



Consulting

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March 24, 2022

Keystone Associates
58 Exchange Street
Binghamton, NY 13901

Attn: Mr. Kenneth Ellsworth

**Re: Traffic Impact Study – Proposed Five Mile Point Warehouse Development
Frances Street @ Roberts Street – Town of Kirkwood, NY**

Dear Mr. Ellsworth:

I have completed my review of traffic operations associated with the proposed Five Mile Point warehouse development in the Town of Kirkwood, NY. This letter summarizes the work completed in this review as well as my findings.

Project Understanding

The existing Five Mile Point Speedway is located to the southeast of the intersection of Frances Street with Roberts Street in the Town of Kirkwood, NY. The proposed redevelopment of the site includes two warehouse buildings. Warehouse building #1 is 227,500 SF and will be accessed via the southern leg of the Frances Street/Roberts Street intersection. Warehouse Building #2 is 236,250 SF and will be accessed via one full access driveway to Frances Street located approximately 200 feet to the east of the Roberts Street intersection. While no specific uses have been identified at this time, the buildings are assumed function as typical distribution facilities for a worst case evaluation of potential traffic impacts.

A layout plan developed by Keystone Associates, dated March 17th, 2022, has been attached.

Data Collection

Site visits were conducted on Wednesday, March 9th, 2022 to collect the following:

- Existing Traffic Volume Counts – Traffic turning movement counts were collected at following 5 study area intersections during the weekday morning (7-9am), and weekday evening (4-6pm) peak travel periods to ensure that the actual peak hours of the adjacent streets were captured.
 - Frances Street @ I-81 / I-86 access road
 - Frances Street @ Crescent Drive
 - Frances Street @ Roberts Street
 - US Route 11 @ Crescent Drive / Water Street
 - US Route 11 @ Grossett Drive

The traffic counts included separate heavy vehicles per approach and pedestrians. There were minor pedestrian volumes during the traffic count periods and all area schools were in session.

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- I-81 / I-86 Access Road and US Route 11 Gap Data – Gap data was collected to assess the ability for vehicles to turn on and off the primary roadways in the area. In order for a vehicle to turn right onto the I-81 / I-86 access road from Frances Street, the vehicle only requires a gap in the eastbound direction on the access road. A vehicle only requires a gap in the northbound direction on US Route 11 to turn right off Crescent Drive. These gaps would also apply to vehicles turning left onto Frances Street from the access road or left onto Crescent Drive from US Route 11. A vehicle requires a gap in traffic in both directions at the same time to turn left onto US Route 11 from Crescent Drive.

These gaps in traffic were observed and timed on the I-81 / I-86 access road and on US Route 11 during the weekday traffic count periods. The gaps were then converted to a number of vehicles that could turn left or right out of side roads during each gap and then totaled for the peak hour. For example, one vehicle can turn from the side road with a 6-9 second gap in traffic, two can turn with a 10-13 second gap, 3 with a 14-17 second gap, 4 with an 18-19 second gap, etc. Given the lower traffic volumes on Frances Street at the site access, there is no concern with the availability of gaps to turn in and out of the proposed driveways on Frances Street.

- Spot Speed Measurements – 50 speed measurements were collected in each direction on the I-81 / I-86 access road and US Route 11 to identify average and 85th percentile operating speeds in the area passing the primary access locations to the study area. The data was collected for free flow traffic during off-peak times. The weather was sunny and the roadway was dry.
- Sight Distance Measurements – Sight lines looking east/west along Frances Street from the site driveways, west along the access road from Frances Street, and north/south along US Route 11 from Crescent Drive were collected for comparison to design standards in order to confirm that adequate sight lines are available for safe ingress and egress from the site and primary roadways.
- Operational Data - Other data needed to evaluate traffic operations, such as intersection geometry, control, and speeds limits were also collected

Existing Operations

Frances Street, Crescent Drive, and Robert Street have one lane in each direction through the study area. Frances Street and Crescent Drive operate as a cut through roadway between US Route 11 to the south of the study area and the I-81 / I-86 access road. Frances Street has free flow traffic movement with side street stop sign control at the intersections with Crescent Drive and Roberts Drive. The posted speed limits on Frances Street is 35 mph to the west of Crescent Drive and 30 mph to the east. The posted speed limit on Crescent Drive is 35 mph to the south of Frances Street and 30 mph to the north.

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The I-81 / I-86 access road connects US Route 11 north of the study area to I-81 and I-86. The roadway has two lanes in each direction with a 30-40 foot grass median and an auxiliary westbound left turn lanes at Frances Street. Frances Street is stop controlled at the access road with right turns only allowed. The speed limit on the access road is assumed to be 55 mph.

US Route 11 has one lane southbound and two lanes northbound at the Crescent Drive intersection with auxiliary northbound and southbound left turn lanes. There is a northbound right turn slip ramp onto Crescent Drive. Crescent Drive and Water Street are stop sign controlled at the intersection with free flow traffic movements on US Route 11. The posted speed limit on Route 11 is 55 mph.

Based on the traffic counts collected at the 5 study area intersections, the area peak hours were identified as follows:

Weekday Morning Peak Hour –8:00-9:00am
Weekday Evening Peak Hour – 4:00pm to 5:00pm

The 2022 existing traffic volumes collected in March are shown in the attached Figure 1 for the weekday morning and weekday evening peak hours.

The existing traffic counts were reviewed and compared to historical traffic volume data in the area to identify any necessary adjustments to account for seasonal adjustments or for lingering impacts from the Covid pandemic. Specifically, the following 3 historical directional traffic counts were reviewed:

- Frances Street EB/WB – 11/2/2015 – Collected 136 yards north of Crescent Drive.
- Frances Street EB/WB – 5/1/2018 – Collected 200 feet east of Robert Street.
- Crescent Drive NB/SB – 5/12/2015 – Collected 204 feet north of Williams Street.

The 2022 total directional traffic volumes traveling past the 3 count locations were compared to the total directional volumes from historical counts and were found to be 22% higher in 2022 during the morning peak hour and 29% lower in 2022 during the evening peak hour. The 2022 existing March traffic volumes were therefore not adjusted during the morning peak hour since they were significantly higher than historical counts. The 2022 evening peak hour volumes were adjusted by applying a +30% adjustment factor to account for both seasonal variations in traffic as well as any current impacts from the COVID pandemic. The adjusted 2022 weekday morning and weekday evening peak hour traffic volumes are shown in Figure 2. The 2022 traffic count data has also been attached.

Frances Street and Crescent Drive carry approximately 100-200 vehicles in each direction between the I-81 / I-86 access road and US Route 11 during both peak hours. There are less than 100 vehicles in each direction during the peak hours on both Frances Street and Crescent Drive to the north and east of the Frances/Crescent intersection during both peak hours. The I-81 / I-86 access road and US Route 11

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each carry approximately 200-300 vehicles in each direction passing the study area. Overall, this area would be considered to have low to moderate traffic volumes during the peak hours.

Based on the gap data collected, there are sufficient gaps in traffic to accommodate over 550 vehicles turning right onto the I-81 / I-86 access road from Frances Street during both peak hours. These gaps are also available for vehicles turning left onto Frances Street. US Route 11 has sufficient gaps to accommodate over 600 vehicles turning right off Crescent Drive and 500 or more vehicles turning left off Crescent Drive during the peak hours. There are no concerns with available gaps in traffic on the primary roadways to accommodate traffic generated by the proposed warehouse development. The gap data is attached.

The posted speed limits passing the site are 55 mph on both the access road and US Route 11. The speed data collected indicates that the average speeds passing Frances Street on the I-81 / I-86 access road are 51 mph in both directions with 85th percentile speeds of 54 mph eastbound and 53 mph westbound. Speeds are slightly lower on US Route 11 passing Crescent Drive with average speeds of 49 mph northbound / 48 mph southbound and 85th percentile speeds of 52 mph in both directions. Operating speeds along Frances Street passing the site are assumed to be 35 mph hour. The speed data has been attached.

The following table provides a summary of the recommended sight distances along the I-81/ I-86 access road, US Route 11 and Frances Street from the AASHTO A Policy on Design of Highways and Streets as well as the available sight distances based on field measurements at the proposed driveway locations and primary roadways. The site distance turning left onto US Route 11 was adjusted for the additional lane to be crossed when turning off Crescent Drive.

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Sight Distance Summary

Location	Operating Speed	Direction	AASHTO Recommended Sight Distance	Available Sight Distance
Frances Street @ Site Access #1 – Turning Left	35 mph	Looking Left Looking Right	390 feet 390 feet	500+ feet 700+ feet
Frances Street @ Site Access #1 – Turning Right	35 mph	Looking Left	335 feet	500+ feet
Frances Street @ Site Access #2 – Turning Left	35 mph	Looking Left Looking Right	390 feet 390 feet	700+ feet 500+ feet
Frances Street @ Site Access #2 – Turning Right	35 mph	Looking Left	335 feet	700+ feet
Frances Street @ I-81 / I-86 Access Road – Turning Right	55 mph	Looking Left	530 feet	960 feet
Crescent Drive @ US Route 11 – Turning Left	55 mph	Looking Left Looking Right	610 feet 610 feet	1,400+ feet 1,400+ feet
Crescent Drive @ US Route 11 – Turning Right	55 mph	Looking Left	530 feet	1,400+ feet

There are more than adequate sight distances available at both the proposed driveway locations and the existing connections of Frances Street to the access road and Crescent Drive to US Route 11. There are no concerns with sight distances and safety for ingress and egress from the proposed development.

Capacity analysis of the existing traffic operations was completed using Synchro10. Synchro is industry accepted standard for the analysis of both signalized and unsignalized intersections that is based on methodologies developed in the Highway Capacity Manual. Intersection and individual movement operations are graded in terms of Level of Service ranging from A to F, as described in the HCM. For example, an unsignalized intersection movement with an average delay of 5 seconds per vehicle is considered a Level of Service A while an average delay per vehicle of 20 seconds is considered a C. A Level of Service D or better is generally considered acceptable for a signalized intersection while a Level of Service E or better is generally considered acceptable for an unsignalized intersection.

The results of the capacity analysis indicate that all traffic movements in the study area are operating at acceptable Levels of Service B or better during both the morning and evening peak hours.

The detailed Level of Service summary and capacity analysis printouts have been attached.

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Accident Analysis

An accident analysis was completed for the project study area using history reports obtained for a three year period from November 2018 through October 2021. Over the three year period, there were 18 total accidents in the study area dispersed over the following locations:

There were 4 midblock accidents along Frances Street including 3 fixed object accidents, and 1 backing on accident. The calculated accident rate is 2.24 accidents per million vehicle miles along Frances Street, which is just above the statewide average of 2.23 accidents per million vehicle miles for similar facilities.

There were 2 midblock accidents along Crescent Drive including 1 left turn accident and 1 right turn accident. The calculated accident rate is 2.56 accidents per million vehicle miles along Crescent Drive, which is above the statewide average of 2.23 accidents per million vehicle miles for similar facilities.

There were 2 midblock fixed object accidents along US Route 11. The calculated accident rate is 0.35 accidents per million vehicle miles along US Route 11 which is below the statewide average of 2.23 accidents per million vehicle miles for similar facilities.

Frances Street @ I-81 / I-86 Access Road – 4 accidents – There were 3 left turn accidents and 1 right turn accident. Assuming that the evening peak hour volumes are 9% of the total daily traffic traveling through the intersection, the accident rate is 0.43 accidents per million entering vehicles, which is above the statewide average of 0.12 accidents per million entering vehicles for similar facilities.

Frances Street @ Crescent Avenue – 1 Accident – There was 1 right angle accident at the intersection. Assuming that the evening peak hour volumes are 9% of the total daily traffic traveling through the intersection, the accident rate is 0.19 accidents per million entering vehicles, which is below the statewide average of 0.29 accidents per million entering vehicles for similar facilities.

Frances Street @ Roberts Street – 1 Accident – There was 1 right angle accident at the intersection. Assuming that the evening peak hour volumes are 9% of the total daily traffic traveling through the intersection, the accident rate is 0.71 accidents per million entering vehicles, which is above the statewide average of 0.29 accidents per million entering vehicles for similar facilities.

Crescent Drive @ US Route 11 – 1 Accident – There was 1 rearend accident at the intersection. Assuming that the evening peak hour volumes are 9% of the total daily traffic traveling through the intersection, the accident rate is 0.14 accidents per million entering vehicles, which is below the statewide average of 0.29 accidents per million entering vehicles for similar facilities.

Grossett Drive @ US Route 11 – 1 Accident – There was 1 animal related accident at the intersection. Assuming that the evening peak hour volumes are 9% of the total daily traffic traveling through the

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intersection, the accident rate is 0.16 accidents per million entering vehicles, which is below the statewide average of 0.18 accidents per million entering vehicles for similar facilities.

There was 1 accident in an area parking lot and 1 accident with an unknown location.

Overall, 13 (72%) of the accidents in the study area were property damage only accidents with 5 injury accidents (28%). There were no fatalities.

With 4 accidents or less at each of the intersections and on each midblock segment, there are no clear accident patterns noted. The accidents rates are skewed by the low traffic volumes in the area and do not demonstrate any significant safety concern.

The detailed accident summary has been attached.

2025 Background Operations

The proposed Five Mile Point warehouse development is assumed to be completed over 2 years, therefore 2024 was used as the design year for this study. In order to fully understand the impacts of the development on the adjacent roadway system, analysis of the operations immediately before the project opening must first be completed. The existing traffic volumes were first adjusted by a growth rate to account for any unknown development that may occur prior to completion of the project.

Historical traffic volumes along Crescent Drive, the I-81 / I-86 access road and US Route 11 were taken from the NYSDOT Traffic Data Viewer website and reviewed in order to identify an appropriate background growth rate. The long term growth rates in the area on the three roadways were -1.2% per year on Crescent Drive (2000 to 2019), -1.0% per year on the access road (2000 to 2019), and -0.8% per year on US Route 11 (2009 to 2019). In order to maintain a conservative analysis, a positive +0.5% per year growth was chosen and used to grow the 2022 existing traffic volumes to the 2024 background condition.

The Town of Kirkwood was contacted and indicated that there were no specific developments that needed to be included in the background growth projections.

The 2024 background traffic volumes with 1% total growth are shown in Figure 3 for the weekday morning and weekday evening peak hours.

The capacity analysis of the 2024 background condition shows minor increases in delay at the study area intersections during the peak hours studied. All traffic movements continue to operate at Level of Service B or better during both peak hours. The detailed Level of Service summary and capacity analysis printouts have been attached.

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Trip Generation Estimate and Distribution

The proposed Five Mile Point warehouse development includes a 227,500 SF warehouse building (#1) and a 236,250 SF warehouse building #2, for a total development of 463,750 SF.

Trips generated by the proposed development were estimated using the ITE Trip Generation, 11th Edition, which is the industry accepted standard for estimating traffic generated by new developments. The trip generation potential was evaluated using the following 5 land uses:

- Land Uses 110 – General Light Industrial
- Land Use 140 – Manufacturing
- Land Use 150 – Warehousing
- Land Use 155 – High Cube Fulfillment Center Warehouse – With Small Package Sorting
- Land Use 157 – High Cube Cold Storage Warehouse

Trips generated based on Land Use 155 were used in the traffic study since this provided the highest potential traffic generation estimate and therefore the most potential traffic impact.

The following table summarizes the trip generation estimate for the proposed Five Mile Point development in the Town of Kirkwood.

	Trip Generation Summary			
	Morning Peak Hour		Evening Peak Hour	
	Entering	Exiting	Entering	Exiting
Warehouse/Distribution – 463,750 SF	326	77	217	340

The detailed trip generation calculations have been attached.

The ITE Trip Generation includes estimates for specific truck traffic generated by the various industrial uses reviewed. The following table provide the truck generation estimates based on 463,750 SF.

ITE Land Use	Daily Trucks Generated 463,750 SF
110 – General Light Industrial	58 entering / 58 exiting
140 - Manufacturing	105 entering / 105 exiting
150 - Warehousing	139 entering / 139 exiting
155 – Fulfillment Warehouse – w/Sorting	44 entering / 44 exiting

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It is noted that the total trip generation estimate includes the truck trips, therefore the truck trips noted above are not additional to the overall estimate.

It is estimated that the development could generate up to 200-300 total truck trips per day (100-150 entering and 100-150 exiting). Assuming a typical 16 hour operation over two shifts, 100-150 trucks entering and exiting would average to approximately 6-9 trucks entering/exiting per hour. This equates to only 1 truck every 7-10 minutes.

Based on existing traffic patterns and population centers in the area, the following distribution of new trips is assumed:

- 55% travels to/from I-81 / I-86 on Frances Street
- 30% travels to/from the north on US Route 11
- 15% travel to/from the south on US Route 11

The trips generated were distributed to the two building driveways based on the square footage of building #1 (49%) and building #2 (51%).

The arrival / departure trip distribution is shown in Figure 4. The trips generated during each peak hour are shown in Figure 5. The resultant full build traffic volumes expected when the development is complete are shown in Figure 6 for the weekday morning and weekday evening peak hours.

Build Operations

Capacity analysis of the build condition with the proposed Five Mile Point warehouse development was completed with no improvements assumed on the area roadways.

The results of the analysis indicate that the development will have very little impact on traffic operations at the area connections to the access road and US Route 11. All traffic movements at the Frances Street intersection with the I-81 / I-86 access road, and the Crescent Drive intersection with US Route 11 will operate at Level of Service C or better during both peak hours.

The analysis does show some significant increases in delay at the Frances Street / Crescent Drive intersection during both peak hours. The northbound Crescent Drive approach drops to a Level of Service D during the morning peak hour and Level of Service F during the evening peak hour. The southbound Crescent Drive approach to the intersection also drops to LOS E during the evening peak hour.

All movements at the site driveways on Frances Street are projected to operate at Level of Service B or better during both peak hours.

The detailed Level of Service and capacity analysis printouts have been attached.



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Build Operations with Mitigation

The total traffic volumes projected to be traveling through the Frances Street / Crescent Street intersection under the build condition are 723 vehicles during the morning peak hour and 987 vehicles during the evening peak hour. These overall traffic volumes are still well below levels where a traffic signal would typically be considered. The longer delays projected on the north/south legs of the intersection are a result of the free flow east/west traffic movement not providing sufficient gaps for the side approaches.

A supplemental analysis was completed to evaluate converting the intersection to all-way stop control to better facilitate alternating traffic through the intersection. This analysis indicates that all approaches to the intersection would operate at acceptable Levels of Service D or better during both peak hours.

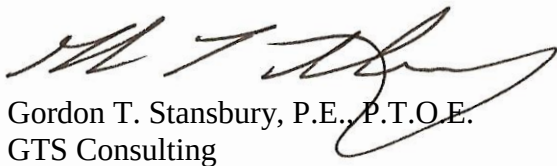
The detailed Level of Service and capacity analysis printouts have been attached.

Conclusions

The additional traffic generated by the proposed Five Mile Point warehouse development will have no significant impact on traffic operations on the access road or US Route 11. In order to maintain traffic operations on the four approaches to the Frances Street / Crescent Drive intersection, it is recommended that the intersection be converted to all-way stop control. There are no other mitigation measures recommended.

If you have any questions or need additional information, please call.

Sincerely,



Gordon T. Stansbury, P.E., P.T.O.E.
GTS Consulting

Attachments –

Site Plan
Traffic Volume Figures 1-6
Spot Speed Data
Trip Generation Estimate
Count Data

Level of Service Summary
Gap Calculations
Growth Rate Calculations
Accident Data
Synchro Capacity Printouts

Proposed Five Mile Point Warehouse Development – Town of Kirkwood, NY

Intersection Level of Service Summary

Weekday Morning Peak Hour

Intersection	2021 Existing	2024 Background	2024 Build	2024 Build w/ Mitigation
Frances Street @ I-81 / I-86 Access Road				
EB Through/Right	a(0)	a(0)	a(0)	a(0)
WB Left	a(8)	a(8)	a(9)	a(9)
WB Through	a(0)	a(0)	a(0)	a(0)
NB Right	a(10)	a(10)	b(11)	b(11)
Frances Street @ Crescent Drive				
EB Left/Through/Right	a(1)	a(1)	a(1)	c(18)
WB Left/Through/Right	a(6)	a(6)	a(5)	b(11)
NB Left/Through/Right	b(12)	b(12)	d(32)	b(13)
SB Left/Through/Right	b(11)	b(11)	b(14)	a(10)
Frances Street @ Roberts Street / Site Access #1				
EB Left/Through/Right	a(2)	a(2)	a(1)	a(1)
WB Left/Through/Right	a(0)	a(0)	a(0)	a(0)
NB Left/Through/Right	a(0)	a(0)	b(14)	b(14)
SB Left/Through/Right	a(9)	a(9)	a(10)	a(10)
US Route 11 @ Crescent Drive / Water Street				
EB Left/Through/Right	a(0)	a(0)	a(0)	a(0)
WB Left/Through/Right	b(15)	b(15)	c(19)	c(19)
NB Left	a(8)	a(8)	a(8)	a(8)
NB Through/Right	a(0)	a(0)	a(0)	a(0)
SB Left	a(8)	a(8)	a(8)	a(8)
SB Through/Right	a(0)	a(0)	a(0)	a(0)
US Route 11 @ Grossett Drive				
WB Left/Right	b(11)	b(11)	b(12)	b(12)
NB Through/Right	a(0)	a(0)	a(0)	a(0)
SB Left/Through	a(1)	a(1)	a(1)	a(1)
Frances Street @ Site Access #2				
EB Through/Right	-	-	a(0)	a(0)
WB Left/Through	-	-	a(0)	a(0)
NB Left/Right	-	-	b(11)	b(11)

a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro

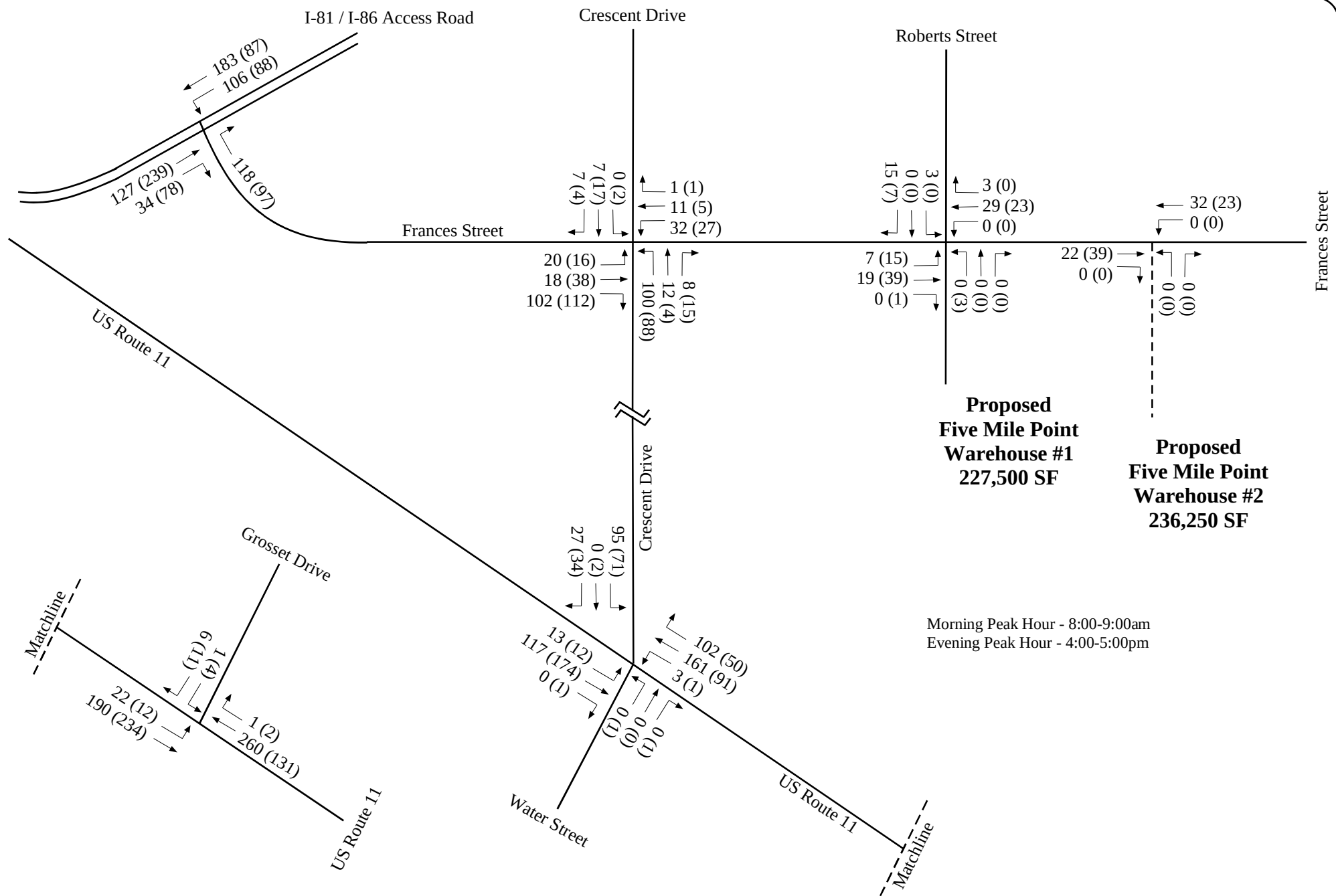
Proposed Five Mile Point Warehouse Development – Town of Kirkwood, NY

Intersection Level of Service Summary

Weekday Evening Peak Hour

Intersection	2021 Existing	2024 Background	2024 Build	2024 Build w/ Mitigation
Frances Street @ I-81 / I-86 Access Road				
EB Through/Right	a(0)	a(0)	a(0)	a(0)
WB Left	a(9)	a(9)	a(10)	a(10)
WB Through	a(0)	a(0)	a(0)	a(0)
NB Right	b(11)	b(11)	c(18)	c(18)
Frances Street @ Crescent Drive				
EB Left/Through/Right	a(1)	a(1)	a(1)	d(27)
WB Left/Through/Right	a(6)	a(6)	a(5)	c(25)
NB Left/Through/Right	b(14)	b(14)	f(272)	b(14)
SB Left/Through/Right	b(12)	b(12)	e(44)	b(11)
Frances Street @ Roberts Street / Site Access #1				
EB Left/Through/Right	a(2)	a(2)	a(1)	a(1)
WB Left/Through/Right	a(0)	a(0)	a(0)	a(0)
NB Left/Through/Right	a(10)	a(10)	c(21)	c(21)
SB Left/Through/Right	a(9)	a(9)	b(11)	b(11)
US Route 11 @ Crescent Drive / Water Street				
EB Left/Through/Right	b(11)	b(11)	b(12)	b(12)
WB Left/Through/Right	b(14)	b(14)	c(24)	c(24)
NB Left	a(8)	a(8)	a(8)	a(8)
NB Through/Right	a(0)	a(0)	a(0)	a(0)
SB Left	a(8)	a(8)	a(8)	a(8)
SB Through/Right	a(0)	a(0)	a(0)	a(0)
US Route 11 @ Grossett Drive				
WB Left/Right	b(11)	b(11)	b(12)	b(12)
NB Through/Right	a(0)	a(0)	a(0)	a(0)
SB Left/Through	a(1)	a(1)	a(1)	a(1)
Frances Street @ Site Access #2				
EB Through/Right	-	-	a(0)	a(0)
WB Left/Through	-	-	a(0)	a(0)
NB Left/Right	-	-	b(11)	b(11)

a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro



Proposed Five Mile Point Warehouse Development - Town of Kirkwood, NY

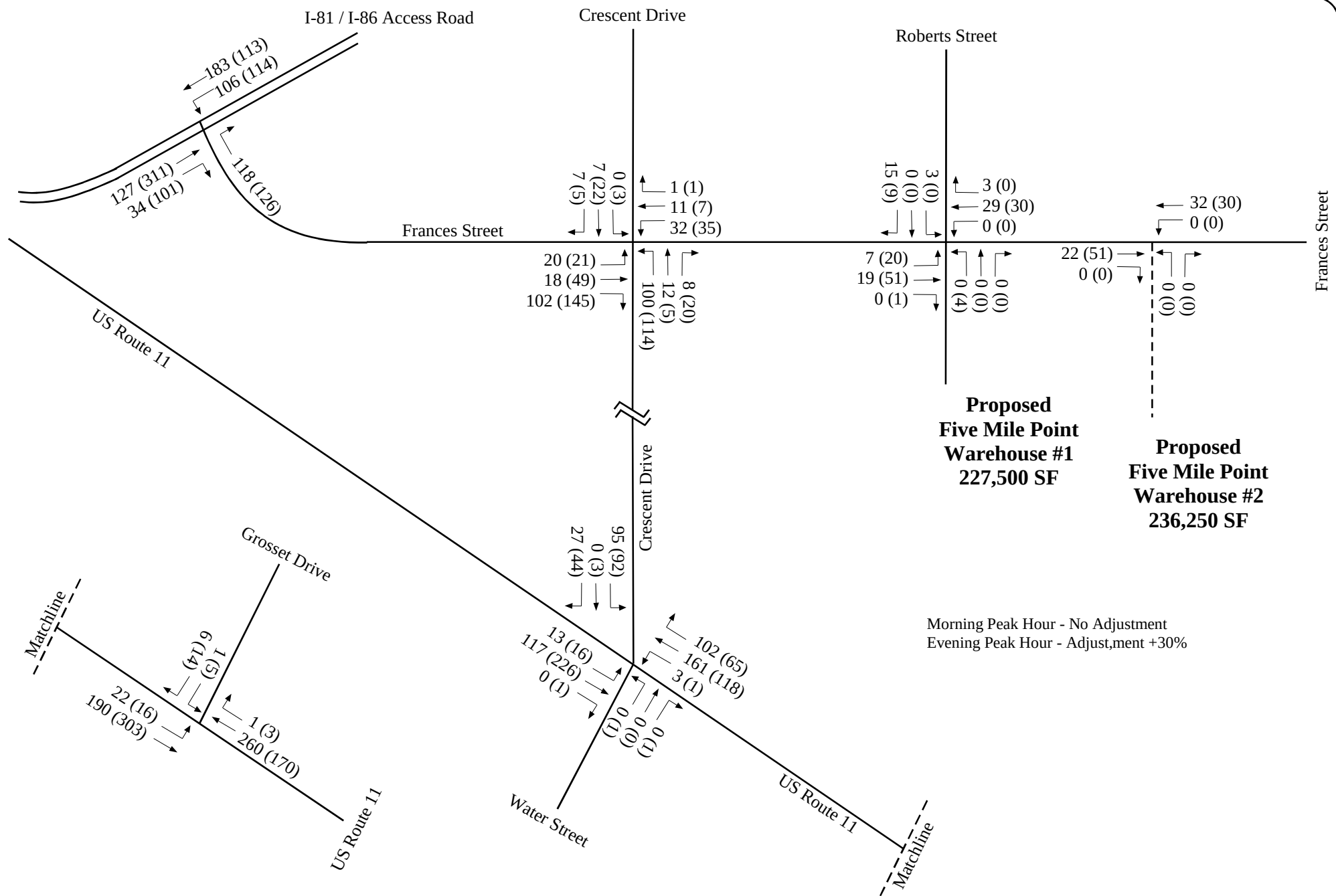
2022 Existing Traffic Volumes - Collected March 2022

Morning (Evening) Peak Hour

Figure 1

Not to Scale



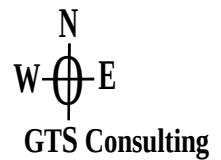


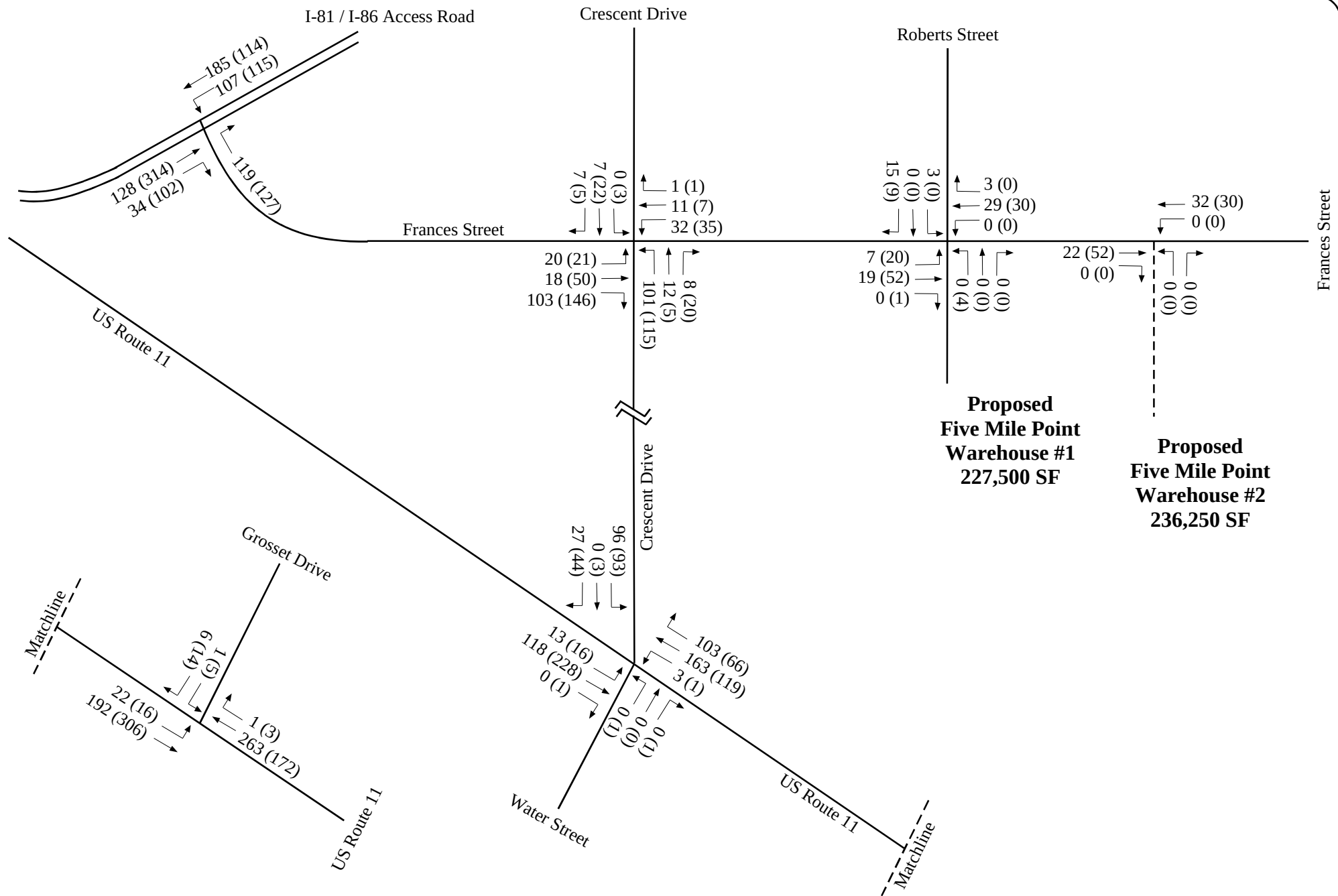
Proposed Five Mile Point Warehouse Development - Town of Kirkwood, NY

2022 Existing Traffic Volumes - Adjusted
Morning (Evening) Peak Hour

Figure 2

Not to Scale





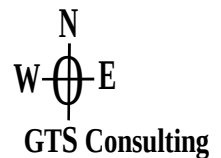
Proposed Five Mile Point Warehouse Development - Town of Kirkwood, NY

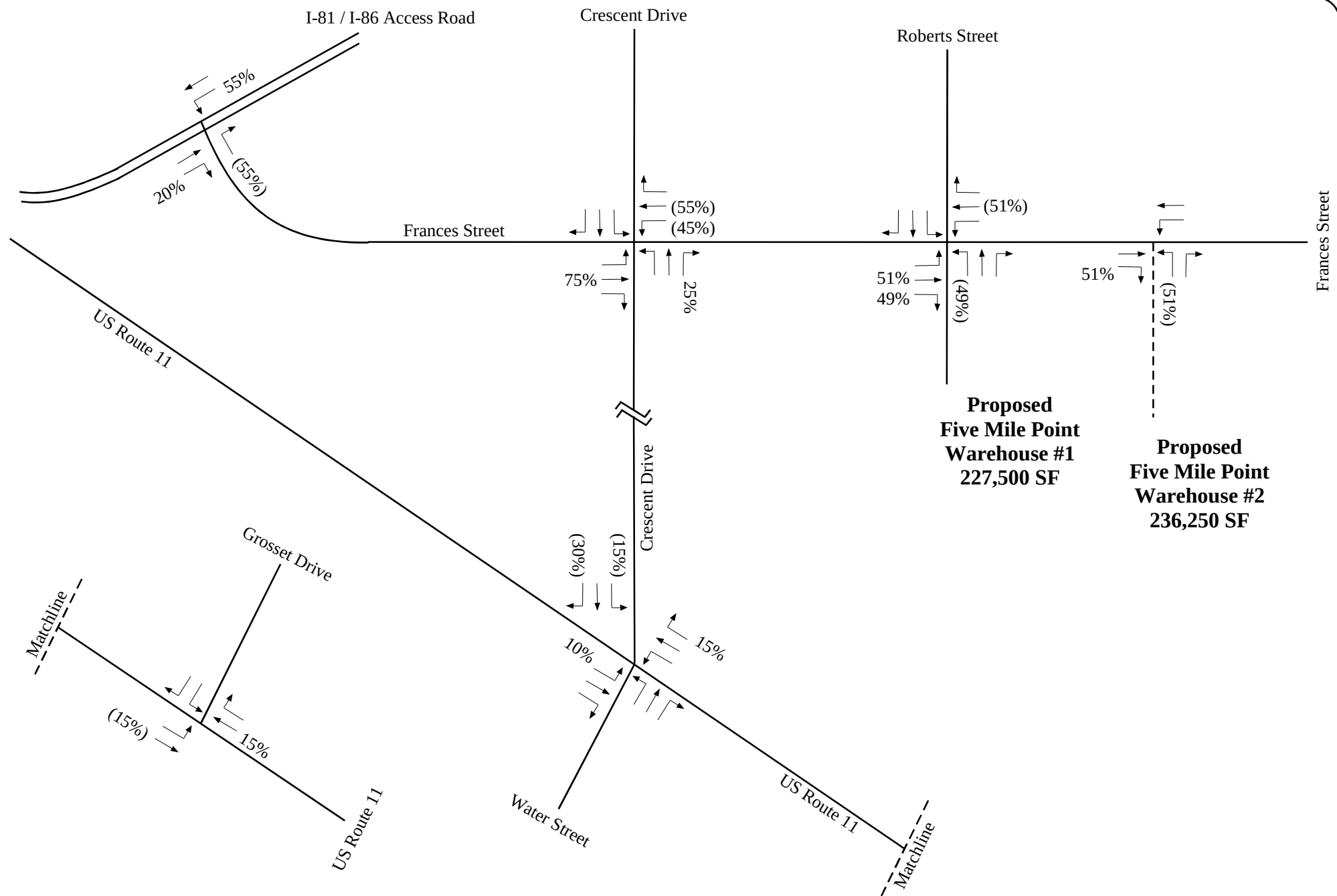
2024 Background Traffic Volumes - With 0.5% Growth per Year (1% Total)

Morning (Evening) Peak Hour

Figure 3

Not to Scale





Proposed Five Mile Point Warehouse Development - Town of Kirkwood, NY

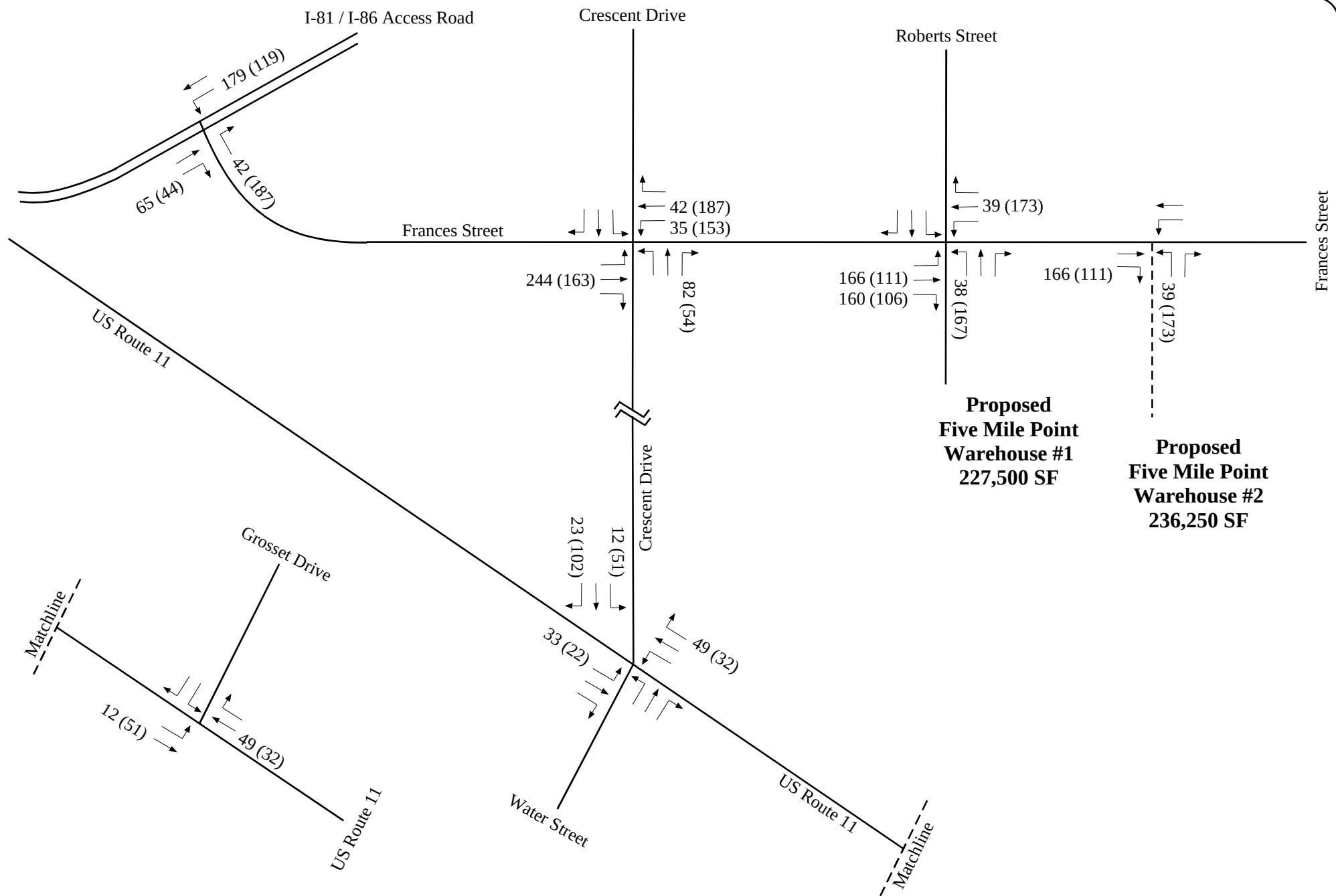
Arrival / Departure Trip Distribution

Entering (Exiting) Trip Percentage

Figure 4

Not to Scale





Proposed Five Mile Point Warehouse Development - Town of Kirkwood, NY

Trips Generated
Morning (Evening) Peak Hour

Figure 5

Not to Scale



Intersection Gap Study

Project: Proposed Five Mile Point Warehouse Development - Frances St @ Roberts St - Town of Kirkwood, NY
 Date: 3/9/2022



Intersection: Frances Street @ I-81 / I-86 Access Road
 Movement: Right Turns Exiting / Left Turns Entering

Time Interval	6-9 sec x 1	10-13 sec x 2	14-17 sec x 3	18-19 sec x 4	20-23 sec x 5	24-25 sec x 6	26-29 sec x 7	>29 sec x 8	Interval Total	Hour Total
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Morning Peak Hour

8:00-8:15am	# of Gaps	0	2	5	1	4	2	0	14		
	# of Vehicles	0	4	15	4	20	12	0	112	167	
8:15-8:30am	# of Gaps	3	1	6	1	3	0	3	14		
	# of Vehicles	3	2	18	4	15	0	21	112	175	
8:30-8:45am	# of Gaps	10	3	2	2	0	1	1	12		
	# of Vehicles	10	6	6	8	0	6	7	96	139	
8:45-9:00am	# of Gaps	4	0	2	0	1	2	2	16		
	# of Vehicles	4	0	6	0	5	12	14	128	169	650

Evening Peak Hour

4:00-4:15pm	# of Gaps	8	7	2	0	3	3	2	8		
	# of Vehicles	8	14	6	0	15	18	14	64	139	
4:15-4:30pm	# of Gaps	14	5	1	3	4	2	3	6		
	# of Vehicles	14	10	3	12	20	12	21	48	140	
4:30-4:45pm	# of Gaps	10	3	7	0	1	2	7	5		
	# of Vehicles	10	6	21	0	5	12	49	40	143	
4:45-5:00pm	# of Gaps	5	6	7	1	3	1	2	7		
	# of Vehicles	5	12	21	4	15	6	14	56	133	555

Intersection Gap Study

Project: Proposed Five Mile Point Warehouse Development - Frances St @ Roberts St - Town of Kirkwood, NY
 Date: 3/9/2022



Intersection: Crescent Drive @ Route 11
 Movement: Right Turns Exiting / Left Turns Entering

Time Interval	6-9 sec x 1	10-13 sec x 2	14-17 sec x 3	18-19 sec x 4	20-23 sec x 5	24-25 sec x 6	26-29 sec x 7	>29 sec x 8	Interval Total	Hour Total
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Morning Peak Hour

8:00-8:15am	# of Gaps	7	7	5	1	3	0	6	7		
	# of Vehicles	7	14	15	4	15	0	42	56	153	
8:15-8:30am	# of Gaps	12	8	2	1	1	1	1	13		
	# of Vehicles	12	16	6	4	5	6	7	104	160	
8:30-8:45am	# of Gaps	6	6	5	2	0	2	6	10		
	# of Vehicles	6	12	15	8	0	12	42	80	175	
8:45-9:00am	# of Gaps	8	8	7	4	3	1	1	6		
	# of Vehicles	8	16	21	16	15	6	7	48	137	625

Evening Peak Hour

4:00-4:15pm	# of Gaps	7	7	4	1	3	1	1	13		
	# of Vehicles	7	14	12	4	15	6	7	104	169	
4:15-4:30pm	# of Gaps	4	6	5	0	2	1	1	16		
	# of Vehicles	4	12	15	0	10	6	7	128	182	
4:30-4:45pm	# of Gaps	2	4	4	1	2	3	1	15		
	# of Vehicles	2	8	12	4	10	18	7	120	181	
4:45-5:00pm	# of Gaps	5	3	4	2	4	1	0	14		
	# of Vehicles	5	6	12	8	20	6	0	112	169	701

Intersection Gap Study

Project: Proposed Five Mile Point Warehouse Development - Frances St @ Roberts St - Town of Kirkwood, NY
 Date: 3/9/2022



Intersection: Crescent Drive @ Route 11
 Movement: Left Turns Exiting

Time Interval	6-9 sec x 1	10-13 sec x 2	14-17 sec x 3	18-19 sec x 4	20-23 sec x 5	24-25 sec x 6	26-29 sec x 7	>29 sec x 8	Interval Total	Hour Total
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Morning Peak Hour

8:00-8:15am	# of Gaps	13	11	7	2	3	2	4	0		
	# of Vehicles	13	22	21	8	15	12	28	0	119	
8:15-8:30am	# of Gaps	18	7	4	1	2	0	1	8		
	# of Vehicles	18	14	12	4	10	0	7	64	129	
8:30-8:45am	# of Gaps	14	14	4	1	2	4	4	2		
	# of Vehicles	14	28	12	4	10	24	28	16	136	
8:45-9:00am	# of Gaps	12	7	6	6	2	1	1	3		
	# of Vehicles	12	14	18	24	10	6	7	24	115	499

Evening Peak Hour

4:00-4:15pm	# of Gaps	13	9	8	0	3	2	1	5		
	# of Vehicles	13	18	24	0	15	12	7	40	129	
4:15-4:30pm	# of Gaps	14	10	8	2	6	2	1	1		
	# of Vehicles	14	20	24	8	30	12	7	8	123	
4:30-4:45pm	# of Gaps	10	9	5	1	3	3	3	5		
	# of Vehicles	10	18	15	4	15	18	21	40	141	
4:45-5:00pm	# of Gaps	15	13	8	4	2	1	0	6		
	# of Vehicles	15	26	24	16	10	6	0	48	145	538

Proposed Five Mile Point Warehouse Development - Frances St @ Roberts St - Town of Kirkwood, NY

Speed Study Measurements - I-81 / I-86 Access Road Passing Frances Street

2/16/2022

Distance Travelled (ft) = 175

50 Speed Measurements per Direction

Speed Limit 55 mph

EB Time Seconds	Calculated Speed	EB Time Seconds	Calculated Speed	WB Time Seconds	Calculated Speed	WB Time Seconds	Calculated Speed
2.66	45	2.32	51	2.47	48	2.33	51
2.6	46	2.32	51	2.46	49	2.33	51
2.6	46	2.32	51	2.45	49	2.33	51
2.57	46	2.32	51	2.45	49	2.31	52
2.51	48	2.31	52	2.45	49	2.31	52
2.51	48	2.29	52	2.44	49	2.31	52
2.5	48	2.29	52	2.44	49	2.31	52
2.49	48	2.29	52	2.43	49	2.3	52
2.49	48	2.28	52	2.43	49	2.3	52
2.44	49	2.27	53	2.43	49	2.3	52
2.44	49	2.25	53	2.42	49	2.3	52
2.42	49	2.25	53	2.42	49	2.29	52
2.41	50	2.23	54	2.41	50	2.29	52
2.41	50	2.22	54	2.41	50	2.29	52
2.41	50	2.21	54	2.38	50	2.28	52
2.41	50	2.21	54	2.38	50	2.24	53
2.39	50	2.2	54	2.38	50	2.24	53
2.39	50	2.2	54	2.38	50	2.24	53
2.38	50	2.18	55	2.37	50	2.24	53
2.37	50	2.18	55	2.37	50	2.21	54
2.36	51	2.17	55	2.37	50	2.21	54
2.34	51	2.16	55	2.37	50	2.21	54
2.32	51	2.16	55	2.36	51	2.14	56
2.32	51	2.15	55	2.36	51	2.14	56
2.32	51	2.14	56	2.34	51	2.12	56

Eastbound

Average Speed =

85th Percentile Speed =

51 mph

54 mph

Westbound

Average Speed =

85th Percentile Speed =

51 mph

53 mph

Proposed Five Mile Point Warehouse Development - Frances St @ Roberts St - Town of Kirkwood, NY

Speed Study Measurements - Route 11 Passing Crescent Drive

3/9/2022

Distance Travelled (ft) = 150

50 Speed Measurements per Direction

Speed Limit 55 mph

NB Time Seconds	Calculated Speed	NB Time Seconds	Calculated Speed	SB Time Seconds	Calculated Speed	SB Time Seconds	Calculated Speed
2.4	43	2.07	49	2.6	39	2.13	48
2.32	44	2.06	50	2.59	39	2.13	48
2.31	44	2.06	50	2.5	41	2.13	48
2.31	44	2.05	50	2.41	42	2.09	49
2.29	45	2.04	50	2.33	44	2.06	50
2.29	45	2.02	51	2.27	45	2.05	50
2.25	45	2.01	51	2.27	45	2.05	50
2.25	45	2	51	2.25	45	2.05	50
2.25	45	2	51	2.25	45	2.03	50
2.23	46	2	51	2.25	45	2.03	50
2.21	46	2	51	2.22	46	2.02	51
2.2	46	1.99	51	2.212	46	2.01	51
2.2	46	1.99	51	2.21	46	2	51
2.18	47	1.99	51	2.2	46	1.98	52
2.18	47	1.99	51	2.2	46	1.98	52
2.18	47	1.98	52	2.2	46	1.97	52
2.15	48	1.97	52	2.2	46	1.97	52
2.15	48	1.95	52	2.19	47	1.97	52
2.15	48	1.94	53	2.17	47	1.97	52
2.13	48	1.93	53	2.16	47	1.95	52
2.13	48	1.91	54	2.16	47	1.95	52
2.12	48	1.9	54	2.16	47	1.94	53
2.1	49	1.89	54	2.156	47	1.93	53
2.09	49	1.89	54	2.15	48	1.91	54
2.09	49	1.87	55	2.15	48	1.87	55

Northbound

Average Speed =

85th Percentile Speed =

49 mph

52 mph

Southbound

Average Speed =

85th Percentile Speed =

48 mph

52 mph

Historical Traffic Growth Calculations

Proposed Five Mile Point Warehouse Developent Frances Street @ Roberts Street, Kirkwood, NY

Historical Traffic Counts Taken from the NYSDOT Traffic Data Viewer Website

Crescent Drive (Route 990E) - Between Route 11 and Frances Street

2019	2015	2006	2000
2,974 veh	3,089 veh	3,823 veh	3,837 veh
-0.9% per year	-2.1% per year	-0.1% per year	
-1.7% per year			
-1.2% per year			

I-81 / I-86 Access Road - Between Route 11 Ramp and I-81 Overpass

2019	2009	2000
7,799 veh	8,493 veh	9,675 veh
-0.8% per year	-1.4% per year	
-1.0% per year		

Route 11 - Between Crescent Drive and Colesville Exit

2019	2009
12,449 veh	13,557 veh
-0.8% per year	

Long term growth is negative

Use +0.5% growth per year for a conservative analysis

**Proposed Five Mile Point Warehouse Development
Frances Street @ Robert Street - Town of Kirkwood, NY
Trip Generation Estimate**

Proposed Development

463,750 SF - Industrial Buildings (#1 - 227,500 SF, #2 - 236,250 SF)

ITE Trip Generation - 11th Edition - Potential Land Uses

Land Use 110 - General Light Industrial

Morning Peak Hour	0.74 Trips/1,000 SF	88% Enter	12% Exit
Evening Peak Hour	0.65 Trips/1,000 SF	14% Enter	86% Exit

Land Use 140 - Manufacturing

Morning Peak Hour	0.68 Trips/1,000 SF	76% Enter	24% Exit
Evening Peak Hour	0.74 Trips/1,000 SF	31% Enter	69% Exit

Land Use 150 - Warehousing

Morning Peak Hour	0.17 Trips/1,000 SF	77% Enter	23% Exit
Evening Peak Hour	0.18 Trips/1,000 SF	28% Enter	72% Exit

Land Use 155 - High Cube Fulfillment Center Warehouse - Sort

Morning Peak Hour	0.87 Trips/1,000 SF	81% Enter	19% Exit
Evening Peak Hour	1.20 Trips/1,000 SF	39% Enter	61% Exit

Land Use 157 - High Cube Cold Storage Warehouse

Morning Peak Hour	0.11 Trips/1,000 SF	77% Enter*	23% Exit*
Evening Peak Hour	0.12 Trips/1,000 SF	28% Enter*	72% Exit*

* - Arrival / Departure Split Not Available, Assume same as Land Use 150

Trip Generation Potential - Industrial Land Uses

	Morning Peak Hour			Evening Peak Hour		
	Total Trips	Entering	Exiting	Total Trips	Entering	Exiting
Land Use 110 - Light Industrial	343	302	41	301	42	259
Land Use 140 - Manufacturing	315	239	76	343	106	237
Land Use 150 - Warehouse	79	61	18	83	23	60
Land Use 155 - Fullfillment Center with Sorting	403	326	77	557	217	340
Land Use 157 - Cold Storage	51	39	12	56	16	40

Use Land Use 155 for most conservative trip generation estimate

Trip Generation Estimate

Development	Morning Peak Hour			Evening Peak Hour		
	Total Trips	Entering	Exiting	Total Trips	Entering	Exiting
463,750 SF Distribution Facility	403	326	77	557	217	340

**Proposed Five Mile Point Warehouse Development - Town of Kirkwood, NY
Accident History Summaries - November 1, 2018 Through October 31, 2021**

Accident #	Date	Location	Type	# Cars	Severity	Direction	Conditions	Contributing Factors
1	12/22/2018	Unknown Location	Backing	2	PDO	SB Backing / SB	Dry	Backing Unsafely
2	1/16/2019	Crescent Midblock	Left Turn	2	PDO	EB Left / NB	Dry	Failure to Yield ROW
3	6/23/2019	Parking Lot	Overtaking	2	PDO	NB / NB Parked	Dry	Turning Improper
4	7/20/2019	Frances Midblock	Backing	2	PDO	SB Backing / NB Backing	Wet	Driver Inattention
5	8/15/2019	Route 11 Midblock	Fixed Object	1	PDO	NB Right / Ditch	Wet	Passing Improper
6	9/6/2019	Crescent Midblock	Right Turn	2	PDO	WB Right / NB	Dry	Failure to Yield ROW
7	10/1/2019	Frances Midblock	Fixed Object	1	PDO	WB / Fixed Object	Dry	Driver Inexperience
8	10/29/2019	Frances @ Roberts	Right Angle	2	INJ	NB / EB	Dry	Failure to Yield ROW
9	11/12/2019	Frances @ Access Road	Right Turn	2	PDO	EB Right / NB Stopped	Icy	Turning Improper
10	12/2/2019	Frances Midblock	Fixed Object	1	INJ	NB / Utility Pole	Icy	Pavement Slippery
11	1/15/2020	Crescent @ Route 11	Rearend	2	PDO	SB / SB Stopped	Dry	Following too Closely
12	3/1/2020	Route 11 Midblock	Fixed Object	1	INJ	WB Left / Utility Pole	Dry	Alcohol Involvement
13	8/11/2020	Frances @ Crescent	Right Angle	2	PDO	NB / EB	Dry	Traffic Control Disregarded
14	10/3/2020	Frances @ Access Road	Left Turn	2	PDO	WB Left / EB	Dry	Driver Inattention
15	10/22/2020	Frances @ Access Road	Left Turn	2	INJ	WB Left / EB	Dry	Failure to Yield ROW
16	10/22/2020	Grossett @ Route 11	Animal	1	PDO	Unknown / Animal	Dry	Animal's Actions
17	6/30/2021	Frances Midblock	Fixed Object	1	PDO	NB / Utility Pole	Wet	Alcohol Involvement
18	7/21/2021	Frances @ Access Road	Left Turn	2	INJ	WB Left / EB	Wet	Failure to Yield ROW

Frances @ Access Road - 4 Accidents
3 - Left Turn Accidents
1 - Right Turn Accident

Frances @ Crescent - 1 Accident
1 - Right Angle Accident

Frances @ Roberts - 1 Accident
1 - Right Angle Accident

1 Accident - Unknown Location

Crescent @ Route 11 - 1 Accident
1 - Rearend Accident

Grossett @ Route 11 - 1 Accident
1 - Animal Accident

1 Accident - Parking Lot

Frances Midblock - 4 Accidents
3 - Fixed Object Accidents
1 - Backing Accident

Crescent Midblock - 2 Accidents
1 - Left Turn Accident
1 - Right Turn Accident

Route 11 Midblock - 2 Accidents
2 - Fixed Object Accidents

Frances Street @ Access Road Intersection - Evening Peak Hour - 765 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 8,500 Vehicles
Frances Street @ Crescent Drive Intersection - Evening Peak Hour - 427 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 4,744 Vehicles
Frances Street @ Roberts Street Intersection - Evening Peak Hour - 115 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 1,278 Vehicles
Crescent Drive @ Route 11 Intersection - Evening Peak Hour - 568 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 6,311 Vehicles
Grossett Drive @ Route 11 Intersection - Evening Peak Hour - 511 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 5,678 Vehicles

Frances Street - Evening Peak Hour - 341 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 3,789 Vehicles
Crescent Drive - NYSDOT Traffic Data Viewer - AADT = 2,974 Vehicles
Route 11 - NYSDOT Traffic Data Viewer - AADT = 12,449 Vehicles

Intersection Accident Rates

$$\frac{\# \text{ Accidents} \times 1,000,000}{\text{AADT} \times \# \text{ Years} \times 365 \text{ Days}}$$

Time Period = 3 years

Frances @ Access Road - 4 Accidents

Accident Rate = 0.43 accidents per million entering vehicles

Statewide average for similar facilities = 0.12 accidents per million entering vehicles (Urban Sign - 3 Legged Intersection - 4 Lanes)

Intersection Accident History is Above the Statewide Average

Frances @ Crescent - 1 Accident

Accident Rate = 0.19 accidents per million entering vehicles

Statewide average for similar facilities = 0.29 accidents per million entering vehicles (Urban Sign - 4 Legged Intersection - 1-4 Lanes)

Intersection Accident History is Below the Statewide Average

Frances @ Roberts - 1 Accident

Accident Rate = 0.71 accidents per million entering vehicles

Statewide average for similar facilities = 0.29 accidents per million entering vehicles (Urban Sign - 4 Legged Intersection - 1-4 Lanes)

Intersection Accident History is Above the Statewide Average

Crescent @ Route 11 - 1 Accident

Accident Rate = 0.14 accidents per million entering vehicles

Statewide average for similar facilities = 0.19 accidents per million entering vehicles (Urban Sign - 4 Legged Intersection - 1-4 Lanes)

Intersection Accident History is Below the Statewide Average

Grossett @ Route 11 - 1 Accident

Accident Rate = 0.16 accidents per million entering vehicles

Statewide average for similar facilities = 0.18 accidents per million entering vehicles (Urban Sign - 3 Legged Intersection - 1-3 Lanes)

Intersection Accident History is Below the Statewide Average

Link Accident Rates

$$\frac{\# \text{ Accidents} \times 1,000,000}{\text{Link Length} \times \text{AADT} \times \# \text{ Years} \times 365 \text{ Days}}$$

Time Period = 3 years

Frances Link Length = 0.43 Miles

Crescent Link Length = 0.24 Miles

Route 11 Link Length = 0.42 Miles

Frances Midblock - 4 Accidents

Accident Rate = 2.24 accidents per million vehicle miles

Statewide average for similar facilities = 2.23 accidents per million vehicle miles (Urban - Free Access - 2 Lanes - Undivided - Mainline Only Accidents)

Intersection Accident History is Above the Statewide Average

Crescent Midblock - 2 Accidents

Accident Rate = 2.56 accidents per million vehicle miles

Statewide average for similar facilities = 2.23 accidents per million vehicle miles (Urban - Free Access - 2 Lanes - Undivided - Mainline Only Accidents)

Intersection Accident History is Above the Statewide Average

Route 11 Midblock - 2 Accidents

Accident Rate = 0.35 accidents per million vehicle miles

Statewide average for similar facilities = 2.23 accidents per million vehicle miles (Urban - Free Access - 2 Lanes - Undivided - Mainline Only Accidents)

Intersection Accident History is Below the Statewide Average

File Name : Frances @ I81 & I86 Access Road

Site Code : 00000001

Start Date : 3/9/2022

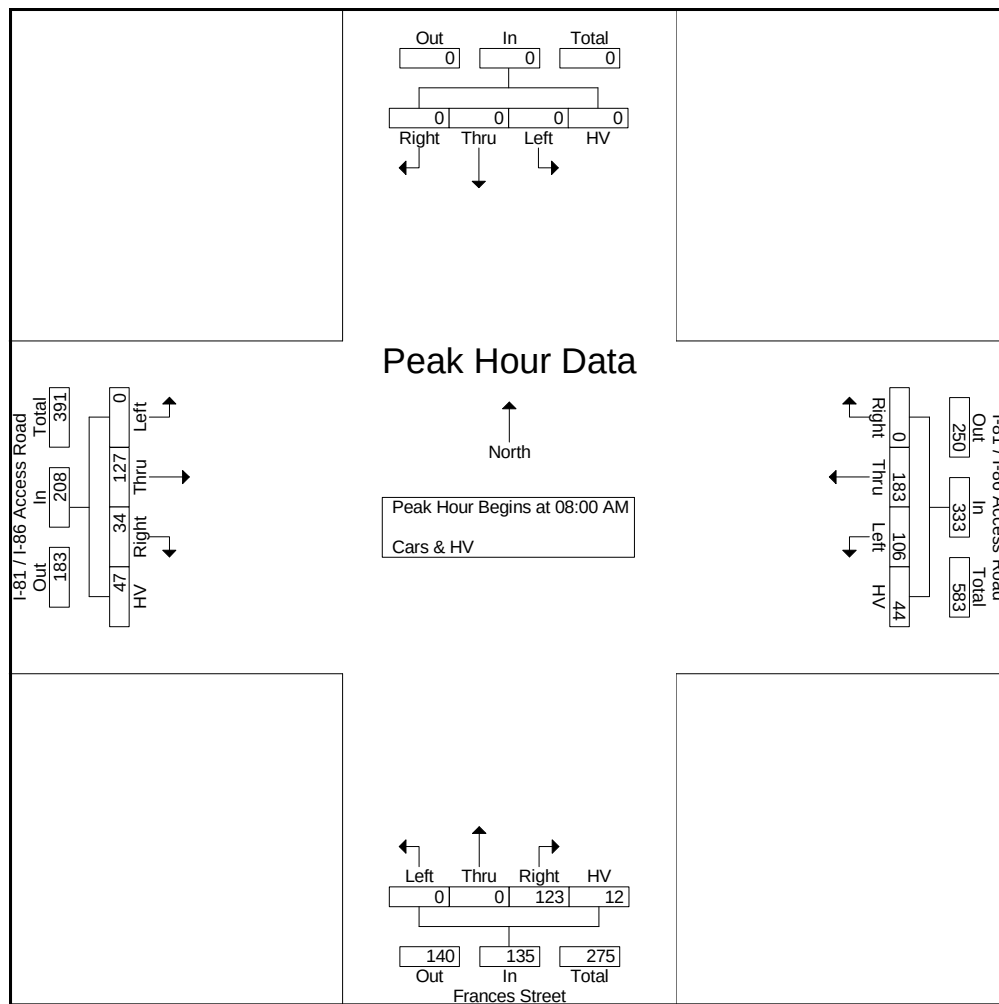
Page No : 1

Groups Printed- Cars & HV

	Southbound				I-81 / I-86 Access Road Westbound				Frances Street Northbound				I-81 / I-86 Access Road Eastbound				
Start Time	Right	Thru	Left	HV	Right	Thru	Left	HV	Right	Thru	Left	HV	Right	Thru	Left	HV	Int. Total
07:00 AM	0	0	0	0	0	42	13	8	25	0	0	2	7	35	0	11	143
07:15 AM	0	0	0	0	0	58	14	11	32	0	1	1	4	32	0	7	160
07:30 AM	0	0	0	0	0	55	17	8	37	0	1	1	5	35	0	17	176
07:45 AM	0	0	0	0	0	44	28	8	27	0	0	1	5	17	0	12	142
Total	0	0	0	0	0	199	72	35	121	0	2	5	21	119	0	47	621
08:00 AM	0	0	0	0	0	47	32	9	35	0	0	4	8	29	0	10	174
08:15 AM	0	0	0	0	0	39	23	11	24	0	0	1	14	31	0	12	155
08:30 AM	0	0	0	0	0	49	23	8	34	0	0	6	6	35	0	16	177
08:45 AM	0	0	0	0	0	48	28	16	30	0	0	1	6	32	0	9	170
Total	0	0	0	0	0	183	106	44	123	0	0	12	34	127	0	47	676
04:00 PM	0	0	0	0	0	23	25	7	18	0	0	0	18	56	0	11	158
04:15 PM	0	0	0	0	0	21	21	5	13	0	0	0	23	62	0	17	162
04:30 PM	0	0	0	0	0	19	22	8	29	0	0	1	21	64	0	10	174
04:45 PM	0	0	0	0	0	24	20	9	18	0	0	0	16	57	0	16	160
Total	0	0	0	0	0	87	88	29	78	0	0	1	78	239	0	54	654
05:00 PM	0	0	0	0	0	19	21	12	26	0	0	1	13	51	0	12	155
05:15 PM	0	0	0	0	0	22	22	11	25	0	0	0	16	51	0	11	158
05:30 PM	0	0	0	0	0	21	15	14	23	0	0	2	15	41	0	10	141
05:45 PM	0	0	0	0	0	12	19	5	13	0	0	0	13	28	0	9	99
Total	0	0	0	0	0	74	77	42	87	0	0	3	57	171	0	42	553
Grand Total	0	0	0	0	0	543	343	150	409	0	2	21	190	656	0	190	2504
Apprch %	0	0	0	0	0	52.4	33.1	14.5	94.7	0	0.5	4.9	18.3	63.3	0	18.3	
Total %	0	0	0	0	0	21.7	13.7	6	16.3	0	0.1	0.8	7.6	26.2	0	7.6	

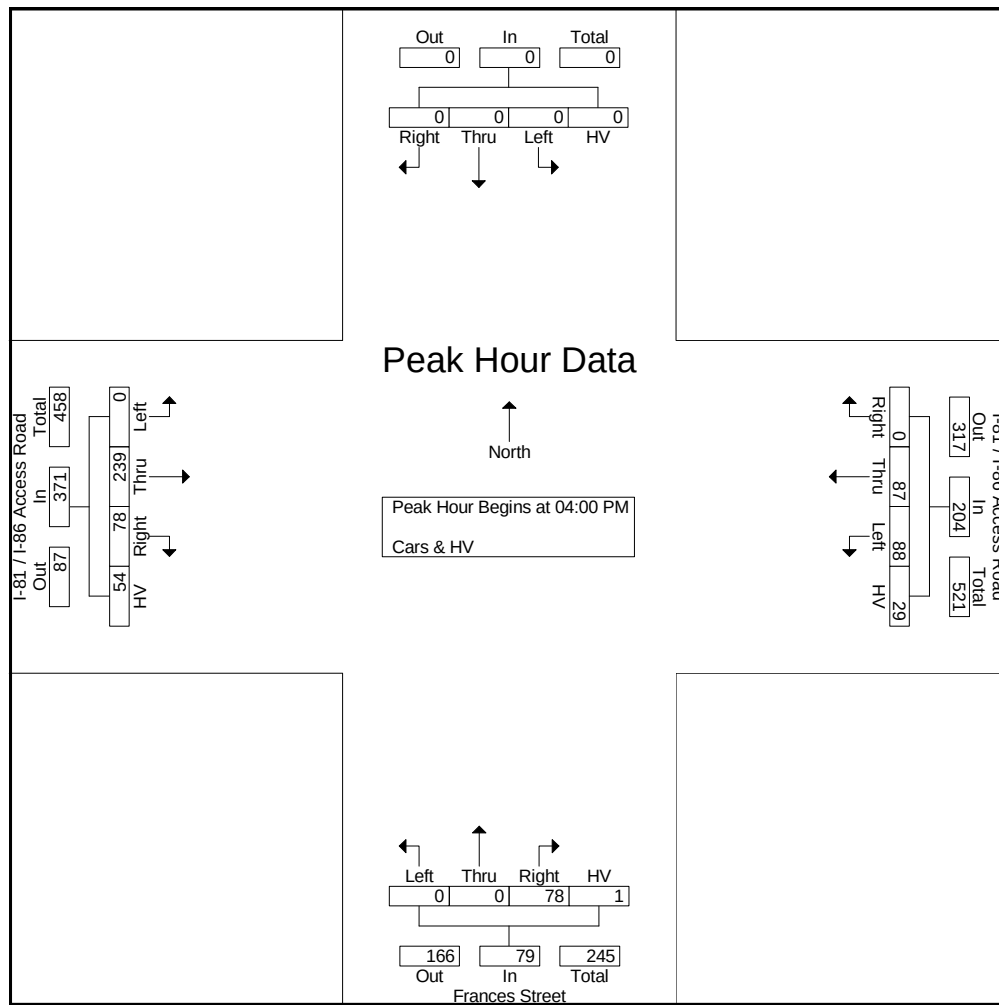
File Name : Frances @ I81 & I86 Access Road
 Site Code : 00000001
 Start Date : 3/9/2022
 Page No : 2

	Southbound					I-81 / I-86 Access Road Westbound					Frances Street Northbound					I-81 / I-86 Access Road Eastbound					
Start Time	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	47	32	9	88	35	0	0	4	39	8	29	0	10	47	174
08:15 AM	0	0	0	0	0	0	39	23	11	73	24	0	0	1	25	14	31	0	12	57	155
08:30 AM	0	0	0	0	0	0	49	23	8	80	34	0	0	6	40	6	35	0	16	57	177
08:45 AM	0	0	0	0	0	0	48	28	16	92	30	0	0	1	31	6	32	0	9	47	170
Total Volume	0	0	0	0	0	0	183	106	44	333	123	0	0	12	135	34	127	0	47	208	676
% App. Total	0	0	0	0	0	0	55	31.8	13.2	91.1	0	0	8.9	16.3	61.1	0	22.6	0	22.6	912	.955
PHF	.000	.000	.000	.000	.000	.000	.934	.828	.688	.905	.879	.000	.000	.500	.844	.607	.907	.000	.734	.912	.955



File Name : Frances @ I81 & I86 Access Road
 Site Code : 00000001
 Start Date : 3/9/2022
 Page No : 3

	Southbound					I-81 / I-86 Access Road Westbound					Frances Street Northbound					I-81 / I-86 Access Road Eastbound					
Start Time	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	23	25	7	55	18	0	0	0	18	18	56	0	11	85	158
04:15 PM	0	0	0	0	0	0	21	21	5	47	13	0	0	0	13	23	62	0	17	102	162
04:30 PM	0	0	0	0	0	0	19	22	8	49	29	0	0	1	30	21	64	0	10	95	174
04:45 PM	0	0	0	0	0	0	24	20	9	53	18	0	0	0	18	16	57	0	16	89	160
Total Volume	0	0	0	0	0	0	87	88	29	204	78	0	0	1	79	78	239	0	54	371	654
% App. Total	0	0	0	0	0	0	42.6	43.1	14.2		98.7	0	0	1.3		21	64.4	0	14.6		
PHF	.000	.000	.000	.000	.000	.000	.906	.880	.806	.927	.672	.000	.000	.250	.658	.848	.934	.000	.794	.909	.940



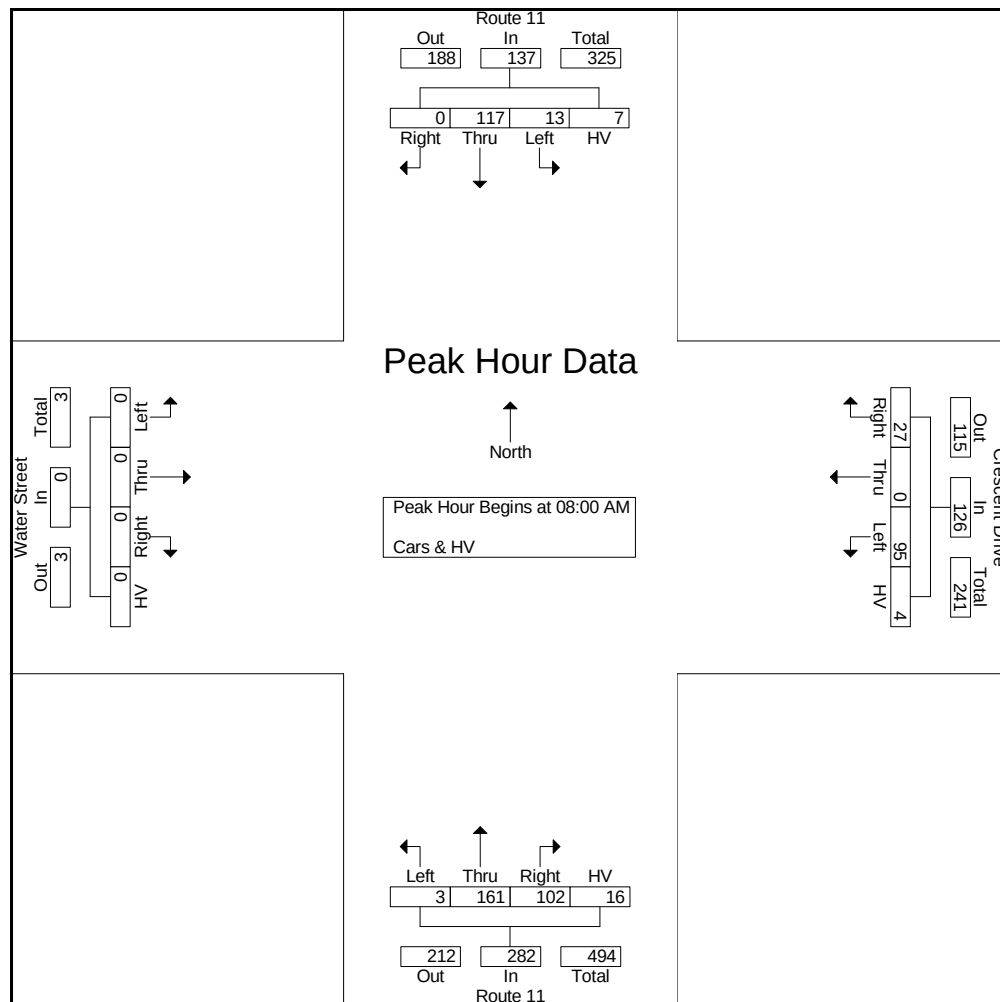
File Name : Crescent @ Route 11
 Site Code : 00000004
 Start Date : 3/9/2022
 Page No : 1

Groups Printed- Cars & HV

	Route 11 Southbound				Crescent Drive Westbound				Route 11 Northbound				Water Street Eastbound				Int. Total
Start Time	Right	Thru	Left	HV	Right	Thru	Left	HV	Right	Thru	Left	HV	Right	Thru	Left	HV	
07:00 AM	1	22	2	2	5	0	14	0	21	37	1	3	0	0	0	0	108
07:15 AM	0	20	1	6	13	0	15	3	17	43	1	2	0	0	0	0	121
07:30 AM	0	24	1	7	5	0	12	3	29	48	0	4	0	0	0	0	133
07:45 AM	0	22	0	2	9	0	26	0	22	37	0	2	0	0	0	0	120
Total	1	88	4	17	32	0	67	6	89	165	2	11	0	0	0	0	482
08:00 AM	0	30	3	2	7	0	25	0	23	36	0	6	0	0	0	0	132
08:15 AM	0	27	1	1	6	0	22	1	15	34	0	4	0	0	0	0	111
08:30 AM	0	35	4	2	6	0	20	0	30	31	0	4	0	0	0	0	132
08:45 AM	0	25	5	2	8	0	28	3	34	60	3	2	0	0	0	0	170
Total	0	117	13	7	27	0	95	4	102	161	3	16	0	0	0	0	545
04:00 PM	0	48	2	2	10	0	25	4	10	30	1	0	1	0	0	0	133
04:15 PM	0	44	4	1	7	0	12	1	9	23	0	4	0	0	0	0	105
04:30 PM	0	38	4	2	10	1	17	0	17	23	0	1	0	0	0	0	113
04:45 PM	1	44	2	2	7	1	17	1	14	15	0	1	0	0	1	0	106
Total	1	174	12	7	34	2	71	6	50	91	1	6	1	0	1	0	457
05:00 PM	0	26	3	1	5	0	14	2	15	36	1	1	0	0	2	0	106
05:15 PM	0	39	2	1	10	0	18	1	15	25	1	2	0	0	0	0	114
05:30 PM	0	33	3	0	6	0	18	2	19	27	0	3	1	0	0	1	113
05:45 PM	0	21	2	2	3	0	12	0	11	18	0	2	0	0	0	0	71
Total	0	119	10	4	24	0	62	5	60	106	2	8	1	0	2	1	404
Grand Total	2	498	39	35	117	2	295	21	301	523	8	41	2	0	3	1	1888
Apprch %	0.3	86.8	6.8	6.1	26.9	0.5	67.8	4.8	34.5	59.9	0.9	4.7	33.3	0	50	16.7	
Total %	0.1	26.4	2.1	1.9	6.2	0.1	15.6	1.1	15.9	27.7	0.4	2.2	0.1	0	0.2	0.1	

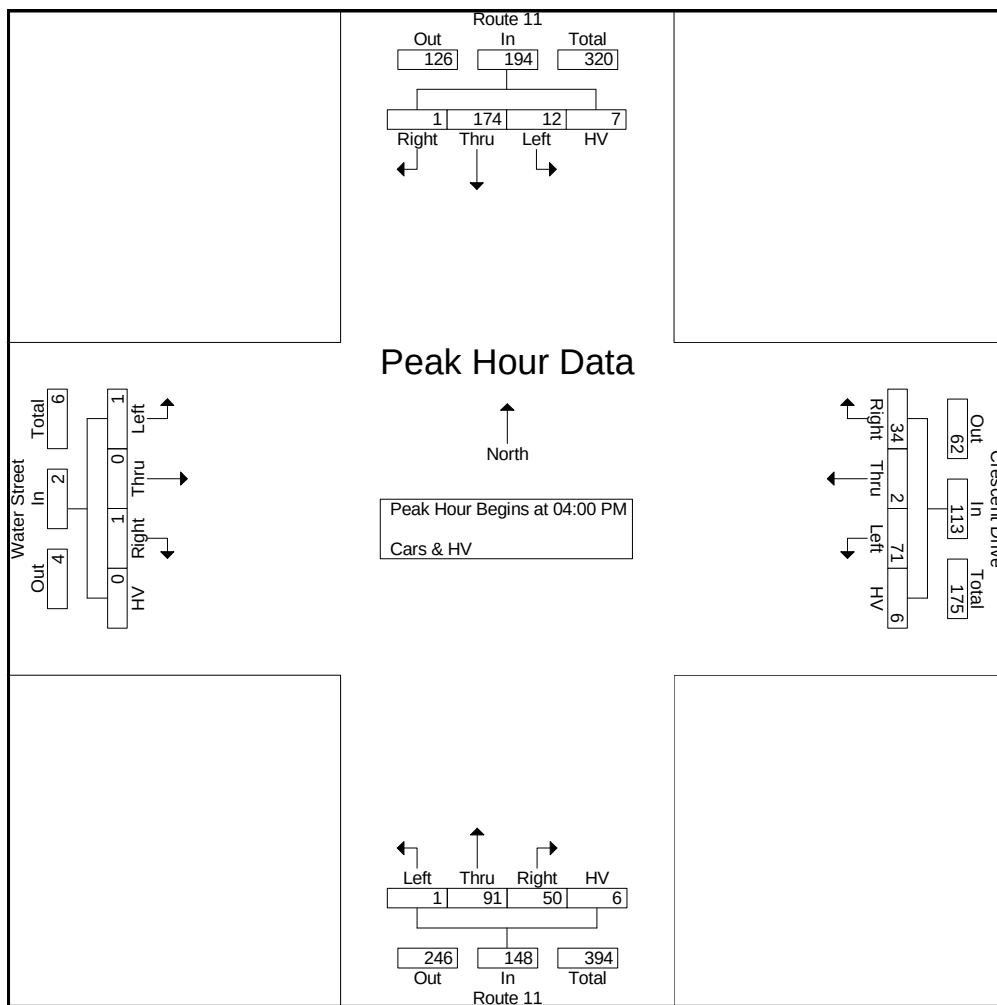
File Name : Crescent @ Route 11
 Site Code : 00000004
 Start Date : 3/9/2022
 Page No : 2

	Route 11 Southbound					Crescent Drive Westbound					Route 11 Northbound					Water Street Eastbound					
Start Time	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	30	3	2	35	7	0	25	0	32	23	36	0	6	65	0	0	0	0	0	132
08:15 AM	0	27	1	1	29	6	0	22	1	29	15	34	0	4	53	0	0	0	0	0	111
08:30 AM	0	35	4	2	41	6	0	20	0	26	30	31	0	4	65	0	0	0	0	0	132
08:45 AM	0	25	5	2	32	8	0	28	3	39	34	60	3	2	99	0	0	0	0	0	170
Total Volume	0	117	13	7	137	27	0	95	4	126	102	161	3	16	282	0	0	0	0	0	545
% App. Total	0	85.4	9.5	5.1		21.4	0	75.4	3.2		36.2	57.1	1.1	5.7		0	0	0	0		
PHF	.000	.836	.650	.875	.835	.844	.000	.848	.333	.808	.750	.671	.250	.667	.712	.000	.000	.000	.000	.000	.801



File Name : Crescent @ Route 11
 Site Code : 00000004
 Start Date : 3/9/2022
 Page No : 3

	Route 11 Southbound					Crescent Drive Westbound					Route 11 Northbound					Water Street Eastbound					
Start Time	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	48	2	2	52	10	0	25	4	39	10	30	1	0	41	1	0	0	0	1	133
04:15 PM	0	44	4	1	49	7	0	12	1	20	9	23	0	4	36	0	0	0	0	0	105
04:30 PM	0	38	4	2	44	10	1	17	0	28	17	23	0	1	41	0	0	0	0	0	113
04:45 PM	1	44	2	2	49	7	1	17	1	26	14	15	0	1	30	0	0	1	0	1	106
Total Volume	1	174	12	7	194	34	2	71	6	113	50	91	1	6	148	1	0	1	0	2	457
% App. Total	0.5	89.7	6.2	3.6		30.1	1.8	62.8	5.3		33.8	61.5	0.7	4.1		50	0	50	0		
PHF	.250	.906	.750	.875	.933	.850	.500	.710	.375	.724	.735	.758	.250	.375	.902	.250	.000	.250	.000	.500	.859



Page No : 1

Groups Printed- Peds

	Route 11 Southbound				Crescent Drive Westbound				Route 11 Northbound				Water Street Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total

[illegible]

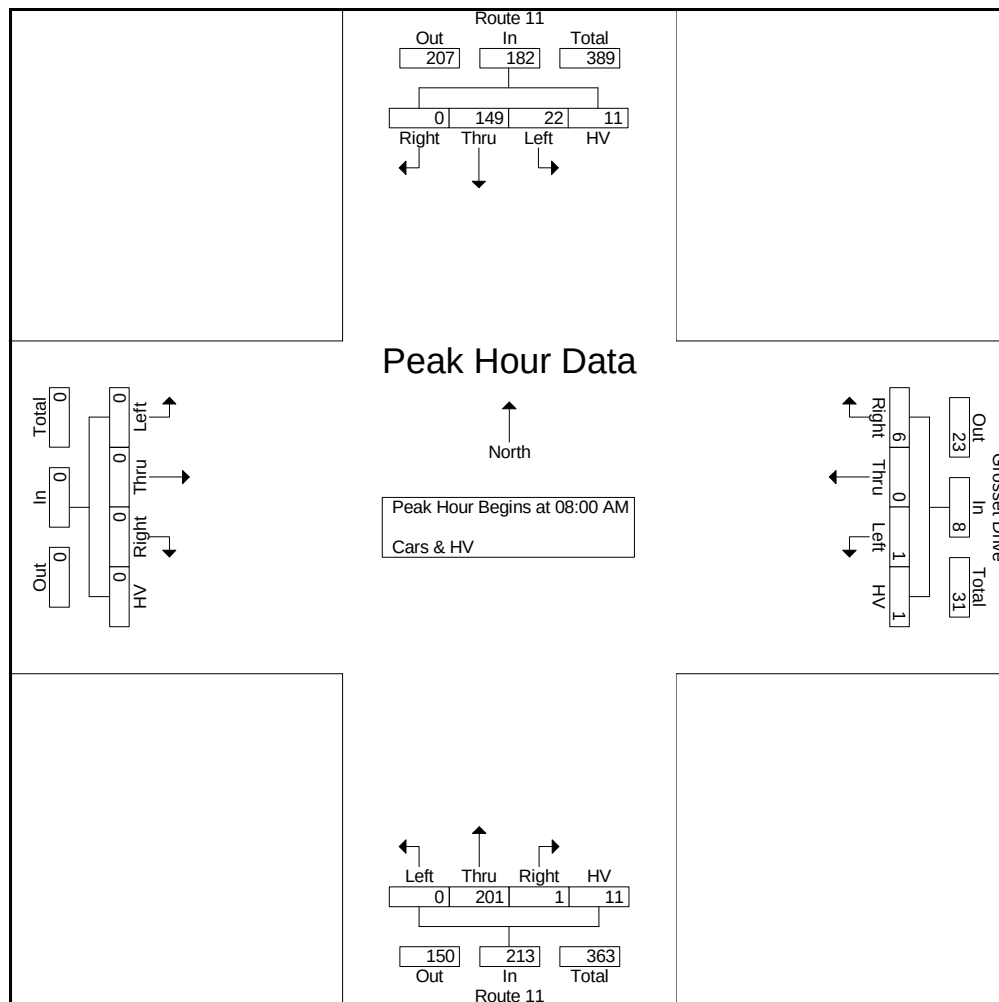
File Name : Grosset @ Route 11
 Site Code : 00000005
 Start Date : 3/9/2022
 Page No : 1

Groups Printed- Cars & HV

	Route 11 Southbound				Grosset Drive Westbound				Route 11 Northbound				Eastbound				Int. Total
Start Time	Right	Thru	Left	HV	Right	Thru	Left	HV	Right	Thru	Left	HV	Right	Thru	Left	HV	
07:00 AM	0	22	4	0	2	0	0	1	0	49	0	3	0	0	0	0	81
07:15 AM	0	19	5	7	0	0	1	1	0	33	0	1	0	0	0	0	67
07:30 AM	0	25	4	5	1	0	0	0	2	59	0	3	0	0	0	0	99
07:45 AM	0	22	5	0	3	0	1	2	1	47	0	4	0	0	0	0	85
Total	0	88	18	12	6	0	2	4	3	188	0	11	0	0	0	0	332
08:00 AM	0	39	5	5	1	0	0	1	0	43	0	2	0	0	0	0	96
08:15 AM	0	36	3	0	2	0	0	0	0	35	0	4	0	0	0	0	80
08:30 AM	0	40	4	2	2	0	0	0	0	50	0	2	0	0	0	0	100
08:45 AM	0	34	10	4	1	0	1	0	1	73	0	3	0	0	0	0	127
Total	0	149	22	11	6	0	1	1	1	201	0	11	0	0	0	0	403
04:00 PM	0	61	3	4	3	0	3	2	0	19	0	1	0	0	0	0	96
04:15 PM	0	45	1	1	2	0	0	0	0	28	0	4	0	0	0	0	81
04:30 PM	0	44	2	3	4	0	1	2	1	23	0	2	0	0	0	0	82
04:45 PM	0	48	6	4	2	0	0	0	1	22	0	1	0	0	0	0	84
Total	0	198	12	12	11	0	4	4	2	92	0	8	0	0	0	0	343
05:00 PM	0	27	1	2	8	0	0	1	0	21	0	2	0	0	0	0	62
05:15 PM	0	41	2	1	5	0	1	0	0	21	0	0	0	0	0	0	71
05:30 PM	0	37	1	1	10	0	1	1	0	25	0	2	0	0	0	0	78
Grand Total	0	540	56	39	46	0	9	11	6	548	0	34	0	0	0	0	1289
Apprch %	0	85	8.8	6.1	69.7	0	13.6	16.7	1	93.2	0	5.8	0	0	0	0	
Total %	0	41.9	4.3	3	3.6	0	0.7	0.9	0.5	42.5	0	2.6	0	0	0	0	

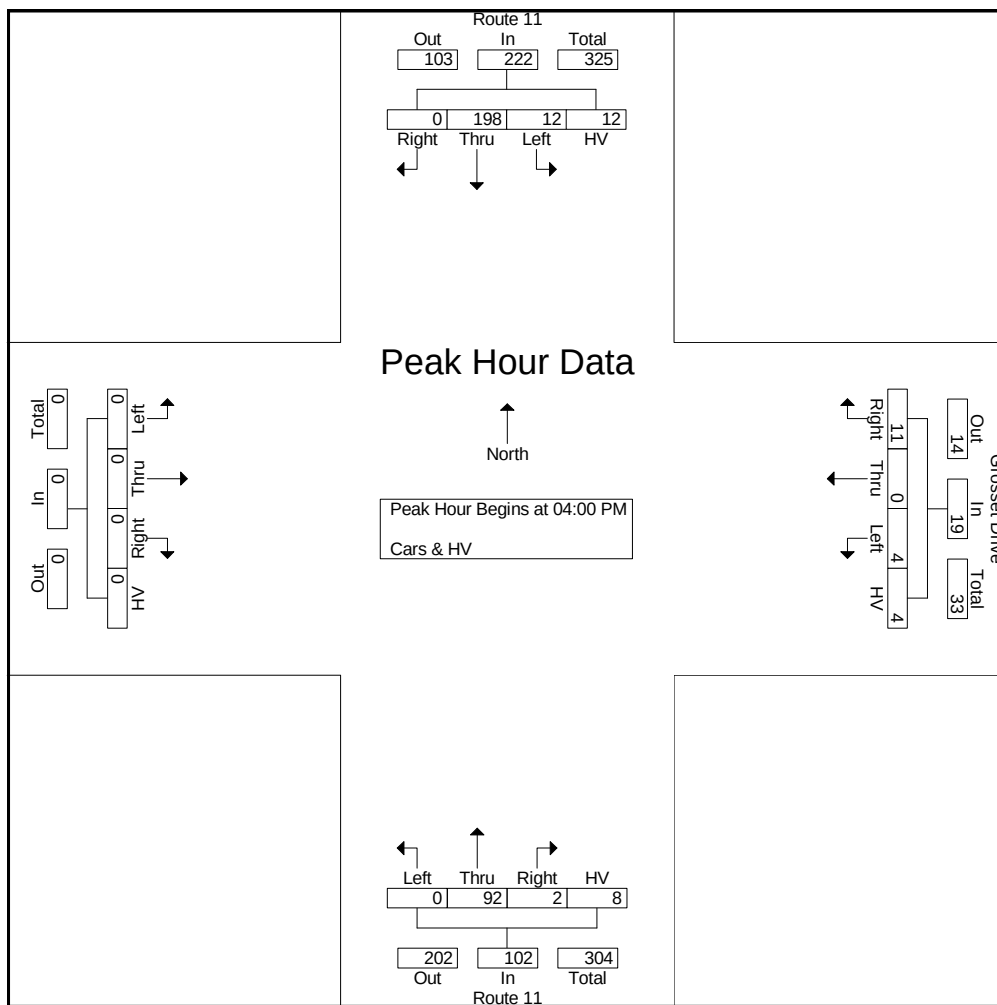
File Name : Grosset @ Route 11
 Site Code : 00000005
 Start Date : 3/9/2022
 Page No : 2

	Route 11 Southbound					Grosset Drive Westbound					Route 11 Northbound					Eastbound					
Start Time	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	39	5	5	49	1	0	0	1	2	0	43	0	2	45	0	0	0	0	0	96
08:15 AM	0	36	3	0	39	2	0	0	0	2	0	35	0	4	39	0	0	0	0	0	80
08:30 AM	0	40	4	2	46	2	0	0	0	2	0	50	0	2	52	0	0	0	0	0	100
08:45 AM	0	34	10	4	48	1	0	1	0	2	1	73	0	3	77	0	0	0	0	0	127
Total Volume	0	149	22	11	182	6	0	1	1	8	1	201	0	11	213	0	0	0	0	0	403
% App. Total	0	81.9	12.1	6		75	0	12.5	12.5		0.5	94.4	0	5.2		0	0	0	0		
PHF	.000	.931	.550	.550	.929	.750	.000	.250	.250	1.00	.250	.688	.000	.688	.692	.000	.000	.000	.000	.000	.793



File Name : Grosset @ Route 11
 Site Code : 00000005
 Start Date : 3/9/2022
 Page No : 3

	Route 11 Southbound					Grosset Drive Westbound					Route 11 Northbound					Eastbound					
Start Time	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	61	3	4	68	3	0	3	2	8	0	19	0	1	20	0	0	0	0	0	96
04:15 PM	0	45	1	1	47	2	0	0	0	2	0	28	0	4	32	0	0	0	0	0	81
04:30 PM	0	44	2	3	49	4	0	1	2	7	1	23	0	2	26	0	0	0	0	0	82
04:45 PM	0	48	6	4	58	2	0	0	0	2	1	22	0	1	24	0	0	0	0	0	84
Total Volume	0	198	12	12	222	11	0	4	4	19	2	92	0	8	102	0	0	0	0	0	343
% App. Total	0	89.2	5.4	5.4		57.9	0	21.1	21.1		2	90.2	0	7.8		0	0	0	0		
PHF	.000	.811	.500	.750	.816	.688	.000	.333	.500	.594	.500	.821	.000	.500	.797	.000	.000	.000	.000	.000	.893



File Name : Grosset @ Route 11
Site Code : 00000005
Start Date : 3/9/2022
Page No : 1

Groups Printed- Peds

[illegible]

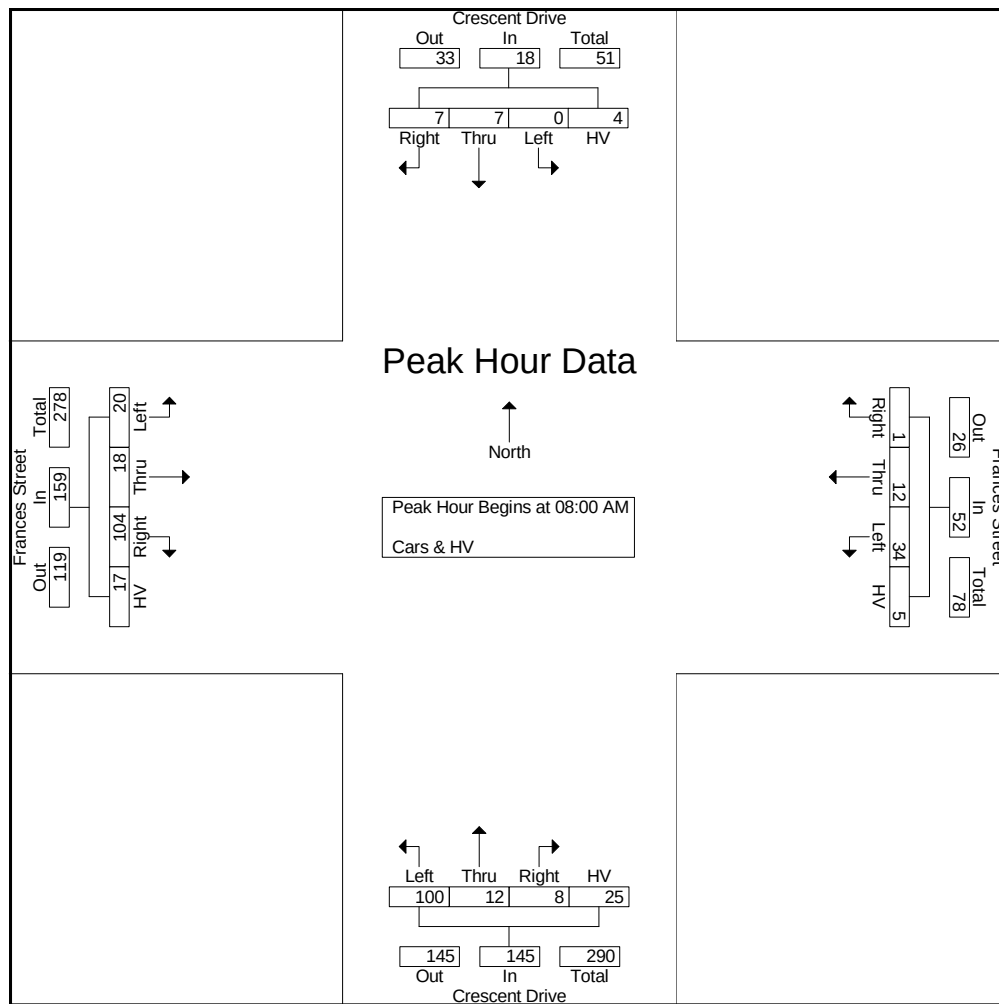
File Name : Frances @ Crescent
 Site Code : 00000002
 Start Date : 3/9/2022
 Page No : 1

Groups Printed- Cars & HV

	Crescent Drive Southbound				Frances Street Westbound				Crescent Drive Northbound				Frances Street Eastbound				
Start Time	Right	Thru	Left	HV	Right	Thru	Left	HV	Right	Thru	Left	HV	Right	Thru	Left	HV	Int. Total
07:00 AM	3	4	0	1	1	7	3	1	0	2	22	4	11	5	5	1	70
07:15 AM	2	3	0	2	1	7	9	0	2	0	8	5	12	4	2	2	59
07:30 AM	4	3	0	0	0	12	3	0	0	2	30	2	15	3	3	4	81
07:45 AM	0	4	1	1	2	10	3	0	5	1	18	1	27	2	3	3	81
Total	9	14	1	4	4	36	18	1	7	5	78	12	65	14	13	10	291
08:00 AM	1	2	0	2	0	6	7	3	1	3	28	6	37	4	4	4	108
08:15 AM	1	2	0	0	1	3	9	0	3	1	17	1	24	7	5	5	79
08:30 AM	4	2	0	1	0	1	9	1	2	2	26	5	17	4	6	0	80
08:45 AM	1	1	0	1	0	2	9	1	2	6	29	13	26	3	5	8	107
Total	7	7	0	4	1	12	34	5	8	12	100	25	104	18	20	17	374
04:00 PM	0	9	2	0	0	2	9	1	3	1	20	0	22	11	3	3	86
04:15 PM	0	5	0	1	1	0	7	0	1	0	27	1	38	7	6	4	98
04:30 PM	1	2	0	2	0	3	6	0	6	1	23	1	21	11	3	1	81
04:45 PM	3	1	0	0	0	1	10	0	5	2	18	1	21	7	3	0	72
Total	4	17	2	3	1	6	32	1	15	4	88	3	102	36	15	8	337
05:00 PM	1	5	0	1	0	2	4	0	3	0	22	1	23	10	4	1	77
05:15 PM	1	2	0	1	1	1	4	0	4	1	19	4	30	9	1	1	79
05:30 PM	1	1	1	1	1	1	3	1	1	2	11	0	17	10	3	1	55
Grand Total	23	46	4	14	8	58	95	8	38	24	318	45	341	97	56	38	1213
Apprch %	26.4	52.9	4.6	16.1	4.7	34.3	56.2	4.7	8.9	5.6	74.8	10.6	64.1	18.2	10.5	7.1	
Total %	1.9	3.8	0.3	1.2	0.7	4.8	7.8	0.7	3.1	2	26.2	3.7	28.1	8	4.6	3.1	

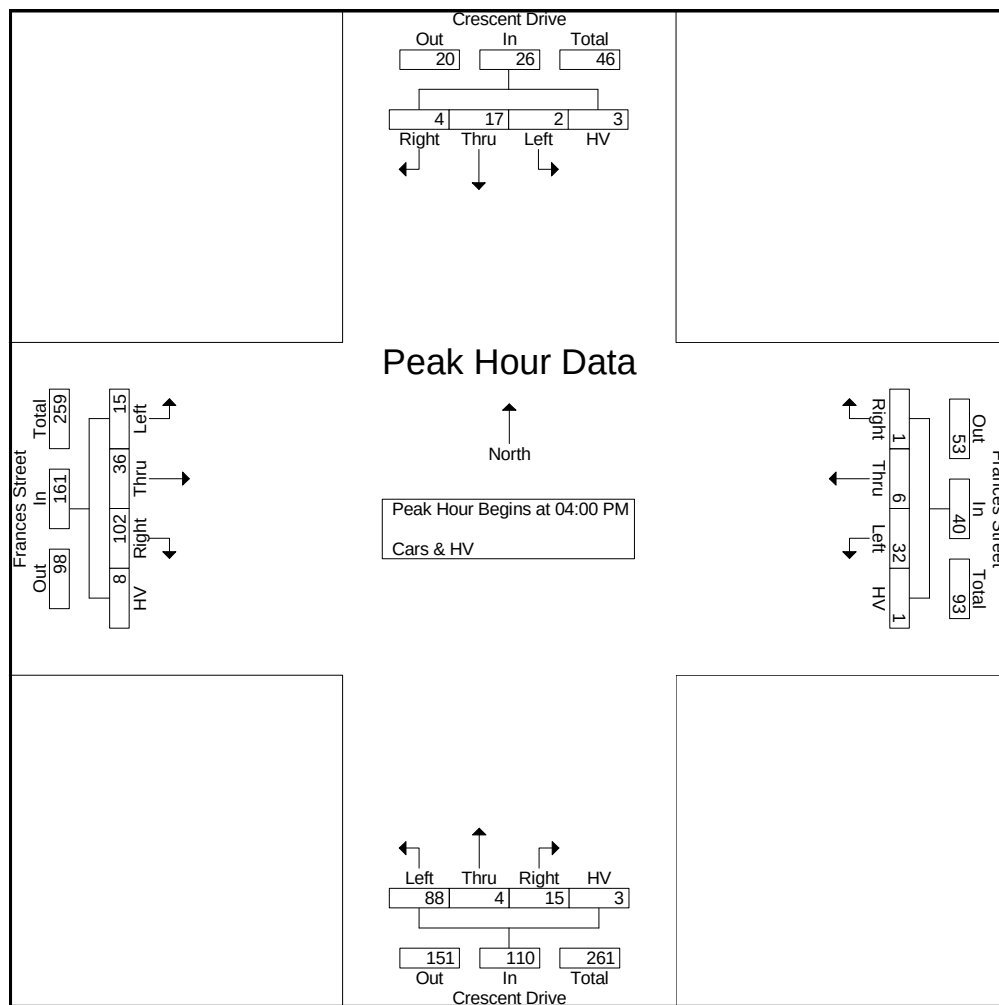
File Name : Frances @ Crescent
 Site Code : 00000002
 Start Date : 3/9/2022
 Page No : 2

	Crescent Drive Southbound					Frances Street Westbound					Crescent Drive Northbound					Frances Street Eastbound					
Start Time	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	1	2	0	2	5	0	6	7	3	16	1	3	28	6	38	37	4	4	4	49	108
08:15 AM	1	2	0	0	3	1	3	9	0	13	3	1	17	1	22	24	7	5	5	41	79
08:30 AM	4	2	0	1	7	0	1	9	1	11	2	2	26	5	35	17	4	6	0	27	80
08:45 AM	1	1	0	1	3	0	2	9	1	12	2	6	29	13	50	26	3	5	8	42	107
Total Volume	7	7	0	4	18	1	12	34	5	52	8	12	100	25	145	104	18	20	17	159	374
% App. Total	38.9	38.9	0	22.2		1.9	23.1	65.4	9.6		5.5	8.3	69	17.2		65.4	11.3	12.6	10.7		
PHF	.438	.875	.000	.500	.643	.250	.500	.944	.417	.813	.667	.500	.862	.481	.725	.703	.643	.833	.531	.811	.866



File Name : Frances @ Crescent
 Site Code : 00000002
 Start Date : 3/9/2022
 Page No : 3

	Crescent Drive Southbound					Frances Street Westbound					Crescent Drive Northbound					Frances Street Eastbound					
Start Time	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	9	2	0	11	0	2	9	1	12	3	1	20	0	24	22	11	3	3	39	86
04:15 PM	0	5	0	1	6	1	0	7	0	8	1	0	27	1	29	38	7	6	4	55	98
04:30 PM	1	2	0	2	5	0	3	6	0	9	6	1	23	1	31	21	11	3	1	36	81
04:45 PM	3	1	0	0	4	0	1	10	0	11	5	2	18	1	26	21	7	3	0	31	72
Total Volume	4	17	2	3	26	1	6	32	1	40	15	4	88	3	110	102	36	15	8	161	337
% App. Total	15.4	65.4	7.7	11.5		2.5	15	80	2.5		13.6	3.6	80	2.7		63.4	22.4	9.3	5		
PHF	.333	.472	.250	.375	.591	.250	.500	.800	.250	.833	.625	.500	.815	.750	.887	.671	.818	.625	.500	.732	.860



File Name : Frances @ Crescent
Site Code : 00000002
Start Date : 3/9/2022
Page No : 1

Groups Printed- Peds

[illegible]

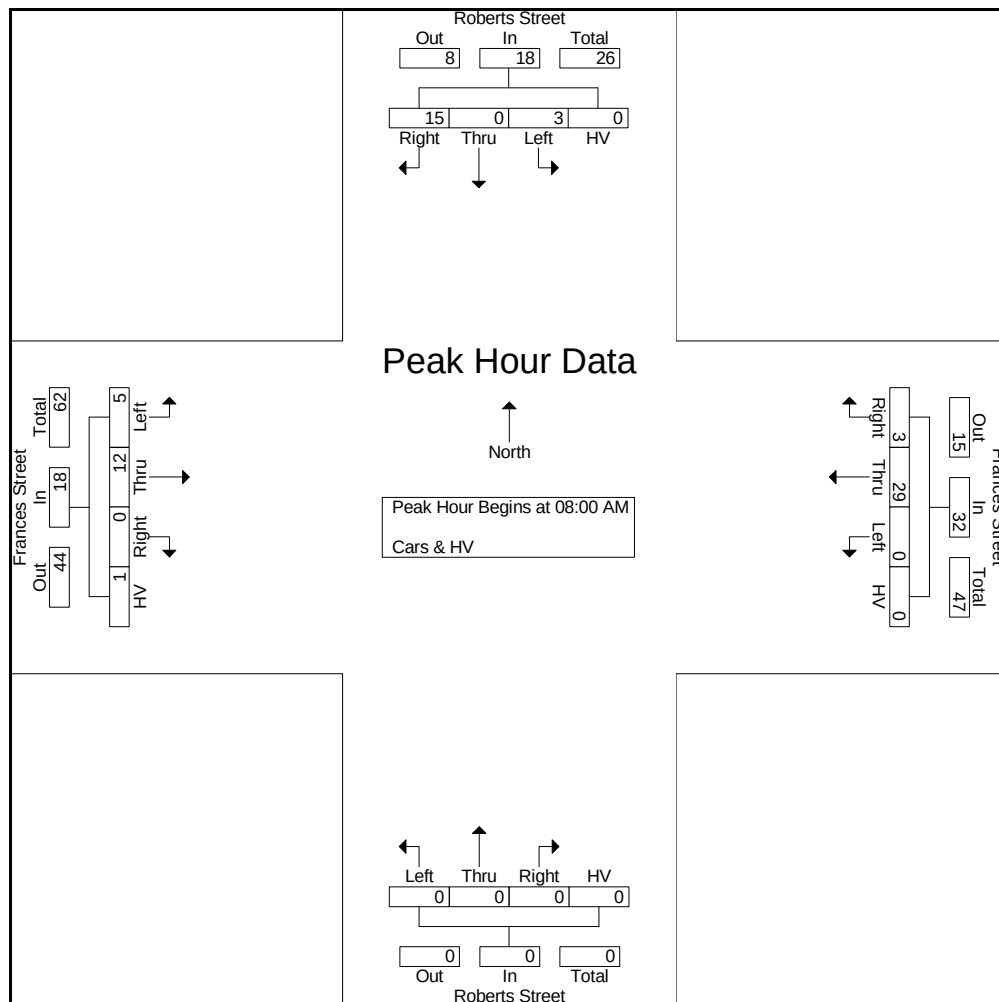
File Name : Frances @ Roberts
 Site Code : 00000002
 Start Date : 3/9/2022
 Page No : 1

Groups Printed- Cars & HV

	Roberts Street Southbound				Frances Street Westbound				Roberts Street Northbound				Frances Street Eastbound				Int. Total
Start Time	Right	Thru	Left	HV	Right	Thru	Left	HV	Right	Thru	Left	HV	Right	Thru	Left	HV	
07:00 AM	5	0	0	0	0	9	0	0	0	0	0	0	0	4	1	0	19
07:15 AM	12	0	0	1	0	4	0	0	0	0	1	0	0	3	3	0	24
07:30 AM	5	0	0	0	0	10	0	0	0	0	0	0	0	1	3	0	19
07:45 AM	7	0	0	0	0	12	0	0	0	0	0	0	0	3	1	0	23
Total	29	0	0	1	0	35	0	0	0	0	1	0	0	11	8	0	85
08:00 AM	3	0	2	0	1	9	0	0	0	0	0	0	0	1	1	0	17
08:15 AM	3	0	1	0	1	11	0	0	0	0	0	0	0	4	3	0	23
08:30 AM	2	0	0	0	0	4	0	0	0	0	0	0	0	4	0	1	11
08:45 AM	7	0	0	0	1	5	0	0	0	0	0	0	0	3	1	0	17
Total	15	0	3	0	3	29	0	0	0	0	0	0	0	12	5	1	68
04:00 PM	1	0	0	1	0	5	0	0	0	0	2	0	0	8	2	2	21
04:15 PM	2	0	0	0	0	4	0	0	0	0	0	0	1	6	3	0	16
04:30 PM	2	0	0	0	0	6	0	0	0	0	0	0	0	10	4	0	22
04:45 PM	2	0	0	0	0	8	0	0	0	0	1	0	0	10	4	0	25
Total	7	0	0	1	0	23	0	0	0	0	3	0	1	34	13	2	84
05:00 PM	2	0	0	0	0	3	0	0	0	0	0	0	1	5	2	0	13
05:15 PM	2	0	0	0	0	2	0	0	0	0	0	0	0	15	9	0	28
05:30 PM	1	0	0	0	1	5	0	1	0	0	2	0	0	9	2	0	21
05:45 PM	1	1	1	1	0	1	0	1	0	0	0	1	0	6	4	0	17
Total	6	1	1	1	1	11	0	2	0	0	2	1	1	35	17	0	79
Grand Total	57	1	4	3	4	98	0	2	0	0	6	1	2	92	43	3	316
Apprch %	87.7	1.5	6.2	4.6	3.8	94.2	0	1.9	0	0	85.7	14.3	1.4	65.7	30.7	2.1	
Total %	18	0.3	1.3	0.9	1.3	31	0	0.6	0	0	1.9	0.3	0.6	29.1	13.6	0.9	

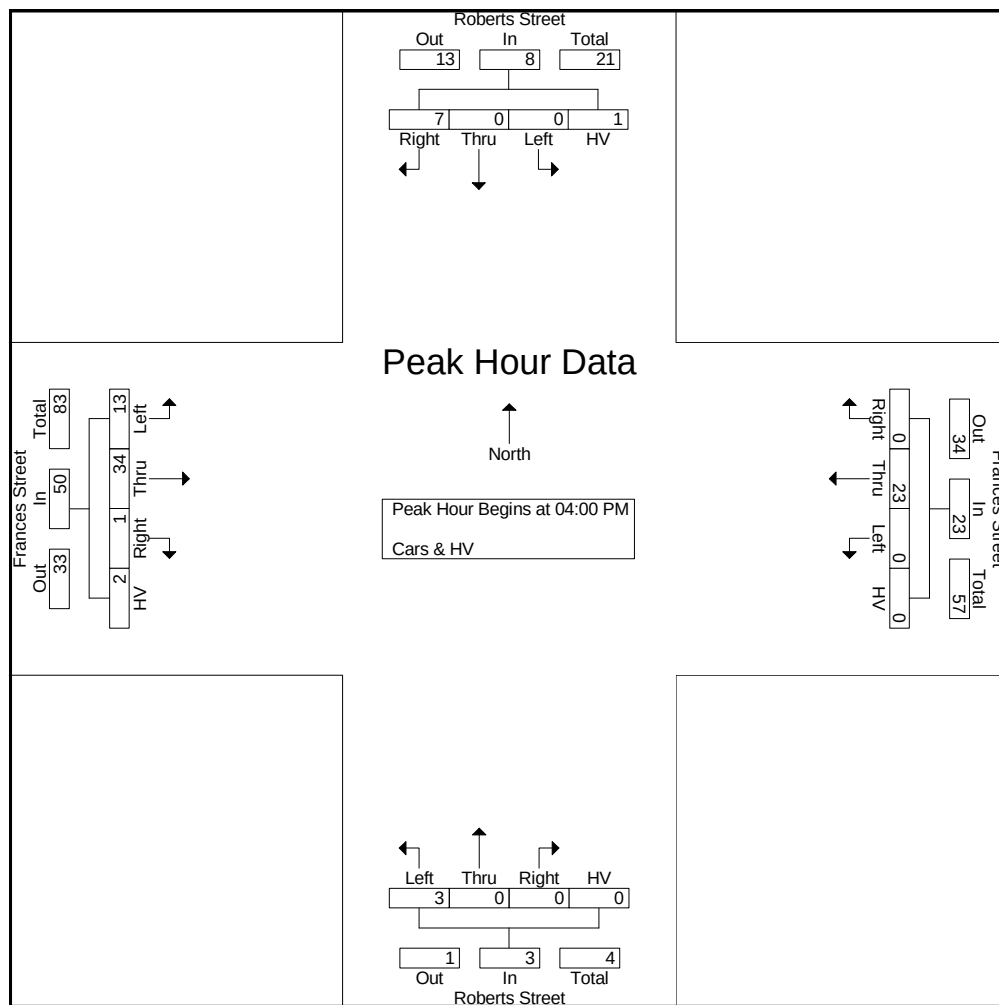
File Name : Frances @ Roberts
 Site Code : 00000002
 Start Date : 3/9/2022
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	Roberts Street Southbound					Frances Street Westbound					Roberts Street Northbound					Frances Street Eastbound					
Start Time	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	3	0	2	0	5	1	9	0	0	10	0	0	0	0	0	0	1	1	0	2	17
08:15 AM	3	0	1	0	4	1	11	0	0	12	0	0	0	0	0	0	4	3	0	7	23
08:30 AM	2	0	0	0	2	0	4	0	0	4	0	0	0	0	0	0	4	0	1	5	11
08:45 AM	7	0	0	0	7	1	5	0	0	6	0	0	0	0	0	0	3	1	0	4	17
Total Volume	15	0	3	0	18	3	29	0	0	32	0	0	0	0	0	0	12	5	1	18	68
% App. Total	83.3	0	16.7	0		9.4	90.6	0	0		0	0	0	0		0	66.7	27.8	5.6		
PHF	.536	.000	.375	.000	.643	.750	.659	.000	.000	.667	.000	.000	.000	.000	.000	.000	.750	.417	.250	.643	.739



File Name : Frances @ Roberts
 Site Code : 00000002
 Start Date : 3/9/2022
 Page No : 3

	Roberts Street Southbound					Frances Street Westbound					Roberts Street Northbound					Frances Street Eastbound					
Start Time	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Right	Thru	Left	HV	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	1	0	0	1	2	0	5	0	0	5	0	0	2	0	2	0	8	2	2	12	21
04:15 PM	2	0	0	0	2	0	4	0	0	4	0	0	0	0	0	1	6	3	0	10	16
04:30 PM	2	0	0	0	2	0	6	0	0	6	0	0	0	0	0	0	10	4	0	14	22
04:45 PM	2	0	0	0	2	0	8	0	0	8	0	0	1	0	1	0	10	4	0	14	25
Total Volume	7	0	0	1	8	0	23	0	0	23	0	0	3	0	3	1	34	13	2	50	84
% App. Total	87.5	0	0	12.5		0	100	0	0		0	0	100	0		2	68	26	4		
PHF	.875	.000	.000	.250	1.00	.000	.719	.000	.000	.719	.000	.000	.375	.000	.375	.250	.850	.813	.250	.893	.840



File Name : Frances @ Roberts
 Site Code : 00000002
 Start Date : 3/9/2022
 Page No : 1

Groups Printed- Peds

	Roberts Street Southbound				Frances Street Westbound				Roberts Street Northbound				Frances Street Eastbound				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
07:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0	0	5
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Grand Total	0	0	0	1	0	0	0	2	0	0	0	3	0	0	0	0	6
Apprch %	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	0	
Total %	0	0	0	16.7	0	0	0	33.3	0	0	0	50	0	0	0	0	

Intersection

Int Delay, s/veh	3.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑		↗
Traffic Vol, veh/h	127	34	106	183	0	118
Future Vol, veh/h	127	34	106	183	0	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	440	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	84	84
Heavy Vehicles, %	22	22	13	13	9	9
Mvmt Flow	140	37	116	201	0	140

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	177
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.36	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.33	-
Pot Cap-1 Maneuver	-	1320	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1320	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	929	-	-	1320	-
HCM Lane V/C Ratio	0.151	-	-	0.088	-
HCM Control Delay (s)	9.6	-	-	8	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.3	-

HCM 6th TWSC
2: Crescent Drive & Frances Street

03/22/2022

Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	20	18	102	32	11	1	100	12	8	0	7	7
Future Vol, veh/h	20	18	102	32	11	1	100	12	8	0	7	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	81	81	81	81	81	81	73	73	73	64	64	64
Heavy Vehicles, %	11	11	11	10	10	10	17	17	17	22	22	22
Mvmt Flow	25	22	126	40	14	1	137	16	11	0	11	11
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	15	0	0	148	0	0	241	230	85	244	293	15
Stage 1	-	-	-	-	-	-	135	135	-	95	95	-
Stage 2	-	-	-	-	-	-	106	95	-	149	198	-
Critical Hdwy	4.21	-	-	4.2	-	-	7.27	6.67	6.37	7.32	6.72	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.27	5.67	-	6.32	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.27	5.67	-	6.32	5.72	-
Follow-up Hdwy	2.299	-	-	2.29	-	-	3.653	4.153	3.453	3.698	4.198	3.498
Pot Cap-1 Maneuver	1546	-	-	1386	-	-	683	644	934	670	586	1009
Stage 1	-	-	-	-	-	-	834	757	-	865	779	-
Stage 2	-	-	-	-	-	-	864	788	-	808	701	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1546	-	-	1386	-	-	642	614	934	626	559	1009
Mov Cap-2 Maneuver	-	-	-	-	-	-	642	614	-	626	559	-
Stage 1	-	-	-	-	-	-	819	743	-	849	756	-
Stage 2	-	-	-	-	-	-	818	765	-	767	688	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	1.1		5.6			12.4			10.2			
HCM LOS						B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	653	1546	-	-	1386	-	-	719				
HCM Lane V/C Ratio	0.252	0.016	-	-	0.029	-	-	0.03				
HCM Control Delay (s)	12.4	7.4	0	-	7.7	0	-	10.2				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	1	0	-	-	0.1	-	-	0.1				

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	7	19	0	0	29	3	0	0	0	3	0	15
Future Vol, veh/h	7	19	0	0	29	3	0	0	0	3	0	15
Conflicting Peds, #/hr	0	0	1	1	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	64	64	64	67	67	67	90	90	90	64	64	64
Heavy Vehicles, %	6	6	6	2	2	2	5	5	5	2	2	2
Mvmt Flow	11	30	0	0	43	4	0	0	0	5	0	23
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	47	0	0	31	0	0	110	100	31	97	98	45
Stage 1	-	-	-	-	-	-	53	53	-	45	45	-
Stage 2	-	-	-	-	-	-	57	47	-	52	53	-
Critical Hdwy	4.16	-	-	4.12	-	-	7.15	6.55	6.25	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.12	5.52	-
Follow-up Hdwy	2.254	-	-	2.218	-	-	3.545	4.045	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	1535	-	-	1582	-	-	861	784	1035	885	792	1025
Stage 1	-	-	-	-	-	-	952	845	-	969	857	-
Stage 2	-	-	-	-	-	-	947	850	-	961	851	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1535	-	-	1580	-	-	836	778	1034	881	786	1025
Mov Cap-2 Maneuver	-	-	-	-	-	-	836	778	-	881	786	-
Stage 1	-	-	-	-	-	-	944	838	-	962	857	-
Stage 2	-	-	-	-	-	-	925	850	-	954	844	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2			0			0			8.7		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	1535	-	-	1580	-	-	998				
HCM Lane V/C Ratio	-	0.007	-	-	-	-	-	0.028				
HCM Control Delay (s)	0	7.4	0	-	0	-	-	8.7				
HCM Lane LOS	A	A	A	-	A	-	-	A				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1				

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↵	↕		↵	↕	
Traffic Vol, veh/h	0	0	0	95	0	27	3	161	102	13	117	0
Future Vol, veh/h	0	0	0	95	0	27	3	161	102	13	117	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	120	-	1000	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	81	81	81	71	71	71	84	84	84
Heavy Vehicles, %	2	2	2	3	3	3	6	6	6	5	5	5
Mvmt Flow	0	0	0	117	0	33	4	227	144	15	139	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	291	404	139	476	476	186	139	0	0	227	0	0
Stage 1	169	169	-	307	307	-	-	-	-	-	-	-
Stage 2	122	235	-	169	169	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.345	6.545	6.945	4.19	-	-	4.175	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.545	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.5285	4.0285	3.3285	2.257	-	-	2.2475	-	-
Pot Cap-1 Maneuver	650	535	909	483	485	822	1417	-	-	1320	-	-
Stage 1	832	758	-	676	658	-	-	-	-	-	-	-
Stage 2	870	710	-	830	756	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	617	528	909	478	478	822	1417	-	-	1320	-	-
Mov Cap-2 Maneuver	617	528	-	478	478	-	-	-	-	-	-	-
Stage 1	830	750	-	674	656	-	-	-	-	-	-	-
Stage 2	832	708	-	821	748	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	0		14.5		0.1		0.8					
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1417	-	-	-	527	1320	-	-				
HCM Lane V/C Ratio	0.003	-	-	-	0.286	0.012	-	-				
HCM Control Delay (s)	7.5	-	-	0	14.5	7.8	-	-				
HCM Lane LOS	A	-	-	A	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	1.2	0	-	-				

HCM 6th TWSC
5: Route 11 & Grossett Drive

03/22/2022

Intersection

Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	6	260	1	22	190
Future Vol, veh/h	1	6	260	1	22	190
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	90	90	69	69	93	93
Heavy Vehicles, %	13	13	5	5	6	6
Mvmt Flow	1	7	377	1	24	204

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	630	378	0
Stage 1	378	-	-
Stage 2	252	-	-
Critical Hdwy	6.53	6.33	-
Critical Hdwy Stg 1	5.53	-	-
Critical Hdwy Stg 2	5.53	-	-
Follow-up Hdwy	3.617	3.417	-
Pot Cap-1 Maneuver	428	645	-
Stage 1	669	-	-
Stage 2	765	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	418	645	-
Mov Cap-2 Maneuver	418	-	-
Stage 1	669	-	-
Stage 2	747	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	599	1159
HCM Lane V/C Ratio	-	-	0.013	0.02
HCM Control Delay (s)	-	-	11.1	8.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0.1

Intersection

Int Delay, s/veh	3.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑		↗
Traffic Vol, veh/h	311	101	114	113	0	126
Future Vol, veh/h	311	101	114	113	0	126
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	440	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	93	93	66	66
Heavy Vehicles, %	15	15	14	14	1	1
Mvmt Flow	342	111	123	122	0	191

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	453
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.38
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.34
Pot Cap-1 Maneuver	-	-	1024
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1024
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	777	-	-	1024	-
HCM Lane V/C Ratio	0.246	-	-	0.12	-
HCM Control Delay (s)	11.1	-	-	9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.4	-

HCM 6th TWSC
2: Crescent Drive & Frances Street

03/22/2022

Intersection

Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	21	49	145	35	7	1	114	5	20	3	22	5
Future Vol, veh/h	21	49	145	35	7	1	114	5	20	3	22	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	83	83	83	89	89	89	59	59	59
Heavy Vehicles, %	5	5	5	3	3	3	3	3	3	12	12	12
Mvmt Flow	29	67	199	42	8	1	128	6	22	5	37	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	9	0	0	266	0	0	340	318	167	332	417	9
Stage 1	-	-	-	-	-	-	225	225	-	93	93	-
Stage 2	-	-	-	-	-	-	115	93	-	239	324	-
Critical Hdwy	4.15	-	-	4.13	-	-	7.13	6.53	6.23	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.22	5.62	-
Follow-up Hdwy	2.245	-	-	2.227	-	-	3.527	4.027	3.327	3.608	4.108	3.408
Pot Cap-1 Maneuver	1591	-	-	1292	-	-	612	597	875	603	512	1044
Stage 1	-	-	-	-	-	-	775	716	-	890	799	-
Stage 2	-	-	-	-	-	-	887	816	-	742	632	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1591	-	-	1292	-	-	548	565	875	559	484	1044
Mov Cap-2 Maneuver	-	-	-	-	-	-	548	565	-	559	484	-
Stage 1	-	-	-	-	-	-	758	700	-	870	773	-
Stage 2	-	-	-	-	-	-	810	789	-	701	618	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			6.4			13.5			12.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	580	1591	-	-	1292	-	-	539
HCM Lane V/C Ratio	0.269	0.018	-	-	0.033	-	-	0.094
HCM Control Delay (s)	13.5	7.3	0	-	7.9	0	-	12.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0.1	-	-	0.3

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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Lane Configurations

Traffic Vol, veh/h	20	51	1	0	30	0	4	0	0	0	0	9
Future Vol, veh/h	20	51	1	0	30	0	4	0	0	0	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	89	89	89	72	72	72	90	90	100	90	90	90
Heavy Vehicles, %	4	4	4	2	2	2	5	5	5	12	12	12
Mvmt Flow	22	57	1	0	42	0	4	0	0	0	0	10

Major/Minor	Major1	Major2	Minor1	Minor2
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Conflicting Flow All	42	0	0	58	0	0	149	144	58	144	144	42
Stage 1	-	-	-	-	-	-	102	102	-	42	42	-
Stage 2	-	-	-	-	-	-	47	42	-	102	102	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.15	6.55	6.25	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.22	5.62	-
Follow-up Hdwy	2.236	-	-	2.218	-	-	3.545	4.045	3.345	3.608	4.108	3.408
Pot Cap-1 Maneuver	1554	-	-	1546	-	-	812	742	1000	803	729	1001
Stage 1	-	-	-	-	-	-	897	805	-	948	841	-
Stage 2	-	-	-	-	-	-	959	854	-	880	792	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1554	-	-	1546	-	-	795	731	1000	794	718	1001
Mov Cap-2 Maneuver	-	-	-	-	-	-	795	731	-	794	718	-
Stage 1	-	-	-	-	-	-	884	793	-	934	841	-
Stage 2	-	-	-	-	-	-	949	854	-	867	780	-

Approach	EB	WB	NB	SB
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HCM Control Delay, s	2	0	9.6	8.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
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Capacity (veh/h)	795	1554	-	-	1546	-	-	1001
HCM Lane V/C Ratio	0.006	0.014	-	-	-	-	-	0.01
HCM Control Delay (s)	9.6	7.4	0	-	0	-	-	8.6
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↵	↕		↵	↕	
Traffic Vol, veh/h	1	0	1	92	3	44	1	118	65	16	226	1
Future Vol, veh/h	1	0	1	92	3	44	1	118	65	16	226	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	120	-	1000	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	72	72	72	90	90	90	93	93	93
Heavy Vehicles, %	2	2	2	5	5	5	4	4	4	4	4	4
Mvmt Flow	2	0	2	128	4	61	1	131	72	17	243	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	348	411	244	448	447	102	244	0	0	131	0	0
Stage 1	278	278	-	169	169	-	-	-	-	-	-	-
Stage 2	70	133	-	279	278	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.375	6.575	6.975	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.575	5.575	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.175	5.575	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.5475	4.0475	3.3475	2.238	-	-	2.238	-	-
Pot Cap-1 Maneuver	594	530	794	501	500	925	1308	-	-	1440	-	-
Stage 1	728	680	-	809	752	-	-	-	-	-	-	-
Stage 2	932	786	-	719	673	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	546	523	794	495	494	925	1308	-	-	1440	-	-
Mov Cap-2 Maneuver	546	523	-	495	494	-	-	-	-	-	-	-
Stage 1	727	672	-	808	751	-	-	-	-	-	-	-
Stage 2	865	785	-	709	665	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.6		14.3		0		0.5					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1308	-	-	647	580	1440	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.006	0.333	0.012	-	-				
HCM Control Delay (s)	7.8	-	-	10.6	14.3	7.5	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	1.5	0	-	-				

HCM 6th TWSC
5: Route 11 & Grossett Drive

03/22/2022

Intersection

Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	14	170	3	16	303
Future Vol, veh/h	5	14	170	3	16	303
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	59	59	80	80	82	82
Heavy Vehicles, %	21	21	8	8	5	5
Mvmt Flow	8	24	213	4	20	370

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	625	215	0
Stage 1	215	-	-
Stage 2	410	-	-
Critical Hdwy	6.61	6.41	-
Critical Hdwy Stg 1	5.61	-	-
Critical Hdwy Stg 2	5.61	-	-
Follow-up Hdwy	3.689	3.489	-
Pot Cap-1 Maneuver	419	779	-
Stage 1	778	-	-
Stage 2	631	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	411	779	-
Mov Cap-2 Maneuver	411	-	-
Stage 1	778	-	-
Stage 2	619	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	630	1335
HCM Lane V/C Ratio	-	-	0.051	0.015
HCM Control Delay (s)	-	-	11	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC

1: Frances Street & I-81 / I-86 Access Road

03/22/2022

Intersection

Int Delay, s/veh	3.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑		↗
Traffic Vol, veh/h	128	34	107	185	0	119
Future Vol, veh/h	128	34	107	185	0	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	440	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	84	84
Heavy Vehicles, %	22	22	13	13	9	9
Mvmt Flow	141	37	118	203	0	142

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	178
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.36	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.33	-
Pot Cap-1 Maneuver	-	1319	-
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1319	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	929	-	-	1319	-
HCM Lane V/C Ratio	0.152	-	-	0.089	-
HCM Control Delay (s)	9.6	-	-	8	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.3	-

HCM 6th TWSC
2: Crescent Drive & Frances Street

03/22/2022

Intersection

Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	20	18	103	32	11	1	101	12	8	0	7	7
Future Vol, veh/h	20	18	103	32	11	1	101	12	8	0	7	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	81	81	81	81	81	81	73	73	73	64	64	64
Heavy Vehicles, %	11	11	11	10	10	10	17	17	17	22	22	22
Mvmt Flow	25	22	127	40	14	1	138	16	11	0	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	15	0	0	149	0	0	242	231	86	244	294	15
Stage 1	-	-	-	-	-	-	136	136	-	95	95	-
Stage 2	-	-	-	-	-	-	106	95	-	149	199	-
Critical Hdwy	4.21	-	-	4.2	-	-	7.27	6.67	6.37	7.32	6.72	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.27	5.67	-	6.32	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.27	5.67	-	6.32	5.72	-
Follow-up Hdwy	2.299	-	-	2.29	-	-	3.653	4.153	3.453	3.698	4.198	3.498
Pot Cap-1 Maneuver	1546	-	-	1385	-	-	682	644	933	670	585	1009
Stage 1	-	-	-	-	-	-	833	756	-	865	779	-
Stage 2	-	-	-	-	-	-	864	788	-	808	700	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1546	-	-	1385	-	-	641	614	933	626	558	1009
Mov Cap-2 Maneuver	-	-	-	-	-	-	641	614	-	626	558	-
Stage 1	-	-	-	-	-	-	818	742	-	849	756	-
Stage 2	-	-	-	-	-	-	818	765	-	767	687	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			5.6			12.4			10.2		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	652	1546	-	-	1385	-	-	719
HCM Lane V/C Ratio	0.254	0.016	-	-	0.029	-	-	0.03
HCM Control Delay (s)	12.4	7.4	0	-	7.7	0	-	10.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1	0	-	-	0.1	-	-	0.1

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	7	19	0	0	29	3	0	0	0	3	0	15
Future Vol, veh/h	7	19	0	0	29	3	0	0	0	3	0	15
Conflicting Peds, #/hr	0	0	1	1	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	64	64	64	67	67	67	90	90	90	64	64	64
Heavy Vehicles, %	6	6	6	2	2	2	5	5	5	2	2	2
Mvmt Flow	11	30	0	0	43	4	0	0	0	5	0	23

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	47	0	0	31	0	0	110	100	31	97	98	45
Stage 1	-	-	-	-	-	-	53	53	-	45	45	-
Stage 2	-	-	-	-	-	-	57	47	-	52	53	-
Critical Hdwy	4.16	-	-	4.12	-	-	7.15	6.55	6.25	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.12	5.52	-
Follow-up Hdwy	2.254	-	-	2.218	-	-	3.545	4.045	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	1535	-	-	1582	-	-	861	784	1035	885	792	1025
Stage 1	-	-	-	-	-	-	952	845	-	969	857	-
Stage 2	-	-	-	-	-	-	947	850	-	961	851	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1535	-	-	1580	-	-	836	778	1034	881	786	1025
Mov Cap-2 Maneuver	-	-	-	-	-	-	836	778	-	881	786	-
Stage 1	-	-	-	-	-	-	944	838	-	962	857	-
Stage 2	-	-	-	-	-	-	925	850	-	954	844	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0	0	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1535	-	-	1580	-	-	998
HCM Lane V/C Ratio	-	0.007	-	-	-	-	-	0.028
HCM Control Delay (s)	0	7.4	0	-	0	-	-	8.7
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↵	↕		↵	↕	
Traffic Vol, veh/h	0	0	0	96	0	27	3	163	103	13	118	0
Future Vol, veh/h	0	0	0	96	0	27	3	163	103	13	118	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	120	-	1000	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	81	81	81	71	71	71	84	84	84
Heavy Vehicles, %	2	2	2	3	3	3	6	6	6	5	5	5
Mvmt Flow	0	0	0	119	0	33	4	230	145	15	140	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	293	408	140	481	481	188	140	0	0	230	0	0
Stage 1	170	170	-	311	311	-	-	-	-	-	-	-
Stage 2	123	238	-	170	170	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.345	6.545	6.945	4.19	-	-	4.175	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.545	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.5285	4.0285	3.3285	2.257	-	-	2.2475	-	-
Pot Cap-1 Maneuver	648	532	907	480	482	820	1416	-	-	1317	-	-
Stage 1	831	757	-	672	655	-	-	-	-	-	-	-
Stage 2	869	708	-	829	755	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	615	525	907	475	475	820	1416	-	-	1317	-	-
Mov Cap-2 Maneuver	615	525	-	475	475	-	-	-	-	-	-	-
Stage 1	829	749	-	670	653	-	-	-	-	-	-	-
Stage 2	831	706	-	820	747	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0		14.7			0.1			0.8			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1416	-	-	-	523	1317	-	-				
HCM Lane V/C Ratio	0.003	-	-	-	0.29	0.012	-	-				
HCM Control Delay (s)	7.5	-	-	0	14.7	7.8	-	-				
HCM Lane LOS	A	-	-	A	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	1.2	0	-	-				

HCM 6th TWSC
5: Route 11 & Grossett Drive

03/22/2022

Intersection

Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	6	263	1	22	192
Future Vol, veh/h	1	6	263	1	22	192
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	90	90	69	69	93	93
Heavy Vehicles, %	13	13	5	5	6	6
Mvmt Flow	1	7	381	1	24	206

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	636	382	0	0	382
Stage 1	382	-	-	-	-
Stage 2	254	-	-	-	-
Critical Hdwy	6.53	6.33	-	-	4.16
Critical Hdwy Stg 1	5.53	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-
Follow-up Hdwy	3.617	3.417	-	-	2.254
Pot Cap-1 Maneuver	425	642	-	-	1155
Stage 1	666	-	-	-	-
Stage 2	763	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	415	642	-	-	1155
Mov Cap-2 Maneuver	415	-	-	-	-
Stage 1	666	-	-	-	-
Stage 2	745	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	595	1155
HCM Lane V/C Ratio	-	-	0.013	0.02
HCM Control Delay (s)	-	-	11.1	8.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0.1

HCM 6th TWSC

1: Frances Street & I-81 / I-86 Access Road

03/22/2022

Intersection

Int Delay, s/veh	3.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑		↗
Traffic Vol, veh/h	314	102	115	114	0	127
Future Vol, veh/h	314	102	115	114	0	127
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	440	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	93	93	66	66
Heavy Vehicles, %	15	15	14	14	1	1
Mvmt Flow	345	112	124	123	0	192

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	457
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.38
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.34
Pot Cap-1 Maneuver	-	-	1020
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1020
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	774	-	-	1020	-
HCM Lane V/C Ratio	0.249	-	-	0.121	-
HCM Control Delay (s)	11.2	-	-	9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.4	-

HCM 6th TWSC
2: Crescent Drive & Frances Street

03/22/2022

Intersection

Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	21	50	146	35	7	1	115	5	20	3	22	5
Future Vol, veh/h	21	50	146	35	7	1	115	5	20	3	22	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	83	83	83	89	89	89	59	59	59
Heavy Vehicles, %	5	5	5	3	3	3	3	3	3	12	12	12
Mvmt Flow	29	68	200	42	8	1	129	6	22	5	37	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	9	0	0	268	0	0	341	319	168	333	419	9
Stage 1	-	-	-	-	-	-	226	226	-	93	93	-
Stage 2	-	-	-	-	-	-	115	93	-	240	326	-
Critical Hdwy	4.15	-	-	4.13	-	-	7.13	6.53	6.23	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.22	5.62	-
Follow-up Hdwy	2.245	-	-	2.227	-	-	3.527	4.027	3.327	3.608	4.108	3.408
Pot Cap-1 Maneuver	1591	-	-	1290	-	-	611	596	874	602	510	1044
Stage 1	-	-	-	-	-	-	774	715	-	890	799	-
Stage 2	-	-	-	-	-	-	887	816	-	742	631	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1591	-	-	1290	-	-	547	564	874	558	482	1044
Mov Cap-2 Maneuver	-	-	-	-	-	-	547	564	-	558	482	-
Stage 1	-	-	-	-	-	-	757	699	-	870	773	-
Stage 2	-	-	-	-	-	-	810	789	-	701	617	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			6.4			13.5			12.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	579	1591	-	-	1290	-	-	538
HCM Lane V/C Ratio	0.272	0.018	-	-	0.033	-	-	0.095
HCM Control Delay (s)	13.5	7.3	0	-	7.9	0	-	12.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0.1	-	-	0.3

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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Lane Configurations

Traffic Vol, veh/h	20	52	1	0	30	0	4	0	0	0	0	9
Future Vol, veh/h	20	52	1	0	30	0	4	0	0	0	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	89	89	89	72	72	72	90	90	100	90	90	90
Heavy Vehicles, %	4	4	4	2	2	2	5	5	5	12	12	12
Mvmt Flow	22	58	1	0	42	0	4	0	0	0	0	10

Major/Minor	Major1	Major2	Minor1	Minor2
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Conflicting Flow All	42	0	0	59	0	0	150	145	59	145	145	42
Stage 1	-	-	-	-	-	-	103	103	-	42	42	-
Stage 2	-	-	-	-	-	-	47	42	-	103	103	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.15	6.55	6.25	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.22	5.62	-
Follow-up Hdwy	2.236	-	-	2.218	-	-	3.545	4.045	3.345	3.608	4.108	3.408
Pot Cap-1 Maneuver	1554	-	-	1545	-	-	811	741	998	802	728	1001
Stage 1	-	-	-	-	-	-	896	804	-	948	841	-
Stage 2	-	-	-	-	-	-	959	854	-	879	791	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1554	-	-	1545	-	-	794	730	998	793	717	1001
Mov Cap-2 Maneuver	-	-	-	-	-	-	794	730	-	793	717	-
Stage 1	-	-	-	-	-	-	883	792	-	934	841	-
Stage 2	-	-	-	-	-	-	949	854	-	866	779	-

Approach	EB	WB	NB	SB
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HCM Control Delay, s	2	0	9.6	8.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
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Capacity (veh/h)	794	1554	-	-	1545	-	-	1001
HCM Lane V/C Ratio	0.006	0.014	-	-	-	-	-	0.01
HCM Control Delay (s)	9.6	7.4	0	-	0	-	-	8.6
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↵	↕		↵	↕	
Traffic Vol, veh/h	1	0	1	93	3	44	1	119	66	16	228	1
Future Vol, veh/h	1	0	1	93	3	44	1	119	66	16	228	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	120	-	1000	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	72	72	72	90	90	90	93	93	93
Heavy Vehicles, %	2	2	2	5	5	5	4	4	4	4	4	4
Mvmt Flow	2	0	2	129	4	61	1	132	73	17	245	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	350	414	246	452	451	103	246	0	0	132	0	0
Stage 1	280	280	-	171	171	-	-	-	-	-	-	-
Stage 2	70	134	-	281	280	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.375	6.575	6.975	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.575	5.575	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.175	5.575	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.5475	4.0475	3.3475	2.238	-	-	2.238	-	-
Pot Cap-1 Maneuver	592	528	792	498	498	924	1305	-	-	1438	-	-
Stage 1	726	678	-	807	750	-	-	-	-	-	-	-
Stage 2	932	785	-	717	672	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	544	521	792	492	492	924	1305	-	-	1438	-	-
Mov Cap-2 Maneuver	544	521	-	492	492	-	-	-	-	-	-	-
Stage 1	725	670	-	806	749	-	-	-	-	-	-	-
Stage 2	865	784	-	707	664	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.6		14.4		0		0.5	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1305	-	-	645	577	1438	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.337	0.012	-	-
HCM Control Delay (s)	7.8	-	-	10.6	14.4	7.5	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	1.5	0	-	-

HCM 6th TWSC
5: Route 11 & Grossett Drive

03/22/2022

Intersection

Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	14	172	3	16	306
Future Vol, veh/h	5	14	172	3	16	306
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	59	59	80	80	82	82
Heavy Vehicles, %	21	21	8	8	5	5
Mvmt Flow	8	24	215	4	20	373

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	630	217	0
Stage 1	217	-	-
Stage 2	413	-	-
Critical Hdwy	6.61	6.41	-
Critical Hdwy Stg 1	5.61	-	-
Critical Hdwy Stg 2	5.61	-	-
Follow-up Hdwy	3.689	3.489	-
Pot Cap-1 Maneuver	417	777	-
Stage 1	776	-	-
Stage 2	629	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	409	777	-
Mov Cap-2 Maneuver	409	-	-
Stage 1	776	-	-
Stage 2	617	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	628	1333
HCM Lane V/C Ratio	-	-	0.051	0.015
HCM Control Delay (s)	-	-	11	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC

1: Frances Street & I-81 / I-86 Access Road

03/22/2022

Intersection

Int Delay, s/veh	5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑		↗
Traffic Vol, veh/h	128	99	286	185	0	161
Future Vol, veh/h	128	99	286	185	0	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	440	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	84	84
Heavy Vehicles, %	22	22	13	13	9	9
Mvmt Flow	141	109	314	203	0	192

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	250
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.36	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.33	-
Pot Cap-1 Maneuver	-	1236	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1236	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.4	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	880	-	-	1236	-
HCM Lane V/C Ratio	0.218	-	-	0.254	-
HCM Control Delay (s)	10.2	-	-	8.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	1	-

HCM 6th TWSC
2: Crescent Drive & Frances Street

03/22/2022

Intersection												
Int Delay, s/veh	11											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	20	262	103	67	53	1	101	12	90	0	7	7
Future Vol, veh/h	20	262	103	67	53	1	101	12	90	0	7	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	81	81	81	81	81	81	73	73	73	64	64	64
Heavy Vehicles, %	11	11	11	10	10	10	17	17	17	22	22	22
Mvmt Flow	25	323	127	83	65	1	138	16	123	0	11	11
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	66	0	0	450	0	0	680	669	387	738	732	66
Stage 1	-	-	-	-	-	-	437	437	-	232	232	-
Stage 2	-	-	-	-	-	-	243	232	-	506	500	-
Critical Hdwy	4.21	-	-	4.2	-	-	7.27	6.67	6.37	7.32	6.72	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.27	5.67	-	6.32	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.27	5.67	-	6.32	5.72	-
Follow-up Hdwy	2.299	-	-	2.29	-	-	3.653	4.153	3.453	3.698	4.198	3.498
Pot Cap-1 Maneuver	1480	-	-	1069	-	-	346	360	629	310	325	945
Stage 1	-	-	-	-	-	-	570	555	-	728	677	-
Stage 2	-	-	-	-	-	-	728	686	-	513	511	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1480	-	-	1069	-	-	307	323	629	221	292	945
Mov Cap-2 Maneuver	-	-	-	-	-	-	307	323	-	221	292	-
Stage 1	-	-	-	-	-	-	557	542	-	711	622	-
Stage 2	-	-	-	-	-	-	650	630	-	391	499	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0.4		4.8			32.3			13.5			
HCM LOS						D			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	399	1480	-	-	1069	-	-	446				
HCM Lane V/C Ratio	0.697	0.017	-	-	0.077	-	-	0.049				
HCM Control Delay (s)	32.3	7.5	0	-	8.7	0	-	13.5				
HCM Lane LOS	D	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	5.1	0.1	-	-	0.3	-	-	0.2				

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	7	185	160	0	68	3	38	0	0	3	0	15
Future Vol, veh/h	7	185	160	0	68	3	38	0	0	3	0	15
Conflicting Peds, #/hr	0	0	1	1	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	64	64	64	67	67	67	90	90	90	64	64	64
Heavy Vehicles, %	6	6	6	2	2	2	5	5	5	2	2	2
Mvmt Flow	11	289	250	0	101	4	42	0	0	5	0	23

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	105	0	0	540	0	0	552	542	415	539	665	103
Stage 1	-	-	-	-	-	-	437	437	-	103	103	-
Stage 2	-	-	-	-	-	-	115	105	-	436	562	-
Critical Hdwy	4.16	-	-	4.12	-	-	7.15	6.55	6.25	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.12	5.52	-
Follow-up Hdwy	2.254	-	-	2.218	-	-	3.545	4.045	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	1462	-	-	1028	-	-	440	443	631	453	381	952
Stage 1	-	-	-	-	-	-	592	574	-	903	810	-
Stage 2	-	-	-	-	-	-	883	803	-	599	510	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1462	-	-	1027	-	-	425	438	630	449	376	952
Mov Cap-2 Maneuver	-	-	-	-	-	-	425	438	-	449	376	-
Stage 1	-	-	-	-	-	-	585	567	-	893	810	-
Stage 2	-	-	-	-	-	-	861	803	-	592	504	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	14.4	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	425	1462	-	-	1027	-	-	802
HCM Lane V/C Ratio	0.099	0.007	-	-	-	-	-	0.035
HCM Control Delay (s)	14.4	7.5	0	-	0	-	-	9.7
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection

Int Delay, s/veh 4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↵	↕		↵	↕	
Traffic Vol, veh/h	0	0	0	108	0	50	3	163	152	46	118	0
Future Vol, veh/h	0	0	0	108	0	50	3	163	152	46	118	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	120	-	1000	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	81	81	81	71	71	71	84	84	84
Heavy Vehicles, %	2	2	2	3	3	3	6	6	6	5	5	5
Mvmt Flow	0	0	0	133	0	62	4	230	214	55	140	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	373	488	140	595	595	222	140	0	0	230	0	0
Stage 1	250	250	-	345	345	-	-	-	-	-	-	-
Stage 2	123	238	-	250	250	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.345	6.545	6.945	4.19	-	-	4.175	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.545	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.5285	4.0285	3.3285	2.257	-	-	2.2475	-	-
Pot Cap-1 Maneuver	571	479	907	400	415	780	1416	-	-	1317	-	-
Stage 1	753	699	-	642	633	-	-	-	-	-	-	-
Stage 2	869	708	-	751	697	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	508	457	907	386	396	780	1416	-	-	1317	-	-
Mov Cap-2 Maneuver	508	457	-	386	396	-	-	-	-	-	-	-
Stage 1	751	670	-	640	631	-	-	-	-	-	-	-
Stage 2	798	706	-	720	668	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	18.5	0.1	2.2
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1416	-	-	-	459	1317	-
HCM Lane V/C Ratio	0.003	-	-	-	0.425	0.042	-
HCM Control Delay (s)	7.5	-	-	0	18.5	7.9	-
HCM Lane LOS	A	-	-	A	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	2.1	0.1	-

HCM 6th TWSC
5: Route 11 & Grossett Drive

03/22/2022

Intersection

Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	6	312	1	22	204
Future Vol, veh/h	1	6	312	1	22	204
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	90	90	69	69	93	93
Heavy Vehicles, %	13	13	5	5	6	6
Mvmt Flow	1	7	452	1	24	219

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	720	453	0
Stage 1	453	-	-
Stage 2	267	-	-
Critical Hdwy	6.53	6.33	-
Critical Hdwy Stg 1	5.53	-	-
Critical Hdwy Stg 2	5.53	-	-
Follow-up Hdwy	3.617	3.417	-
Pot Cap-1 Maneuver	379	584	-
Stage 1	618	-	-
Stage 2	753	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	370	584	-
Mov Cap-2 Maneuver	370	-	-
Stage 1	618	-	-
Stage 2	734	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	539	1087
HCM Lane V/C Ratio	-	-	0.014	0.022
HCM Control Delay (s)	-	-	11.8	8.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0.1

HCM 6th TWSC
9: Site Access #2 & Frances Street

03/22/2022

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	166	0	32	39	0
Future Vol, veh/h	22	166	0	32	39	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	67	67	90	90
Heavy Vehicles, %	6	6	2	2	5	5
Mvmt Flow	34	259	0	48	43	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	293
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1269
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1269
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	770	-	-	1269	-
HCM Lane V/C Ratio	0.056	-	-	-	-
HCM Control Delay (s)	10	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection

Int Delay, s/veh	8.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑		↗
Traffic Vol, veh/h	314	146	234	114	0	314
Future Vol, veh/h	314	146	234	114	0	314
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	440	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	93	93	66	66
Heavy Vehicles, %	15	15	14	14	1	1
Mvmt Flow	345	160	252	123	0	476

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	505
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.38	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.34	-
Pot Cap-1 Maneuver	-	976	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	976	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.7	17.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	747	-	-	976	-
HCM Lane V/C Ratio	0.637	-	-	0.258	-
HCM Control Delay (s)	17.9	-	-	10	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	4.6	-	-	1	-

HCM 6th TWSC
2: Crescent Drive & Frances Street

03/22/2022

Intersection

Int Delay, s/veh	51											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	21	213	146	188	194	1	115	5	74	3	22	5
Future Vol, veh/h	21	213	146	188	194	1	115	5	74	3	22	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	83	83	83	89	89	89	59	59	59
Heavy Vehicles, %	5	5	5	3	3	3	3	3	3	12	12	12
Mvmt Flow	29	292	200	227	234	1	129	6	83	5	37	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	235	0	0	492	0	0	1161	1139	392	1184	1239	235
Stage 1	-	-	-	-	-	-	450	450	-	689	689	-
Stage 2	-	-	-	-	-	-	711	689	-	495	550	-
Critical Hdwy	4.15	-	-	4.13	-	-	7.13	6.53	6.23	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.22	5.62	-
Follow-up Hdwy	2.245	-	-	2.227	-	-	3.527	4.027	3.327	3.608	4.108	3.408
Pot Cap-1 Maneuver	1315	-	-	1066	-	-	171	200	655	159	168	780
Stage 1	-	-	-	-	-	-	587	570	-	420	432	-
Stage 2	-	-	-	-	-	-	422	445	-	538	500	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1315	-	-	1066	-	-	~ 104	146	655	107	123	780
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 104	146	-	107	123	-
Stage 1	-	-	-	-	-	-	569	552	-	407	326	-
Stage 2	-	-	-	-	-	-	279	336	-	451	485	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	4.6	271.5	44.3
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	155	1315	-	-	1066	-	-	141
HCM Lane V/C Ratio	1.406	0.022	-	-	0.212	-	-	0.361
HCM Control Delay (s)	271.5	7.8	0	-	9.3	0	-	44.3
HCM Lane LOS	F	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	13.8	0.1	-	-	0.8	-	-	1.5

Notes

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

Intersection

Int Delay, s/veh 5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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Lane Configurations

Traffic Vol, veh/h	20	163	107	0	203	0	171	0	0	0	0	9
Future Vol, veh/h	20	163	107	0	203	0	171	0	0	0	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	89	89	89	72	72	72	90	90	100	90	90	90
Heavy Vehicles, %	4	4	4	2	2	2	5	5	5	12	12	12
Mvmt Flow	22	183	120	0	282	0	190	0	0	0	0	10

Major/Minor	Major1	Major2	Minor1	Minor2
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Conflicting Flow All	282	0	0	303	0	0	574	569	243	569	629	282
Stage 1	-	-	-	-	-	-	287	287	-	282	282	-
Stage 2	-	-	-	-	-	-	287	282	-	287	347	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.15	6.55	6.25	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.22	5.62	-
Follow-up Hdwy	2.236	-	-	2.218	-	-	3.545	4.045	3.345	3.608	4.108	3.408
Pot Cap-1 Maneuver	1269	-	-	1258	-	-	425	428	788	418	386	734
Stage 1	-	-	-	-	-	-	714	669	-	704	660	-
Stage 2	-	-	-	-	-	-	714	672	-	699	617	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1269	-	-	1258	-	-	413	419	788	411	378	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	413	419	-	411	378	-
Stage 1	-	-	-	-	-	-	699	655	-	689	660	-
Stage 2	-	-	-	-	-	-	704	672	-	684	604	-

Approach	EB	WB	NB	SB
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HCM Control Delay, s	0.5	0	20.9	10
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
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Capacity (veh/h)	413	1269	-	-	1258	-	-	734
HCM Lane V/C Ratio	0.46	0.018	-	-	-	-	-	0.014
HCM Control Delay (s)	20.9	7.9	0	-	0	-	-	10
HCM Lane LOS	C	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	2.4	0.1	-	-	0	-	-	0

Intersection

Int Delay, s/veh 10.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↵	↕↕		↵	↵	
Traffic Vol, veh/h	1	0	1	144	3	146	1	119	98	38	228	1
Future Vol, veh/h	1	0	1	144	3	146	1	119	98	38	228	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	120	-	1000	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	72	72	72	90	90	90	93	93	93
Heavy Vehicles, %	2	2	2	5	5	5	4	4	4	4	4	4
Mvmt Flow	2	0	2	200	4	203	1	132	109	41	245	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	398	462	246	518	517	121	246	0	0	132	0	0
Stage 1	328	328	-	189	189	-	-	-	-	-	-	-
Stage 2	70	134	-	329	328	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.375	6.575	6.975	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.575	5.575	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.175	5.575	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.5475	4.0475	3.3475	2.238	-	-	2.238	-	-
Pot Cap-1 Maneuver	549	496	792	448	456	899	1305	-	-	1438	-	-
Stage 1	684	646	-	788	737	-	-	-	-	-	-	-
Stage 2	932	785	-	676	640	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	413	481	792	437	442	899	1305	-	-	1438	-	-
Mov Cap-2 Maneuver	413	481	-	437	442	-	-	-	-	-	-	-
Stage 1	683	627	-	787	736	-	-	-	-	-	-	-
Stage 2	717	784	-	655	621	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.7		23.7		0		1.1	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1305	-	-	543	588	1438	-	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.692	0.028	-	-
HCM Control Delay (s)	7.8	-	-	11.7	23.7	7.6	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	5.4	0.1	-	-

HCM 6th TWSC
5: Route 11 & Grossett Drive

03/22/2022

Intersection

Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔		↔			↔
Traffic Vol, veh/h	5	14	204	3	16	357
Future Vol, veh/h	5	14	204	3	16	357
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	59	59	80	80	82	82
Heavy Vehicles, %	21	21	8	8	5	5
Mvmt Flow	8	24	255	4	20	435

Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	732	257	0	0	259	0
Stage 1	257	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Critical Hdwy	6.61	6.41	-	-	4.15	-
Critical Hdwy Stg 1	5.61	-	-	-	-	-
Critical Hdwy Stg 2	5.61	-	-	-	-	-
Follow-up Hdwy	3.689	3.489	-	-	2.245	-
Pot Cap-1 Maneuver	362	738	-	-	1288	-
Stage 1	744	-	-	-	-	-
Stage 2	588	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	355	738	-	-	1288	-
Mov Cap-2 Maneuver	355	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	576	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	575	1288
HCM Lane V/C Ratio	-	-	0.056	0.015
HCM Control Delay (s)	-	-	11.6	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC
9: Site Access #2 & Frances Street

03/22/2022

Intersection

Int Delay, s/veh 4.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	52	111	0	30	173	0
Future Vol, veh/h	52	111	0	30	173	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	72	72	90	90
Heavy Vehicles, %	4	4	2	2	5	5
Mvmt Flow	58	125	0	42	192	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	183
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1392
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1392
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	821	-	-	1392	-
HCM Lane V/C Ratio	0.234	-	-	-	-
HCM Control Delay (s)	10.7	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0	-

HCM 6th TWSC

1: Frances Street & I-81 / I-86 Access Road

03/22/2022

Intersection

Int Delay, s/veh	5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑		↗
Traffic Vol, veh/h	128	99	286	185	0	161
Future Vol, veh/h	128	99	286	185	0	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	440	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	84	84
Heavy Vehicles, %	22	22	13	13	9	9
Mvmt Flow	141	109	314	203	0	192

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	250
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.36	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.33	-
Pot Cap-1 Maneuver	-	1236	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1236	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.4	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	880	-	-	1236	-
HCM Lane V/C Ratio	0.218	-	-	0.254	-
HCM Control Delay (s)	10.2	-	-	8.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	1	-

HCM 6th AWSC

2: Crescent Drive & Frances Street

03/22/2022

Intersection

Intersection Delay, s/veh 15.1
Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	262	103	67	53	1	101	12	90	0	7	7
Future Vol, veh/h	20	262	103	67	53	1	101	12	90	0	7	7
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.73	0.73	0.73	0.64	0.64	0.64
Heavy Vehicles, %	11	11	11	10	10	10	17	17	17	22	22	22
Mvmt Flow	25	323	127	83	65	1	138	16	123	0	11	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB				SB	
Opposing Approach	WB			EB			SB				NB	
Opposing Lanes	1			1			1				1	
Conflicting Approach Left	SB			NB			EB				WB	
Conflicting Lanes Left	1			1			1				1	
Conflicting Approach Right	NB			SB			WB				EB	
Conflicting Lanes Right	1			1			1				1	
HCM Control Delay	17.9			10.6			13.2				9.5	
HCM LOS	C			B			B				A	

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	5%	55%	0%
Vol Thru, %	6%	68%	44%	50%
Vol Right, %	44%	27%	1%	50%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	203	385	121	14
LT Vol	101	20	67	0
Through Vol	12	262	53	7
RT Vol	90	103	1	7
Lane Flow Rate	278	475	149	22
Geometry Grp	1	1	1	1
Degree of Util (X)	0.441	0.672	0.24	0.038
Departure Headway (Hd)	5.714	5.087	5.777	6.206
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	631	708	621	575
Service Time	3.753	3.118	3.818	4.263
HCM Lane V/C Ratio	0.441	0.671	0.24	0.038
HCM Control Delay	13.2	17.9	10.6	9.5
HCM Lane LOS	B	C	B	A
HCM 95th-tile Q	2.3	5.2	0.9	0.1

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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Lane Configurations

Traffic Vol, veh/h	7	185	160	0	68	3	38	0	0	3	0	15
Future Vol, veh/h	7	185	160	0	68	3	38	0	0	3	0	15
Conflicting Peds, #/hr	0	0	1	1	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	64	64	64	67	67	67	90	90	90	64	64	64
Heavy Vehicles, %	6	6	6	2	2	2	5	5	5	2	2	2
Mvmt Flow	11	289	250	0	101	4	42	0	0	5	0	23

Major/Minor	Major1	Major2	Minor1	Minor2
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Conflicting Flow All	105	0	0	540	0	0	552	542	415	539	665	103
Stage 1	-	-	-	-	-	-	437	437	-	103	103	-
Stage 2	-	-	-	-	-	-	115	105	-	436	562	-
Critical Hdwy	4.16	-	-	4.12	-	-	7.15	6.55	6.25	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.12	5.52	-
Follow-up Hdwy	2.254	-	-	2.218	-	-	3.545	4.045	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	1462	-	-	1028	-	-	440	443	631	453	381	952
Stage 1	-	-	-	-	-	-	592	574	-	903	810	-
Stage 2	-	-	-	-	-	-	883	803	-	599	510	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1462	-	-	1027	-	-	425	438	630	449	376	952
Mov Cap-2 Maneuver	-	-	-	-	-	-	425	438	-	449	376	-
Stage 1	-	-	-	-	-	-	585	567	-	893	810	-
Stage 2	-	-	-	-	-	-	861	803	-	592	504	-

Approach	EB	WB	NB	SB
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HCM Control Delay, s	0.1	0	14.4	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
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Capacity (veh/h)	425	1462	-	-	1027	-	-	802
HCM Lane V/C Ratio	0.099	0.007	-	-	-	-	-	0.035
HCM Control Delay (s)	14.4	7.5	0	-	0	-	-	9.7
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	4.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↵	↕		↵	↕	
Traffic Vol, veh/h	0	0	0	108	0	50	3	163	152	46	118	0
Future Vol, veh/h	0	0	0	108	0	50	3	163	152	46	118	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	120	-	1000	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	81	81	81	71	71	71	84	84	84
Heavy Vehicles, %	2	2	2	3	3	3	6	6	6	5	5	5
Mvmt Flow	0	0	0	133	0	62	4	230	214	55	140	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	373	488	140	595	595	222	140	0	0	230	0	0
Stage 1	250	250	-	345	345	-	-	-	-	-	-	-
Stage 2	123	238	-	250	250	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.345	6.545	6.945	4.19	-	-	4.175	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.545	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.5285	4.0285	3.3285	2.257	-	-	2.2475	-	-
Pot Cap-1 Maneuver	571	479	907	400	415	780	1416	-	-	1317	-	-
Stage 1	753	699	-	642	633	-	-	-	-	-	-	-
Stage 2	869	708	-	751	697	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	508	457	907	386	396	780	1416	-	-	1317	-	-
Mov Cap-2 Maneuver	508	457	-	386	396	-	-	-	-	-	-	-
Stage 1	751	670	-	640	631	-	-	-	-	-	-	-
Stage 2	798	706	-	720	668	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	0		18.5		0.1		2.2					
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1416	-	-	-	459	1317	-	-				
HCM Lane V/C Ratio	0.003	-	-	-	0.425	0.042	-	-				
HCM Control Delay (s)	7.5	-	-	0	18.5	7.9	-	-				
HCM Lane LOS	A	-	-	A	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	2.1	0.1	-	-				

HCM 6th TWSC
5: Route 11 & Grossett Drive

03/22/2022

Intersection

Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	6	312	1	22	204
Future Vol, veh/h	1	6	312	1	22	204
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	90	90	69	69	93	93
Heavy Vehicles, %	13	13	5	5	6	6
Mvmt Flow	1	7	452	1	24	219

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	720	453	0
Stage 1	453	-	-
Stage 2	267	-	-
Critical Hdwy	6.53	6.33	-
Critical Hdwy Stg 1	5.53	-	-
Critical Hdwy Stg 2	5.53	-	-
Follow-up Hdwy	3.617	3.417	-
Pot Cap-1 Maneuver	379	584	-
Stage 1	618	-	-
Stage 2	753	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	370	584	-
Mov Cap-2 Maneuver	370	-	-
Stage 1	618	-	-
Stage 2	734	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	539	1087
HCM Lane V/C Ratio	-	-	0.014	0.022
HCM Control Delay (s)	-	-	11.8	8.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0.1

HCM 6th TWSC
9: Site Access #2 & Frances Street

03/22/2022

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	166	0	32	39	0
Future Vol, veh/h	22	166	0	32	39	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	67	67	90	90
Heavy Vehicles, %	6	6	2	2	5	5
Mvmt Flow	34	259	0	48	43	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	293
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1269
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1269
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	770	-	-	1269	-
HCM Lane V/C Ratio	0.056	-	-	-	-
HCM Control Delay (s)	10	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection

Int Delay, s/veh	8.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑		↗
Traffic Vol, veh/h	314	146	234	114	0	314
Future Vol, veh/h	314	146	234	114	0	314
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	440	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	93	93	66	66
Heavy Vehicles, %	15	15	14	14	1	1
Mvmt Flow	345	160	252	123	0	476

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	505
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.38	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.34	-
Pot Cap-1 Maneuver	-	976	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	976	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.7	17.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	747	-	-	976	-
HCM Lane V/C Ratio	0.637	-	-	0.258	-
HCM Control Delay (s)	17.9	-	-	10	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	4.6	-	-	1	-

HCM 6th AWSC

2: Crescent Drive & Frances Street

03/22/2022

Intersection

Intersection Delay, s/veh 23.3
Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	21	213	146	188	194	1	115	5	74	3	22	5
Future Vol, veh/h	21	213	146	188	194	1	115	5	74	3	22	5
Peak Hour Factor	0.73	0.73	0.73	0.83	0.83	0.83	0.89	0.89	0.89	0.59	0.59	0.59
Heavy Vehicles, %	5	5	5	3	3	3	3	3	3	12	12	12
Mvmt Flow	29	292	200	227	234	1	129	6	83	5	37	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	27.1			24.6			14.1			11.4		
HCM LOS	D			C			B			B		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	59%	6%	49%	10%
Vol Thru, %	3%	56%	51%	73%
Vol Right, %	38%	38%	0%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	194	380	383	30
LT Vol	115	21	188	3
Through Vol	5	213	194	22
RT Vol	74	146	1	5
Lane Flow Rate	218	521	461	51
Geometry Grp	1	1	1	1
Degree of Util (X)	0.402	0.801	0.753	0.105
Departure Headway (Hd)	6.637	5.537	5.874	7.427
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	541	656	618	481
Service Time	4.688	3.552	3.892	5.497
HCM Lane V/C Ratio	0.403	0.794	0.746	0.106
HCM Control Delay	14.1	27.1	24.6	11.4
HCM Lane LOS	B	D	C	B
HCM 95th-tile Q	1.9	8.1	6.7	0.3

Intersection

Int Delay, s/veh 5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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Lane Configurations

Traffic Vol, veh/h	20	163	107	0	203	0	171	0	0	0	0	9
Future Vol, veh/h	20	163	107	0	203	0	171	0	0	0	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	89	89	89	72	72	72	90	90	100	90	90	90
Heavy Vehicles, %	4	4	4	2	2	2	5	5	5	12	12	12
Mvmt Flow	22	183	120	0	282	0	190	0	0	0	0	10

Major/Minor	Major1	Major2	Minor1	Minor2
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Conflicting Flow All	282	0	0	303	0	0	574	569	243	569	629	282
Stage 1	-	-	-	-	-	-	287	287	-	282	282	-
Stage 2	-	-	-	-	-	-	287	282	-	287	347	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.15	6.55	6.25	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.22	5.62	-
Follow-up Hdwy	2.236	-	-	2.218	-	-	3.545	4.045	3.345	3.608	4.108	3.408
Pot Cap-1 Maneuver	1269	-	-	1258	-	-	425	428	788	418	386	734
Stage 1	-	-	-	-	-	-	714	669	-	704	660	-
Stage 2	-	-	-	-	-	-	714	672	-	699	617	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1269	-	-	1258	-	-	413	419	788	411	378	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	413	419	-	411	378	-
Stage 1	-	-	-	-	-	-	699	655	-	689	660	-
Stage 2	-	-	-	-	-	-	704	672	-	684	604	-

Approach	EB	WB	NB	SB
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HCM Control Delay, s	0.5	0	20.9	10
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
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Capacity (veh/h)	413	1269	-	-	1258	-	-	734
HCM Lane V/C Ratio	0.46	0.018	-	-	-	-	-	0.014
HCM Control Delay (s)	20.9	7.9	0	-	0	-	-	10
HCM Lane LOS	C	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	2.4	0.1	-	-	0	-	-	0

Intersection												
Int Delay, s/veh	10.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↵	↕↔		↵	↵	
Traffic Vol, veh/h	1	0	1	144	3	146	1	119	98	38	228	1
Future Vol, veh/h	1	0	1	144	3	146	1	119	98	38	228	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	120	-	1000	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	72	72	72	90	90	90	93	93	93
Heavy Vehicles, %	2	2	2	5	5	5	4	4	4	4	4	4
Mvmt Flow	2	0	2	200	4	203	1	132	109	41	245	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	398	462	246	518	517	121	246	0	0	132	0	0
Stage 1	328	328	-	189	189	-	-	-	-	-	-	-
Stage 2	70	134	-	329	328	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.375	6.575	6.975	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.575	5.575	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.175	5.575	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.5475	4.0475	3.3475	2.238	-	-	2.238	-	-
Pot Cap-1 Maneuver	549	496	792	448	456	899	1305	-	-	1438	-	-
Stage 1	684	646	-	788	737	-	-	-	-	-	-	-
Stage 2	932	785	-	676	640	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	413	481	792	437	442	899	1305	-	-	1438	-	-
Mov Cap-2 Maneuver	413	481	-	437	442	-	-	-	-	-	-	-
Stage 1	683	627	-	787	736	-	-	-	-	-	-	-
Stage 2	717	784	-	655	621	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.7		23.7		0		1.1					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1305	-	-	543	588	1438	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.007	0.692	0.028	-	-				
HCM Control Delay (s)	7.8	-	-	11.7	23.7	7.6	-	-				
HCM Lane LOS	A	-	-	B	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	5.4	0.1	-	-				

HCM 6th TWSC
5: Route 11 & Grossett Drive

03/22/2022

Intersection

Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	14	204	3	16	357
Future Vol, veh/h	5	14	204	3	16	357
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	59	59	80	80	82	82
Heavy Vehicles, %	21	21	8	8	5	5
Mvmt Flow	8	24	255	4	20	435

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	732	257	0	0	259
Stage 1	257	-	-	-	-
Stage 2	475	-	-	-	-
Critical Hdwy	6.61	6.41	-	-	4.15
Critical Hdwy Stg 1	5.61	-	-	-	-
Critical Hdwy Stg 2	5.61	-	-	-	-
Follow-up Hdwy	3.689	3.489	-	-	2.245
Pot Cap-1 Maneuver	362	738	-	-	1288
Stage 1	744	-	-	-	-
Stage 2	588	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	355	738	-	-	1288
Mov Cap-2 Maneuver	355	-	-	-	-
Stage 1	744	-	-	-	-
Stage 2	576	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	575	1288
HCM Lane V/C Ratio	-	-	0.056	0.015
HCM Control Delay (s)	-	-	11.6	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC
9: Site Access #2 & Frances Street

03/22/2022

Intersection

Int Delay, s/veh 4.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	52	111	0	30	173	0
Future Vol, veh/h	52	111	0	30	173	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	72	72	90	90
Heavy Vehicles, %	4	4	2	2	5	5
Mvmt Flow	58	125	0	42	192	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	183
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1392
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1392
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	821	-	-	1392	-
HCM Lane V/C Ratio	0.234	-	-	-	-
HCM Control Delay (s)	10.7	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0	-