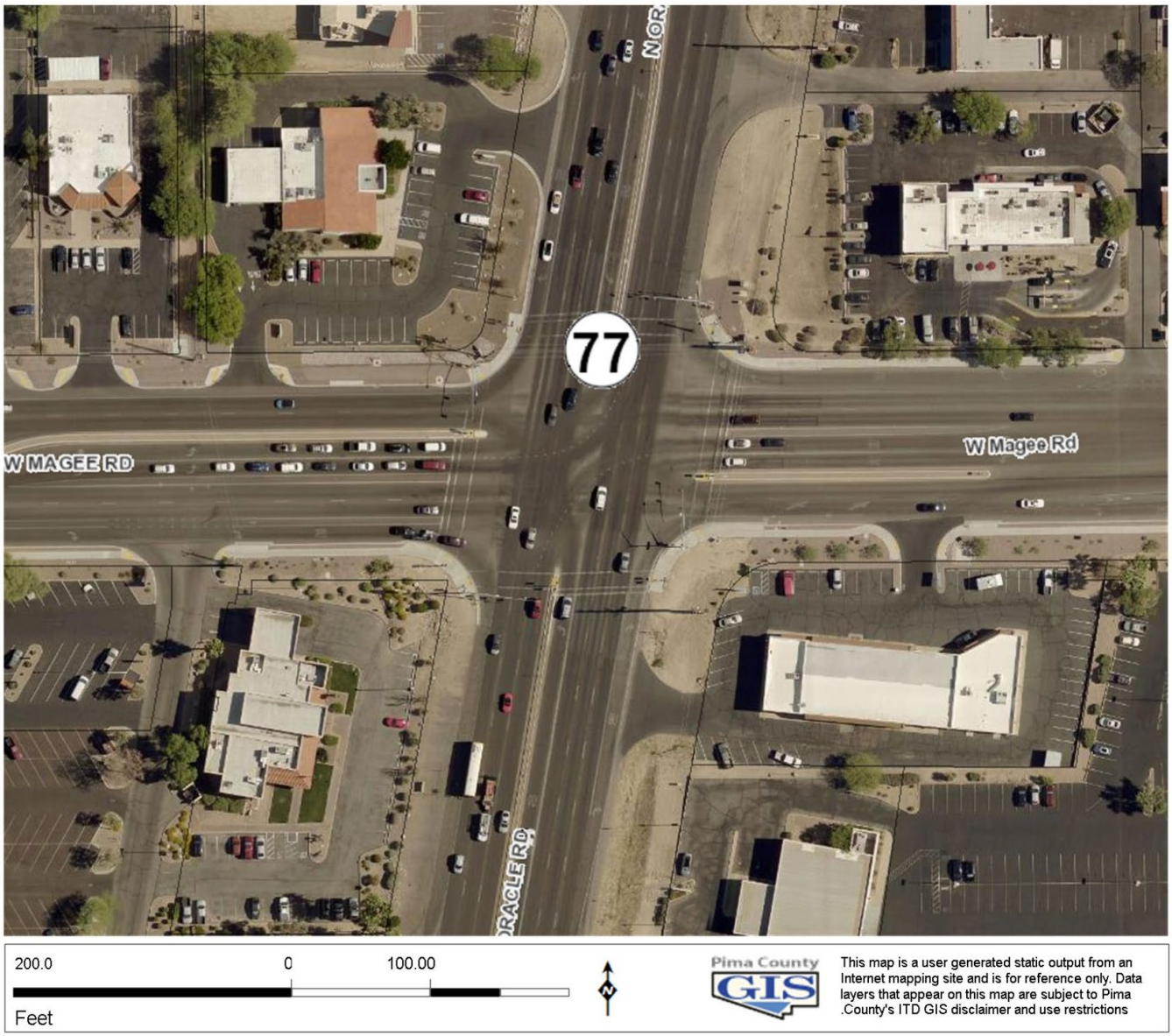


SR 77/Ina Road

Exhibit 5 (continued) **Aerial and Ground Photos**

SR 77/Suffolk Drive

Exhibit 5 (continued) **Aerial and Ground Photos**



SR 77/Magee Road

Exhibit 5 (continued) **Aerial and Ground Photos**

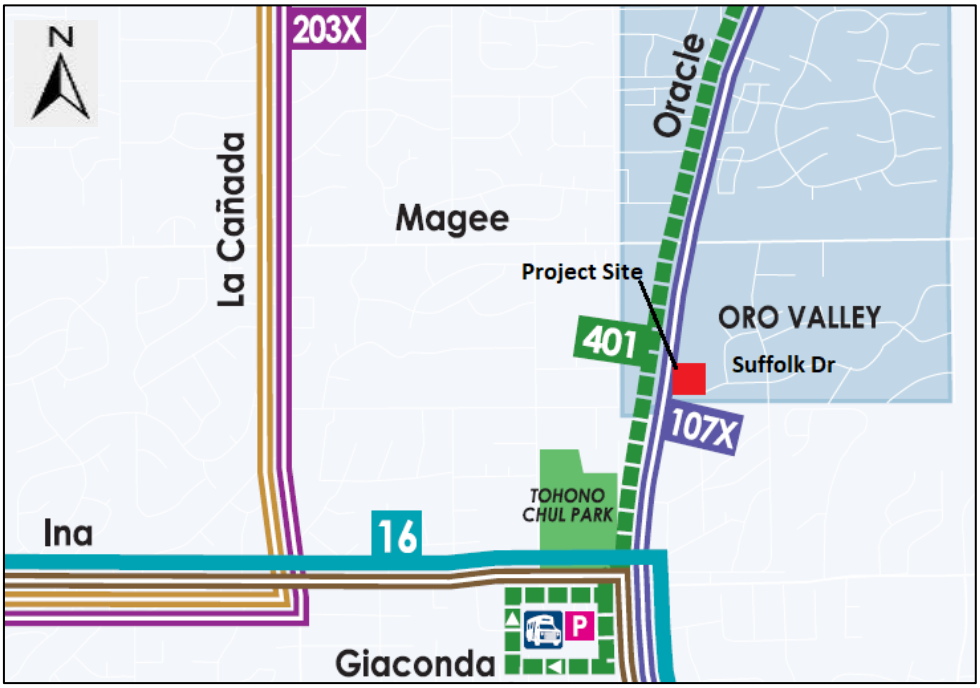
Looking West on Suffolk Drive toward SR 77 – Project Location to the Right

Looking North on SR 77 – Project Location to the Right

Transit Service

The project area is well served by Sun Tran and Sun Shuttle. Route 107X (Sun Tran Oro Valley-Downtown Express) has an unsheltered bus stop on the SR 77 frontage of the project. Sun Shuttle Route 401 travels along SR 77 with stops at Ina Road and Magee Road. A map of the bus routes in the vicinity of the project is provided in Exhibit 6.

Exhibit 6 Existing Transit Service Routes (Sun Tran and Sun Shuttle)

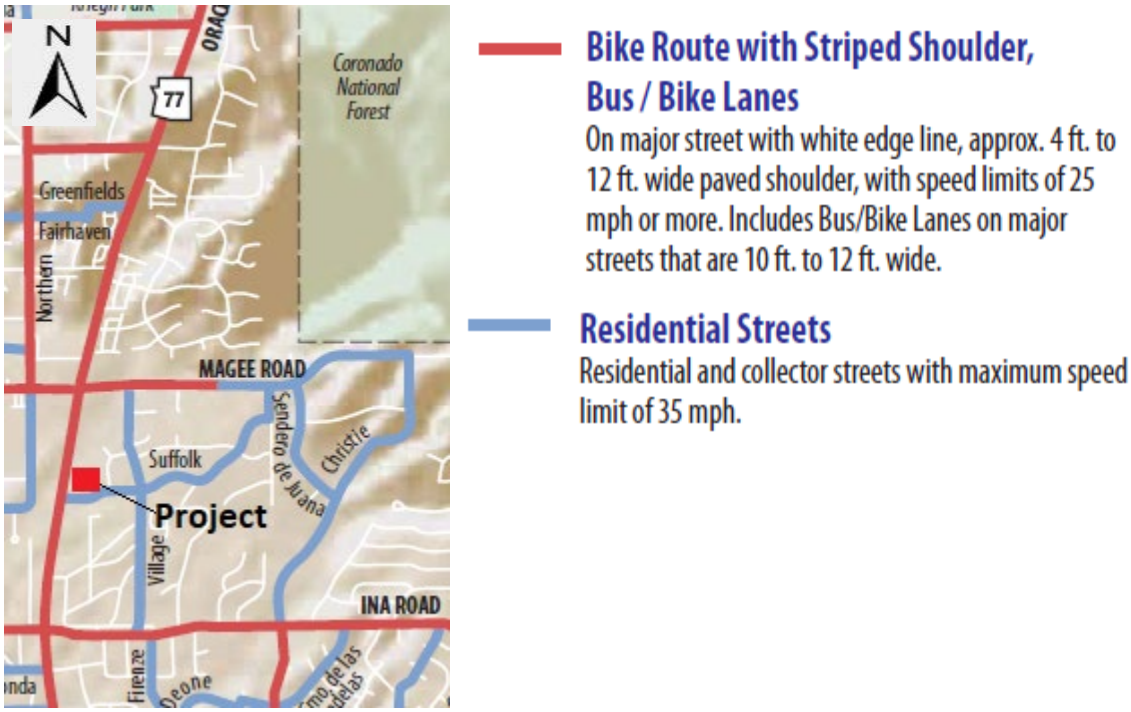


Source: Sun Tran

Bicycle/Pedestrian Facilities

There are bike lanes with striped shoulders on SR 77, Ina Road and Magee Road. The Tucson Bike Map designates Suffolk Drive as a bikeable residential street. Bike routes are shown in Exhibit 7. There are no sidewalks on SR 77 or Suffolk Drive in the vicinity of the project.

Exhibit 7 Existing Bike Routes



Source: Tucson Bike Map

Existing Transportation Demand Management

There are no existing transportation demand management elements in the vicinity of the project.

Traffic Volumes

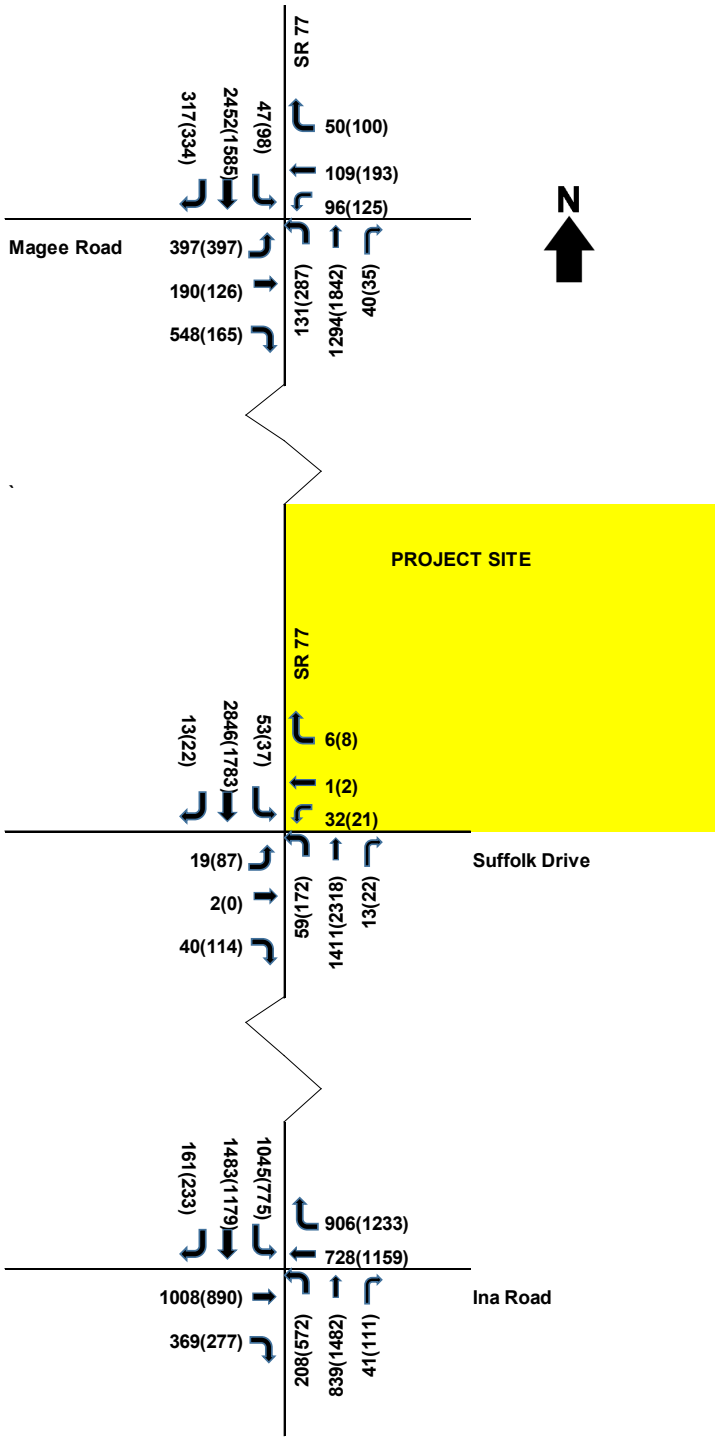
Peak Periods

The study area for an ADOT Category I TIA is ½ mile. ADOT intersections within the ½ mile study area include SR 77/Ina Road, SR 77/Suffolk Drive and SR 77/Magee Road. The Pima Association of Governments (PAG) website provides turning movement counts at these intersections. The counts at SR 77/Suffolk Drive and SR 77/Magee Road were collected in September 2019 and the SR 77/Ina Road counts were collected in September 2016. Counts were updated to 2020 counts by applying a 2% per year growth rate. Exhibit 8 shows the peak hour turning movement volumes.

Daily Roadway Volumes

Pima Association of Governments (PAG) and ADOT provide daily traffic volumes on many PAG member roadways on their website. Based on available daily volumes and peak hour volumes some daily volumes were estimated. The volumes are shown in Exhibit 4.

Exhibit 8 Existing Peak Hour Volumes



Source: PAG

Level of Service

Peak Periods

Level of service is a qualitative description of how well a roadway or intersection operates under prevailing traffic conditions based on traffic volumes and capacity. A grading system of A through F, similar to academic grades, is utilized. LOS A is free-flowing traffic, whereas LOS F is forced flow and extreme congestion. LOS D is generally accepted as the standard in urbanized areas although LOS E is sometimes accepted in more congested areas. For Oro Valley and Pima County roads, segment performance has been estimated using the planning methods contained in the Florida Department of Transportation Level of Service Handbook. ADOT does not recognize the FDOT daily capacity standards, so we relied on peak hour capacity analysis at the SR 77 intersections to assess the performance of SR 77. It should be noted that segment performance is often impacted by intersection performance when signals are closely spaced.

Roadway Performance

The capacity of a two-lane roadway is approximately 10,660 vehicles per day, based on the FDOT planning methods. The existing volume on Suffolk Drive is 900 vehicles per day, thus the daily volume of the roadway does not exceed its daily volume capacity.

The capacity of a four-lane roadway is approximately 29,160 vehicles per day, based on the FDOT planning methods. The existing volumes on Magee Road are 13,700 vehicles per day west of SR 77 and 1,370 vpd east of SR 77. The existing volumes on Ina Road (30,300 vpd west of SR 77 and 39,679 vpd east of SR 77) currently exceed the daily capacity of a four-lane roadway.

Intersection Performance

Under existing conditions, the results from the operational analysis for the SR 77/Ina Road, SR 77/Suffolk Drive and SR 77/Magee Road intersections indicate that each of the intersections have turn lane groups that operate at LOS E or F during the morning and afternoon/evening peak hours. The results are shown in Exhibit 9.

Exhibit 9 Intersections Performance (Existing Conditions)

SR 77/Ina Road	Existing 2020 AM Delay (sec/veh)	AM LOS	Existing 2020 PM Delay (sec/veh)	PM LOS
Eastbound				
Through	61.1	F	34.4	C
Right	23.7	C	12.9	B
Approach	*51.1*	*D*	*29.3*	*C*
Westbound				
Through	28.0	C	43.1	D
Right	51.8	D	141.3	F
Approach	*41.2*	*D*	*93.7*	*F*
Northbound				
Left	47.3	D	69.8	E
Through	50.6	D	115.1	F
Right	34.3	C	33.1	C
Approach	*49.4*	*D*	*99*	*F*
Southbound				
Left	50.4	D	155.6	F
Through	25.5	C	44.4	D
Right	19.3	B	38.5	D
Approach	*34.8*	*C*	*83.2*	*F*
Intersection	***42.3***	***D***	***82.8***	***F***

SR 77/Suffolk Drive	Existing 2020 AM Delay (sec/veh)	AM LOS	Existing 2020 PM Delay (sec/veh)	PM LOS
Eastbound				
Left	64.0	E	58.8	E
Through/Right	77.6	E	83.6	F
Approach	*73.4*	*E*	*72.9*	*E*
Westbound				
Left	80.9	F	79.1	E
Through/Right	66.7	E	70.1	E
Approach	*78.4*	*E*	*76.2*	*E*
Northbound				
Left	29.4	C	15.1	B
Through	6.2	A	11.2	B
Right	6.3	A	11.3	B
Approach	*7.2*	*A*	*11.5*	*B*
Southbound				
Left	4.5	A	12.4	B
Through	12.1	B	10.2	B
Right	4.4	A	6.2	A
Approach	*11.9*	*B*	*10.2*	*B*
Intersection	***12.2***	***B***	***14.6***	***B***

SR 77/Magee Road	Existing 2020 AM Delay (sec/veh)	AM LOS	Existing 2020 PM Delay (sec/veh)	PM LOS
Eastbound				
Left	64.2	E	63.8	E
Through	33.1	C	41.5	D
Right	221.1	F	46.7	D
Approach	*134.7*	*F*	*55.7*	*E*
Westbound				
Left	141.2	F	187.8	F
Through	44.8	D	58.6	E
Right	45.0	D	65.6	E
Approach	*81.3*	*F*	*98.8*	*F*
Northbound				
Left	137	F	309.8	F
Through	25.3	C	21.9	C
Right	18.3	B	12,7	B
Approach	*35.1*	*D*	*59.9*	*E*
Southbound				
Left	19.8	B	25.3	C
Through	95.3	F	19.8	B
Right	25.6	C	17.6	B
Approach	*86.2*	*F*	*19.7*	*B*
Intersection	***83.8***	***F***	***47.8***	***D***

Safety Related Deficiencies

Crash data for the project area roadway segments and intersections were gathered from ADOT. The most recent crash data available were for the years 2014-2018. Roadway segment crash rates are based on the number of crashes per million vehicle-miles, and intersection crash rates are based on the number of crashes per million vehicles entering. Roadway crash data are provided in Exhibit 10 and intersection crash data are in Exhibit 11.

Exhibit 10 Roadway Segment Crash Rate Statistics

SR 77: Ina to Suffolk Drive							
Crash Type	**2014**	**2015**	**2016**	**2017**	**2018**	**5-Year Totals**	**%**
Angle					2	2	3%
Left Turn			1		1	2	3%
Rear End	18	9	10	9	12	58	76%
Sideswipe	4	1	2	3	1	11	14%
Other	1			2		3	4%
Total	23	10	13	14	16	76	
Crash Rate (per MVM)	3.01	1.31	1.70	1.83	2.10	1.99	
Severity	**2014**	**2015**	**2016**	**2017**	**2018**	**Totals**	**%**
Bodily Injury	19	7	11	12	11	60	79%
No Injury	4	3	2	2	5	16	21%

SR 77: Suffolk Drive to Magee							
Crash Type	**2014**	**2015**	**2016**	**2017**	**2018**	**5-Year Totals**	**%**
Single Vehicle					2	2	3%
Angle	1	1		2	2	6	10%
Rear End	7	6	6	13	10	42	71%
Sideswipe	2	1	1	2	1	7	12%
Other	1				1	2	3%
Total	11	8	7	17	16	59	
Crash Rate (per MVM)	1.77	1.29	1.13	2.73	2.57	1.90	
Severity	**2014**	**2015**	**2016**	**2017**	**2018**	**Totals**	**%**
Bodily Injury	10	6	6	10	9	41	69%
No Injury	1	2	1	7	7	18	31%

Source: ADOT

Exhibit 11 Intersection Type and Severity History

SR 77/Ina							
Crash Type	**2014**	**2015**	**2016**	**2017**	**2018**	**5-Year Totals**	**%**
Single Vehicle	1		1	1	2	5	4%
Angle	5	5	4	3	2	19	13%
Left Turn	2	2	1	1	2	8	6%
Rear End	20	22	19	9	12	82	58%
Sideswipe	4	2	8	5	1	20	14%
Other		4		1	2	7	5%
Total	32	35	33	20	21	141	
Crash Rate (per MVE)	1.23	1.35	1.27	0.77	0.81	1.09	
Severity	**2014**	**2015**	**2016**	**2017**	**2018**	**Totals**	**%**
Fatal				1		1	1%
Bodily Injury	6	14	4	5	4	33	23%
No Injury	26	21	29	14	17	107	76%

SR 77/Suffolk							
Crash Type	**2014**	**2015**	**2016**	**2017**	**2018**	**5-Year Totals**	**%**
Single Vehicle		1	1			2	3%
Angle				1	1	2	3%
Left Turn	1	1	4		1	7	9%
Rear End	5	14	20	7	12	58	75%
Head On	1					1	1%
Sideswipe	1			2	2	5	6%
Other		1	1			2	3%
Total	8	17	26	10	16	77	
Crash Rate (per MVE)	0.56	1.19	1.82	0.70	1.12	1.08	
Severity	**2014**	**2015**	**2016**	**2017**	**2018**	**Totals**	**%**
Bodily Injury	1	4	10	3	4	22	29%
No Injury	7	13	16	7	12	55	71%

SR 77/Magee							
Crash Type	**2014**	**2015**	**2016**	**2017**	**2018**	**5-Year Totals**	**%**
Single Vehicle	1			1	2	4	3%
Angle	2		3	1	4	10	7%
Left Turn	3		5	5	3	16	11%
Rear End	17	25	21	22	11	96	69%
Head On	1		1	1		3	2%
Sideswipe	1	2	3	1	2	9	6%
Rear to Side		1				1	1%
U-Turn					1	1	1%
Total	25	28	33	31	23	140	
Crash Rate (per MVE)	1.54	1.72	2.03	1.91	1.42	1.72	
Severity	**2014**	**2015**	**2016**	**2017**	**2018**	**Totals**	**%**
Bodily Injury	5	3	7	7	9	31	22%
No Injury	20	25	26	24	14	109	78%

Source: ADOT

Segment Crash Rates

The roadway segment crash rates on SR 77 are above 1.00 crashes per million vehicle-miles. For both segments, the predominant crash type is "rear-end", with this crash type representing 76% of the crashes on the Ina Road to Suffolk Drive segment and 71% of the crashes on the Suffolk Drive to Magee Road segment.

Intersection Crash Rates

The intersection crash data shows that most crashes were also "rear-end" crashes. This is somewhat typical for crashes at signalized intersections. The five-year crash rates at the three signalized intersections were all over 1.00 crashes per million entering vehicles.

5. Projected Traffic

Site Traffic Forecasting

Trip Generation

The future traffic from the project is estimated using the trip rates contained in the Institute of Traffic Engineers' *Trip Generation Manual, 10th Edition.* The number of trips generated is the mathematical product of land use intensity (building square footage, number of dwelling units, etc.) and the trip generation rate. The result is the total number of one-way trips (not round trips) expected to be generated by the project. These trips represent the number of vehicles estimated to enter and leave the project.

There are two options for calculating trip rates in the Trip Generation Manual – one using average rates and one using a "fitted curve equation". Not every land use type has a fitted curve equation, but when there were both equations and average rates, the method resulting in a more conservative (higher) estimate of trips was used[2]. Exhibit 12 shows the trip rates and estimated trip generation.

Based on the average trip rates for the land uses, the project generates about 3,200 new daily one-way trips with 220 during the AM peak hour and 253 during the PM peak hours.

The *Trip Generation Handbook*, a supplemental document to the *Trip Generation Manual*, also provides guidance on pass-by and diverted trip percentages for several land uses. For the shopping center land use, the pass-by rate for the PM peak hour is 34%. For the "high turnover" restaurant use, the pass-by by rate for the PM peak hour is 43%. For the fast-food restaurant use, the AM pass by rate is 49%, the PM pass by rate is 50%. Although the *Trip Generation Handbook* does not have daily pass-by rates for the project land uses, we applied the PM peak hour pass-by rates to estimate daily pass-by trips for the restaurant and retail uses.

The pass-by trips and the resulting new trips (Total Trips Generated minus Pass-By Trips) are provided in Exhibit 13. By reducing the pass-by trips, the project generates about 2,282 net daily one-way trips with 169 during the AM peak hour and 159 during the PM peak hour.

Trip Distribution and Assignment

We distributed the site traffic on SR 77 and Suffolk Drive assuming 50% would be distributed to the south, 40% to the north and 10% on Suffolk Drive. The site trips at the project driveways and intersections are shown in Exhibit 14 (non pass-by) and Exhibit 15 (pass-by). These assumptions were based on traffic volume intensities and proportions on SR 77 and Suffolk Drive and engineering judgement. This distribution may be different if the site layout and land uses change as the project evolves.

Based on the right-in, right-out constraints at the SR 77 driveway, some of the trips with a southern destination would exit the driveway on SR 77 and U-turn at the next downstream median opening. Exhibits 14 and 15 also show the U-turning site trips.

[2] One exception is the AM peak hour fitted curve equation for the land use "shopping center". Applying the equation to the land use would result in an unreasonably high estimate of trips during the AM peak hour, and for this reason the average rate was used.

Exhibit 12 Trip Rates and Trip Generation

Proposed Use	*Unit*	*No.Units*	*ITE Categ.*	*Weekday AM*		*Weekday PM*		*Avg Weekday*	
				In	*Out*	*In*	*Out*	*In*	*Out*
Medical-Dental Office Building	1000 SF GFA	**6.5**	720	2.78		3.46		34.8	
				78%	22%	28%	72%	50%	50%
Medical-Dental Office Building	1000 SF GFA	**4.55**	720	2.78		3.46		34.8	
				78%	22%	28%	72%	50%	50%
High Turnover Sit-Down Restaurant	1000 SF GFA	**3.7**	932	9.94		9.77		112.18	
				55%	45%	62%	38%	50%	50%
High Turnover Sit-Down Restaurant	1000 SF GFA	**4.48**	932	9.94		9.77		112.18	
				55%	45%	62%	38%	50%	50%
Fast-Food Restaurant w/Drive-Through Window	1000 SF GFA	**2.60**	934	40.19		32.67		470.95	
				51%	49%	52%	48%	50%	50%
Retail	1000 SF GFA	**4.00**	820	0.94		Ln(T)=0.74 Ln(X)+2.89		Ln(T)=0.68 Ln(X)+5.57	
				62%	38%	48%	52%	50%	50%

Trip Generation

Proposed Use	*Unit*	*No. Units*	*Weekday AM*		*Weekday PM*		*Avg Weekday*	
			In	*Out*	*In*	*Out*	*In*	*Out*
Medical-Dental Office Building	1000 SF GFA	6.5	18		22		226	
	Positions		14	4	6	16	113	113
Medical-Dental Office Building	1000 SF GFA	4.6	13		16		158	
			10	3	4	11	79	79
High Turnover Sit-Down Restaurant	1000 SF GFA	3.7	37		36		415	
			20	17	22	14	208	208
High Turnover Sit-Down Restaurant	1000 SF GFA	4.5	45		44		503	
			24	20	27	17	251	251
Fast-Food Restaurant w/Drive-Through Window	1000 SF GFA	2.6	104		85		1,224	
			53	51	44	41	612	612
Retail	1000 SF GFA	4.0	4		50		674	
			2	1	24	26	337	337
Totals			**220**		**253**		**3,200**	
			124	**96**	**129**	**125**	**1,600**	**1,600**

Exhibit 13 Pass-By Trips and Net Trip Generation

Pass-by Trips	*ITE Categ.*	Pass-by Rate		*Weekday AM* In	*Weekday AM* Out	*Weekday PM* In	*Weekday PM* Out	*Avg Weekday** In	*Avg Weekday** Out
Medical-Dental Office Building	853		0.0	0	0	0	0	0	0
Medical-Dental Office Building 0	932		0.0	0	0	0	0	0	0
High Turnover Sit-Down Restaurant	932	43% PM	0.0	0	0	16	10	83	42
High Turnover Sit-Down Restaurant	932	43% PM	0.0	0	0	19	12	101	50
Fast-Food Restaurant w/Drive-Through Window	934	49% AM 50% PM	0.0	51	26	42	22	600	300
Retail	820	34% PM		0	0	17	8	135	67
Total Pass By Trips				51	26	94	52	918	459

		Weekday AM		*Weekday PM*		*Avg Weekday*	
Total Net New Trips		***In***	***Out***	***In***	***Out***	***In***	***Out***
		169		159		2,282	
		98	71	77	82	1,141	1,141

Note: Although the Trip Generation Handbook does not have daily pass-by rates, we applied the PM peak hour pass-by rates to estimate daily pass-by rates for the restaurant and retail uses.

Note: Total trips at the project driveways include the sum of the net trips and pass-by trips.

Exhibit 14 Site Traffic Distribution (Non Pass By Trips)

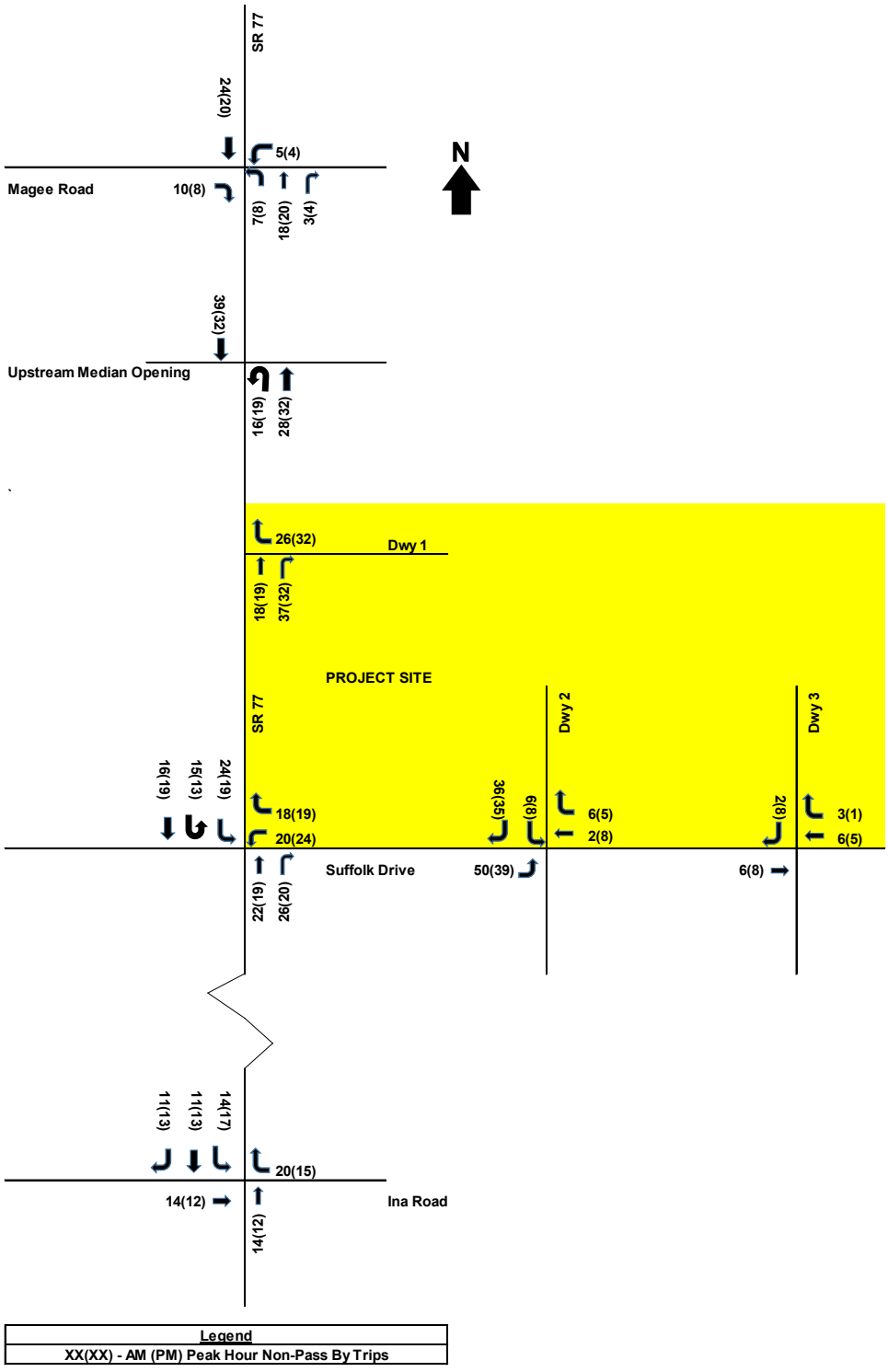
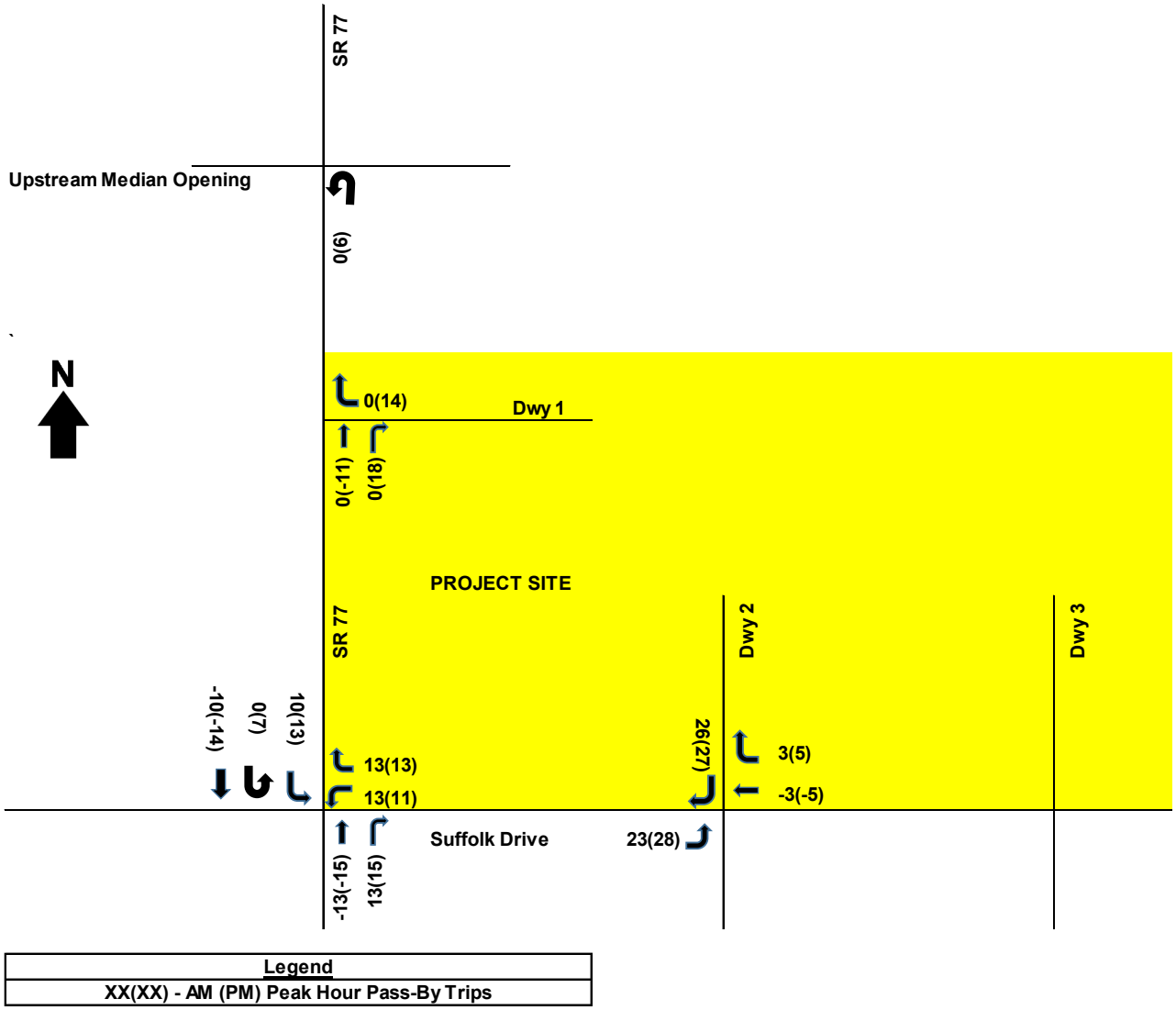


Exhibit 15 Site Traffic Distribution (Pass By Trips)



Note: Pass-by trips that would already be on the roadways are not shown upstream or downstream from project driveways.

Non-Site Traffic Forecasting

Projections of Non-Site Traffic

For the roadways, we estimated a conservative 2% increase per year in background traffic for the "no-project" condition which we applied to the most recent roadway counts available on the Pima Association of Governments website. Year 2021 and 2024 daily volumes without and with the project are shown in Exhibit 16. Daily volumes on Ina Road will continue to be above LOS D capacity through the year 2024. Other study area roadways will have daily volumes under their LOS D capacity through the year 2024.

We applied a 2% increase per year to the intersection peak hour counts. Exhibits 17 and 18 show the future turning movement intersection counts without the project for the years 2021 and 2024.

Exhibit 16 Daily Volume Projections – 2021, 2024 With and Without Project

Street Name	From	To	Average Daily Trip (ADT) Volume	Data Source	Data Year	2021 NP	2024 NP	Site Trips	2021 With Project	2021 With Project	LOS D Daily Volume Threshold (vpd)*
Oracle Road (State Route 77)	North of Suffolk Drive		37,039	ADOT/PAG	2019,2020	38,535	40,894	1,826	40,361	42,720	59,900
Oracle Road (State Route 77)	South of Suffolk Drive		38,027	ADOT	2020	38,788	41,162	1,141	39,929	42,303	59,900
Suffolk Drive	Oracle Road	1st Avenue	900	PAG	2019	936	994	228	1,165	1,222	10,660
Magee Road	Oracle Road	West of Oracle Road	13,700	PAG	2019	14,253	15,126	228	14,482	15,354	29,160
Magee Road	Oracle Road	East of Oracle Road	1,363	PAG	2019	1,418	1,505	114	1,532	1,619	10,600
Ina Road	Oracle Road	West of Oracle Road	30,030	PAG	2019	31,243	33,156	342	31,586	33,498	29,160
Ina Road	Oracle Road	East of Oracle Road	39,679	PAG	2019	41,282	43,809	456	41,738	44,265	29,160

*LOS D Capacities from Florida DOT 2012 Level of Service Handbook Tables.
**Designations from the Tucson Bike Map

Total Traffic

Site traffic volumes were added to the background traffic to project total traffic for the horizon year 2021 and 2024. We assumed build out of the project would be complete by 2021. The resulting total daily volumes are shown in Exhibit 16. Total peak hour turning volumes at the project intersections and driveways are illustrated in Exhibits 19 and 20.

Exhibit 17 2021 – Peak Hour Intersection Volumes – Without Project

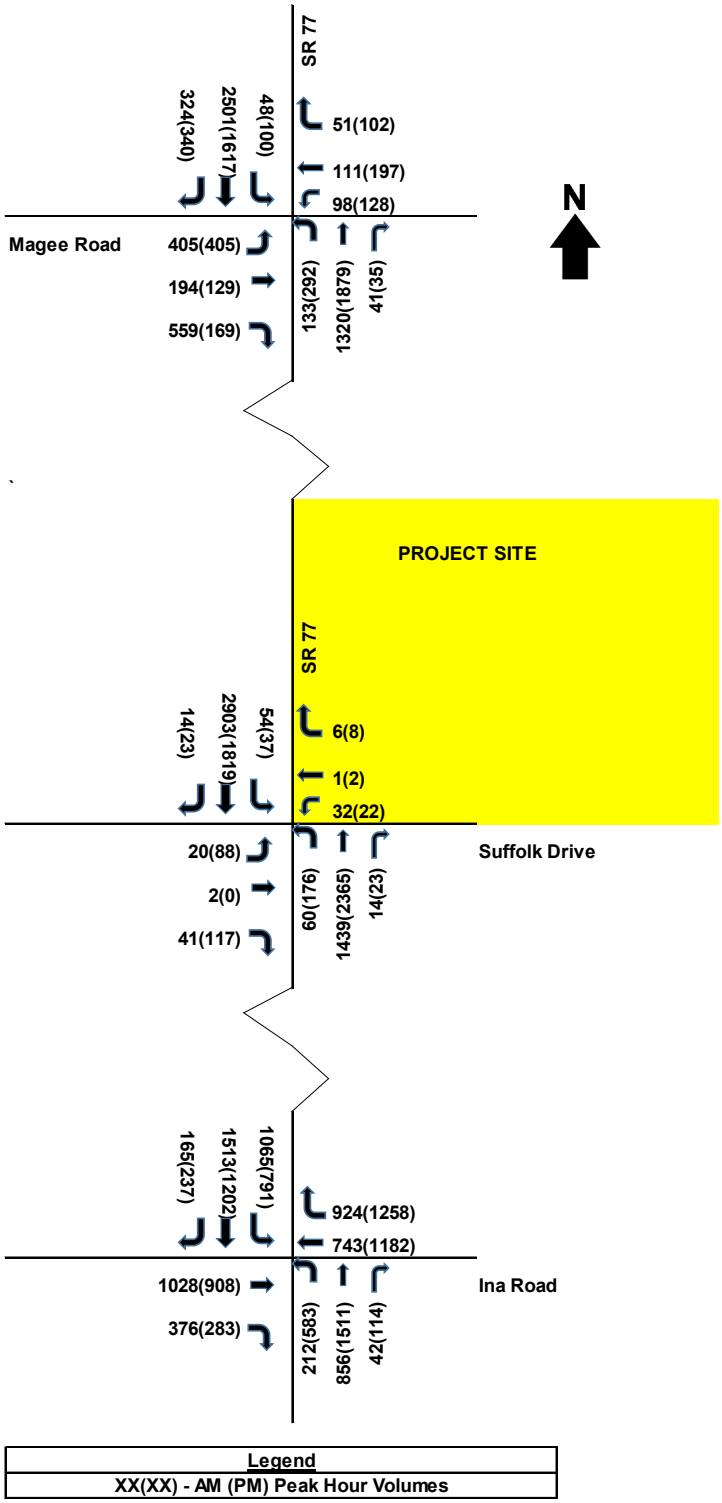


Exhibit 18 2024 – Peak Hour Intersection Volumes – Without Project

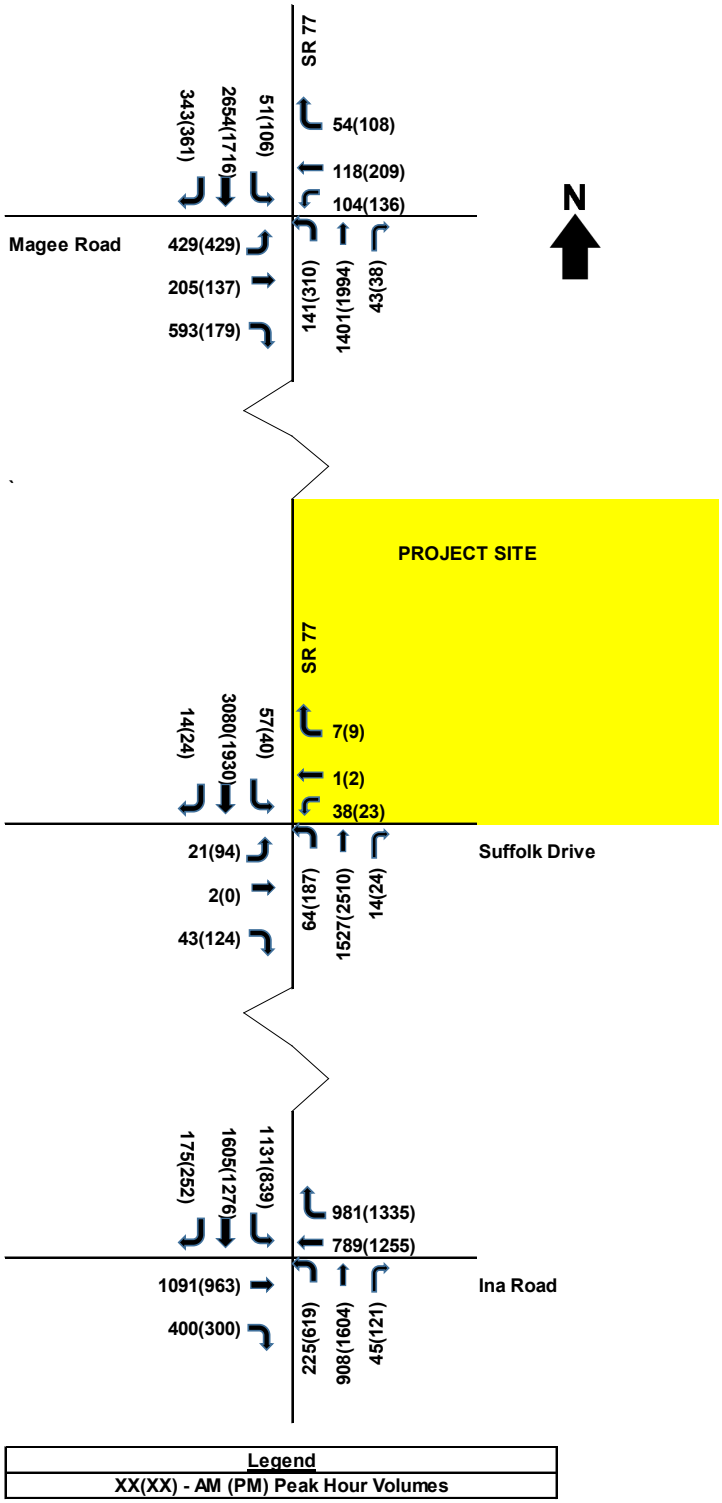


Exhibit 19 2021 With Project Peak Hour Intersection Volumes

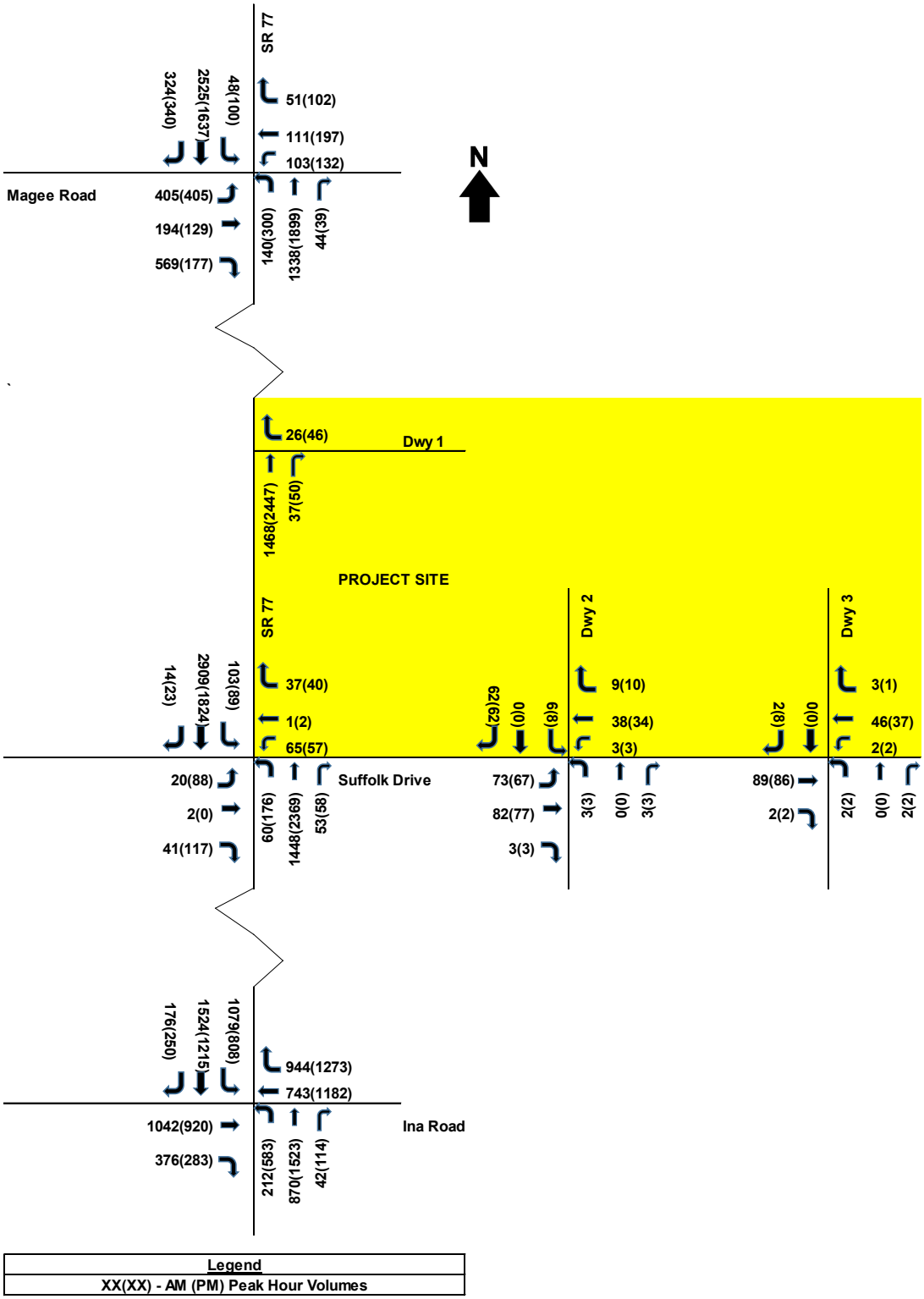
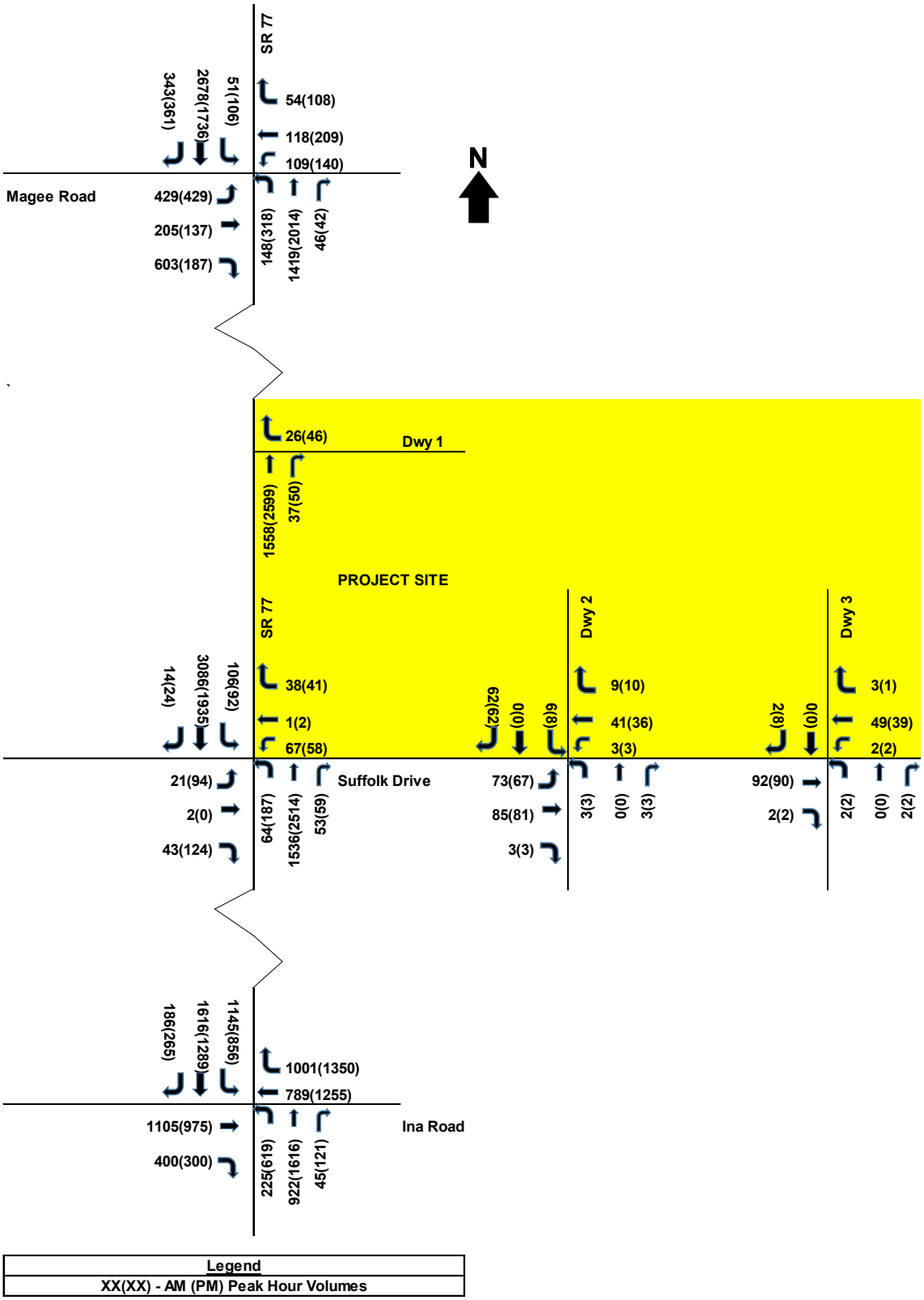


Exhibit 20 2024 With Project Peak Hour Intersection Volumes



6. Traffic and Improvement Analysis

Level of Service Analysis

Roadway Performance

Exhibit 16 summarizes the new ADT and daily volume capacity (LOS D) of the roadway segment with and without the project in 2021 and 2024.

The table show that based on the volumes provided in PAG's traffic volumes database and the LOS D criteria found in FDOT's Annual Average Daily Volumes for Florida's Urbanized Areas. The roadway segments on Suffolk Drive and Magee Road will not exceed the theoretical daily service volume LOS D capacities with the project through 2024 with the project. The daily volumes on Ina Road exceed the LOS D capacity under Existing conditions (see Exhibit 16). As indicated before, ADOT does not recognize FDOT capacity criteria.

Intersection Performance

For the years 2021 and 2024, we analyzed the study area intersections with and without project trips. We used the Synchro program, which applies the methodologies for analyzing signalized and unsignalized intersections from the Highway Capacity Manual. We conducted the analysis based on the current intersection configurations, with the exception of the SR 77/Magee intersection which will have an additional northbound left turn lane added with the upcoming SR 77 Project (F0307/H8919)

The results for the peak hour intersection analysis are provided in Exhibits 21 (no project) and Exhibits 22 and 23 (with project).

Traffic Safety

Sight Distance

Sight distance was reviewed in the field from the project driveways on Suffolk Drive and SR 77. There are no sight distance constraints that were observed at the project driveways.

Exhibit 21 Intersections Performance – 2021 and 2024 No Project (Signalized)

SR 77/Ina Road	2021 No Project AM Delay (sec/veh)	LOS	2021 No Project PM Delay (sec/veh)	LOS	2024 No Project AM Delay (sec/veh)	LOS	2024 No Project PM Delay (sec/veh)	LOS
Eastbound								
Through	45.4	D	34.9	C	57.6	E	36.8	D
Right	22.5	C	13.2	B	23.4	C	13.2	B
Approach	*39.3*	*D*	*29.5*	*C*	*48.4*	*D*	*31.2*	*C*
Westbound								
Through	29.6	C	57.2	E	30.7	C	73.8	F
Right	84.4	F	193.3	F	109.1	F	228.9	F
Approach	*60.0*	*E*	*127.4*	*F*	*74.2*	*E*	*153.7*	*F*
Northbound								
Left	51.7	D	71.3	E	55.1	E	71.9	E
Through	73.9	F	93.2	F	74.4	F	120	F
Right	34.7	C	33.2	C	34.9	C	33.5	C
Approach	*68.1*	*E*	*84*	*F*	*68.9*	*E*	*102.6*	*F*
Southbound								
Left	69.7	F	171.5	F	94.9	F	203	F
Through	26.3	C	45.7	D	27	C	48.8	D
Right	19.5	B	39.7	D	19.6	B	40	D
Approach	*42.6*	*C*	*89.4*	*F*	*52.8*	*D*	*102.1*	*F*
Intersection	***50.4***	***D***	***90.4***	***F***	***59.7***	***E***	***107.4***	***F***

SR 77/Suffolk Drive	2021 No Project AM Delay (sec/veh)	LOS	2021 No Project PM Delay (sec/veh)	LOS	2024 No Project AM Delay (sec/veh)	LOS	2024 No Project PM Delay (sec/veh)	LOS
Eastbound								
Left	64.6	E	58.6	E	64.3	E	58.1	E
Through/Right	78.4	E	84.4	F	78	E	87	F
Approach	*73.9*	*E*	*73.3*	*E*	*73.7*	*E*	*74.1*	*E*
Westbound								
Left	82.7	F	80.4	F	81.8	F	76.8	E
Through/Right	67.7	E	69.9	E	67.5	E	69.8	E
Approach	*79.9*	*E*	*77.2*	*E*	*79.1*	*E*	*74.7*	*E*
Northbound								
Left	37.5	D	17.8	B	41.5	D	77.5	F
Through	5.9	A	11.6	B	6.3	A	13.5	B
Right	5.9	A	11.7	B	6.3	A	13.8	B
Approach	*7.3*	*A*	*12.1*	*B*	*7.8*	*A*	*18.3*	*B*
Southbound								
Left	4.5	A	13.3	B	5.1	A	24.4	B
Through	13.5	B	10.5	B	16.6	B	11.8	B
Right	4.1	A	6.3	A	4.3	A	6.5	A
Approach	*13.3*	*B*	*10.5*	*B*	*16.3*	*B*	*12*	*B*
Intersection	***12.9***	***B***	***15.1***	***B***	***15***	***B***	***18.8***	***B***

SR 77/Magee Road	2021 No Project AM Delay (sec/veh)	LOS	2021 No Project PM Delay (sec/veh)	LOS	2024 No Project AM Delay (sec/veh)	LOS	2024 No Project PM Delay (sec/veh)	LOS
Eastbound								
Left	72.5	E	53.4	D	73.3	E	55	D
Through	38.3	D	33.8	C	38.4	D	33.2	C
Right	190.3	F	39.6	D	223.2	F	39.6	D
Approach	*121.8*	*F*	*46.3*	*D*	*137.6*	*F*	*47.1*	*D*
Westbound								
Left	143.1	F	49.4	D	161.9	F	49.3	D
Through	51.4	D	44.5	D	52.6	D	44.2	D
Right	51.7	D	49.1	D	52.9	D	48.8	D
Approach	*85.9*	*F*	*47.1*	*D*	*93.8*	*F*	*46.9*	*D*
Northbound								
Left	48.8	D	26.8	C	53.5	D	32.4	C
Through	2.1	C	23.9	C	27.9	C	28	C
Right	19.3	B	12.7	B	19.4	B	13.4	B
Approach	*29*	*C*	*24.1*	*C*	*30.2*	*C*	*28.3*	*C*
Southbound								
Left	21.7	C	27.5	C	22.8	C	35	D
Through	91.4	F	22.6	C	119.8	F	25.7	C
Right	26.6	C	19.9	B	27.3	C	21.9	C
Approach	*82.8*	*F*	*22.4*	*C*	*107.6*	*F*	*25.6*	*C*
Intersection	***77***	***E***	***28.4***	***C***	***93***	***F***	***31.4***	***C***

Exhibit 22 Intersections Performance – 2021 and 2024 With Project (Signalized)

	2021 With Project				2024 With Project			
	AM		PM		AM		PM	
SR 77/Ina Road	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Through	47.7	D	35.3	D	60.9	F	37.2	D
Right	22.5	C	13.2	B	23.4	C	13.2	B
Approach	*41.0*	*D*	*29.9*	*C*	*51.0*	*D*	*31.6*	*C*
Westbound								
Through	29.6	C	57.2	E	30.7	C	73.8	F
Right	92.7	F	200.0	F	118.4	F	236.0	F
Approach	*64.9*	*E*	*131.3*	*F*	*79.7*	*E*	*157.9*	*F*
Northbound								
Left	51.7	D	71.3	E	55.1	E	71.9	E
Through	78.8	F	96.5	F	78.8	F	123.8	F
Right	34.7	C	33.2	C	34.9	C	33.5	C
Approach	*72*	*E*	*86.2*	*F*	*73.3*	*E*	*105.3*	*F*
Southbound								
Left	73.5	F	182.4	F	99.3	F	214.9	F
Through	26.1	C	45.7	D	26.6	C	49.8	D
Right	19.6	B	40.2	D	19.7	B	41.1	D
Approach	*44*	*D*	*93.3*	*F*	*54.2*	*D*	*107.0*	*F*
Intersection	***53.1***	***D***	***93.3***	***F***	***62.6***	***E***	***110.8***	***F***

	2021 With Project				2024 With Project			
	AM		PM		AM		PM	
SR 77/Suffolk Drive	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	64.6	E	58.6	E	64.3	E	58.1	E
Through/Right	78.4	E	84.9	F	78	E	87	F
Approach	*73.9*	*E*	*73.2*	*E*	*73.7*	*E*	*74.1*	*E*
Westbound								
Left	74.8	E	74.8	E	74.6	E	74.7	E
Through/Right	67.4	E	70.9	E	67.3	E	70.9	E
Approach	*72.1*	*E*	*73.1*	*E*	*71.9*	*E*	*73.1*	*E*
Northbound								
Left	38.2	D	43.6	D	41.3	D	99.7	F
Through	7.7	A	15.3	B	8.1	A	17.0	B
Right	7.7	A	15.7	B	8.2	A	17.5	B
Approach	*9*	*A*	*17.5*	*B*	*9.6*	*A*	*23.1*	*C*
Southbound								
Left	7.1	A	43.3	D	8.3	A	56.1	E
Through	17.3	B	12.9	B	22.0	C	14.0	B
Right	5.2	A	7.5	A	5.3	A	7.8	A
Approach	*16.8*	*B*	*14.3*	*B*	*21.4*	*C*	*15.9*	*B*
Intersection	***16.4***	***B***	***20.0***	***C***	***19.5***	***B***	***23.7***	***C***

	2021 With Project				2024 With Project			
	AM		PM		AM		PM	
SR 77/Magee Road	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	72.5	E	53.4	D	73.3	E	55.0	D
Through	38.3	D	34.0	C	38.4	D	33.2	C
Right	199.7	F	40.9	D	232.9	F	40.9	D
Approach	*159.7*	*F*	*46.6*	*D*	*142.9*	*F*	*47.5*	*D*
Westbound								
Left	159.7	F	49.4	D	176.2	F	49.2	D
Through	51.4	D	44.5	D	52.6	D	44.2	D
Right	51.7	D	49.1	D	52.9	D	48.8	D
Approach	*93.5*	*F*	*47.1*	*D*	*100.4*	*F*	*46.9*	*D*
Northbound								
Left	53	D	28.0	C	52.4	D	34.2	C
Through	27.2	C	24.2	C	28.1	C	28.6	C
Right	19.4	B	12.8	B	19.5	B	13.5	B
Approach	*29.6*	*C*	*24.5*	*C*	*30.2*	*C*	*29.1*	*C*
Southbound								
Left	21.9	C	28.1	C	23	C	35.8	D
Through	95.8	F	23.0	C	124.4	F	26.2	C
Right	26.6	C	20.0	B	27.3	C	22.0	C
Approach	*86.7*	*F*	*22.8*	*C*	*111.7*	*F*	*26.0*	*C*
Intersection	***80.3***	***F***	***28.8***	***C***	***96.4***	***F***	***31.9***	***C***

Exhibit 23 Intersections Performance – 2021 and 2024 With Project (Project Driveways)

	2021 With Project				2024 With Project			
	AM		PM		AM		PM	
SR 77/Driveway 1	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Westbound								
Right	19.8	C	64.1	F	21.8	C	79.8	F

	2021 With Project				2024 With Project			
	AM		PM		AM		PM	
Suffolk Drive/Driveway 2	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	7.5	A	7.5	A	7.5	A	7.5	A
Westbound								
Left	7.4	A	7.4	A	7.4	A	7.4	A
Northbound								
Left/Through/Right	10.2	B	10.4	B	10.6	B	10.5	B
Southbound								
Left/Through/Right	9.0	A	9.2	A	9.2	A	9.2	A

	2021 With Project				2024 With Project			
	AM		PM		AM		PM	
Suffolk Drive/Driveway 3	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Westbound								
Left	7.4	A	7.4	A	7.4	A	7.5	A
Northbound								
Left/Through/Right	9.1	A	9.2	A	9.3	A	9.3	A
Southbound								
Through/Right	8.6	A	8.6	A	8.6	A	8.6	A

Turn Lane Warrants and Design

Oro Valley

A turn lane "warrant" is a justification for constructing a turn lane, based on traffic volumes at an intersection. Turn lanes are warranted based on these criteria when the peak hour turn lane volume exceeds a trigger based on the daily volume (ADT, or Average Daily Traffic) or peak hour volume on the roadway.

The Town of Oro Valley applies turn lane warrant guidelines from the *Pima County Subdivision and Development Street Standards.* These guidelines for left and right turn lane warrants on two-lane roadways are shown in Exhibits 24 and 25.

The projected eastbound left turn volume in 2024 with project at Driveway 2 on Suffolk Drive exceed the thresholds warranting a left turn lane. The right turn lane warrants are not met at either of the Suffolk Drive driveways.

The turn lane should be 110 feet long based on Pima County Subdivision and Development Street Standards which the Town of Oro Valley defers to. However the proximity SR 77 may impact whether the full 110 foot storage length can be met.

Exhibit 24 Left Turn Lane Warrant – Suffolk Drive Driveway

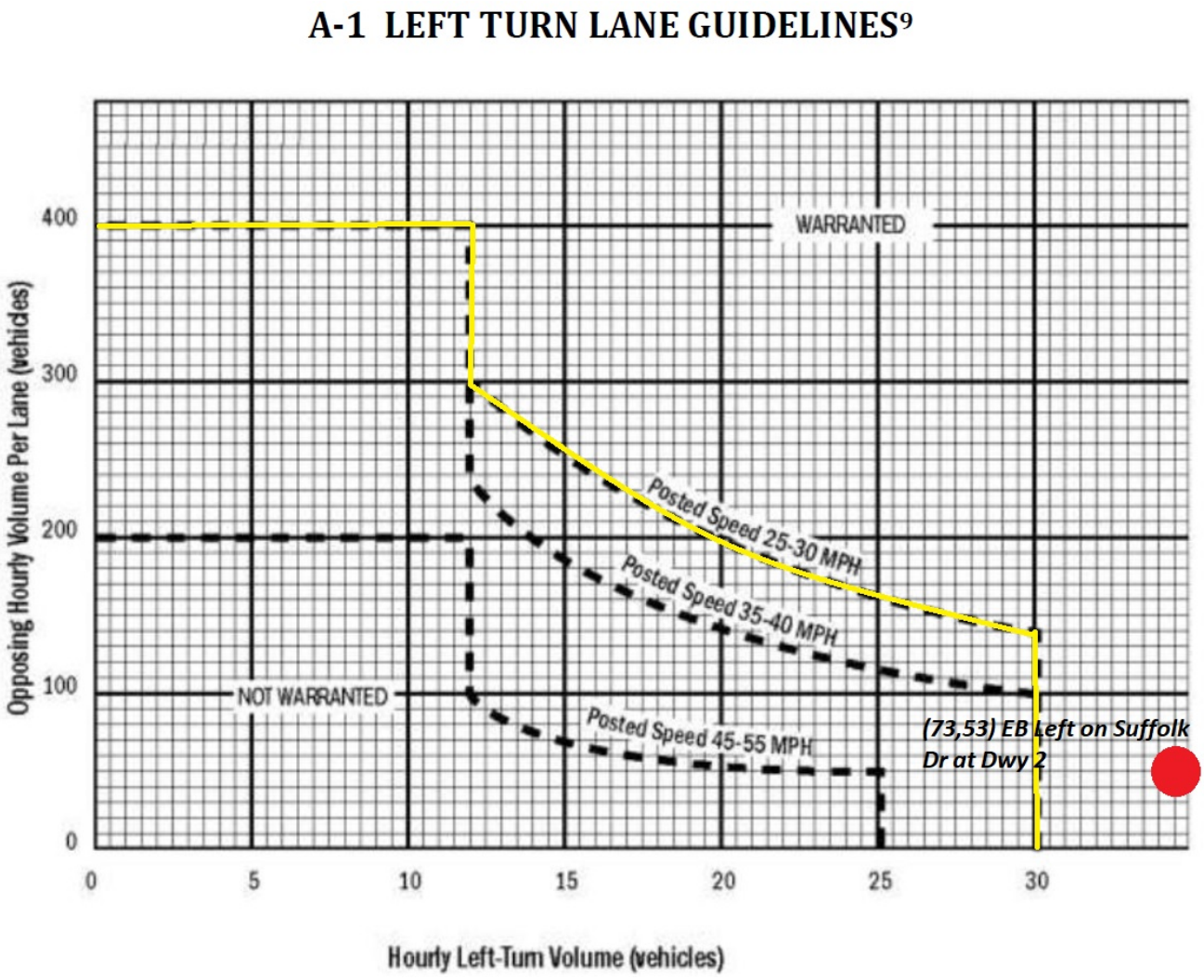
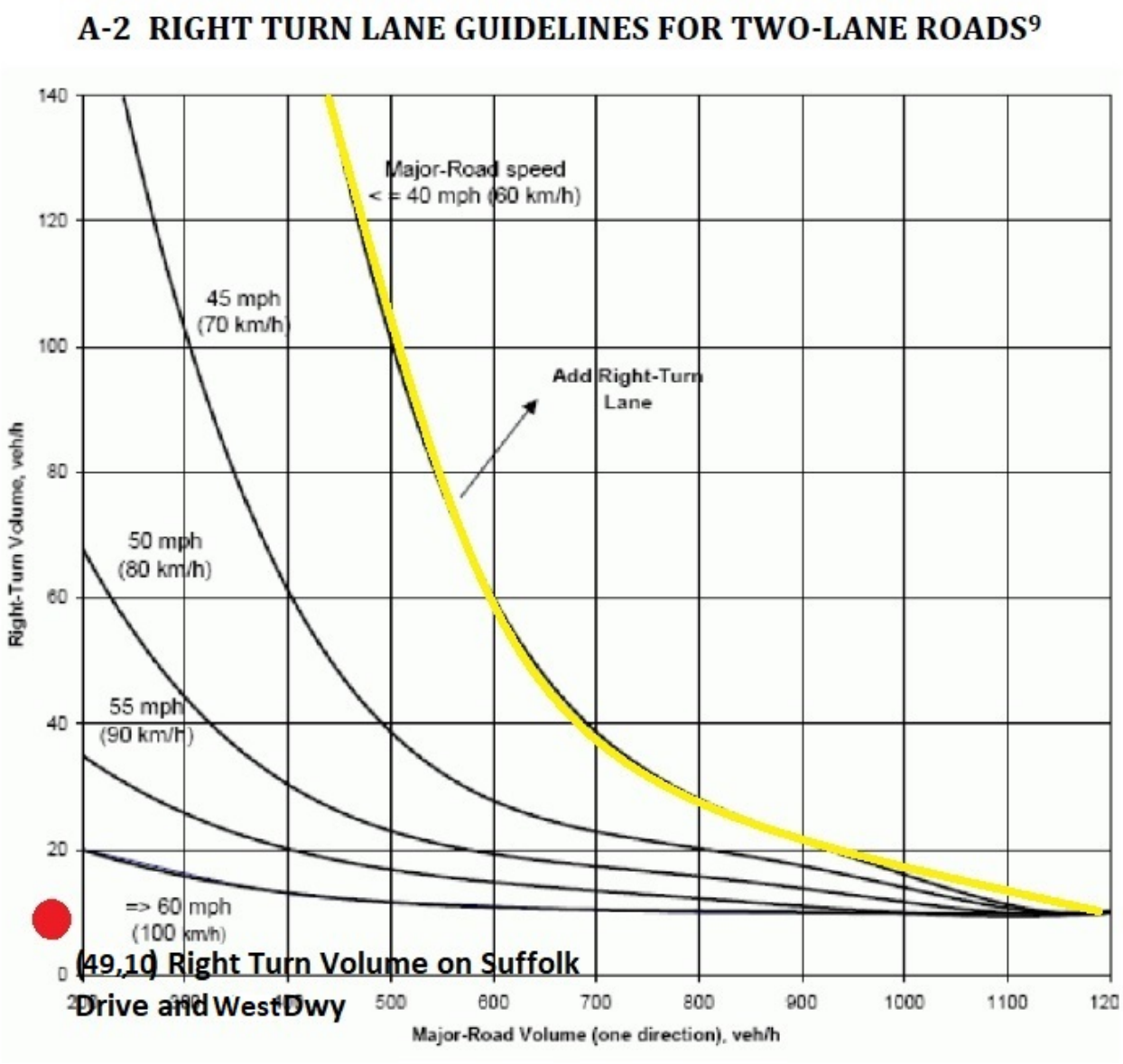


Exhibit 25 Right Turn Lane Warrant – Suffolk Drive Driveway



Note: Analysis done for Driveway with Highest Volumes

ADOT

ADOT applies the methodology for determining if turn lane warrants are met from the *ADOT Traffic Engineering Guidelines and Processes Sub-Section 245 – Turn Lane Warrants.* These guidelines are shown in Exhibit 26.

Based on the warrants, and for a roadway with three lanes per direction, right turn volumes at the SR 77 driveway will exceed the threshold for warranting a right turn lane with the project by the year 2021. The peak hour northbound through volumes at the driveway location for the AM and PM peak hours are both over 1,400 vehicles per hour, and the threshold right turn volumes are both over 10 vph, so the warrant is met.

Exhibit 26 Right Turn Lane Warrant Criteria – ADOT

Peak Hour Traffic Volume on the Highway in Advancing Direction	Minimum Peak Hour Right-turn Traffic Volume				
	# of thru lanes per direction				
	1		2		3
	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	≤ 45 MPH Posted Speed	≥ 45 MPH Posted Speed	All Speeds
≤ 200					
201 – 300	-	30	-	-	-
301 – 400	-	19	-	55	-
401 – 500	85	14	-	30	-
501 – 600	58	12	140	25	-
601 – 700	27	9	80	18	-
701 – 800	20	8	53	15	-
801 – 900	12	7	40	12	-
901 – 1000	9	6	30	11	-
1001 – 1100	8	5	23	9	18
1101 – 1200	7	5	18	8	16
1201 – 1300	6	4	14	8	15
1301 – 1400	6	4	11	6	12
1400+	5	3	8	6	10

Based on ADOT right turn lane design guidelines in the *ADOT Traffic Engineering Guidelines and Processes Sub-Section 430 – Design,* for a roadway with a posted speed limit of 50 mph, the desirable storage length would be 330 feet (245 feet braking distance and 85 feet minimum queue. The minimum turn lane for ADOT facilities is 85 feet which includes storage for one passenger car (25 feet) and one truck (60 feet). The turn lane system would also include a 90-foot taper, although ADOT prefers a 140-foot taper for turn lanes on SR 77.

The corner clearance from Suffolk Drive to the SR 77 driveway is approximately 325 feet. A turn lane and taper with the "desirable" storage length could not be provided within the 325-foot distance. However, ADOT also provides minimum braking distance criteria (120 feet for a 50-mph roadway). The total storage length with the minimum braking distance would be 120 feet + 85 feet = 205 feet. If the taper length could be 90 feet, then the 305 feet of turn lane plus taper would fit within the planned corner clearance length.

ADOT's Pavement Preservation project (Project No. 077 PM 072 H8919 01C), SR 77, River Road to Calle Concordia, shows a design for a bus bay on northbound SR 77 north of Suffolk Drive where the right turn lane would be warranted for this driveway. The detail in the ADOT 95% stage preliminary plan sheet indicates that there will be a 60-foot entrance taper and a 65-foot storage length for the bus. The taper is shown to begin approximately 90 feet north of the near pavement edge on Suffolk Drive. As indicated before, the corner clearance from Suffolk Drive to the planned driveway is about 325. With the 90-foot

distance from Suffolk Drive to the south end of the bus bay taper, the bus bay/right turn storage length would be 150 feet north of Suffolk Drive, allowing for a 175 feet of bus bay/turn lane storage. This is less than the minimum 205 feet of storage that was indicated above for a minimum storage length.

Moving the driveway on SR 77 to the north would reduce the driveway spacing (210 feet) to the next driveway to the north and may impact the location of the existing Oro Valley monument sign. Therefore, the turn lane has been designed to coordinate with the planned bus bay as shown on the plan in the Appendix, and to avoid relocating the Oro Valley monument sign.

Pedestrian, Bicycle, and Transit Considerations

There are no sidewalks on SR 77 or Suffolk Drive in the vicinity of the project. SR 77 has striped bike lanes, and Suffolk Drive is categorized as a bikeable residential street. There is a bus stop on SR 77 on the west frontage of the project.

The upcoming ADOT project, H8919 SR 77, River Road to Calle Concordia, will install curb, gutter and sidewalk along SR 77 between River Road and Magee Road.

Speed Considerations

No special speed limit considerations are required for the roadways adjacent to this project.

Other Considerations

Corner and Driveway Clearances

The Suffolk Drive project driveways are shown directly opposite from two driveways on the south side of SR 77, and are approximately 120 feet apart. This meets Pima County's driveway spacing guidelines for a 25-mph roadway (105 feet minimum spacing).

As shown on the site plan, the corner clearance from Suffolk Drive to the project driveway on SR 77 is about 325 feet. The driveways spacing from the driveway to the next driveway to the north is about 210 feet.

Queuing Analysis

The Synchro software estimates queue lengths for all intersection turning movements. Exhibit 27 shows the existing storage lengths for turn lanes at the intersections of SR 77/Ina Road, SR 77/Suffolk Drive and SR 77/Magee Road. These intersections are controlled by ADOT, and we have provided the Synchro-calculated 95th Percentile queue lengths to compare against the existing storage lanes in the exhibit.

As indicated in Exhibit 27, some of the turn lanes at the project intersections may have peak hour queues that exceed the existing marked storage lengths. However, most of these locations would have queues that exceed their lengths under 2024 "no project" conditions. The eastbound and northbound queues may extend slightly beyond the existing storage length at the SR 77/Suffolk Drive intersection under the year 2024 with project condition.

U-Turns at SR 77/Northbound Upstream Median Opening

Some vehicles exiting the SR 77 driveway will use a downstream median opening to return south on SR 77. In Exhibits 14 and 15, the number of site trips U-turning at this location are shown. Because of the COVID-19 pandemic, we did not collect background traffic volumes at this location but assumed that there would be about 25 AM northbound peak hour background left turns and 100 PM northbound peak hour background left turns at this location. We then added the U-turning site trips at this location for the purposes of estimating the queue lengths.

The existing marked northbound turn lane length is 140 feet long, although the raised median does not taper back for another 110 feet which would allow for a marked turn lane of 250 feet. The

intersection analysis found that with the projected number of northbound left turns/U-turns, the calculated 95th percentile queue during the morning peak hour would be approximately five passenger vehicle lengths (111 feet) and two passenger vehicle lengths (49 feet) during the PM peak hour. (It should be noted that the volumes at this U-turn location are estimates as traffic volume data were not able to be collected due to the COVID-19 pandemic.) Based on the estimated 111-foot queue during the AM peak hour and the minimum 120-foot braking distance on this approach, the turn lane length (250 feet) will serve the projected queue (231 feet). The results are also shown in Exhibit 27. ADOT has a programmed pavement preservation project on SR 77 in which the pavement markings at this location will be extended to the full extent of the turn lane length.

Mitigation Opportunities at SR 77/Suffolk Drive and at the Project Intersections

The intersection of SR 77/Suffolk Drive is signal controlled with split phasing on the east and west approaches. ADOT requested that the intersection be analyzed without the split phases to see if signal operations could be improved.

In response to this, and because there are warranted turn lanes at this intersection, we analyzed the intersection under the year 2024 With Project condition with the following:

- Reducing the cycle length to 110 seconds,
- Adding a northbound right turn lane,
- Removing one of the eastbound left turn lanes so the west leg would have a single left turn lane and a shared through/right turn lane. This provides a better alignment of the eastbound and westbound through lanes at the intersection,
- Changing the eastbound and westbound phasing from split phase to include permitted/protected left turn phasing.

For the west (Driveway 2) driveway on Suffolk Drive, we analyzed the intersection with an eastbound left turn lane. For the driveway on SR 77 (Driveway 1), we analyzed the intersection with a northbound right turn lane.

Exhibits 28 and 29 shows the intersection operation and projected 95th percentile queues at these intersections. The intersection of SR 77/Suffolk Drive will have reduced delays on most approaches with the recommended mitigation and revised signal operations. 95th percentile queue lengths will also be shorter than with the existing phasing and lane configurations. The SR 77/Driveway 1 intersection will have slight reductions in delay with the warranted northbound right turn lane. The Suffolk Drive/Driveway 2 intersection will have the same delays with or without the warranted eastbound left turn lane.

The southbound left turn lane queue length will be reduced from 101 feet (see Exhibit 27) to 77 feet (Exhibit 29). The turn lane is currently striped for a 100-foot lane. ADOT has required that the turn lane be extended to meet the minimum ADOT queue length (85 feet) and braking distance (200 feet) to be 285 feet, but that ADOT would be willing to work with the developer on a Joint Project Agreement (JPA) to determine responsibilities for extending the turn lane. ADOT has recommended that Oro Valley also participate in this as well as for the construction of a currently warranted northbound right turn lane at the same intersection. This right turn lane would also need to be constructed to a 285-foot length to meet ADOT's minimum queue and braking distances for a 50-mph roadway.

Exhibit 27 Queue Length Analysis

SR 77/Ina Road	Speed Limit	Existing Storage (ft)	Pima County Standard (ft)	ADOT Standard (Des/Min)	95% Queue Length 2024 No Project AM	95% Queue Length 2024 No Project PM	Deficiency (ft)	95% Queue Length 2024 With Project AM	95% Queue Length 2024 With Project PM	Deficiency (ft)
Eastbound										
Right	45	420	150		210	125	0	210	126	0
Westbound										
Right	45	510	150		53	230	0	55	251	0
Northbound										
Left	50	220		330/205	50	350	130	50	350	130
Right		230		330/205	0	48	0	0	48	0
Southbound										
Left	50	250		330/205	483	278	233	484	309	234
Right		250		330/205	93	142	0	93	153	0

SR 77/Suffolk Drive	Speed Limit	Existing Storage (ft)	Pima County Minimum (ft)	ADOT Standard (Des/Min)	95% Queue Length 2024 No Project AM	95% Queue Length 2024 No Project PM	Deficiency (ft)	95% Queue Length 2024 With Project AM	95% Queue Length 2024 With Project PM	Deficiency (ft)
Eastbound										
Left	25	70	110		24	77	7	24	77	7
Westbound										
Left	25	240	110		70	46	0	70	51	0
Northbound										
Left	50	240		330/205	68	232	0	68	242	2
Southbound										
Left	50	95		330/205	47	24	0	57	101	6
Right		195		330/205	0	0	0	0	0	0

SR 77/Magee Raod	Speed Limit	Existing Storage (ft)	Pima County Standard (ft)	ADOT Standard (Des/Min)	95% Queue Length 2024 No Project AM	95% Queue Length 2024 No Project PM	Deficiency (ft)	95% Queue Length 2024 With Project AM	95% Queue Length 2024 With Project PM	Deficiency (ft)
Eastbound										
Left	35	270	110		251	253	0	251	253	0
Right		150	110		863	135	713	864	145	714
Westbound										
Left	25	200	110		110	146	0	110	150	0
Right		270	110		0	48	0	0	48	0
Northbound										
Left	50	280		330/205	261	625	345	248	646	366
Right		160		330/205	0	0	0	0	0	0
Southbound										
Left	50	160		330/205	42	147	0	42	147	0
Right		170		330/205	209	158	39	209	160	39

Note: ADOT Standard (Des/Min) indicates a "Desirable" and "Minimum" storage length which includes a braking distance (245 feet desirable, 120 feet minimum) and minimum queue length (85 feet).The braking distance is based on the speed limit (50 mph) of the roadway.

Pima County minimum turn lane storage is 110 feet for roadways with posted speed limits of 40 or less, 150 feet for roadways with speed limits over 40 mph.

SR 77/Downstream Northbound to Southbound U-Turn/Left Lane	Speed Limit	Existing or Planned Storage (ft)	95% Queue Length 2024 With Project AM	95% Queue Length 2024 With Project PM	Pima County Standard (ft)	ADOT Braking Distance (Des/Min) (ft)*	Calculated Required Storage Length (ft)	Deficiency
Northbound								
Left/U-Turn	50	250	111	49	N/A	240/120	231	0

Exhibit 28 Intersections Performance – 2024 With Project With Mitigation

	2024 With Project			
	AM		PM	
SR 77/Suffolk Drive	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	**LOS**
Eastbound				
Left	45.7	D	41.8	D
Through/Right	59.7	E	61.2	E
Approach	*55.3*	*E*	*52.5*	*D*
Westbound				
Left	46.5	D	43.5	D
Through/Right	51.6	D	49.0	D
Approach	*48.4*	*D*	*45.8*	*D*
Northbound				
Left	34.7	C	51.5	D
Through	9.2	A	21.2	C
Right	6.2	A	8.3	A
Approach	*10.2*	*B*	*23.1*	*C*
Southbound				
Left	8.6	A	37.1	D
Through	32.4	C	17.2	B
Right	5.8	A	9.3	A
Approach	*31.4*	*C*	*18*	*B*
Intersection	***25.2***	***C***	***22.9***	***C***

	2024 With Project			
	AM		PM	
SR 77/Driveway 1	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	**LOS**
Westbound				
Right	21.2	C	73.4	F

	2024 With Project			
	AM		PM	
Suffolk Drive/Driveway 2	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	**LOS**
Eastbound				
Left	7.5	A	7.5	A
Westbound				
Left	7.4	A	7.4	A
Northbound				
Left/Through/Right	10.6	B	10.4	B
Southbound				
Left/Through/Right	9.2	A	9.2	A

Exhibit 29 Queue Length Analysis – SR 77/Suffolk Dr with Mitigation

SR 77/Suffolk Drive	Speed Limit	Existing or Planned Storage (ft)	95% Queue Length 2024 With Project AM	95% Queue Length 2024 With Project PM	ADOT Braking Distance (Min) (ft)*	ADOT Storage Length** (Minimum) (ft)	Deficiency (ft)
Eastbound							
Left	**25**	**70**	32	100			
Westbound							
Left	**25**	**60**	78	67			
Northbound							
Left	**50**	**260**	48	166	**120**	**286**	26
Right	**50**	**205**	3	0	**120**	**123**	0
Southbound							
Left	**50**	**100**	60	77	**120**	**197**	97
Right		**190**	0	0	**120**	**120**	0

Eastbound Dual Left Should be reduced to one 100' lane.
Westbound Left Lane should be extended by 18'.

Traffic Control Needs

The project driveways are not required to be controlled by stop signs. The provision of the northbound right turn lane into the SR 77 project driveway should include appropriate signing and pavement markings.

The SR 77/Suffolk Drive intersection will experience the most site trips associated with the project compared to other existing intersections. The signal timing at this intersection should be reviewed once the project is constructed to optimize progression and operational efficiency at the intersection as recommended earlier in this section.

7. Conclusions and Recommendations

This project is located on the northeast corner of SR 77 (Oracle Road)/Suffolk Drive, a signalized intersection.

The project will generate:

- 169 net morning peak hour trips,
- 159 net evening peak hour trips,
- 2,282 net weekday trips.

For the purposes of this report, the project build out is projected to be 2021.

Access to the project will be right-in, right-out at the driveway on SR 77 and at the east driveway on Suffolk Drive, and full access at the west driveway on Suffolk Drive.

A northbound right turn lane is warranted at the SR 77 driveway based on ADOT turn lane warrant guidelines (ADOT Traffic Engineering Guidelines and Processes "TGP", Subsection 245 – Turn Lane Warrants)The turn lane is shown on the site plan. A bus bay will be constructed within the turn lane storage area. The length of the turn lane is approximately 182 feet, and the design of the turn lane was discussed with ADOT during the project development.

A left turn lane is warranted at the west Suffolk Drive driveway. This turn lane should be 110 feet in length based on Oro Valley guidelines, or as close to this length as possible given the proximity to the westbound left turn lane at the SR 77/Suffolk Drive intersection.

The SR 77 project area intersections will operate at the same levels of service under the 2024 with project condition as the 2024 no project condition during the peak hours. The impact of the project at these intersections is proportionally low compared to the background, or "no-project" volumes in 2024.

The westbound right turn movement at the SR 77 driveway will operate at LOS F during the afternoon peak hours. All other driveway movements will operate at LOS D or better. Drivers entering major arterials from a driveway or minor roadway typically experience long delays.

A queue analysis, summarized in Exhibit 27 of this report, shows that the projected 95th percentile queues, measured in feet, at some of the existing turn lanes at the study area intersections will exceed the storage lengths at these turn lanes under the 2024 No Project condition. Adding project trips at these locations will not increase queues at these locations substantially. As indicated in Exhibit 27, adding the project trips at the SR 77/Suffolk Drive intersection may increase the PM peak hour queue on the eastbound, northbound, and southbound left turn lanes slightly longer than the existing left turn lane lengths.

Intersection sight distance at the SR 77 project driveway should be 480 feet for a stopped passenger car to turn right onto a 50-mph roadway based on American Association of State Highway and Transportation Officials (AASHTO) guidelines. Intersection sight distance at the Suffolk Drive project driveways should be 240 feet for a stopped passenger car to turn left (west driveway only) and 190 feet for a stopped passenger car to turn right onto a 25-mph roadway based on Oro Valley standards. The Site Civil designer will verify the sight distances.

At the SR 77/Suffolk Drive intersection, reducing the signal cycle length to 110 seconds and revising the east/west phasing to protected/permitted phasing from split phasing will improve operations and reduce queue lengths on some of the approaches. To remove the split phasing, it is recommended that the eastbound approach reduce the dual left turn lanes to one left turn lane. This will align the east and west approaches better to remove the split phase at the intersection.

With the mitigation at the SR 77/Suffolk Drive intersection described in the last paragraphs, the southbound left turn lane queue length will be reduced from 101 feet to 77 feet. The turn lane is currently striped for a 100-foot lane. ADOT has required that the turn lane be extended to meet the minimum ADOT queue length (85 feet) and braking distance (200 feet) to be 285 feet, but that ADOT would be willing to work with the developer on a Joint Project Agreement (JPA) to determine responsibilities for extending the turn lane. ADOT has recommended that Oro Valley also participate in this as well as for the construction of a currently warranted northbound right turn lane at the same intersection. This right turn lane would also need to be constructed to a 285-foot length to meet ADOT's minimum queue and braking distances for a 50-mph roadway.

All signs and pavement markings must conform to the MUTCD, ADOT and Town of Oro Valley requirements.

Appendix

- ADOT Pre-Submittal Form
  - *Note that the original land uses assumptions that were included in the approved ADOT Pre-Submittal Form changed during the course of the project. The current land use plan is included within the body of the report while the original site plan and trip generation assumptions remain attached to the Pre-Submittal Form.*
- Updated Site Plan
- Site and Utility Plan with NB Turn Lane at Project Driveway
- ADOT TGP 245 and 430
- Traffic Data
- Synchro Analysis

Exhibit 240-A. Traffic Impact Analysis Pre-Submittal Form

Project Name: NEC Oracle/Suffolk
Developer/Owner: Thompson Thrift (Andrew Call)
Phone Number: 602-313-8633
Email: acall@thompsonthrift.com

Project Location
State Route (with nearest MP or Street): SR 77 (Oracle Road) MP 75.4 at Suffolk Dr.
Local Jurisdiction: Town of Oro Valley

Stage of Development (choose one)
- ☒ Planning/Zoning
- ☐ Development Plan

Brief Description of Project (land use, intensity, timeframe/phasing)

Mixed use project with Office (6,500 sf), Fast Food Restaurant with Drive-Thru (2,600 sf), High Turnover Restaurant (2 buildings: 4,000 sf, 3,500 sf) and shared Restaurant/Retail Building (8,700 sf). Buildout estimated for 2021.

Proposed Access (number, location, restrictions)

Two on Suffolk Drive, opposite existing driveways on south side, both full access. One right-in/right-out driveway on SR 77, 325 feet north of Suffolk Drive. Turn restriction on SR 77 due to raised median on SR 77.

Preliminary Assumptions (provide as attachment)
- Trip Generation
- Study Horizon Years
- Trip Distribution
- Pass-By Or Internal Capture
- Future Roadway Network
- Study Area Intersections

Traffic Study Type (choose one)
- ☐ Transportation Planning Study
- ☒ Traffic Impact Analysis
- ☐ Traffic Impact Statement

Traffic Study Preparer
Firm Name: M Esparza Engineering
Contact: Marcos Esparza
Phone: 520-207-3358
Email: mue-cla@cox.net

Pre-Submittal Forms are not required for each project but are a useful tool to reduce the number of submittals/reviews and aid development timeframes. When submitted, Regional Traffic Engineering staff will review and confirm the form in a timely manner. Changes to the above information should be provided in writing. A hard copy of an approved Pre-Submittal Form shall be included in the Study appendix.

Reviewed by: J Gomes / R Freije Date: 6/26/20

Trip Generation and Site Plan has changed since Pre-Submittal Form was Approved.

NEC SR 77/Suffolk Drive Traffic Impact Study

Preliminary Assumptions

1. Trip Generation – Based on average rates from ITE Trip Generation Manual, 10th Edition (see attached table)
    a. Applied average pass-by rates from ITE Trip Generation Handbook, 3rd Edition.
2. Study Horizon Years – 2021 (Buildout) and 2024 (Three Years after Buildout)
3. Trip Distribution – To be based on existing traffic pattens. Preliminary assumption is 50% south on SR 77, 40% north on SR 77 and 10% east on Suffolk Drive. Peak period intersection counts at SR 77/Ina, SR 77/Suffolk Drive and SR 77/Magee Road available on ADOTs Traffic Data Management System.
4. Pass-by Trips – Pass-by trips are shown in the attached trip generation table.
5. Future Roadway Network – The future roadway network is assumed to be the same as the existing network within the study area timeframe.
6. Study Area Intersections:
    a. SR 77/Ina Road
    b. SR 77/Suffolk Drive
    c. SR 77/Magee Road

    No counts to be collected due to non-typical traffic patterns and volumes due to COVID-19 and schools not in session.

Comments on the Trip Generation Summary Sheet

1) For the Single Tenant Office Building, the Average Rates are used, which yielded lower values than the Fitted Curve Equations. They were also using the AM and PM Generator Peak values, but the normal AM and PM Peak options weren't available on the website (ITE 10th Ed.).
2) For the Fast Food Restaurant, it appears the Standard Deviation was the accidentally used instead of the Average to calculate the Daily Trips (the AM and PM peak trips were calculated correctly).
3) For the Retail Land Use, the Average Rates are used, which yielded lower values than the Fitted Curve Equations.
4) The calculated Daily Pass-By Rates for some of the land uses without showing the percentages they used for those calculations. Please provide.

Proposed Use	Unit	No.Units	ITE Categ.	Trip Generation Rates Weekday AM In	Out	Weekday PM In	Out	Avg Weekday In	Out
Single Tenant Office Building	1000 SF GFA	**6.5**	715	1.78 89%	11%	1.71 15%	85%	11.25 50%	50%
High Turnover Sit-Down Restaurant	1000 SF GFA	**4.9**	932	9.94 55%	45%	9.77 62%	38%	112.18 50%	50%
High Turnover Sit-Down Restaurant	1000 SF GFA	**4.4**	932	9.94 55%	45%	9.77 62%	38%	112.18 50%	50%
High Turnover Sit-Down Restaurant	1000 SF GFA	**3.5**	932	9.94 55%	45%	9.77 62%	38%	112.18 50%	50%
Fast-Food Restaurant w/Drive-Through Window	1000 SF GFA	**2.6**	934	40.19 51%	49%	32.67 52%	48%	244.44 50%	50%
Retail	1000 SF GFA	**4.35**	820	0.94 62%	38%	3.81 48%	52%	37.75 50%	50%

Proposed Use		Unit	No. Units	Trip Generation Weekday AM In	Out	Weekday PM In	Out	Avg Weekday In	Out
Single Tenant Office Building		Vehicle Fueling Positions	6.5	12 10	1	11 2	9	73 37	37
High Turnover Sit-Down Restaurant		1000 SF GFA	4.9	49 27	22	48 30	18	550 275	275
High Turnover Sit-Down Restaurant		1000 SF GFA	4.4	44 24	20	43 27	16	494 247	247
High Turnover Sit-Down Restaurant		1000 SF GFA	3.5	35 19	16	34 21	13	393 196	196
Fast-Food Restaurant w/Drive-Through Window		1000 SF GFA	2.6	104 53	51	85 44	41	636 318	318
Retail		1000 SF GFA	4.4	5 3	2	17 8	9	164 82	82
Totals				**247** **136**	**111**	**238** **131**	**106**	**2,309** **1,154**	**1,154**

Pass-by Trips	ITE Categ.	Pass-by Rate		Weekday AM In	Out	Weekday PM In	Out	Avg Weekday In	Out
Single Tenant Office Building	853		0.0	0 0	0	0 0	0	0 0	0
High Turnover Sit-Down Restaurant	932	43% PM	0.0	0 0	0	21 13	8	110 55	55
High Turnover Sit-Down Restaurant	932	43% PM	0.0	0 0	0	18 11	7	99 49	49
High Turnover Sit-Down Restaurant	932	43% PM	0.0	0 0	0	15 9	6	79 39	39
Fast-Food Restaurant w/Drive-Through Window	934	49% AM 50% PM	0.0	51 26	25	42 22	20	311 156	156
Retail	820	34% PM		0 0	0	6 3	3	33 16	16
Total Pass By Trips				51 26	25	102 58	44	631 316	316

Total Net New Trips		Weekday AM In	Out	Weekday PM In	Out	Avg Weekday In	Out
		196 110	86	136 73	63	1,677 839	839

THOMPSON THRIFT
RETAIL GROUP

SITE DATA:

NET SITE AREA	+/-207,970 SQ. FT. (4.77 ACRES)
PARKING:	
TOTAL REQUIRED:	199 SPACES
TOTAL PROVIDED:	221 SPACES
LOT 1	
DRIVE THRU:	2,600 SQ. FT.
PARKING	
REQUIRED (15 / 1,000)	39 SPACES
PROVIDED	21 SPACES
LOT 2	
RESTAURANT:	3,500 SQ. FT.
PARKING	
REQUIRED (10 / 1,000)	30 SPACES
PROVIDED	36 SPACES
LOT 3	
RESTAURANT:	4,400 SQ. FT.
RETAIL	4,350 SQ. FT.
PARKING	
RESTAURANT (10/1,000)	44 SPACES
RETAIL (4/1,000)	17 SPACES
TOTAL REQUIRED	61 SPACES
TOTAL PROVIDED	38 SPACES
LOT 4	
RESTAURANT:	4,900 SQ. FT.
PARKING	
REQUIRED (10 / 1,000)	49 SPACES
PROVIDED	66 SPACES
LOT 5	
OFFICE	6,500 SQ. FT.
PARKING	
REQUIRED (3 / 1,000)	20 SPACES
PROVIDED	60 SPACES

RETAIL	4/1,000
OFFICE	3/1,000
DRIVE THRU	15/1,000
RESTAURANT	10/1,000

NORTH

0" 10' 30' 60'

SCALE 1" = 30'-0"

06.01.2020

PARKING

RESTAURANT : 10,780 S.F.
STANDARD (8,180 S.F.): REQUIRED (10/1,000) : 82 SPACES
DRIVE-THRU (2,600 S.F.): REQUIRED (15/1,000) : 39 SPACES

RESTAURANT TOTAL SPACES REQUIRED: 121 SPACES

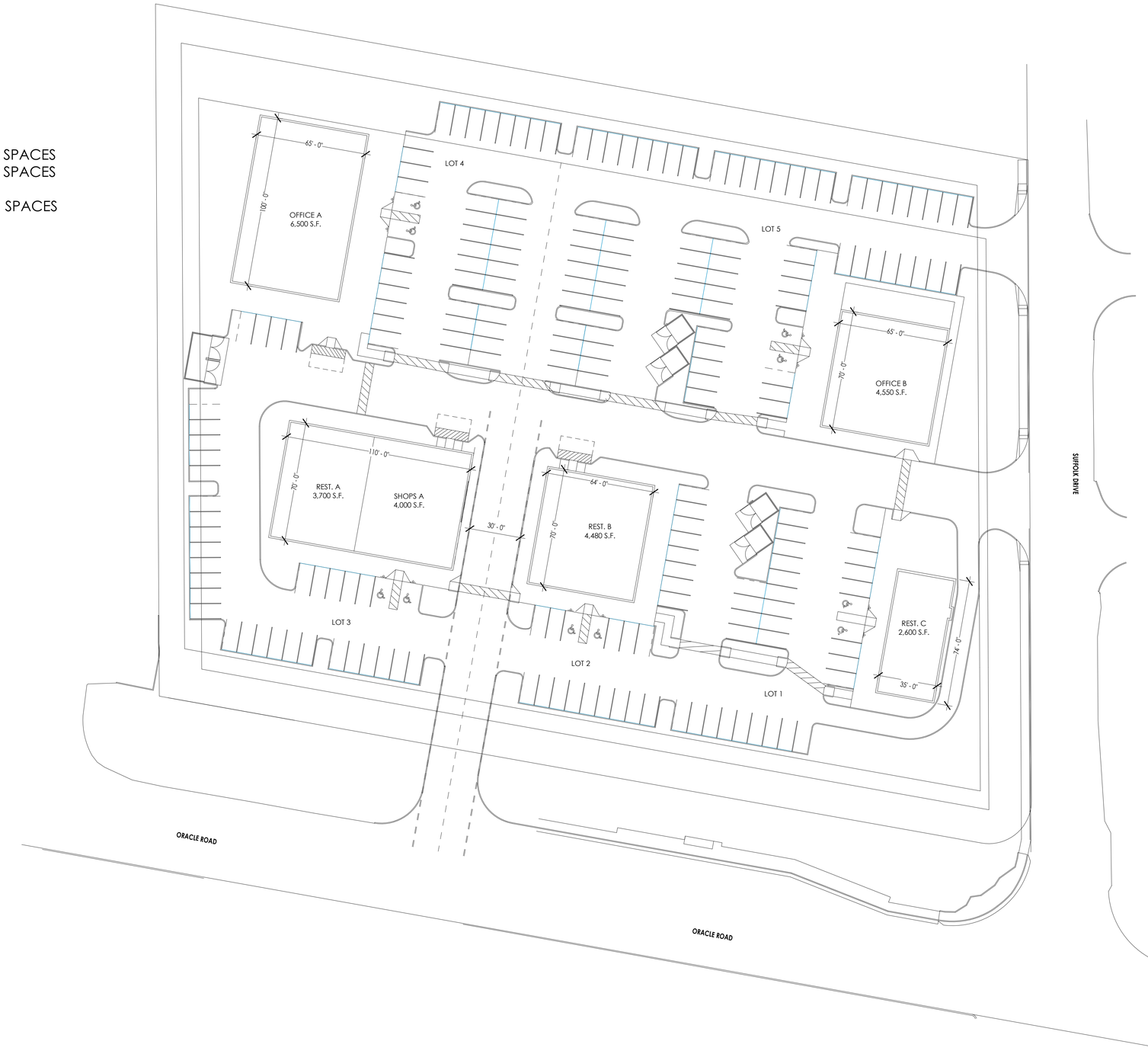
RETAIL: 4,000 S.F.
REQUIRED (4/1,000) : 16 SPACES

MEDICAL OFFICE: 11,050 S.F.
REQUIRED (4.5/1,000): 50 SPACES

TOTAL PARKING SPACES REQUIRED: 187 SPACES

TOTAL PARKING SPACES PROVIDED: 208 SPACES

TOTAL DROP-OFF AREAS: 3



SITE PLAN - PHASE 1 & PHASE 2
1/32" = 1'-0"

N

SPS+ ARCHITECTS
SPS+ARCHITECTS LLP
8681 E. VIA DE PASEO CIO
SCOTTSDALE, AZ 85258
P: 480.991.0400

1790 W. SAHUARO DR.
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P: 520.628.1180

ORO VALLEY

NEC OF ORACLE ROAD AND SUFFOLK DRIVE
ORO VALLEY, ARIZONA
Unnamed

REVISIONS		
MARK	DATE	DESCRIPTION

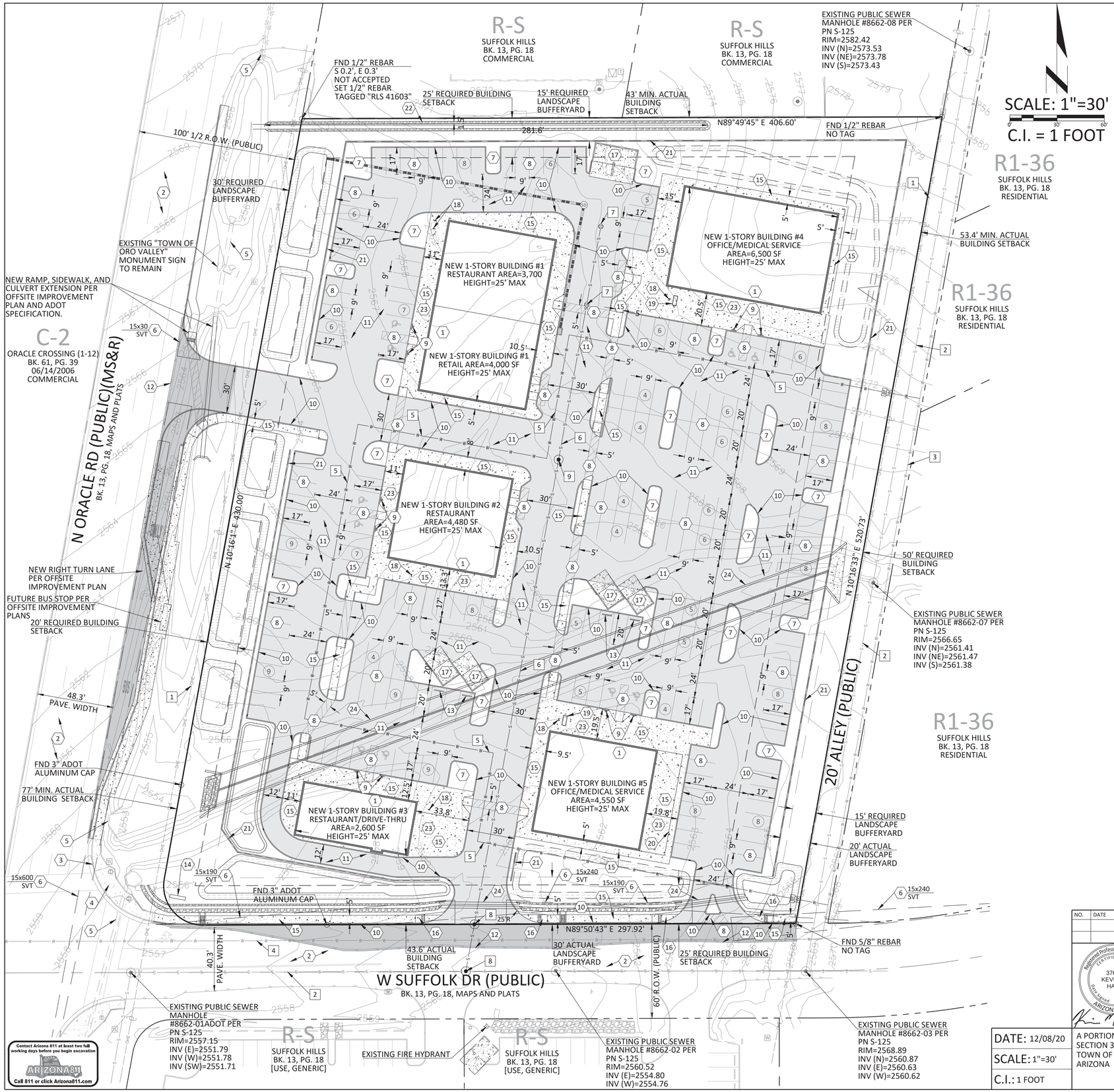
REVIEWED BY: Checker
DRAWN BY: Author

ORIGINAL ISSUE DATE: 00-00-000

JOB No: 2084

SHEET: 4

BIM 360://2084 Oro Valley Retail/2084 Oro Valley Retail.rvt
10/29/2020 1:22:52 PM



SITE KEYNOTES

1 PRIMARY BUILDING ENTRANCE.
2 EXISTING ASPHALT TO REMAIN.
3 EXISTING CURB TO REMAIN.
4 EXISTING CURB RAMP TO REMAIN.
5 EXISTING CULVERT TO REMAIN.
6 SIGHT VISIBILITY TRIANGLE FOR NEW DEVELOPMENT. SEE KEYNOTE FOR DIMENSIONS.
7 PROPOSED 4" DEPRESSED LANDSCAPE AREA PER LANDSCAPE PLAN.
8 PROPOSED 4" WHITE PAINT STRIPE, 0.06" THICK, TRAFFIC RATED (TYP.).
9 PROPOSED ACCESSIBLE SIGN AND POST.
10 PROPOSED 6" VERTICAL CURB.
11 PROPOSED AC PAVEMENT OVER ABC. COMPACT ABC TO 100%.
12 SAWCUT A MINIMUM OF 12" INTO THE EXISTING PAVEMENT. REMOVE EXISTING ASPHALT, TACK AND JOIN.
13 PROPOSED 6' WHEEL STOP (TYP.).
14 PROPOSED MONUMENT SIGN.
15 PROPOSED CONCRETE SIDEWALK PER PAG DETAIL 200. SEE PLAN FOR DIMENSIONS.
16 PROPOSED CONCRETE CURB ACCESS RAMP WITH 2' WIDE DETECTABLE WARNING STRIP PER PAG DETAIL 207.
17 PROPOSED TRASH ENCLOSURE.
18 PROPOSED CLASS II BICYCLE RACK.
19 PROPOSED CLASS I BICYCLE PARKING.
20 PROPOSED BUILDING OVERHANG/CANOPY.
21 PROPOSED 5' SCREEN WALL. OWNER/ARCHITECT TO PROVIDE DETAILS AND FINISHES.
22 PROPOSED GROUTED RIPRAP. FOR DIMENSIONS, SEE PLAN.
23 PROPOSED COURTYARD/PEDESTRIAN MALL LOCATIONS. SEE LANDSCAPE PLAN.
24 PROPOSED CULVERT.

UTILITY KEYNOTES

1 EXISTING OVERHEAD ELECTRIC LINE.
2 EXISTING PUBLIC 8" VCP SEWER LINE PER PN S-125.
3 EXISTING PUBLIC 6" CA WATER LINE PER PN 169-1980.
4 EXISTING PUBLIC 4" CA WATER LINE PER PN FN-2764.
5 NEW PUBLIC 8" PVC WATER LINE PER SEPARATE PLAN.
6 NEW PRIVATE 8" PVC SEWER LINE. SEE KEYNOTE FOR LENGTH AND SLOPE.
7 NEW SEWER CLEANOUT.
8 NEW PUBLIC SEWER MANHOLE PER SEPARATE PLAN.
9 NEW PRIVATE MANHOLE PER SEPARATE PLAN.

ARCHITECT

SPS+ ARCHITECTS, LLP
8681 EAST VIA DE NEGOCIO
SCOTTSDALE, ARIZONA 85258
ATTN: ROB BASS
PH: (520) 991-0800
E: rob.b@spsplusarchitects.com

NO.	DATE	REVISION DESCRIPTION	BY

OWNER/DEVELOPER

THOMPSON THRIFT
3131 EAST CAMELBACK ROAD
PHOENIX, ARIZONA 85016
ATTN: MR. ANDREW CALL
PH: (602) 313-8633
E: acall@thompsonthrift.com

SITE ADDRESS

7630, 7636 AND APN #225-51-018A
ORO VALLEY, ARIZONA 85704

Registered Professional Engineer (Civil) CERTIFICATE NO. 37624 KEVIN M. HALL Date Signed 12/08/2020 ARIZONA, U.S.A.

CYPRESS PROJECT NO: 20.031

CYPRESS CIVIL
2030 east speedway boulevard
suite #110
tucson, arizona 85719
ph: 520.499.2456
e: info@cypresscivil.com

2001931 + 2001933

DATE: 12/08/20
SCALE: 1"=30'
C.I.: 1 FOOT

A PORTION OF LAND IN THE NW 1/4 OF SECTION 36, T. 12S., R.13E., G.& S.R.M., TOWN OF ORO VALLEY, PIMA COUNTY, ARIZONA

CONCEPTUAL SITE PLAN for ORACLE ROAD ORO VALLEY RETAIL CENTER

site + utilities plan

3 OF 4

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

245 TURN LANE WARRANTS

The intent of this document is to offer guidance to warrant the installation of dedicated left or right turn lanes on state routes, whether during new construction, major reconstruction, or in the course of the encroachment permitting process. **The primary determining factors to warrant an exclusive turn lane shall be: (a) the combination of through traffic volume and turning traffic volume, (b) the posted roadway speed, and (c) the number of through lanes on the roadway.** Note: Dual right- or left-turn lanes should be considered when the turning volume exceeds 300 vehicles per hour. In addition to the criteria presented in the tables below, other factors should be taken into consideration when performing a warrant study such as: shoulder width, percentage of trucks, sight distance, highway grade, horizontal and vertical curvature and crash history.

Right-Turn Lane Warrants

Peak Hour Traffic Volume on the Highway in Advancing Direction	Minimum Peak Hour Right-turn Traffic Volume				
	# of thru lanes per direction				
	1		2		3
	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	All Speeds
≤ 200					
201 – 300	-	30	-	-	-
301 – 400	-	19	-	55	-
401 – 500	85	14	-	30	-
501 – 600	58	12	140	25	-
601 – 700	27	9	80	18	-
701 – 800	20	8	53	15	-
801 – 900	12	7	40	12	-
901 – 1000	9	6	30	11	-
1001 – 1100	8	5	23	9	18
1101 – 1200	7	5	18	8	16
1201 – 1300	6	4	14	8	15
1301 – 1400	6	4	11	6	12
1400+	5	3	8	6	10

Left-Turn Lane Warrants

Peak Hour Traffic Volume on the Highway in Advancing Direction	Minimum Peak Hour Left-turn Traffic Volume			
	# of thru lanes per direction			
	1		2 (Undivided)*	
	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed
≤ 200	30	15	-	-
201 – 300	12	12	40	30
301 – 400	12	12	30	25
401 – 500	12	12	25	18
501 – 600	12	12	15	12
601 – 1000	12	12	10	8
1000+	12	8	10	8

*On non-freeway divided highways, left-turn or U-turn lanes should be provided at median breaks.

Volumes and traffic factors utilized should be based on data from ADOT's Multimodal Planning Division, or should be based on current traffic counts as approved by the Regional Traffic Engineer. For encroachment permits, analysis of the relevant through and turning traffic volumes should be completed in the design year as identified in ADOT Traffic Guidelines and Processes (TGP) 240. For new construction and major reconstruction, analysis should be performed based on data for the appropriate design year. Turn lane warrant studies should be reviewed and approved by the Regional Traffic Engineer. In cases where the State Highway section in question intersects a route under other jurisdiction, it is recommended that a turning movement analysis be performed on the intersecting route as well.

When it is determined that a turn lane is warranted, shoulder width should be provided as part of the turn lane design in accordance with the ADOT Roadway Design Guidelines, which should be used to determine the minimum continuous usable width of paved shoulder along the turn lanes. Turn lane design should also conform to the guidance in ADOT TGP430.

430 TURN LANE DESIGN

This section provides guidance for designing left and right turn lanes for at-grade highway intersections.

430.1 LEFT TURN LANES

In some instances it may be necessary to add the required widening to only one side of the roadway as shown in Figure 430-A. When widening only one side, the taper length is determined by the formula:

$$T = S \times W \qquad \text{for speeds of 45 mph or greater}$$

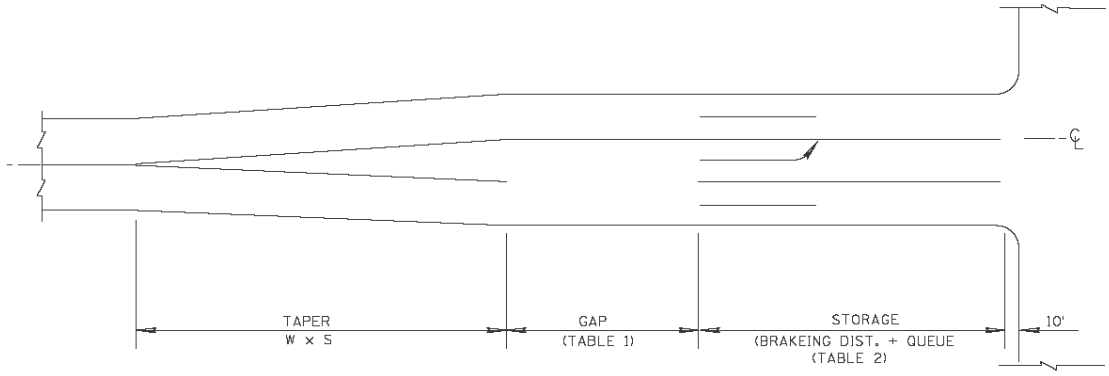
and by

$$T = \frac{S^2 \times W}{60} \qquad \text{for speeds under 45 mph}$$

where:

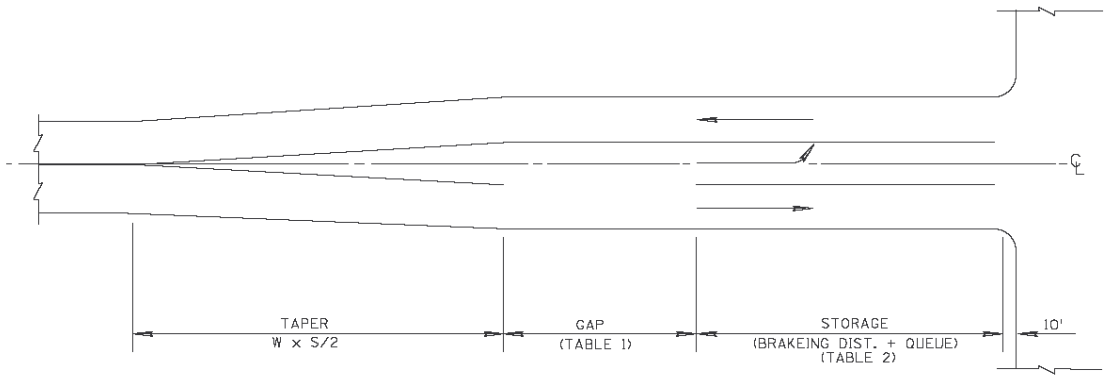
T = length of taper
W = width of the added lane
S = posted speed for existing roadways, or design speed for new or reconstructed roadways

Figure 430-A. Left Turn Lane - Widening One Side Only



The preferred way of creating a left turn lane is by widening the roadway on both sides equally as shown in Figure 430-B. This minimizes the amount of lateral shifting required for through traffic.
Taper lengths will be reduced by a proportional amount based on the proportion of widening on each side, e.g., by 1/2 for symmetrical widening. Similar adjustments must be made for other lane widths than the standard 12' illustrated.

Figure 430-B. Left Turn Lane - Symmetrical Widening



Example: *W = 12'* *Gap = 140'* *Storage = 415'* + 50' = 465'*
S = 65 mph *(From Table 430-1)*
T = 12 x 65 = 390' ** From Table 430-2*
2

low ADT, minimum trucks
Total Length = 390' + 140' + 465' = 995'

Gap Length

Table 430-1 provides the length of the gap for left turn lanes. See Standard Drawing 4-M-1.03 for the turn lane standard.

Table 430-1. Left Turn Lane Gap Lengths

POSTED or DESIGN SPEED (mph)	GAP (feet)
< 40	60
40 - 50	90
> 50	140

Storage Length

The storage length is a combination of the braking distance (Table 430-2) and a queue length dependent on the anticipated traffic control for the intersection and the traffic demand at the turn.

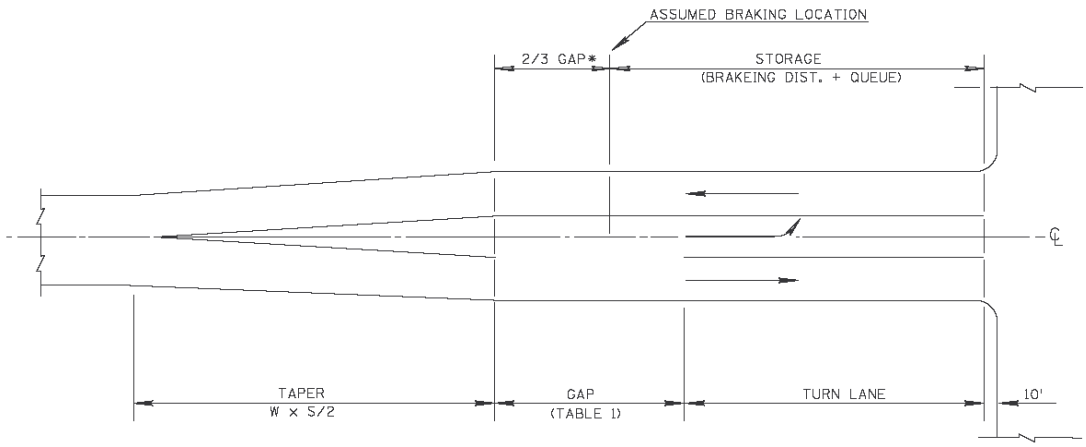
storage length = braking distance + queue length

Table 430-2. Braking Distance

POSTED or DESIGN SPEED (mph)	DESIRABLE		MINIMUM		
	BRAKING SPEED (mph)	BRAKING DISTANCE (feet)	ENTERING SPEED (mph)	BRAKING SPEED (mph)	BRAKING DISTANCE (feet)
30	29	80	20	20	20
35	34	115	25	25	40
40	38	150	30	29	50
45	43	200	35	34	85
50	47	245	40	38	120
55	52	300	45	42	145
60	56	360	50	47	200
65	60	415	55	52	265
70	64	490	60	56	315
75	70	585	65	61	400

The “Desirable” braking distance shown in Table 430-2 is based on the assumption that a vehicle will have lost a few miles per hour through retardation by the vehicle’s engine and drive train prior to braking and that braking will actually begin when the vehicle is fully into the turn lane. The “Minimum” braking distance shown is based on the assumption of: (a) a drop of 10 mph in the average speed of a vehicle by the time it begins to enter the opening or “gap” of the turn lane; (b) there will be a further reduction in speed through engine retardation while entering the turn lane; and (c) assumed braking will begin once the vehicle is 2/3 of the way into the turn lane (see Figure 430-C).

FIGURE 430-C. Minimum Braking Distance



** 2/3 Gap:* *40' for < 40 mph*
60' for 40 - 50 mph
95' for > 50 mph

Example: *W = 12'* *** Gap = 140'* *Storage = 265' *** +50' = 315'*
S = 65 mph *2/3 Gap = 95'*
T = 12 x 65 = 390' *difference = 45'* **** From Table 430-2*
2

*** From Table 430-1*

low ADT, minimum trucks
Total Length = 390' + 95' + 315' = 800'
Turn Lane Length = 315' – 45' = 270'

The queue length is the portion of the storage length required to temporarily store turning traffic until conditions allow the turning maneuver to be completed in a safe manner. It is in addition to the length required for braking. The queue length is dependent on the anticipated traffic control for the intersection and the traffic demand at the turn. A traffic analysis may be needed to determine arrival rates and queue lengths.

- Signal Control - The queue length depends on the signal cycle length, the signal phasing arrangement, and the rate of arrivals and departures of left-turning vehicles. Allow 1.5 to 2 times the average number of vehicles that would queue per cycle for periodic heavy demand in traffic flow.
- Cross Road Stop Sign Control - The queue length is based on the number of turning vehicles likely to arrive in the average two minute period within the peak hour. The length should be adjusted for a lack of adequate gaps in opposing through traffic.

- All-Way Stop Sign Control - The queue length is based on the number of turning vehicles likely to arrive in the average two minute period within the peak hour. The length should be further adjusted for a lack of adequate gaps in both opposing through traffic and cross road traffic activity.

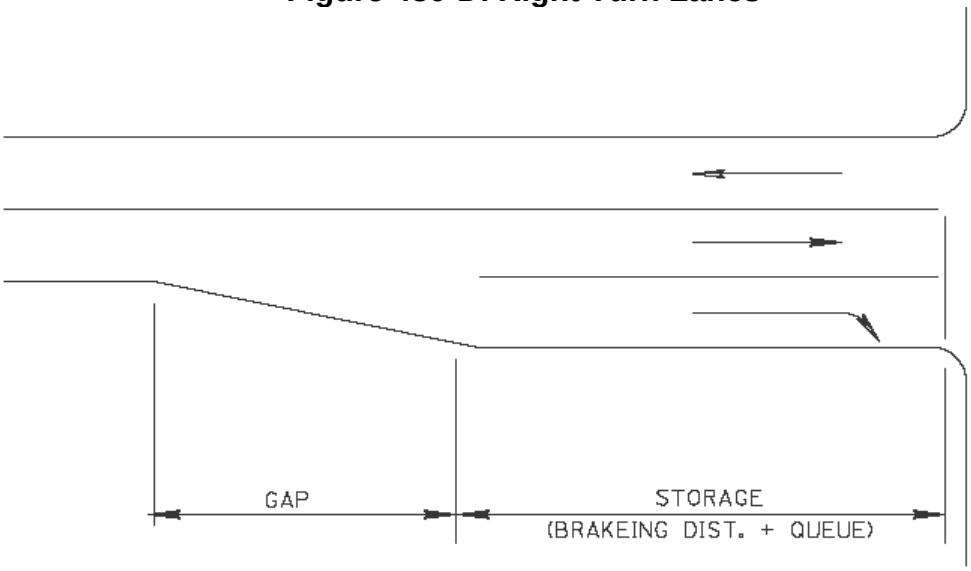
Each passenger vehicle and each truck are assumed to be 25 and 60 feet in length, respectively.

The minimum queue length for all traffic control situations should accommodate two passenger vehicles or one passenger vehicle and one truck when the truck percentage is greater than 10%, i.e., 50 foot and 85 foot minimum queue lengths, respectively.

Where a two-way left-turn lane is to be interrupted with a one-way left-turn lane, the two-way left-turn lane should end a sufficient distance in advance of the interruption to allow the placement of a minimum gap and necessary storage (see Standard Drawing M-2).

430.2 RIGHT TURN LANES

Figure 430-D. Right Turn Lanes



Taper Length

Lengthy tapers are generally not required for right turn lanes, and similarly for left turn lanes where the median width is 30 feet or greater, since the lane may be simply added to the outside of the traveled way; however, a shorter taper equal in length to the gap (Table 430-1) is provided to transition the edge line from the normal pavement cross section to the edge of the turn lane.

Gap Length

The gap for right turn lanes is the same as that for left turn lanes (see Table 430-1).

Storage Length

The storage length for right turn lanes is the same as that for left turn lanes; however, when space available for a turn lane is limited and a yield condition or free-flowing right turn is provided, it may be appropriate to assume that braking continues, not to a stop as with left turns, but rather to the turning speed at the intersection radius return. Where traffic slows to 10 mph to turn right, 20 feet may be deducted from the right turn lane queue length.

430.3 SUMMARY

These guidelines assume that the intersection is not skewed, is on relatively flat grade, does not contain significant vertical or horizontal curves, has adequate sight distance, and has 12-foot wide through lanes.

The "Desirable" design is normally used for new construction or reconstruction of a roadway. The "Minimum" design is normally used for retrofits or minor intersection improvements.

It is recognized that design methodology must be somewhat flexible in meeting the highway users' needs and that circumstances vary from one location to another so that rigid application of rules or guidelines may not fit every situation. Engineering judgment must frequently be exercised in determining the end product. For instance, shorter turn lanes than the minimum established by this guideline may be acceptable if approved in writing by the Regional Traffic Engineer having jurisdiction.

Project: SR 77/Ina

Date: Wednesday, September 28, 2016

0:15

Count Starts at

	7:00 AM	NB SR 77			SB SR 77			EB Ina			WB Ina			TOTALS					END	
	END Time	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	NB	SB	EB	WB	Total	Time	
	7:15 AM	34	167	15	230	283	25	0	244	51	0	138	197	216	538	295	335	1384	7:15 AM	
	7:30 AM	33	190	3	233	342	25	0	271	78	0	136	193	226	600	349	329	1504	7:30 AM	
	7:45 AM	39	202	6	232	331	43	0	230	53	0	160	215	247	606	283	375	1511	7:45 AM	
	8:00 AM	57	192	12	268	366	22	0	225	79	0	152	230	261	656	304	382	1603	8:00 AM	
	8:15 AM	50	199	13	232	347	45	0	214	85	0	169	207	262	624	299	376	1561	8:15 AM	
	8:30 AM	46	182	7	233	326	39	0	262	124	0	192	185	235	598	386	377	1596	8:30 AM	
	8:45 AM	48	196	8	169	259	34	0	199	78	0	184	195	252	462	277	379	1370	8:45 AM	
	9:00 AM	69	168	6	216	282	39	0	188	75	0	165	183	243	537	263	348	1391	9:00 AM	
7:00 AM	8:00 AM	163	751	36	963	1322	115	0	970	261	0	586	835	950	2400	1231	1421	6002	7:00 AM	8:00 AM
7:15 AM	8:15 AM	179	783	34	965	1386	135	0	940	295	0	617	845	996	2486	1235	1462	6179	7:15 AM	8:15 AM
7:30 AM	8:30 AM	192	775	38	965	1370	149	0	931	341	0	673	837	1005	2484	1272	1510	6271	7:30 AM	8:30 AM
7:45 AM	8:45 AM	201	769	40	902	1298	140	0	900	366	0	697	817	1010	2340	1266	1514	6130	7:45 AM	8:45 AM
8:00 AM	9:00 AM	213	745	34	850	1214	157	0	863	362	0	710	770	992	2221	1225	1480	5918	8:00 AM	9:00 AM
7:00 AM	9:00 AM	376	1496	70	1813	2536	272	0	1833	623	0	1296	1605	1942	4621	2456	2901	11920	7:00 AM	9:00 AM
													PHF	0.96	0.95	0.82	0.99			
2020		208	839	41	1045	1483	161	0	1008	369	0	728	906							
2021 NP		212	856	42	1065	1513	165	0	1028	376	0	743	924							
2024 NP		225	908	45	1131	1605	175	0	1091	400	0	789	981							
Non-Pass By Trips			14		**14**	11	11		**14**				**20**							
Pass By Trips																				
Subtracted Pass-By Trips																				
2021 WP		212	870	42	1079	1524	176	0	1042	376	0	743	944							
2024 WP		225	922	45	1145	1616	186	0	1105	400	0	789	1001							

Count Starts at

	4:00 PM	NB SR 77			SB SR 77			EB Ina			WB Ina			TOTALS					END	
	END Time	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	NB	SB	EB	WB	Total	Time	
	4:15 PM	90	319	26	163	267	64	0	209	68	0	245	260	435	494	277	505	1711	4:15 PM	
	4:30 PM	83	288	19	194	258	42	0	189	68	0	293	257	390	494	257	550	1691	4:30 PM	
	4:45 PM	115	306	27	169	267	62	0	192	75	0	272	232	448	498	267	504	1717	4:45 PM	
	5:00 PM	108	305	27	187	251	62	0	219	80	0	254	282	440	500	299	536	1775	5:00 PM	
	5:15 PM	148	402	43	159	299	60	0	222	72	0	255	277	593	518	294	532	1937	5:15 PM	
	5:30 PM	147	315	20	205	300	47	0	185	55	0	270	301	482	552	240	571	1845	5:30 PM	
	5:45 PM	125	347	13	165	239	46	0	196	49	0	292	279	485	450	245	571	1751	5:45 PM	
	6:00 PM	90	291	16	159	213	51	0	178	61	0	222	212	397	423	239	434	1493	6:00 PM	
4:00 PM	5:00 PM	396	1218	99	713	1043	230	0	809	291	0	1064	1031	1713	1986	1100	2095	6894	4:00 PM	5:00 PM
4:15 PM	5:15 PM	454	1301	116	709	1075	226	0	822	295	0	1074	1048	1871	2010	1117	2122	7120	4:15 PM	5:15 PM
4:30 PM	5:30 PM	518	1328	117	720	1117	231	0	818	282	0	1051	1092	1963	2068	1100	2143	7274	4:30 PM	5:30 PM
4:45 PM	5:45 PM	528	1369	103	716	1089	215	0	822	256	0	1071	1139	2000	2020	1078	2210	7308	4:45 PM	5:45 PM
5:00 PM	6:00 PM	510	1355	92	688	1051	204	0	781	237	0	1039	1069	1957	1943	1018	2108	7026	5:00 PM	6:00 PM
4:00 PM	6:00 PM	906	2573	191	1401	2094	434	0	1590	528	0	2103	2100	3670	3929	2118	4203	13920	4:00 PM	6:00 PM
													PHF	0.84	0.91	0.90	0.97			
2020		572	1482	111	775	1179	233	0	890	277	0	1159	1233							
2021 NP		583	1511	114	791	1202	237	0	908	283	0	1182	1258							
2024 NP		619	1604	121	839	1276	252	0	963	300	0	1255	1335							
Non-Pass By Trips			**12**		**17**	**13**	**13**		**12**				**15**							
Pass By Trips																				
Subtracted Pass-By Trips																				
2021 WP		583	1523	114	808	1215	250	0	920	283	0	1182	1273							
2024 WP		619	1616	121	856	1289	265	0	975	300	0	1255	1350							

Project: SR 77/Suffolk

Date: Tuesday, September 24, 2019

0:15

Count Starts at

	7:00 AM	NB SR 77			SB SR 77			EB SUFFOLK			WB SUFFOLK			TOTALS					END	
	END Time	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	NB	SB	EB	WB	Total	Time	
	7:15 AM	9	283	5	6	534	3	1	0	6	6	0	6	297	543	7	12	859	7:15 AM	
	7:30 AM	5	338	4	7	663	5	2	0	7	11	0	3	347	675	9	14	1045	7:30 AM	
	7:45 AM	13	344	3	11	722	3	4	0	10	10	0	1	360	736	14	11	1121	7:45 AM	
	8:00 AM	25	367	2	16	683	4	7	0	9	2	0	0	394	703	16	2	1115	8:00 AM	
	8:15 AM	15	334	4	18	722	1	6	2	13	8	1	2	353	741	21	11	1126	8:15 AM	
	8:30 AM	16	276	3	12	629	3	7	0	11	8	0	0	295	644	18	8	965	8:30 AM	
	8:45 AM	22	328	3	9	535	5	4	0	4	5	0	2	353	549	8	7	917	8:45 AM	
	9:00 AM	25	321	2	9	459	4	2	0	10	5	0	1	348	472	12	6	838	9:00 AM	
7:00 AM	8:00 AM	52	1332	14	40	2602	15	14	0	32	29	0	10	1398	2657	46	39	4140	7:00 AM	8:00 AM
7:15 AM	8:15 AM	58	1383	13	52	2790	13	19	2	39	31	1	6	1454	2855	60	38	4407	7:15 AM	8:15 AM
7:30 AM	8:30 AM	69	1321	12	57	2756	11	24	2	43	28	1	3	1402	2824	69	32	4327	7:30 AM	8:30 AM
7:45 AM	8:45 AM	78	1305	12	55	2569	13	24	2	37	23	1	4	1395	2637	63	28	4123	7:45 AM	8:45 AM
8:00 AM	9:00 AM	78	1259	12	48	2345	13	19	2	38	26	1	5	1349	2406	59	32	3846	8:00 AM	9:00 AM
7:00 AM	9:00 AM	130	2591	26	88	4947	28	33	2	70	55	1	15	2747	5063	105	71	7986	7:00 AM	9:00 AM
													PHF	0.92	0.96	0.71	0.68			
2020		59	1411	13	53	2846	13	19	2	40	32	1	6							
2021 NP		60	1439	14	54	2903	14	20	2	41	32	1	6							
2024 NP		64	1527	14	57	3080	14	21	2	43	34	1	7							
Non-Pass By Trips			**22**	**26**	**39**	**16**					20		18							
Pass By Trips				13	10						13		13							
Subtracted Pass-By Trips			-13			-10														
2021 WP		60	1448	53	103	2909	14	20	2	41	65	1	37						167.00	
2024 WP		64	1536	53	106	3086	14	21	2	43	67	1	38						5,033	0.03

Count Starts at

	4:00 PM	NB SR 77			SB SR 77			EB SUFFOLK			WB SUFFOLK			TOTALS					END	
	END Time	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	NB	SB	EB	WB	Total	Time	
	4:15 PM	49	516	3	9	440	5	22	0	19	2	0	3	568	454	41	5	1068	4:15 PM	
	4:30 PM	45	551	4	5	435	3	24	0	18	4	1	1	600	443	42	6	1091	4:30 PM	
	4:45 PM	44	504	6	11	399	4	21	0	26	4	2	3	554	414	47	9	1024	4:45 PM	
	5:00 PM	45	564	3	7	418	8	28	0	29	1	0	2	612	433	57	3	1105	5:00 PM	
	5:15 PM	45	604	9	13	456	2	23	0	33	8	1	4	658	471	56	13	1198	5:15 PM	
	5:30 PM	31	560	3	7	446	5	14	0	26	4	1	1	594	458	40	6	1098	5:30 PM	
	5:45 PM	48	545	7	9	428	7	20	0	24	8	0	1	600	444	44	9	1097	5:45 PM	
	6:00 PM	41	502	4	5	391	1	15	0	18	6	0	2	547	397	33	8	985	6:00 PM	
4:00 PM	5:00 PM	183	2135	16	32	1692	20	95	0	92	11	3	9	2334	1744	187	23	4288	4:00 PM	5:00 PM
4:15 PM	5:15 PM	179	2223	22	36	1708	17	96	0	106	17	4	10	2424	1761	202	31	4418	4:15 PM	5:15 PM
4:30 PM	5:30 PM	165	2232	21	38	1719	19	86	0	114	17	4	10	2418	1776	200	31	4425	4:30 PM	5:30 PM
4:45 PM	5:45 PM	169	2273	22	36	1748	22	85	0	112	21	2	8	2464	1806	197	31	4498	4:45 PM	5:45 PM
5:00 PM	6:00 PM	165	2211	23	34	1721	15	72	0	101	26	2	8	2399	1770	173	36	4378	5:00 PM	6:00 PM
4:00 PM	6:00 PM	348	4346	39	66	3413	35	167	0	193	37	5	17	4733	3514	360	59	8666	4:00 PM	6:00 PM
													PHF	0.94	0.96	0.86	0.60			
2020		172	2318	22	37	1783	22	87	0	114	21	2	8							
2021 NP		176	2365	23	37	1819	23	88	0	117	22	2	8							
2024 NP		187	2510	24	40	1930	24	94	0	124	23	2	9							
Non-Pass By Trips			**19**	**20**	**32**	**19**					**24**		**19**							
Pass By Trips				15	20						11		13							
Subtracted Pass-By Trips			**-15**			**-14**														
2021 WP		176	2369	58	89	1824	23	88	0	117	57	2	40						163.00	
2024 WP		187	2514	59	92	1935	24	94	0	124	58	2	41						5,129	0.03

Project: SR 77/Magee

Date: Wednesday, September 11, 2019

0:15

Count Starts at

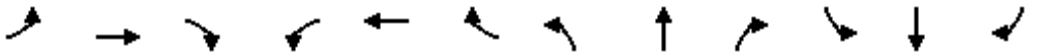
	7:00 AM	NB SR 77			SB SR 77			EB MAGEE			WB MAGEE			TOTALS					END	
	END Time	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	NB	SB	EB	WB	Total	Time	
	7:15 AM	26	256	4	10	389	62	85	25	84	13	9	3	286	461	194	25	966	7:15 AM	
	7:30 AM	28	319	10	15	643	91	81	47	116	23	14	4	357	749	244	41	1391	7:30 AM	
	7:45 AM	27	342	17	12	501	69	120	72	146	24	43	19	386	582	338	86	1392	7:45 AM	
	8:00 AM	36	312	4	11	655	84	132	29	140	31	30	13	352	750	301	74	1477	8:00 AM	
	8:15 AM	37	296	8	8	605	67	56	38	135	16	20	13	341	680	229	49	1299	8:15 AM	
	8:30 AM	34	308	14	15	427	75	94	39	114	29	18	16	356	517	247	63	1183	8:30 AM	
	8:45 AM	36	255	13	13	438	54	79	25	69	22	13	12	304	505	173	47	1029	8:45 AM	
	9:00 AM	41	260	8	19	434	70	79	42	93	23	26	11	309	523	214	60	1106	9:00 AM	
7:00 AM	8:00 AM	117	1229	35	48	2188	306	418	173	486	91	96	39	1381	2542	1077	226	5226	7:00 AM	8:00 AM
7:15 AM	8:15 AM	128	1269	39	46	2404	311	389	186	537	94	107	49	1436	2761	1112	250	5559	7:15 AM	8:15 AM
7:30 AM	8:30 AM	134	1258	43	46	2188	295	402	178	535	100	111	61	1435	2529	1115	272	5351	7:30 AM	8:30 AM
7:45 AM	8:45 AM	143	1171	39	47	2125	280	361	131	458	98	81	54	1353	2452	950	233	4988	7:45 AM	8:45 AM
8:00 AM	9:00 AM	148	1119	43	55	1904	266	308	144	411	90	77	52	1310	2225	863	219	4617	8:00 AM	9:00 AM
7:00 AM	9:00 AM	265	2348	78	103	4092	572	726	317	897	181	173	91	2691	4767	1940	445	9843	7:00 AM	9:00 AM
														PHF	0.93	0.92	0.82	0.73		
2020		131	1294	40	47	2452	317	397	190	548	96	109	50							
2021 NP		133	1320	41	48	2501	324	405	194	559	98	111	51							
2024 NP		141	1401	43	51	2654	343	429	205	593	104	118	54							
Non-Pass By Trips		**7**	**18**	3		**24**				**10**	**5**									
Pass By Trips																				
Subtracted Pass-By Trips																				
2021 WP		140	1338	44	48	2525	324	405	194	569	103	111	51							
2024 WP		148	1419	46	51	2678	343	429	205	603	109	118	54							

Count Starts at

	4:00 PM	NB SR 77			SB SR 77			EB MAGEE			WB MAGEE			TOTALS					END	
	END Time	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	NB	SB	EB	WB	Total	Time	
	4:15 PM	72	393	7	14	358	67	93	29	24	46	49	26	472	439	146	121	1178	4:15 PM	
	4:30 PM	61	415	10	36	375	90	99	42	32	47	33	26	486	501	173	106	1266	4:30 PM	
	4:45 PM	67	446	9	19	388	88	95	38	20	30	56	14	522	495	153	100	1270	4:45 PM	
	5:00 PM	74	491	10	21	377	86	109	32	27	24	42	24	575	484	168	90	1317	5:00 PM	
	5:15 PM	72	432	8	25	357	84	107	30	64	42	52	31	512	466	201	125	1304	5:15 PM	
	5:30 PM	68	437	7	31	432	69	78	24	51	27	39	29	512	532	153	95	1292	5:30 PM	
	5:45 PM	59	476	8	18	325	61	98	32	46	27	44	14	543	404	176	85	1208	5:45 PM	
	6:00 PM	68	485	6	18	288	48	107	29	59	36	27	22	559	354	195	85	1193	6:00 PM	
4:00 PM	5:00 PM	274	1745	36	90	1498	331	396	141	103	147	180	90	2055	1919	640	417	5031	4:00 PM	5:00 PM
4:15 PM	5:15 PM	274	1784	37	101	1497	348	410	142	143	143	183	95	2095	1946	695	421	5157	4:15 PM	5:15 PM
4:30 PM	5:30 PM	281	1806	34	96	1554	327	389	124	162	123	189	98	2121	1977	675	410	5183	4:30 PM	5:30 PM
4:45 PM	5:45 PM	273	1836	33	95	1491	300	392	118	188	120	177	98	2142	1886	698	395	5121	4:45 PM	5:45 PM
5:00 PM	6:00 PM	267	1830	29	92	1402	262	390	115	220	132	162	96	2126	1756	725	390	4997	5:00 PM	6:00 PM
4:00 PM	6:00 PM	541	3575	65	182	2900	593	786	256	323	279	342	186	4181	3675	1365	807	10028	4:00 PM	6:00 PM
														PHF	0.92	0.93	0.84	0.82		
2020		287	1842	35	98	1585	334	397	126	165	125	193	100							
2021 NP		292	1879	35	100	1617	340	405	129	169	128	197	102							
2024 NP		310	1994	38	106	1716	361	429	137	179	136	209	108							
Non-Pass By Trips		**8**	**20**	**4**		**20**				**8**	4									
Pass By Trips																				
Subtracted Pass-By Trips																				
2021 WP		300	1899	39	100	1637	340	405	129	177	132	197	102							
2024 WP		318	2014	42	106	1736	361	429	137	187	140	209	108							

HCM 6th Signalized Intersection Summary
3: SR 77 & Suffolk Dr

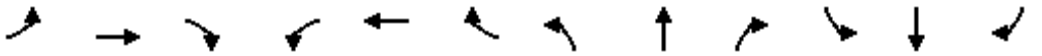
08/04/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	2	40	32	1	6	59	1411	13	53	2846	13
Future Volume (veh/h)	19	2	40	32	1	6	59	1411	13	53	2846	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	27	3	56	47	1	9	64	1534	14	55	2965	14
Peak Hour Factor	0.71	0.71	0.71	0.68	0.68	0.68	0.92	0.92	0.92	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	174	4	76	65	6	53	141	3895	36	322	3805	1181
Arrive On Green	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.75	0.75	0.03	0.75	0.75
Sat Flow, veh/h	3428	81	1504	1767	160	1437	1767	5177	47	1767	5066	1572
Grp Volume(v), veh/h	27	0	59	47	0	10	64	1001	547	55	2965	14
Grp Sat Flow(s),veh/h/ln	1714	0	1585	1767	0	1597	1767	1689	1847	1767	1689	1572
Q Serve(g_s), s	1.1	0.0	5.1	3.7	0.0	0.8	1.1	14.6	14.6	1.0	49.2	0.3
Cycle Q Clear(g_c), s	1.1	0.0	5.1	3.7	0.0	0.8	1.1	14.6	14.6	1.0	49.2	0.3
Prop In Lane	1.00		0.95	1.00		0.90	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	174	0	80	65	0	59	141	2541	1390	322	3805	1181
V/C Ratio(X)	0.16	0.00	0.73	0.72	0.00	0.17	0.45	0.39	0.39	0.17	0.78	0.01
Avail Cap(c_a), veh/h	441	0	204	227	0	205	147	2541	1390	341	3805	1181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.26	0.26	0.26	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.6	0.0	65.5	66.7	0.0	65.4	28.8	6.1	6.1	4.3	10.4	4.4
Incr Delay (d2), s/veh	0.4	0.0	12.1	14.1	0.0	1.4	0.6	0.1	0.2	0.2	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.4	1.9	0.0	0.4	1.7	4.8	5.3	0.3	16.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	0.0	77.6	80.9	0.0	66.7	29.4	6.2	6.3	4.5	12.1	4.4
LnGrp LOS	E	A	E	F	A	E	C	A	A	A	B	A
Approach Vol, veh/h		86			57			1612			3034	
Approach Delay, s/veh		73.4			78.4			7.2			11.9	
Approach LOS		E			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	109.8		11.6	9.1	109.7		9.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.9	80.1		18.0	5.0	81.0		18.0				
Max Q Clear Time (g_c+I1), s	3.0	16.6		7.1	3.1	51.2		5.7				
Green Ext Time (p_c), s	0.0	17.4		0.2	0.0	27.5		0.1				

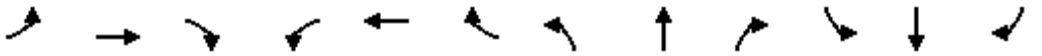
Intersection Summary			
HCM 6th Ctrl Delay		12.2	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	397	190	548	96	109	50	131	1294	40	47	2452	317
Future Volume (veh/h)	397	190	548	96	109	50	131	1294	40	47	2452	317
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	484	232	668	132	149	68	141	1391	43	51	2665	345
Peak Hour Factor	0.82	0.82	0.82	0.73	0.73	0.73	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	551	1098	490	132	667	298	130	2427	753	217	2377	738
Arrive On Green	0.16	0.31	0.31	0.04	0.19	0.19	0.04	0.48	0.48	0.03	0.47	0.47
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	1767	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	484	232	668	132	149	68	141	1391	43	51	2665	345
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1767	1689	1572	1767	1689	1572
Q Serve(g_s), s	17.9	6.3	40.5	5.0	4.7	4.8	5.5	25.6	1.9	1.9	61.0	19.4
Cycle Q Clear(g_c), s	17.9	6.3	40.5	5.0	4.7	4.8	5.5	25.6	1.9	1.9	61.0	19.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	551	1098	490	132	667	298	130	2427	753	217	2377	738
V/C Ratio(X)	0.88	0.21	1.36	1.00	0.22	0.23	1.08	0.57	0.06	0.24	1.12	0.47
Avail Cap(c_a), veh/h	678	1098	490	132	667	298	130	2427	753	240	2377	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	33.0	44.7	62.5	44.6	44.7	34.1	24.3	18.1	19.3	34.5	23.5
Incr Delay (d2), s/veh	10.8	0.1	176.4	78.7	0.2	0.4	103.0	1.0	0.1	0.6	60.8	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	2.7	39.6	3.6	2.1	1.9	5.8	10.4	0.7	0.8	37.7	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	33.1	221.1	141.2	44.8	45.0	137.0	25.3	18.3	19.8	95.3	25.6
LnGrp LOS	E	C	F	F	D	D	F	C	B	B	F	C
Approach Vol, veh/h		1384			349			1575			3061	
Approach Delay, s/veh		134.7			81.3			35.1			86.2	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	66.8	9.5	45.0	10.0	65.5	25.4	29.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	3.9	27.6	7.0	42.5	7.5	63.0	19.9	6.8
Green Ext Time (p_c), s	0.0	13.4	0.0	0.0	0.0	0.0	1.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	83.8
HCM 6th LOS	F



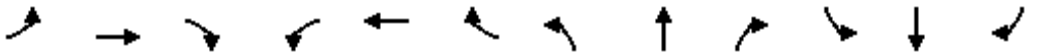
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1008	369	0	728	906	208	839	41	1045	1483	161
Future Volume (veh/h)	0	1008	369	0	728	906	208	839	41	1045	1483	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1229	450	0	735	915	217	874	43	1100	1561	169
Peak Hour Factor	0.82	0.82	0.82	0.99	0.99	0.99	0.96	0.96	0.96	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
Arrive On Green	0.00	0.34	0.34	0.00	0.34	0.34	0.10	0.19	0.19	0.32	0.42	0.42
Sat Flow, veh/h	0	3618	1572	0	3618	2768	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	0	1229	450	0	735	915	217	874	43	1100	1561	169
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1763	1384	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	0.0	34.5	12.4	0.0	17.3	32.4	6.1	16.8	2.3	31.9	25.8	7.0
Cycle Q Clear(g_c), s	0.0	34.5	12.4	0.0	17.3	32.4	6.1	16.8	2.3	31.9	25.8	7.0
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
V/C Ratio(X)	0.00	1.01	0.64	0.00	0.60	0.96	0.64	0.88	0.14	0.99	0.73	0.26
Avail Cap(c_a), veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.54	0.54	0.54
Uniform Delay (d), s/veh	0.0	32.7	21.7	0.0	27.1	32.0	43.3	39.2	33.3	33.5	24.2	18.8
Incr Delay (d2), s/veh	0.0	28.4	2.0	0.0	0.9	19.7	4.0	11.5	1.0	16.8	1.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	19.0	16.7	0.0	7.2	23.6	2.7	7.9	0.9	15.4	10.2	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	61.1	23.7	0.0	28.0	51.8	47.3	50.6	34.3	50.4	25.5	19.3
LnGrp LOS	A	F	C	A	C	D	D	D	C	D	C	B
Approach Vol, veh/h		1679			1650			1134			2830	
Approach Delay, s/veh		51.1			41.2			49.4			34.8	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	37.0	24.0		39.0	14.4	46.6		39.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	32.5	19.5		34.5	9.9	42.1		34.5				
Max Q Clear Time (g_c+I1), s	33.9	18.8		36.5	8.1	27.8		34.4				
Green Ext Time (p_c), s	0.0	0.4		0.0	0.1	9.7		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		42.3	
HCM 6th LOS		D	

HCM 6th Signalized Intersection Summary
3: SR 77 & Suffolk Dr

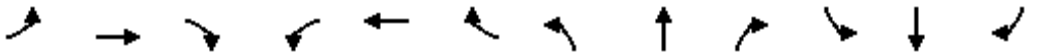
08/04/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	0	114	21	2	8	172	2318	22	37	1783	22
Future Volume (veh/h)	87	0	114	21	2	8	172	2318	22	37	1783	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	101	0	133	35	3	13	183	2466	23	39	1857	23
Peak Hour Factor	0.86	0.86	0.86	0.60	0.60	0.60	0.94	0.94	0.94	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	344	0	158	54	9	41	243	3687	34	160	3569	1108
Arrive On Green	0.10	0.00	0.10	0.03	0.03	0.03	0.04	0.71	0.71	0.03	0.70	0.70
Sat Flow, veh/h	3428	0	1572	1767	304	1315	1767	5176	48	1767	5066	1572
Grp Volume(v), veh/h	101	0	133	35	0	16	183	1608	881	39	1857	23
Grp Sat Flow(s),veh/h/ln	1714	0	1572	1767	0	1619	1767	1689	1847	1767	1689	1572
Q Serve(g_s), s	3.8	0.0	11.6	2.7	0.0	1.4	4.2	36.6	36.8	0.8	23.9	0.6
Cycle Q Clear(g_c), s	3.8	0.0	11.6	2.7	0.0	1.4	4.2	36.6	36.8	0.8	23.9	0.6
Prop In Lane	1.00		1.00	1.00		0.81	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	344	0	158	54	0	50	243	2406	1316	160	3569	1108
V/C Ratio(X)	0.29	0.00	0.84	0.64	0.00	0.32	0.75	0.67	0.67	0.24	0.52	0.02
Avail Cap(c_a), veh/h	441	0	202	227	0	208	243	2406	1316	185	3569	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.4	0.0	61.9	67.1	0.0	66.4	13.9	11.1	11.1	11.6	9.6	6.2
Incr Delay (d2), s/veh	0.5	0.0	21.7	12.0	0.0	3.6	1.2	0.1	0.2	0.8	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	5.6	1.4	0.0	0.6	3.0	12.8	14.1	0.4	8.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	0.0	83.6	79.1	0.0	70.1	15.1	11.2	11.3	12.4	10.2	6.2
LnGrp LOS	E	A	F	E	A	E	B	B	B	B	B	A
Approach Vol, veh/h		234			51			2672			1919	
Approach Delay, s/veh		72.9			76.2			11.5			10.2	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	104.2		18.6	9.5	103.1		8.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.9	80.1		18.0	5.0	81.0		18.0				
Max Q Clear Time (g_c+I1), s	2.8	38.8		13.6	6.2	25.9		4.7				
Green Ext Time (p_c), s	0.0	30.7		0.4	0.0	25.2		0.1				

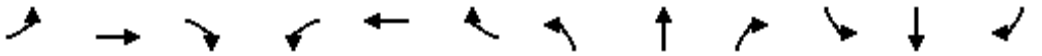
Intersection Summary			
HCM 6th Ctrl Delay		14.6	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	397	126	165	125	193	100	287	1842	35	98	1585	334
Future Volume (veh/h)	397	126	165	125	193	100	287	1842	35	98	1585	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	473	150	196	152	235	122	312	2002	38	105	1704	359
Peak Hour Factor	0.84	0.84	0.84	0.82	0.82	0.82	0.92	0.92	0.92	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	541	773	345	132	352	157	198	2858	887	183	2845	883
Arrive On Green	0.16	0.22	0.22	0.04	0.10	0.10	0.04	0.56	0.56	0.04	0.56	0.56
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	1767	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	473	150	196	152	235	122	312	2002	38	105	1704	359
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1767	1689	1572	1767	1689	1572
Q Serve(g_s), s	17.5	4.5	14.5	5.0	8.4	9.8	5.5	37.0	1.4	3.3	28.9	16.9
Cycle Q Clear(g_c), s	17.5	4.5	14.5	5.0	8.4	9.8	5.5	37.0	1.4	3.3	28.9	16.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	541	773	345	132	352	157	198	2858	887	183	2845	883
V/C Ratio(X)	0.87	0.19	0.57	1.15	0.67	0.78	1.57	0.70	0.04	0.57	0.60	0.41
Avail Cap(c_a), veh/h	678	1098	490	132	537	240	198	2858	887	193	2845	883
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	41.4	45.3	62.5	56.4	57.1	28.9	20.4	12.7	21.6	18.8	16.2
Incr Delay (d2), s/veh	10.3	0.1	1.5	125.3	2.2	8.5	281.0	1.5	0.1	3.7	0.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	2.0	5.8	4.5	3.8	4.3	19.4	14.6	0.5	1.8	11.3	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	41.5	46.7	187.8	58.6	65.6	309.8	21.9	12.7	25.3	19.8	17.6
LnGrp LOS	E	D	D	F	E	E	F	C	B	C	B	B
Approach Vol, veh/h		819			509			2352			2168	
Approach Delay, s/veh		55.7			98.8			59.9			19.7	
Approach LOS		E			F			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	77.8	9.5	33.0	10.0	77.5	25.0	17.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	5.3	39.0	7.0	16.5	7.5	30.9	19.5	11.8
Green Ext Time (p_c), s	0.0	15.8	0.0	1.6	0.0	18.4	1.0	1.1

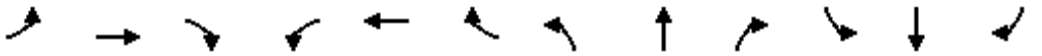
Intersection Summary	
HCM 6th Ctrl Delay	47.8
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	890	277	0	1159	1233	572	1482	111	775	1179	233
Future Volume (veh/h)	0	890	277	0	1159	1233	572	1482	111	775	1179	233
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	989	308	0	1195	1271	681	1764	132	852	1296	256
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.84	0.84	0.84	0.91	0.91	0.91
Percent Heavy Veh, %	0	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
Arrive On Green	0.00	0.38	0.38	0.00	0.38	0.38	0.21	0.30	0.30	0.20	0.30	0.30
Sat Flow, veh/h	0	3618	1572	0	3618	2768	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	0	989	308	0	1195	1271	681	1764	132	852	1296	256
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1763	1384	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	0.0	29.0	0.0	0.0	38.2	45.5	23.5	36.5	7.7	24.5	28.9	16.3
Cycle Q Clear(g_c), s	0.0	29.0	0.0	0.0	38.2	45.5	23.5	36.5	7.7	24.5	28.9	16.3
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
V/C Ratio(X)	0.00	0.74	0.33	0.00	0.89	1.21	0.95	1.14	0.28	1.22	0.85	0.54
Avail Cap(c_a), veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	0.0	32.1	12.7	0.0	35.0	37.3	46.9	41.7	31.7	47.8	39.5	35.1
Incr Delay (d2), s/veh	0.0	2.2	0.2	0.0	8.1	104.0	22.9	73.4	1.4	107.8	4.9	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.6	10.3	0.0	17.6	43.5	12.2	25.5	3.1	20.9	12.6	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.4	12.9	0.0	43.1	141.3	69.8	115.1	33.1	155.6	44.4	38.5
LnGrp LOS	A	C	B	A	D	F	E	F	C	F	D	D
Approach Vol, veh/h		1297			2466			2577			2404	
Approach Delay, s/veh		29.3			93.7			99.0			83.2	
Approach LOS		C			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.0	41.0		50.0	29.5	40.5		50.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.5	36.5		45.5	25.0	36.0		45.5				
Max Q Clear Time (g_c+I1), s	26.5	38.5		31.0	25.5	30.9		47.5				
Green Ext Time (p_c), s	0.0	0.0		7.1	0.0	3.8		0.0				

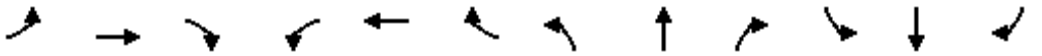
Intersection Summary												
HCM 6th Ctrl Delay			82.8									
HCM 6th LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2	41	32	1	6	60	1439	14	54	2903	14
Future Volume (veh/h)	20	2	41	32	1	6	60	1439	14	54	2903	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	25	2	51	40	1	8	75	1599	18	68	3226	18
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.90	0.80	0.80	0.90	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	159	3	71	56	6	45	132	3925	44	312	3848	1194
Arrive On Green	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.76	0.76	0.03	0.76	0.76
Sat Flow, veh/h	3428	60	1522	1767	178	1422	1767	5164	58	1767	5066	1572
Grp Volume(v), veh/h	25	0	53	40	0	9	75	1046	571	68	3226	18
Grp Sat Flow(s),veh/h/ln	1714	0	1582	1767	0	1600	1767	1689	1845	1767	1689	1572
Q Serve(g_s), s	1.0	0.0	4.6	3.1	0.0	0.8	1.3	15.1	15.1	1.2	59.0	0.4
Cycle Q Clear(g_c), s	1.0	0.0	4.6	3.1	0.0	0.8	1.3	15.1	15.1	1.2	59.0	0.4
Prop In Lane	1.00		0.96	1.00		0.89	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	159	0	73	56	0	51	132	2567	1403	312	3848	1194
V/C Ratio(X)	0.16	0.00	0.72	0.71	0.00	0.18	0.57	0.41	0.41	0.22	0.84	0.02
Avail Cap(c_a), veh/h	441	0	203	227	0	206	135	2567	1403	328	3848	1194
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.1	0.0	65.9	67.2	0.0	66.0	37.0	5.8	5.8	4.2	11.1	4.1
Incr Delay (d2), s/veh	0.5	0.0	12.5	15.5	0.0	1.6	0.5	0.0	0.1	0.3	2.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.1	1.7	0.0	0.3	2.0	4.9	5.4	0.4	20.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.6	0.0	78.4	82.7	0.0	67.7	37.5	5.9	5.9	4.5	13.5	4.1
LnGrp LOS	E	A	E	F	A	E	D	A	A	A	B	A
Approach Vol, veh/h		78			49			1692			3312	
Approach Delay, s/veh		73.9			79.9			7.3			13.3	
Approach LOS		E			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	110.9		11.0	9.2	110.8		8.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.9	80.1		18.0	5.0	81.0		18.0				
Max Q Clear Time (g_c+I1), s	3.2	17.1		6.6	3.3	61.0		5.1				
Green Ext Time (p_c), s	0.0	18.8		0.2	0.0	19.3		0.1				

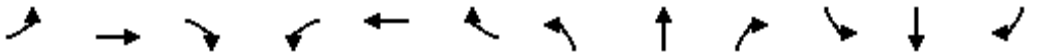
Intersection Summary			
HCM 6th Ctrl Delay		12.9	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	194	559	98	111	51	133	1320	41	48	2501	324
Future Volume (veh/h)	405	194	559	98	111	51	133	1320	41	48	2501	324
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	476	228	621	122	139	64	166	1467	51	60	2779	360
Peak Hour Factor	0.85	0.85	0.90	0.80	0.80	0.80	0.80	0.90	0.80	0.80	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	538	1093	487	126	669	298	222	2547	791	204	2516	781
Arrive On Green	0.16	0.31	0.31	0.04	0.19	0.19	0.04	0.50	0.50	0.03	0.50	0.50
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	476	228	621	122	139	64	166	1467	51	60	2779	360
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1689	1572	1767	1689	1572
Q Serve(g_s), s	20.4	7.2	46.5	5.3	5.0	5.2	3.6	30.4	2.5	2.5	74.5	22.4
Cycle Q Clear(g_c), s	20.4	7.2	46.5	5.3	5.0	5.2	3.6	30.4	2.5	2.5	74.5	22.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	538	1093	487	126	669	298	222	2547	791	204	2516	781
V/C Ratio(X)	0.88	0.21	1.27	0.97	0.21	0.21	0.75	0.58	0.06	0.29	1.10	0.46
Avail Cap(c_a), veh/h	697	1093	487	126	669	298	222	2547	791	227	2516	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.9	38.2	51.7	72.2	51.3	51.3	35.7	26.1	19.2	20.9	37.8	24.6
Incr Delay (d2), s/veh	10.6	0.1	138.5	70.9	0.2	0.4	13.1	1.0	0.2	0.8	53.7	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	3.2	37.0	3.6	2.2	2.1	1.9	12.5	1.0	1.1	42.6	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.5	38.3	190.3	143.1	51.4	51.7	48.8	27.1	19.3	21.7	91.4	26.6
LnGrp LOS	E	D	F	F	D	D	D	C	B	C	F	C
Approach Vol, veh/h		1325			325			1684			3199	
Approach Delay, s/veh		121.8			85.9			29.0			82.8	
Approach LOS		F			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	79.9	10.0	51.0	10.0	79.0	28.1	32.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	73.5	5.5	46.5	5.5	74.5	30.5	21.5
Max Q Clear Time (g_c+I1), s	4.5	32.4	7.3	48.5	5.6	76.5	22.4	7.2
Green Ext Time (p_c), s	0.0	15.7	0.0	0.0	0.0	0.0	1.2	0.8

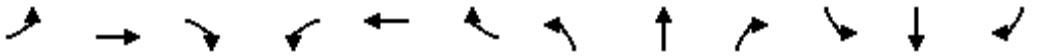
Intersection Summary	
HCM 6th Ctrl Delay	77.0
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1028	376	0	743	924	212	856	42	1065	1513	165
Future Volume (veh/h)	0	1028	376	0	743	924	212	856	42	1065	1513	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1142	418	0	826	1027	249	1007	52	1183	1681	194
Peak Hour Factor	0.82	0.90	0.90	0.99	0.90	0.90	0.85	0.85	0.80	0.90	0.90	0.85
Percent Heavy Veh, %	0	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
Arrive On Green	0.00	0.34	0.34	0.00	0.34	0.34	0.10	0.19	0.19	0.32	0.42	0.42
Sat Flow, veh/h	0	3618	1572	0	3618	2768	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	0	1142	418	0	826	1027	249	1007	52	1183	1681	194
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1763	1384	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	0.0	31.4	10.2	0.0	20.0	34.5	7.1	19.5	2.8	32.5	28.8	8.1
Cycle Q Clear(g_c), s	0.0	31.4	10.2	0.0	20.0	34.5	7.1	19.5	2.8	32.5	28.8	8.1
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
V/C Ratio(X)	0.00	0.94	0.60	0.00	0.68	1.08	0.73	1.02	0.17	1.06	0.79	0.29
Avail Cap(c_a), veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.38	0.38	0.38
Uniform Delay (d), s/veh	0.0	31.7	21.1	0.0	28.0	32.8	43.8	40.2	33.5	33.8	25.1	19.1
Incr Delay (d2), s/veh	0.0	13.7	1.4	0.0	1.5	51.7	8.0	33.6	1.2	35.9	1.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.2	15.2	0.0	8.5	28.8	3.3	11.0	1.1	18.6	11.3	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.4	22.5	0.0	29.6	84.4	51.7	73.9	34.7	69.7	26.3	19.5
LnGrp LOS	A	D	C	A	C	F	D	F	C	F	C	B
Approach Vol, veh/h		1560			1853			1308			3058	
Approach Delay, s/veh		39.3			60.0			68.1			42.6	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	37.0	24.0		39.0	14.4	46.6		39.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	32.5	19.5		34.5	9.9	42.1		34.5				
Max Q Clear Time (g_c+I1), s	34.5	21.5		33.4	9.1	30.8		36.5				
Green Ext Time (p_c), s	0.0	0.0		0.9	0.1	8.6		0.0				

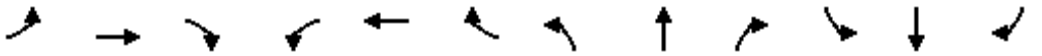
Intersection Summary			
HCM 6th Ctrl Delay		50.4	
HCM 6th LOS		D	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	0	117	22	2	8	176	2365	23	37	1819	23
Future Volume (veh/h)	88	0	117	22	2	8	176	2365	23	37	1819	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	102	0	136	37	3	13	187	2516	24	39	1895	24
Peak Hour Factor	0.86	0.86	0.86	0.60	0.60	0.60	0.94	0.94	0.94	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	350	0	161	55	9	41	236	3675	35	155	3558	1104
Arrive On Green	0.10	0.00	0.10	0.03	0.03	0.03	0.04	0.71	0.71	0.03	0.70	0.70
Sat Flow, veh/h	3428	0	1572	1767	304	1315	1767	5174	49	1767	5066	1572
Grp Volume(v), veh/h	102	0	136	37	0	16	187	1641	899	39	1895	24
Grp Sat Flow(s),veh/h/ln	1714	0	1572	1767	0	1619	1767	1689	1847	1767	1689	1572
Q Serve(g_s), s	3.9	0.0	11.9	2.9	0.0	1.4	4.3	38.3	38.5	0.9	24.9	0.6
Cycle Q Clear(g_c), s	3.9	0.0	11.9	2.9	0.0	1.4	4.3	38.3	38.5	0.9	24.9	0.6
Prop In Lane	1.00		1.00	1.00		0.81	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	350	0	161	55	0	50	236	2398	1312	155	3558	1104
V/C Ratio(X)	0.29	0.00	0.85	0.67	0.00	0.32	0.79	0.68	0.69	0.25	0.53	0.02
Avail Cap(c_a), veh/h	441	0	202	227	0	208	236	2398	1312	180	3558	1104
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.2	0.0	61.8	67.1	0.0	66.4	16.1	11.4	11.5	12.5	9.9	6.3
Incr Delay (d2), s/veh	0.5	0.0	22.6	13.3	0.0	3.5	1.7	0.1	0.3	0.8	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	5.8	1.5	0.0	0.6	4.1	13.4	14.8	0.5	9.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	0.0	84.4	80.4	0.0	69.9	17.8	11.6	11.7	13.3	10.5	6.3
LnGrp LOS	E	A	F	F	A	E	B	B	B	B	B	A
Approach Vol, veh/h		238			53			2727			1958	
Approach Delay, s/veh		73.3			77.2			12.1			10.5	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	103.9		18.8	9.5	102.8		8.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.9	80.1		18.0	5.0	81.0		18.0				
Max Q Clear Time (g_c+I1), s	2.9	40.5		13.9	6.3	26.9		4.9				
Green Ext Time (p_c), s	0.0	30.3		0.4	0.0	25.9		0.1				

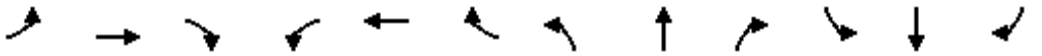
Intersection Summary			
HCM 6th Ctrl Delay		15.1	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	129	169	128	197	102	292	1879	35	100	1617	340
Future Volume (veh/h)	405	129	169	128	197	102	292	1879	35	100	1617	340
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	476	161	199	160	232	120	344	2088	44	118	1797	378
Peak Hour Factor	0.85	0.80	0.85	0.80	0.85	0.85	0.85	0.90	0.80	0.85	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	547	699	312	230	373	166	457	2557	794	190	2450	761
Arrive On Green	0.16	0.20	0.20	0.07	0.11	0.11	0.07	0.50	0.50	0.05	0.48	0.48
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	476	161	199	160	232	120	344	2088	44	118	1797	378
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1689	1572	1767	1689	1572
Q Serve(g_s), s	13.6	3.8	11.6	4.6	6.3	7.4	5.0	34.7	1.4	3.3	28.4	16.3
Cycle Q Clear(g_c), s	13.6	3.8	11.6	4.6	6.3	7.4	5.0	34.7	1.4	3.3	28.4	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	547	699	312	230	373	166	457	2557	794	190	2450	761
V/C Ratio(X)	0.87	0.23	0.64	0.70	0.62	0.72	0.75	0.82	0.06	0.62	0.73	0.50
Avail Cap(c_a), veh/h	600	828	370	411	635	283	488	2557	794	190	2450	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	33.7	36.8	45.7	42.8	43.3	20.7	20.9	12.6	21.4	20.7	17.5
Incr Delay (d2), s/veh	12.3	0.2	2.8	3.8	1.7	5.8	6.1	3.0	0.1	6.1	2.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	1.7	4.7	2.1	2.8	3.1	2.2	13.6	0.5	1.6	11.1	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.4	33.8	39.6	49.4	44.5	49.1	26.8	23.9	12.7	27.5	22.6	19.9
LnGrp LOS	D	C	D	D	D	D	C	C	B	C	C	B
Approach Vol, veh/h		836			512			2476			2293	
Approach Delay, s/veh		46.3			47.1			24.1			22.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	55.0	11.2	24.3	11.6	52.9	20.4	15.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	41.5	12.0	23.5	8.0	38.5	17.5	18.0
Max Q Clear Time (g_c+I1), s	5.3	36.7	6.6	13.6	7.0	30.4	15.6	9.4
Green Ext Time (p_c), s	0.0	4.3	0.2	1.2	0.1	6.9	0.4	1.2

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



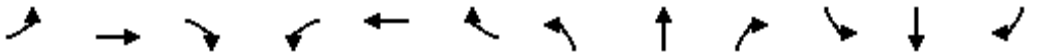
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	908	283	0	1182	1258	583	1511	114	791	1202	237
Future Volume (veh/h)	0	908	283	0	1182	1258	583	1511	114	791	1202	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1009	333	0	1313	1398	686	1679	134	879	1336	279
Peak Hour Factor	0.90	0.90	0.85	0.97	0.90	0.90	0.85	0.90	0.85	0.90	0.90	0.85
Percent Heavy Veh, %	0	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
Arrive On Green	0.00	0.38	0.38	0.00	0.38	0.38	0.21	0.30	0.30	0.20	0.30	0.30
Sat Flow, veh/h	0	3618	1572	0	3618	2768	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	0	1009	333	0	1313	1398	686	1679	134	879	1336	279
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1763	1384	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	0.0	29.9	0.0	0.0	44.2	45.5	23.8	36.5	7.8	24.5	30.1	18.1
Cycle Q Clear(g_c), s	0.0	29.9	0.0	0.0	44.2	45.5	23.8	36.5	7.8	24.5	30.1	18.1
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
V/C Ratio(X)	0.00	0.75	0.36	0.00	0.98	1.33	0.96	1.09	0.28	1.26	0.88	0.59
Avail Cap(c_a), veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	0.0	32.4	13.0	0.0	36.8	37.3	47.0	41.7	31.8	47.8	39.9	35.7
Incr Delay (d2), s/veh	0.0	2.5	0.2	0.0	20.4	156.1	24.3	51.5	1.5	123.8	5.8	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.0	11.2	0.0	22.4	51.1	12.5	22.3	3.2	22.4	13.2	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.9	13.2	0.0	57.2	193.3	71.3	93.2	33.2	171.5	45.7	39.7
LnGrp LOS	A	C	B	A	E	F	E	F	C	F	D	D
Approach Vol, veh/h		1342			2711			2499			2494	
Approach Delay, s/veh		29.5			127.4			84.0			89.4	
Approach LOS		C			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.0	41.0		50.0	29.5	40.5		50.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.5	36.5		45.5	25.0	36.0		45.5				
Max Q Clear Time (g_c+I1), s	26.5	38.5		31.9	25.8	32.1		47.5				
Green Ext Time (p_c), s	0.0	0.0		7.0	0.0	3.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			90.4									
HCM 6th LOS			F									

HCM 6th Signalized Intersection Summary
3: SR 77 & Suffolk Dr

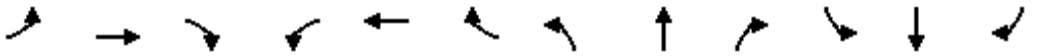
08/04/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	2	43	34	1	7	64	1527	14	57	3080	14
Future Volume (veh/h)	21	2	43	34	1	7	64	1527	14	57	3080	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	26	2	54	42	1	9	80	1697	18	71	3422	18
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.90	0.80	0.80	0.90	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	167	3	74	59	5	48	124	3907	41	290	3826	1188
Arrive On Green	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.76	0.76	0.03	0.76	0.76
Sat Flow, veh/h	3428	56	1525	1767	160	1437	1767	5168	55	1767	5066	1572
Grp Volume(v), veh/h	26	0	56	42	0	10	80	1109	606	71	3422	18
Grp Sat Flow(s),veh/h/ln	1714	0	1581	1767	0	1597	1767	1689	1846	1767	1689	1572
Q Serve(g_s), s	1.0	0.0	4.9	3.3	0.0	0.9	1.4	16.7	16.7	1.2	71.3	0.4
Cycle Q Clear(g_c), s	1.0	0.0	4.9	3.3	0.0	0.9	1.4	16.7	16.7	1.2	71.3	0.4
Prop In Lane	1.00		0.96	1.00		0.90	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	167	0	77	59	0	53	124	2553	1395	290	3826	1188
V/C Ratio(X)	0.16	0.00	0.73	0.71	0.00	0.19	0.64	0.43	0.43	0.24	0.89	0.02
Avail Cap(c_a), veh/h	441	0	203	227	0	205	127	2553	1395	305	3826	1188
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.8	0.0	65.7	67.0	0.0	65.8	40.5	6.2	6.2	4.6	12.9	4.2
Incr Delay (d2), s/veh	0.4	0.0	12.3	14.8	0.0	1.7	1.0	0.0	0.1	0.4	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.2	1.7	0.0	0.4	2.2	5.5	6.0	0.4	24.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.3	0.0	78.0	81.8	0.0	67.5	41.5	6.3	6.3	5.0	16.6	4.3
LnGrp LOS	E	A	E	F	A	E	D	A	A	A	B	A
Approach Vol, veh/h		82			52			1795			3511	
Approach Delay, s/veh		73.7			79.1			7.8			16.3	
Approach LOS		E			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	110.3		11.3	9.3	110.3		9.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.9	80.1		18.0	5.0	81.0		18.0				
Max Q Clear Time (g_c+I1), s	3.2	18.7		6.9	3.4	73.3		5.3				
Green Ext Time (p_c), s	0.0	20.8		0.2	0.0	7.6		0.1				

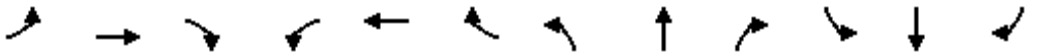
Intersection Summary			
HCM 6th Ctrl Delay		15.0	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	429	205	593	104	118	54	141	1401	43	51	2654	343
Future Volume (veh/h)	429	205	593	104	118	54	141	1401	43	51	2654	343
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	505	241	659	130	148	68	176	1557	54	64	2949	381
Peak Hour Factor	0.85	0.85	0.90	0.80	0.80	0.80	0.80	0.90	0.80	0.80	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	566	1093	487	126	640	285	222	2545	790	191	2516	781
Arrive On Green	0.17	0.31	0.31	0.04	0.18	0.18	0.04	0.50	0.50	0.03	0.50	0.50
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	505	241	659	130	148	68	176	1557	54	64	2949	381
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1689	1572	1767	1689	1572
Q Serve(g_s), s	21.6	7.6	46.5	5.5	5.4	5.5	3.8	33.1	2.7	2.7	74.5	24.1
Cycle Q Clear(g_c), s	21.6	7.6	46.5	5.5	5.4	5.5	3.8	33.1	2.7	2.7	74.5	24.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	566	1093	487	126	640	285	222	2545	790	191	2516	781
V/C Ratio(X)	0.89	0.22	1.35	1.03	0.23	0.24	0.79	0.61	0.07	0.34	1.17	0.49
Avail Cap(c_a), veh/h	697	1093	487	126	640	285	222	2545	790	212	2516	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.3	38.3	51.7	72.3	52.4	52.5	35.7	26.8	19.2	21.7	37.8	25.1
Incr Delay (d2), s/veh	12.0	0.1	171.4	89.7	0.2	0.4	17.8	1.1	0.2	1.0	82.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	3.4	41.5	4.0	2.4	2.2	2.1	13.6	1.0	1.2	49.2	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	38.4	223.2	161.9	52.6	52.9	53.5	27.9	19.4	22.8	119.8	27.3
LnGrp LOS	E	D	F	F	D	D	D	C	B	C	F	C
Approach Vol, veh/h		1405			346			1787			3394	
Approach Delay, s/veh		137.6			93.8			30.2			107.6	
Approach LOS		F			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	79.8	10.0	51.0	10.0	79.0	29.3	31.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	73.5	5.5	46.5	5.5	74.5	30.5	21.5
Max Q Clear Time (g_c+I1), s	4.7	35.1	7.5	48.5	5.8	76.5	23.6	7.5
Green Ext Time (p_c), s	0.0	16.7	0.0	0.0	0.0	0.0	1.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	93.0
HCM 6th LOS	F



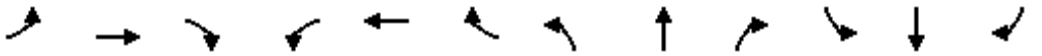
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1091	400	0	789	981	225	908	45	1131	1605	175
Future Volume (veh/h)	0	1091	400	0	789	981	225	908	45	1131	1605	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1212	444	0	877	1090	265	1009	56	1257	1783	206
Peak Hour Factor	0.82	0.90	0.90	0.99	0.90	0.90	0.85	0.90	0.80	0.90	0.90	0.85
Percent Heavy Veh, %	0	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
Arrive On Green	0.00	0.34	0.34	0.00	0.34	0.34	0.10	0.19	0.19	0.32	0.42	0.42
Sat Flow, veh/h	0	3618	1572	0	3618	2768	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	0	1212	444	0	877	1090	265	1009	56	1257	1783	206
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1763	1384	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	0.0	34.3	12.0	0.0	21.7	34.5	7.5	19.5	3.0	32.5	31.4	8.7
Cycle Q Clear(g_c), s	0.0	34.3	12.0	0.0	21.7	34.5	7.5	19.5	3.0	32.5	31.4	8.7
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
V/C Ratio(X)	0.00	1.00	0.64	0.00	0.72	1.14	0.78	1.02	0.18	1.13	0.84	0.31
Avail Cap(c_a), veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.26	0.26	0.26
Uniform Delay (d), s/veh	0.0	32.7	21.5	0.0	28.6	32.8	44.0	40.2	33.6	33.8	25.9	19.3
Incr Delay (d2), s/veh	0.0	24.9	1.9	0.0	2.1	76.4	11.1	34.2	1.3	61.2	1.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.3	16.4	0.0	9.3	32.1	3.7	11.1	1.2	22.5	12.3	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	57.6	23.4	0.0	30.7	109.1	55.1	74.4	34.9	94.9	27.0	19.6
LnGrp LOS	A	E	C	A	C	F	E	F	C	F	C	B
Approach Vol, veh/h		1656			1967			1330			3246	
Approach Delay, s/veh		48.4			74.2			68.9			52.8	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	37.0	24.0		39.0	14.4	46.6		39.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	32.5	19.5		34.5	9.9	42.1		34.5				
Max Q Clear Time (g_c+I1), s	34.5	21.5		36.3	9.5	33.4		36.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	7.1		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		59.7	
HCM 6th LOS		E	

HCM 6th Signalized Intersection Summary
3: SR 77 & Suffolk Dr

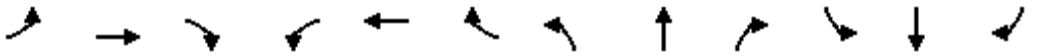
08/04/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	0	124	23	2	9	187	2510	24	40	1930	24
Future Volume (veh/h)	94	0	124	23	2	9	187	2510	24	40	1930	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	118	0	146	29	2	11	220	2789	30	50	2144	30
Peak Hour Factor	0.80	0.80	0.85	0.80	0.80	0.80	0.85	0.90	0.80	0.80	0.90	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	371	0	170	51	7	39	201	3637	39	139	3539	1099
Arrive On Green	0.11	0.00	0.11	0.03	0.03	0.03	0.04	0.70	0.70	0.03	0.70	0.70
Sat Flow, veh/h	3428	0	1572	1767	248	1363	1767	5167	55	1767	5066	1572
Grp Volume(v), veh/h	118	0	146	29	0	13	220	1820	999	50	2144	30
Grp Sat Flow(s),veh/h/ln	1714	0	1572	1767	0	1610	1767	1689	1846	1767	1689	1572
Q Serve(g_s), s	4.5	0.0	12.8	2.3	0.0	1.1	5.0	48.5	48.9	1.1	31.0	0.8
Cycle Q Clear(g_c), s	4.5	0.0	12.8	2.3	0.0	1.1	5.0	48.5	48.9	1.1	31.0	0.8
Prop In Lane	1.00		1.00	1.00		0.85	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	371	0	170	51	0	46	201	2377	1299	139	3539	1099
V/C Ratio(X)	0.32	0.00	0.86	0.57	0.00	0.28	1.10	0.77	0.77	0.36	0.61	0.03
Avail Cap(c_a), veh/h	441	0	202	227	0	207	201	2377	1299	159	3539	1099
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.6	0.0	61.4	67.1	0.0	66.6	26.0	13.3	13.4	22.9	11.0	6.5
Incr Delay (d2), s/veh	0.5	0.0	25.7	9.7	0.0	3.2	51.5	0.2	0.4	1.6	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	6.3	1.2	0.0	0.5	7.7	17.1	19.0	1.2	11.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	0.0	87.0	76.8	0.0	69.8	77.5	13.5	13.8	24.4	11.8	6.5
LnGrp LOS	E	A	F	E	A	E	F	B	B	C	B	A
Approach Vol, veh/h		264			42			3039			2224	
Approach Delay, s/veh		74.1			74.7			18.3			12.0	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	103.0		19.7	9.5	102.3		8.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.9	80.1		18.0	5.0	81.0		18.0				
Max Q Clear Time (g_c+I1), s	3.1	50.9		14.8	7.0	33.0		4.3				
Green Ext Time (p_c), s	0.0	25.6		0.4	0.0	29.6		0.1				

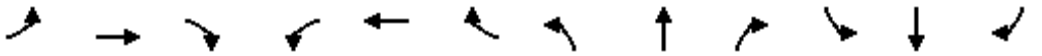
Intersection Summary			
HCM 6th Ctrl Delay			18.8
HCM 6th LOS			B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	429	137	179	136	209	108	310	1994	38	106	1716	361
Future Volume (veh/h)	429	137	179	136	209	108	310	1994	38	106	1716	361
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	505	171	211	170	246	127	365	2216	48	125	1907	401
Peak Hour Factor	0.85	0.80	0.85	0.80	0.85	0.85	0.85	0.90	0.80	0.85	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	571	729	325	240	389	174	447	2497	775	177	2369	735
Arrive On Green	0.17	0.21	0.21	0.07	0.11	0.11	0.08	0.49	0.49	0.05	0.47	0.47
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	505	171	211	170	246	127	365	2216	48	125	1907	401
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1689	1572	1767	1689	1572
Q Serve(g_s), s	14.4	4.0	12.3	4.9	6.7	7.8	5.4	39.4	1.6	3.7	32.1	18.2
Cycle Q Clear(g_c), s	14.4	4.0	12.3	4.9	6.7	7.8	5.4	39.4	1.6	3.7	32.1	18.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	571	729	325	240	389	174	447	2497	775	177	2369	735
V/C Ratio(X)	0.88	0.23	0.65	0.71	0.63	0.73	0.82	0.89	0.06	0.71	0.80	0.55
Avail Cap(c_a), veh/h	600	828	370	411	635	283	463	2497	775	177	2369	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	33.1	36.3	45.5	42.5	43.0	21.7	22.8	13.3	22.8	22.7	19.0
Incr Delay (d2), s/veh	14.2	0.2	3.3	3.8	1.7	5.8	10.6	5.2	0.2	12.2	3.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	1.7	5.0	2.2	3.0	3.3	2.6	15.9	0.6	2.0	12.8	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.0	33.2	39.6	49.3	44.2	48.8	32.4	28.0	13.4	35.0	25.7	21.9
LnGrp LOS	D	C	D	D	D	D	C	C	B	D	C	C
Approach Vol, veh/h		887			543			2629			2433	
Approach Delay, s/veh		47.1			46.9			28.3			25.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	53.8	11.5	25.2	12.0	51.3	21.2	15.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	41.5	12.0	23.5	8.0	38.5	17.5	18.0
Max Q Clear Time (g_c+I1), s	5.7	41.4	6.9	14.3	7.4	34.1	16.4	9.8
Green Ext Time (p_c), s	0.0	0.1	0.2	1.2	0.1	4.0	0.3	1.2

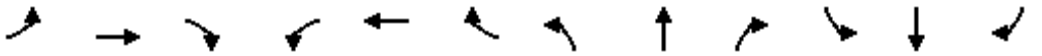
Intersection Summary	
HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	963	300	0	1255	1335	619	1604	121	839	1276	252
Future Volume (veh/h)	0	963	300	0	1255	1335	619	1604	121	839	1276	252
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1070	333	0	1394	1483	688	1782	142	932	1418	296
Peak Hour Factor	0.90	0.90	0.90	0.97	0.90	0.90	0.90	0.90	0.85	0.90	0.90	0.85
Percent Heavy Veh, %	0	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
Arrive On Green	0.00	0.38	0.38	0.00	0.38	0.38	0.21	0.30	0.30	0.20	0.30	0.30
Sat Flow, veh/h	0	3618	1572	0	3618	2768	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	0	1070	333	0	1394	1483	688	1782	142	932	1418	296
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1763	1384	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	0.0	32.5	0.0	0.0	45.5	45.5	23.9	36.5	8.3	24.5	32.7	19.5
Cycle Q Clear(g_c), s	0.0	32.5	0.0	0.0	45.5	45.5	23.9	36.5	8.3	24.5	32.7	19.5
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
V/C Ratio(X)	0.00	0.80	0.36	0.00	1.04	1.41	0.96	1.16	0.30	1.33	0.93	0.63
Avail Cap(c_a), veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.61	0.61	0.61
Uniform Delay (d), s/veh	0.0	33.2	13.0	0.0	37.3	37.3	47.0	41.7	31.9	47.8	40.8	36.2
Incr Delay (d2), s/veh	0.0	3.6	0.2	0.0	36.6	191.6	24.9	78.2	1.6	155.2	8.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.3	11.2	0.0	25.9	56.3	12.6	26.1	3.4	25.5	14.5	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	36.8	13.2	0.0	73.8	228.9	71.9	120.0	33.5	203.0	48.8	40.0
LnGrp LOS	A	D	B	A	F	F	E	F	C	F	D	D
Approach Vol, veh/h		1403			2877			2612			2646	
Approach Delay, s/veh		31.2			153.7			102.6			102.1	
Approach LOS		C			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.0	41.0		50.0	29.5	40.5		50.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.5	36.5		45.5	25.0	36.0		45.5				
Max Q Clear Time (g_c+I1), s	26.5	38.5		34.5	25.9	34.7		47.5				
Green Ext Time (p_c), s	0.0	0.0		6.4	0.0	1.1		0.0				

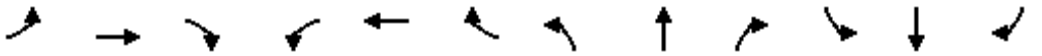
Intersection Summary												
HCM 6th Ctrl Delay			107.4									
HCM 6th LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2	41	65	1	37	60	1448	53	103	2909	14
Future Volume (veh/h)	20	2	41	65	1	37	60	1448	53	103	2909	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	25	2	51	81	1	46	75	1609	66	121	3232	18
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.90	0.80	0.85	0.90	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	159	3	71	108	2	94	127	3637	149	290	3699	1148
Arrive On Green	0.05	0.05	0.05	0.06	0.06	0.06	0.03	0.73	0.73	0.04	0.73	0.73
Sat Flow, veh/h	3428	60	1522	1767	34	1544	1767	4991	205	1767	5066	1572
Grp Volume(v), veh/h	25	0	53	81	0	47	75	1089	586	121	3232	18
Grp Sat Flow(s),veh/h/ln	1714	0	1582	1767	0	1578	1767	1689	1819	1767	1689	1572
Q Serve(g_s), s	1.0	0.0	4.6	6.3	0.0	4.0	1.5	18.1	18.1	2.4	66.6	0.4
Cycle Q Clear(g_c), s	1.0	0.0	4.6	6.3	0.0	4.0	1.5	18.1	18.1	2.4	66.6	0.4
Prop In Lane	1.00		0.96	1.00		0.98	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	159	0	73	108	0	96	127	2461	1325	290	3699	1148
V/C Ratio(X)	0.16	0.00	0.72	0.75	0.00	0.49	0.59	0.44	0.44	0.42	0.87	0.02
Avail Cap(c_a), veh/h	441	0	203	227	0	203	130	2461	1325	302	3699	1148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.1	0.0	65.9	64.7	0.0	63.6	37.6	7.6	7.6	6.2	14.1	5.2
Incr Delay (d2), s/veh	0.5	0.0	12.5	10.1	0.0	3.8	0.6	0.1	0.1	1.0	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.1	3.2	0.0	1.7	1.9	6.2	6.7	0.9	23.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.6	0.0	78.4	74.8	0.0	67.4	38.2	7.7	7.7	7.1	17.3	5.2
LnGrp LOS	E	A	E	E	A	E	D	A	A	A	B	A
Approach Vol, veh/h		78			128			1750			3371	
Approach Delay, s/veh		73.9			72.1			9.0			16.8	
Approach LOS		E			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	106.5		11.0	9.2	106.7		13.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.9	80.1		18.0	5.0	81.0		18.0				
Max Q Clear Time (g_c+I1), s	4.4	20.1		6.6	3.5	68.6		8.3				
Green Ext Time (p_c), s	0.0	19.9		0.2	0.0	12.2		0.3				

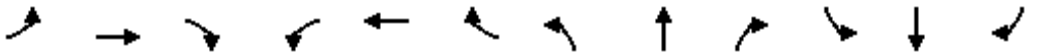
Intersection Summary			
HCM 6th Ctrl Delay		16.4	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	194	569	103	111	51	140	1338	44	48	2525	324
Future Volume (veh/h)	405	194	569	103	111	51	140	1338	44	48	2525	324
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	476	228	632	129	139	64	175	1487	55	60	2806	360
Peak Hour Factor	0.85	0.85	0.90	0.80	0.80	0.80	0.80	0.90	0.80	0.80	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	538	1093	487	126	669	298	222	2547	791	201	2516	781
Arrive On Green	0.16	0.31	0.31	0.04	0.19	0.19	0.04	0.50	0.50	0.03	0.50	0.50
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	476	228	632	129	139	64	175	1487	55	60	2806	360
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1689	1572	1767	1689	1572
Q Serve(g_s), s	20.4	7.2	46.5	5.5	5.0	5.2	3.8	31.0	2.7	2.5	74.5	22.4
Cycle Q Clear(g_c), s	20.4	7.2	46.5	5.5	5.0	5.2	3.8	31.0	2.7	2.5	74.5	22.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	538	1093	487	126	669	298	222	2547	791	201	2516	781
V/C Ratio(X)	0.88	0.21	1.30	1.03	0.21	0.21	0.79	0.58	0.07	0.30	1.12	0.46
Avail Cap(c_a), veh/h	697	1093	487	126	669	298	222	2547	791	223	2516	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.9	38.2	51.7	72.3	51.3	51.3	35.7	26.3	19.2	21.0	37.8	24.6
Incr Delay (d2), s/veh	10.6	0.1	148.0	87.4	0.2	0.4	17.2	1.0	0.2	0.8	58.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	3.2	38.3	4.0	2.2	2.1	2.1	12.7	1.1	1.1	43.6	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.5	38.3	199.7	159.7	51.4	51.7	53.0	27.2	19.4	21.9	95.8	26.6
LnGrp LOS	E	D	F	F	D	D	D	C	B	C	F	C
Approach Vol, veh/h		1336			332			1717			3226	
Approach Delay, s/veh		126.9			93.5			29.6			86.7	
Approach LOS		F			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	79.9	10.0	51.0	10.0	79.0	28.1	32.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	73.5	5.5	46.5	5.5	74.5	30.5	21.5
Max Q Clear Time (g_c+I1), s	4.5	33.0	7.5	48.5	5.8	76.5	22.4	7.2
Green Ext Time (p_c), s	0.0	16.0	0.0	0.0	0.0	0.0	1.2	0.8

Intersection Summary	
HCM 6th Ctrl Delay	80.3
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1042	376	0	743	944	212	870	42	1079	1524	176
Future Volume (veh/h)	0	1042	376	0	743	944	212	870	42	1079	1524	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1158	418	0	826	1049	249	1024	52	1199	1693	207
Peak Hour Factor	0.82	0.90	0.90	0.99	0.90	0.90	0.85	0.85	0.80	0.90	0.90	0.85
Percent Heavy Veh, %	0	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
Arrive On Green	0.00	0.34	0.34	0.00	0.34	0.34	0.10	0.19	0.19	0.32	0.42	0.42
Sat Flow, veh/h	0	3618	1572	0	3618	2768	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	0	1158	418	0	826	1049	249	1024	52	1199	1693	207
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1763	1384	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	0.0	32.0	10.2	0.0	20.0	34.5	7.1	19.5	2.8	32.5	29.1	8.8
Cycle Q Clear(g_c), s	0.0	32.0	10.2	0.0	20.0	34.5	7.1	19.5	2.8	32.5	29.1	8.8
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
V/C Ratio(X)	0.00	0.95	0.60	0.00	0.68	1.10	0.73	1.04	0.17	1.08	0.79	0.31
Avail Cap(c_a), veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.28	0.28	0.28
Uniform Delay (d), s/veh	0.0	31.9	21.1	0.0	28.0	32.8	43.8	40.2	33.5	33.8	25.2	19.3
Incr Delay (d2), s/veh	0.0	15.7	1.4	0.0	1.5	59.9	8.0	38.5	1.2	39.8	0.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.8	15.2	0.0	8.5	29.9	3.3	11.5	1.1	19.2	11.4	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	47.7	22.5	0.0	29.6	92.7	51.7	78.8	34.7	73.5	26.1	19.6
LnGrp LOS	A	D	C	A	C	F	D	F	C	F	C	B
Approach Vol, veh/h		1576			1875			1325			3099	
Approach Delay, s/veh		41.0			64.9			72.0			44.0	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	37.0	24.0		39.0	14.4	46.6		39.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	32.5	19.5		34.5	9.9	42.1		34.5				
Max Q Clear Time (g_c+I1), s	34.5	21.5		34.0	9.1	31.1		36.5				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.1	8.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		53.1	
HCM 6th LOS		D	

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	26	1468	37	0	3213
Future Vol, veh/h	0	26	1468	37	0	3213
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	28	1596	40	0	3492

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	818	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.16	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.93	-	-	-	-
Pot Cap-1 Maneuver	0	272	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	272	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	272	-
HCM Lane V/C Ratio	-	-	0.104	-
HCM Control Delay (s)	-	-	19.8	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.3	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	73	82	3	3	38	9	3	0	3	6	0	62
Future Vol, veh/h	73	82	3	3	38	9	3	0	3	6	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	79	89	3	3	41	10	3	0	3	7	0	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	51	0	0	92	0	0	335	306	91	302	302	46
Stage 1	-	-	-	-	-	-	249	249	-	52	52	-
Stage 2	-	-	-	-	-	-	86	57	-	250	250	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1549	-	-	1496	-	-	617	606	964	648	609	1021
Stage 1	-	-	-	-	-	-	753	699	-	958	850	-
Stage 2	-	-	-	-	-	-	919	845	-	752	698	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1549	-	-	1496	-	-	552	572	964	618	575	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	552	572	-	618	575	-
Stage 1	-	-	-	-	-	-	712	661	-	906	848	-
Stage 2	-	-	-	-	-	-	857	843	-	709	660	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	0.4	10.2	9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	702	1549	-	-	1496	-	-	965
HCM Lane V/C Ratio	0.009	0.051	-	-	0.002	-	-	0.077
HCM Control Delay (s)	10.2	7.5	0	-	7.4	0	-	9
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.2

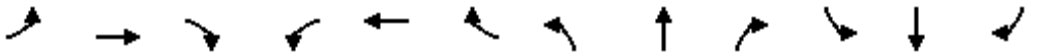
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	89	2	2	46	8	2	0	2	0	0	2
Future Vol, veh/h	0	89	2	2	46	8	2	0	2	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	97	2	2	50	9	2	0	2	0	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	99	0	0	158	161	98	-	158	55
Stage 1	-	-	-	-	-	-	98	98	-	-	59	-
Stage 2	-	-	-	-	-	-	60	63	-	-	99	-
Critical Hdwy	-	-	-	4.13	-	-	7.13	6.53	6.23	-	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	-	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.527	4.027	3.327	-	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1488	-	-	806	729	955	0	732	1009
Stage 1	0	-	-	-	-	-	906	812	-	0	844	-
Stage 2	0	-	-	-	-	-	949	840	-	0	811	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1488	-	-	804	728	955	-	731	1009
Mov Cap-2 Maneuver	-	-	-	-	-	-	804	728	-	-	731	-
Stage 1	-	-	-	-	-	-	906	812	-	-	843	-
Stage 2	-	-	-	-	-	-	946	839	-	-	811	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	9.1	8.6
HCM LOS			A	A

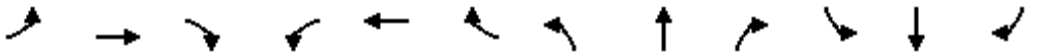
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	873	-	-	1488	-	-	1009
HCM Lane V/C Ratio	0.005	-	-	0.001	-	-	0.002
HCM Control Delay (s)	9.1	-	-	7.4	0	-	8.6
HCM Lane LOS	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	0	117	57	2	40	176	2369	58	89	1824	23
Future Volume (veh/h)	88	0	117	57	2	40	176	2369	58	89	1824	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	110	0	138	71	2	50	207	2632	72	105	2027	29
Peak Hour Factor	0.80	0.80	0.85	0.80	0.80	0.80	0.85	0.90	0.80	0.85	0.90	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	355	0	163	98	3	84	208	3435	93	148	3429	1064
Arrive On Green	0.10	0.00	0.10	0.06	0.06	0.06	0.04	0.68	0.68	0.04	0.68	0.68
Sat Flow, veh/h	3428	0	1572	1767	61	1521	1767	5070	138	1767	5066	1572
Grp Volume(v), veh/h	110	0	138	71	0	52	207	1747	957	105	2027	29
Grp Sat Flow(s),veh/h/ln	1714	0	1572	1767	0	1582	1767	1689	1831	1767	1689	1572
Q Serve(g_s), s	4.2	0.0	12.1	5.5	0.0	4.5	5.0	48.4	49.4	2.5	30.2	0.8
Cycle Q Clear(g_c), s	4.2	0.0	12.1	5.5	0.0	4.5	5.0	48.4	49.4	2.5	30.2	0.8
Prop In Lane	1.00		1.00	1.00		0.96	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	355	0	163	98	0	88	208	2288	1240	148	3429	1064
V/C Ratio(X)	0.31	0.00	0.85	0.73	0.00	0.59	1.00	0.76	0.77	0.71	0.59	0.03
Avail Cap(c_a), veh/h	441	0	202	227	0	203	208	2288	1240	160	3429	1064
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.1	0.0	61.7	65.1	0.0	64.6	25.8	15.1	15.3	30.8	12.2	7.4
Incr Delay (d2), s/veh	0.5	0.0	23.2	9.7	0.0	6.3	17.8	0.2	0.4	12.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	5.9	2.8	0.0	2.0	6.0	17.6	19.5	3.0	11.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	0.0	84.9	74.8	0.0	70.9	43.6	15.3	15.7	43.3	12.9	7.5
LnGrp LOS	E	A	F	E	A	E	D	B	B	D	B	A
Approach Vol, veh/h		248			123			2911			2161	
Approach Delay, s/veh		73.2			73.1			17.5			14.3	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	99.3		19.0	9.5	99.3		12.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.9	80.1		18.0	5.0	81.0		18.0				
Max Q Clear Time (g_c+I1), s	4.5	51.4		14.1	7.0	32.2		7.5				
Green Ext Time (p_c), s	0.0	24.6		0.4	0.0	27.5		0.3				

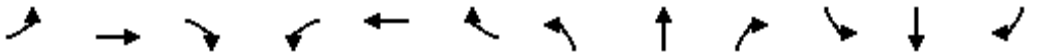
Intersection Summary			
HCM 6th Ctrl Delay		20.0	
HCM 6th LOS		C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	129	177	132	197	102	300	1899	39	100	1637	340
Future Volume (veh/h)	405	129	177	132	197	102	300	1899	39	100	1637	340
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	476	161	208	165	232	120	353	2110	49	118	1819	378
Peak Hour Factor	0.85	0.80	0.85	0.80	0.85	0.85	0.85	0.90	0.80	0.85	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	547	693	309	235	373	166	458	2557	794	188	2443	758
Arrive On Green	0.16	0.20	0.20	0.07	0.11	0.11	0.07	0.50	0.50	0.05	0.48	0.48
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	476	161	208	165	232	120	353	2110	49	118	1819	378
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1689	1572	1767	1689	1572
Q Serve(g_s), s	13.6	3.8	12.2	4.7	6.3	7.4	5.1	35.4	1.6	3.3	29.0	16.4
Cycle Q Clear(g_c), s	13.6	3.8	12.2	4.7	6.3	7.4	5.1	35.4	1.6	3.3	29.0	16.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	547	693	309	235	373	166	458	2557	794	188	2443	758
V/C Ratio(X)	0.87	0.23	0.67	0.70	0.62	0.72	0.77	0.83	0.06	0.63	0.74	0.50
Avail Cap(c_a), veh/h	600	828	370	411	635	283	484	2557	794	188	2443	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	33.8	37.2	45.6	42.8	43.3	20.9	21.0	12.7	21.6	20.9	17.6
Incr Delay (d2), s/veh	12.3	0.2	3.7	3.8	1.7	5.8	7.1	3.2	0.1	6.5	2.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	1.7	5.0	2.1	2.8	3.1	2.3	13.9	0.6	1.6	11.3	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.4	34.0	40.9	49.4	44.5	49.1	28.0	24.2	12.8	28.1	23.0	20.0
LnGrp LOS	D	C	D	D	D	D	C	C	B	C	C	B
Approach Vol, veh/h		845			517			2512			2315	
Approach Delay, s/veh		46.6			47.1			24.5			22.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	55.0	11.4	24.2	11.7	52.7	20.4	15.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	41.5	12.0	23.5	8.0	38.5	17.5	18.0
Max Q Clear Time (g_c+I1), s	5.3	37.4	6.7	14.2	7.1	31.0	15.6	9.4
Green Ext Time (p_c), s	0.0	3.8	0.2	1.2	0.1	6.4	0.4	1.2

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	920	283	0	1182	1273	583	1523	114	808	1215	250
Future Volume (veh/h)	0	920	283	0	1182	1273	583	1523	114	808	1215	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1022	333	0	1313	1414	686	1692	134	898	1350	294
Peak Hour Factor	0.90	0.90	0.85	0.97	0.90	0.90	0.85	0.90	0.85	0.90	0.90	0.85
Percent Heavy Veh, %	0	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
Arrive On Green	0.00	0.38	0.38	0.00	0.38	0.38	0.21	0.30	0.30	0.20	0.30	0.30
Sat Flow, veh/h	0	3618	1572	0	3618	2768	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	0	1022	333	0	1313	1414	686	1692	134	898	1350	294
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1763	1384	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	0.0	30.4	0.0	0.0	44.2	45.5	23.8	36.5	7.8	24.5	30.5	19.3
Cycle Q Clear(g_c), s	0.0	30.4	0.0	0.0	44.2	45.5	23.8	36.5	7.8	24.5	30.5	19.3
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
V/C Ratio(X)	0.00	0.76	0.36	0.00	0.98	1.35	0.96	1.10	0.28	1.28	0.89	0.62
Avail Cap(c_a), veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.66	0.66	0.66
Uniform Delay (d), s/veh	0.0	32.6	13.0	0.0	36.8	37.3	47.0	41.7	31.8	47.8	40.1	36.2
Incr Delay (d2), s/veh	0.0	2.7	0.2	0.0	20.4	162.8	24.3	54.7	1.5	134.6	5.6	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.3	11.2	0.0	22.4	52.1	12.5	22.8	3.2	23.5	13.3	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	35.3	13.2	0.0	57.2	200.0	71.3	96.5	33.2	182.4	45.7	40.2
LnGrp LOS	A	D	B	A	E	F	E	F	C	F	D	D
Approach Vol, veh/h		1355			2727			2512			2542	
Approach Delay, s/veh		29.8			131.3			86.2			93.3	
Approach LOS		C			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.0	41.0		50.0	29.5	40.5		50.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.5	36.5		45.5	25.0	36.0		45.5				
Max Q Clear Time (g_c+I1), s	26.5	38.5		32.4	25.8	32.5		47.5				
Green Ext Time (p_c), s	0.0	0.0		6.9	0.0	2.8		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			93.3									
HCM 6th LOS			F									

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	46	2447	50	0	1971
Future Vol, veh/h	0	46	2447	50	0	1971
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	90	85	92	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	54	2719	59	0	2190

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1389	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.16	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.93	-	-	-	-
Pot Cap-1 Maneuver	0	112	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	112	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	64.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	112	-
HCM Lane V/C Ratio	-	-	0.483	-
HCM Control Delay (s)	-	-	64.1	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	2.2	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	67	77	3	3	34	10	3	0	3	8	0	62
Future Vol, veh/h	67	77	3	3	34	10	3	0	3	8	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	84	96	4	4	43	13	4	0	4	10	0	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	56	0	0	100	0	0	363	330	98	326	326	50
Stage 1	-	-	-	-	-	-	266	266	-	58	58	-
Stage 2	-	-	-	-	-	-	97	64	-	268	268	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1542	-	-	1486	-	-	591	588	955	625	591	1015
Stage 1	-	-	-	-	-	-	737	687	-	951	845	-
Stage 2	-	-	-	-	-	-	907	840	-	735	685	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1542	-	-	1486	-	-	521	552	955	594	555	1015
Mov Cap-2 Maneuver	-	-	-	-	-	-	521	552	-	594	555	-
Stage 1	-	-	-	-	-	-	694	647	-	896	842	-
Stage 2	-	-	-	-	-	-	835	837	-	690	645	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	0.5	10.4	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	674	1542	-	-	1486	-	-	939
HCM Lane V/C Ratio	0.011	0.054	-	-	0.003	-	-	0.093
HCM Control Delay (s)	10.4	7.5	0	-	7.4	0	-	9.2
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	86	2	2	37	1	2	0	2	0	0	8
Future Vol, veh/h	0	86	2	2	37	1	2	0	2	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	108	3	3	46	1	3	0	3	0	0	10

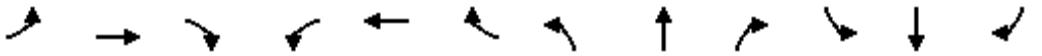
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	111	0	0	168	163	110	-	164	47
Stage 1	-	-	-	-	-	-	110	110	-	-	53	-
Stage 2	-	-	-	-	-	-	58	53	-	-	111	-
Critical Hdwy	-	-	-	4.13	-	-	7.13	6.53	6.23	-	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	-	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.527	4.027	3.327	-	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1473	-	-	794	728	941	0	727	1019
Stage 1	0	-	-	-	-	-	893	802	-	0	849	-
Stage 2	0	-	-	-	-	-	951	849	-	0	802	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1473	-	-	785	727	941	-	726	1019
Mov Cap-2 Maneuver	-	-	-	-	-	-	785	727	-	-	726	-
Stage 1	-	-	-	-	-	-	893	802	-	-	847	-
Stage 2	-	-	-	-	-	-	940	847	-	-	802	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	9.2	8.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	856	-	-	1473	-	-	1019
HCM Lane V/C Ratio	0.006	-	-	0.002	-	-	0.01
HCM Control Delay (s)	9.2	-	-	7.4	0	-	8.6
HCM Lane LOS	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0

HCM 6th Signalized Intersection Summary
3: SR 77 & Suffolk Dr

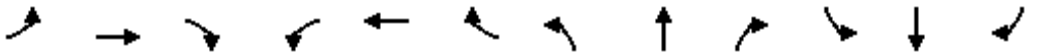
11/30/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	2	43	67	1	38	64	1536	53	106	3086	14
Future Volume (veh/h)	21	2	43	67	1	38	64	1536	53	106	3086	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	26	2	54	84	1	48	80	1707	66	125	3429	18
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.90	0.80	0.85	0.90	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	167	3	74	111	2	97	119	3626	140	269	3677	1142
Arrive On Green	0.05	0.05	0.05	0.06	0.06	0.06	0.03	0.72	0.72	0.04	0.73	0.73
Sat Flow, veh/h	3428	56	1525	1767	32	1545	1767	5004	193	1767	5066	1572
Grp Volume(v), veh/h	26	0	56	84	0	49	80	1152	621	125	3429	18
Grp Sat Flow(s),veh/h/ln	1714	0	1581	1767	0	1577	1767	1689	1821	1767	1689	1572
Q Serve(g_s), s	1.0	0.0	4.9	6.5	0.0	4.2	1.6	19.9	20.0	2.6	80.4	0.4
Cycle Q Clear(g_c), s	1.0	0.0	4.9	6.5	0.0	4.2	1.6	19.9	20.0	2.6	80.4	0.4
Prop In Lane	1.00		0.96	1.00		0.98	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	167	0	77	111	0	99	119	2447	1319	269	3677	1142
V/C Ratio(X)	0.16	0.00	0.73	0.76	0.00	0.50	0.67	0.47	0.47	0.46	0.93	0.02
Avail Cap(c_a), veh/h	441	0	203	227	0	203	122	2447	1319	281	3677	1142
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.8	0.0	65.7	64.6	0.0	63.5	40.0	8.1	8.1	7.0	16.3	5.3
Incr Delay (d2), s/veh	0.4	0.0	12.3	10.0	0.0	3.8	1.3	0.1	0.1	1.2	5.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.2	3.3	0.0	1.8	2.1	6.8	7.4	1.0	29.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.3	0.0	78.0	74.6	0.0	67.3	41.3	8.1	8.2	8.3	22.0	5.3
LnGrp LOS	E	A	E	E	A	E	D	A	A	A	C	A
Approach Vol, veh/h		82			133			1853			3572	
Approach Delay, s/veh		73.7			71.9			9.6			21.4	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	105.9		11.3	9.3	106.1		13.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.9	80.1		18.0	5.0	81.0		18.0				
Max Q Clear Time (g_c+I1), s	4.6	22.0		6.9	3.6	82.4		8.5				
Green Ext Time (p_c), s	0.0	21.9		0.2	0.0	0.0		0.3				

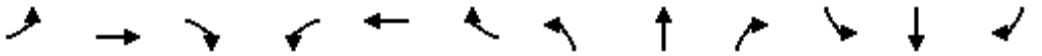
Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	429	205	603	109	118	54	148	1419	46	51	2678	343
Future Volume (veh/h)	429	205	603	109	118	54	148	1419	46	51	2678	343
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	505	241	670	136	148	68	174	1577	58	64	2976	381
Peak Hour Factor	0.85	0.85	0.90	0.80	0.80	0.80	0.85	0.90	0.80	0.80	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	566	1093	487	126	640	285	222	2545	790	187	2516	781
Arrive On Green	0.17	0.31	0.31	0.04	0.18	0.18	0.04	0.50	0.50	0.03	0.50	0.50
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	505	241	670	136	148	68	174	1577	58	64	2976	381
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1689	1572	1767	1689	1572
Q Serve(g_s), s	21.6	7.6	46.5	5.5	5.4	5.5	3.7	33.7	2.9	2.7	74.5	24.1
Cycle Q Clear(g_c), s	21.6	7.6	46.5	5.5	5.4	5.5	3.7	33.7	2.9	2.7	74.5	24.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	566	1093	487	126	640	285	222	2545	790	187	2516	781
V/C Ratio(X)	0.89	0.22	1.37	1.08	0.23	0.24	0.78	0.62	0.07	0.34	1.18	0.49
Avail Cap(c_a), veh/h	697	1093	487	126	640	285	222	2545	790	209	2516	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.3	38.3	51.7	72.3	52.4	52.5	35.7	27.0	19.3	21.9	37.8	25.1
Incr Delay (d2), s/veh	12.0	0.1	181.1	103.9	0.2	0.4	16.7	1.1	0.2	1.1	86.7	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	3.4	42.8	4.2	2.4	2.2	2.1	13.9	1.1	1.2	50.3	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	38.4	232.9	176.2	52.6	52.9	52.4	28.1	19.5	23.0	124.4	27.3
LnGrp LOS	E	D	F	F	D	D	D	C	B	C	F	C
Approach Vol, veh/h		1416			352			1809			3421	
Approach Delay, s/veh		142.9			100.4			30.2			111.7	
Approach LOS		F			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	79.8	10.0	51.0	10.0	79.0	29.3	31.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	73.5	5.5	46.5	5.5	74.5	30.5	21.5
Max Q Clear Time (g_c+I1), s	4.7	35.7	7.5	48.5	5.7	76.5	23.6	7.5
Green Ext Time (p_c), s	0.0	17.0	0.0	0.0	0.0	0.0	1.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	96.4
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1105	400	0	789	1001	225	922	45	1145	1616	186
Future Volume (veh/h)	0	1105	400	0	789	1001	225	922	45	1145	1616	186
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1228	444	0	877	1112	265	1024	56	1272	1796	219
Peak Hour Factor	0.82	0.90	0.90	0.99	0.90	0.90	0.85	0.90	0.80	0.90	0.90	0.85
Percent Heavy Veh, %	0	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
Arrive On Green	0.00	0.34	0.34	0.00	0.34	0.34	0.10	0.19	0.19	0.32	0.42	0.42
Sat Flow, veh/h	0	3618	1572	0	3618	2768	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	0	1228	444	0	877	1112	265	1024	56	1272	1796	219
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1763	1384	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	0.0	34.5	12.0	0.0	21.7	34.5	7.5	19.5	3.0	32.5	31.8	9.4
Cycle Q Clear(g_c), s	0.0	34.5	12.0	0.0	21.7	34.5	7.5	19.5	3.0	32.5	31.8	9.4
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
V/C Ratio(X)	0.00	1.01	0.64	0.00	0.72	1.16	0.78	1.04	0.18	1.14	0.84	0.33
Avail Cap(c_a), veh/h	0	1216	698	0	1216	955	339	988	307	1114	2133	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.14	0.14	0.14
Uniform Delay (d), s/veh	0.0	32.7	21.5	0.0	28.6	32.8	44.0	40.2	33.6	33.8	26.0	19.5
Incr Delay (d2), s/veh	0.0	28.2	1.9	0.0	2.1	85.6	11.1	38.5	1.3	65.5	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	19.0	16.4	0.0	9.3	33.3	3.7	11.5	1.2	23.2	12.3	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	60.9	23.4	0.0	30.7	118.4	55.1	78.8	34.9	99.3	26.6	19.7
LnGrp LOS	A	F	C	A	C	F	E	F	C	F	C	B
Approach Vol, veh/h		1672			1989			1345			3287	
Approach Delay, s/veh		51.0			79.7			72.3			54.2	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	37.0	24.0		39.0	14.4	46.6		39.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	32.5	19.5		34.5	9.9	42.1		34.5				
Max Q Clear Time (g_c+I1), s	34.5	21.5		36.5	9.5	33.8		36.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	6.8		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		62.6	
HCM 6th LOS		E	

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	26	1558	37	0	3406
Future Vol, veh/h	0	26	1558	37	0	3406
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	90	85	92	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	31	1731	44	0	3784

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	888	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.16	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.93	-	-	-	-
Pot Cap-1 Maneuver	0	245	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	245	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	245	-
HCM Lane V/C Ratio	-	-	0.125	-
HCM Control Delay (s)	-	-	21.8	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.4	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	73	85	3	3	41	9	3	0	3	6	0	62
Future Vol, veh/h	73	85	3	3	41	9	3	0	3	6	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	85	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	91	100	4	4	51	11	4	0	4	8	0	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	62	0	0	104	0	0	388	354	102	351	351	57
Stage 1	-	-	-	-	-	-	284	284	-	65	65	-
Stage 2	-	-	-	-	-	-	104	70	-	286	286	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1535	-	-	1481	-	-	569	570	950	602	572	1006
Stage 1	-	-	-	-	-	-	721	675	-	943	839	-
Stage 2	-	-	-	-	-	-	899	835	-	719	673	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1535	-	-	1481	-	-	499	532	950	569	534	1006
Mov Cap-2 Maneuver	-	-	-	-	-	-	499	532	-	569	534	-
Stage 1	-	-	-	-	-	-	676	632	-	884	836	-
Stage 2	-	-	-	-	-	-	827	832	-	671	631	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.5	0.4	10.6	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	654	1535	-	-	1481	-	-	942
HCM Lane V/C Ratio	0.011	0.059	-	-	0.003	-	-	0.09
HCM Control Delay (s)	10.6	7.5	0	-	7.4	0	-	9.2
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.3

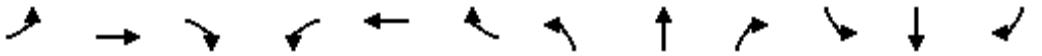
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	92	2	2	49	3	2	0	2	0	0	2
Future Vol, veh/h	0	92	2	2	49	3	2	0	2	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	85	80	80	80	80	80	92	80	80	92	80
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	108	3	3	61	4	3	0	3	0	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	111	0	0	181	181	110	-	180	63
Stage 1	-	-	-	-	-	-	110	110	-	-	69	-
Stage 2	-	-	-	-	-	-	71	71	-	-	111	-
Critical Hdwy	-	-	-	4.13	-	-	7.13	6.53	6.23	-	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	-	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.527	4.027	3.327	-	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1473	-	-	778	711	941	0	712	999
Stage 1	0	-	-	-	-	-	893	802	-	0	835	-
Stage 2	0	-	-	-	-	-	936	834	-	0	802	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1473	-	-	775	710	941	-	711	999
Mov Cap-2 Maneuver	-	-	-	-	-	-	775	710	-	-	711	-
Stage 1	-	-	-	-	-	-	893	802	-	-	833	-
Stage 2	-	-	-	-	-	-	932	832	-	-	802	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	9.3	8.6
HCM LOS			A	A

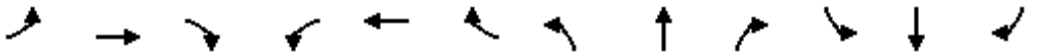
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	850	-	-	1473	-	-	999
HCM Lane V/C Ratio	0.006	-	-	0.002	-	-	0.003
HCM Control Delay (s)	9.3	-	-	7.4	0	-	8.6
HCM Lane LOS	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	0	124	58	2	41	187	2514	59	92	1935	24
Future Volume (veh/h)	94	0	124	58	2	41	187	2514	59	92	1935	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	118	0	146	72	2	51	220	2793	74	108	2150	30
Peak Hour Factor	0.80	0.80	0.85	0.80	0.80	0.80	0.85	0.90	0.80	0.85	0.90	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	371	0	170	99	3	85	191	3410	90	137	3401	1056
Arrive On Green	0.11	0.00	0.11	0.06	0.06	0.06	0.04	0.67	0.67	0.04	0.67	0.67
Sat Flow, veh/h	3428	0	1572	1767	60	1522	1767	5075	133	1767	5066	1572
Grp Volume(v), veh/h	118	0	146	72	0	53	220	1851	1016	108	2150	30
Grp Sat Flow(s),veh/h/ln	1714	0	1572	1767	0	1582	1767	1689	1832	1767	1689	1572
Q Serve(g_s), s	4.5	0.0	12.8	5.6	0.0	4.6	5.0	55.7	57.2	2.7	33.9	0.9
Cycle Q Clear(g_c), s	4.5	0.0	12.8	5.6	0.0	4.6	5.0	55.7	57.2	2.7	33.9	0.9
Prop In Lane	1.00		1.00	1.00		0.96	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	371	0	170	99	0	89	191	2269	1231	137	3401	1056
V/C Ratio(X)	0.32	0.00	0.86	0.73	0.00	0.60	1.15	0.82	0.83	0.79	0.63	0.03
Avail Cap(c_a), veh/h	441	0	202	227	0	203	191	2269	1231	150	3401	1056
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.6	0.0	61.4	65.0	0.0	64.5	26.3	16.7	16.9	33.9	13.1	7.7
Incr Delay (d2), s/veh	0.5	0.0	25.7	9.7	0.0	6.3	73.4	0.3	0.6	22.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	6.3	2.8	0.0	2.0	8.3	20.3	22.8	3.4	12.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	0.0	87.0	74.7	0.0	70.9	99.7	17.0	17.5	56.1	14.0	7.8
LnGrp LOS	E	A	F	E	A	E	F	B	B	E	B	A
Approach Vol, veh/h		264			125			3087			2288	
Approach Delay, s/veh		74.1			73.1			23.1			15.9	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	98.6		19.7	9.5	98.5		12.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.9	80.1		18.0	5.0	81.0		18.0				
Max Q Clear Time (g_c+I1), s	4.7	59.2		14.8	7.0	35.9		7.6				
Green Ext Time (p_c), s	0.0	19.1		0.4	0.0	28.5		0.3				

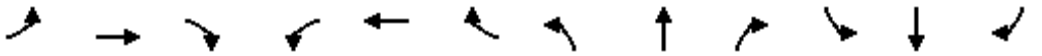
Intersection Summary			
HCM 6th Ctrl Delay		23.7	
HCM 6th LOS		C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	429	137	187	140	209	108	318	2014	42	106	1736	361
Future Volume (veh/h)	429	137	187	140	209	108	318	2014	42	106	1736	361
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	505	161	220	175	246	127	374	2238	52	125	1929	401
Peak Hour Factor	0.85	0.85	0.85	0.80	0.85	0.85	0.85	0.90	0.80	0.85	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	571	724	323	246	389	174	448	2497	775	175	2363	734
Arrive On Green	0.17	0.21	0.21	0.07	0.11	0.11	0.08	0.49	0.49	0.05	0.47	0.47
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	505	161	220	175	246	127	374	2238	52	125	1929	401
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1689	1572	1767	1689	1572
Q Serve(g_s), s	14.4	3.8	12.9	5.0	6.7	7.8	5.6	40.1	1.7	3.7	32.8	18.3
Cycle Q Clear(g_c), s	14.4	3.8	12.9	5.0	6.7	7.8	5.6	40.1	1.7	3.7	32.8	18.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	571	724	323	246	389	174	448	2497	775	175	2363	734
V/C Ratio(X)	0.88	0.22	0.68	0.71	0.63	0.73	0.84	0.90	0.07	0.71	0.82	0.55
Avail Cap(c_a), veh/h	600	828	370	411	635	283	460	2497	775	175	2363	734
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	33.1	36.7	45.4	42.5	43.0	21.8	23.0	13.3	22.9	23.0	19.1
Incr Delay (d2), s/veh	14.2	0.2	4.2	3.8	1.7	5.8	12.4	5.6	0.2	12.9	3.3	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	1.6	5.3	2.2	3.0	3.3	2.8	16.2	0.6	2.0	13.1	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.0	33.2	40.9	49.2	44.2	48.8	34.2	28.6	13.5	35.8	26.2	22.0
LnGrp LOS	D	C	D	D	D	D	C	C	B	D	C	C
Approach Vol, veh/h		886			548			2664			2455	
Approach Delay, s/veh		47.5			46.9			29.1			26.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	53.8	11.7	25.0	12.1	51.2	21.2	15.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	41.5	12.0	23.5	8.0	38.5	17.5	18.0
Max Q Clear Time (g_c+I1), s	5.7	42.1	7.0	14.9	7.6	34.8	16.4	9.8
Green Ext Time (p_c), s	0.0	0.0	0.2	1.1	0.1	3.4	0.3	1.2

Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	975	300	0	1255	1350	619	1616	121	856	1289	265
Future Volume (veh/h)	0	975	300	0	1255	1350	619	1616	121	856	1289	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1083	333	0	1394	1500	688	1796	142	951	1432	312
Peak Hour Factor	0.90	0.90	0.90	0.97	0.90	0.90	0.90	0.90	0.85	0.90	0.90	0.85
Percent Heavy Veh, %	0	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
Arrive On Green	0.00	0.38	0.38	0.00	0.38	0.38	0.21	0.30	0.30	0.20	0.30	0.30
Sat Flow, veh/h	0	3618	1572	0	3618	2768	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	0	1083	333	0	1394	1500	688	1796	142	951	1432	312
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1763	1384	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	0.0	33.0	0.0	0.0	45.5	45.5	23.9	36.5	8.3	24.5	33.1	20.8
Cycle Q Clear(g_c), s	0.0	33.0	0.0	0.0	45.5	45.5	23.9	36.5	8.3	24.5	33.1	20.8
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
V/C Ratio(X)	0.00	0.81	0.36	0.00	1.04	1.43	0.96	1.17	0.30	1.36	0.94	0.66
Avail Cap(c_a), veh/h	0	1337	924	0	1337	1049	714	1541	478	700	1520	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.61	0.61	0.61
Uniform Delay (d), s/veh	0.0	33.4	13.0	0.0	37.3	37.3	47.0	41.7	31.9	47.8	41.0	36.7
Incr Delay (d2), s/veh	0.0	3.9	0.2	0.0	36.6	198.8	24.9	82.0	1.6	167.1	8.8	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.6	11.2	0.0	25.9	57.3	12.6	26.7	3.4	26.6	14.8	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	37.2	13.2	0.0	73.8	236.0	71.9	123.8	33.5	214.9	49.8	41.1
LnGrp LOS	A	D	B	A	F	F	E	F	C	F	D	D
Approach Vol, veh/h		1416			2894			2626			2695	
Approach Delay, s/veh		31.6			157.9			105.3			107.0	
Approach LOS		C			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.0	41.0		50.0	29.5	40.5		50.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.5	36.5		45.5	25.0	36.0		45.5				
Max Q Clear Time (g_c+I1), s	26.5	38.5		35.0	25.9	35.1		47.5				
Green Ext Time (p_c), s	0.0	0.0		6.2	0.0	0.8		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		110.8	
HCM 6th LOS		F	

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	46	2599	50	0	2088
Future Vol, veh/h	0	46	2599	50	0	2088
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	90	85	92	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	54	2888	59	0	2320

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1474	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.16	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.93	-	-	-	-
Pot Cap-1 Maneuver	0	98	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	98	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	79.8	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	98	-
HCM Lane V/C Ratio	-	-	0.552	-
HCM Control Delay (s)	-	-	79.8	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	2.5	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	67	81	3	3	36	10	3	0	3	8	0	62
Future Vol, veh/h	67	81	3	3	36	10	3	0	3	8	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	84	101	4	4	45	13	4	0	4	10	0	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	58	0	0	105	0	0	370	337	103	333	333	52
Stage 1	-	-	-	-	-	-	271	271	-	60	60	-
Stage 2	-	-	-	-	-	-	99	66	-	273	273	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1540	-	-	1480	-	-	585	582	949	619	585	1013
Stage 1	-	-	-	-	-	-	733	683	-	949	843	-
Stage 2	-	-	-	-	-	-	905	838	-	731	682	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1540	-	-	1480	-	-	515	546	949	588	549	1013
Mov Cap-2 Maneuver	-	-	-	-	-	-	515	546	-	588	549	-
Stage 1	-	-	-	-	-	-	690	643	-	894	840	-
Stage 2	-	-	-	-	-	-	833	835	-	686	642	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0.5	10.5	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	668	1540	-	-	1480	-	-	936
HCM Lane V/C Ratio	0.011	0.054	-	-	0.003	-	-	0.093
HCM Control Delay (s)	10.5	7.5	0	-	7.4	0	-	9.2
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.3

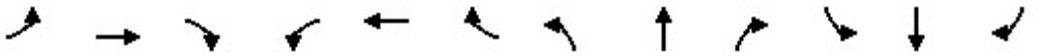
Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	90	2	2	39	1	2	0	2	0	0	8
Future Vol, veh/h	0	90	2	2	39	1	2	0	2	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	113	3	3	49	1	3	0	3	0	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	116	0	0	176	171	115	-	172	50
Stage 1	-	-	-	-	-	-	115	115	-	-	56	-
Stage 2	-	-	-	-	-	-	61	56	-	-	116	-
Critical Hdwy	-	-	-	4.13	-	-	7.13	6.53	6.23	-	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	-	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.527	4.027	3.327	-	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1466	-	-	784	720	935	0	719	1015
Stage 1	0	-	-	-	-	-	887	798	-	0	846	-
Stage 2	0	-	-	-	-	-	948	846	-	0	798	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1466	-	-	775	719	935	-	718	1015
Mov Cap-2 Maneuver	-	-	-	-	-	-	775	719	-	-	718	-
Stage 1	-	-	-	-	-	-	887	798	-	-	844	-
Stage 2	-	-	-	-	-	-	937	844	-	-	798	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	9.3	8.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	848	-	-	1466	-	-	1015
HCM Lane V/C Ratio	0.006	-	-	0.002	-	-	0.01
HCM Control Delay (s)	9.3	-	-	7.5	0	-	8.6
HCM Lane LOS	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	2	43	67	1	38	64	1536	53	106	3086	14
Future Volume (veh/h)	21	2	43	67	1	38	64	1536	53	106	3086	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	26	2	54	84	1	48	80	1707	66	125	3429	18
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.90	0.80	0.85	0.90	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	201	3	81	201	2	110	139	3423	1062	280	3438	1067
Arrive On Green	0.05	0.05	0.05	0.06	0.07	0.07	0.04	0.68	0.68	0.04	0.68	0.68
Sat Flow, veh/h	1767	56	1525	1767	32	1545	1767	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	26	0	56	84	0	49	80	1707	66	125	3429	18
Grp Sat Flow(s),veh/h/ln	1767	0	1581	1767	0	1577	1767	1689	1572	1767	1689	1572
Q Serve(g_s), s	1.5	0.0	3.8	4.9	0.0	3.3	1.5	18.1	1.6	2.3	74.1	0.4
Cycle Q Clear(g_c), s	1.5	0.0	3.8	4.9	0.0	3.3	1.5	18.1	1.6	2.3	74.1	0.4
Prop In Lane	1.00		0.96	1.00		0.98	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	201	0	84	201	0	112	139	3423	1062	280	3438	1067
V/C Ratio(X)	0.13	0.00	0.66	0.42	0.00	0.44	0.58	0.50	0.06	0.45	1.00	0.02
Avail Cap(c_a), veh/h	410	0	259	379	0	258	146	3423	1062	337	3438	1067
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	0.0	51.1	45.2	0.0	49.0	29.7	8.7	6.0	7.4	17.6	5.7
Incr Delay (d2), s/veh	0.3	0.0	8.6	1.4	0.0	2.7	5.0	0.5	0.1	1.1	14.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.7	2.2	0.0	1.4	1.6	6.2	0.5	0.8	29.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	0.0	59.7	46.5	0.0	51.6	34.7	9.2	6.2	8.6	32.4	5.8
LnGrp LOS	D	A	E	D	A	D	C	A	A	A	C	A
Approach Vol, veh/h		82			133			1853			3572	
Approach Delay, s/veh		55.3			48.4			10.2			31.4	
Approach LOS		E			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	78.8	11.4	10.4	9.1	79.1	9.5	12.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.4	47.6	18.0	18.0	5.0	51.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	4.3	20.1	6.9	5.8	3.5	76.1	3.5	5.3
Green Ext Time (p_c), s	0.1	16.0	0.1	0.2	0.0	0.0	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	26	1558	37	0	3406
Future Vol, veh/h	0	26	1558	37	0	3406
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	90	85	92	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	31	1731	44	0	3784

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	866	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.16	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.93	-	-	-	-
Pot Cap-1 Maneuver	0	253	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	253	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	253	-
HCM Lane V/C Ratio	-	-	0.121	-
HCM Control Delay (s)	-	-	21.2	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.4	-

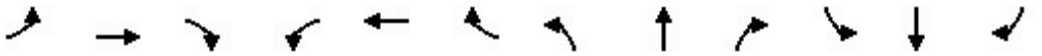
Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	85	3	3	41	9	3	0	3	6	0	62
Future Vol, veh/h	73	85	3	3	41	9	3	0	3	6	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	85	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	91	100	4	4	51	11	4	0	4	8	0	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	62	0	0	104	0	0	388	354	102	351	351	57
Stage 1	-	-	-	-	-	-	284	284	-	65	65	-
Stage 2	-	-	-	-	-	-	104	70	-	286	286	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1535	-	-	1481	-	-	569	570	950	602	572	1006
Stage 1	-	-	-	-	-	-	721	675	-	943	839	-
Stage 2	-	-	-	-	-	-	899	835	-	719	673	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1535	-	-	1481	-	-	500	535	950	571	537	1006
Mov Cap-2 Maneuver	-	-	-	-	-	-	500	535	-	571	537	-
Stage 1	-	-	-	-	-	-	678	635	-	887	836	-
Stage 2	-	-	-	-	-	-	827	832	-	674	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.5	0.4	10.6	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	655	1535	-	-	1481	-	-	943
HCM Lane V/C Ratio	0.011	0.059	-	-	0.003	-	-	0.09
HCM Control Delay (s)	10.6	7.5	-	-	7.4	0	-	9.2
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	0	124	58	2	41	187	2514	59	92	1935	24
Future Volume (veh/h)	94	0	124	58	2	41	187	2514	59	92	1935	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	118	0	146	72	2	51	220	2793	74	108	2150	30
Peak Hour Factor	0.80	0.80	0.85	0.80	0.80	0.80	0.85	0.90	0.80	0.85	0.90	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	282	0	177	190	5	135	249	3165	983	158	3012	935
Arrive On Green	0.08	0.00	0.11	0.06	0.09	0.09	0.07	0.62	0.62	0.04	0.59	0.59
Sat Flow, veh/h	1767	0	1572	1767	60	1522	1767	5066	1572	1767	5066	1572
Grp Volume(v), veh/h	118	0	146	72	0	53	220	2793	74	108	2150	30
Grp Sat Flow(s),veh/h/ln	1767	0	1572	1767	0	1582	1767	1689	1572	1767	1689	1572
Q Serve(g_s), s	6.5	0.0	10.0	4.0	0.0	3.5	6.1	50.7	2.0	2.6	32.9	0.9
Cycle Q Clear(g_c), s	6.5	0.0	10.0	4.0	0.0	3.5	6.1	50.7	2.0	2.6	32.9	0.9
Prop In Lane	1.00		1.00	1.00		0.96	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	282	0	177	190	0	140	249	3165	983	158	3012	935
V/C Ratio(X)	0.42	0.00	0.83	0.38	0.00	0.38	0.88	0.88	0.08	0.69	0.71	0.03
Avail Cap(c_a), veh/h	431	0	257	381	0	259	268	3165	983	161	3012	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	0.0	47.8	42.3	0.0	47.3	25.3	17.2	8.1	25.9	15.7	9.2
Incr Delay (d2), s/veh	1.0	0.0	13.4	1.2	0.0	1.7	26.2	4.0	0.1	11.2	1.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	4.6	1.8	0.0	1.4	5.2	19.0	0.7	2.1	12.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	0.0	61.2	43.5	0.0	49.0	51.5	21.2	8.3	37.1	17.2	9.3
LnGrp LOS	D	A	E	D	A	D	D	C	A	D	B	A
Approach Vol, veh/h		264			125			3087			2288	
Approach Delay, s/veh		52.5			45.8			23.1			18.0	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	73.2	10.6	16.8	12.6	69.9	13.2	14.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	51.0	18.0	18.0	9.3	46.7	18.0	18.0
Max Q Clear Time (g_c+I1), s	4.6	52.7	6.0	12.0	8.1	34.9	8.5	5.5
Green Ext Time (p_c), s	0.0	0.0	0.1	0.4	0.1	10.1	0.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	46	2599	50	0	2088
Future Vol, veh/h	0	46	2599	50	0	2088
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	90	85	92	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	54	2888	59	0	2320

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1444	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.16	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.93	-	-	-	-
Pot Cap-1 Maneuver	0	103	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	103	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	73.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	103	-
HCM Lane V/C Ratio	-	-	0.525	-
HCM Control Delay (s)	-	-	73.4	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	2.4	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	81	3	3	36	10	3	0	3	8	0	62
Future Vol, veh/h	67	81	3	3	36	10	3	0	3	8	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	84	101	4	4	45	13	4	0	4	10	0	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	58	0	0	105	0	0	370	337	103	333	333	52
Stage 1	-	-	-	-	-	-	271	271	-	60	60	-
Stage 2	-	-	-	-	-	-	99	66	-	273	273	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1540	-	-	1480	-	-	585	582	949	619	585	1013
Stage 1	-	-	-	-	-	-	733	683	-	949	843	-
Stage 2	-	-	-	-	-	-	905	838	-	731	682	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1540	-	-	1480	-	-	517	548	949	589	551	1013
Mov Cap-2 Maneuver	-	-	-	-	-	-	517	548	-	589	551	-
Stage 1	-	-	-	-	-	-	693	645	-	897	840	-
Stage 2	-	-	-	-	-	-	833	835	-	688	644	-

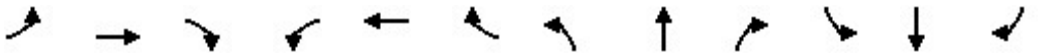
Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0.5	10.4	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	669	1540	-	-	1480	-	-	936
HCM Lane V/C Ratio	0.011	0.054	-	-	0.003	-	-	0.093
HCM Control Delay (s)	10.4	7.5	-	-	7.4	0	-	9.2
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.3

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	26	57	43	10	80	1715	71	3422	18
v/c Ratio	0.15	0.44	0.39	0.09	0.52	0.45	0.30	0.93	0.02
Control Delay	64.6	27.4	72.3	32.9	32.7	8.9	7.3	24.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.6	27.4	72.3	32.9	32.7	8.9	7.3	24.5	0.0
Queue Length 50th (ft)	11	3	38	1	21	224	12	941	0
Queue Length 95th (ft)	24	37	69	17	65	317	25	#1335	0
Internal Link Dist (ft)		373		177		2868		206	
Turn Bay Length (ft)	70		60		260		100		190
Base Capacity (vph)	437	250	225	213	154	3813	236	3669	1164
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.23	0.19	0.05	0.52	0.45	0.30	0.93	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	505	241	659	130	148	68	176	1557	54	64	2949	381
v/c Ratio	0.83	0.22	1.22	1.05	0.25	0.19	0.81	0.61	0.06	0.41	1.18	0.45
Control Delay	71.8	39.0	155.4	160.9	56.6	3.0	49.3	28.4	0.1	22.7	120.0	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.8	39.0	155.4	160.9	56.6	3.0	49.3	28.4	0.1	22.7	120.0	16.5
Queue Length 50th (ft)	247	92	~739	~70	67	0	39	404	0	27	~1261	145
Queue Length 95th (ft)	286	121	#986	#121	93	0	#72	455	0	45	#1335	231
Internal Link Dist (ft)		2126			2429			729			1499	
Turn Bay Length (ft)	270		150	200		270	291		336	177		185
Base Capacity (vph)	691	1086	538	124	589	354	218	2541	844	159	2501	849
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.22	1.22	1.05	0.25	0.19	0.81	0.61	0.06	0.40	1.18	0.45

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.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1212	444	877	1090	265	1009	56	1257	1783	206
v/c Ratio	1.00	0.56	0.73	1.14	0.79	1.03	0.14	1.14	0.84	0.30
Control Delay	60.1	18.3	32.8	109.6	61.8	76.3	0.7	105.9	30.5	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	18.3	32.8	109.6	61.8	76.3	0.7	105.9	30.5	14.1
Queue Length 50th (ft)	~404	162	254	~465	86	~253	0	~484	364	56
Queue Length 95th (ft)	#558	257	326	#604	#132	#342	0	#614	430	99
Internal Link Dist (ft)	1816		2086			1828			2868	
Turn Bay Length (ft)		420		510	240		240	240		240
Base Capacity (vph)	1209	799	1209	952	336	982	398	1105	2120	697
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.56	0.73	1.14	0.79	1.03	0.14	1.14	0.84	0.30

Intersection Summary

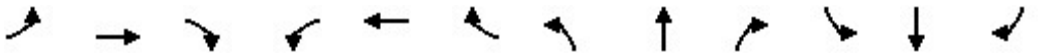
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	118	146	29	14	220	2819	50	2144	30
v/c Ratio	0.48	0.49	0.30	0.14	0.60	0.78	0.36	0.74	0.03
Control Delay	68.4	7.5	70.5	35.8	42.8	16.4	19.5	23.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.4	7.5	70.5	35.8	42.8	16.4	19.5	23.6	0.1
Queue Length 50th (ft)	54	0	26	3	135	592	9	503	0
Queue Length 95th (ft)	75	0	52	22	#245	797	24	560	0
Internal Link Dist (ft)		373		177		2868		206	
Turn Bay Length (ft)	70		60		260		100		190
Base Capacity (vph)	437	376	225	218	365	3636	138	2913	941
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.39	0.13	0.06	0.60	0.78	0.36	0.74	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	505	171	211	170	246	127	365	2216	48	125	1907	401
v/c Ratio	0.87	0.25	0.51	0.50	0.56	0.38	0.71	1.00	0.06	0.57	0.91	0.49
Control Delay	56.9	34.7	18.0	47.4	45.9	6.0	26.1	47.9	0.2	27.0	36.3	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	34.7	18.0	47.4	45.9	6.0	26.1	47.9	0.2	27.0	36.3	9.0
Queue Length 50th (ft)	162	48	41	53	78	0	63	~561	0	35	424	49
Queue Length 95th (ft)	#220	67	95	75	106	21	#118	#668	0	#99	#554	133
Internal Link Dist (ft)		2126			2429			729			1499	
Turn Bay Length (ft)	270		150	200		270	291		336	177		185
Base Capacity (vph)	595	823	472	408	630	416	513	2220	783	219	2091	816
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.21	0.45	0.42	0.39	0.31	0.71	1.00	0.06	0.57	0.91	0.49

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.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1070	333	1394	1483	688	1782	142	932	1418	296
v/c Ratio	0.81	0.34	1.05	1.42	0.97	1.16	0.28	1.34	0.94	0.58
Control Delay	39.0	11.3	75.5	224.7	75.0	119.4	20.7	201.8	53.8	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.0	11.3	75.5	224.7	75.0	119.4	20.7	201.8	53.8	34.1
Queue Length 50th (ft)	385	109	~618	~878	274	~600	50	~486	391	158
Queue Length 95th (ft)	474	163	#757	#1028	#396	#696	95	#613	#487	232
Internal Link Dist (ft)	1816		2086			1828			2868	
Turn Bay Length (ft)		420		510	240		240	240		240
Base Capacity (vph)	1328	985	1328	1046	708	1531	515	694	1510	508
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.34	1.05	1.42	0.97	1.16	0.28	1.34	0.94	0.58

Intersection Summary

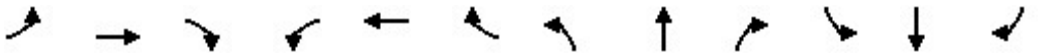
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	26	57	84	49	80	1773	125	3429	18
v/c Ratio	0.15	0.44	0.56	0.28	0.51	0.52	0.51	0.99	0.02
Control Delay	64.6	27.4	75.0	19.5	31.9	13.5	15.3	34.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.6	27.4	75.0	19.5	31.9	13.5	15.3	34.9	0.0
Queue Length 50th (ft)	11	3	75	1	20	281	24	1039	0
Queue Length 95th (ft)	24	37	113	32	65	416	63	#1402	0
Internal Link Dist (ft)		373		177		2868		206	
Turn Bay Length (ft)	70		60		260		100		190
Base Capacity (vph)	437	250	225	244	157	3382	245	3472	1106
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.23	0.37	0.20	0.51	0.52	0.51	0.99	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	505	241	670	136	148	68	174	1577	58	64	2976	381
v/c Ratio	0.83	0.22	1.25	1.10	0.25	0.19	0.80	0.62	0.07	0.41	1.19	0.45
Control Delay	71.8	39.0	163.4	172.6	56.6	3.0	48.1	28.6	0.2	23.1	124.5	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.8	39.0	163.4	172.6	56.6	3.0	48.1	28.6	0.2	23.1	124.5	16.6
Queue Length 50th (ft)	247	92	~762	~76	67	0	39	411	0	27	~1282	146
Queue Length 95th (ft)	286	121	#1011	#127	93	0	#85	463	0	45	#1354	232
Internal Link Dist (ft)		2126			2429			729			1499	
Turn Bay Length (ft)	270		150	200		270	291		336	177		185
Base Capacity (vph)	691	1086	538	124	589	354	218	2541	844	156	2501	849
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.22	1.25	1.10	0.25	0.19	0.80	0.62	0.07	0.41	1.19	0.45

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.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1228	444	877	1112	265	1024	56	1272	1796	219
v/c Ratio	1.02	0.56	0.73	1.17	0.79	1.04	0.14	1.15	0.85	0.31
Control Delay	63.3	18.3	32.8	118.6	61.8	80.4	0.7	111.2	30.8	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	18.3	32.8	118.6	61.8	80.4	0.7	111.2	30.8	14.7
Queue Length 50th (ft)	~421	162	254	~481	86	~260	0	~494	368	62
Queue Length 95th (ft)	#570	257	326	#622	#132	#349	0	#625	435	107
Internal Link Dist (ft)	1816		2086			1828			2868	
Turn Bay Length (ft)		420		510	240		240	240		240
Base Capacity (vph)	1209	799	1209	952	336	982	398	1105	2120	697
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.56	0.73	1.17	0.79	1.04	0.14	1.15	0.85	0.31

Intersection Summary

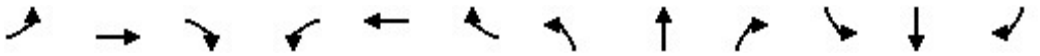
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	118	146	73	54	220	2867	108	2150	30
v/c Ratio	0.48	0.58	0.52	0.31	0.74	0.89	0.57	0.74	0.03
Control Delay	68.4	17.8	74.3	21.1	53.6	26.8	38.4	23.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.4	17.8	74.3	21.1	53.6	26.8	38.4	23.7	0.1
Queue Length 50th (ft)	54	0	65	3	141	761	44	506	0
Queue Length 95th (ft)	75	42	101	35	#313	#1071	98	563	0
Internal Link Dist (ft)		373		177		2868		206	
Turn Bay Length (ft)	70		60		260		100		190
Base Capacity (vph)	437	332	225	247	297	3214	188	2913	941
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.44	0.32	0.22	0.74	0.89	0.57	0.74	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	505	161	220	175	246	127	374	2238	53	125	1929	401
v/c Ratio	0.87	0.24	0.53	0.51	0.56	0.38	0.72	1.01	0.07	0.57	0.93	0.49
Control Delay	56.9	34.6	19.5	47.5	45.9	6.0	26.6	50.3	0.2	26.9	38.0	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	34.6	19.5	47.5	45.9	6.0	26.6	50.3	0.2	26.9	38.0	9.2
Queue Length 50th (ft)	162	45	47	55	78	0	66	~571	0	35	435	50
Queue Length 95th (ft)	#220	68	103	77	106	21	#124	#679	0	#97	#565	135
Internal Link Dist (ft)		2126			2429			729			1499	
Turn Bay Length (ft)	270		150	200		270	291		336	177		185
Base Capacity (vph)	595	823	470	408	630	416	522	2220	783	219	2079	811
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.20	0.47	0.43	0.39	0.31	0.72	1.01	0.07	0.57	0.93	0.49

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.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1083	333	1394	1500	688	1796	142	951	1432	312
v/c Ratio	0.82	0.34	1.05	1.43	0.97	1.17	0.28	1.37	0.95	0.61
Control Delay	39.5	11.3	75.5	231.6	75.0	123.0	20.7	213.0	55.1	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	11.3	75.5	231.6	75.0	123.0	20.7	213.0	55.1	35.4
Queue Length 50th (ft)	392	109	~618	~894	274	~608	50	~501	397	171
Queue Length 95th (ft)	482	163	#757	#1044	#396	#705	95	#630	#496	248
Internal Link Dist (ft)	1816		2086			1828			2868	
Turn Bay Length (ft)		420		510	240		240	240		240
Base Capacity (vph)	1328	985	1328	1046	708	1531	515	694	1510	508
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.34	1.05	1.43	0.97	1.17	0.28	1.37	0.95	0.61

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.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	26	57	84	49	80	1707	66	125	3429	18
v/c Ratio	0.15	0.39	0.38	0.23	0.44	0.53	0.06	0.48	0.99	0.02
Control Delay	36.5	22.2	41.6	15.8	20.6	14.1	1.0	13.7	36.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	22.2	41.6	15.8	20.6	14.1	1.0	13.7	36.3	0.0
Queue Length 50th (ft)	15	2	51	1	13	241	0	22	~991	0
Queue Length 95th (ft)	32	32	78	28	48	373	3	60	#1195	0
Internal Link Dist (ft)		373		177		2868			206	
Turn Bay Length (ft)	70		60		260		150	100		190
Base Capacity (vph)	328	304	312	298	182	3213	1037	272	3447	1106
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.19	0.27	0.16	0.44	0.53	0.06	0.46	0.99	0.02

Intersection Summary

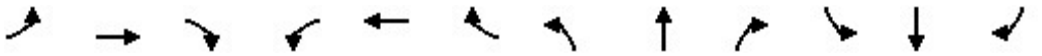
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	118	146	73	54	220	2793	74	108	2150	30
v/c Ratio	0.47	0.37	0.34	0.38	0.64	0.92	0.08	0.51	0.81	0.03
Control Delay	42.5	2.7	39.0	22.6	32.2	27.8	1.5	25.8	26.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	2.7	39.0	22.6	32.2	27.8	1.5	25.8	26.4	0.1
Queue Length 50th (ft)	72	0	43	2	93	608	0	21	446	0
Queue Length 95th (ft)	100	0	67	32	166	#935	7	77	#678	0
Internal Link Dist (ft)		373		177		2868			206	
Turn Bay Length (ft)	70		60		260		150	100		190
Base Capacity (vph)	323	492	341	301	342	3034	986	210	2656	876
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.30	0.21	0.18	0.64	0.92	0.08	0.51	0.81	0.03

Intersection Summary

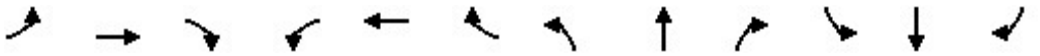
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	25	0	0	25	41	1568	25	25	3390	25
Future Volume (Veh/h)	0	0	25	0	0	25	41	1568	25	25	3390	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.80	0.92	0.92	0.80	0.80	0.90	0.80	0.80	0.90	0.80
Hourly flow rate (vph)	0	0	31	0	0	31	51	1742	31	31	3767	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											809	
pX, platoon unblocked	0.52	0.52	0.52	0.52	0.52		0.52					
vC, conflicting volume	4558	5720	1271	3208	5720	596	3798			1773		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	4613	6859	0	2001	6859	596	3142			1773		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	94	0	0	93	0			91		
cM capacity (veh/h)	0	0	559	0	0	444	50			343		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	31	31	51	697	697	379	31	1507	1507	784
Volume Left	0	0	51	0	0	0	31	0	0	0
Volume Right	31	31	0	0	0	31	0	0	0	31
cSH	559	444	50	1700	1700	1700	343	1700	1700	1700
Volume to Capacity	0.06	0.07	1.02	0.41	0.41	0.22	0.09	0.89	0.89	0.46
Queue Length 95th (ft)	4	6	111	0	0	0	7	0	0	0
Control Delay (s)	11.8	13.7	261.3	0.0	0.0	0.0	16.5	0.0	0.0	0.0
Lane LOS	B	B	F				C			
Approach Delay (s)	11.8	13.7	7.3				0.1			
Approach LOS	B	B								

Intersection Summary					
Average Delay	2.6				
Intersection Capacity Utilization	76.1%	ICU Level of Service		D	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	100	0	0	100	125	2620	100	100	2063	100
Future Volume (Veh/h)	0	0	100	0	0	100	125	2620	100	100	2063	100
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.85	0.92	0.92	0.85	0.85	0.90	0.85	0.85	0.90	0.85
Hourly flow rate (vph)	0	0	118	0	0	118	147	2911	118	118	2292	118
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											809	
pX, platoon unblocked	0.64	0.64	0.64	0.64	0.64		0.64					
vC, conflicting volume	3969	5910	823	4382	5910	1029	2410			3029		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3669	6709	0	4315	6709	1029	1226			3029		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	83	0	0	48	59			0		
cM capacity (veh/h)	0	0	690	0	0	229	357			108		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	118	118	147	1164	1164	700	118	917	917	576
Volume Left	0	0	147	0	0	0	118	0	0	0
Volume Right	118	118	0	0	0	118	0	0	0	118
cSH	690	229	357	1700	1700	1700	108	1700	1700	1700
Volume to Capacity	0.17	0.52	0.41	0.68	0.68	0.41	1.09	0.54	0.54	0.34
Queue Length 95th (ft)	15	67	49	0	0	0	183	0	0	0
Control Delay (s)	11.3	36.3	22.0	0.0	0.0	0.0	188.9	0.0	0.0	0.0
Lane LOS	B	E	C				F			
Approach Delay (s)	11.3	36.3	1.0				8.8			
Approach LOS	B	E								

Intersection Summary				
Average Delay	5.2			
Intersection Capacity Utilization	65.7%	ICU Level of Service	C	
Analysis Period (min)	15			