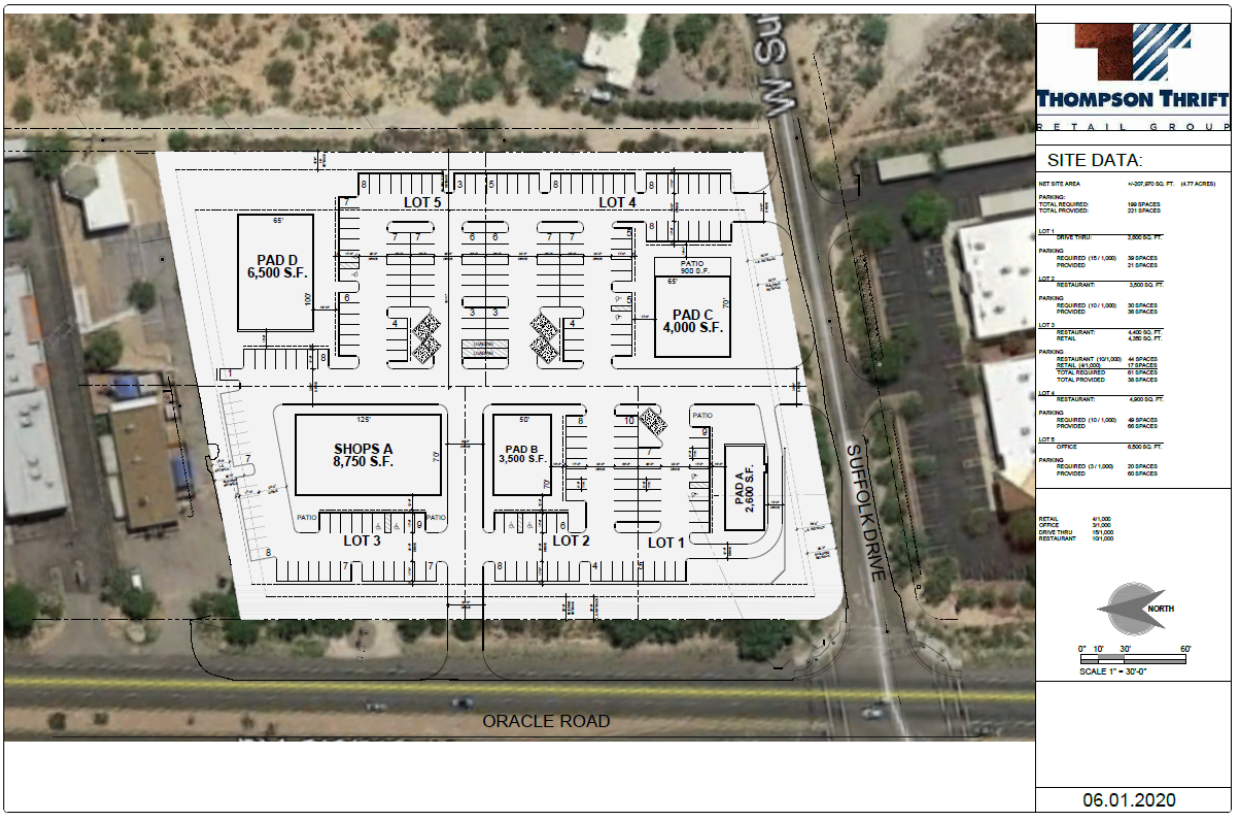
NEC SR 77-Suffolk Drive

SR 77 Milepost (MP) 75.44

Traffic Impact Study



Prepared for submittal to:

Arizona Department of Transportation

Town of Oro Valley

M Esparza Engineering, LLC

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Tucson, Arizona 85745

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July 28, 2020

Table of Contents

Appendix

List of Exhibits

1. Introduction and Executive Summary

This traffic impact study (TIS) 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, 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 - 3,500 SF
Lot 3: Restaurant - 4,400 SF; Retail – 4,350 SF
Lot 4: Restaurant – 4,900 SF (including patio)
Lot 5: Office – 6,500 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 TIS since the office complex is already developed and is already included in the background contributing traffic in the TIS. 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 TIS, 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 TIS in ADOT's *Traffic Impact Analysis* guidelines.

The project is a moderate development estimated to generate 264 am peak hour trips, 301 pm peak hour trips and 3,447 weekday trips. Reductions in pass-by trips result in 213 new am peak hour trips, 187 new pm peak hour trips and 2,417 new daily trips. Accordingly, we have prepared a Category 1 TIS.

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
- 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

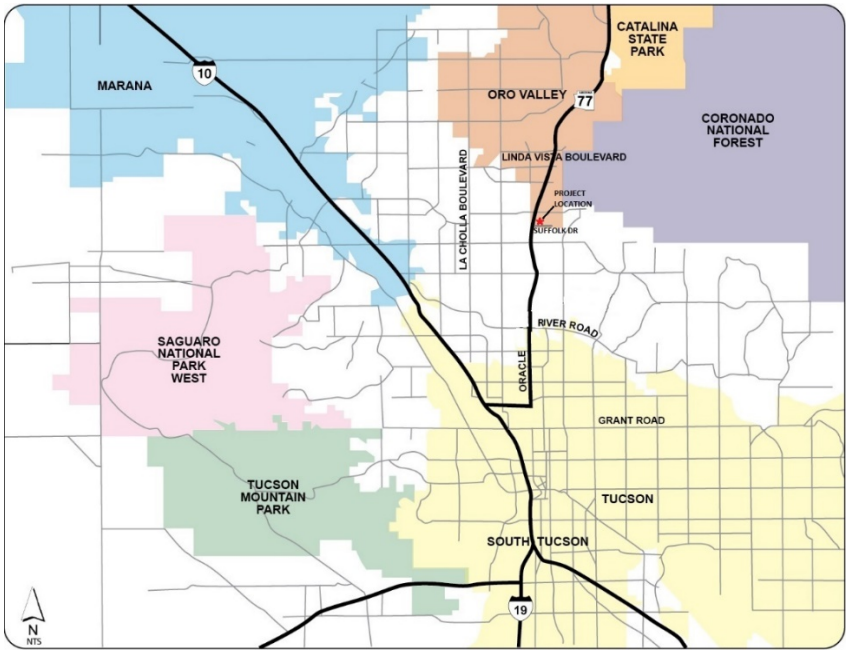
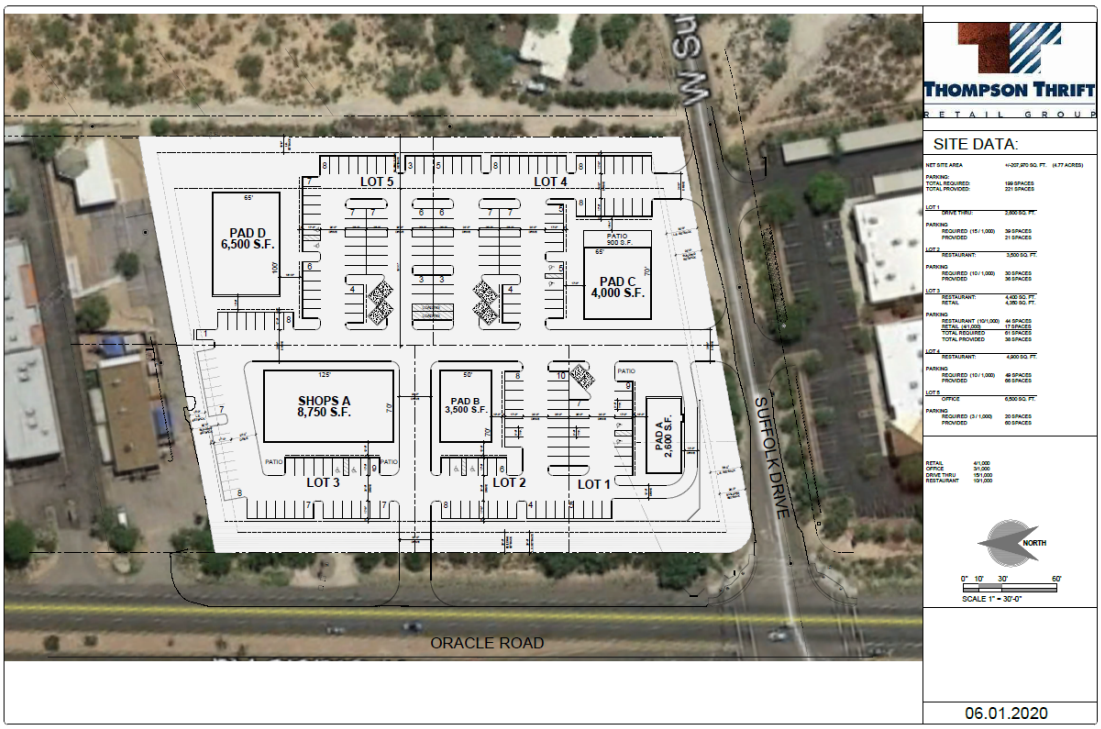


Exhibit 2 Site Plan for Vacant/New Development Portion of Rezoning



Development Description

Proposed uses include restaurant uses, office and retail. The general land uses "shopping center", "single tenant 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 internal trip reductions and pass-by trips, the proposed project will generate approximately 213 net am peak hour trips, 187 net pm peak hour trips and 2,417 net daily trips.

Principal Findings

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

The project will generate:

- 213 net morning peak hour trips,
- 187 net evening peak hour trips,
- 2,417 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 full access at the two driveways on Suffolk Drive.

A northbound right turn lane is warranted at the SR 77 driveway based on ADOT turn lane warrant guidelines. The length of this turn lane should utilize the distance between Suffolk Drive and the proposed driveway because a turn lane and taper based on the desirable braking distance on a 50-mph roadway would not be possible based on the location of the driveway and its proximity to Suffolk Drive. A bus bay is also being planned along the east side of SR 77, just north of Suffolk Drive where the right turn lane is warranted. Further discussion with ADOT on this topic is recommended.

Turn lanes are not warranted at the Suffolk Drive driveways.

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 lane 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 shows that the projected 95th percentile queues 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. 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 280 feet for a stopped passenger car to turn left and 240 feet for a stopped passenger car to turn right onto a 25-mph roadway based on AASHTO standards. The Site Civil designer will verify the sight distances.

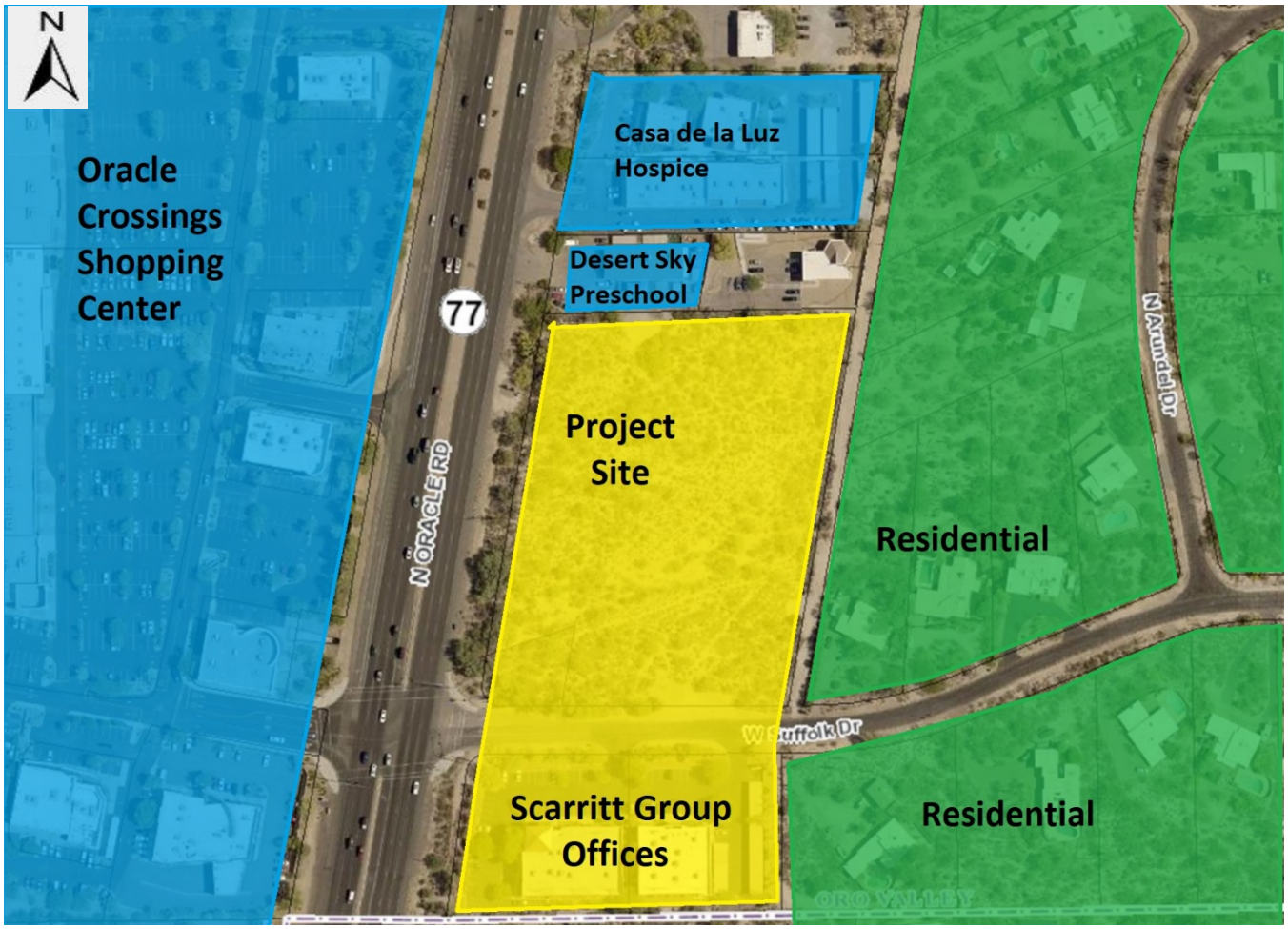
All signs and pavement markings must conform to the MUTCD, ADOT and Town of Oro Valley requirements.

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 Scaritt 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 12,800 square feet of High-Turnover Restaurant, 2,600 square feet of Fast-Food Restaurant with Drive Through, 4,350 square feet of commercial/retail and 6,500 square feet of 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 two driveways on Suffolk Drive will be full access driveways and 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 TIS follows the protocol of a Category 1 TIS, 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 Scaritt 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. The Suffolk Drive driveways will have no turn restrictions.

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 west 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	None
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.

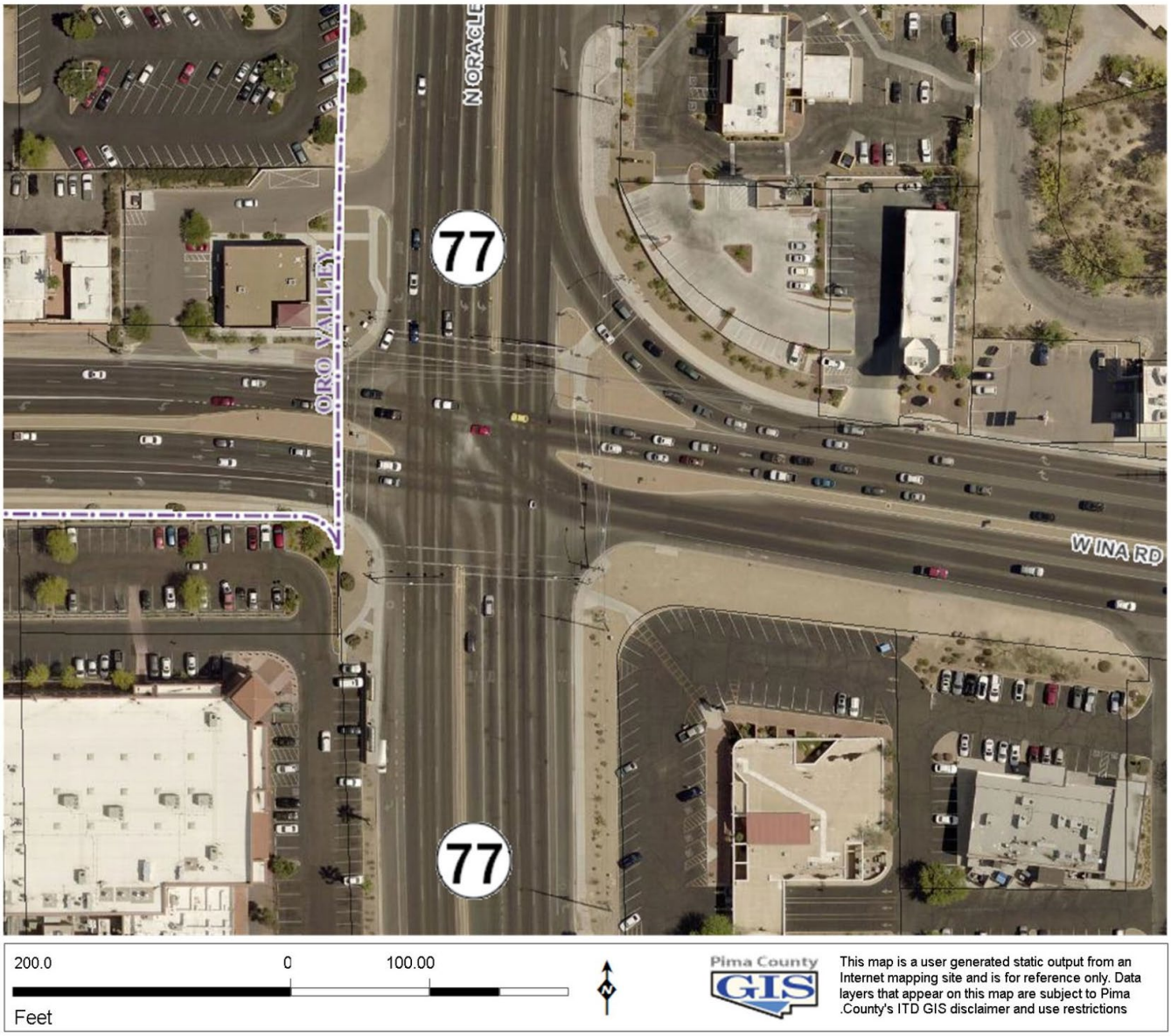
*LOS D Capacities from Florida DOT 2012 Level of Service Handbook Tables.
**Designations from the Tucson Bike Map
Note: Some volumes estimated from intersection peak hour volumes (PAG).

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

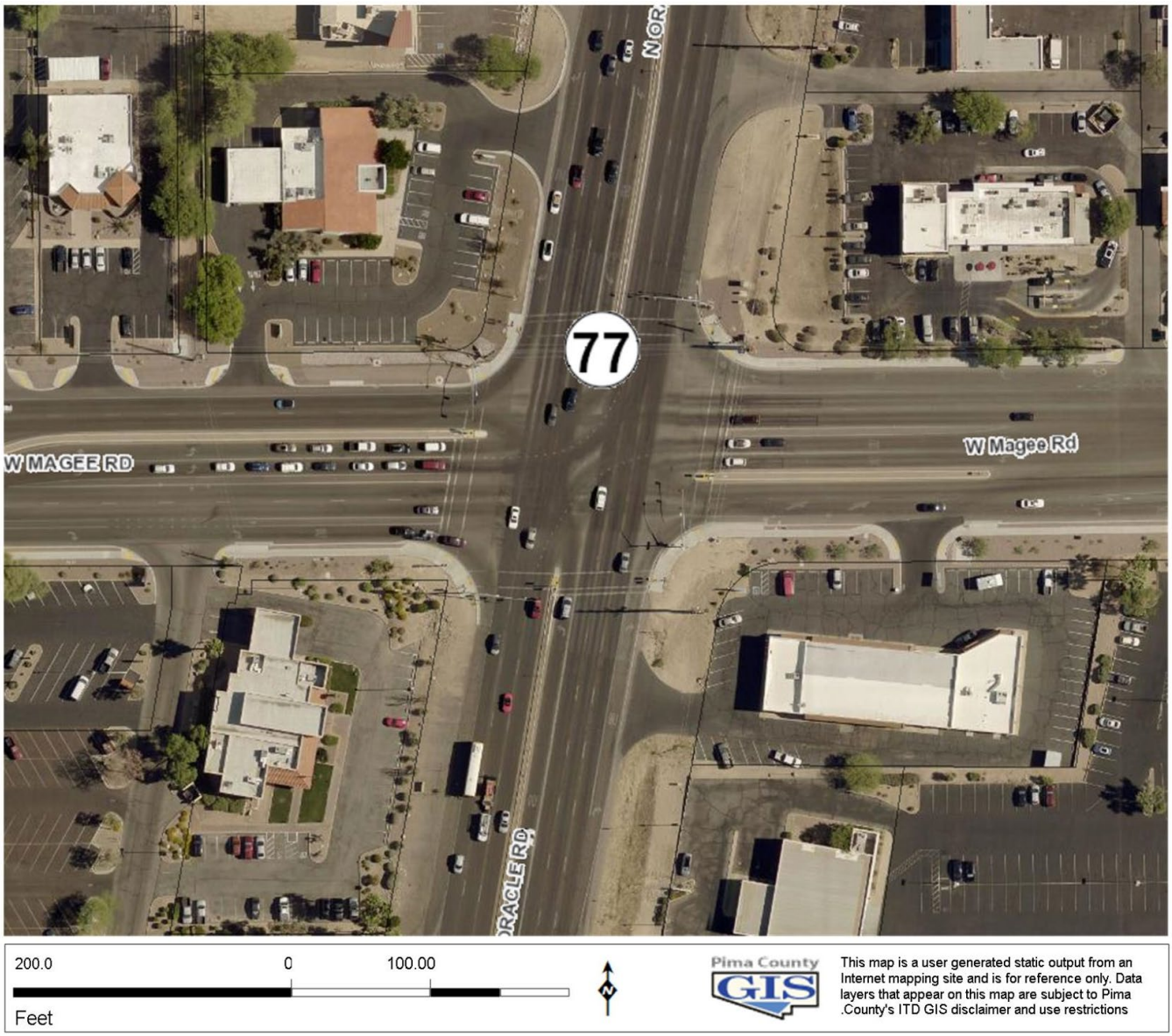


SR 77/Ina Road

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

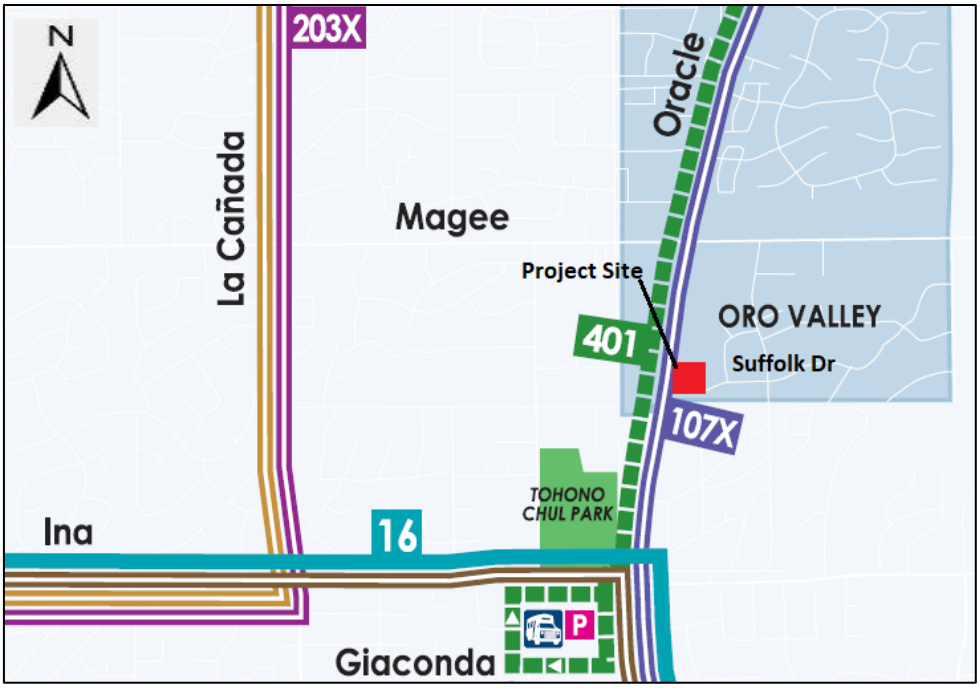
Looking North on SR 77 – Project Location to the Right

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)

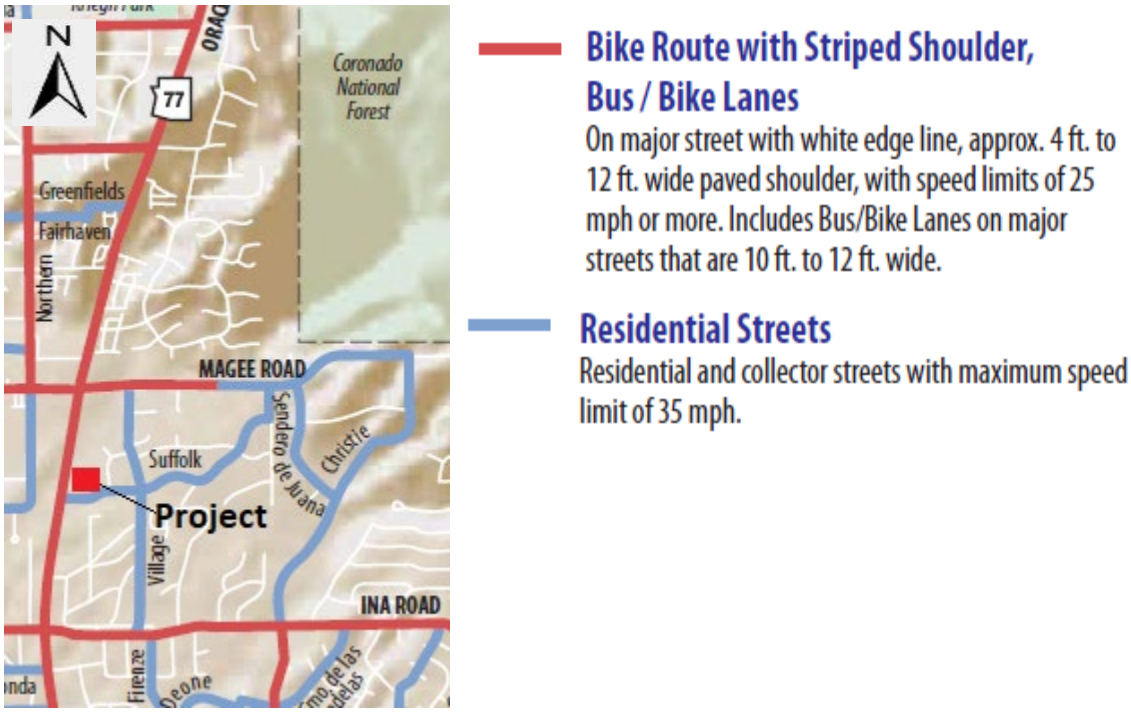


Source: Sun Tran

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

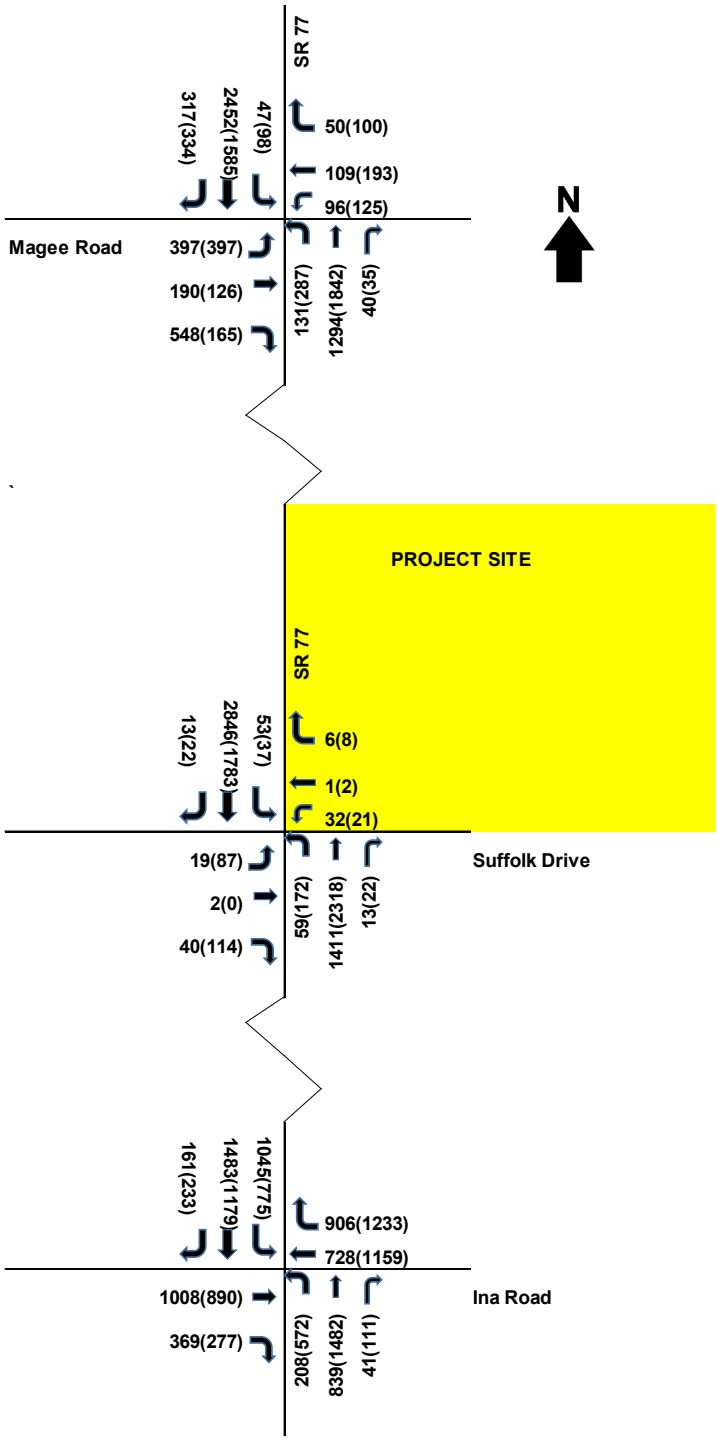
Peak Periods

The study area for an ADOT Category I TIS 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. 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 daily capacity of a six-lane roadway like SR 77 is about 59,900 vehicles per day. Given the existing volume of 38,000 vehicles per day on SR 77 and the trip generation total, the daily volumes on SR 77 not exceed its daily volume capacity.

The capacity of a two-lane roadway is approximately 10,660 vehicles per day. 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. 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	43.7	D	28.2	C
Right	32.6	C	23.7	C
Approach	*40.8*	*D*	*27.2*	*C*
Westbound				
Through	23.7	C	39.4	D
Right	38.8	D	152.8	F
Approach	*32.1*	*C*	*97.8*	*F*
Northbound				
Left	39.3	D	302.5	F
Through	39.9	D	318.4	F
Right	29.4	C	33.7	C
Approach	*39.4*	*D*	*299.6*	*F*
Southbound				
Left	42	D	30.6	C
Through	23.9	C	22.1	C
Right	18.1	B	20.1	C
Approach	*30.6*	*C*	*24.9*	*C*
Intersection	***34.6***	***C***	***126.8***	***F***

SR 77/Sufflolk Drive	Existing 2020 AM Delay (sec/veh)	AM LOS	Existing 2020 PM Delay (sec/veh)	PM LOS
Eastbound				
Left	64.0	E	58.9	E
Through/Right	77.5	E	83.1	F
Approach	*73.3*	*E*	*72.7*	*E*
Westbound				
Left	80.7	F	78.7	E
Through/Right	66.7	E	70.0	E
Approach	*78.3*	*E*	*76*	*E*
Northbound				
Left	29.7	C	14.5	B
Through	6.4	A	11.1	B
Right	6.6	A	11.2	B
Approach	*7.4*	*A*	*11.3*	*B*
Southbound				
Left	4.5	A	12.1	B
Through	11.9	B	10.1	B
Right	4.4	A	6.2	A
Approach	*11.7*	*B*	*10.1*	*B*
Intersection	***12.1***	***B***	***14.5***	***B***

SR 77/Magee Road	Existing 2020 AM Delay (sec/veh)	AM LOS	Existing 2020 PM Delay (sec/veh)	PM LOS
Eastbound				
Left	63.9	E	63.6	E
Through	33.1	C	41.7	D
Right	216.4	F	46.9	D
Approach	*132.4*	*F*	*55.6*	*E*
Westbound				
Left	138.3	F	184.3	F
Through	44.6	D	58.6	E
Right	44.9	D	65.3	E
Approach	*80.1*	*F*	*97.8*	*F*
Northbound				
Left	135.5	F	302.2	F
Through	25.2	C	21.5	C
Right	18.3	B	12.6	B
Approach	*34.9*	*C*	*58.6*	*E*
Southbound				
Left	19.7	B	24.5	C
Through	91.6	F	19.5	B
Right	25.5	C	17.4	B
Approach	*83*	*F*	*19.4*	*B*
Intersection	***81.7***	***F***	***47.1***	***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	**2016**	**2017**	**2017**	**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	**2016**	**2017**	**2017**	**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	2016	2017	2017	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	2016	2017	2017	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	2016	2017	2017	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.

Trip Generation

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[1]. Exhibit 12 shows the trip rates and estimated trip generation.

Based on the average trip rates for the land uses, the project generates about 3,447 new daily one-way trips with 264 during the AM peak hour and 301 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 2,417 net daily one-way trips with 213 during the AM peak hour and 187 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).

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.

[1] 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 In*	*Weekday AM Out*	*Weekday PM In*	*Weekday PM Out*	*Avg Weekday In*	*Avg Weekday Out*
Single Tenant Office Building	1000 SF GFA	**6.5**	715	T=1.68(X)+17.26		T=1.54(X)+27.59		11.25	
				89%	11%	15%	85%	50%	50%
High Turnover Sit-Down Restaurant	1000 SF GFA	**4.9**	932	9.94		9.77		112.18	
				55%	45%	62%	38%	50%	50%
High Turnover Sit-Down Restaurant	1000 SF GFA	**4.4**	932	9.94		9.77		112.18	
				55%	45%	62%	38%	50%	50%
High Turnover Sit-Down Restaurant	1000 SF GFA	**3.5**	932	9.94		9.77		112.18	
				55%	45%	62%	38%	50%	50%
Fast-Food Restaurant w/Drive-Through Window	1000 SF GFA	**2.6**	934	40.19		32.67		470.95	
				51%	49%	52%	48%	50%	50%
Retail	1000 SF GFA	**4.35**	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 In*	*Weekday AM Out*	*Weekday PM In*	*Weekday PM Out*	*Avg Weekday In*	*Avg Weekday Out*
Single Tenant Office Building	1000 SF GFA	6.5	28		38		73	
	Positions		25	3	6	32	37	37
High Turnover Sit-Down Restaurant	1000 SF GFA	4.9	49		48		550	
			27	22	30	18	275	275
High Turnover Sit-Down Restaurant	1000 SF GFA	4.4	44		43		494	
			24	20	27	16	247	247
High Turnover Sit-Down Restaurant	1000 SF GFA	3.5	35		34		393	
			19	16	21	13	196	196
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	4.4	4		53		713	
			3	2	26	28	357	357
Totals			**264**		**301**		**3,447**	
			151	**113**	**153**	**148**	**1,723**	**1,723**

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
Single Tenant Office Building	853		0.0	0	0	0	0	0	0
High Turnover Sit-Down Restaurant	932	43% PM	0.0	0	0	21	8	110	55
High Turnover Sit-Down Restaurant	932	43% PM	0.0	0	0	18	7	99	49
High Turnover Sit-Down Restaurant	932	43% PM	0.0	0	0	15	6	79	39
Fast-Food Restaurant w/Drive-Through Window	934	49% AM 50% PM	0.0	51 26	25	42 22	20	600 300	300
Retail	820	34% PM		0	0	18	9	143	71
Total Pass By Trips				51 26	25	114 64	50	1,030 515	515

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.

Total Net New Trips		*Weekday AM* In	*Weekday AM* Out	*Weekday PM* In	*Weekday PM* Out	*Avg Weekday* In	*Avg Weekday* Out
		213 125	88	187 89	98	2,417 1,208	1,208

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)

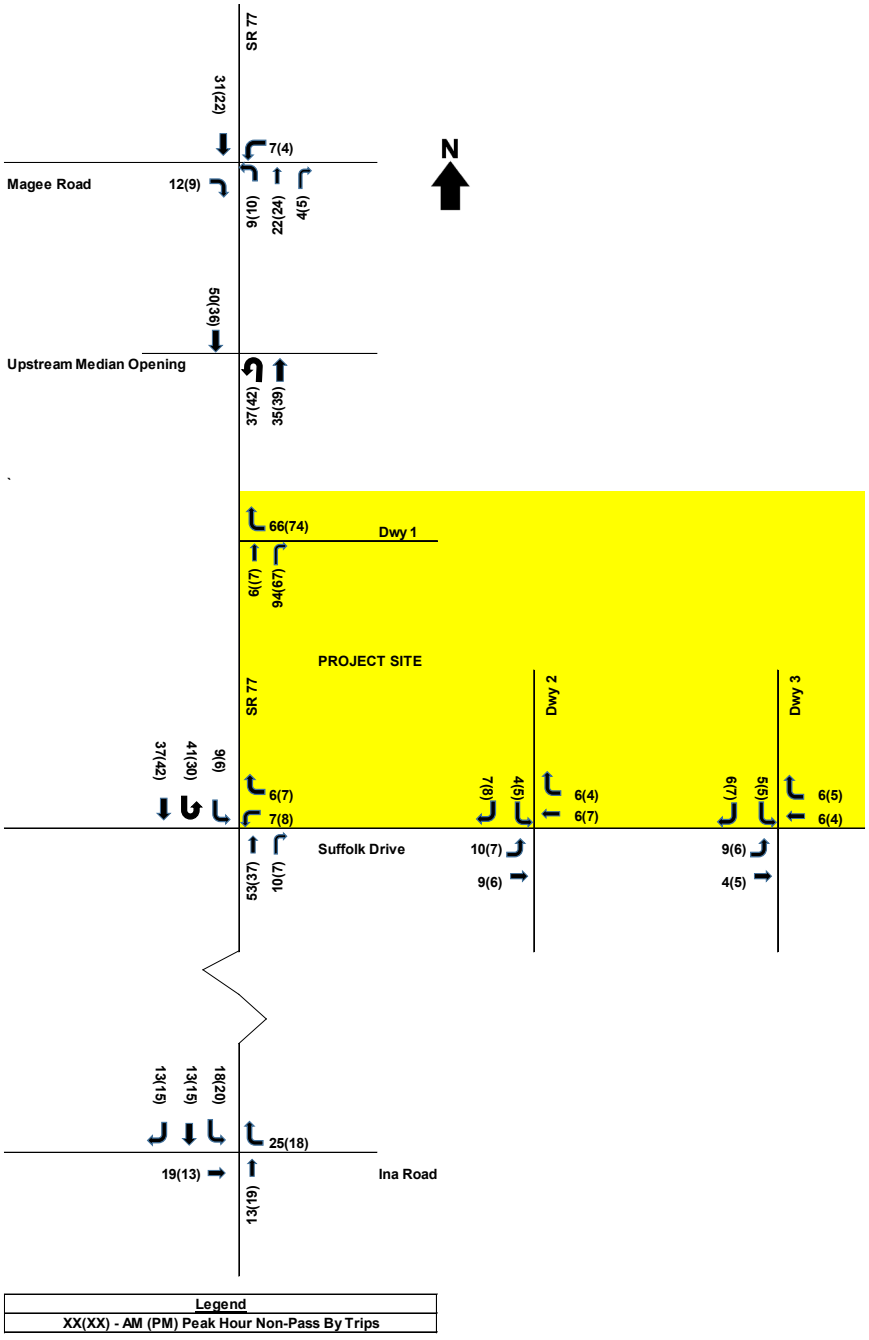
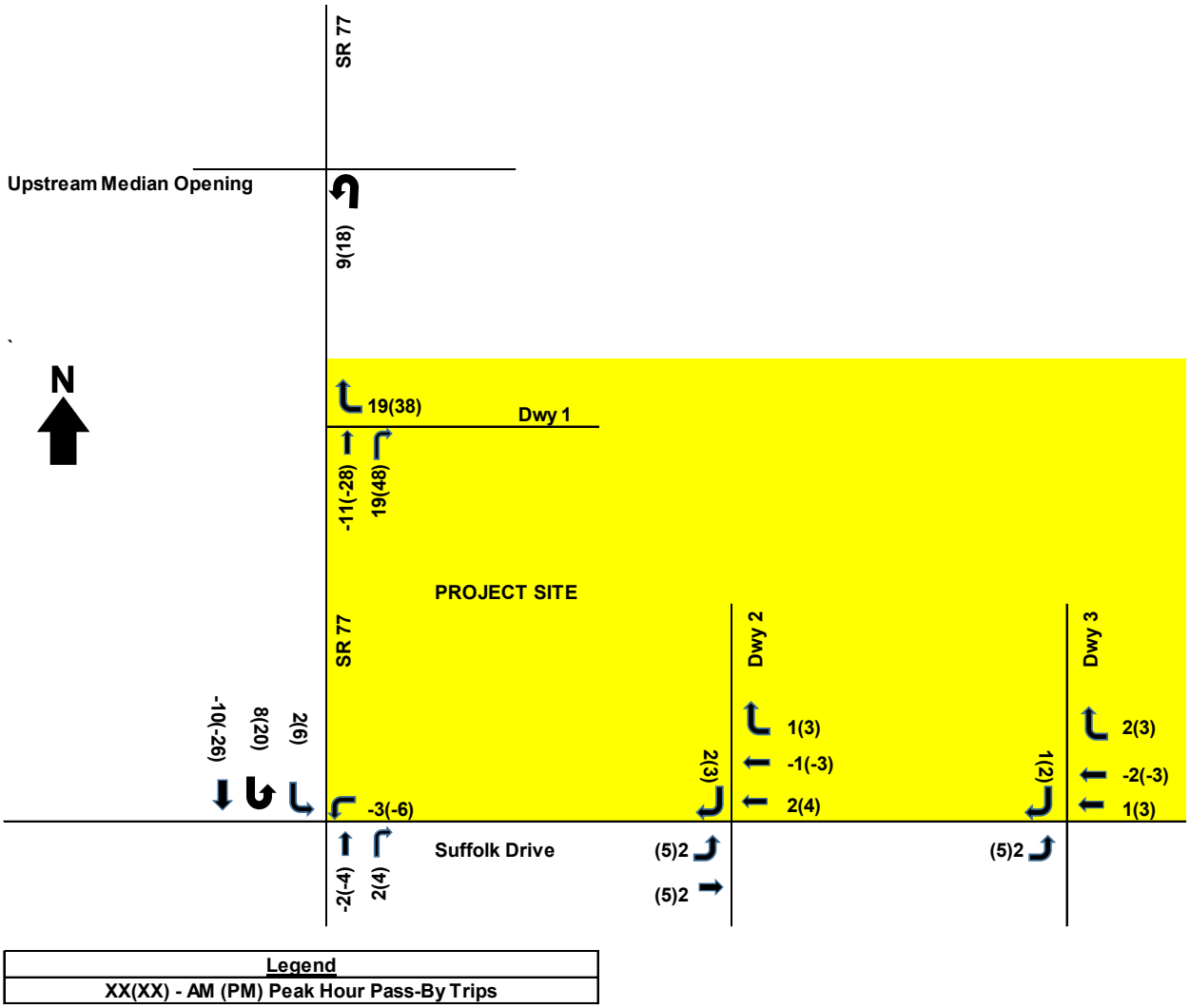


Exhibit 15 Site Traffic Distribution (Pass By Trips)



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

`	From	To	Average Daily Trip (ADT) Volume	Data Source	Data Year	2021 NP	2024 NP	Site Trips	2021 With Project	2024 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	1,934	40,469	42,828	59,900
Oracle Road (State Route 77)	South of Suffolk Drive		38,027	ADOT	2020	38,788	41,162	1,209	39,996	42,370	59,900
Suffolk Drive	Oracle Road	1st Avenue	900	PAG	2019	936	994	242	1,178	1,235	10,660
Magee Road	Oracle Road	West of Oracle Road	13,700	PAG	2019	14,253	15,126	242	14,495	15,368	29,160
Magee Road	Oracle Road	East of Oracle Road	1,363	PAG	2019	1,418	1,505	121	1,539	1,626	10,660
Ina Road	Oracle Road	West of Oracle Road	30,030	PAG	2019	31,243	33,156	363	31,606	33,518	29,160
Ina Road	Oracle Road	East of Oracle Road	39,679	PAG	2019	41,282	43,809	483	41,765	44,292	29,160

*LOS D Capacities from Florida DOT 2012 Level of Service Handbook Tables.

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.

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

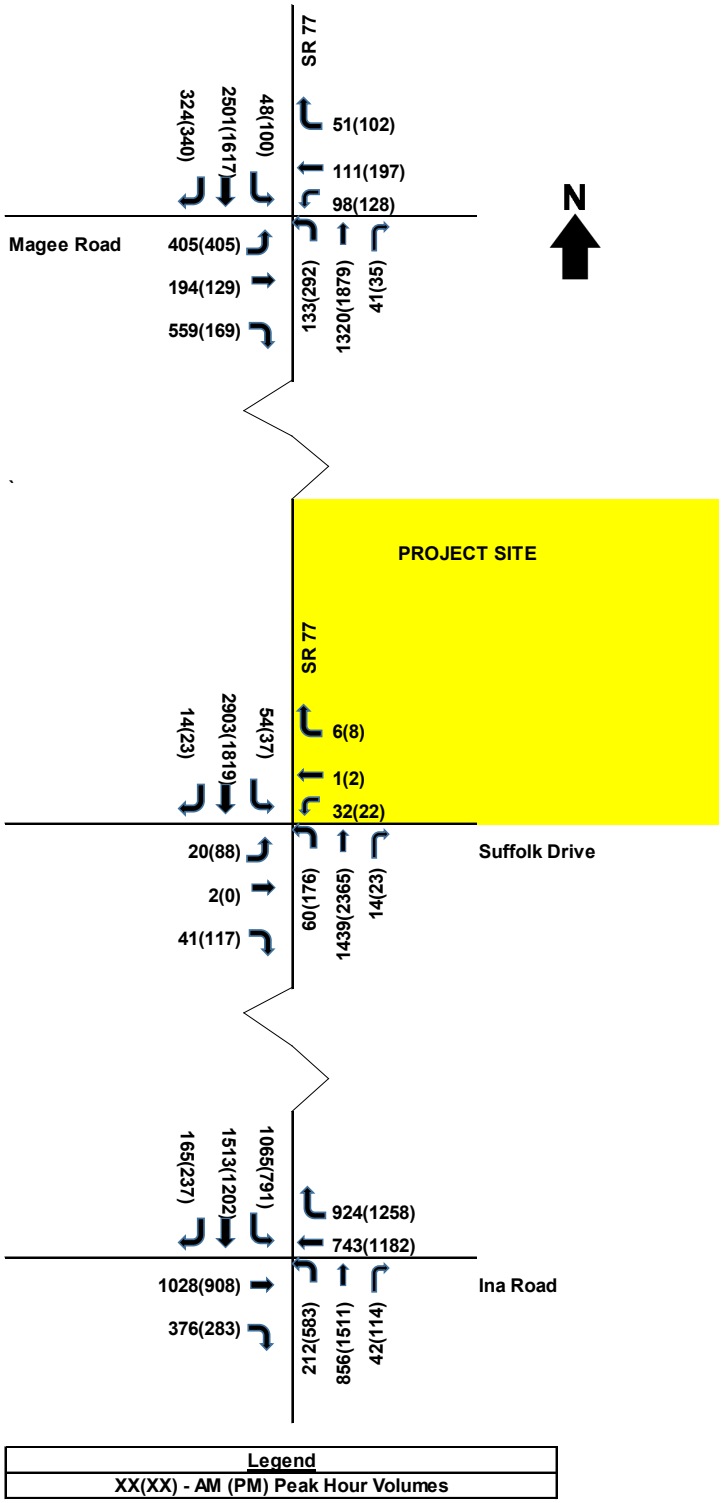


Exhibit 18 2024 – Peak Hour Intersection Volumes – Without Project

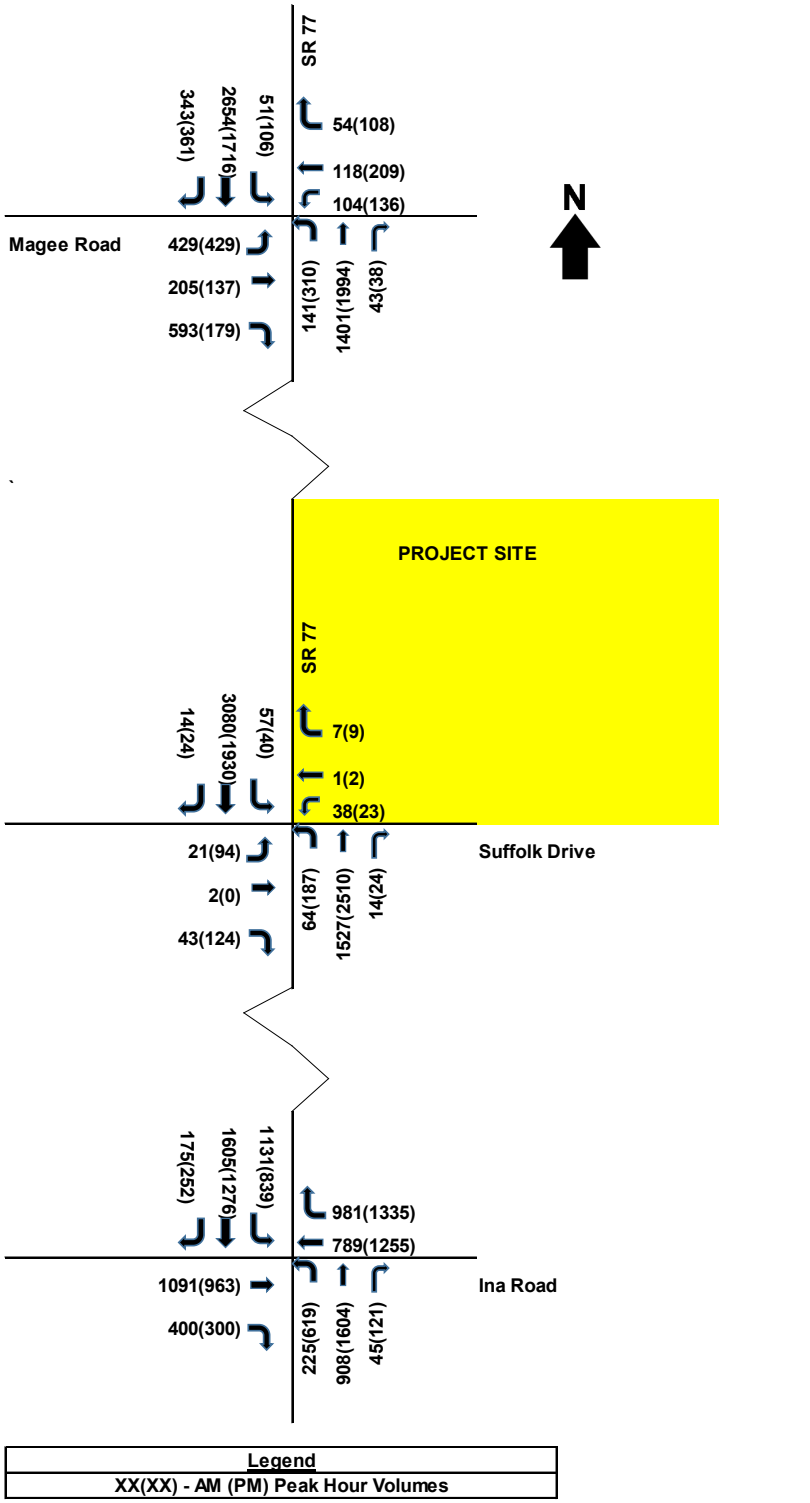


Exhibit 19 2021 With Project Peak Hour Intersection Volumes

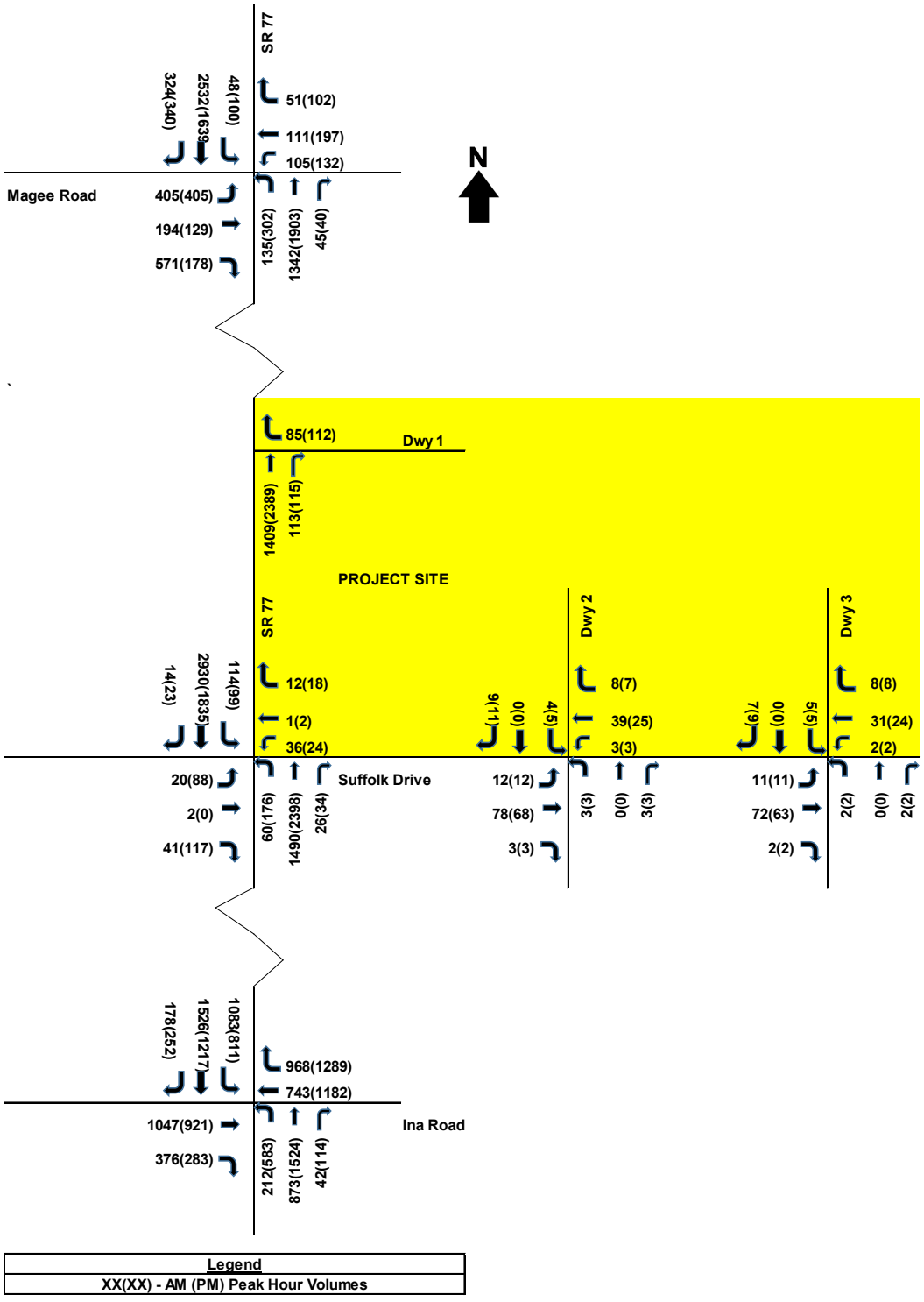
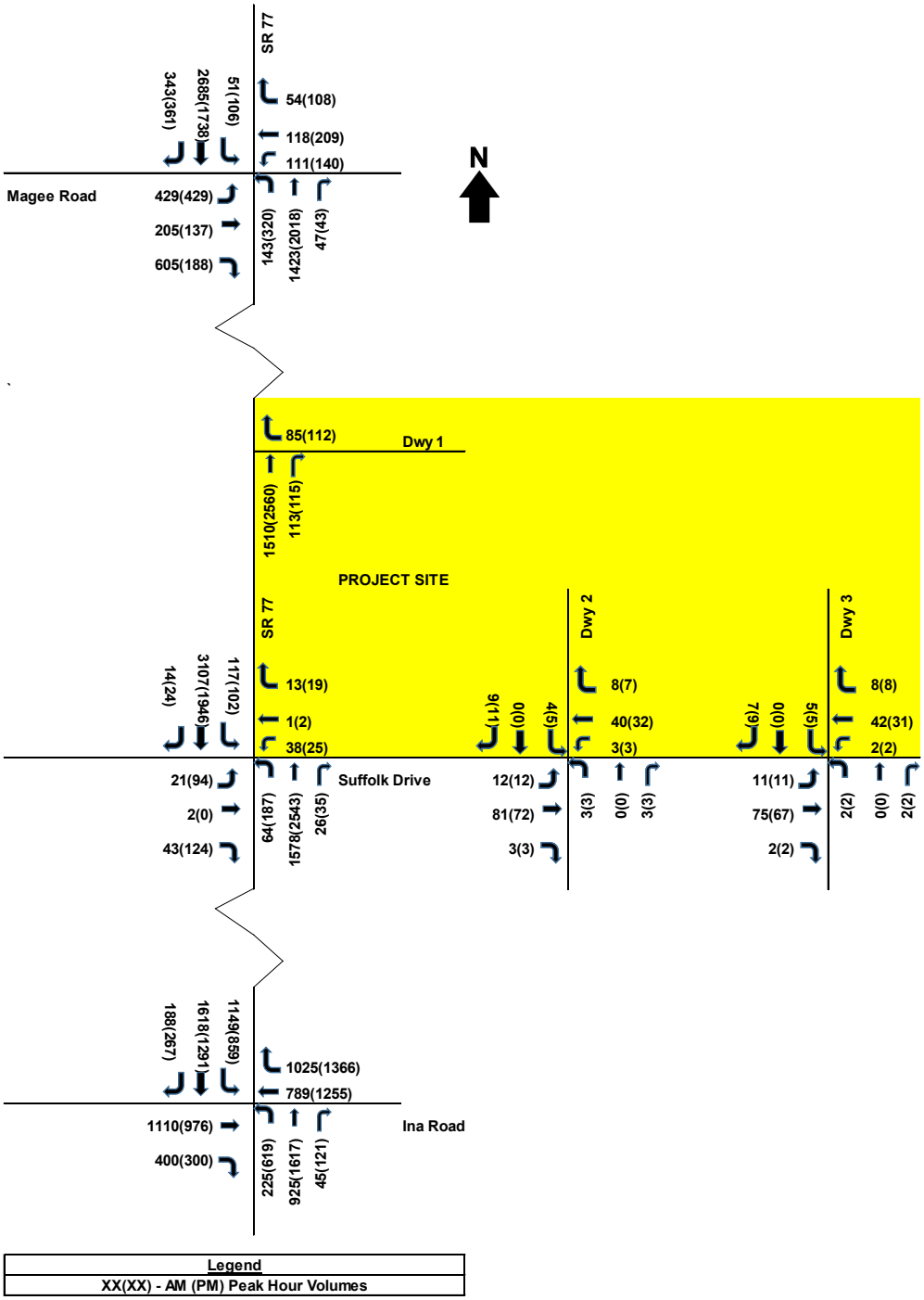


Exhibit 20 2024 With Project Peak Hour Intersection Volumes



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 SR 77, 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).

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.

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)

	2021 No Project				2024 No 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	47.4	D	28.8	C	62.7	F	31	C
Right	33.6	C	23.9	C	38	D	24.6	C
Approach	*43.7*	*D*	*27.6*	*C*	*56.1*	*E*	*29.5*	*C*
Westbound								
Through	23.9	C	42.2	D	24.5	C	55.1	F
Right	41.1	D	163.9	F	52.0	D	197.9	F
Approach	*33.4*	*C*	*104.9*	*F*	*39.7*	*D*	*128.7*	*F*
Northbound								
Left	39.5	D	321.3	F	39.9	D	373.4	F
Through	40.6	D	332.7	F	43.6	D	378.2	F
Right	29.4	C	34	C	29.6	C	34.5	C
Approach	*40*	*D*	*314.3*	*F*	*42.4*	*D*	*359.2*	*F*
Southbound								
Left	46.6	D	31	C	67.6	F	32.5	C
Through	24.2	C	22.2	C	25	C	22.8	C
Right	18.1	B	20.1	C	28.2	B	20.4	C
Approach	*32.5*	*C*	*25.1*	*C*	*41.1*	*D*	*26*	*C*
Intersection	***36.5***	***D***	***133.2***	***F***	***44.5***	***D***	***153.7***	***F***

	2021 No Project				2024 No Project			
	AM		PM		AM		PM	
SR 77/Sufflolk Drive	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	**LOS**
Eastbound								
Left	63.8	E	58.7	E	63.6	E	58.2	E
Through/Right	77.3	E	83.9	F	77	E	86.1	F
Approach	*73.1*	*E*	*73.1*	*E*	*72.7*	*E*	*74.1*	*E*
Westbound								
Left	80.7	F	80	E	79	E	79.6	E
Through/Right	66.7	E	69.8	E	66.5	E	70.2	E
Approach	*78.3*	*E*	*76.9*	*E*	*77.5*	*E*	*76.6*	*E*
Northbound								
Left	32.1	C	17.3	B	38.5	C	26.8	C
Through	6.5	A	11.4	B	6.9	A	12.7	B
Right	6.7	A	11.6	B	7.2	A	12.9	B
Approach	*7.6*	*A*	*11.9*	*B*	*8.3*	*A*	*13.7*	*B*
Southbound								
Left	4.6	A	13	B	5.1	A	17.1	B
Through	12.4	B	10.4	B	14.7	B	11.2	B
Right	4.4	A	6.3	A	4.6	A	6.6	A
Approach	*12.3*	*B*	*10.4*	*B*	*14.5*	*B*	*11.3*	*B*
Intersection	***12.6***	***B***	***14.9***	***B***	***14.2***	***B***	***16.3***	***B***

	2021 No Project				2024 No 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	64.2	E	63.9	E	65.2	E	64.8	E
Through	33.1	C	41.3	D	33.2	C	40.1	D
Right	228.6	F	46.6	D	264.5	F	45.4	D
Approach	*138.3*	*F*	*55.6*	*E*	*156.2*	*F*	*55.6*	*E*
Westbound								
Left	142.7	F	194.8	F	160	F	222.2	F
Through	45.0	D	58.6	E	46.0	D	58.2	E
Right	45.3	D	65.6	E	46.3	D	67.1	E
Approach	*81.8*	*F*	*101.1*	*F*	*88.9*	*F*	*109.5*	*F*
Northbound								
Left	140.2	F	331.9	F	163.2	F	440.2	F
Through	25.4	C	22.4	C	26.3	C	25.5	C
Right	18.3	B	12.9	B	18.4	B	13.9	B
Approach	*35.5*	*D*	*63.2*	*E*	*38.3*	*D*	*80.2*	*F*
Southbound								
Left	20	B	27.4	C	20.7	C	36.3	C
Through	100.8	F	20.1	C	130.6	F	22.2	C
Right	25.7	C	17.8	B	26.4	C	19.4	B
Approach	*91*	*F*	*20.1*	*C*	*117*	*F*	*22.4*	*C*
Intersection	***87.1***	***F***	***49.4***	***D***	***104.5***	***F***	***57.9***	***E***

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	51.7	D	29.2	C	68.6	F	31.6	C
Right	33.6	C	23.9	C	38	D	24.6	C
Approach	*46.9*	*D*	*28*	*C*	*60.5*	*E*	*29.9*	*C*
Westbound								
Through	23.9	C	42.2	D	24.5	C	55.1	F
Right	49.0	D	177.6	F	63.3	F	211.8	F
Approach	*38.1*	*D*	*112.8*	*F*	*46.4*	*D*	*136.8*	*F*
Northbound								
Left	39.5	D	325	F	39.9	D	373.4	F
Through	41.4	D	338.9	F	44.9	D	384.4	F
Right	29.4	C	34	C	29.6	C	34.5	C
Approach	*40.6*	*D*	*319.5*	*F*	*43.4*	*D*	*363.6*	*F*
Southbound								
Left	51.4	F	31.6	C	75.2	F	33.4	C
Through	24.3	C	22.3	C	25	C	22.9	C
Right	18.3	B	20.5	C	18.4	B	20.7	C
Approach	*34.5*	*C*	*25.4*	*C*	*44.1*	*D*	*26.4*	*C*
Intersection	***39.1***	***D***	***136.5***	***F***	***48.3***	***D***	***156.8***	***F***

	2021 With Project				2024 With Project			
	AM		PM		AM		PM	
SR 77/Sufflolk Drive	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound								
Left	63.8	E	58.7	E	63.6	E	58.2	E
Through/Right	77.3	E	83.9	F	77	E	86.1	F
Approach	*73.1*	*E*	*73.1*	*E*	*72.7*	*E*	*74.1*	*E*
Westbound								
Left	78	E	76.7	E	77.6	E	76.5	E
Through/Right	67.3	E	75.5	E	67.0	E	75.5	E
Approach	*75.2*	*E*	*76.2*	*E*	*74.8*	*E*	*76*	*E*
Northbound								
Left	33.2	C	18.4	B	39.2	D	28.9	C
Through	7.1	A	12.6	B	7.5	A	13.9	B
Right	7.4	A	12.8	B	7.8	A	14.2	B
Approach	*8.2*	*A*	*13*	*B*	*8.8*	*A*	*15*	*B*
Southbound								
Left	6.1	A	32.3	C	7.0	A	42.1	D
Through	13.2	B	10.7	B	15.6	B	11.7	B
Right	4.6	A	6.5	A	4.8	A	6.8	A
Approach	*12.9*	*B*	*11.8*	*B*	*15.3*	*B*	*13.1*	*B*
Intersection	***13.3***	***B***	***16.2***	***B***	***14.9***	***B***	***17.9***	***B***

	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	64.2	E	63.9	E	65.2	E	64.8	E
Through	33.1	C	41.3	D	33.2	C	40.1	D
Right	240.8	F	47.2	D	277.8	F	46	D
Approach	*145.2*	*F*	*55.6*	*E*	*163.8*	*F*	*55.6*	*E*
Westbound								
Left	164.7	F	208.2	F	184.3	F	236.5	F
Through	45.0	D	58.6	E	46.0	D	58.2	E
Right	45.3	D	65.6	E	46.3	D	67.1	E
Approach	*92.1*	*F*	*106.1*	*F*	*100.3*	*F*	*114.9*	*F*
Northbound								
Left	145.2	F	365.2	F	168.5	F	476.9	F
Through	25.7	C	22.6	C	26.5	C	25.8	C
Right	18.4	B	13	B	18.4	B	13.9	B
Approach	*36*	*D*	*68.5*	*E*	*38.9*	*D*	*86.2*	*F*
Southbound								
Left	20.1	C	28.5	C	21	C	37.6	D
Through	106.8	F	20.3	C	136.6	F	22.4	C
Right	25.7	C	17.8	B	26.4	C	19.4	B
Approach	*96.3*	*F*	*20.3*	*C*	*122.4*	*F*	*22.6*	*C*
Intersection	***91.7***	***F***	***52.1***	***D***	***109.4***	***F***	***60.9***	***E***

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	25.1	D	161.9	F	27.9	D	228.2	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	7.3	A	7.3	A	7.3	A	7.3	A
Westbound								
Left	7.4	A	7.4	A	7.4	A	7.4	A
Northbound								
Left/Through/Right	9.2	A	9.1	A	9.2	A	9.1	A
Southbound								
Left/Through/Right	8.9	A	8.8	A	8.9	A	8.9	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**
Eastbound								
Left	7.3	A	7.3	A	7.3	A	7.3	A
Westbound								
Left	7.4	A	7.4	A	7.4	A	7.4	A
Northbound								
Left/Through/Right	9.1	A	9.0	A	9.2	A	9.1	A
Southbound								
Left/Through/Right	8.9	A	8.8	A	9	A	8.9	A

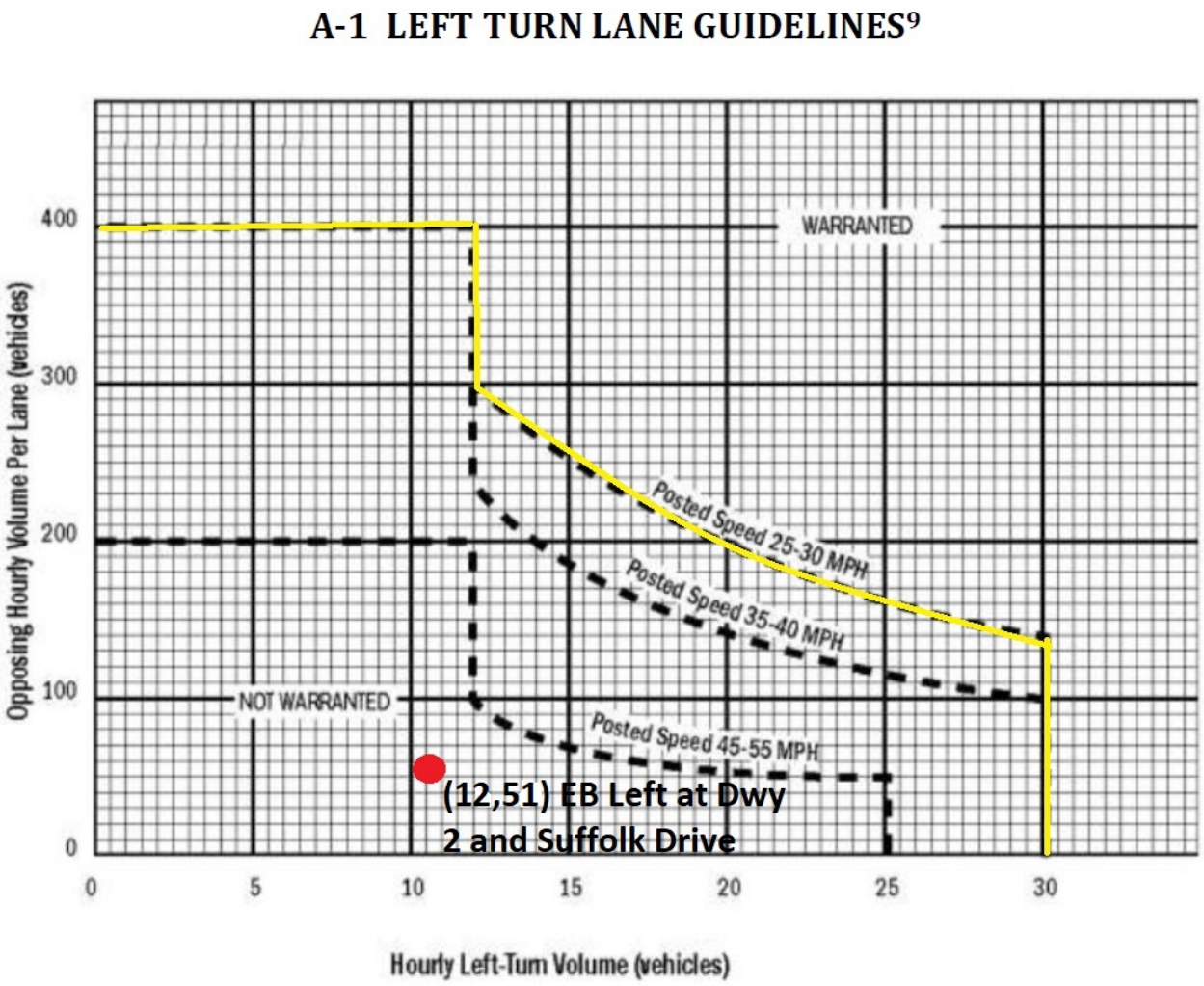
Turn Lane Warrants and Design

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.

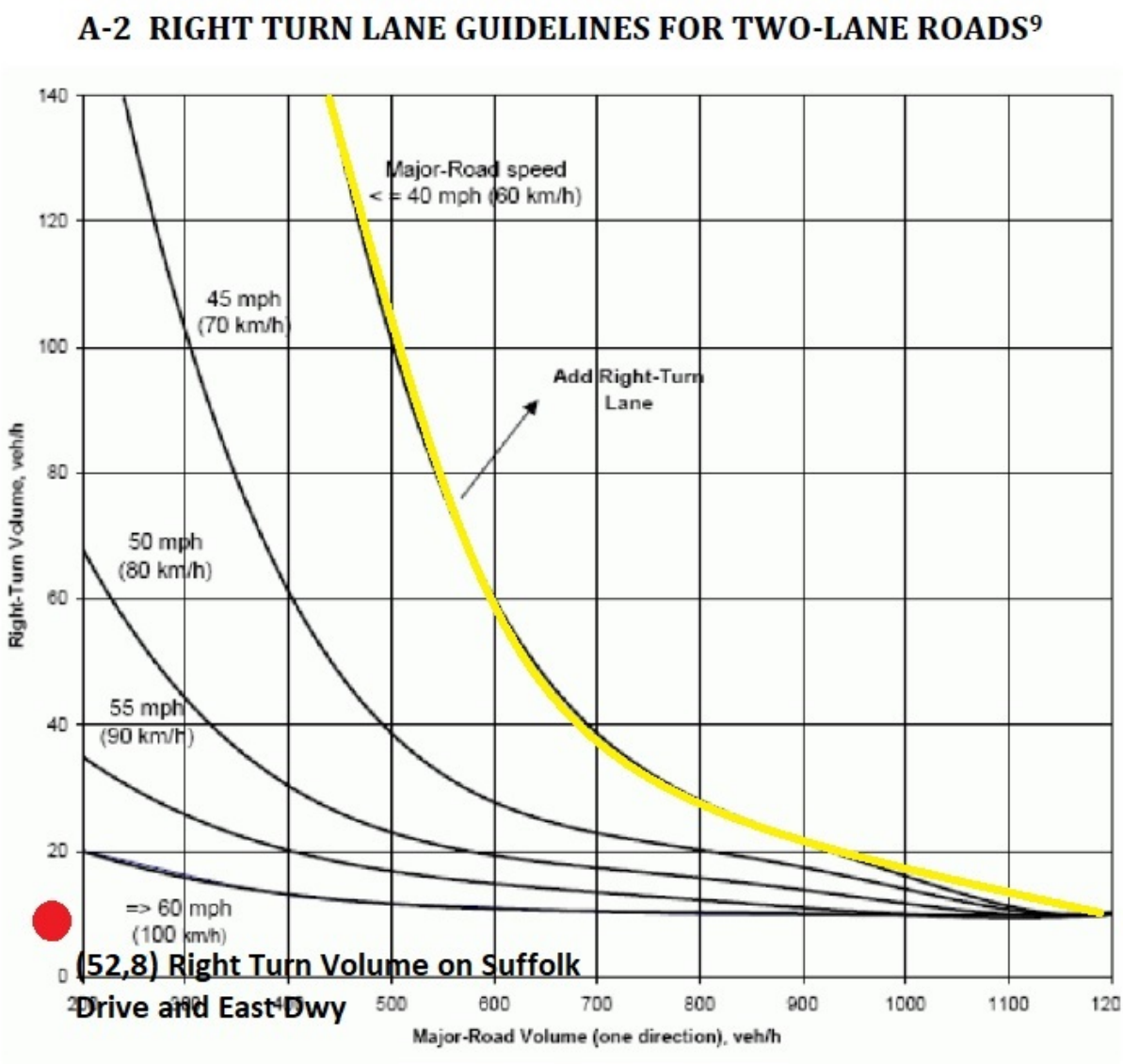
The Town of Oro Valley applies turn lane warrant guidelines from the *Pima County Subdivision and Development Street Standards.* These guidelines for left and right turn lane warrants on two-lane roadways are shown in Exhibits 24 and 25. The projected left and right turn volumes in 2024 with project at the Suffolk Drive project driveway do not exceed the thresholds warranting turn lanes.

Exhibit 24 Left Turn Lane Warrant – Suffolk Drive Driveway



Note: Analysis done for Driveway with Highest Volumes

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 north end of the bus bay taper, the bus bay/right turn storage length would be 150 fee 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. Further discussion with ADOT is recommended to address the driveway location and spacing.

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.

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, northbound, and southbound 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 six passenger vehicle lengths (138 feet) and two passenger vehicle lengths (47 feet) during the pm peak hour.

Therefore, the existing turn lane length is adequate based on the expected volumes. 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 may be extended to the full extent of the turn lane length.

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 and minimum queue length (85 feet). The braking distance is based on the speed limit 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 Storage (ft)	Pima County Standard (ft)	ADOT Standard (Des/Min)	95% Queue Length 2024 With Project AM	95% Queue Length 2024 With Project PM	Deficiency (ft)
Northbound							
Left/U-Turn	50	140	N/A	330/205	138	47	0

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 could be reviewed once the project is constructed to optimize progression and operational efficiency at the intersection.

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:

- 213 net morning peak hour trips,
- 187 net evening peak hour trips,
- 2.417 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 full access at the two driveways on Suffolk Drive.

A northbound right turn lane is warranted at the SR 77 driveway based on ADOT turn lane warrant guidelines. The length of this turn lane should utilize the distance between Suffolk Drive and the proposed driveway because a turn lane and taper based on the desirable braking distance on a 50-mph roadway would not be possible based on the location of the driveway and its proximity to Suffolk Drive. A bus bay is also being planned along the east side of SR 77, just north of Suffolk Drive where the right turn lane is warranted. Further discussion with ADOT on this topic is recommended.

Turn lanes are not warranted at the Suffolk Drive driveways.

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 lane 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 shows that the projected 95th percentile queues at the existing turn lanes 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. Adding the project trips at the SR 77/Suffolk Drive intersections may increase the pm peak hour queue on the eastbound, northbound, and southbound left turn lanes slightly longer than their existing storage 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 280 feet for a stopped passenger car to turn left and 240 feet for a stopped passenger car to turn right onto a 25-mph roadway based on AASHTO standards. The Site Civil designer will verify the sight distances.

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

Appendix

- ADOT Pre-Submittal Form
- Site Plan
- 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

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

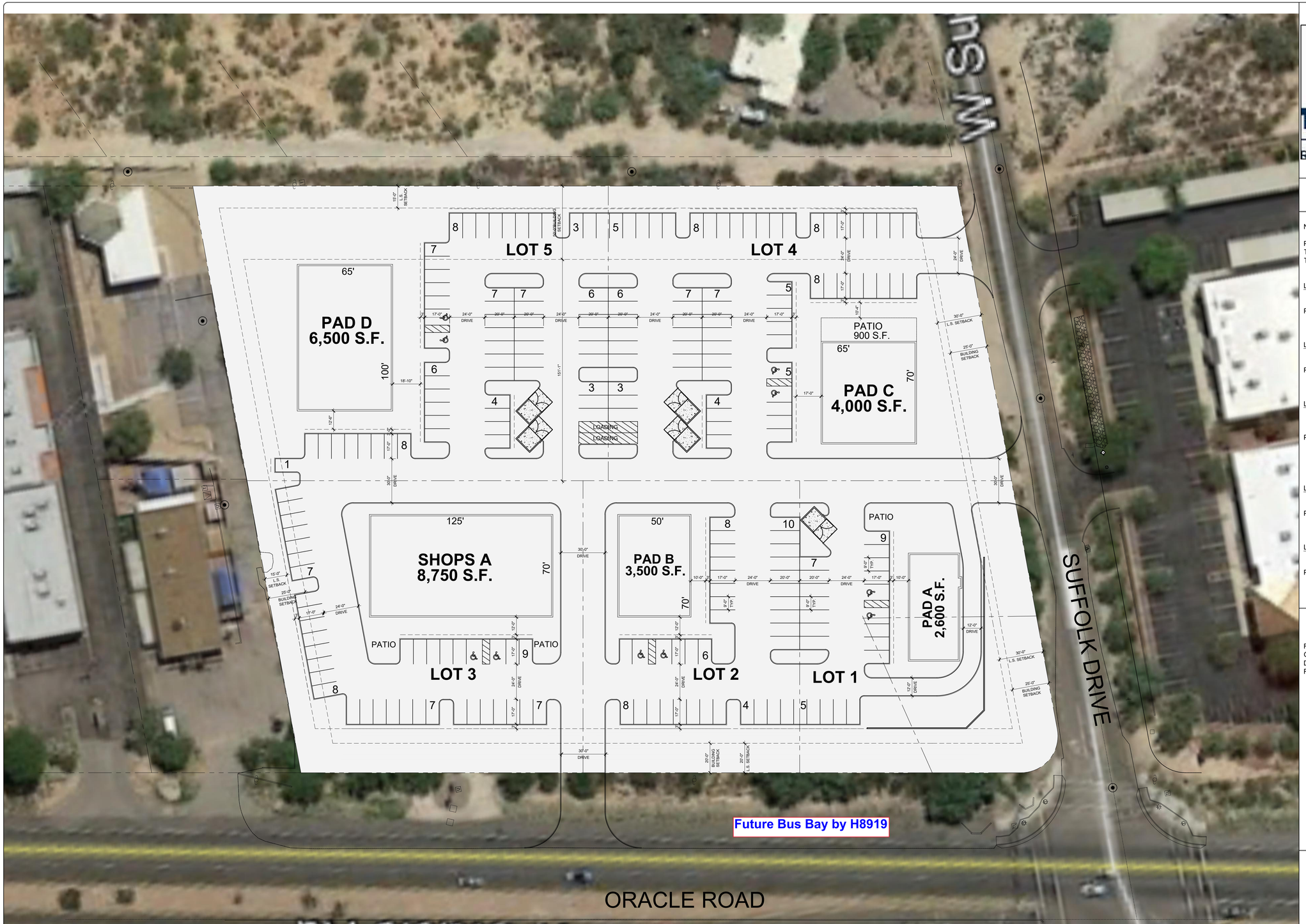
1) For the Single Tenant Office Building, the Average Rates are used, which yielded lower values than the Fitted Curve Equations. They were also using the AM and PM Generator Peak values, but the normal AM and PM Peak options weren't available on the website (ITE 10th Ed.).
2) For the Fast Food Restaurant, 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.

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

				Trip Generation					
				Weekday AM		Weekday PM		Avg Weekday	
Proposed Use		**Unit**	**No. Units**	**In**	**Out**	**In**	**Out**	**In**	**Out**
Single Tenant Office Building		Vehicle Fueling Positions	6.5	12		11		73	
				10	1	2	9	37	37
High Turnover Sit-Down Restaurant		1000 SF GFA	4.9	49		48		550	
				27	22	30	18	275	275
High Turnover Sit-Down Restaurant		1000 SF GFA	4.4	44		43		494	
				24	20	27	16	247	247
High Turnover Sit-Down Restaurant		1000 SF GFA	3.5	35		34		393	
				19	16	21	13	196	196
Fast-Food Restaurant w/Drive-Through Window		1000 SF GFA	2.6	104		85		636	
				53	51	44	41	318	318
Retail		1000 SF GFA	4.4	4		17		164	
				3	2	8	9	82	82
Totals				**247**		**238**		**2,309**	
				136	**111**	**131**	**106**	**1,154**	**1,154**

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

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

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			17		**18**	13	13		**19**				**44**							
Pass By Trips																				
Subtracted Pass-By Trips																				
2021 WP		212	873	42	1083	1526	178	0	1047	376	0	743	968							
2024 WP		225	925	45	1149	1618	188	0	1110	400	0	789	1025							

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			**13**		**20**	**15**	**15**		**13**				**31**							
Pass By Trips																				
Subtracted Pass-By Trips																				
2021 WP		583	1524	114	811	1217	252	0	921	283	0	1182	1289							
2024 WP		619	1617	121	859	1291	267	0	976	300	0	1255	1366							

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			**53**	**10**	**50**	**37**					7		6							
Pass By Trips				2	10															
Subtracted Pass-By Trips			-2			-10					-3									
2021 WP		60	1490	26	114	2930	14	20	2	41	36	1	12						160.00	
2024 WP		64	1578	26	117	3107	14	21	2	43	38	1	13						5,026	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			**37**	**7**	**36**	**42**					**8**		**7**							
Pass By Trips				4	26								3							
Subtracted Pass-By Trips			**-4**			**-26**					-6									
2021 WP		176	2398	34	99	1835	23	88	0	117	24	2	18						134.00	
2024 WP		187	2543	35	102	1946	24	94	0	124	25	2	19						5,100	0.03

Project: SR 77/Magee

Date: Wednesday, September 11, 2019

0:15

Count Starts at

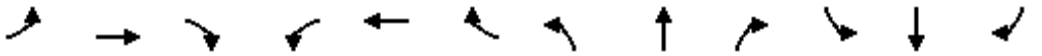
	7:00 AM	NB SR 77			SB SR 77			EB MAGEE			WB MAGEE			TOTALS					END	
	END Time	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	Left Turn	THRU	Right Turn	NB	SB	EB	WB	Total	Time	
	7:15 AM	26	256	4	10	389	62	85	25	84	13	9	3	286	461	194	25	966	7:15 AM	
	7:30 AM	28	319	10	15	643	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		**2**	**22**	4		**31**				**12**	**7**									
Pass By Trips																				
Subtracted Pass-By Trips																				
2021 WP		135	1342	45	48	2532	324	405	194	571	105	111	51							
2024 WP		143	1423	47	51	2685	343	429	205	605	111	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		**10**	**24**	**5**		**22**				**9**	4									
Pass By Trips																				
Subtracted Pass-By Trips																				
2021 WP		302	1903	40	100	1639	340	405	129	178	132	197	102							
2024 WP		320	2018	43	106	1738	361	429	137	188	140	209	108							

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

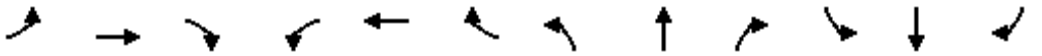
06/22/2020



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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	4	76	65	6	53	143	3929	36	325	3838	1191
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	3456	81	1516	1781	161	1449	1781	5218	48	1781	5106	1585
Grp Volume(v), veh/h	27	0	59	47	0	10	64	1001	547	55	2965	14
Grp Sat Flow(s),veh/h/ln	1728	0	1597	1781	0	1610	1781	1702	1862	1781	1702	1585
Q Serve(g_s), s	1.0	0.0	5.1	3.7	0.0	0.8	1.1	14.4	14.4	1.0	48.1	0.3
Cycle Q Clear(g_c), s	1.0	0.0	5.1	3.7	0.0	0.8	1.1	14.4	14.4	1.0	48.1	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	81	65	0	59	143	2563	1402	325	3838	1191
V/C Ratio(X)	0.15	0.00	0.73	0.72	0.00	0.17	0.45	0.39	0.39	0.17	0.77	0.01
Avail Cap(c_a), veh/h	444	0	205	229	0	207	148	2563	1402	344	3838	1191
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	0.67	0.67	0.67	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.6	0.0	65.5	66.7	0.0	65.4	28.2	6.1	6.1	4.3	10.3	4.4
Incr Delay (d2), s/veh	0.4	0.0	12.0	14.0	0.0	1.3	1.5	0.3	0.5	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	4.9	5.4	0.3	16.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	0.0	77.5	80.7	0.0	66.7	29.7	6.4	6.6	4.5	11.9	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		73.3			78.3			7.4			11.7	
Approach LOS		E			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	109.9		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	16.4		7.1	3.1	50.1		5.7				
Green Ext Time (p_c), s	0.0	17.3		0.2	0.0	28.4		0.1				

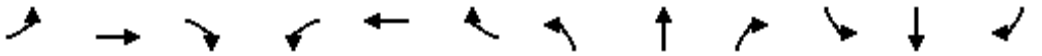
Intersection Summary			
HCM 6th Ctrl Delay		12.1	
HCM 6th LOS		B	



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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	552	1107	494	133	676	302	131	2447	760	219	2396	744
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	3456	3554	1585	3456	3554	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	484	232	668	132	149	68	141	1391	43	51	2665	345
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	17.8	6.3	40.5	5.0	4.6	4.7	5.5	25.4	1.9	1.9	61.0	19.2
Cycle Q Clear(g_c), s	17.8	6.3	40.5	5.0	4.6	4.7	5.5	25.4	1.9	1.9	61.0	19.2
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	552	1107	494	133	676	302	131	2447	760	219	2396	744
V/C Ratio(X)	0.88	0.21	1.35	0.99	0.22	0.23	1.08	0.57	0.06	0.23	1.11	0.46
Avail Cap(c_a), veh/h	683	1107	494	133	676	302	131	2447	760	242	2396	744
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	53.4	33.0	44.7	62.5	44.5	44.5	34.2	24.2	18.1	19.2	34.5	23.4
Incr Delay (d2), s/veh	10.6	0.1	171.7	75.8	0.2	0.4	101.3	1.0	0.1	0.5	57.1	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	8.5	2.7	39.3	3.6	2.1	1.9	5.7	10.4	0.7	0.8	37.2	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	33.1	216.4	138.3	44.6	44.9	135.5	25.2	18.3	19.7	91.6	25.5
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		132.4			80.1			34.9			83.0	
Approach LOS		F			F			C			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	25.3	29.2
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	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	3.9	27.4	7.0	42.5	7.5	63.0	19.8	6.7
Green Ext Time (p_c), s	0.0	13.5	0.0	0.0	0.0	0.0	1.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	81.7
HCM 6th LOS	F



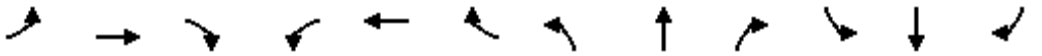
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1008	369	0	728	906	208	839	41	1045	1483	161
Future Volume (veh/h)	0	1008	369	0	728	906	208	839	41	1045	1483	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
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	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1286	574	0	1286	1009	430	1089	338	1144	2093	650
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.08	0.21	0.21	0.27	0.41	0.41
Sat Flow, veh/h	0	3647	1585	0	3647	2790	3456	5106	1585	3456	5106	1585
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	1777	1585	0	1777	1395	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.0	30.4	22.8	0.0	15.0	28.0	1.1	14.6	2.0	23.1	23.4	6.3
Cycle Q Clear(g_c), s	0.0	30.4	22.8	0.0	15.0	28.0	1.1	14.6	2.0	23.1	23.4	6.3
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	1286	574	0	1286	1009	430	1089	338	1144	2093	650
V/C Ratio(X)	0.00	0.96	0.78	0.00	0.57	0.91	0.50	0.80	0.13	0.96	0.75	0.26
Avail Cap(c_a), veh/h	0	1287	574	0	1287	1010	430	1089	338	1144	2093	650
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	0.55	0.55	0.55
Uniform Delay (d), s/veh	0.0	28.0	25.6	0.0	23.1	27.3	38.3	33.6	28.6	30.0	22.6	17.5
Incr Delay (d2), s/veh	0.0	15.7	7.0	0.0	0.6	11.6	0.9	6.3	0.8	12.1	1.4	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	15.1	19.5	0.0	6.2	20.3	2.3	6.5	0.8	13.1	9.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	43.7	32.6	0.0	23.7	38.8	39.3	39.9	29.4	42.0	23.9	18.1
LnGrp LOS	A	D	C	A	C	D	D	D	C	D	C	B
Approach Vol, veh/h		1679			1650			1134			2830	
Approach Delay, s/veh		40.8			32.1			39.4			30.6	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.2	23.7		37.1	11.5	41.4		37.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.7	19.2		32.6	7.0	36.9		32.6				
Max Q Clear Time (g_c+I1), s	25.1	16.6		32.4	3.1	25.4		30.0				
Green Ext Time (p_c), s	0.0	1.5		0.2	0.3	8.2		2.0				

Intersection Summary			
HCM 6th Ctrl Delay		34.6	
HCM 6th LOS		C	

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

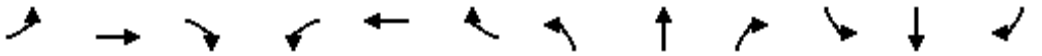
06/22/2020



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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	0	158	55	9	41	245	3720	35	161	3601	1118
Arrive On Green	0.10	0.00	0.10	0.03	0.03	0.03	0.04	0.71	0.71	0.03	0.71	0.71
Sat Flow, veh/h	3456	0	1585	1781	306	1326	1781	5217	49	1781	5106	1585
Grp Volume(v), veh/h	101	0	133	35	0	16	183	1608	881	39	1857	23
Grp Sat Flow(s),veh/h/ln	1728	0	1585	1781	0	1632	1781	1702	1862	1781	1702	1585
Q Serve(g_s), s	3.8	0.0	11.5	2.7	0.0	1.3	4.2	36.0	36.1	0.8	23.6	0.6
Cycle Q Clear(g_c), s	3.8	0.0	11.5	2.7	0.0	1.3	4.2	36.0	36.1	0.8	23.6	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	345	0	158	55	0	50	245	2427	1327	161	3601	1118
V/C Ratio(X)	0.29	0.00	0.84	0.64	0.00	0.32	0.75	0.66	0.66	0.24	0.52	0.02
Avail Cap(c_a), veh/h	444	0	204	229	0	210	245	2427	1327	187	3601	1118
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	13.4	10.9	11.0	11.3	9.6	6.2
Incr Delay (d2), s/veh	0.5	0.0	21.2	11.7	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	2.8	12.6	13.9	0.4	8.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	0.0	83.1	78.7	0.0	70.0	14.5	11.1	11.2	12.1	10.1	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		72.7			76.0			11.3			10.1	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	104.3		18.5	9.5	103.2		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	38.1		13.5	6.2	25.6		4.7				
Green Ext Time (p_c), s	0.0	31.0		0.4	0.0	25.2		0.1				

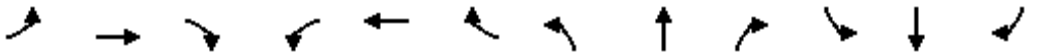
Intersection Summary			
HCM 6th Ctrl Delay		14.5	
HCM 6th LOS		B	



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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	542	773	345	133	353	157	200	2890	897	185	2875	893
Arrive On Green	0.16	0.22	0.22	0.04	0.10	0.10	0.04	0.57	0.57	0.04	0.56	0.56
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	473	150	196	152	235	122	312	2002	38	105	1704	359
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	17.4	4.5	14.4	5.0	8.3	9.8	5.5	36.4	1.4	3.2	28.4	16.6
Cycle Q Clear(g_c), s	17.4	4.5	14.4	5.0	8.3	9.8	5.5	36.4	1.4	3.2	28.4	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	542	773	345	133	353	157	200	2890	897	185	2875	893
V/C Ratio(X)	0.87	0.19	0.57	1.14	0.67	0.77	1.56	0.69	0.04	0.57	0.59	0.40
Avail Cap(c_a), veh/h	683	1107	494	133	541	241	200	2890	897	195	2875	893
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	41.5	45.4	62.5	56.5	57.1	28.7	20.1	12.5	21.0	18.6	16.0
Incr Delay (d2), s/veh	10.1	0.1	1.5	121.8	2.2	8.2	273.5	1.4	0.1	3.4	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	4.4	3.8	4.3	19.2	14.4	0.5	1.7	11.2	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.6	41.7	46.9	184.3	58.6	65.3	302.2	21.5	12.6	24.5	19.5	17.4
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		55.6			97.8			58.6			19.4	
Approach LOS		E			F			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	78.1	9.5	32.8	10.0	77.7	24.9	17.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	5.2	38.4	7.0	16.4	7.5	30.4	19.4	11.8
Green Ext Time (p_c), s	0.0	16.2	0.0	1.6	0.0	18.6	1.0	1.2

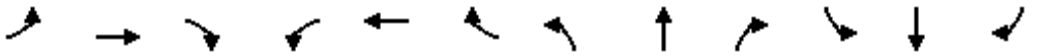
Intersection Summary	
HCM 6th Ctrl Delay	47.1
HCM 6th LOS	D



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	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
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	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1287	574	0	1287	1010	437	1089	338	1108	2093	650
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.08	0.21	0.21	0.27	0.41	0.41
Sat Flow, veh/h	0	3647	1585	0	3647	2790	3456	5106	1585	3456	5106	1585
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	1777	1585	0	1777	1395	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.0	22.1	13.8	0.0	29.1	32.6	7.0	19.2	6.4	15.8	18.1	10.2
Cycle Q Clear(g_c), s	0.0	22.1	13.8	0.0	29.1	32.6	7.0	19.2	6.4	15.8	18.1	10.2
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	1287	574	0	1287	1010	437	1089	338	1108	2093	650
V/C Ratio(X)	0.00	0.77	0.54	0.00	0.93	1.26	1.56	1.62	0.39	0.77	0.62	0.39
Avail Cap(c_a), veh/h	0	1287	574	0	1287	1010	437	1089	338	1108	2093	650
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	0.78	0.78	0.78
Uniform Delay (d), s/veh	0.0	25.4	22.7	0.0	27.6	28.7	40.1	35.4	30.4	27.9	21.0	18.7
Incr Delay (d2), s/veh	0.0	2.9	1.0	0.0	11.8	124.1	262.4	283.0	3.4	2.6	1.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	12.8	0.0	13.9	38.1	20.4	36.3	2.7	7.7	7.1	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	28.2	23.7	0.0	39.4	152.8	302.5	318.4	33.7	30.6	22.1	20.1
LnGrp LOS	A	C	C	A	D	F	F	F	C	C	C	C
Approach Vol, veh/h		1297			2466			2577			2404	
Approach Delay, s/veh		27.2			97.8			299.6			24.9	
Approach LOS		C			F			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.2	23.7		37.1	11.5	41.4		37.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.7	19.2		32.6	7.0	36.9		32.6				
Max Q Clear Time (g_c+I1), s	17.8	21.2		24.1	9.0	20.1		34.6				
Green Ext Time (p_c), s	2.1	0.0		4.9	0.0	9.5		0.0				

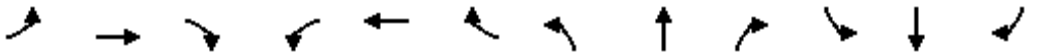
Intersection Summary												
HCM 6th Ctrl Delay			126.8									
HCM 6th LOS			F									



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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	3	58	47	1	9	65	1564	15	56	3024	15
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	4	79	65	6	53	139	3918	38	317	3830	1189
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	3456	79	1518	1781	161	1449	1781	5215	50	1781	5106	1585
Grp Volume(v), veh/h	28	0	61	47	0	10	65	1021	558	56	3024	15
Grp Sat Flow(s),veh/h/ln	1728	0	1597	1781	0	1610	1781	1702	1861	1781	1702	1585
Q Serve(g_s), s	1.1	0.0	5.3	3.7	0.0	0.8	1.2	14.9	14.9	1.0	50.8	0.3
Cycle Q Clear(g_c), s	1.1	0.0	5.3	3.7	0.0	0.8	1.2	14.9	14.9	1.0	50.8	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	179	0	83	65	0	59	139	2558	1398	317	3830	1189
V/C Ratio(X)	0.16	0.00	0.74	0.72	0.00	0.17	0.47	0.40	0.40	0.18	0.79	0.01
Avail Cap(c_a), veh/h	444	0	205	229	0	207	145	2558	1398	336	3830	1189
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	0.65	0.65	0.65	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	0.0	65.4	66.7	0.0	65.4	30.5	6.2	6.2	4.4	10.7	4.4
Incr Delay (d2), s/veh	0.4	0.0	11.9	14.0	0.0	1.3	1.6	0.3	0.6	0.3	1.7	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	2.4	1.9	0.0	0.4	1.8	5.1	5.6	0.3	17.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	0.0	77.3	80.7	0.0	66.7	32.1	6.5	6.7	4.6	12.4	4.4
LnGrp LOS	E	A	E	F	A	E	C	A	A	A	B	A
Approach Vol, veh/h		89			57			1644			3095	
Approach Delay, s/veh		73.1			78.3			7.6			12.3	
Approach LOS		E			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	109.7		11.8	9.1	109.5		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	16.9		7.3	3.2	52.8		5.7				
Green Ext Time (p_c), s	0.0	17.9		0.2	0.0	26.3		0.1				

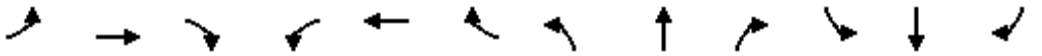
Intersection Summary												
HCM 6th Ctrl Delay			12.6									
HCM 6th LOS			B									



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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	494	237	682	134	152	70	143	1419	44	52	2718	352
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	561	1107	494	133	666	297	131	2446	759	214	2396	744
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	3456	3554	1585	3456	3554	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	494	237	682	134	152	70	143	1419	44	52	2718	352
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	18.2	6.4	40.5	5.0	4.7	4.9	5.5	26.1	1.9	1.9	61.0	19.7
Cycle Q Clear(g_c), s	18.2	6.4	40.5	5.0	4.7	4.9	5.5	26.1	1.9	1.9	61.0	19.7
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	561	1107	494	133	666	297	131	2446	759	214	2396	744
V/C Ratio(X)	0.88	0.21	1.38	1.01	0.23	0.24	1.09	0.58	0.06	0.24	1.13	0.47
Avail Cap(c_a), veh/h	683	1107	494	133	666	297	131	2446	759	237	2396	744
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	53.2	33.0	44.7	62.5	44.8	44.9	34.2	24.4	18.2	19.4	34.5	23.5
Incr Delay (d2), s/veh	11.0	0.1	183.8	80.2	0.2	0.4	106.1	1.0	0.1	0.6	66.3	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	8.7	2.8	41.0	3.7	2.1	2.0	5.9	10.7	0.8	0.8	39.2	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	33.1	228.6	142.7	45.0	45.3	140.2	25.4	18.3	20.0	100.8	25.7
LnGrp LOS	E	C	F	F	D	D	F	C	B	B	F	C
Approach Vol, veh/h		1413			356			1606			3122	
Approach Delay, s/veh		138.3			81.8			35.5			91.0	
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	25.6	28.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	3.9	28.1	7.0	42.5	7.5	63.0	20.2	6.9
Green Ext Time (p_c), s	0.0	13.7	0.0	0.0	0.0	0.0	1.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	87.1
HCM 6th LOS	F



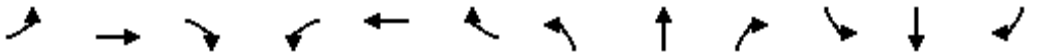
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1028	376	0	743	924	212	856	42	1065	1513	165
Future Volume (veh/h)	0	1028	376	0	743	924	212	856	42	1065	1513	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1254	459	0	751	933	221	892	44	1121	1593	174
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	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1287	574	0	1287	1010	429	1089	338	1137	2093	650
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.08	0.21	0.21	0.27	0.41	0.41
Sat Flow, veh/h	0	3647	1585	0	3647	2790	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	0	1254	459	0	751	933	221	892	44	1121	1593	174
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1395	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.0	31.3	23.4	0.0	15.4	28.8	1.2	15.0	2.0	24.1	24.1	6.5
Cycle Q Clear(g_c), s	0.0	31.3	23.4	0.0	15.4	28.8	1.2	15.0	2.0	24.1	24.1	6.5
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	1287	574	0	1287	1010	429	1089	338	1137	2093	650
V/C Ratio(X)	0.00	0.97	0.80	0.00	0.58	0.92	0.52	0.82	0.13	0.99	0.76	0.27
Avail Cap(c_a), veh/h	0	1287	574	0	1287	1010	429	1089	338	1137	2093	650
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	0.53	0.53	0.53
Uniform Delay (d), s/veh	0.0	28.3	25.8	0.0	23.2	27.5	38.4	33.7	28.6	30.4	22.8	17.6
Incr Delay (d2), s/veh	0.0	19.1	7.9	0.0	0.7	13.5	1.1	6.9	0.8	16.2	1.4	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	16.1	20.0	0.0	6.3	21.0	2.3	6.7	0.8	13.1	9.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	47.4	33.6	0.0	23.9	41.1	39.5	40.6	29.4	46.6	24.2	18.1
LnGrp LOS	A	D	C	A	C	D	D	D	C	D	C	B
Approach Vol, veh/h		1713			1684			1157			2888	
Approach Delay, s/veh		43.7			33.4			40.0			32.5	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.2	23.7		37.1	11.5	41.4		37.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.7	19.2		32.6	7.0	36.9		32.6				
Max Q Clear Time (g_c+I1), s	26.1	17.0		33.3	3.2	26.1		30.8				
Green Ext Time (p_c), s	0.0	1.3		0.0	0.3	7.9		1.4				

Intersection Summary												
HCM 6th Ctrl Delay			36.5									
HCM 6th LOS			D									

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

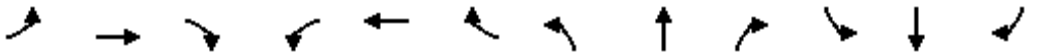
06/22/2020



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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	0	161	56	10	41	238	3708	35	157	3590	1114
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	3456	0	1585	1781	306	1326	1781	5216	50	1781	5106	1585
Grp Volume(v), veh/h	102	0	136	37	0	16	187	1641	899	39	1895	24
Grp Sat Flow(s),veh/h/ln	1728	0	1585	1781	0	1632	1781	1702	1861	1781	1702	1585
Q Serve(g_s), s	3.8	0.0	11.8	2.9	0.0	1.3	4.3	37.7	37.9	0.8	24.5	0.6
Cycle Q Clear(g_c), s	3.8	0.0	11.8	2.9	0.0	1.3	4.3	37.7	37.9	0.8	24.5	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	351	0	161	56	0	51	238	2420	1323	157	3590	1114
V/C Ratio(X)	0.29	0.00	0.84	0.67	0.00	0.31	0.79	0.68	0.68	0.25	0.53	0.02
Avail Cap(c_a), veh/h	444	0	204	229	0	210	238	2420	1323	182	3590	1114
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	15.6	11.3	11.3	12.2	9.8	6.3
Incr Delay (d2), s/veh	0.5	0.0	22.1	12.9	0.0	3.5	1.6	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	3.8	13.3	14.6	0.4	8.9	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	0.0	83.9	80.0	0.0	69.8	17.3	11.4	11.6	13.0	10.4	6.3
LnGrp LOS	E	A	F	E	A	E	B	B	B	B	B	A
Approach Vol, veh/h		238			53			2727			1958	
Approach Delay, s/veh		73.1			76.9			11.9			10.4	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	104.0		18.7	9.5	102.9		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	2.8	39.9		13.8	6.3	26.5		4.9				
Green Ext Time (p_c), s	0.0	30.7		0.4	0.0	25.9		0.1				

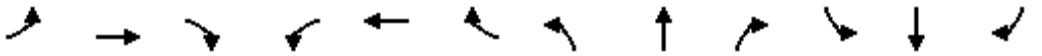
Intersection Summary			
HCM 6th Ctrl Delay		14.9	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	482	154	201	156	240	124	317	2042	38	108	1739	366
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	550	787	351	133	358	160	195	2865	890	181	2856	887
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	3456	3554	1585	3456	3554	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	482	154	201	156	240	124	317	2042	38	108	1739	366
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	17.7	4.6	14.7	5.0	8.5	9.9	5.5	38.0	1.4	3.4	29.6	17.2
Cycle Q Clear(g_c), s	17.7	4.6	14.7	5.0	8.5	9.9	5.5	38.0	1.4	3.4	29.6	17.2
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	550	787	351	133	358	160	195	2865	890	181	2856	887
V/C Ratio(X)	0.88	0.20	0.57	1.17	0.67	0.78	1.62	0.71	0.04	0.60	0.61	0.41
Avail Cap(c_a), veh/h	683	1107	494	133	541	241	195	2865	890	190	2856	887
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	53.4	41.2	45.1	62.5	56.4	57.0	28.7	20.9	12.8	22.8	19.1	16.4
Incr Delay (d2), s/veh	10.5	0.1	1.5	132.3	2.2	8.6	303.1	1.5	0.1	4.7	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	2.0	5.9	4.6	3.9	4.4	20.2	15.1	0.5	2.0	11.7	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	41.3	46.6	194.8	58.6	65.6	331.9	22.4	12.9	27.4	20.1	17.8
LnGrp LOS	E	D	D	F	E	E	F	C	B	C	C	B
Approach Vol, veh/h		837			520			2397			2213	
Approach Delay, s/veh		55.6			101.1			63.2			20.1	
Approach LOS		E			F			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	77.5	9.5	33.3	10.0	77.2	25.2	17.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	5.4	40.0	7.0	16.7	7.5	31.6	19.7	11.9
Green Ext Time (p_c), s	0.0	15.5	0.0	1.6	0.0	18.6	1.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	49.4
HCM 6th LOS	D



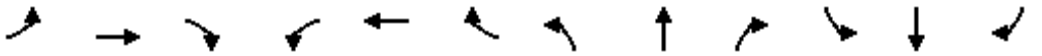
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	908	283	0	1182	1258	583	1511	114	791	1202	237
Future Volume (veh/h)	0	908	283	0	1182	1258	583	1511	114	791	1202	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1009	314	0	1219	1297	694	1799	136	869	1321	260
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	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1287	574	0	1287	1010	433	1089	338	1108	2093	650
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.08	0.21	0.21	0.27	0.41	0.41
Sat Flow, veh/h	0	3647	1585	0	3647	2790	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	0	1009	314	0	1219	1297	694	1799	136	869	1321	260
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1395	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.0	22.8	14.2	0.0	30.0	32.6	7.0	19.2	6.6	16.4	18.5	10.4
Cycle Q Clear(g_c), s	0.0	22.8	14.2	0.0	30.0	32.6	7.0	19.2	6.6	16.4	18.5	10.4
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	1287	574	0	1287	1010	433	1089	338	1108	2093	650
V/C Ratio(X)	0.00	0.78	0.55	0.00	0.95	1.28	1.60	1.65	0.40	0.78	0.63	0.40
Avail Cap(c_a), veh/h	0	1287	574	0	1287	1010	433	1089	338	1108	2093	650
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	0.75	0.75	0.75
Uniform Delay (d), s/veh	0.0	25.6	22.8	0.0	27.9	28.7	40.2	35.4	30.5	28.1	21.1	18.7
Incr Delay (d2), s/veh	0.0	3.2	1.1	0.0	14.3	135.2	281.2	297.3	3.5	2.8	1.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.8	13.0	0.0	14.7	39.6	21.3	37.7	2.8	7.9	7.3	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	28.8	23.9	0.0	42.2	163.9	321.3	332.7	34.0	31.0	22.2	20.1
LnGrp LOS	A	C	C	A	D	F	F	F	C	C	C	C
Approach Vol, veh/h		1323			2516			2629			2450	
Approach Delay, s/veh		27.6			104.9			314.3			25.1	
Approach LOS		C			F			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.2	23.7		37.1	11.5	41.4		37.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.7	19.2		32.6	7.0	36.9		32.6				
Max Q Clear Time (g_c+I1), s	18.4	21.2		24.8	9.0	20.5		34.6				
Green Ext Time (p_c), s	2.0	0.0		4.7	0.0	9.5		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			133.2									
HCM 6th LOS			F									

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

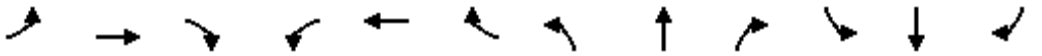
06/22/2020



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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	3	61	50	1	10	70	1660	15	59	3208	15
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	4	82	69	6	57	131	3896	35	294	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	3456	75	1522	1781	146	1461	1781	5219	47	1781	5106	1585
Grp Volume(v), veh/h	30	0	64	50	0	11	70	1083	592	59	3208	15
Grp Sat Flow(s),veh/h/ln	1728	0	1596	1781	0	1607	1781	1702	1862	1781	1702	1585
Q Serve(g_s), s	1.2	0.0	5.5	3.9	0.0	0.9	1.3	16.6	16.6	1.1	60.3	0.3
Cycle Q Clear(g_c), s	1.2	0.0	5.5	3.9	0.0	0.9	1.3	16.6	16.6	1.1	60.3	0.3
Prop In Lane	1.00		0.95	1.00		0.91	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	187	0	86	69	0	62	131	2541	1390	294	3805	1181
V/C Ratio(X)	0.16	0.00	0.74	0.72	0.00	0.18	0.54	0.43	0.43	0.20	0.84	0.01
Avail Cap(c_a), veh/h	444	0	205	229	0	207	135	2541	1390	312	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	0.60	0.60	0.60	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.2	0.0	65.2	66.6	0.0	65.1	36.2	6.6	6.6	4.8	12.2	4.6
Incr Delay (d2), s/veh	0.4	0.0	11.7	13.4	0.0	1.3	2.3	0.3	0.6	0.3	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.5	2.0	0.0	0.4	1.9	5.6	6.3	0.4	21.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.6	0.0	77.0	79.9	0.0	66.5	38.5	6.9	7.2	5.1	14.7	4.6
LnGrp LOS	E	A	E	E	A	E	D	A	A	A	B	A
Approach Vol, veh/h		94			61			1745			3282	
Approach Delay, s/veh		72.7			77.5			8.3			14.5	
Approach LOS		E			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	109.0		12.1	9.2	108.8		9.9				
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	3.1	18.6		7.5	3.3	62.3		5.9				
Green Ext Time (p_c), s	0.0	19.9		0.2	0.0	18.1		0.1				

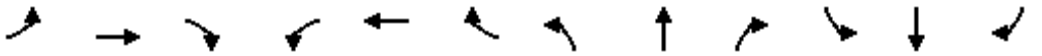
Intersection Summary		
HCM 6th Ctrl Delay		14.2
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	523	250	723	142	162	74	152	1506	46	55	2885	373
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	588	1107	494	133	639	285	131	2443	758	201	2396	744
Arrive On Green	0.17	0.31	0.31	0.04	0.18	0.18	0.04	0.48	0.48	0.03	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	523	250	723	142	162	74	152	1506	46	55	2885	373
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	19.2	6.8	40.5	5.0	5.1	5.2	5.5	28.4	2.0	2.1	61.0	21.2
Cycle Q Clear(g_c), s	19.2	6.8	40.5	5.0	5.1	5.2	5.5	28.4	2.0	2.1	61.0	21.2
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	588	1107	494	133	639	285	131	2443	758	201	2396	744
V/C Ratio(X)	0.89	0.23	1.46	1.07	0.25	0.26	1.16	0.62	0.06	0.27	1.20	0.50
Avail Cap(c_a), veh/h	683	1107	494	133	639	285	131	2443	758	223	2396	744
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	52.7	33.1	44.7	62.5	45.8	45.9	34.2	25.1	18.2	20.0	34.5	23.9
Incr Delay (d2), s/veh	12.5	0.1	219.8	97.5	0.2	0.5	129.0	1.2	0.2	0.7	96.1	2.4
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	9.4	3.0	45.9	4.0	2.3	2.1	6.8	11.6	0.8	0.9	45.8	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.2	33.2	264.5	160.0	46.0	46.3	163.2	26.3	18.4	20.7	130.6	26.4
LnGrp LOS	E	C	F	F	D	D	F	C	B	C	F	C
Approach Vol, veh/h		1496			378			1704			3313	
Approach Delay, s/veh		156.2			88.9			38.3			117.0	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	66.7	9.5	45.0	10.0	65.5	26.6	27.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	4.1	30.4	7.0	42.5	7.5	63.0	21.2	7.2
Green Ext Time (p_c), s	0.0	14.3	0.0	0.0	0.0	0.0	0.9	0.9

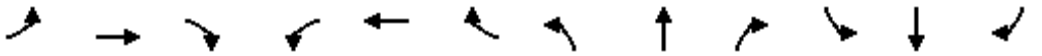
Intersection Summary	
HCM 6th Ctrl Delay	104.5
HCM 6th LOS	F



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	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1330	488	0	797	991	234	946	47	1191	1689	184
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	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1287	574	0	1287	1010	429	1089	338	1122	2093	650
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.08	0.21	0.21	0.27	0.41	0.41
Sat Flow, veh/h	0	3647	1585	0	3647	2790	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	0	1330	488	0	797	991	234	946	47	1191	1689	184
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1395	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.0	32.6	25.5	0.0	16.6	31.6	1.6	16.1	2.2	24.7	26.2	7.0
Cycle Q Clear(g_c), s	0.0	32.6	25.5	0.0	16.6	31.6	1.6	16.1	2.2	24.7	26.2	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	1287	574	0	1287	1010	429	1089	338	1122	2093	650
V/C Ratio(X)	0.00	1.03	0.85	0.00	0.62	0.98	0.55	0.87	0.14	1.06	0.81	0.28
Avail Cap(c_a), veh/h	0	1287	574	0	1287	1010	429	1089	338	1122	2093	650
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	0.44	0.44	0.44
Uniform Delay (d), s/veh	0.0	28.7	26.4	0.0	23.6	28.4	38.5	34.2	28.7	30.7	23.4	17.7
Incr Delay (d2), s/veh	0.0	34.0	11.6	0.0	0.9	23.6	1.4	9.4	0.9	36.9	1.6	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	19.2	21.8	0.0	6.9	23.6	2.4	7.4	0.9	16.4	10.3	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	62.7	38.0	0.0	24.5	52.0	39.9	43.6	29.6	67.6	25.0	18.2
LnGrp LOS	A	F	D	A	C	D	D	D	C	F	C	B
Approach Vol, veh/h		1818			1788			1227			3064	
Approach Delay, s/veh		56.1			39.7			42.4			41.1	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.2	23.7		37.1	11.5	41.4		37.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.7	19.2		32.6	7.0	36.9		32.6				
Max Q Clear Time (g_c+I1), s	26.7	18.1		34.6	3.6	28.2		33.6				
Green Ext Time (p_c), s	0.0	0.7		0.0	0.3	6.8		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		44.5	
HCM 6th LOS		D	



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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	0	144	38	3	15	199	2670	26	42	2010	25
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	367	0	169	57	9	43	219	3673	36	145	3561	1105
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	3456	0	1585	1781	271	1355	1781	5215	51	1781	5106	1585
Grp Volume(v), veh/h	109	0	144	38	0	18	199	1741	955	42	2010	25
Grp Sat Flow(s),veh/h/ln	1728	0	1585	1781	0	1626	1781	1702	1861	1781	1702	1585
Q Serve(g_s), s	4.1	0.0	12.5	3.0	0.0	1.5	4.7	43.3	43.6	0.9	27.5	0.7
Cycle Q Clear(g_c), s	4.1	0.0	12.5	3.0	0.0	1.5	4.7	43.3	43.6	0.9	27.5	0.7
Prop In Lane	1.00		1.00	1.00		0.83	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	367	0	169	57	0	52	219	2398	1311	145	3561	1105
V/C Ratio(X)	0.30	0.00	0.85	0.67	0.00	0.35	0.91	0.73	0.73	0.29	0.56	0.02
Avail Cap(c_a), veh/h	444	0	204	229	0	209	219	2398	1311	169	3561	1105
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	57.7	0.0	61.5	67.0	0.0	66.3	21.3	12.5	12.6	16.0	10.6	6.5
Incr Delay (d2), s/veh	0.4	0.0	24.6	12.6	0.0	3.9	5.5	0.2	0.3	1.1	0.7	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	1.8	0.0	6.2	1.5	0.0	0.7	5.2	15.4	17.0	0.7	10.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	0.0	86.1	79.6	0.0	70.2	26.8	12.7	12.9	17.1	11.2	6.6
LnGrp LOS	E	A	F	E	A	E	C	B	B	B	B	A
Approach Vol, veh/h		253			56			2895			2077	
Approach Delay, s/veh		74.1			76.6			13.7			11.3	
Approach LOS		E			E			B			B	

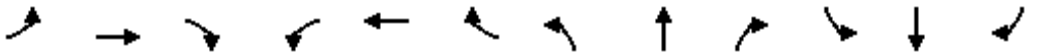
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	103.1		19.4	9.5	102.1		9.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.9	80.1		18.0	5.0	81.0		18.0				
Max Q Clear Time (g_c+I1), s	2.9	45.6		14.5	6.7	29.5		5.0				
Green Ext Time (p_c), s	0.0	28.7		0.4	0.0	27.8		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		16.3	
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	511	163	213	166	255	132	337	2167	41	114	1845	388
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	577	833	371	133	376	168	180	2788	865	169	2790	866
Arrive On Green	0.17	0.23	0.23	0.04	0.11	0.11	0.04	0.55	0.55	0.04	0.55	0.55
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	511	163	213	166	255	132	337	2167	41	114	1845	388
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	18.8	4.8	15.5	5.0	9.0	10.6	5.5	43.5	1.6	3.7	33.4	19.1
Cycle Q Clear(g_c), s	18.8	4.8	15.5	5.0	9.0	10.6	5.5	43.5	1.6	3.7	33.4	19.1
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	577	833	371	133	376	168	180	2788	865	169	2790	866
V/C Ratio(X)	0.89	0.20	0.57	1.25	0.68	0.79	1.87	0.78	0.05	0.68	0.66	0.45
Avail Cap(c_a), veh/h	683	1107	494	133	541	241	180	2788	865	173	2790	866
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	52.9	39.9	44.0	62.5	56.0	56.7	29.0	23.3	13.8	26.7	20.9	17.7
Incr Delay (d2), s/veh	11.9	0.1	1.4	159.7	2.2	10.4	411.2	2.2	0.1	9.7	1.2	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	2.1	6.2	5.1	4.1	4.7	23.9	17.5	0.6	2.4	13.3	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.8	40.1	45.4	222.2	58.2	67.1	440.2	25.5	13.9	36.3	22.2	19.4
LnGrp LOS	E	D	D	F	E	E	F	C	B	D	C	B
Approach Vol, veh/h		887			553			2545			2347	
Approach Delay, s/veh		55.6			109.5			80.2			22.4	
Approach LOS		E			F			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	75.5	9.5	35.0	10.0	75.5	26.2	18.2
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	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	5.7	45.5	7.0	17.5	7.5	35.4	20.8	12.6
Green Ext Time (p_c), s	0.0	12.5	0.0	1.7	0.0	18.0	0.9	1.2

Intersection Summary	
HCM 6th Ctrl Delay	57.9
HCM 6th LOS	E



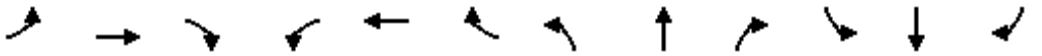
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	963	300	0	1255	1335	619	1604	121	839	1276	252
Future Volume (veh/h)	0	963	300	0	1255	1335	619	1604	121	839	1276	252
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1070	333	0	1294	1376	737	1910	144	922	1402	277
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	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1287	574	0	1287	1010	429	1089	338	1108	2093	650
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.08	0.21	0.21	0.27	0.41	0.41
Sat Flow, veh/h	0	3647	1585	0	3647	2790	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	0	1070	333	0	1294	1376	737	1910	144	922	1402	277
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1395	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.0	24.7	15.3	0.0	32.6	32.6	7.0	19.2	7.1	18.1	20.1	11.2
Cycle Q Clear(g_c), s	0.0	24.7	15.3	0.0	32.6	32.6	7.0	19.2	7.1	18.1	20.1	11.2
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	1287	574	0	1287	1010	429	1089	338	1108	2093	650
V/C Ratio(X)	0.00	0.83	0.58	0.00	1.01	1.36	1.72	1.75	0.43	0.83	0.67	0.43
Avail Cap(c_a), veh/h	0	1287	574	0	1287	1010	429	1089	338	1108	2093	650
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	0.68	0.68	0.68
Uniform Delay (d), s/veh	0.0	26.2	23.2	0.0	28.7	28.7	40.2	35.4	30.6	28.7	21.6	19.0
Incr Delay (d2), s/veh	0.0	4.8	1.5	0.0	26.4	169.2	333.2	342.8	3.9	3.8	1.2	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.8	13.9	0.0	17.9	44.4	24.2	42.3	3.0	8.7	7.9	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.0	24.6	0.0	55.1	197.9	373.4	378.2	34.5	32.5	22.8	20.4
LnGrp LOS	A	C	C	A	F	F	F	F	C	C	C	C
Approach Vol, veh/h		1403			2670			2791			2601	
Approach Delay, s/veh		29.5			128.7			359.2			26.0	
Approach LOS		C			F			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.2	23.7		37.1	11.5	41.4		37.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.7	19.2		32.6	7.0	36.9		32.6				
Max Q Clear Time (g_c+I1), s	20.1	21.2		26.7	9.0	22.1		34.6				
Green Ext Time (p_c), s	1.7	0.0		3.9	0.0	9.4		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			153.7									
HCM 6th LOS			F									

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

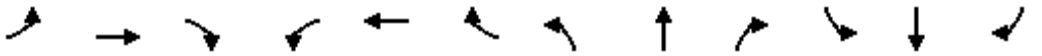
06/30/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2	41	36	1	12	60	1490	26	114	2930	14
Future Volume (veh/h)	20	2	41	36	1	12	60	1490	26	114	2930	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	3	58	53	1	18	65	1620	28	119	3052	15
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	4	79	75	4	63	137	3837	66	304	3803	1181
Arrive On Green	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.74	0.74	0.04	0.74	0.74
Sat Flow, veh/h	3456	79	1518	1781	84	1514	1781	5169	89	1781	5106	1585
Grp Volume(v), veh/h	28	0	61	53	0	19	65	1067	581	119	3052	15
Grp Sat Flow(s),veh/h/ln	1728	0	1597	1781	0	1598	1781	1702	1854	1781	1702	1585
Q Serve(g_s), s	1.1	0.0	5.3	4.1	0.0	1.6	1.2	16.5	16.5	2.2	53.1	0.3
Cycle Q Clear(g_c), s	1.1	0.0	5.3	4.1	0.0	1.6	1.2	16.5	16.5	2.2	53.1	0.3
Prop In Lane	1.00		0.95	1.00		0.95	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	179	0	83	75	0	67	137	2527	1376	304	3803	1181
V/C Ratio(X)	0.16	0.00	0.74	0.71	0.00	0.28	0.47	0.42	0.42	0.39	0.80	0.01
Avail Cap(c_a), veh/h	444	0	205	229	0	205	142	2527	1376	316	3803	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	0.63	0.63	0.63	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	0.0	65.4	66.2	0.0	65.0	31.6	6.8	6.8	5.3	11.3	4.6
Incr Delay (d2), s/veh	0.4	0.0	11.9	11.8	0.0	2.3	1.6	0.3	0.6	0.8	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.4	2.1	0.0	0.7	1.8	5.7	6.3	0.8	18.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	0.0	77.3	78.0	0.0	67.3	33.2	7.1	7.4	6.1	13.2	4.6
LnGrp LOS	E	A	E	E	A	E	C	A	A	A	B	A
Approach Vol, veh/h		89			72			1713			3186	
Approach Delay, s/veh		73.1			75.2			8.2			12.9	
Approach LOS		E			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	108.4		11.8	9.1	108.8		10.4				
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	4.2	18.5		7.3	3.2	55.1		6.1				
Green Ext Time (p_c), s	0.0	19.3		0.2	0.0	24.4		0.1				

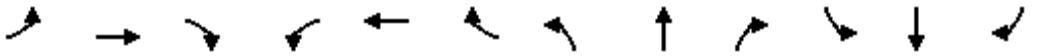
Intersection Summary												
HCM 6th Ctrl Delay			13.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	194	571	105	111	51	135	1342	45	48	2532	324
Future Volume (veh/h)	405	194	571	105	111	51	135	1342	45	48	2532	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	494	237	696	144	152	70	145	1443	48	52	2752	352
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	561	1107	494	133	666	297	131	2446	759	210	2396	744
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	3456	3554	1585	3456	3554	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	494	237	696	144	152	70	145	1443	48	52	2752	352
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	18.2	6.4	40.5	5.0	4.7	4.9	5.5	26.7	2.1	1.9	61.0	19.7
Cycle Q Clear(g_c), s	18.2	6.4	40.5	5.0	4.7	4.9	5.5	26.7	2.1	1.9	61.0	19.7
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	561	1107	494	133	666	297	131	2446	759	210	2396	744
V/C Ratio(X)	0.88	0.21	1.41	1.08	0.23	0.24	1.11	0.59	0.06	0.25	1.15	0.47
Avail Cap(c_a), veh/h	683	1107	494	133	666	297	131	2446	759	233	2396	744
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	53.2	33.0	44.7	62.5	44.8	44.9	34.2	24.6	18.2	19.5	34.5	23.5
Incr Delay (d2), s/veh	11.0	0.1	196.1	102.2	0.2	0.4	111.0	1.1	0.2	0.6	72.3	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	8.7	2.8	42.6	4.1	2.1	2.0	6.1	10.9	0.8	0.8	40.5	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	33.1	240.8	164.7	45.0	45.3	145.2	25.7	18.4	20.1	106.8	25.7
LnGrp LOS	E	C	F	F	D	D	F	C	B	C	F	C
Approach Vol, veh/h		1427			366			1636			3156	
Approach Delay, s/veh		145.2			92.1			36.0			96.3	
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	25.6	28.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	3.9	28.7	7.0	42.5	7.5	63.0	20.2	6.9
Green Ext Time (p_c), s	0.0	13.9	0.0	0.0	0.0	0.0	1.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	91.7
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1047	376	0	743	968	212	873	42	1083	1526	178
Future Volume (veh/h)	0	1047	376	0	743	968	212	873	42	1083	1526	178
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	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1277	459	0	751	978	221	909	44	1140	1606	187
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	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1287	574	0	1287	1010	429	1089	338	1132	2093	650
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.08	0.21	0.21	0.27	0.41	0.41
Sat Flow, veh/h	0	3647	1585	0	3647	2790	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	0	1277	459	0	751	978	221	909	44	1140	1606	187
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1395	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.0	32.2	23.4	0.0	15.4	31.0	1.2	15.3	2.0	24.7	24.4	7.1
Cycle Q Clear(g_c), s	0.0	32.2	23.4	0.0	15.4	31.0	1.2	15.3	2.0	24.7	24.4	7.1
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	1287	574	0	1287	1010	429	1089	338	1132	2093	650
V/C Ratio(X)	0.00	0.99	0.80	0.00	0.58	0.97	0.52	0.83	0.13	1.01	0.77	0.29
Avail Cap(c_a), veh/h	0	1287	574	0	1287	1010	429	1089	338	1132	2093	650
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	0.51	0.51	0.51
Uniform Delay (d), s/veh	0.0	28.6	25.8	0.0	23.2	28.2	38.4	33.9	28.6	30.6	22.9	17.8
Incr Delay (d2), s/veh	0.0	23.1	7.9	0.0	0.7	20.9	1.1	7.6	0.8	20.8	1.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.1	20.0	0.0	6.3	22.9	2.3	6.9	0.8	14.0	9.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	51.7	33.6	0.0	23.9	49.0	39.5	41.4	29.4	51.4	24.3	18.3
LnGrp LOS	A	D	C	A	C	D	D	D	C	F	C	B
Approach Vol, veh/h		1736			1729			1174			2933	
Approach Delay, s/veh		46.9			38.1			40.6			34.5	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.2	23.7		37.1	11.5	41.4		37.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.7	19.2		32.6	7.0	36.9		32.6				
Max Q Clear Time (g_c+I1), s	26.7	17.3		34.2	3.2	26.4		33.0				
Green Ext Time (p_c), s	0.0	1.1		0.0	0.3	7.8		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			39.1									
HCM 6th LOS			D									

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	85	1409	113	0	3058
Future Vol, veh/h	0	85	1409	113	0	3058
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, %	2	2	2	2	2	2
Mvmt Flow	0	92	1532	123	0	3324

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	828	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	270	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	270	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.1	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	270	-
HCM Lane V/C Ratio	-	-	0.342	-
HCM Control Delay (s)	-	-	25.1	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	1.5	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	78	3	3	39	8	3	0	3	4	0	9
Future Vol, veh/h	12	78	3	3	39	8	3	0	3	4	0	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	85	3	3	42	9	3	0	3	4	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	51	0	0	88	0	0	171	170	87	167	167	47
Stage 1	-	-	-	-	-	-	113	113	-	53	53	-
Stage 2	-	-	-	-	-	-	58	57	-	114	114	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1555	-	-	1508	-	-	792	723	971	797	726	1022
Stage 1	-	-	-	-	-	-	892	802	-	960	851	-
Stage 2	-	-	-	-	-	-	954	847	-	891	801	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1555	-	-	1508	-	-	778	715	971	787	718	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	778	715	-	787	718	-
Stage 1	-	-	-	-	-	-	884	795	-	951	849	-
Stage 2	-	-	-	-	-	-	943	845	-	880	794	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.4	9.2	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	864	1555	-	-	1508	-	-	936
HCM Lane V/C Ratio	0.008	0.008	-	-	0.002	-	-	0.015
HCM Control Delay (s)	9.2	7.3	0	-	7.4	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

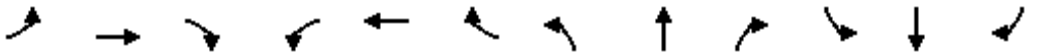
Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	72	2	2	31	8	2	0	2	5	0	7
Future Vol, veh/h	11	72	2	2	31	8	2	0	2	5	0	7
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	78	2	2	34	9	2	0	2	5	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	43	0	0	80	0	0	150	150	79	147	147	39
Stage 1	-	-	-	-	-	-	103	103	-	43	43	-
Stage 2	-	-	-	-	-	-	47	47	-	104	104	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1566	-	-	1518	-	-	818	742	981	821	744	1033
Stage 1	-	-	-	-	-	-	903	810	-	971	859	-
Stage 2	-	-	-	-	-	-	967	856	-	902	809	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1566	-	-	1518	-	-	807	735	981	814	737	1033
Mov Cap-2 Maneuver	-	-	-	-	-	-	807	735	-	814	737	-
Stage 1	-	-	-	-	-	-	896	804	-	963	858	-
Stage 2	-	-	-	-	-	-	959	855	-	893	803	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.4	9.1	8.9
HCM LOS			A	A

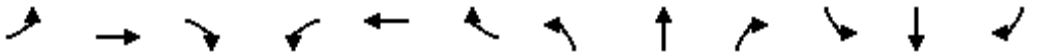
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	886	1566	-	-	1518	-	-	929
HCM Lane V/C Ratio	0.005	0.008	-	-	0.001	-	-	0.014
HCM Control Delay (s)	9.1	7.3	0	-	7.4	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	0	117	24	2	18	176	2398	34	99	1835	23
Future Volume (veh/h)	88	0	117	24	2	18	176	2398	34	99	1835	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	0	136	40	3	30	187	2551	36	103	1911	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	0	161	63	5	52	234	3629	51	163	3568	1108
Arrive On Green	0.10	0.00	0.10	0.04	0.04	0.04	0.04	0.70	0.70	0.04	0.70	0.70
Sat Flow, veh/h	3456	0	1585	1781	146	1461	1781	5188	73	1781	5106	1585
Grp Volume(v), veh/h	102	0	136	40	0	33	187	1671	916	103	1911	24
Grp Sat Flow(s),veh/h/ln	1728	0	1585	1781	0	1607	1781	1702	1857	1781	1702	1585
Q Serve(g_s), s	3.8	0.0	11.8	3.1	0.0	2.8	4.4	40.6	40.9	2.3	25.2	0.6
Cycle Q Clear(g_c), s	3.8	0.0	11.8	3.1	0.0	2.8	4.4	40.6	40.9	2.3	25.2	0.6
Prop In Lane	1.00		1.00	1.00		0.91	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	351	0	161	63	0	57	234	2381	1299	163	3568	1108
V/C Ratio(X)	0.29	0.00	0.84	0.63	0.00	0.58	0.80	0.70	0.70	0.63	0.54	0.02
Avail Cap(c_a), veh/h	444	0	204	229	0	207	234	2381	1299	175	3568	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	58.2	0.0	61.8	66.6	0.0	66.5	16.6	12.4	12.5	25.9	10.2	6.4
Incr Delay (d2), s/veh	0.5	0.0	22.1	10.1	0.0	9.0	1.8	0.2	0.3	6.4	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	1.6	0.0	1.3	4.3	14.5	16.0	2.8	9.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	0.0	83.9	76.7	0.0	75.5	18.4	12.6	12.8	32.3	10.7	6.5
LnGrp LOS	E	A	F	E	A	E	B	B	B	C	B	A
Approach Vol, veh/h		238			73			2774			2038	
Approach Delay, s/veh		73.1			76.2			13.0			11.8	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	102.4		18.7	9.5	102.3		9.5				
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	4.3	42.9		13.8	6.4	27.2		5.1				
Green Ext Time (p_c), s	0.0	29.4		0.4	0.0	26.1		0.2				

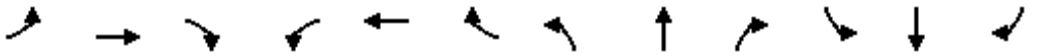
Intersection Summary												
HCM 6th Ctrl Delay			16.2									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	129	178	132	197	102	302	1903	40	100	1639	340
Future Volume (veh/h)	405	129	178	132	197	102	302	1903	40	100	1639	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	482	154	212	161	240	124	328	2068	43	108	1762	366
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	550	787	351	133	358	160	193	2865	890	178	2856	887
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	3456	3554	1585	3456	3554	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	482	154	212	161	240	124	328	2068	43	108	1762	366
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	17.7	4.6	15.6	5.0	8.5	9.9	5.5	38.8	1.6	3.4	30.2	17.2
Cycle Q Clear(g_c), s	17.7	4.6	15.6	5.0	8.5	9.9	5.5	38.8	1.6	3.4	30.2	17.2
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	550	787	351	133	358	160	193	2865	890	178	2856	887
V/C Ratio(X)	0.88	0.20	0.60	1.21	0.67	0.78	1.70	0.72	0.05	0.61	0.62	0.41
Avail Cap(c_a), veh/h	683	1107	494	133	541	241	193	2865	890	187	2856	887
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	53.4	41.2	45.5	62.5	56.4	57.0	28.7	21.0	12.9	23.4	19.3	16.4
Incr Delay (d2), s/veh	10.5	0.1	1.7	145.7	2.2	8.6	336.6	1.6	0.1	5.1	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	2.0	6.3	4.9	3.9	4.4	21.7	15.4	0.6	2.1	11.9	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	41.3	47.2	208.2	58.6	65.6	365.2	22.6	13.0	28.5	20.3	17.8
LnGrp LOS	E	D	D	F	E	E	F	C	B	C	C	B
Approach Vol, veh/h		848			525			2439			2236	
Approach Delay, s/veh		55.6			106.1			68.5			20.3	
Approach LOS		E			F			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	77.5	9.5	33.3	10.0	77.2	25.2	17.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	5.4	40.8	7.0	17.6	7.5	32.2	19.7	11.9
Green Ext Time (p_c), s	0.0	15.2	0.0	1.7	0.0	18.6	1.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	921	283	0	1182	1289	583	1524	114	811	1217	252
Future Volume (veh/h)	0	921	283	0	1182	1289	583	1524	114	811	1217	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	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1023	314	0	1219	1329	694	1814	136	891	1337	277
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	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1287	574	0	1287	1010	431	1089	338	1108	2093	650
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.08	0.21	0.21	0.27	0.41	0.41
Sat Flow, veh/h	0	3647	1585	0	3647	2790	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	0	1023	314	0	1219	1329	694	1814	136	891	1337	277
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1395	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.0	23.2	14.2	0.0	30.0	32.6	7.0	19.2	6.6	17.1	18.8	11.2
Cycle Q Clear(g_c), s	0.0	23.2	14.2	0.0	30.0	32.6	7.0	19.2	6.6	17.1	18.8	11.2
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	1287	574	0	1287	1010	431	1089	338	1108	2093	650
V/C Ratio(X)	0.00	0.79	0.55	0.00	0.95	1.32	1.61	1.67	0.40	0.80	0.64	0.43
Avail Cap(c_a), veh/h	0	1287	574	0	1287	1010	431	1089	338	1108	2093	650
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	25.7	22.8	0.0	27.9	28.7	40.2	35.4	30.5	28.3	21.2	19.0
Incr Delay (d2), s/veh	0.0	3.5	1.1	0.0	14.3	148.9	284.8	303.5	3.5	3.3	1.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.0	13.0	0.0	14.7	41.6	21.4	38.3	2.8	8.3	7.4	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	29.2	23.9	0.0	42.2	177.6	325.0	338.9	34.0	31.6	22.3	20.5
LnGrp LOS	A	C	C	A	D	F	F	F	C	C	C	C
Approach Vol, veh/h		1337			2548			2644			2505	
Approach Delay, s/veh		28.0			112.8			319.5			25.4	
Approach LOS		C			F			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.2	23.7		37.1	11.5	41.4		37.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.7	19.2		32.6	7.0	36.9		32.6				
Max Q Clear Time (g_c+I1), s	19.1	21.2		25.2	9.0	20.8		34.6				
Green Ext Time (p_c), s	1.9	0.0		4.6	0.0	9.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		136.5	
HCM 6th LOS		F	

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	112	2389	115	0	1957
Future Vol, veh/h	0	112	2389	115	0	1957
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, %	2	2	2	2	2	2
Mvmt Flow	0	122	2597	125	0	2127

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1361	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	~ 118	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	~ 118	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	161.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	118	-
HCM Lane V/C Ratio	-	-	1.032	-
HCM Control Delay (s)	-	-	161.9	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	7	-

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	68	3	3	25	7	3	0	3	5	0	11
Future Vol, veh/h	12	68	3	3	25	7	3	0	3	5	0	11
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	74	3	3	27	8	3	0	3	5	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	35	0	0	77	0	0	145	143	76	140	140	31
Stage 1	-	-	-	-	-	-	102	102	-	37	37	-
Stage 2	-	-	-	-	-	-	43	41	-	103	103	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1576	-	-	1522	-	-	824	748	985	830	751	1043
Stage 1	-	-	-	-	-	-	904	811	-	978	864	-
Stage 2	-	-	-	-	-	-	971	861	-	903	810	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1576	-	-	1522	-	-	808	740	985	820	743	1043
Mov Cap-2 Maneuver	-	-	-	-	-	-	808	740	-	820	743	-
Stage 1	-	-	-	-	-	-	896	804	-	969	862	-
Stage 2	-	-	-	-	-	-	958	859	-	892	803	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.6	9.1	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	888	1576	-	-	1522	-	-	961
HCM Lane V/C Ratio	0.007	0.008	-	-	0.002	-	-	0.018
HCM Control Delay (s)	9.1	7.3	0	-	7.4	0	-	8.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

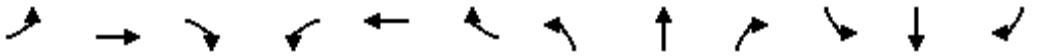
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	63	2	2	24	8	2	0	2	5	0	9
Future Vol, veh/h	11	63	2	2	24	8	2	0	2	5	0	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	68	2	2	26	9	2	0	2	5	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	35	0	0	70	0	0	133	132	69	129	129	31
Stage 1	-	-	-	-	-	-	93	93	-	35	35	-
Stage 2	-	-	-	-	-	-	40	39	-	94	94	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1576	-	-	1531	-	-	839	759	994	844	762	1043
Stage 1	-	-	-	-	-	-	914	818	-	981	866	-
Stage 2	-	-	-	-	-	-	975	862	-	913	817	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1576	-	-	1531	-	-	826	752	994	836	755	1043
Mov Cap-2 Maneuver	-	-	-	-	-	-	826	752	-	836	755	-
Stage 1	-	-	-	-	-	-	907	811	-	973	865	-
Stage 2	-	-	-	-	-	-	965	861	-	904	810	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.4	9	8.8
HCM LOS			A	A

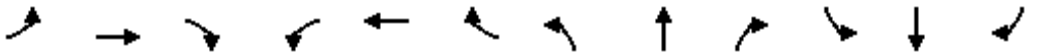
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	902	1576	-	-	1531	-	-	958
HCM Lane V/C Ratio	0.005	0.008	-	-	0.001	-	-	0.016
HCM Control Delay (s)	9	7.3	0	-	7.4	0	-	8.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	2	43	38	1	13	64	1578	26	117	3107	14
Future Volume (veh/h)	21	2	43	38	1	13	64	1578	26	117	3107	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	3	61	56	1	19	70	1715	28	122	3236	15
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	4	82	78	4	67	129	3819	62	283	3779	1173
Arrive On Green	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.74	0.74	0.04	0.74	0.74
Sat Flow, veh/h	3456	75	1522	1781	80	1517	1781	5175	84	1781	5106	1585
Grp Volume(v), veh/h	30	0	64	56	0	20	70	1128	615	122	3236	15
Grp Sat Flow(s),veh/h/ln	1728	0	1596	1781	0	1597	1781	1702	1855	1781	1702	1585
Q Serve(g_s), s	1.2	0.0	5.5	4.3	0.0	1.7	1.3	18.2	18.2	2.3	63.0	0.3
Cycle Q Clear(g_c), s	1.2	0.0	5.5	4.3	0.0	1.7	1.3	18.2	18.2	2.3	63.0	0.3
Prop In Lane	1.00		0.95	1.00		0.95	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	187	0	86	78	0	70	129	2512	1369	283	3779	1173
V/C Ratio(X)	0.16	0.00	0.74	0.72	0.00	0.29	0.54	0.45	0.45	0.43	0.86	0.01
Avail Cap(c_a), veh/h	444	0	205	229	0	205	133	2512	1369	295	3779	1173
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	0.57	0.57	0.57	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.2	0.0	65.2	66.1	0.0	64.8	36.8	7.2	7.2	6.0	12.9	4.8
Incr Delay (d2), s/veh	0.4	0.0	11.7	11.5	0.0	2.2	2.4	0.3	0.6	1.0	2.7	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	2.5	2.2	0.0	0.7	1.9	6.3	6.9	0.9	22.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.6	0.0	77.0	77.6	0.0	67.0	39.2	7.5	7.8	7.0	15.6	4.8
LnGrp LOS	E	A	E	E	A	E	D	A	A	A	B	A
Approach Vol, veh/h		94			76			1813			3373	
Approach Delay, s/veh		72.7			74.8			8.8			15.3	
Approach LOS		E			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	107.8		12.1	9.2	108.1		10.6				
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	4.3	20.2		7.5	3.3	65.0		6.3				
Green Ext Time (p_c), s	0.0	21.3		0.2	0.0	15.6		0.1				

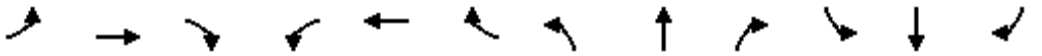
Intersection Summary												
HCM 6th Ctrl Delay			14.9									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	429	205	605	111	118	54	143	1423	47	51	2685	343
Future Volume (veh/h)	429	205	605	111	118	54	143	1423	47	51	2685	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	523	250	738	152	162	74	154	1530	51	55	2918	373
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	588	1107	494	133	639	285	131	2443	758	197	2396	744
Arrive On Green	0.17	0.31	0.31	0.04	0.18	0.18	0.04	0.48	0.48	0.03	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	523	250	738	152	162	74	154	1530	51	55	2918	373
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	19.2	6.8	40.5	5.0	5.1	5.2	5.5	29.0	2.3	2.1	61.0	21.2
Cycle Q Clear(g_c), s	19.2	6.8	40.5	5.0	5.1	5.2	5.5	29.0	2.3	2.1	61.0	21.2
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	588	1107	494	133	639	285	131	2443	758	197	2396	744
V/C Ratio(X)	0.89	0.23	1.49	1.14	0.25	0.26	1.18	0.63	0.07	0.28	1.22	0.50
Avail Cap(c_a), veh/h	683	1107	494	133	639	285	131	2443	758	219	2396	744
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	52.7	33.1	44.7	62.5	45.8	45.9	34.2	25.3	18.3	20.2	34.5	23.9
Incr Delay (d2), s/veh	12.5	0.1	233.1	121.8	0.2	0.5	134.3	1.2	0.2	0.8	102.1	2.4
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	9.4	3.0	47.7	4.4	2.3	2.1	6.9	11.9	0.9	0.9	47.1	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.2	33.2	277.8	184.3	46.0	46.3	168.5	26.5	18.4	21.0	136.6	26.4
LnGrp LOS	E	C	F	F	D	D	F	C	B	C	F	C
Approach Vol, veh/h		1511			388			1735			3346	
Approach Delay, s/veh		163.8			100.3			38.9			122.4	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	66.7	9.5	45.0	10.0	65.5	26.6	27.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	4.1	31.0	7.0	42.5	7.5	63.0	21.2	7.2
Green Ext Time (p_c), s	0.0	14.5	0.0	0.0	0.0	0.0	0.9	0.9

Intersection Summary	
HCM 6th Ctrl Delay	109.4
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1110	400	0	789	1025	225	925	45	1149	1618	188
Future Volume (veh/h)	0	1110	400	0	789	1025	225	925	45	1149	1618	188
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	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1354	488	0	797	1035	234	964	47	1209	1703	198
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	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1287	574	0	1287	1010	429	1089	338	1117	2093	650
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.08	0.21	0.21	0.27	0.41	0.41
Sat Flow, veh/h	0	3647	1585	0	3647	2790	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	0	1354	488	0	797	1035	234	964	47	1209	1703	198
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1395	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.0	32.6	25.5	0.0	16.6	32.6	1.6	16.5	2.2	24.7	26.6	7.6
Cycle Q Clear(g_c), s	0.0	32.6	25.5	0.0	16.6	32.6	1.6	16.5	2.2	24.7	26.6	7.6
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	1287	574	0	1287	1010	429	1089	338	1117	2093	650
V/C Ratio(X)	0.00	1.05	0.85	0.00	0.62	1.02	0.55	0.88	0.14	1.08	0.81	0.30
Avail Cap(c_a), veh/h	0	1287	574	0	1287	1010	429	1089	338	1117	2093	650
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	0.42	0.42	0.42
Uniform Delay (d), s/veh	0.0	28.7	26.4	0.0	23.6	28.7	38.5	34.3	28.7	30.8	23.5	17.9
Incr Delay (d2), s/veh	0.0	39.9	11.6	0.0	0.9	34.6	1.4	10.6	0.9	44.4	1.5	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	20.3	21.8	0.0	6.9	25.5	2.4	7.7	0.9	17.5	10.4	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	68.6	38.0	0.0	24.5	63.3	39.9	44.9	29.6	75.2	25.0	18.4
LnGrp LOS	A	F	D	A	C	F	D	D	C	F	C	B
Approach Vol, veh/h		1842			1832			1245			3110	
Approach Delay, s/veh		60.5			46.4			43.4			44.1	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.2	23.7		37.1	11.5	41.4		37.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.7	19.2		32.6	7.0	36.9		32.6				
Max Q Clear Time (g_c+I1), s	26.7	18.5		34.6	3.6	28.6		34.6				
Green Ext Time (p_c), s	0.0	0.5		0.0	0.3	6.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		48.3	
HCM 6th LOS		D	

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	85	1510	113	0	3238
Future Vol, veh/h	0	85	1510	113	0	3238
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, %	2	2	2	2	2	2
Mvmt Flow	0	92	1641	123	0	3520

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	882	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	248	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	248	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.9	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	248	-
HCM Lane V/C Ratio	-	-	0.373	-
HCM Control Delay (s)	-	-	27.9	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	1.6	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	81	3	3	40	8	3	0	3	4	0	9
Future Vol, veh/h	12	81	3	3	40	8	3	0	3	4	0	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	88	3	3	43	9	3	0	3	4	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	52	0	0	91	0	0	175	174	90	171	171	48
Stage 1	-	-	-	-	-	-	116	116	-	54	54	-
Stage 2	-	-	-	-	-	-	59	58	-	117	117	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1554	-	-	1504	-	-	788	719	968	792	722	1021
Stage 1	-	-	-	-	-	-	889	800	-	958	850	-
Stage 2	-	-	-	-	-	-	953	847	-	888	799	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1554	-	-	1504	-	-	774	711	968	782	714	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	774	711	-	782	714	-
Stage 1	-	-	-	-	-	-	881	793	-	949	848	-
Stage 2	-	-	-	-	-	-	942	845	-	877	792	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.4	9.2	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	860	1554	-	-	1504	-	-	933
HCM Lane V/C Ratio	0.008	0.008	-	-	0.002	-	-	0.015
HCM Control Delay (s)	9.2	7.3	0	-	7.4	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	75	2	2	42	8	2	0	2	5	0	7
Future Vol, veh/h	11	75	2	2	42	8	2	0	2	5	0	7
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	82	2	2	46	9	2	0	2	5	0	8

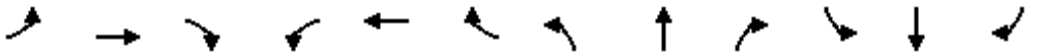
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	55	0	0	84	0	0	166	166	83	163	163	51
Stage 1	-	-	-	-	-	-	107	107	-	55	55	-
Stage 2	-	-	-	-	-	-	59	59	-	108	108	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1550	-	-	1513	-	-	798	727	976	802	729	1017
Stage 1	-	-	-	-	-	-	898	807	-	957	849	-
Stage 2	-	-	-	-	-	-	953	846	-	897	806	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1550	-	-	1513	-	-	787	720	976	795	722	1017
Mov Cap-2 Maneuver	-	-	-	-	-	-	787	720	-	795	722	-
Stage 1	-	-	-	-	-	-	891	801	-	949	848	-
Stage 2	-	-	-	-	-	-	945	845	-	888	800	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	9.2	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	871	1550	-	-	1513	-	-	911
HCM Lane V/C Ratio	0.005	0.008	-	-	0.001	-	-	0.014
HCM Control Delay (s)	9.2	7.3	0	-	7.4	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

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

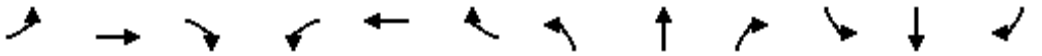
06/30/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	0	124	25	2	19	187	2543	35	102	1946	24
Future Volume (veh/h)	94	0	124	25	2	19	187	2543	35	102	1946	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	0	144	42	3	32	199	2705	37	106	2027	25
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	367	0	169	66	5	54	215	3598	49	151	3536	1098
Arrive On Green	0.11	0.00	0.11	0.04	0.04	0.04	0.04	0.69	0.69	0.04	0.69	0.69
Sat Flow, veh/h	3456	0	1585	1781	138	1468	1781	5191	71	1781	5106	1585
Grp Volume(v), veh/h	109	0	144	42	0	35	199	1771	971	106	2027	25
Grp Sat Flow(s),veh/h/ln	1728	0	1585	1781	0	1606	1781	1702	1858	1781	1702	1585
Q Serve(g_s), s	4.1	0.0	12.5	3.3	0.0	3.0	4.8	46.6	47.1	2.4	28.3	0.7
Cycle Q Clear(g_c), s	4.1	0.0	12.5	3.3	0.0	3.0	4.8	46.6	47.1	2.4	28.3	0.7
Prop In Lane	1.00		1.00	1.00		0.91	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	367	0	169	66	0	59	215	2359	1288	151	3536	1098
V/C Ratio(X)	0.30	0.00	0.85	0.64	0.00	0.59	0.92	0.75	0.75	0.70	0.57	0.02
Avail Cap(c_a), veh/h	444	0	204	229	0	206	215	2359	1288	163	3536	1098
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	57.7	0.0	61.5	66.5	0.0	66.4	22.1	13.7	13.8	30.4	11.0	6.7
Incr Delay (d2), s/veh	0.4	0.0	24.6	9.9	0.0	9.1	6.7	0.2	0.4	11.7	0.7	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	1.8	0.0	6.2	1.7	0.0	1.4	5.2	16.8	18.6	3.0	10.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	0.0	86.1	76.5	0.0	75.5	28.9	13.9	14.2	42.1	11.7	6.8
LnGrp LOS	E	A	F	E	A	E	C	B	B	D	B	A
Approach Vol, veh/h		253			77			2941			2158	
Approach Delay, s/veh		74.1			76.0			15.0			13.1	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	101.5		19.4	9.5	101.5		9.7				
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	49.1		14.5	6.8	30.3		5.3				
Green Ext Time (p_c), s	0.0	26.5		0.4	0.0	27.9		0.2				

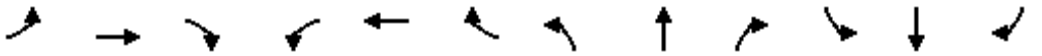
Intersection Summary												
HCM 6th Ctrl Delay			17.9									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	429	137	188	140	209	108	320	2018	43	106	1738	361
Future Volume (veh/h)	429	137	188	140	209	108	320	2018	43	106	1738	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	511	163	224	171	255	132	348	2193	47	114	1869	388
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	577	833	371	133	376	168	178	2788	865	166	2790	866
Arrive On Green	0.17	0.23	0.23	0.04	0.11	0.11	0.04	0.55	0.55	0.04	0.55	0.55
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	511	163	224	171	255	132	348	2193	47	114	1869	388
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	18.8	4.8	16.4	5.0	9.0	10.6	5.5	44.4	1.8	3.7	34.0	19.1
Cycle Q Clear(g_c), s	18.8	4.8	16.4	5.0	9.0	10.6	5.5	44.4	1.8	3.7	34.0	19.1
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	577	833	371	133	376	168	178	2788	865	166	2790	866
V/C Ratio(X)	0.89	0.20	0.60	1.29	0.68	0.79	1.95	0.79	0.05	0.69	0.67	0.45
Avail Cap(c_a), veh/h	683	1107	494	133	541	241	178	2788	865	171	2790	866
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	52.9	39.9	44.4	62.5	56.0	56.7	28.9	23.5	13.8	27.1	21.1	17.7
Incr Delay (d2), s/veh	11.9	0.1	1.6	174.0	2.2	10.4	448.0	2.3	0.1	10.5	1.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	2.1	6.6	5.4	4.1	4.7	25.4	17.9	0.7	2.4	13.6	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.8	40.1	46.0	236.5	58.2	67.1	476.9	25.8	13.9	37.6	22.4	19.4
LnGrp LOS	E	D	D	F	E	E	F	C	B	D	C	B
Approach Vol, veh/h		898			558			2588			2371	
Approach Delay, s/veh		55.6			114.9			86.2			22.6	
Approach LOS		E			F			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	75.5	9.5	35.0	10.0	75.5	26.2	18.2
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	5.9	60.6	5.0	40.5	5.5	61.0	25.7	19.8
Max Q Clear Time (g_c+I1), s	5.7	46.4	7.0	18.4	7.5	36.0	20.8	12.6
Green Ext Time (p_c), s	0.0	11.9	0.0	1.7	0.0	17.9	0.9	1.2

Intersection Summary	
HCM 6th Ctrl Delay	60.9
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	976	300	0	1255	1366	619	1617	121	859	1291	267
Future Volume (veh/h)	0	976	300	0	1255	1366	619	1617	121	859	1291	267
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	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1084	333	0	1294	1408	737	1925	144	944	1419	293
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	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1287	574	0	1287	1010	429	1089	338	1108	2093	650
Arrive On Green	0.00	0.36	0.36	0.00	0.36	0.36	0.08	0.21	0.21	0.27	0.41	0.41
Sat Flow, veh/h	0	3647	1585	0	3647	2790	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	0	1084	333	0	1294	1408	737	1925	144	944	1419	293
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1395	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.0	25.2	15.3	0.0	32.6	32.6	7.0	19.2	7.1	18.8	20.4	12.0
Cycle Q Clear(g_c), s	0.0	25.2	15.3	0.0	32.6	32.6	7.0	19.2	7.1	18.8	20.4	12.0
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	1287	574	0	1287	1010	429	1089	338	1108	2093	650
V/C Ratio(X)	0.00	0.84	0.58	0.00	1.01	1.39	1.72	1.77	0.43	0.85	0.68	0.45
Avail Cap(c_a), veh/h	0	1287	574	0	1287	1010	429	1089	338	1108	2093	650
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	0.67	0.67	0.67
Uniform Delay (d), s/veh	0.0	26.3	23.2	0.0	28.7	28.7	40.2	35.4	30.6	28.9	21.7	19.2
Incr Delay (d2), s/veh	0.0	5.2	1.5	0.0	26.4	183.1	333.2	349.0	3.9	4.5	1.2	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.1	13.9	0.0	17.9	46.4	24.2	42.9	3.0	9.1	8.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.6	24.6	0.0	55.1	211.8	373.4	384.4	34.5	33.4	22.9	20.7
LnGrp LOS	A	C	C	A	F	F	F	F	C	C	C	C
Approach Vol, veh/h		1417			2702			2806			2656	
Approach Delay, s/veh		29.9			136.8			363.6			26.4	
Approach LOS		C			F			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.2	23.7		37.1	11.5	41.4		37.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.7	19.2		32.6	7.0	36.9		32.6				
Max Q Clear Time (g_c+I1), s	20.8	21.2		27.2	9.0	22.4		34.6				
Green Ext Time (p_c), s	1.5	0.0		3.7	0.0	9.4		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			156.8									
HCM 6th LOS			F									

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	112	2560	115	0	2072
Future Vol, veh/h	0	112	2560	115	0	2072
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, %	2	2	2	2	2	2
Mvmt Flow	0	122	2783	125	0	2252

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1454	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	~ 102	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	~ 102	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	228.2	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	102	-
HCM Lane V/C Ratio	-	-	1.194	-
HCM Control Delay (s)	-	-	228.2	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	8.1	-

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

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	72	3	3	32	7	3	0	3	5	0	11
Future Vol, veh/h	12	72	3	3	32	7	3	0	3	5	0	11
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	78	3	3	35	8	3	0	3	5	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	43	0	0	81	0	0	157	155	80	152	152	39
Stage 1	-	-	-	-	-	-	106	106	-	45	45	-
Stage 2	-	-	-	-	-	-	51	49	-	107	107	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1566	-	-	1517	-	-	809	737	980	815	740	1033
Stage 1	-	-	-	-	-	-	900	807	-	969	857	-
Stage 2	-	-	-	-	-	-	962	854	-	898	807	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1566	-	-	1517	-	-	793	729	980	805	732	1033
Mov Cap-2 Maneuver	-	-	-	-	-	-	793	729	-	805	732	-
Stage 1	-	-	-	-	-	-	892	800	-	960	855	-
Stage 2	-	-	-	-	-	-	949	852	-	887	800	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.5	9.1	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	877	1566	-	-	1517	-	-	949
HCM Lane V/C Ratio	0.007	0.008	-	-	0.002	-	-	0.018
HCM Control Delay (s)	9.1	7.3	0	-	7.4	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	67	2	2	31	8	2	0	2	5	0	9
Future Vol, veh/h	11	67	2	2	31	8	2	0	2	5	0	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	73	2	2	34	9	2	0	2	5	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	43	0	0	75	0	0	146	145	74	142	142	39
Stage 1	-	-	-	-	-	-	98	98	-	43	43	-
Stage 2	-	-	-	-	-	-	48	47	-	99	99	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1566	-	-	1524	-	-	823	746	988	828	749	1033
Stage 1	-	-	-	-	-	-	908	814	-	971	859	-
Stage 2	-	-	-	-	-	-	965	856	-	907	813	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1566	-	-	1524	-	-	810	739	988	821	742	1033
Mov Cap-2 Maneuver	-	-	-	-	-	-	810	739	-	821	742	-
Stage 1	-	-	-	-	-	-	901	807	-	963	858	-
Stage 2	-	-	-	-	-	-	955	855	-	898	806	-

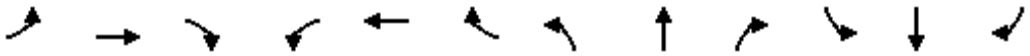
Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.4	9.1	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	890	1566	-	-	1524	-	-	946
HCM Lane V/C Ratio	0.005	0.008	-	-	0.001	-	-	0.016
HCM Control Delay (s)	9.1	7.3	0	-	7.4	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	30	64	50	11	70	1675	59	3208	15
v/c Ratio	0.17	0.46	0.42	0.09	0.48	0.44	0.25	0.84	0.01
Control Delay	64.8	26.5	72.8	32.0	28.0	8.9	6.5	18.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	26.5	72.8	32.0	28.0	8.9	6.5	18.9	0.0
Queue Length 50th (ft)	13	3	45	1	12	218	10	768	0
Queue Length 95th (ft)	24	28	65	14	67	309	25	#1179	0
Internal Link Dist (ft)		373		177		2868		206	
Turn Bay Length (ft)	70		52		240		95		195
Base Capacity (vph)	441	258	227	215	146	3840	241	3817	1208
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.25	0.22	0.05	0.48	0.44	0.24	0.84	0.01

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)	523	250	723	142	162	74	152	1506	46	55	2885	373
v/c Ratio	0.84	0.23	1.31	1.08	0.27	0.20	1.15	0.61	0.06	0.34	1.21	0.46
Control Delay	64.2	33.9	183.8	157.5	49.3	2.0	151.4	26.6	0.1	19.6	130.5	15.6
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	64.2	33.9	183.8	157.5	49.3	2.0	151.4	26.6	0.1	19.6	130.5	15.6
Queue Length 50th (ft)	219	82	~731	~68	64	0	~101	345	0	21	~1084	123
Queue Length 95th (ft)	251	106	#839	#102	80	0	#245	396	0	42	#1168	207
Internal Link Dist (ft)		2126			2429			729			1499	
Turn Bay Length (ft)	270		150	200		270	280		160	160		170
Base Capacity (vph)	678	1102	553	132	596	371	132	2451	828	164	2386	819
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	0.77	0.23	1.31	1.08	0.27	0.20	1.15	0.61	0.06	0.34	1.21	0.46

Intersection Summary

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

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Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1330	488	797	991	234	946	47	1191	1689	184
v/c Ratio	1.04	0.70	0.62	0.61	0.55	0.87	0.11	1.08	0.81	0.27
Control Delay	65.2	20.4	26.2	3.2	24.9	44.5	0.5	81.0	27.3	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	20.4	26.2	3.2	24.9	44.5	0.5	81.0	27.3	11.5
Queue Length 50th (ft)	~433	139	193	1	31	191	0	~343	303	39
Queue Length 95th (ft)	#477	210	255	43	50	#261	0	#472	365	85
Internal Link Dist (ft)	1816		2086			1828			2868	
Turn Bay Length (ft)		420		510	220		230	250		250
Base Capacity (vph)	1281	699	1281	1638	427	1084	437	1103	2084	692
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	1.04	0.70	0.62	0.61	0.55	0.87	0.11	1.08	0.81	0.27

Intersection Summary

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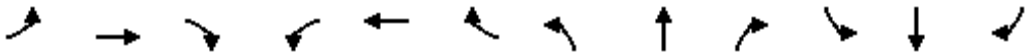
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	30	64	56	20	70	1743	122	3236	15
v/c Ratio	0.17	0.46	0.46	0.16	0.47	0.48	0.48	0.85	0.01
Control Delay	64.8	26.5	73.5	26.2	28.6	11.2	11.9	19.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	26.5	73.5	26.2	28.6	11.2	11.9	19.8	0.0
Queue Length 50th (ft)	13	3	50	1	12	250	22	798	0
Queue Length 95th (ft)	24	28	70	17	68	376	57	#1213	0
Internal Link Dist (ft)		373		177		2868		206	
Turn Bay Length (ft)	70		52		240		95		195
Base Capacity (vph)	441	258	227	221	148	3614	252	3798	1203
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.25	0.25	0.09	0.47	0.48	0.48	0.85	0.01

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)	523	250	738	152	162	74	154	1530	51	55	2918	373
v/c Ratio	0.84	0.23	1.33	1.15	0.27	0.20	1.17	0.62	0.06	0.35	1.22	0.46
Control Delay	64.2	33.9	194.9	178.4	49.3	2.0	156.7	26.8	0.1	20.0	136.3	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	33.9	194.9	178.4	49.3	2.0	156.7	26.8	0.1	20.0	136.3	15.8
Queue Length 50th (ft)	219	82	~758	~77	64	0	~104	352	0	21	~1106	125
Queue Length 95th (ft)	251	106	#864	#110	80	0	#248	405	0	42	#1189	209
Internal Link Dist (ft)		2126			2429			729			1499	
Turn Bay Length (ft)	270		150	200		270	280		160	160		170
Base Capacity (vph)	678	1102	553	132	596	371	132	2451	828	160	2386	818
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	0.77	0.23	1.33	1.15	0.27	0.20	1.17	0.62	0.06	0.34	1.22	0.46

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)	1354	488	797	1035	234	964	47	1209	1703	198
v/c Ratio	1.06	0.70	0.62	0.63	0.55	0.89	0.11	1.10	0.82	0.29
Control Delay	71.1	20.4	26.2	4.0	24.9	46.0	0.5	86.8	27.6	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.1	20.4	26.2	4.0	24.9	46.0	0.5	86.8	27.6	12.2
Queue Length 50th (ft)	~448	139	193	10	31	195	0	~354	306	44
Queue Length 95th (ft)	#492	210	255	55	50	#269	0	#484	369	93
Internal Link Dist (ft)	1816		2086			1828			2868	
Turn Bay Length (ft)		420		510	220		230	250		250
Base Capacity (vph)	1281	699	1281	1638	427	1084	437	1103	2084	692
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	1.06	0.70	0.62	0.63	0.55	0.89	0.11	1.10	0.82	0.29

Intersection Summary

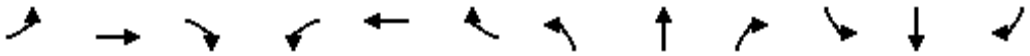
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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)	109	144	38	18	199	2696	42	2010	25
v/c Ratio	0.45	0.50	0.36	0.16	0.54	0.73	0.31	0.68	0.03
Control Delay	68.2	8.6	71.6	32.1	38.7	14.9	15.2	22.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	8.6	71.6	32.1	38.7	14.9	15.2	22.1	0.0
Queue Length 50th (ft)	50	0	34	3	114	532	8	448	0
Queue Length 95th (ft)	77	16	46	15	#232	703	24	500	0
Internal Link Dist (ft)		373		177		2868		206	
Turn Bay Length (ft)	70		52		240		95		195
Base Capacity (vph)	441	369	227	222	367	3678	135	2942	950
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.39	0.17	0.08	0.54	0.73	0.31	0.68	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)	511	163	213	166	255	132	337	2167	41	114	1845	388
v/c Ratio	0.83	0.18	0.45	1.26	0.63	0.45	1.47	0.85	0.05	0.65	0.77	0.45
Control Delay	63.5	37.0	25.3	212.3	61.9	14.8	262.1	33.2	0.1	38.4	31.5	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.5	37.0	25.3	212.3	61.9	14.8	262.1	33.2	0.1	38.4	31.5	10.3
Queue Length 50th (ft)	213	56	85	~90	110	5	~353	593	0	40	464	76
Queue Length 95th (ft)	253	75	135	#146	135	48	#625	684	0	#147	526	158
Internal Link Dist (ft)		2126			2429			729			1499	
Turn Bay Length (ft)	270		150	200		270	280		160	160		170
Base Capacity (vph)	678	1102	554	132	539	347	230	2547	856	176	2386	866
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.15	0.38	1.26	0.47	0.38	1.47	0.85	0.05	0.65	0.77	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)	1070	333	1294	1376	737	1910	144	922	1402	277
v/c Ratio	0.84	0.47	1.01	0.84	1.73	1.76	0.33	0.84	0.67	0.40
Control Delay	33.4	11.0	57.5	12.8	360.5	372.8	9.8	34.8	23.6	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	11.0	57.5	12.8	360.5	372.8	9.8	34.8	23.6	15.5
Queue Length 50th (ft)	287	51	~389	111	~246	~598	8	196	231	77
Queue Length 95th (ft)	371	125	#541	230	#350	#632	48	#278	283	142
Internal Link Dist (ft)	1816		2086			1828			2868	
Turn Bay Length (ft)		420		510	220		230	250		250
Base Capacity (vph)	1281	702	1281	1637	427	1084	437	1103	2084	692
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	0.84	0.47	1.01	0.84	1.73	1.76	0.33	0.84	0.67	0.40

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)	109	144	42	35	199	2742	106	2027	25
v/c Ratio	0.45	0.51	0.38	0.27	0.55	0.80	0.56	0.69	0.03
Control Delay	68.2	9.5	72.1	26.5	39.6	20.1	37.4	22.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	9.5	72.1	26.5	39.6	20.1	37.4	22.2	0.0
Queue Length 50th (ft)	50	0	37	3	115	626	41	454	0
Queue Length 95th (ft)	77	21	51	15	#242	853	101	507	0
Internal Link Dist (ft)		373		177		2868		206	
Turn Bay Length (ft)	70		52		240		95		195
Base Capacity (vph)	441	364	227	234	362	3433	190	2942	950
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.40	0.19	0.15	0.55	0.80	0.56	0.69	0.03

Intersection Summary

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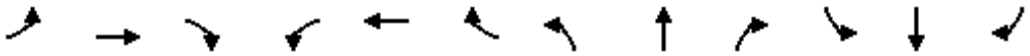
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	511	163	224	171	255	132	348	2193	47	114	1869	388
v/c Ratio	0.83	0.18	0.48	1.30	0.63	0.45	1.51	0.86	0.05	0.65	0.78	0.45
Control Delay	63.5	37.0	26.8	225.3	61.9	14.8	281.9	33.7	0.1	38.4	31.9	10.5
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	63.5	37.0	26.8	225.3	61.9	14.8	281.9	33.7	0.1	38.4	31.9	10.5
Queue Length 50th (ft)	213	56	95	~94	110	5	~373	605	0	40	473	78
Queue Length 95th (ft)	253	75	145	#150	135	48	#646	697	0	#147	536	160
Internal Link Dist (ft)		2126			2429			729			1499	
Turn Bay Length (ft)	270		150	200		270	280		160	160		170
Base Capacity (vph)	678	1102	553	132	539	347	230	2547	856	176	2386	865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.15	0.41	1.30	0.47	0.38	1.51	0.86	0.05	0.65	0.78	0.45

Intersection Summary

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

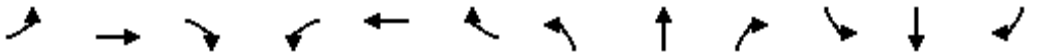
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1084	333	1294	1408	737	1925	144	944	1419	293
v/c Ratio	0.85	0.48	1.01	0.86	1.73	1.78	0.33	0.86	0.68	0.42
Control Delay	34.0	11.0	57.5	14.2	360.5	378.9	9.8	36.2	23.8	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	11.0	57.5	14.2	360.5	378.9	9.8	36.2	23.8	16.2
Queue Length 50th (ft)	293	51	~389	127	~246	~605	8	205	235	85
Queue Length 95th (ft)	#380	126	#541	251	#350	#638	48	#309	287	153
Internal Link Dist (ft)	1816		2086			1828			2868	
Turn Bay Length (ft)		420		510	220		230	250		250
Base Capacity (vph)	1281	701	1281	1637	427	1084	437	1103	2084	692
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	0.85	0.48	1.01	0.86	1.73	1.78	0.33	0.86	0.68	0.42

Intersection Summary

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

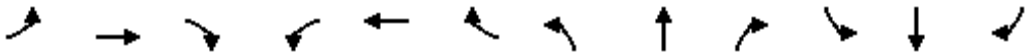
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	25	0	0	25	71	1588	25	25	3257	25
Future Volume (Veh/h)	0	0	25	0	0	25	71	1588	25	25	3257	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	27	0	0	27	77	1726	27	27	3540	27
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	0.55	0.55	0.55	0.55	0.55		0.55					
vC, conflicting volume	4364	5514	1194	3154	5514	589	3567			1753		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	4250	6360	0	2033	6360	589	2790			1753		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
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	95	0	0	94	0			92		
cM capacity (veh/h)	0	0	591	0	0	452	75			353		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	27	27	77	690	690	372	27	1416	1416	735
Volume Left	0	0	77	0	0	0	27	0	0	0
Volume Right	27	27	0	0	0	27	0	0	0	27
cSH	591	452	75	1700	1700	1700	353	1700	1700	1700
Volume to Capacity	0.05	0.06	1.03	0.41	0.41	0.22	0.08	0.83	0.83	0.43
Queue Length 95th (ft)	4	5	138	0	0	0	6	0	0	0
Control Delay (s)	11.4	13.5	208.3	0.0	0.0	0.0	16.0	0.0	0.0	0.0
Lane LOS	B	B	F				C			
Approach Delay (s)	11.4	13.5	8.8				0.1			
Approach LOS	B	B								

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	73.5%	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	160	2267	100	100	1866	100
Future Volume (Veh/h)	0	0	100	0	0	100	160	2267	100	100	1866	100
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	109	0	0	109	174	2464	109	109	2028	109
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	0.69	0.69	0.69	0.69	0.69		0.69					
vC, conflicting volume	3579	5222	730	3870	5222	876	2137			2573		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3174	5538	0	3593	5538	876	1100			2573		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
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 %	100	100	86	100	100	63	60			35		
cM capacity (veh/h)	1	0	754	0	0	292	438			168		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	109	109	174	986	986	602	109	811	811	515
Volume Left	0	0	174	0	0	0	109	0	0	0
Volume Right	109	109	0	0	0	109	0	0	0	109
cSH	754	292	438	1700	1700	1700	168	1700	1700	1700
Volume to Capacity	0.14	0.37	0.40	0.58	0.58	0.35	0.65	0.48	0.48	0.30
Queue Length 95th (ft)	13	42	47	0	0	0	92	0	0	0
Control Delay (s)	10.6	24.5	18.5	0.0	0.0	0.0	59.4	0.0	0.0	0.0
Lane LOS	B	C	C				F			
Approach Delay (s)	10.6	24.5	1.2				2.9			
Approach LOS	B	C								

Intersection Summary					
Average Delay	2.6				
Intersection Capacity Utilization	58.9%	ICU Level of Service		B	
Analysis Period (min)	15				